A BIOMETRICAL INVESTIGATION INTO THE RELATIONSHIP BETWEEN VERTEBRAL JOINT OSTEOPHYTOSIS AND BODY PROPORTION BIOMECHANICS

(VOLUME 2)

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APPENDIX 1

DATA RECORDING SYSTEM

The data recording system is comprised of a vertebral column form that records both metric data and pathology, and an appendicular form that records metric data only. The recording system has been designed to collect the maximum amount of data within the minimum number of forms to facilitate ease of use, storage and transport. The vertebral column forms record the severity of vertebral joint osteophytes and vertebral body posterior height. The key to the column headings and the recording forms are shown below in Tables 1.1 through 1.4 below.

Table 1.1 Appendicular metric data collection form.

Burial No	*Sex*	*Age*

Element	*Measurement (all in mm except * in degrees)*	Left	Right
Clavicle	Maximum length		
	Anterior posterior diameter at midshaft		
	Superior inferior diameter at midshaft		
Scapula	Height		
	Breadth		
Humerus	Maximum length		
	Epicondylar breadth		
	Vertical diameter of head		
	Maximum diameter at midshaft		
	Minimum diameter at midshaft		
Radius	Maximum length		
	Anterior posterior diameter at midshaft		
	Medial lateral diameter at midshaft		
Femur	Maximum length		
	Condylo-diaphyseal angle *		
	Epicondylar breadth		
	Maximum head diameter		
	Femoral neck-shaft angle *		
Tibia	Length		
	Maximum proximal epiphyseal breadth		
	Maximum distal epiphyseal breadth		
Calcaneus	Maximum length		
	Middle breadth		

Table 1.2 Key to abbreviations used on the vertebral column recording form.

Column Heading	**Description**
E	Vertebral element
Y/N	Element present yes / no
Facet	Superior or inferior articular facet joint
Side	Left or right facet
Sev	Osteophyte severity none = 0 slight = 1 elevated ring = 2 extensive spicules = 3 ankylosis = 4
Intervertebral	Dens facet, odontoid peg, superior / inferior vertebral body (VB) joint
VBH	Posterior vertebral body height in mm

Table 1.3 Vertebral column data collection form side A.

Burial No		*Sex*	*Age*					
E	Y/N	Facet	Side	Sev	Intervertebral	Sev	VBH	
O		Occ condyle	L					
			R					
C1		Superior facet	L		Dens facet			
			R					
		Inferior facet	L					
			R					
C2		Superior facet	L		Odontoid peg			
			R					
		Inferior facet	L					
			R		VB inferior			
C3		Superior facet	L		VB superior			
			R					
		Inferior facet	L					
			R		VB inferior			
C4		Superior facet	L		VB superior			
			R					
		Inferior facet	L					
			R		VB inferior			
C5		Superior facet	L		VB superior			
			R					
		Inferior facet	L					
			R		VB inferior			
C6		Superior facet	L		VB superior			
			R					
		Inferior facet	L					
			R		VB inferior			
C7		Superior facet	L		VB superior			
			R					
		Inferior facet	L					
			R		VB inferior			
T1		Superior facet	L		VB superior			
			R					
		Inferior facet	L					
			R		VB inferior			
T2		Superior facet	L		VB superior			
			R					
		Inferior facet	L					
			R		VB inferior			
T3		Superior facet	L		VB superior			
			R					
		Inferior facet	L					
			R		VB inferior			
T4		Superior facet	L		VB superior			
			R					
		Inferior facet	L					
			R		VB inferior			
T5		Superior facet	L		VB superior			
			R					
		Inferior facet	L					
			R		VB inferior			

Table 1.4 Vertebral column data collection form side B.

Burial No		*Sex*	*Age*

E	Y/N	Facet	Side	Sev	Intervertebral	Sev	VBH
T6		Superior facet	L		VB superior		
			R				
		Inferior facet	L				
			R		VB inferior		
T7		Superior facet	L		VB superior		
			R				
		Inferior facet	L				
			R		VB inferior		
T8		Superior facet	L		VB superior		
			R				
		Inferior facet	L				
			R		VB inferior		
T9		Superior facet	L		VB superior		
			R				
		Inferior facet	L				
			R		VB inferior		
T10		Superior facet	L		VB superior		
			R				
		Inferior facet	L				
			R		VB inferior		
T11		Superior facet	L		VB superior		
			R				
		Inferior facet	L				
			R		VB inferior		
T12		Superior facet	L		VB superior		
			R				
		Inferior facet	L				
			R		VB inferior		
L1		Superior facet	L		VB superior		
			R				
		Inferior facet	L				
			R		VB inferior		
L2		Superior facet	L		VB superior		
			R				
		Inferior facet	L				
			R		VB inferior		
L3		Superior facet	L		VB superior		
			R				
		Inferior facet	L				
			R		VB inferior		
L4		Superior facet	L		VB superior		
			R				
		Inferior facet	L				
			R		VB inferior		
L5		Superior facet	L		VB superior		
			R				
		Inferior facet	L				
			R		VB inferior		
S1		Superior facet	L		VB superior		
			R				

APPENDIX 2

VARIABLE DESCRIPTIONS

Table 2.1 Variables and descriptions relating to burial number, age-at-death and sex.

Variable	Description
BURIAL_NO	Burial number
SEX	Sex
AGE	Age-at-death

Table 2.2 Variables and descriptions relating to the clavicle.

Variable	Description
CLML_L	Clavicle maximum length left
CLML_R	Clavicle maximum length right
CLML	Clavicle maximum length
CLAPD_L	Clavicle anterior posterior diameter at midshaft left
CLAPD_R	Clavicle anterior posterior diameter at midshaft right
CLAPD	Clavicle anterior posterior diameter at midshaft
CLSID_L	Clavicle superior inferior diameter at midshaft left
CLSID_R	Clavicle superior inferior diameter at midshaft right
CLSID	Clavicle superior inferior diameter at midshaft

Table 2.3 Variables and descriptions relating to the scapula.

Variable	Description
SH_L	Scapula height left
SH_R	Scapula height right
SH	Scapula height average
SB_L	Scapula breadth left
SB_R	Scapula breadth right
SB	Scapula breadth average

Table 2.4 Variables and descriptions relating to the humerus.

Variable	Description
HML_L	Humerus maximum length left
HML_R	Humerus maximum length right
HML	Humerus maximum length average
HEB_L	Humerus epicondylar breadth left
HEB_R	Humerus epicondylar breadth right
HEB	Humerus epicondylar breadth average
HVDH_L	Humerus vertical diameter of head left
HVDH_R	Humerus vertical diameter of head right
HVDH	Humerus vertical diameter of head average
HMAXD_L	Humerus maximum diameter at midshaft left
HMAXD_R	Humerus maximum diameter at midshaft right
HMAXD	Humerus maximum diameter at midshaft average
HMIND_L	Humerus Minimum diameter at midshaft left
HMIND_R	Humerus Minimum diameter at midshaft right
HMIND	Humerus Minimum diameter at midshaft average

Table 2.5 Variables and descriptions relating to the radius.

Variable	Description
RML_L	Radius maximum length left
RML_R	Radius maximum length right
RML	Radius maximum length average
RSD_L	Radius sagittal diameter at midshaft left
RSD_R	Radius sagittal diameter at midshaft right
RSD	Radius sagittal diameter at midshaft average
RTD_L	Radius transverse diameter at midshaft left
RTD_R	Radius transverse diameter at midshaft right
RTD	Radius transverse diameter at midshaft average

Table 2.6 Variables and descriptions relating to the femur.

Variable	Description
FML_L	Femur maximum length left
FML_R	Femur maximum length right
FML	Femur maximum length average
FCDA_L	Femur condylo-diaphyseal angle left
FCDA_R	Femur condylo-diaphyseal angle right
FCDA	Femur condylo-diaphyseal angle average
FEB_L	Femur epicondylar breadth left
FEB_R	Femur epicondylar breadth right
FEB	Femur epicondylar breadth average
FMAXHD_L	Femur maximum head diameter left
FMAXHD_R	Femur maximum head diameter right
FMAXHD	Femur maximum head diameter average
FNSA_L	Femur Femoral neck-shaft angle left
FNSA_R	Femur Femoral neck-shaft angle right
FNSA	Femur Femoral neck-shaft angle average

Table 2.7 Variables and descriptions relating to the tibia.

Variable	Description
TML_L	Tibia length left
TML_R	Tibia length right
TML	Tibia length average
TMPEB_L	Tibia maximum proximal epiphyseal breadth left
TMPEB_R	Tibia maximum proximal epiphyseal breadth right
TMPEB	Tibia maximum proximal epiphyseal breadth average
TMDEB_L	Tibia maximum distal epiphyseal breadth left
TMDEB_R	Tibia maximum distal epiphyseal breadth right
TMDEB	Tibia maximum distal epiphyseal breadth average

Table 2.8 Variables and descriptions relating to the calcaneus.

Variable	Description
CAML_L	Calcaneus maximum length left
CAML_R	Calcaneus maximum length right
CAML	Calcaneus maximum length average
CAMB_L	Calcaneus middle breadth left
CAMB_R	Calcaneus middle breadth right
CAMB	Calcaneus middle breadth average

Table 2.9 Summated and ratio variable descriptions.

Variable	Description
VB_ALL_P	Sum of vertebral body heights posterior
VCP_HML	Vertebral column length / humerus maximum length
VCP_HRML	Vertebral column length / humerus + radius maximum length
VCP_FML	Vertebral column length / femur maximum length
VCP_FTML	Vertebral column length / femur + tibia maximum length
VCPHRML_FML	Vertebral column length + humerus length + radius length / femur length
VCPHRML_FTML	Vertebral column length + humerus length + radius length / femur + tibia length
VCPFML	Vertebral column length + femur maximum length
VCPFTML	Vertebral column length + femur + tibia maximum length
VCPHRML	Vertebral column length + humerus length + radius length
HML_FML	Humerus maximum length / femur maximum length
HRML_FTML	Humerus + radius length / femur + tibia length
HMLRML	Humerus length + radius length
HSIZE	Humerus length + vertical head diameter + epicondylar breadth
FMLTML	Femur length + tibia length
FMAXHD_VCP	Femur maximum head diameter / vertebral column length
FMAXHD_HML	Femur maximum head diameter / humerus length
FMAXHD_HRML	Femur maximum head diameter / humerus length + radius length

Table 2.9 Continued.

Variable	Description
FMAXHD_HSIZE	Femur maximum head diameter / humerus length + vertical head diameter + epicondylar breadth
TMPEB_VCP	Tibia proximal epicondylar breadth / vertebral column length
TMPEB_HML	Tibia proximal epicondylar breadth / humerus length
TMPEB_HRML	Tibia proximal epicondylar breadth / humerus length + radius length
TMPEB_HSIZE	Tibia proximal epicondylar breadth / humerus length + vertical head diameter + epicondylar breadth
TMDEB_VCP	Tibia distal epicondylar breadth / vertebral column length
TMDEB_HML	Tibia distal epicondylar breadth / humerus length
TMDEB_HRML	Tibia distal epicondylar breadth / humerus length + radius length
TMDEB_HSIZE	Tibia distal epicondylar breadth / humerus length + vertical head diameter + epicondylar breadth
CML_VCP	Calcaneus length / vertebral column length
CML_HML	Calcaneus length / humerus maximum length
CML_HRML	Calcaneus length / humerus + radius maximum length
CML_HSIZE	Calcaneus length / humerus length + vertical head diameter + epicondylar breadth
CML_FML	Calcaneus length / femur maximum length
CML_FTML	Calcaneus length / femur + tibia maximum length
CML_FMAXHD	Calcaneus length / femur maximum head diameter
CML_FEB	Calcaneus length / femur epicondylar breadth
CML_TML	Calcaneus length / tibia maximum length
CML_TMPEB	Calcaneus length / tibia proximal epicondylar breadth
CML_TMDEB	Calcaneus length / tibia distal epicondylar breadth
CMB_VCP	Calcaneus breadth / vertebral column length
CMB_HML	Calcaneus breadth / humerus maximum length
CMB_HRML	Calcaneus breadth / humerus + radius maximum length
CMB_HSIZE	Calcaneus breadth / humerus length + vertical head diameter + epicondylar breadth
CMB_FML	Calcaneus breadth / femur maximum length
CMB_FTML	Calcaneus breadth / femur + tibia maximum length

Table 2.9 Continued.

Variable	Description
CMB_FMAXHD	Calcaneus breadth / femur maximum head diameter
CMB_FEB	Calcaneus breadth / femur epicondylar breadth
CMB_TML	Calcaneus breadth / tibia maximum length
CMB_TMPEB	Calcaneus breadth / tibia proximal epicondylar breadth
CMB_TMDEB	Calcaneus breadth / tibia distal epicondylar breadth

Table 2.10 Variables and descriptions relating to osteophyte severity grades.

Variable	Description
O1C1LF	Occipital condyle / atlas left osteophyte grade
O1C1RF	Occipital condyle / atlas right osteophyte grade
O1C1FJ	Occipital condyle / atlas osteophyte grade
DENS	Dens / dens facet osteophyte grade
C1C2LF	C1/C2 facet joint left osteophyte grade
C1C2RF	C1/C2 facet joint right osteophyte grade
C1C2FJ	C1/C2 facet joint osteophyte grade
C2C3IVD	C2/C3 intervertebral joint osteophyte grade
C2C3LF	C2/C3 facet joint left osteophyte grade
C2C3RF	C2/C3 facet joint right osteophyte grade
C2C3FJ	C2/C3 facet joint osteophyte grade
C3C4IVD	C3/C4 intervertebral joint osteophyte grade
C3C4LF	C3/C4 facet joint left osteophyte grade
C3C4RF	C3/C4 facet joint right osteophyte grade
C3C4FJ	C3/C4 facet joint osteophyte grade
C4C5IVD	C4/C5 intervertebral joint osteophyte grade
C4C5LF	C4/C5 facet joint left osteophyte grade
C4C5RF	C4/C5 facet joint right osteophyte grade
C4C5FJ	C4/C5 facet joint osteophyte grade

Table 2.10 Continued.

Variable	Description
C5C6IVD	C5/C6 intervertebral joint osteophyte grade
C5C6LF	C5/C6 facet joint left osteophyte grade
C5C6RF	C5 / C6 facet joint right osteophyte grade
C5C6FJ	C5/C6 facet joint osteophyte grade
C6C7IVD	C6/C7 intervertebral joint osteophyte grade
C6C7LF	C6/C7 facet joint left osteophyte grade
C6C7RF	C6/C7 facet joint right osteophyte grade
C6C7FJ	C6/C7 facet joint osteophyte grade
C7T1IVD	C7/T1 intervertebral joint osteophyte grade
C7T1LF	C7/T1 facet joint left osteophyte grade
C7T1RF	C7/T1 facet joint right osteophyte grade
C7T1FJ	C7/T1 facet joint osteophyte grade
T1_2IVD	T1/T2 intervertebral joint osteophyte grade
T1_2LF	T1/T2 facet joint left osteophyte grade
T1_2RF	T1/T2 facet joint right osteophyte grade
T1_2FJ	T1/T2 facet joint osteophyte grade
T2_3IVD	T2/T3 intervertebral joint osteophyte grade
T2_3LF	T2/T3 facet joint left osteophyte grade
T2_3RF	T2/T3 facet joint right osteophyte grade
T2_3FJ	T2/T3 facet joint osteophyte grade
T3_4IVD	T3/T4 intervertebral joint osteophyte grade
T3_4LF	T3/T4 facet joint left osteophyte grade
T3_4RF	T3/T4 facet joint right osteophyte grade
T3_4FJ	T3/T4 facet joint osteophyte grade
T4_5IVD	T4/T5 intervertebral joint osteophyte grade
T4_5LF	T4/T5 facet joint left osteophyte grade
T4_5RF	T4/T5 facet joint right osteophyte grade

Table 2.10 Continued.

Variable	Description
T4_5FJ	T4/T5 facet joint osteophyte grade
T5_6IVD	T5/T6 intervertebral joint osteophyte grade
T5_6LF	T5/T6 facet joint left osteophyte grade
T5_6RF	T5/T6 facet joint right osteophyte grade
T5_6FJ	T5/T6 facet joint osteophyte grade
T6_7IVD	T6/T7 intervertebral joint osteophyte grade
T6_7LF	T6/T7 facet joint left osteophyte grade
T6_7RF	T6/T7 facet joint right osteophyte grade
T6_7FJ	T6/T7 facet joint osteophyte grade
T7_8IVD	T7/T8 intervertebral joint osteophyte grade
T7_8LF	T7/T8 facet joint left osteophyte grade
T7_8RF	T7/T8 facet joint right osteophyte grade
T7_8FJ	T7/T8 facet joint osteophyte grade
T8_9IVD	T8/T9 intervertebral joint osteophyte grade
T8_9LF	T8/T9 facet joint left osteophyte grade
T8_9RF	T8/T9 facet joint right osteophyte grade
T8_9FJ	T8/T9 facet joint osteophyte grade
T9_10IVD	T9/T10 intervertebral joint osteophyte grade
T9_10LF	T9/T10 facet joint left osteophyte grade
T9_10RF	T9/T10 facet joint right osteophyte grade
T9_10FJ	T9/T10 facet joint osteophyte grade
T10_11IVD	T10/T11 intervertebral joint osteophyte grade
T10_11LF	T10/T11 facet joint left osteophyte grade
T10_11RF	T10/T11 facet joint right osteophyte grade
T10_11FJ	T10/T11 facet joint osteophyte grade
T11_12IVD	T11/T12 intervertebral joint osteophyte grade
T11_12LF	T11/T12 facet joint left osteophyte grade

Table 2.10 Continued.

Variable	Description
T11_12RF	T11/T12 facet joint right osteophyte grade
T11_12FJ	T11/T12 facet joint osteophyte grade
T12L1IVD	T12/L1 intervertebral joint osteophyte grade
T12L1LF	T12/ L1 facet joint left osteophyte grade
T12L1RF	T12/ L1 facet joint right osteophyte grade
T12L1FJ	T12/ L1 facet joint osteophyte grade
L1_2IVD	L1/L2 intervertebral joint osteophyte grade
L1_2LF	L1/ L2 facet joint left osteophyte grade
L1_2RF	L1/ L2 facet joint right osteophyte grade
L1_2FJ	L1/ L2 facet joint osteophyte grade
L2_3IVD	L2/L3 intervertebral joint osteophyte grade
L2_3LF	L2/ L3 facet joint left osteophyte grade
L2_3RF	L2/ L3 facet joint right osteophyte grade
L2_3FJ	L2/ L3 facet joint osteophyte grade
L3_4IVD	L3/L4 intervertebral joint osteophyte grade
L3_4LF	L3/ L4 facet joint left osteophyte grade
L3_4RF	L3/ L4 facet joint right osteophyte grade
L3_4FJ	L3/ L4 facet joint osteophyte grade
L4_5IVD	L4/L5 intervertebral joint osteophyte grade
L4_5LF	L4/ L5 facet joint left osteophyte grade
L4_5RF	L4/ L5 facet joint right osteophyte grade
L4_5FJ	L4/ L5 facet joint osteophyte grade
L5_S1IVD	L5/S1 intervertebral joint osteophyte grade
L5_S1LF	L5/S1 facet joint left osteophyte grade
L5_S1RF	L5/S1 facet joint right osteophyte grade
L5_S1FJ	L5/S1 facet joint osteophyte grade

Table 2.11 Variables and descriptions relating to osteophyte presence / absence.

Variable	Description
ZO1C1LF	Occipital condyle / atlas left osteophyte presence / absence
ZO1C1RF	Occipital condyle / atlas right osteophyte presence / absence
ZO1C1FJ	Occipital condyle / atlas osteophyte presence / absence
ZDENS	Dens / dens facet osteophyte presence / absence
ZC1C2LF	C1/C2 facet joint left osteophyte presence / absence
ZC1C2RF	C1/C2 facet joint right osteophyte presence / absence
ZC1C2FJ	C1/C2 facet joint osteophyte presence / absence
ZC2C3IVD	C2/C3 intervertebral joint osteophyte presence / absence
ZC2C3LF	C2/C3 facet joint left osteophyte presence / absence
ZC2C3RF	C2/C3 facet joint right osteophyte presence / absence
ZC2C3FJ	C2/C3 facet joint osteophyte presence / absence
ZC3C4IVD	C3/C4 intervertebral joint osteophyte presence / absence
ZC3C4LF	C3/C4 facet joint left osteophyte presence / absence
ZC3C4RF	C3/C4 facet joint right osteophyte presence / absence
ZC3C4FJ	C3/C4 facet joint osteophyte presence / absence
ZC4C5IVD	C4/C5 intervertebral joint osteophyte presence / absence
ZC4C5LF	C4/C5 facet joint left osteophyte presence / absence
ZC4C5RF	C4/C5 facet joint right osteophyte presence / absence
ZC4C5FJ	C4/C5 facet joint – osteophyte presence / absence
ZC5C6IVD	C5/C6 intervertebral joint osteophyte presence / absence
ZC5C6LF	C5/C6 facet joint left osteophyte presence / absence
ZC5C6RF	C5/C6 facet joint right osteophyte presence / absence
ZC5C6FJ	C5/C6 facet joint – osteophyte presence / absence
ZC6C7IVD	C6/C7 intervertebral joint osteophyte presence / absence
ZC6C7LF	C6/C7 facet joint left osteophyte presence / absence
ZC6C7RF	C6/C7 facet joint right osteophyte presence / absence
ZC6C7FJ	C6/C7 facet joint osteophyte presence / absence

Table 2.11 Continued.

Variable	Description
ZC7T1IVD	C7/T1 intervertebral joint osteophyte presence / absence
ZC7T1LF	C7/T1 facet joint left osteophyte presence / absence
ZC7T1RF	C7/T1 facet joint right osteophyte presence / absence
ZC7T1FJ	C7/T1 facet joint osteophyte presence / absence
ZT1_2IVD	T1/T2 intervertebral joint osteophyte presence / absence
ZT1_2LF	T1/T2 facet joint left osteophyte presence / absence
ZT1_2RF	T1/T2 facet joint right osteophyte presence / absence
ZT1_2FJ	T1/T2 facet joint osteophyte presence / absence
ZT2_3IVD	T2/T3 intervertebral joint osteophyte presence / absence
ZT2_3LF	T2/T3 facet joint left osteophyte presence / absence
ZT2_3RF	T2/T3 facet joint right osteophyte presence / absence
ZT2_3FJ	T2/T3 facet joint osteophyte presence / absence
ZT3_4IVD	T3/T4 intervertebral joint osteophyte presence / absence
ZT3_4LF	T3/T4 facet joint left osteophyte presence / absence
ZT3_4RF	T3/T4 facet joint right osteophyte presence / absence
ZT3_4FJ	T3/T4 facet joint osteophyte presence / absence
ZT4_5IVD	T4/T5 intervertebral joint osteophyte presence / absence
ZT4_5LF	T4/T5 facet joint left osteophyte presence / absence
ZT4_5RF	T4/T5 facet joint right osteophyte presence / absence
ZT4_5FJ	T4/T5 facet joint osteophyte presence / absence
ZT5_6IVD	T5/T6 intervertebral joint osteophyte presence / absence
ZT5_6LF	T5/T6 facet joint left osteophyte presence / absence
ZT5_6RF	T5/T6 facet joint right osteophyte presence / absence
ZT5_6FJ	T5/T6 facet joint osteophyte presence / absence
ZT6_7IVD	T6/T7 intervertebral joint osteophyte presence / absence
ZT6_7LF	T6/T7 facet joint left osteophyte presence / absence
ZT6_7RF	T6/T7 facet joint right osteophyte presence / absence

Table 2.11 Continued.

Variable	Description
ZT6_7FJ	T6/T7 facet joint osteophyte presence / absence
ZT7_8IVD	T7/T8 intervertebral joint osteophyte presence / absence
ZT7_8LF	T7/T8 facet joint left osteophyte presence / absence
ZT7_8RF	T7/T8 facet joint right osteophyte presence / absence
ZT7_8FJ	T7/T8 facet joint osteophyte presence / absence
ZT8_9IVD	T8/T9 intervertebral joint osteophyte presence / absence
ZT8_9LF	T8/T9 facet joint left osteophyte presence / absence
ZT8_9RF	T8/T9 facet joint right osteophyte presence / absence
ZT8_9FJ	T8/T9 facet joint osteophyte presence / absence
ZT9_10IVD	T9/T10 intervertebral joint osteophyte presence / absence
ZT9_10LF	T9/T10 facet joint left osteophyte presence / absence
ZT9_10RF	T9/T10 facet joint right osteophyte presence / absence
ZT9_10FJ	T9/T10 facet joint osteophyte presence / absence
ZT10_11IVD	T10/T11 intervertebral joint osteophyte presence / absence
ZT10_11LF	T10/T11 facet joint left osteophyte presence / absence
ZT10_11RF	T10/T11 facet joint right osteophyte presence / absence
ZT10_11FJ	T10/T11 facet joint osteophyte presence / absence
ZT11_12IVD	T11/T12 intervertebral joint osteophyte presence / absence
ZT11_12LF	T11/T12 facet joint left osteophyte presence / absence
ZT11_12RF	T11/T12 facet joint right osteophyte presence / absence
ZT11_12FJ	T11/T12 facet joint osteophyte presence / absence
ZT12L1IVD	T12/L1 intervertebral joint osteophyte presence / absence
ZT12L1LF	T12/ L1 facet joint left osteophyte presence / absence
ZT12L1RF	T12/ L1 facet joint right osteophyte presence / absence
ZT12L1FJ	T12/ L1 facet joint osteophyte presence / absence
ZL1_2IVD	L1/L2 intervertebral joint osteophyte presence / absence
ZL1_2LF	L1/ L2 facet joint left osteophyte presence / absence

Table 2.11 Continued.

Variable	Description
ZL1_2RF	L1/ L2 facet joint right osteophyte presence / absence
ZL1_2FJ	L1/ L2 facet joint osteophyte presence / absence
ZL2_3IVD	L2/L3 intervertebral joint osteophyte presence / absence
ZL2_3LF	L2/ L3 facet joint left osteophyte presence / absence
ZL2_3RF	L2/ L3 facet joint right osteophyte presence / absence
ZL2_3FJ	L2/ L3 facet joint osteophyte presence / absence
ZL3_4IVD	L3/L4 intervertebral joint osteophyte presence / absence
ZL3_4LF	L3/ L4 facet joint left osteophyte presence / absence
ZL3_4RF	L3/ L4 facet joint right osteophyte presence / absence
ZL3_4FJ	L3/ L4 facet joint osteophyte presence / absence
ZL4_5IVD	L4/L5 intervertebral joint osteophyte presence / absence
ZL4_5LF	L4/ L5 facet joint left osteophyte presence / absence
ZL4_5RF	L4/ L5 facet joint right osteophyte presence / absence
ZL4_5FJ	L4/ L5 facet joint osteophyte presence / absence
ZL5_S1IVD	L5/S1 intervertebral joint osteophyte presence / absence
ZL5_S1LF	L5/S1 facet joint left osteophyte presence / absence
ZL5_S1RF	L5/S1 facet joint right osteophyte presence / absence
ZL5_S1FJ	L5/S1 facet joint osteophyte presence / absence

Table 2.12 Variables and descriptions relating to osteophyte severity $\leq 1, \geq 2$.

Variable	Description
ZZO1C1LF	Occipital condyle / atlas left osteophyte severity
ZZO1C1RF	Occipital condyle / atlas right osteophyte severity
ZZO1C1FJ	Occipital condyle / atlas osteophyte severity
ZZDENS	Dens / dens facet osteophyte severity
ZZC1C2LF	C1/C2 facet joint left osteophyte severity
ZZC1C2RF	C1/C2 facet joint right osteophyte severity

Table 2.12 Continued.

Variable	Description
ZZC1C2FJ	C1/C2 facet joint osteophyte severity
ZZC2C3IVD	C2/C3 intervertebral joint osteophyte severity
ZZC2C3LF	C2/C3 facet joint left osteophyte severity
ZZC2C3RF	C2/C3 facet joint right osteophyte severity
ZZC2C3FJ	C2/C3 facet joint osteophyte severity
ZZC3C4IVD	C3/C4 intervertebral joint osteophyte severity
ZZC3C4LF	C3/C4 facet joint left osteophyte severity
ZZC3C4RF	C3/C4 facet joint right osteophyte severity
ZZC3C4FJ	C3/C4 facet joint osteophyte severity
ZZC4C5IVD	C4/C5 intervertebral joint osteophyte severity
ZZC4C5LF	C4/C5 facet joint left osteophyte severity
ZZC4C5RF	C4/C5 facet joint right osteophyte severity
ZZC4C5FJ	C4/C5 facet joint – osteophyte severity
ZZC5C6IVD	C5/C6 intervertebral joint osteophyte severity
ZZC5C6LF	C5/C6 facet joint left osteophyte severity
ZZC5C6RF	C5/C6 facet joint right osteophyte severity
ZZC5C6FJ	C5/C6 facet joint – osteophyte severity
ZZC6C7IVD	C6/C7 intervertebral joint osteophyte severity
ZZC6C7LF	C6/C7 facet joint left osteophyte severity
ZZC6C7RF	C6/C7 facet joint right osteophyte severity
ZZC6C7FJ	C6/C7 facet joint osteophyte severity
ZZC7T1IVD	C7/T1 intervertebral joint osteophyte severity
ZZC7T1LF	C7/T1 facet joint left osteophyte severity
ZZC7T1RF	C7/T1 facet joint right osteophyte severity
ZZC7T1FJ	C7/T1 facet joint osteophyte severity
ZZT1_2IVD	T1/T2 intervertebral joint osteophyte severity
ZZT1_2LF	T1/T2 facet joint left osteophyte severity

Table 2.12 Continued.

Variable	Description
ZZT1_2RF	T1/T2 facet joint right osteophyte severity
ZZT1_2FJ	T1/T2 facet joint osteophyte severity
ZZT2_3IVD	T2/T3 intervertebral joint osteophyte severity
ZZT2_3LF	T2/T3 facet joint left osteophyte severity
ZZT2_3RF	T2/T3 facet joint right osteophyte severity
ZZT2_3FJ	T2/T3 facet joint osteophyte severity
ZZT3_4IVD	T3/T4 intervertebral joint osteophyte severity
ZZT3_4LF	T3/T4 facet joint left osteophyte severity
ZZT3_4RF	T3/T4 facet joint right osteophyte severity
ZZT3_4FJ	T3/T4 facet joint osteophyte severity
ZZT4_5IVD	T4/T5 intervertebral joint osteophyte severity
ZZT4_5LF	T4/T5 facet joint left osteophyte severity
ZZT4_5RF	T4/T5 facet joint right osteophyte severity
ZZT4_5FJ	T4/T5 facet joint osteophyte severity
ZZT5_6IVD	T5/T6 intervertebral joint osteophyte severity
ZZT5_6LF	T5/T6 facet joint left osteophyte severity
ZZT5_6RF	T5/T6 facet joint right osteophyte severity
ZZT5_6FJ	T5/T6 facet joint osteophyte severity
ZZT6_7IVD	T6/T7 intervertebral joint osteophyte severity
ZZT6_7LF	T6/T7 facet joint left osteophyte severity
ZZT6_7RF	T6/T7 facet joint right osteophyte severity
ZZT6_7FJ	T6/T7 facet joint osteophyte severity
ZZT7_8IVD	T7/T8 intervertebral joint osteophyte severity
ZZT7_8LF	T7/T8 facet joint left osteophyte severity
ZZT7_8RF	T7/T8 facet joint right osteophyte severity
ZZT7_8FJ	T7/T8 facet joint osteophyte severity
ZZT8_9IVD	T8/T9 intervertebral joint osteophyte severity

Table 2.12 Continued.

Variable	Description
ZZT8_9LF	T8/T9 facet joint left osteophyte severity
ZZT8_9RF	T8/T9 facet joint right osteophyte severity
ZZT8_9FJ	T8/T9 facet joint osteophyte severity
ZZT9_10IVD	T9/T10 intervertebral joint osteophyte severity
ZZT9_10LF	T9/T10 facet joint left osteophyte severity
ZZT9_10RF	T9/T10 facet joint right osteophyte severity
ZZT9_10FJ	T9/T10 facet joint osteophyte severity
ZZT10_11IVD	T10/T11 intervertebral joint osteophyte severity
ZZT10_11LF	T10/T11 facet joint left osteophyte severity
ZZT10_11RF	T10/T11 facet joint right osteophyte severity
ZZT10_11FJ	T10/T11 facet joint osteophyte severity
ZZT11_12IVD	T11/T12 intervertebral joint osteophyte severity
ZZT11_12LF	T11/T12 facet joint left osteophyte severity
ZZT11_12RF	T11/T12 facet joint right osteophyte severity
ZZT11_12FJ	T11/T12 facet joint osteophyte severity
ZZT12L1IVD	T12/L1 intervertebral joint osteophyte severity
ZZT12L1LF	T12/ L1 facet joint left osteophyte severity
ZZT12L1RF	T12/ L1 facet joint right osteophyte severity
ZZT12L1FJ	T12/ L1 facet joint osteophyte severity
ZZL1_2IVD	L1/L2 intervertebral joint osteophyte severity
ZZL1_2LF	L1/ L2 facet joint left osteophyte severity
ZZL1_2RF	L1/ L2 facet joint right osteophyte severity
ZZL1_2FJ	L1/ L2 facet joint osteophyte severity
ZZL2_3IVD	L2/L3 intervertebral joint osteophyte severity
ZZL2_3LF	L2/ L3 facet joint left osteophyte severity
ZZL2_3RF	L2/ L3 facet joint right osteophyte severity
ZZL2_3FJ	L2/ L3 facet joint osteophyte severity

Table 2.12 Continued.

Variable	Description
ZZL3_4IVD	L3/L4 intervertebral joint osteophyte severity
ZZL3_4LF	L3/ L4 facet joint left osteophyte severity
ZZL3_4RF	L3/ L4 facet joint right osteophyte severity
ZZL3_4FJ	L3/ L4 facet joint osteophyte severity
ZZL4_5IVD	L4/L5 intervertebral joint osteophyte severity
ZZL4_5LF	L4/ L5 facet joint left osteophyte severity
ZZL4_5RF	L4/ L5 facet joint right osteophyte severity
ZZL4_5FJ	L4/ L5 facet joint osteophyte severity
ZZL5_S1IVD	L5/S1 intervertebral joint osteophyte severity
ZZL5_S1LF	L5/S1 facet joint left osteophyte severity
ZZL5_S1RF	L5/S1 facet joint right osteophyte severity
ZZL5_S1FJ	L5/S1 facet joint osteophyte severity

Table 2.13 Residual clavicle variables after controlling for age-at-death.

Variable	Description
RCLML	Residual clavicle maximum length
RCLAPD	Residual clavicle anterior posterior diameter at midshaft
RCLSID	Residual clavicle superior inferior diameter at midshaft

Table 2.14 Residual scapula variables after controlling for age-at-death.

Variable	Description
RSH	Residual scapula height
RSB	Residual scapula breadth

Table 2.15 Residual humerus variables after controlling for age-at-death.

Variable	Description
RHML	Residual humerus maximum length
RHEB	Residual humerus epicondylar breadth
RHVDH	Residual humerus vertical diameter of head
RHMAXD	Residual humerus maximum diameter at midshaft
RHMIND	Residual humerus Minimum diameter at midshaft
RHSIZE	Residual humerus length + vertical Diameter of the Head + epicondylar breadth

Table 2.16 Residual radius variables after controlling for age-at-death.

Variable	Description
RRML	Residual radius maximum length
RRSD	Residual radius sagittal diameter at midshaft
RRTD	Residual radius transverse diameter at midshaft

Table 2.17 Residual femur variables after controlling for age-at-death.

Variable	Description
RFML	Residual femur maximum length
RFCDA	Residual femur condylo-diaphyseal angle
RFEB	Residual femur epicondylar breadth
RFMAXHD	Residual femur maximum head diameter
RFNSA	Residual femur Femoral neck-shaft angle

Table 2.18 Residual tibia variables after controlling for age-at-death.

Variable	Description
RTML	Residual tibia length
RTMPEB	Residual tibia maximum proximal epiphyseal breadth
RTMDEB	Residual tibia maximum distal epiphyseal breadth

Table 2.19 Residual calcaneus variables after controlling for age-at-death.

Variable	Description
RCAML	Residual calcaneus maximum length
RCAMB	Residual calcaneus middle breadth

Table 2.20 Residual summated and ratio variables after controlling for age-at-death.

Variable	Description
RVB_ALL_P	Residual Sum of vertebral body heights posterior
RVCP_HML	Residual vertebral column length / humerus maximum length
RVCP_HRML	Residual vertebral column length / humerus + radius maximum length
RVCP_FML	Residual vertebral column length / femur maximum length
RVCP_FTML	Residual vertebral column length / femur + tibia maximum length
RVCPHRML_RFML	Residual vertebral column length + humerus length + radius length / femur length
RVCPHRML_RFTML	Residual vertebral column length + humerus length + radius length / femur + tibia length
RVCPFML	Residual vertebral column length + femur maximum length
RVCPFTML	Residual vertebral column length + femur + tibia maximum length
RVCPHRML	Residual vertebral column length + humerus length + radius length
RHML_FML	Residual humerus maximum length / femur maximum length
RHRML_FTML	Residual humerus + radius length / femur + tibia length
RHMLRML	Residual humerus length + radius length
RFMLTML	Residual femur length + tibia length
RFMAXHD_VCP	Residual femur maximum head diameter / vertebral column length
RFMAXHD_HML	Residual femur maximum head diameter / humerus length
RFMAXHD_HRML	Residual femur maximum head diameter / humerus length + radius length
RFMAXHD_RHSIZE	Residual femur maximum head diameter / humerus length + vertical head diameter + epicondylar breadth
RTMPEB_VCP	Residual tibia proximal epicondylar breadth / vertebral column length
RTMPEB_HML	Residual tibia proximal epicondylar breadth / humerus length
RTMPEB_HRML	Residual tibia proximal epicondylar breadth / humerus length + radius length
RTMPEB_RHSIZE	Residual tibia proximal epicondylar breadth / humerus length + vertical head diameter + epicondylar breadth

Table 2.20 Continued.

Variable	Description
RTMDEB_VCP	Residual tibia distal epicondylar breadth / vertebral column length
RTMDEB_HML	Residual tibia distal epicondylar breadth / humerus length
RTMDEB_HRML	Residual tibia distal epicondylar breadth / humerus length + radius length
RTMDEB_RHSIZE	Residual tibia distal epicondylar breadth / humerus length + vertical head diameter + epicondylar breadth
RCML_VCP	Residual calcaneus length / vertebral column length
RCML_HML	Residual calcaneus length / humerus maximum length
RCML_HRML	Residual calcaneus length / humerus + radius maximum length
RCML_RHSIZE	Residual calcaneus length / humerus length + vertical head diameter + epicondylar breadth
RCML_FML	Residual calcaneus length / femur maximum length
RCML_FTML	Residual calcaneus length / femur + tibia maximum length
RCML_FMAXHD	Residual calcaneus length / femur maximum head diameter
RCML_FEB	Residual calcaneus length / femur epicondylar breadth
RCML_TML	Residual calcaneus length / tibia maximum length
RCML_TMPEB	Residual calcaneus length / tibia proximal epicondylar breadth
RCML_TMDEB	Residual calcaneus length / tibia distal epicondylar breadth
RCMB_VCP	Residual calcaneus breadth / vertebral column length
RCMB_HML	Residual calcaneus breadth / humerus maximum length
RCMB_HRML	Residual calcaneus breadth / humerus + radius maximum length
RCMB_RHSIZE	Residual calcaneus breadth / humerus length + vertical head diameter + epicondylar breadth
RCMB_FML	Residual calcaneus breadth / femur maximum length
RCMB_FTML	Residual calcaneus breadth / femur + tibia maximum length
RCMB_FMAXHD	Residual calcaneus breadth / femur maximum head diameter
RCMB_FEB	Residual calcaneus breadth / femur epicondylar breadth
RCMB_TML	Residual calcaneus breadth / tibia maximum length
RCMB_TMPEB	Residual calcaneus breadth / tibia proximal epicondylar breadth
RCMB_TMDEB	Residual calcaneus breadth / tibia distal epicondylar breadth

APPENDIX 3

INTEROBSERVER AND INTRAOBSERVER ANALYSES

Table 3.1 Group statistics in relation to the interobserver measurements of the femoral neck shaft and condyle-diaphyseal angles.

	Observer	*N*	Mean	Std. Deviation	Std. Error Mean
FNSA_L	1	5	128.000	3.742	1.673
	2	5	127.400	4.775	2.135
FNSA_R	1	4	129.500	4.041	2.021
	2	4	128.750	4.646	2.323
FCDA_L	1	5	81.200	1.924	0.860
	2	5	81.000	3.536	1.581
FCDA_R	1	4	80.000	1.414	0.707
	2	4	79.500	1.291	0.646

Table 3.2 Results from independent samples *t*-test in relation to the interobserver measurements of the femoral neck shaft and condyle-diaphyseal angles.

	t	Degrees of Freedom	*P*-value	Mean Difference	Std. Error Difference	95% Confidence Interval	
						Lower	Upper
FNSA_L	0.221	8	0.831	0.600	2.713	-5.656	6.856
FNSA_R	0.244	6	0.816	0.750	3.079	-6.784	8.284
FCDA_L	0.111	8	0.914	0.200	1.800	-3.951	4.351
FCDA_R	0.522	6	0.620	0.500	0.957	-1.843	2.843

Table 3.3 Paired samples statistics in relation to the intraobserver metric measurements.

Variable name	Mean	*N*	Std. Deviation	Std. Error Mean
CLML_L	140.462	13	10.325	2.864
CLML_L_INTRA	140.615	13	10.587	2.936
CLML_R	140.700	10	11.945	3.777
CLML_R_INTRA	140.800	10	11.811	3.735
CLAPD_L	11.000	13	1.494	0.414
CLAPD_L_INTRA	10.939	13	1.908	0.529
CLAPD_R	12.155	11	1.809	0.545
CLAPD_R_INTRA	12.173	11	1.669	0.503
CLSID_L	9.462	13	1.248	0.346
CLSID_L_INTRA	9.362	13	1.307	0.362
CLSID_R	9.091	11	1.502	0.453
CLSID_R_INTRA	8.873	11	1.189	0.359

Table 3.3 Continued.

Variable name	Mean	*N*	Std. Deviation	Std. Error Mean
SH_L	145.188	8	15.231	5.385
SH_L_INTRA	145.375	8	15.080	5.332
SH_R	143.950	10	13.384	4.232
SH_R_INTRA	143.800	10	13.181	4.168
SB_L	94.250	10	4.399	1.391
SB_L_INTRA	94.140	10	4.771	1.509
SB_R	92.680	10	4.186	1.324
SB_R_INTRA	92.860	10	4.065	1.285
HML_L	299.583	12	15.458	4.462
HML_L_INTRA	299.583	12	15.400	4.446
HML_R	303.231	13	15.839	4.393
HML_R_INTRA	303.231	13	15.833	4.391
HEB_L	57.591	11	5.864	1.768
HEB_L_INTRA	57.455	11	5.820	1.755
HEB_R	57.917	12	5.583	1.612
HEB_R_INTRA	58.000	12	5.768	1.665
HVDH_L	41.154	13	4.408	1.222
HVDH_L_INTRA	41.408	13	4.370	1.212
HVDH_R	41.477	13	4.330	1.201
HVDH_R_INTRA	42.177	13	3.892	1.080
HMAXD_L	21.323	13	2.339	0.649
HMAXD_L_INTRA	21.562	13	1.842	0.511
HMAXD_R	22.031	13	1.945	0.540
HMAXD_R_INTRA	22.162	13	1.823	0.506
HMIND_L	16.985	13	1.898	0.526
HMIND_L_INTRA	16.577	13	1.384	0.384
HMIND_R	17.462	13	1.801	0.500
HMIND_R_INTRA	16.939	13	1.595	0.442
RML_L	214.292	12	11.226	3.241
RML_L_INTRA	214.083	12	11.453	3.306
RML_R	216.000	10	9.829	3.108
RML_R_INTRA	216.100	10	10.027	3.171
RSD_L	10.917	12	0.880	0.254
RSD_L_INTRA	10.825	12	0.916	0.264
RSD_R	10.910	10	1.217	0.385
RSD_R_INTRA	10.870	10	1.198	0.379
RTD_L	14.450	12	1.308	0.377
RTD_L_INTRA	14.608	12	1.328	0.383
RTD_R	15.080	10	1.445	0.457
RTD_R_INTRA	15.080	10	1.368	0.433
FML_L	421.962	13	17.577	4.875
FML_L_INTRA	422.077	13	17.585	4.877
FML_R	421.000	11	19.272	5.811
FML_R_INTRA	421.364	11	19.500	5.880
FCDA_L	78.333	12	3.576	1.032
FCDA_L_INTRA	78.750	12	3.415	0.986
FCDA_R	77.364	11	4.130	1.245
FCDA_R_INTRA	77.182	11	4.332	1.306

Table 3.3 Continued.

Variable name	Mean	*N*	Std. Deviation	Std. Error Mean
FEB_L	76.056	9	5.548	1.849
FEB_L_INTRA	76.333	9	5.701	1.900
FEB_R	77.667	9	5.895	1.965
FEB_R_INTRA	77.444	9	5.833	1.944
FMAXHD_L	43.015	13	3.577	0.992
FMAXHD_L_INTRA	43.092	13	3.480	0.965
FMAXHD_R	44.009	11	4.156	1.253
FMAXHD_R_INTRA	44.027	11	4.157	1.253
FNSA_L	122.462	13	5.840	1.620
FNSA_L_INTRA	123.154	13	5.786	1.605
FNSA_R	126.727	11	4.361	1.315
FNSA_R_INTRA	127.000	11	3.821	1.152
TML_L	342.750	8	21.968	7.767
TML_L_INTRA	343.250	8	21.704	7.674
TML_R	343.375	8	20.213	7.146
TML_R_INTRA	343.125	8	19.853	7.019
TMPEB_L	68.929	7	6.979	2.638
TMPEB_L_INTRA	68.571	7	6.973	2.635
TMPEB_R	70.500	7	6.702	2.533
TMPEB_R_INTRA	70.571	7	7.323	2.768
TMDEB_L	49.625	8	3.563	1.260
TMDEB_L_INTRA	50.000	8	3.625	1.282
TMDEB_R	48.875	8	3.711	1.312
TMDEB_R_INTRA	48.750	8	3.655	1.292
CAML_L	76.333	9	5.333	1.778
CAML_L_INTRA	76.778	9	5.630	1.877
CAML_R	77.500	7	6.526	2.466
CAML_R_INTRA	77.429	7	5.884	2.224
CAMB_L	41.750	8	3.761	1.330
CAMB_L_INTRA	41.750	8	2.964	1.048
CAMB_R	42.000	6	3.782	1.544
CAMB_R_INTRA	41.167	6	2.994	1.222
T1_VB_H_P	16.517	12	1.172	0.338
T1_VB_H_P_INTRA	16.475	12	1.245	0.359
T2_VB_H_P	17.133	12	0.998	0.288
T2_VB_H_P_INTRA	17.175	12	1.008	0.291
T3_VB_H_P	17.792	12	0.959	0.277
T3_VB_H_P_INTRA	17.708	12	1.046	0.302
T4_VB_H_P	18.539	13	1.211	0.336
T4_VB_H_P_INTRA	18.577	13	1.298	0.360
T5_VB_H_P	18.954	13	1.336	0.370
T5_VB_H_P_INTRA	19.031	13	1.234	0.342
T6_VB_H_P	19.754	13	1.458	0.404
T6_VB_H_P_INTRA	19.662	13	1.448	0.402
T7_VB_H_P	20.077	13	1.300	0.361
T7_VB_H_P_INTRA	19.985	13	1.461	0.405
T8_VB_H_P	20.100	13	1.212	0.336
T8_VB_H_P_INTRA	20.200	13	1.382	0.383

Table 3.3 Continued.

Variable name	Mean	*N*	Std. Deviation	Std. Error Mean
T9_VB_H_P	20.869	13	1.380	0.383
T9_VB_H_P_INTRA	20.792	13	1.608	0.446
T10_VB_H_P	22.223	13	1.810	0.502
T10_VB_H_P_INTRA	22.239	13	1.919	0.532
T11_VB_H_P	23.739	13	1.708	0.474
T11_VB_H_P_INTRA	23.746	13	1.722	0.478
T12_VB_H_P	25.233	12	1.738	0.502
T12_VB_H_P_INTRA	25.200	12	1.711	0.494
L1_VB_H_P	26.300	13	1.530	0.424
L1_VB_H_P_INTRA	26.346	13	1.513	0.420
L2_VB_H_P	26.777	13	1.479	0.410
L2_VB_H_P_INTRA	26.746	13	1.336	0.371
L3_VB_H_P	26.392	13	1.729	0.480
L3_VB_H_P_INTRA	26.362	13	1.852	0.514
L4_VB_H_P	25.254	13	2.110	0.585
L4_VB_H_P_INTRA	25.469	13	1.866	0.518
L5_VB_H_P	23.667	12	1.507	0.435
L5_VB_H_P_INTRA	23.950	12	1.391	0.402

Table 3.4 Paired samples *t*-test in relation to the intraobserver metric measurements.

	Paired Differences					t	df	*P - value*
	Mean	Std. Dev	Std. Error Mean	95% Confidence Interval				
				Lower	Upper			
CLML_L - CLML_L_I	-0.154	0.555	0.154	-0.489	0.181	1.000	12	0.337
CLML_R - CLML_R_I	-0.100	0.316	0.100	-0.326	0.126	1.000	9	0.343
CLAPD_L - CLAPD_L_I	0.062	1.042	0.289	-0.568	0.691	0.213	12	0.835
CLAPD_R - CLAPD_R_I	-0.018	0.440	0.133	-0.314	0.277	0.137	10	0.894
CLSID_L - CLSID_L_I	0.100	0.231	0.064	-0.040	0.240	1.561	12	0.144
CLSID_R - CLSID_R_I	0.218	0.433	0.131	-0.073	0.509	1.671	10	0.126
SH_L – SH_L_I	-0.188	0.753	0.266	-0.817	0.442	0.704	7	0.504
SH_R – SH_R_I	0.150	1.001	0.317	-0.566	0.866	0.474	9	0.647
SB_L – SB_L_I	0.110	0.595	0.188	-0.316	0.536	0.584	9	0.573
SB_R – SB_R_I	-0.180	0.391	0.124	-0.460	0.100	1.456	9	0.179
HML_L - HML_L_I	0.000	0.369	0.107	-0.235	0.235	0.000	11	1.000
HML_R - HML_R_I	0.000	0.707	0.196	-0.427	0.427	0.000	12	1.000

Table 3.4 Continued.

	Paired Differences					t	df	*P - value*
	Mean	Std. Dev	Std. Error Mean	95% Confidence Interval				
				Lower	Upper			
HEB_L - HEB_L_I	0.136	0.393	0.119	-0.128	0.400	1.150	10	0.277
HEB_R - HEB_R_I	-0.083	0.515	0.149	-0.411	0.244	0.561	11	0.586
HVDH_L - HVDH_L_I	-0.254	0.488	0.135	-0.548	0.041	-1.877	12	0.085
HVDH_R - HVDH_R_I	-0.700	1.246	0.346	-1.453	0.053	-2.025	12	0.066
HMAXD_L - HMAXD_L_I	-0.238	0.776	0.215	-0.708	0.231	-1.108	12	0.290
HMAXD_R - HMAXD_R_I	-0.131	0.669	0.185	-0.535	0.273	-0.705	12	0.494
HMIND_L - HMIND_L_I	0.408	1.086	0.301	-0.248	1.064	1.354	12	0.201
HMIND_R - HMIND_R_I	0.523	1.260	0.350	-0.239	1.285	1.496	12	0.160
RML_L - RML_L_I	0.208	0.782	0.226	-0.289	0.705	0.923	11	0.376
RML_R - RML_R_I	-0.100	1.022	0.323	-0.831	0.631	-0.309	9	0.764
RSD_L - RSD_L_I	0.092	0.243	0.070	-0.063	0.246	1.307	11	0.218
RSD_R - RSD_R_I	0.040	0.190	0.060	-0.096	0.176	0.667	9	0.522
RTD_L - RTD_L_I	-0.158	0.312	0.090	-0.356	0.040	-1.759	11	0.106
RTD_R - RTD_R_I	0.000	0.170	0.054	-0.122	0.122	0.000	9	1.000
FML_L - FML_L_I	-0.115	0.650	0.180	-0.508	0.278	-0.640	12	0.534
FML_R - FML_R_I	-0.364	0.674	0.203	-0.817	0.089	-1.789	10	0.104
FCDA_L - FCDA_L_I	-0.417	0.669	0.193	-0.841	0.008	-2.159	11	0.054
FCDA_R - FCDA_R_I	0.182	0.603	0.182	-0.223	0.587	1.000	10	0.341
FEB_L - FEB_L_I	-0.278	0.565	0.188	-0.712	0.157	-1.474	8	0.179
FEB_R - FEB_R_I	0.222	0.264	0.088	0.020	0.425	2.530	8	0.035
FMAXHD_L - FMAXHD_L_I	-0.077	0.388	0.108	-0.311	0.157	-0.716	12	0.488
FMAXHD_R - FMAXHD_R_I	-0.018	0.328	0.099	-0.239	0.202	-0.184	10	0.858
FNSA_L - FNSA_L_I	-0.692	1.702	0.472	-1.721	0.336	-1.466	12	0.168
FNSA_R - FNSA_R_I	-0.273	1.421	0.428	-1.227	0.682	-0.637	10	0.539
TML_L - TML_L_I	-0.500	0.886	0.313	-1.241	0.241	-1.595	7	0.155

Table 3.4 Continued.

	Paired Differences					t	df	*P - value*
	Mean	Std. Dev	Std. Error Mean	95% Confidence Interval				
				Lower	Upper			
TML_R - TML_R_I	0.250	0.707	0.250	-0.341	0.841	1.000	7	0.351
TMPEB_L - TMPEB_L_I	0.357	0.852	0.322	-0.431	1.145	1.109	6	0.310
TMPEB_R - TMPEB_R_I	-0.071	1.170	0.442	-1.154	1.011	-0.162	6	0.877
TMDEB_L - TMDEB_L_I	-0.375	0.641	0.227	-0.911	0.161	-1.655	7	0.142
TMDEB_R - TMDEB_R_I	0.125	0.694	0.246	-0.456	0.706	0.509	7	0.626
CAML_L - CAML_L_I	-0.444	0.846	0.282	-1.095	0.206	-1.577	8	0.154
CAML_R - CAML_R_I	0.071	0.932	0.352	-0.791	0.934	0.203	6	0.846
CAMB_L - CAMB_L_I	0.000	3.306	1.169	-2.764	2.764	0.000	7	1.000
CAMB_R - CAMB_R_I	0.833	1.571	0.641	-0.815	2.482	1.300	5	0.250
T1_VB_H_P - T1_VB_H_P_I	0.042	0.227	0.066	-0.103	0.186	0.635	11	0.539
T2_VB_H_P - T2_VB_H_P_I	-0.042	0.156	0.045	-0.141	0.058	-0.923	11	0.376
T3_VB_H_P - T3_VB_H_P_I	0.083	0.295	0.085	-0.104	0.271	0.979	11	0.349
T4_VB_H_P - T4_VB_H_P_I	-0.038	0.243	0.068	-0.186	0.109	-0.570	12	0.579
T5_VB_H_P - T5_VB_H_P_I	-0.077	0.228	0.063	-0.215	0.061	-1.217	12	0.247
T6_VB_H_P - T6_VB_H_P_I	0.092	0.206	0.057	-0.032	0.217	1.616	12	0.132
T7_VB_H_P - T7_VB_H_P_I	0.092	0.345	0.096	-0.116	0.301	0.964	12	0.354
T8_VB_H_P - T8_VB_H_P_I	-0.100	0.408	0.113	-0.347	0.147	-0.883	12	0.394
T9_VB_H_P - T9_VB_H_P_I	0.077	0.440	0.122	-0.189	0.343	0.630	12	0.540
T10_VB_H_P - T10_VB_H_P_I	-0.015	0.241	0.067	-0.161	0.130	-0.230	12	0.822
T11_VB_H_P - T11_VB_H_P_I	-0.008	0.240	0.066	-0.153	0.137	-0.116	12	0.910
T12_VB_H_P - T12_VB_H_P_I	0.033	0.392	0.113	-0.215	0.282	0.295	11	0.774
L1_VB_H_P - L1_VB_H_P_I	-0.046	0.171	0.048	-0.150	0.057	-0.971	12	0.351
L2_VB_H_P - L2_VB_H_P_I	0.031	0.375	0.104	-0.196	0.257	0.296	12	0.772
L3_VB_H_P - L3_VB_H_P_I	0.031	0.981	0.272	-0.562	0.624	0.113	12	0.912
L4_VB_H_P - L4_VB_H_P_I	-0.215	0.662	0.184	-0.615	0.185	-1.173	12	0.263
L5_VB_H_P - L5_VB_H_P_I	-0.283	0.610	0.176	-0.671	0.104	-1.608	11	0.136

Table 3.5 Results from Friedman's test of intraobserver osteophyte grading.

Variable	Mean Rank	*N*	Chi-Square	df	*P*-value
O1C1LF	1.65	10	3.000	1	0.083
O1C1LF_I	1.35				
O1C1RF	1.63	12	3.000	1	0.083
O1C1RF_I	1.38				
DENS	1.58	13	1.000	1	0.317
DENS_I	1.42				
C1C2LF	1.5	13	.	1	.
C1C2LF_I	1.5				
C1C2RF	1.5	13	.	1	.
C1C2RF_I	1.5				
C2C3IVD	1.5	13	0.000	1	1.000
C2C3IVD_I	1.5				
C2C3LF	1.5	13	0.000	1	1.000
C2C3LF_I	1.5				
C2C3RF	1.54	13	1.000	1	0.317
C2C3RF_I	1.46				
C3C4IVD	1.46	13	1.000	1	0.317
C3C4IVD_I	1.54				
C3C4LF	1.46	13	0.333	1	0.564
C3C4LF_I	1.54				
C3C4RF	1.5	13	0.000	1	1.000
C3C4RF_I	1.5				
C4C5IVD	1.5	13	.	1	.
C4C5IVD_I	1.5				
C4C5LF	1.46	12	1.000	1	0.317
C4C5LF_I	1.54				
C4C5RF	1.46	13	1.000	1	0.317
C4C5RF_I	1.54				
C5C6IVD	1.42	12	2.000	1	0.157
C5C6IVD_I	1.58				
C5C6LF	1.5	12	.	1	.
C5C6LF_I	1.5				
C5C6RF	1.5	12	.	1	.
C5C6RF_I	1.5				
C6C7IVD	1.46	12	0.333	1	0.564
C6C7IVD_I	1.54				
C6C7LF	1.5	12	.	1	.
C6C7LF_I	1.5				
C6C7RF	1.5	12	.	1	.
C6C7RF_I	1.5				
C7T1IVD	1.5	12	.	1	.
C7T1IVD_I	1.5				
C7T1LF	1.46	12	1.000	1	0.317
C7T1LF_I	1.54				
C7T1RF	1.42	12	2.000	1	0.157
C7T1RF_I	1.58				

Table 3.5 Continued.

Variable	Mean Rank	*N*	Chi-Square	df	*P*-value
T1_2IVD	1.54	12	0.333	1	0.564
T1_2IVD_I	1.46				
T1_2LF	1.46	12	1.000	1	0.317
T1_2LF_I	1.54				
T1_2RF	1.54	12	1.000	1	0.317
T1_2RF_I	1.46				
T2_3IVD	1.5	12	0.000	1	1.000
T2_3IVD_I	1.5				
T2_3LF	1.54	12	0.333	1	0.564
T2_3LF_I	1.46				
T2_3RF	1.54	12	1.000	1	0.317
T2_3RF_I	1.46				
T3_4IVD	1.5	13	0.000	1	1.000
T3_4IVD_I	1.5				
T3_4LF	1.5	13	0.000	1	1.000
T3_4LF_I	1.5				
T3_4RF	1.42	13	1.000	1	0.317
T3_4RF_I	1.58				
T4_5IVD	1.38	13	1.800	1	0.180
T4_5IVD_I	1.62				
T4_5LF	1.54	13	0.333	1	0.564
T4_5LF_I	1.46				
T4_5RF	1.5	13	0.000	1	1.000
T4_5RF_I	1.5				
T5_6IVD	1.42	13	1.000	1	0.317
T5_6IVD_I	1.58				
T5_6LF	1.58	13	2.000	1	0.157
T5_6LF_I	1.42				
T5_6RF	1.5	13	0.000	1	1.000
T5_6RF_I	1.5				
T6_7IVD	1.5	13	0.000	1	1.000
T6_7IVD_I	1.5				
T6_7LF	1.58	13	2.000	1	0.157
T6_7LF_I	1.42				
T6_7RF	1.58	13	2.000	1	0.157
T6_7RF_I	1.42				
T7_8IVD	1.5	13	0.000	1	1.000
T7_8IVD_I	1.5				
T7_8LF	1.46	13	1.000	1	0.317
T7_8LF_I	1.54				
T7_8RF	1.46	13	1.000	1	0.317
T7_8RF_I	1.54				
T8_9IVD	1.46	13	0.200	1	0.655
T8_9IVD_I	1.54				
T8_9LF	1.46	13	1.000	1	0.317
T8_9LF_I	1.54				
T8_9RF	1.54	13	1.000	1	0.317
T8_9RF_I	1.46				

Table 3.5 Continued.

Variable	Mean Rank	*N*	Chi-Square	df	*P*-value
T9_10IVD	1.46	13	0.200	1	0.655
T9_10IVD_I	1.54				
T9_10LF	1.54	13	1.000	1	0.317
T9_10LF_I	1.46				
T9_10RF	1.5	13	0.000	1	1.000
T9_10RF_I	1.5				
T10_11IVD	1.54	13	0.200	1	0.655
T10_11IVD_I	1.46				
T10_11LF	1.42	13	2.000	1	0.157
T10_11LF_I	1.58				
T10_11RF	1.42	13	2.000	1	0.157
T10_11RF_I	1.58				
T11_12IVD	1.42	13	1.000	1	0.317
T11_12IVD_I	1.58				
T11_12LF	1.58	13	1.000	1	0.317
T11_12LF_I	1.42				
T11_12RF	1.5	13	0.000	1	1.000
T11_12RF_I	1.5				
T12L1IVD	1.5	13	0.000	1	1.000
T12L1IVD_I	1.5				
T12L1LF	1.5	13	0.000	1	1.000
T12L1LF_I	1.5				
T12L1RF	1.46	13	1.000	1	0.317
T12L1RF_I	1.54				
L1_2IVD	1.42	13	0.667	1	0.414
L1_2IVD_I	1.58				
L1_2LF	1.46	13	1.000	1	0.317
L1_2LF_I	1.54				
L1_2RF	1.46	13	1.000	1	0.317
L1_2RF_I	1.54				
L2_3IVD	1.5	13	0.000	1	1.000
L2_3IVD_I	1.5				
L2_3LF	1.54	13	0.333	1	0.564
L2_3LF_I	1.46				
L2_3RF	1.58	13	2.000	1	0.157
L2_3RF_I	1.42				
L3_4IVD	1.42	13	1.000	1	0.317
L3_4IVD_I	1.58				
L3_4LF	1.58	13	1.000	1	0.317
L3_4LF_I	1.42				
L3_4RF	1.58	13	1.000	1	0.317
L3_4RF_I	1.42				
L4_5IVD	1.42	13	1.000	1	0.317
L4_5IVD_I	1.58				
L4_5LF	1.54	13	0.333	1	0.564
L4_5LF_I	1.46				
L4_5RF	1.58	13	2.000	1	0.157
L4_5RF_I	1.42				

Table 3.5 Continued.

Variable	Mean Rank	N	Chi-Square	df	P - value
L5_S1IVD	1.35	13	4.000	1	0.046
L5_S1IVD_I	1.65				
L5_S1LF	1.54	13	1.000	1	0.317
L5_S1LF_I	1.46				
L5_S1RF	1.58	13	1.000	1	0.317
L5_S1RF_I	1.42				

APPENDIX 4

CASE SUMMARIES

Table 4.1 Age-at-death case summaries for the total sample.

Variable	Valid		Missing		Total	
	N	%	*N*	%	*N*	%
AGE	131	100.0	0	0.0	131	100.0

Table 4.2 Clavicle variable case summaries for the total sample.

Variable	Valid		Missing		Total	
	N	%	*N*	%	*N*	%
CLML_L	88	67.2	43	32.8	131	100.0
CLML_R	89	67.9	42	32.1	131	100.0
CLML	106	80.9	25	19.1	131	100.0
CLAPD_L	91	69.5	40	30.5	131	100.0
CLAPD_R	91	69.5	40	30.5	131	100.0
CLAPD	106	80.9	25	19.1	131	100.0
CLSID_L	91	69.5	40	30.5	131	100.0
CLSID_R	91	69.5	40	30.5	131	100.0
CLSID	106	80.9	25	19.1	131	100.0

Table 4.3 Scapula variable case summaries for the total sample.

Variable	Valid		Missing		Total	
	N	%	*N*	%	*N*	%
SH_L	70	53.4	61	46.6	131	100.0
SH_R	74	56.5	57	43.5	131	100.0
SH	89	67.9	42	32.1	131	100.0
SB_L	81	61.8	50	38.2	131	100.0
SB_R	77	58.8	54	41.2	131	100.0
SB	92	70.2	39	29.8	131	100.0

Table 4.4 Humerus variable case summaries for the total sample.

Variable	Valid		Missing		Total	
	N	%	*N*	%	*N*	%
HML_L	113	86.3	18	13.7	131	100.0
HML_R	112	85.5	19	14.5	131	100.0
HML	125	95.4	6	4.6	131	100.0
HEB_L	119	90.8	12	9.2	131	100.0
HEB_R	116	88.5	15	11.5	131	100.0

Table 4.4 Continued

Variable	Valid		Missing		Total	
	N	%	*N*	%	*N*	%
HEB	127	96.9	4	3.1	131	100.0
HVDH_L	106	80.9	25	19.1	131	100.0
HVDH_R	106	80.9	25	19.1	131	100.0
HVDH	121	92.4	10	7.6	131	100.0
HMAXD_L	115	87.8	16	12.2	131	100.0
HMAXD_R	111	84.7	20	15.3	131	100.0
HMAXD	123	93.9	8	6.1	131	100.0
HMIND_L	115	87.8	16	12.2	131	100.0
HMIND_R	111	84.7	20	15.3	131	100.0
HMIND	123	93.9	8	6.1	131	100.0

Table 4.5 Radius variable case summaries for the total sample.

Variable	Valid		Missing		Total	
	N	%	*N*	%	*N*	%
RML_L	108	82.4	23	17.6	131	100.0
RML_R	109	83.2	22	16.8	131	100.0
RML	124	94.7	7	5.3	131	100.0
RSD_L	110	84.0	21	16.0	131	100.0
RSD_R	109	83.2	22	16.8	131	100.0
RSD	124	94.7	7	5.3	131	100.0
RTD_L	110	84.0	21	16.0	131	100.0
RTD_R	109	83.2	22	16.8	131	100.0
RTD	124	94.7	7	5.3	131	100.0

Table 4.6 Femur variable case summaries for the total sample.

Variable	Valid		Missing		Total	
	N	%	*N*	%	*N*	%
FML_L	115	87.8	16	12.2	131	100.0
FML_R	121	92.4	10	7.6	131	100.0
FML	131	100.0	0	0.0	131	100.0
FBL_L	113	86.3	18	13.7	131	100.0
FBL_R	118	90.1	13	9.9	131	100.0
FBL	127	96.9	4	3.1	131	100.0
FCDA_L	116	88.5	15	11.5	131	100.0
FCDA_R	119	90.8	12	9.2	131	100.0
FCDA	127	96.9	4	3.1	131	100.0
FEB_L	99	75.6	32	24.4	131	100.0
FEB_R	105	80.2	26	19.8	131	100.0
FEB	113	86.3	18	13.7	131	100.0

Table 4.6 Continued.

Variable	Valid		Missing		Total	
	N	%	*N*	%	*N*	%
FMAXHD_L	120	91.6	11	8.4	131	100.0
FMAXHD_R	119	90.8	12	9.2	131	100.0
FMAXHD	130	99.2	1	0.8	131	100.0
FNSA_L	118	90.1	13	9.9	131	100.0
FNSA_R	118	90.1	13	9.9	131	100.0
FNSA	129	98.5	2	1.5	131	100.0

Table 4.7 Tibia variable case summaries for the total sample.

Variable	Valid		Missing		Total	
	N	%	*N*	%	*N*	%
TML_L	106	80.9	25	19.1	131	100.0
TML_R	103	78.6	28	21.4	131	100.0
TML	111	84.7	20	15.3	131	100.0
TMPEB_L	103	78.6	28	21.4	131	100.0
TMPEB_R	102	77.9	29	22.1	131	100.0
TMPEB	109	83.2	22	16.8	131	100.0
TMDEB_L	103	78.6	28	21.4	131	100.0
TMDEB_R	100	76.3	31	23.7	131	100.0
TMDEB	110	84.0	21	16.0	131	100.0

Table 4.8 Calcaneus variable case summaries for the total sample.

Variable	Valid		Missing		Total	
	N	%	*N*	%	*N*	%
CAML_L	92	70.2	39	29.8	131	100.0
CAML_R	90	68.7	41	31.3	131	100.0
CAML	99	75.6	32	24.4	131	100.0
CAMB_L	87	66.4	44	33.6	131	100.0
CAMB_R	85	64.9	46	35.1	131	100.0
CAMB	93	71.0	38	29.0	131	100.0

Table 4.9 Summated and ratio variable case summaries for the total sample.

Variable	Valid		Missing		Total	
	N	%	*N*	%	*N*	%
VB_ALL_P	115	87.8	16	12.2	131	100.0
VCP_HML	113	86.3	18	13.7	131	100.0
VCP_HRML	112	85.5	19	14.5	131	100.0
VCP_FML	115	87.8	16	12.2	131	100.0
VCP_FTML	97	74.0	34	26.0	131	100.0
VCPHRML_FML	112	85.5	19	14.5	131	100.0

Table 4.9 Continued.

Variable	Valid		Missing		Total	
	N	%	*N*	%	*N*	%
VCPHRML_FTML	94	71.8	37	28.2	131	100.0
VCPFML	115	87.8	16	12.2	131	100.0
VCPFTML	97	74.0	34	26.0	131	100.0
VCPHRML	112	85.5	19	14.5	131	100.0
HML_FML	125	95.4	6	4.6	131	100.0
HRML_FTML	104	79.4	27	20.6	131	100.0
HMLRML	123	93.9	8	6.1	131	100.0
HSIZE	119	90.8	12	9.2	131	100.0
FMLTML	111	84.7	20	15.3	131	100.0
FMAXHD_VCP	115	87.8	16	12.2	131	100.0
FMAXHD_HML	125	95.4	6	4.6	131	100.0
FMAXHD_HRML	123	93.9	8	6.1	131	100.0
FMAXHD_HSIZE	119	90.8	12	9.2	131	100.0
TMPEB_VCP	97	74.0	34	26.0	131	100.0
TMPEB_HML	104	79.4	27	20.6	131	100.0
TMPEB_HRML	102	77.9	29	22.1	131	100.0
TMPEB_HSIZE	99	75.6	32	24.4	131	100.0
TMDEB_VCP	97	74.0	34	26.0	131	100.0
TMDEB_HML	105	80.2	26	19.8	131	100.0
TMDEB_HRML	103	78.6	28	21.4	131	100.0
TMDEB_HSIZE	100	76.3	31	23.7	131	100.0
CML_VCP	91	69.5	40	30.5	131	100.0
CMB_VCP	86	65.6	45	34.4	131	100.0
CML_HML	97	74.0	34	26.0	131	100.0
CMB_HML	91	69.5	40	30.5	131	100.0
CML_HRML	95	72.5	36	27.5	131	100.0
CMB_HRML	90	68.7	41	31.3	131	100.0
CML_HSIZE	92	70.2	39	29.8	131	100.0
CMB_HSIZE	86	65.6	45	34.4	131	100.0
CML_FML	99	75.6	32	24.4	131	100.0
CMB_FML	93	71.0	38	29.0	131	100.0
CML_FTML	93	71.0	38	29.0	131	100.0
CMB_FTML	87	66.4	44	33.6	131	100.0
CML_FMAXHD	99	75.6	32	24.4	131	100.0
CMB_FMAXHD	93	71.0	38	29.0	131	100.0
CML_FEB	94	71.8	37	28.2	131	100.0
CMB_FEB	89	67.9	42	32.1	131	100.0
CML_TML	93	71.0	38	29.0	131	100.0
CMB_TML	87	66.4	44	33.6	131	100.0
CML_TMPEB	92	70.2	39	29.8	131	100.0
CMB_TMPEB	87	66.4	44	33.6	131	100.0
CML_TMDEB	93	71.0	38	29.0	131	100.0
CMB_TMDEB	87	66.4	44	33.6	131	100.0

Table 4.10 Vertebral joint variable case summaries for the total sample.

Variable	Valid		Missing		Total	
	N	%	*N*	%	*N*	%
DENS	121	92.4	10	7.6	131	100.0
C2C3IVD	122	93.1	9	6.9	131	100.0
C3C4IVD	124	94.7	7	5.3	131	100.0
C4C5IVD	125	95.4	6	4.6	131	100.0
C5C6IVD	124	94.7	7	5.3	131	100.0
C6C7IVD	124	94.7	7	5.3	131	100.0
C7T1IVD	128	97.7	3	2.3	131	100.0
T1_2IVD	128	97.7	3	2.3	131	100.0
T2_3IVD	127	96.9	4	3.1	131	100.0
T3_4IVD	128	97.7	3	2.3	131	100.0
T4_5IVD	129	98.5	2	1.5	131	100.0
T5_6IVD	128	97.7	3	2.3	131	100.0
T6_7IVD	128	97.7	3	2.3	131	100.0
T7_8IVD	128	97.7	3	2.3	131	100.0
T8_9IVD	129	98.5	2	1.5	131	100.0
T9_10IVD	129	98.5	2	1.5	131	100.0
T10_11IVD	128	97.7	3	2.3	131	100.0
T11_12IVD	129	98.5	2	1.5	131	100.0
T12L1IVD	127	96.9	4	3.1	131	100.0
L1_2IVD	129	98.5	2	1.5	131	100.0
L2_3IVD	128	97.7	3	2.3	131	100.0
L3_4IVD	129	98.5	2	1.5	131	100.0
L4_5IVD	127	96.9	4	3.1	131	100.0
L5_S1IVD	127	96.9	4	3.1	131	100.0
O1C1LF	122	93.1	9	6.9	131	100.0
O1C1RF	121	92.4	10	7.6	131	100.0
O1C1FJ	120	91.6	11	8.4	131	100.0
C1C2LF	121	92.4	10	7.6	131	100.0
C1C2RF	121	92.4	10	7.6	131	100.0
C1C2FJ	121	92.4	10	7.6	131	100.0
C2C3LF	124	94.7	7	5.3	131	100.0
C2C3RF	124	94.7	7	5.3	131	100.0
C2C3FJ	124	94.7	7	5.3	131	100.0
C3C4LF	125	95.4	6	4.6	131	100.0
C3C4RF	123	93.9	8	6.1	131	100.0
C3C4FJ	123	93.9	8	6.1	131	100.0
C4C5LF	123	93.9	8	6.1	131	100.0
C4C5RF	122	93.1	9	6.9	131	100.0
C4C5FJ	121	92.4	10	7.6	131	100.0
C5C6LF	124	94.7	7	5.3	131	100.0
C5C6RF	123	93.9	8	6.1	131	100.0
C5C6FJ	123	93.9	8	6.1	131	100.0
C6C7LF	123	93.9	8	6.1	131	100.0
C6C7RF	123	93.9	8	6.1	131	100.0

Table 4.10 Continued.

Variable	Valid		Missing		Total	
	N	%	*N*	%	*N*	%
C6C7FJ	122	93.1	9	6.9	131	100.0
C7T1LF	126	96.2	5	3.8	131	100.0
C7T1RF	126	96.2	5	3.8	131	100.0
C7T1FJ	125	95.4	6	4.6	131	100.0
T1_2LF	126	96.2	5	3.8	131	100.0
T1_2RF	127	96.9	4	3.1	131	100.0
T1_2FJ	126	96.2	5	3.8	131	100.0
T2_3LF	128	97.7	3	2.3	131	100.0
T2_3RF	128	97.7	3	2.3	131	100.0
T2_3FJ	128	97.7	3	2.3	131	100.0
T3_4LF	128	97.7	3	2.3	131	100.0
T3_4RF	129	98.5	2	1.5	131	100.0
T3_4FJ	128	97.7	3	2.3	131	100.0
T4_5LF	126	96.2	5	3.8	131	100.0
T4_5RF	127	96.9	4	3.1	131	100.0
T4_5FJ	126	96.2	5	3.8	131	100.0
T5_6LF	125	95.4	6	4.6	131	100.0
T5_6RF	124	94.7	7	5.3	131	100.0
T5_6FJ	124	94.7	7	5.3	131	100.0
T6_7LF	125	95.4	6	4.6	131	100.0
T6_7RF	126	96.2	5	3.8	131	100.0
T6_7FJ	125	95.4	6	4.6	131	100.0
T7_8LF	126	96.2	5	3.8	131	100.0
T7_8RF	125	95.4	6	4.6	131	100.0
T7_8FJ	125	95.4	6	4.6	131	100.0
T8_9LF	127	96.9	4	3.1	131	100.0
T8_9RF	126	96.2	5	3.8	131	100.0
T8_9FJ	126	96.2	5	3.8	131	100.0
T9_10LF	126	96.2	5	3.8	131	100.0
T9_10RF	125	95.4	6	4.6	131	100.0
T9_10FJ	125	95.4	6	4.6	131	100.0
T10_11LF	126	96.2	5	3.8	131	100.0
T10_11RF	125	95.4	6	4.6	131	100.0
T10_11FJ	125	95.4	6	4.6	131	100.0
T11_12LF	125	95.4	6	4.6	131	100.0
T11_12RF	126	96.2	5	3.8	131	100.0
T11_12FJ	125	95.4	6	4.6	131	100.0
T12L1LF	126	96.2	5	3.8	131	100.0
T12L1RF	126	96.2	5	3.8	131	100.0
T12L1FJ	126	96.2	5	3.8	131	100.0
L1_2LF	129	98.5	2	1.5	131	100.0
L1_2RF	128	97.7	3	2.3	131	100.0
L1_2FJ	128	97.7	3	2.3	131	100.0
L2_3LF	129	98.5	2	1.5	131	100.0
L2_3RF	130	99.2	1	.8	131	100.0

Table 4.10 Continued.

Variable	Valid		Missing		Total	
	N	%	*N*	%	*N*	%
L2_3FJ	129	98.5	2	1.5	131	100.0
L3_4LF	129	98.5	2	1.5	131	100.0
L3_4RF	129	98.5	2	1.5	131	100.0
L3_4FJ	128	97.7	3	2.3	131	100.0
L4_5LF	128	97.7	3	2.3	131	100.0
L4_5RF	129	98.5	2	1.5	131	100.0
L4_5FJ	128	97.7	3	2.3	131	100.0
L5_S1LF	126	96.2	5	3.8	131	100.0
L5_S1RF	126	96.2	5	3.8	131	100.0
L5_S1FJ	126	96.2	5	3.8	131	100.0

Table 4.11 Age-at-death female sample.

Variable	Valid		Missing		Total	
	N	%	*N*	%	*N*	%
AGE	73	100.0	0	0.0	73	100.0

Table 4.12 Clavicle variable case summaries for the female sample.

Variable	Valid		Missing		Total	
	N	%	*N*	%	*N*	%
CLML_L	52	71.2	21	28.8	73	100.0
CLML_R	53	72.6	20	27.4	73	100.0
CLML	65	89.0	8	11.0	73	100.0
CLAPD_L	55	75.3	18	24.7	73	100.0
CLAPD_R	54	74.0	19	26.0	73	100.0
CLAPD	65	89.0	8	11.0	73	100.0
CLSID_L	55	75.3	18	24.7	73	100.0
CLSID_R	54	74.0	19	26.0	73	100.0
CLSID	65	89.0	8	11.0	73	100.0

Table 4.13 Scapula variable case summaries for the female sample.

Variable	Valid		Missing		Total	
	N	%	*N*	%	*N*	%
SH_L	44	60.3	29	39.7	73	100.0
SH_R	47	64.4	26	35.6	73	100.0
SH	55	75.3	18	24.7	73	100.0
SB_L	51	69.9	22	30.1	73	100.0

Table 4.13 Continued.

Variable	Valid		Missing		Total	
	N	%	*N*	%	*N*	%
SB_R	45	61.6	28	38.4	73	100.0
SB	55	75.3	18	24.7	73	100.0

Table 4.14 Humerus variable case summaries for the female sample.

Variable	Valid		Missing		Total	
	N	%	*N*	%	*N*	%
HML_L	62	84.9	11	15.1	73	100.0
HML_R	63	86.3	10	13.7	73	100.0
HML	69	94.5	4	5.5	73	100.0
HEB_L	66	90.4	7	9.6	73	100.0
HEB_R	66	90.4	7	9.6	73	100.0
HEB	70	95.9	3	4.1	73	100.0
HVDH_L	59	80.8	14	19.2	73	100.0
HVDH_R	60	82.2	13	17.8	73	100.0
HVDH	67	91.8	6	8.2	73	100.0
HMAXD_L	65	89.0	8	11.0	73	100.0
HMAXD_R	63	86.3	10	13.7	73	100.0
HMAXD	69	94.5	4	5.5	73	100.0
HMIND_L	65	89.0	8	11.0	73	100.0
HMIND_R	63	86.3	10	13.7	73	100.0
HMIND	69	94.5	4	5.5	73	100.0

Table 4.15 Radius variable case summaries for the female sample.

Variable	Valid		Missing		Total	
	N	%	*N*	%	*N*	%
RML_L	58	79.5	15	20.5	73	100.0
RML_R	62	84.9	11	15.1	73	100.0
RML	69	94.5	4	5.5	73	100.0
RSD_L	60	82.2	13	17.8	73	100.0
RSD_R	62	84.9	11	15.1	73	100.0
RSD	69	94.5	4	5.5	73	100.0
RTD_L	60	82.2	13	17.8	73	100.0
RTD_R	62	84.9	11	15.1	73	100.0
RTD	69	94.5	4	5.5	73	100.0

Table 4.16 Femur variable case summaries for the female sample.

Variable	Valid		Missing		Total	
	N	%	*N*	%	*N*	%
FML_L	62	84.9	11	15.1	73	100.0
FML_R	64	87.7	9	12.3	73	100.0
FML	73	100.0	0	0.0	73	100.0
FBL_L	60	82.2	13	17.8	73	100.0
FBL_R	62	84.9	11	15.1	73	100.0
FBL	70	95.9	3	4.1	73	100.0
FCDA_L	62	84.9	11	15.1	73	100.0
FCDA_R	63	86.3	10	13.7	73	100.0
FCDA	70	95.9	3	4.1	73	100.0
FEB_L	53	72.6	20	27.4	73	100.0
FEB_R	54	74.0	19	26.0	73	100.0
FEB	61	83.6	12	16.4	73	100.0
FMAXHD_L	66	90.4	7	9.6	73	100.0
FMAXHD_R	62	84.9	11	15.1	73	100.0
FMAXHD	72	98.6	1	1.4	73	100.0
FNSA_L	65	89.0	8	11.0	73	100.0
FNSA_R	62	84.9	11	15.1	73	100.0
FNSA	71	97.3	2	2.7	73	100.0

Table 4.17 Tibia variable case summaries for the female sample.

Variable	Valid		Missing		Total	
	N	%	*N*	%	*N*	%
TML_L	58	79.5	15	20.5	73	100.0
TML_R	56	76.7	17	23.3	73	100.0
TML	61	83.6	12	16.4	73	100.0
TMPEB_L	60	82.2	13	17.8	73	100.0
TMPEB_R	55	75.3	18	24.7	73	100.0
TMPEB	62	84.9	11	15.1	73	100.0
TMDEB_L	54	74.0	19	26.0	73	100.0
TMDEB_R	51	69.9	22	30.1	73	100.0
TMDEB	59	80.8	14	19.2	73	100.0

Table 4.18 Calcaneus variable case summaries for the female sample.

Variable	Valid		Missing		Total	
	N	%	*N*	%	*N*	%
CAML_L	52	71.2	21	28.8	73	100.0
CAML_R	48	65.8	25	34.2	73	100.0
CAML	53	72.6	20	27.4	73	100.0
CAMB_L	49	67.1	24	32.9	73	100.0
CAMB_R	46	63.0	27	37.0	73	100.0
CAMB	50	68.5	23	31.5	73	100.0

Table 4.19 Summated and ratio variable case summaries for the female sample.

Variable	Valid		Missing		Total	
	N	%	*N*	%	*N*	%
VB_ALL_P	65	89.0	8	11.0	73	100.0
VCP_HML	64	87.7	9	12.3	73	100.0
VCP_HRML	63	86.3	10	13.7	73	100.0
VCP_FML	65	89.0	8	11.0	73	100.0
VCP_FTML	54	74.0	19	26.0	73	100.0
VCPHRML_FML	63	86.3	10	13.7	73	100.0
VCPHRML_FTML	52	71.2	21	28.8	73	100.0
VCPFML	65	89.0	8	11.0	73	100.0
VCPFTML	54	74.0	19	26.0	73	100.0
VCPHRML	63	86.3	10	13.7	73	100.0
HML_FML	69	94.5	4	5.5	73	100.0
HRML_FTML	57	78.1	16	21.9	73	100.0
HMLRML	68	93.2	5	6.8	73	100.0
HSIZE	65	89.0	8	11.0	73	100.0
FMLTML	61	83.6	12	16.4	73	100.0
FMAXHD_VCP	65	89.0	8	11.0	73	100.0
FMAXHD_HML	69	94.5	4	5.5	73	100.0
FMAXHD_HRML	68	93.2	5	6.8	73	100.0
FMAXHD_HSIZE	65	89.0	8	11.0	73	100.0
TMPEB_VCP	56	76.7	17	23.3	73	100.0
TMPEB_HML	59	80.8	14	19.2	73	100.0
TMPEB_HRML	58	79.5	15	20.5	73	100.0
TMPEB_HSIZE	55	75.3	18	24.7	73	100.0
TMDEB_VCP	53	72.6	20	27.4	73	100.0
TMDEB_HML	56	76.7	17	23.3	73	100.0
TMDEB_HRML	55	75.3	18	24.7	73	100.0
TMDEB_HSIZE	52	71.2	21	28.8	73	100.0
CML_VCP	49	67.1	24	32.9	73	100.0
CMB_VCP	47	64.4	26	35.6	73	100.0
CML_HML	52	71.2	21	28.8	73	100.0
CMB_HML	49	67.1	24	32.9	73	100.0
CML_HRML	51	69.9	22	30.1	73	100.0
CMB_HRML	49	67.1	24	32.9	73	100.0
CML_HSIZE	48	65.8	25	34.2	73	100.0
CMB_HSIZE	45	61.6	28	38.4	73	100.0
CML_FML	53	72.6	20	27.4	73	100.0
CMB_FML	50	68.5	23	31.5	73	100.0
CML_FTML	49	67.1	24	32.9	73	100.0
CMB_FTML	46	63.0	27	37.0	73	100.0
CML_FMAXHD	53	72.6	20	27.4	73	100.0
CMB_FMAXHD	50	68.5	23	31.5	73	100.0
CML_FEB	48	65.8	25	34.2	73	100.0
CMB_FEB	46	63.0	27	37.0	73	100.0
CML_TML	49	67.1	24	32.9	73	100.0

Table 4.19 Continued.

Variable	Valid		Missing		Total	
	N	%	*N*	%	*N*	%
CMB_TML	46	63.0	27	37.0	73	100.0
CML_TMPEB	51	69.9	22	30.1	73	100.0
CMB_TMPEB	48	65.8	25	34.2	73	100.0
CML_TMDEB	49	67.1	24	32.9	73	100.0
CMB_TMDEB	46	63.0	27	37.0	73	100.0

Table 4.20 Vertebral joint variable case summaries for the female sample.

Variable	Valid		Missing		Total	
	N	%	*N*	%	*N*	%
DENS	68	93.2	5	6.8	73	100.0
C2C3IVD	69	94.5	4	5.5	73	100.0
C3C4IVD	70	95.9	3	4.1	73	100.0
C4C5IVD	71	97.3	2	2.7	73	100.0
C5C6IVD	70	95.9	3	4.1	73	100.0
C6C7IVD	70	95.9	3	4.1	73	100.0
C7T1IVD	73	100.0	0	0.0	73	100.0
T1_2IVD	73	100.0	0	0.0	73	100.0
T2_3IVD	73	100.0	0	0.0	73	100.0
T3_4IVD	73	100.0	0	0.0	73	100.0
T4_5IVD	73	100.0	0	0.0	73	100.0
T5_6IVD	73	100.0	0	0.0	73	100.0
T6_7IVD	72	98.6	1	1.4	73	100.0
T7_8IVD	72	98.6	1	1.4	73	100.0
T8_9IVD	72	98.6	1	1.4	73	100.0
T9_10IVD	72	98.6	1	1.4	73	100.0
T10_11IVD	72	98.6	1	1.4	73	100.0
T11_12IVD	72	98.6	1	1.4	73	100.0
T12L1IVD	71	97.3	2	2.7	73	100.0
L1_2IVD	73	100.0	0	0.0	73	100.0
L2_3IVD	72	98.6	1	1.4	73	100.0
L3_4IVD	72	98.6	1	1.4	73	100.0
L4_5IVD	71	97.3	2	2.7	73	100.0
L5_S1IVD	71	97.3	2	2.7	73	100.0
O1C1LF	68	93.2	5	6.8	73	100.0
O1C1RF	67	91.8	6	8.2	73	100.0
O1C1FJ	67	91.8	6	8.2	73	100.0
C1C2LF	68	93.2	5	6.8	73	100.0
C1C2RF	68	93.2	5	6.8	73	100.0
C1C2FJ	68	93.2	5	6.8	73	100.0
C2C3LF	70	95.9	3	4.1	73	100.0
C2C3RF	70	95.9	3	4.1	73	100.0
C2C3FJ	70	95.9	3	4.1	73	100.0
C3C4LF	71	97.3	2	2.7	73	100.0

Table 4.20 Continued.

Variable	Valid		Missing		Total	
	N	%	*N*	%	*N*	%
C3C4RF	70	95.9	3	4.1	73	100.0
C3C4FJ	70	95.9	3	4.1	73	100.0
C4C5LF	71	97.3	2	2.7	73	100.0
C4C5RF	70	95.9	3	4.1	73	100.0
C4C5FJ	70	95.9	3	4.1	73	100.0
C5C6LF	71	97.3	2	2.7	73	100.0
C5C6RF	70	95.9	3	4.1	73	100.0
C5C6FJ	70	95.9	3	4.1	73	100.0
C6C7LF	71	97.3	2	2.7	73	100.0
C6C7RF	70	95.9	3	4.1	73	100.0
C6C7FJ	70	95.9	3	4.1	73	100.0
C7T1LF	72	98.6	1	1.4	73	100.0
C7T1RF	72	98.6	1	1.4	73	100.0
C7T1FJ	72	98.6	1	1.4	73	100.0
T1_2LF	72	98.6	1	1.4	73	100.0
T1_2RF	72	98.6	1	1.4	73	100.0
T1_2FJ	72	98.6	1	1.4	73	100.0
T2_3LF	72	98.6	1	1.4	73	100.0
T2_3RF	72	98.6	1	1.4	73	100.0
T2_3FJ	72	98.6	1	1.4	73	100.0
T3_4LF	73	100.0	0	.0	73	100.0
T3_4RF	73	100.0	0	.0	73	100.0
T3_4FJ	73	100.0	0	.0	73	100.0
T4_5LF	73	100.0	0	.0	73	100.0
T4_5RF	73	100.0	0	.0	73	100.0
T4_5FJ	73	100.0	0	.0	73	100.0
T5_6LF	72	98.6	1	1.4	73	100.0
T5_6RF	71	97.3	2	2.7	73	100.0
T5_6FJ	71	97.3	2	2.7	73	100.0
T6_7LF	71	97.3	2	2.7	73	100.0
T6_7RF	71	97.3	2	2.7	73	100.0
T6_7FJ	71	97.3	2	2.7	73	100.0
T7_8LF	72	98.6	1	1.4	73	100.0
T7_8RF	71	97.3	2	2.7	73	100.0
T7_8FJ	71	97.3	2	2.7	73	100.0
T8_9LF	72	98.6	1	1.4	73	100.0
T8_9RF	71	97.3	2	2.7	73	100.0
T8_9FJ	71	97.3	2	2.7	73	100.0
T9_10LF	72	98.6	1	1.4	73	100.0
T9_10RF	71	97.3	2	2.7	73	100.0
T9_10FJ	71	97.3	2	2.7	73	100.0
T10_11LF	72	98.6	1	1.4	73	100.0
T10_11RF	71	97.3	2	2.7	73	100.0
T10_11FJ	71	97.3	2	2.7	73	100.0
T11_12LF	70	95.9	3	4.1	73	100.0

Table 4.20 Continued.

Variable	Valid		Missing		Total	
	N	%	*N*	%	*N*	%
T11_12RF	70	95.9	3	4.1	73	100.0
T11_12FJ	70	95.9	3	4.1	73	100.0
T12L1LF	70	95.9	3	4.1	73	100.0
T12L1RF	70	95.9	3	4.1	73	100.0
T12L1FJ	70	95.9	3	4.1	73	100.0
L1_2LF	73	100.0	0	.0	73	100.0
L1_2RF	72	98.6	1	1.4	73	100.0
L1_2FJ	72	98.6	1	1.4	73	100.0
L2_3LF	73	100.0	0	.0	73	100.0
L2_3RF	73	100.0	0	.0	73	100.0
L2_3FJ	73	100.0	0	.0	73	100.0
L3_4LF	73	100.0	0	.0	73	100.0
L3_4RF	72	98.6	1	1.4	73	100.0
L3_4FJ	72	98.6	1	1.4	73	100.0
L4_5LF	72	98.6	1	1.4	73	100.0
L4_5RF	72	98.6	1	1.4	73	100.0
L4_5FJ	72	98.6	1	1.4	73	100.0
L5_S1LF	71	97.3	2	2.7	73	100.0
L5_S1RF	71	97.3	2	2.7	73	100.0
L5_S1FJ	71	97.3	2	2.7	73	100.0

Table 4.21 Age-at-death male sample.

Variable	Valid		Missing		Total	
	N	%	*N*	%	*N*	%
AGE	58	100.0	0	.0	58	100.0

Table 4.22 Clavicle variable case summaries for the male sample.

Variable	Valid		Missing		Total	
	N	%	*N*	%	*N*	%
CLML_L	36	62.1	22	37.9	58	100.0
CLML_R	36	62.1	22	37.9	58	100.0
CLML	41	70.7	17	29.3	58	100.0
CLAPD_L	36	62.1	22	37.9	58	100.0
CLAPD_R	37	63.8	21	36.2	58	100.0
CLAPD	41	70.7	17	29.3	58	100.0
CLSID_L	36	62.1	22	37.9	58	100.0
CLSID_R	37	63.8	21	36.2	58	100.0
CLSID	41	70.7	17	29.3	58	100.0

Table 4.23 Scapula variable case summaries for the male sample.

Variable	Valid		Missing		Total	
	N	%	*N*	%	*N*	%
SH_L	26	44.8	32	55.2	58	100.0
SH_R	27	46.6	31	53.4	58	100.0
SH	34	58.6	24	41.4	58	100.0
SB_L	30	51.7	28	48.3	58	100.0
SB_R	32	55.2	26	44.8	58	100.0
SB	37	63.8	21	36.2	58	100.0

Table 4.24 Humerus variable case summaries for the male sample.

Variable	Valid		Missing		Total	
	N	%	*N*	%	*N*	%
HML_L	51	87.9	7	12.1	58	100.0
HML_R	49	84.5	9	15.5	58	100.0
HML	56	96.6	2	3.4	58	100.0
HEB_L	53	91.4	5	8.6	58	100.0
HEB_R	50	86.2	8	13.8	58	100.0
HEB	57	98.3	1	1.7	58	100.0
HVDH_L	47	81.0	11	19.0	58	100.0
HVDH_R	46	79.3	12	20.7	58	100.0
HVDH	54	93.1	4	6.9	58	100.0
HMAXD_L	50	86.2	8	13.8	58	100.0
HMAXD_R	48	82.8	10	17.2	58	100.0
HMAXD	54	93.1	4	6.9	58	100.0
HMIND_L	50	86.2	8	13.8	58	100.0
HMIND_R	48	82.8	10	17.2	58	100.0
HMIND	54	93.1	4	6.9	58	100.0

Table 4.25 Radius variable case summaries for the male sample.

Variable	Valid		Missing		Total	
	N	%	*N*	%	*N*	%
RML_L	50	86.2	8	13.8	58	100.0
RML_R	47	81.0	11	19.0	58	100.0
RML	55	94.8	3	5.2	58	100.0
RSD_L	50	86.2	8	13.8	58	100.0
RSD_R	47	81.0	11	19.0	58	100.0
RSD	55	94.8	3	5.2	58	100.0
RTD_L	50	86.2	8	13.8	58	100.0
RTD_R	47	81.0	11	19.0	58	100.0
RTD	55	94.8	3	5.2	58	100.0

Table 4.26 Femur variable case summaries for the male sample.

Variable	Valid		Missing		Total	
	N	%	*N*	%	*N*	%
FML_L	53	91.4	5	8.6	58	100.0
FML_R	57	98.3	1	1.7	58	100.0
FML	58	100.0	0	0.0	58	100.0
FBL_L	53	91.4	5	8.6	58	100.0
FBL_R	56	96.6	2	3.4	58	100.0
FBL	57	98.3	1	1.7	58	100.0
FCDA_L	54	93.1	4	6.9	58	100.0
FCDA_R	56	96.6	2	3.4	58	100.0
FCDA	57	98.3	1	1.7	58	100.0
FEB_L	46	79.3	12	20.7	58	100.0
FEB_R	51	87.9	7	12.1	58	100.0
FEB	52	89.7	6	10.3	58	100.0
FMAXHD_L	54	93.1	4	6.9	58	100.0
FMAXHD_R	57	98.3	1	1.7	58	100.0
FMAXHD	58	100.0	0	0.0	58	100.0
FNSA	58	100.0	0	0.0	58	100.0

Table 4.27 Tibia variable case summaries for the male sample.

Variable	Valid		Missing		Total	
	N	%	*N*	%	*N*	%
TML_L	48	82.8	10	17.2	58	100.0
TML_R	47	81.0	11	19.0	58	100.0
TML	50	86.2	8	13.8	58	100.0
TMPEB_L	43	74.1	15	25.9	58	100.0
TMPEB_R	47	81.0	11	19.0	58	100.0
TMPEB	47	81.0	11	19.0	58	100.0
TMDEB_L	49	84.5	9	15.5	58	100.0
TMDEB_R	49	84.5	9	15.5	58	100.0
TMDEB	51	87.9	7	12.1	58	100.0

Table 4.28 Calcaneus variable case summaries for the male sample.

Variable	Valid		Missing		Total	
	N	%	*N*	%	*N*	%
CAML_L	40	69.0	18	31.0	58	100.0
CAML_R	42	72.4	16	27.6	58	100.0
CAML	46	79.3	12	20.7	58	100.0
CAMB_L	38	65.5	20	34.5	58	100.0
CAMB_R	39	67.2	19	32.8	58	100.0
CAMB	43	74.1	15	25.9	58	100.0

Table 4.29 Summated and ratio variable case summaries for the male sample.

Variable	Valid		Missing		Total	
	N	%	*N*	%	*N*	%
VB_ALL_P	50	86.2	8	13.8	58	100.0
VCP_HML	49	84.5	9	15.5	58	100.0
VCP_HRML	49	84.5	9	15.5	58	100.0
VCP_FML	50	86.2	8	13.8	58	100.0
VCP_FTML	43	74.1	15	25.9	58	100.0
VCPHRML_FML	49	84.5	9	15.5	58	100.0
VCPHRML_FTML	42	72.4	16	27.6	58	100.0
VCPFML	50	86.2	8	13.8	58	100.0
VCPFTML	43	74.1	15	25.9	58	100.0
VCPHRML	49	84.5	9	15.5	58	100.0
HML_FML	56	96.6	2	3.4	58	100.0
HRML_FTML	47	81.0	11	19.0	58	100.0
HMLRML	55	94.8	3	5.2	58	100.0
HSIZE	54	93.1	4	6.9	58	100.0
FMLTML	50	86.2	8	13.8	58	100.0
FMAXHD_VCP	50	86.2	8	13.8	58	100.0
FMAXHD_HML	56	96.6	2	3.4	58	100.0
FMAXHD_HRML	55	94.8	3	5.2	58	100.0
FMAXHD_HSIZE	54	93.1	4	6.9	58	100.0
TMPEB_VCP	41	70.7	17	29.3	58	100.0
TMPEB_HML	45	77.6	13	22.4	58	100.0
TMPEB_HRML	44	75.9	14	24.1	58	100.0
TMPEB_HSIZE	44	75.9	14	24.1	58	100.0
TMDEB_VCP	44	75.9	14	24.1	58	100.0
TMDEB_HML	49	84.5	9	15.5	58	100.0
TMDEB_HRML	48	82.8	10	17.2	58	100.0
TMDEB_HSIZE	48	82.8	10	17.2	58	100.0
CML_VCP	42	72.4	16	27.6	58	100.0
CMB_VCP	39	67.2	19	32.8	58	100.0
CML_HML	45	77.6	13	22.4	58	100.0
CMB_HML	42	72.4	16	27.6	58	100.0
CML_HRML	44	75.9	14	24.1	58	100.0
CMB_HRML	41	70.7	17	29.3	58	100.0
CML_HSIZE	44	75.9	14	24.1	58	100.0
CMB_HSIZE	41	70.7	17	29.3	58	100.0
CML_FML	46	79.3	12	20.7	58	100.0
CMB_FML	43	74.1	15	25.9	58	100.0
CML_FTML	44	75.9	14	24.1	58	100.0
CMB_FTML	41	70.7	17	29.3	58	100.0
CML_FMAXHD	46	79.3	12	20.7	58	100.0
CMB_FMAXHD	43	74.1	15	25.9	58	100.0
CML_FEB	46	79.3	12	20.7	58	100.0
CMB_FEB	43	74.1	15	25.9	58	100.0
CML_TML	44	75.9	14	24.1	58	100.0
CMB_TML	41	70.7	17	29.3	58	100.0

Table 4.29 Continued.

Variable	Valid		Missing		Total	
	N	%	*N*	%	*N*	%
CML_TMPEB	41	70.7	17	29.3	58	100.0
CMB_TMPEB	39	67.2	19	32.8	58	100.0
CML_TMDEB	44	75.9	14	24.1	58	100.0
CMB_TMDEB	41	70.7	17	29.3	58	100.0

Table 4.30 Vertebral joint variable case summaries for the male sample.

Variable	Valid		Missing		Total	
	N	%	*N*	%	*N*	%
DENS	53	91.4	5	8.6	58	100.0
C2C3IVD	53	91.4	5	8.6	58	100.0
C3C4IVD	54	93.1	4	6.9	58	100.0
C4C5IVD	54	93.1	4	6.9	58	100.0
C5C6IVD	54	93.1	4	6.9	58	100.0
C6C7IVD	54	93.1	4	6.9	58	100.0
C7T1IVD	55	94.8	3	5.2	58	100.0
T1_2IVD	55	94.8	3	5.2	58	100.0
T2_3IVD	54	93.1	4	6.9	58	100.0
T3_4IVD	55	94.8	3	5.2	58	100.0
T4_5IVD	56	96.6	2	3.4	58	100.0
T5_6IVD	55	94.8	3	5.2	58	100.0
T6_7IVD	56	96.6	2	3.4	58	100.0
T7_8IVD	56	96.6	2	3.4	58	100.0
T8_9IVD	57	98.3	1	1.7	58	100.0
T9_10IVD	57	98.3	1	1.7	58	100.0
T10_11IVD	56	96.6	2	3.4	58	100.0
T11_12IVD	57	98.3	1	1.7	58	100.0
T12L1IVD	56	96.6	2	3.4	58	100.0
L1_2IVD	56	96.6	2	3.4	58	100.0
L2_3IVD	56	96.6	2	3.4	58	100.0
L3_4IVD	57	98.3	1	1.7	58	100.0
L4_5IVD	56	96.6	2	3.4	58	100.0
L5_S1IVD	56	96.6	2	3.4	58	100.0
O1C1LF	54	93.1	4	6.9	58	100.0
O1C1RF	54	93.1	4	6.9	58	100.0
O1C1FJ	53	91.4	5	8.6	58	100.0
C1C2LF	53	91.4	5	8.6	58	100.0
C1C2RF	53	91.4	5	8.6	58	100.0
C1C2FJ	53	91.4	5	8.6	58	100.0
C2C3LF	54	93.1	4	6.9	58	100.0
C2C3RF	54	93.1	4	6.9	58	100.0
C2C3FJ	54	93.1	4	6.9	58	100.0
C3C4LF	54	93.1	4	6.9	58	100.0
C3C4RF	53	91.4	5	8.6	58	100.0

Table 4.30 Continued.

Variable	Valid		Missing		Total	
	N	%	*N*	%	*N*	%
C3C4FJ	53	91.4	5	8.6	58	100.0
C4C5LF	52	89.7	6	10.3	58	100.0
C4C5RF	52	89.7	6	10.3	58	100.0
C4C5FJ	51	87.9	7	12.1	58	100.0
C5C6LF	53	91.4	5	8.6	58	100.0
C5C6RF	53	91.4	5	8.6	58	100.0
C5C6FJ	53	91.4	5	8.6	58	100.0
C6C7LF	52	89.7	6	10.3	58	100.0
C6C7RF	53	91.4	5	8.6	58	100.0
C6C7FJ	52	89.7	6	10.3	58	100.0
C7T1LF	54	93.1	4	6.9	58	100.0
C7T1RF	54	93.1	4	6.9	58	100.0
C7T1FJ	53	91.4	5	8.6	58	100.0
T1_2LF	54	93.1	4	6.9	58	100.0
T1_2RF	55	94.8	3	5.2	58	100.0
T1_2FJ	54	93.1	4	6.9	58	100.0
T2_3LF	56	96.6	2	3.4	58	100.0
T2_3RF	56	96.6	2	3.4	58	100.0
T2_3FJ	56	96.6	2	3.4	58	100.0
T3_4LF	55	94.8	3	5.2	58	100.0
T3_4RF	56	96.6	2	3.4	58	100.0
T3_4FJ	55	94.8	3	5.2	58	100.0
T4_5LF	53	91.4	5	8.6	58	100.0
T4_5RF	54	93.1	4	6.9	58	100.0
T4_5FJ	53	91.4	5	8.6	58	100.0
T5_6LF	53	91.4	5	8.6	58	100.0
T5_6RF	53	91.4	5	8.6	58	100.0
T5_6FJ	53	91.4	5	8.6	58	100.0
T6_7LF	54	93.1	4	6.9	58	100.0
T6_7RF	55	94.8	3	5.2	58	100.0
T6_7FJ	54	93.1	4	6.9	58	100.0
T7_8LF	54	93.1	4	6.9	58	100.0
T7_8RF	54	93.1	4	6.9	58	100.0
T7_8FJ	54	93.1	4	6.9	58	100.0
T8_9LF	55	94.8	3	5.2	58	100.0
T8_9RF	55	94.8	3	5.2	58	100.0
T8_9FJ	55	94.8	3	5.2	58	100.0
T9_10LF	54	93.1	4	6.9	58	100.0
T9_10RF	54	93.1	4	6.9	58	100.0
T9_10FJ	54	93.1	4	6.9	58	100.0
T10_11LF	54	93.1	4	6.9	58	100.0
T10_11RF	54	93.1	4	6.9	58	100.0
T10_11FJ	54	93.1	4	6.9	58	100.0
T11_12LF	55	94.8	3	5.2	58	100.0
T11_12RF	56	96.6	2	3.4	58	100.0

Table 4.30 Continued.

Variable	Valid		Missing		Total	
	N	%	*N*	%	*N*	%
T11_12FJ	55	94.8	3	5.2	58	100.0
T12L1LF	56	96.6	2	3.4	58	100.0
T12L1RF	56	96.6	2	3.4	58	100.0
T12L1FJ	56	96.6	2	3.4	58	100.0
L1_2LF	56	96.6	2	3.4	58	100.0
L1_2RF	56	96.6	2	3.4	58	100.0
L1_2FJ	56	96.6	2	3.4	58	100.0
L2_3LF	56	96.6	2	3.4	58	100.0
L2_3RF	57	98.3	1	1.7	58	100.0
L2_3FJ	56	96.6	2	3.4	58	100.0
L3_4LF	56	96.6	2	3.4	58	100.0
L3_4RF	57	98.3	1	1.7	58	100.0
L3_4FJ	56	96.6	2	3.4	58	100.0
L4_5LF	56	96.6	2	3.4	58	100.0
L4_5RF	57	98.3	1	1.7	58	100.0
L4_5FJ	56	96.6	2	3.4	58	100.0
L5_S1LF	55	94.8	3	5.2	58	100.0
L5_S1RF	55	94.8	3	5.2	58	100.0
L5_S1FJ	55	94.8	3	5.2	58	100.0

APPENDIX 5

TESTS FOR NORMALITY

Table 5.1 Kolmogorov-Smirnov test for normality on age-at-death in the male sample.

Variable	Statistic	*N*	Significance	Distribution
AGE	0.084	58	0.200	Normal

Table 5.2 Kolmogorov-Smirnov test for normality on clavicle variables in the male sample.

Variable	Statistic	*N*	Significance	Distribution
CLML	0.133	41	0.066	Normal
CLAPD	0.083	41	0.200	Normal
CLSID	0.089	41	0.200	Normal

Table 5.3 Kolmogorov-Smirnov test for normality on scapula variables in the male sample.

Variable	Statistic	*N*	Significance	Distribution
SH	0.142	34	0.082	Normal
SB	0.092	37	0.200	Normal

Table 5.4 Kolmogorov-Smirnov test for normality on humerus variables in the male sample.

Variable	Statistic	*N*	Significance	Distribution
HML	0.069	56	0.200	Normal
HEB	0.071	57	0.200	Normal
HVDH	0.089	54	0.200	Normal
HMAXD	0.101	54	0.200	Normal
HMIND	0.092	54	0.200	Normal
HSIZE	0.061	54	0.200	Normal

Table 5.5 Kolmogorov-Smirnov test for normality on radius variables in the male sample.

Variable	Statistic	*N*	Significance	Distribution
RML	0.101	55	0.200	Normal
RSD	0.111	55	0.091	Normal
RTD	0.067	55	0.200	Normal

Table 5.6 Kolmogorov-Smirnov test for normality on femur variables in the male sample.

Variable	Statistic	*N*	Significance	Distribution
FML	0.076	58	0.200	Normal
FCDA	0.146	57	0.004	Not Normal
FEB	0.062	52	0.200	Normal
FMAXHD	0.056	58	0.200	Normal
FNSA	0.067	58	0.200	Normal

Table 5.7 Kolmogorov-Smirnov test for normality on tibia variables in the male sample.

Variable	Statistic	*N*	Significance	Distribution
TML	0.072	50	0.200	Normal
TMPEB	0.100	47	0.200	Normal
TMDEB	0.070	51	0.200	Normal

Table 5.8 Kolmogorov-Smirnov test for normality on calcaneus variables in the male sample.

Variable	Statistic	*N*	Significance	Distribution
CAML	0.108	46	0.200	Normal
CAMB	0.064	43	0.200	Normal

Table 5.9 Kolmogorov-Smirnov test for normality on summated and ratio variables in the male sample.

Variable	Statistic	*N*	Significance	Distribution
VB_ALL_P	0.082	50	0.200	Normal
VCP_HML	0.094	49	0.200	Normal
VCP_HRML	0.089	49	0.200	Normal
VCP_FML	0.078	50	0.200	Normal
VCP_FTML	0.123	43	0.100	Normal
VCPHRML_FML	0.080	49	0.200	Normal
VCPHRML_FTML	0.085	42	0.200	Normal
VCPFML	0.065	50	0.200	Normal
VCPFTML	0.096	43	0.200	Normal
VCPHRML	0.096	49	0.200	Normal
HML_FML	0.148	56	0.004	Not Normal
HRML_FTML	0.128	47	0.053	Normal
HMLRML	0.074	55	0.200	Normal
FMLTML	0.058	50	0.200	Normal
FMAXHD_VCP	0.067	50	0.200	Normal
FMAXHD_HML	0.090	56	0.200	Normal
FMAXHD_HRML	0.118	55	0.054	Normal
FMAXHD_HSIZE	0.079	54	0.200	Normal
TMPEB_VCP	0.128	41	0.090	Normal
TMPEB_HML	0.091	45	0.200	Normal
TMPEB_HRML	0.105	44	0.200	Normal
TMPEB_HSIZE	0.100	44	0.200	Normal
TMDEB_VCP	0.115	44	0.168	Normal
TMDEB_HML	0.146	49	0.011	Normal
TMDEB_HRML	0.161	48	0.003	Normal
TMDEB_HSIZE	0.130	48	0.041	Not Normal

Table 5.9 Continued.

Variable	Statistic	*N*	Significance	Distribution
CML_VCP	0.088	42	0.200	Normal
CMB_VCP	0.111	45	0.200	Normal
CML_HML	0.100	44	0.200	Normal
CMB_HML	0.101	44	0.200	Normal
CML_HRML	0.091	46	0.200	Normal
CMB_HRML	0.069	44	0.200	Normal
CML_HSIZE	0.081	46	0.200	Normal
CMB_HSIZE	0.085	44	0.200	Normal
CML_FML	0.116	46	0.144	Normal
CMB_FML	0.110	41	0.200	Normal
CML_FTML	0.126	44	0.077	Normal
CMB_FTML	0.082	39	0.200	Normal
CML_FMAXHD	0.134	42	0.057	Normal
CMB_FMAXHD	0.111	41	0.200	Normal
CML_FEB	0.116	41	0.182	Normal
CMB_FEB	0.101	43	0.200	Normal
CML_TML	0.070	41	0.200	Normal
CMB_TML	0.092	43	0.200	Normal
CML_TMPEB	0.064	43	0.200	Normal
CMB_TMPEB	0.055	41	0.200	Normal
CML_TMDEB	0.075	39	0.200	Normal
CMB_TMDEB	0.124	41	0.118	Normal

Table 5.10 Kolmogorov-Smirnov test for normality on age-at-death in the female sample.

Variable	Statistic	*N*	Significance	Distribution
AGE	0.070	73	0.200	Normal

Table 5.11 Kolmogorov-Smirnov test for normality on clavicle variables in the female sample.

Variable	Statistic	*N*	Significance	Distribution
CLML	0.052	65	0.200	Normal
CLAPD	0.066	65	0.200	Normal
CLSID	0.089	65	0.200	Normal

Table 5.12 Kolmogorov-Smirnov test for normality on scapula variables in the female sample.

Variable	Statistic	*N*	Significance	Distribution
SH	0.111	55	0.088	Normal
SB	0.116	55	0.064	Normal

Table 5.13 Kolmogorov-Smirnov test for normality on humerus variables in the female sample.

Variable	Statistic	*N*	Significance	Distribution
HML	0.080	69	0.200	Normal
HEB	0.069	70	0.200	Normal
HVDH	0.118	67	0.022	Not Normal
HMAXD	0.069	69	0.200	Normal
HMIND	0.057	69	0.200	Normal
HSIZE	0.076	65	0.200	Normal

Table 5.14 Kolmogorov-Smirnov test for normality on radius variables in the female sample.

Variable	Statistic	*N*	Significance	Distribution
RML	0.088	69	0.200	Normal
RSD	0.104	69	0.062	Normal
RTD	0.071	69	0.200	Normal

Table 5.15 Kolmogorov-Smirnov test for normality on femur variables in the female sample.

Variable	Statistic	*N*	Significance	Distribution
FML	0.091	73	0.200	Normal
FCDA	0.089	69	0.200	Normal
FEB	0.088	61	0.200	Normal
FMAXHD	0.098	72	0.086	Normal
FNSA	0.053	71	0.200	Normal

Table 5.16 Kolmogorov-Smirnov test for normality on tibia variables in the female sample.

Variable	Statistic	*N*	Significance	Distribution
TML	0.088	61	0.200	Normal
TMPEB	0.096	62	0.200	Normal
TMDEB	0.104	59	0.179	Normal

Table 5.17 Kolmogorov-Smirnov test for normality on calcaneus variables in the female sample.

Variable	Statistic	*N*	Significance	Distribution
CAML	0.092	53	0.200	Normal
CAMB	0.120	50	0.067	Normal

Table 5.18 Kolmogorov-Smirnov test for normality on summated and ratio variables in the female sample.

Variable	Statistic	*N*	Significance	Distribution
VB_ALL_P	0.091	65	0.200	Normal
VCP_HML	0.099	64	0.190	Normal
VCP_HRML	0.051	63	0.200	Normal
VCP_FML	0.058	65	0.200	Normal
VCP_FTML	0.089	54	0.200	Normal
VCPHRML_FML	0.070	63	0.200	Normal
VCPHRML_FTML	0.092	52	0.200	Normal
VCPFML	0.077	65	0.200	Normal
VCPFTML	0.115	54	0.072	Normal
VCPHRML	0.078	63	0.200	Normal
HML_FML	0.072	69	0.200	Normal
HRML_FTML	0.080	57	0.200	Normal
HMLRML	0.087	68	0.200	Normal
FMLTML	0.084	61	0.200	Normal
FMAXHD_VCP	0.099	65	0.182	Normal
FMAXHD_HML	0.046	69	0.200	Normal
FMAXHD_HRML	0.066	68	0.200	Normal
FMAXHD_HSIZE	0.062	65	0.200	Normal
TMPEB_VCP	0.062	56	0.200	Normal
TMPEB_HML	0.096	59	0.200	Normal
TMPEB_HRML	0.096	58	0.200	Normal
TMPEB_HSIZE	0.127	55	0.026	Not Normal
TMDEB_VCP	0.085	53	0.200	Normal
TMDEB_HML	0.120	56	0.042	Not Normal
TMDEB_HRML	0.129	55	0.023	Not Normal
TMDEB_HSIZE	0.158	52	0.002	Not Normal
CML_VCP	0.070	49	0.200	Normal
CMB_VCP	0.070	52	0.200	Normal
CML_HML	0.080	51	0.200	Normal
CMB_HML	0.079	48	0.200	Normal
CML_HRML	0.074	53	0.200	Normal
CMB_HRML	0.052	49	0.200	Normal
CML_HSIZE	0.074	53	0.200	Normal
CMB_HSIZE	0.084	49	0.200	Normal
CML_FML	0.103	48	0.200	Normal
CMB_FML	0.068	51	0.200	Normal
CML_FTML	0.070	49	0.200	Normal
CMB_FTML	0.082	47	0.200	Normal

Table 5.18 Continued.

Variable	Statistic	*N*	Significance	Distribution
CML_FMAXHD	0.089	49	0.200	Normal
CMB_FMAXHD	0.097	49	0.200	Normal
CML_FEB	0.123	45	0.086	Normal
CMB_FEB	0.083	50	0.200	Normal
CML_TML	0.093	46	0.200	Normal
CMB_TML	0.076	50	0.200	Normal
CML_TMPEB	0.060	46	0.200	Normal
CMB_TMPEB	0.091	46	0.200	Normal
CML_TMDEB	0.074	48	0.200	Normal
CMB_TMDEB	0.057	46	0.200	Normal

APPENDIX 6

AGE-AT-DEATH DISTRIBUTION AND SEX

Table 6.1 Group statistics for age-at-death and sex.

	Sex	*N*	Mean	Std. Deviation	Std. Error Mean
Age-at-death	0	73	55.70	16.701	1.955
	1	58	56.14	16.031	2.105

Table 6.2 Independent samples *t*-test results between age-at-death and sex.

	t	Degrees of Freedom	*P*-value	Mean Difference	Std. Error Difference	95% Confidence Interval	
						Lower	Upper
Age-at-death	-.152	129	.879	-.439	2.886	-6.150	5.271

APPENDIX 7

OSTEOPHYTE FREQUENCY

Table 7.1 Frequency distribution of atlanto-odontoid and intervertebral joint osteophyte presence (P) / absence (A) for the total, female and males samples.

Vertebral Level	Total			Males			Females		
	N	A %	P %	*N*	A %	P %	*N*	A %	P %
Dens	121	57.0	43.0	53	60.4	39.6	68	54.4	45.6
C2/C3	122	72.1	27.9	53	64.2	35.8	69	78.3	21.7
C3/C4	124	60.5	39.5	54	61.1	38.9	70	60.0	40.0
C4/C5	125	57.6	42.4	54	57.4	42.6	71	57.7	42.3
C5/C6	124	55.6	44.4	54	55.6	44.4	70	55.7	44.3
C6/C7	124	51.6	48.4	54	50.0	50.0	70	52.9	47.1
C7/T1	128	66.4	33.6	55	63.6	36.4	73	68.5	31.5
T1/T2	128	68.8	31.3	55	69.1	30.9	73	68.5	31.5
T2/T3	127	56.7	43.3	54	59.3	40.7	73	54.8	45.2
T3/T4	128	35.2	64.8	55	41.8	58.2	73	30.1	69.9
T4/T5	129	25.6	74.4	56	30.4	69.6	73	21.9	78.1
T5/T6	128	21.1	78.9	55	25.5	74.5	73	17.8	82.2
T6/T7	128	15.6	84.4	56	14.3	85.7	72	16.7	83.3
T7/T8	128	13.3	86.7	56	14.3	85.7	72	12.5	87.5
T8/T9	129	10.9	88.4	57	15.8	84.2	72	8.3	91.7
T9/T10	129	17.8	82.2	57	19.3	80.7	72	16.7	83.3
T10/T11	128	20.3	79.7	56	19.6	80.4	72	20.8	79.2
T11/T12	129	29.5	70.5	57	28.1	71.9	72	30.6	69.4
T12/L1	127	36.2	63.8	56	33.9	66.1	71	38.0	62.0
L1/L2	129	48.8	51.2	56	42.9	57.1	73	53.4	46.6
L2/L3	128	51.6	48.4	56	48.2	51.8	72	54.2	45.8
L3/L4	129	46.5	53.5	57	38.6	61.4	72	52.8	47.2
L4/L5	127	41.7	58.3	56	44.6	55.4	71	39.4	60.6
L5/S1	127	45.7	54.3	56	44.6	55.4	71	46.5	53.5

Table 7.2 Results of Chi-Square statistical test between sex and the distribution of atlanto-odontoid and intervertebral joint osteophyte presence (P) / absence (A).

Vertebral Level	Pearson Chi-Square		
	Value	Degrees of Freedom	Significance value
Dens	0.133	1	0.511
C2/C3	2.969	1	0.085
C3/C4	0.016	1	0.900
C4/C5	0.001	1	0.970
C5/C6	0.000	1	0.986
C6/C7	0.100	1	0.752
C7/T1	0.332	1	0.565
T1/T2	0.005	1	0.942
T2/T3	0.252	1	0.616
T3/T4	1.877	1	0.171
T4/T5	1.186	1	0.276
T5/T6	1.102	1	0.294
T6/T7	1.135	1	0.713
T7/T8	0.087	1	0.768
T8/T9	1.721	1	0.190
T9/T10	0.150	1	0.698
T10/T11	0.028	1	0.868
T11/T12	0.095	1	0.758
T12/L1	0.228	1	0.633
L1/L2	1.416	1	0.234
L2/L3	0.447	1	0.504
L3/L4	2.572	1	0.109
L4/L5	0.349	1	0.555
L5/S1	0.043	1	0.837

Table 7.3 Frequency distribution of facet joint osteophyte presence (P) / absence (A) for the total, female and male samples.

Vertebral Level	Total			Males			Females		
	N	A %	P %	*N*	A %	P %	*N*	A %	P %
O1/C1	120	77.5	22.5	53	77.4	22.6	67	77.6	22.4
C1/C2	121	95.0	2.0	53	98.1	1.9	68	92.6	7.4
C2/C3	124	78.2	21.8	54	74.1	25.9	70	81.4	18.6
C3/C4	123	78.0	22.0	53	75.5	24.5	70	80	20
C4/C5	121	83.5	16.5	51	84.3	15.7	70	82.9	17.1
C5/C6	123	84.6	15.4	53	83.0	17.0	70	85.7	14.3
C6/C7	122	85.2	14.8	52	84.6	15.4	70	85.7	14.3
C7/T1	125	80.0	20.0	53	79.2	20.8	72	80.6	19.4
T1/T2	126	84.1	15.9	54	83.3	16.7	72	84.7	15.3
T2/T3	128	78.1	21.9	56	80.4	19.6	72	76.4	23.6
T3/T4	128	70.3	29.7	55	70.9	29.1	73	69.9	30.1
T4/T5	126	60.3	39.7	53	66.0	34.0	73	56.2	43.8
T5/T6	124	67.7	32.3	53	75.5	24.5	71	62	38
T6/T7	125	80.0	20.0	54	85.2	14.8	71	76.1	23.9
T7/T8	125	83.2	16.8	54	81.5	18.5	71	84.5	15.5
T8/T9	126	84.1	15.9	55	81.8	18.2	71	85.9	14.1
T9/T10	125	75.2	24.8	54	79.6	20.4	71	71.8	28.2
T10/T11	125	72.0	28.0	54	72.2	27.8	71	71.8	28.2
T11/T12	125	64.8	35.2	55	65.5	34.5	70	64.3	35.7
T12/L1	126	70.6	29.4	56	71.4	28.6	70	70	30
L1/L2	128	76.6	23.4	56	76.8	23.2	72	76.4	23.6
L2/L3	129	67.4	32.6	56	71.4	28.6	73	64.4	35.6
L3/L4	128	60.9	39.1	56	58.9	41.1	72	62.5	37.5
L4/L5	128	54.7	45.3	56	58.9	41.1	72	51.4	48.6
L5/S1	126	54.8	45.2	55	54.5	45.5	71	54.9	45.1

Table 7.4 Results of Chi-Square statistical test between sex and the distribution of facet joint osteophyte presence (P) / absence (A).

Vertebral Level	Pearson Chi-Square		
	Value	Degrees of Freedom	Significance value
O1/C1	0.001	1	0.974
C1/C2	1.888	1	0.169
C2/C3	0.968	1	0.325
C3/C4	0.361	1	0.548
C4/C5	0.450	1	0.831
C5/C6	0.168	1	0.682
C6/C7	0.029	1	0.866
C7/T1	0.033	1	0.856
T1/T2	0.045	1	0.833
T2/T3	0.290	1	0.590
T3/T4	0.016	1	0.898
T4/T5	1.251	1	0.263
T5/T6	2.531	1	0.112
T6/T7	1.598	1	0.206
T7/T8	0.201	1	0.654
T8/T9	0.390	1	0.532
T9/T10	1.000	1	0.317
T10/T11	0.002	1	0.962
T11/T12	0.018	1	0.892
T12/L1	0.031	1	0.861
L1/L2	0.003	1	0.958
L2/L3	0.716	1	0.397
L3/L4	0.169	1	0.681
L4/L5	0.723	1	0.395
L5/S1	0.002	1	0.966

Table 7.5 Frequency distribution of atlanto-odontoid and intervertebral joint osteophyte mild (M) / severe (S) for the total, female and male samples.

Vertebral Level	Total			Males			Females		
	N	M %	S %	*N*	M %	S %	*N*	M %	S %
Dens	121	70.2	29.8	53	75.5	24.5	68	66.2	33.8
C2/C3	122	86.9	13.1	53	83.0	17.0	69	89.9	10.1
C3/C4	124	74.2	25.8	54	75.9	24.1	70	72.9	27.1
C4/C5	125	67.2	32.8	54	64.8	35.2	71	69.0	31.0
C5/C6	124	61.3	38.7	54	57.4	42.6	70	64.3	35.7
C6/C7	124	62.1	37.9	54	57.4	42.6	70	65.7	34.3
C7/T1	128	82.0	18.0	55	81.8	18.2	73	82.2	17.8
T1/T2	128	85.2	14.8	55	87.3	12.7	73	83.6	16.4
T2/T3	127	78.0	22.0	54	83.3	16.7	73	74.0	26.0
T3/T4	128	64.1	35.9	55	67.3	32.7	73	61.6	38.4
T4/T5	129	58.9	41.1	56	64.3	35.7	73	54.8	45.2
T5/T6	128	46.9	53.1	55	52.7	47.3	73	42.5	57.5
T6/T7	128	40.6	59.4	56	44.6	55.4	72	37.5	62.5
T7/T8	128	38.3	61.7	56	39.3	60.7	72	37.5	62.5
T8/T9	129	34.1	65.9	57	31.6	68.4	72	36.1	63.9
T9/T10	129	39.5	60.5	57	40.4	59.6	72	38.9	61.1
T10/T11	128	52.3	47.7	56	46.4	53.6	72	56.9	43.1
T11/T12	129	57.4	42.6	57	49.1	50.9	72	63.9	36.1
T12/L1	127	70.9	29.1	56	66.1	33.9	71	74.6	25.4
L1/L2	129	75.2	24.8	56	73.2	26.8	73	76.7	23.3
L2/L3	128	67.2	32.8	56	62.5	37.5	72	70.8	29.2
L3/L4	129	60.5	39.5	57	54.4	45.6	72	65.3	34.7
L4/L5	127	65.4	34.6	56	69.6	30.4	71	62.0	38.0
L5/S1	127	54.3	45.7	56	58.9	41.1	71	50.7	49.3

Mild = grades ≤ 1 severe = grades ≥ 2.

Table 7.6 Results of Chi-Square statistical test between sex and the distribution of atlanto-odontoid and intervertebral joint osteophyte severity at grades ≤ 1 and ≥ 2.

Vertebral Level	Pearson Chi-Square		
	Value	Degrees of Freedom	Significance value
Dens	1.231	1	0.267
C2/C3	0.720	1	0.396
C3/C4	0.396	1	0.529
C4/C5	0.040	1	0.841
C5/C6	0.277	1	0.599
C6/C7	0.441	1	0.506
C7/T1	0.163	1	0.687
T1/T2	0.342	1	0.559
T2/T3	1.583	1	0.208
T3/T4	0.310	1	0.577
T4/T5	1.478	1	0.224
T5/T6	1.326	1	0.249
T6/T7	0.666	1	0.414
T7/T8	0.136	1	0.712
T8/T9	0.202	1	0.639
T9/T10	0.111	1	0.739
T10/T11	0.959	1	0.327
T11/T12	2.816	1	0.093
T12/L1	1.115	1	0.291
L1/L2	0.208	1	0.648
L2/L3	0.992	1	0.319
L3/L4	1.579	1	0.209
L4/L5	0.814	1	0.367
L5/S1	0.853	1	0.356

Table 7.7 Frequency distribution of facet joint osteophyte mild (M) / severe (S) for the total, female and males samples.

Vertebral Level	Total			Males			Females		
	N	M %	S %	*N*	M %	S %	*N*	M %	S %
O1/C1	120	88.3	11.7	53	86.8	13.2	67	89.6	10.4
C1/C2	121	100.0	0.0	53	100.0	0.0	68	100.0	0.0
C2/C3	124	91.9	8.1	54	88.9	11.1	70	94.3	5.7
C3/C4	123	85.4	14.6	53	86.8	13.2	70	84.3	15.7
C4/C5	121	90.1	9.9	51	90.2	9.8	70	90.0	10.0
C5/C6	123	92.7	7.3	53	92.5	7.5	70	92.9	7.1
C6/C7	122	93.4	6.6	52	92.3	7.7	70	94.3	5.7
C7/T1	125	85.6	14.4	53	86.8	13.2	72	84.7	15.3
T1/T2	126	92.9	7.1	54	94.4	5.6	72	91.7	8.3
T2/T3	128	85.2	14.8	56	85.7	14.3	72	84.7	15.3
T3/T4	128	82.0	18.0	55	83.6	16.4	73	80.8	19.2
T4/T5	126	73.0	27.0	53	81.1	18.9	73	67.1	32.9
T5/T6	124	80.6	19.4	53	88.7	11.3	71	74.6	25.4
T6/T7	125	89.6	10.4	54	92.6	7.4	71	87.3	12.7
T7/T8	125	94.4	5.6	54	92.6	7.4	71	95.8	4.2
T8/T9	126	94.4	5.6	55	90.9	9.1	71	97.2	2.8
T9/T10	125	88.8	11.2	54	94.4	5.6	71	84.5	15.5
T10/T11	125	88.0	12.0	54	90.7	9.3	71	85.9	14.1
T11/T12	125	83.2	16.8	55	83.6	16.4	70	82.9	17.1
T12/L1	126	84.9	15.1	56	89.3	10.7	70	81.4	18.6
L1/L2	128	89.1	10.9	56	89.3	10.7	72	88.9	11.1
L2/L3	129	81.4	18.6	56	78.6	21.4	73	83.6	16.4
L3/L4	128	76.6	23.4	56	76.8	23.2	72	76.4	23.6
L4/L5	128	67.2	32.8	56	69.6	30.4	72	65.3	34.7
L5/S1	126	67.5	32.5	55	74.5	25.5	71	62.0	38.0

Mild = grades ≤ 1 severe = grades ≥ 2.

Table 7.8 Results of Chi-Square statistical test between sex and the distribution of facet joint osteophyte grades ≤ 1 and ≥ 2.

Vertebral Level	Pearson Chi-Square		
	Value	Degrees of Freedom	Significance value
O1/C1	0.211	1	0.646
C1/C2	-	-	-
C2/C3	0.615	1	0.433
C3/C4	0.045	1	0.832
C4/C5	0.002	1	0.964
C5/C6	0.080	1	0.777
C6/C7	0.006	1	0.938
C7/T1	0.135	1	0.713
T1/T2	0.048	1	0.826
T2/T3	0.049	1	0.825
T3/T4	0.037	1	0.848
T4/T5	2.687	1	0.101
T5/T6	3.682	1	0.055
T6/T7	0.914	1	0.339
T7/T8	0.618	1	0.432
T8/T9	2.386	1	0.122
T9/T10	2.953	1	0.086
T10/T11	0.631	1	0.427
T11/T12	0.013	1	0.908
T12/L1	1.500	1	0.221
L1/L2	0.002	1	0.965
L2/L3	0.521	1	0.470
L3/L4	0.000	1	0.992
L4/L5	0.272	1	0.602
L5/S1	2.232	1	0.135

Table 7.9 Results of Spearman's correlation coefficient statistical test between intervertebral and facet joint osteophyte frequency.

Vertebral level	*N*	Significance value	Correlation coefficient
C2/C3	122	< 0.001	0.346
C3/C4	122	< 0.001	0.431
C4/C5	121	< 0.001	0.386
C5/C6	122	< 0.001	0.436
C6/C7	121	0.025	0.203
C7/T1	125	< 0.001	0.312
T1/T2	126	< 0.001	0.450
T2/T3	126	0.022	0.203
T3/T4	127	0.012	0.221
T4/T5	126	0.035	0.188
T5/T6	128	0.008	0.239
T6/T7	125	0.546	0.055
T7/T8	124	0.052	0.175
T8/T9	126	0.302	0.093
T9/T10	125	0.048	0.177
T10/T11	125	0.267	0.100
T11/T12	125	0.029	0.196
T12/L1	125	0.083	0.156
L1/L2	127	0.037	0.185
L2/L3	127	0.004	0.253
L3/L4	126	< 0.001	0.343
L4/L5	126	< 0.001	0.471
L5/S1	126	< 0.001	0.634

Table 7.10 Intervertebral joint osteophyte presence for the total, male and female samples aged below and above 50 years old at death.

Vertebral Region	Total			Male			Female		
	N	% <50	% ≥50	*N*	% <50	% ≥50	*N*	% <50	% ≥50
Cervical	122	15.4	80.7	53	16.7	82.9	69	14.3	79.2
Thoracic	122	80	100.0	51	76.5	100.0	71	82.6	100.0
Lumbar	124	45.2	82.9	54	52.6	82.9	70	39.1	83.0

Table 7.11 Facet joint osteophyte presence for the total, male and female samples aged below and above 50 years old at death.

Vertebral Region	Total			Male			Female		
	N	% <50	% ≥50	*N*	% <50	% ≥50	*N*	% <50	% ≥50
Cervical	112	17.9	66.7	49	22.2	71.9	63	14.9	62.8
Thoracic	115	47.4	75.6	47	41.2	76.7	68	52.4	75.0
Lumbar	124	28.2	66.7	53	17.6	69.4	71	36.4	66.4

Table 7.12 Intervertebral joint osteophyte at grades ≥ 2 for the total, male and female samples aged below and above 50 years old at death.

Vertebral Region	Total			Male			Female		
	N	% <50	% ≥50	*N*	% <50	% ≥50	*N*	% <50	% ≥50
Cervical	122	7.9	71.2	53	11.8	71.4	69	4.8	71
Thoracic	122	50.0	90.8	51	47.1	89.4	71	42.2	93.1
Lumbar	124	14.3	72.0	54	21.1	70.2	70	8.7	74.3

Table 7.13 Facet joint osteophyte at grades ≥ 2 for the total, male and female samples aged below and above 50 years old at death.

Vertebral Region	Total			Male			Female		
	N	% <50	% ≥50	*N*	% <50	% ≥50	*N*	% <50	% ≥50
Cervical	112	2.6	40.5	49	5.9	40.6	63	0	40.5
Thoracic	115	28.9	59.7	47	17.6	60	68	38.1	59.6
Lumbar	124	22.5	58.3	53	11.8	61.1	71	30.4	56.3

Table 7.14 Results of independent samples *t*-test between age-at-death and intervertebral osteophyte presence / absence by vertebral level for the total sample.

Vertebral Level	t	Degrees of Freedom	*P*-value	Mean Difference	Std. Error Difference	95% Confidence Interval	
						Lower	Upper
Dens	-7.136	118.599	< 0.001	-17.492	2.451	-22.345	-12.638
C2/C3	-5.633	120	< 0.001	-16.800	2.983	-22.705	-10.895
C3/C4	-9.271	113.484	< 0.001	-21.157	2.282	-25.678	-16.636
C4/C5	-9.461	123	< 0.001	-21.473	2.270	-25.966	-16.980
C5/C6	-10.078	121.904	< 0.001	-21.913	2.174	-26.217	-17.608
C6/C7	-9.181	122	< 0.001	-20.989	2.286	-25.514	-16.463
C7/T1	-7.352	126	< 0.001	-18.844	2.563	-23.917	-13.771
T1/T2	-5.722	126	< 0.001	-16.052	2.805	-21.604	-10.500
T2/T3	-7.151	125	< 0.001	-17.495	2.446	-22.337	-12.653
T3/T4	-4.607	126	< 0.001	-13.025	2.827	-18.620	-7.431
T4/T5	-4.859	127	< 0.001	-14.810	3.048	-20.841	-8.778
T5/T6	-4.902	126	< 0.001	-15.728	3.208	-22.077	-9.379
T6/T7	-5.210	126	< 0.001	-18.596	3.569	-25.660	-11.533
T7/T8	-6.522	126	< 0.001	-23.690	3.633	-30.879	-16.501
T8/T9	-4.865	127	< 0.001	-19.825	4.075	-27.888	-11.761
T9/T10	-6.912	127	< 0.001	-21.903	3.169	-28.173	-15.633
T10/T11	-5.979	126	< 0.001	-18.701	3.128	-24.891	-12.512
T11/T12	-7.542	127	< 0.001	-19.877	2.636	-25.092	-14.661
T12/L1	-4.759	125	< 0.001	-13.355	2.806	-18.908	-7.801
L1/L2	-5.735	127	< 0.001	-14.884	2.595	-20.019	-9.749
L2/L3	-8.329	123.555	< 0.001	-19.111	2.295	-23.653	-14.570
L3/L4	-8.015	127	< 0.001	-19.038	2.375	-23.738	-14.337
L4/L5	-7.169	125	< 0.001	-17.657	2.463	-22.532	-12.783
L5/S1	-8.451	125	< 0.001	-19.544	2.313	-24.121	-14.967

Table 7.15 Results of independent samples *t*-test between age-at-death and intervertebral osteophyte presence / absence by vertebral region for the total sample.

Vertebral region	t	Degrees of Freedom	*P*-value	Mean Difference	Std. Error Difference	95% Confidence Interval	
						Lower	Upper
Cervical	-9.355	120	< 0.001	-21.821	2.332	-26.439	-17.202
Thoracic	-11.952	24.785	< 0.001	-24.805	2.075	-29.081	-20.529
Lumbar	-6.339	122	< 0.001	-17.740	2.799	-23.280	-12.200

Table 7.16 Results of independent samples *t*-test between age-at-death and intervertebral osteophyte presence / absence by vertebral level for the male sample.

Vertebral Level	t	Degrees of Freedom	*P*-value	Mean Difference	Std. Error Difference	95% Confidence Interval	
						Lower	Upper
Dens	-3.926	49.49	< 0.001	-14.341	3.653	-21.679	-7.002
C2/C3	-4.634	51	< 0.001	-18.232	3.935	-26.131	-10.333
C3/C4	-5.661	52	< 0.001	-20.16	3.561	-27.307	-13.014
C4/C5	-6.354	52	< 0.001	-21.281	3.349	-28.001	-14.56
C5/C6	-7.564	52	< 0.001	-23.183	3.065	-29.334	-17.033
C6/C7	-6.45	52	< 0.001	-21.222	3.29	-27.825	-14.62
C7/T1	-4.571	53	< 0.001	-17.443	3.816	-25.097	-9.789
T1/T2	-3.409	53	0.001	-14.78	4.335	-23.476	-6.084
T2/T3	-3.952	52	< 0.001	-15.051	3.809	-22.694	-7.408
T3/T4	-2.958	53	0.005	-12.281	4.152	-20.61	-3.953
T4/T5	-3.104	54	0.003	-13.51	4.352	-22.235	-4.784
T5/T6	-2.38	53	0.021	-10.889	4.576	-20.066	-1.711
T6/T7	-2.707	54	0.009	-15.021	5.548	-26.145	-3.897
T7/T8	-3.797	54	< 0.001	-19.833	5.224	-30.307	-9.36
T8/T9	-2.507	55	0.015	-13.361	5.329	-24.041	-2.682
T9/T10	-4.63	55	< 0.001	-20.413	4.409	-29.249	-11.577
T10/T11	-4.338	54	< 0.001	-19.349	4.46	-28.291	-10.408
T11/T12	-4.923	55	< 0.001	-19.451	3.951	-27.37	-11.533
T12/L1	-3.052	54	0.004	-13.091	4.289	-21.69	-4.492
L1/L2	-4.057	54	< 0.001	-15.781	3.89	-23.58	-7.983
L2/L3	-4.816	54	< 0.001	-16.816	3.492	-23.816	-9.816
L3/L4	-5.139	55	< 0.001	-18.74	3.647	-26.048	-11.432
L4/L5	-5.102	54	< 0.001	-17.586	3.447	-24.496	-10.675
L5/S1	-5.368	54	< 0.001	-18.172	3.385	-24.958	-11.385

Table 7.17 Results of independent samples *t*-test between age-at-death and intervertebral osteophyte presence / absence by vertebral region for the male sample.

Vertebral region	t-test for Equality of Means						
	t	Degrees of Freedom	*P*-value	Mean Difference	Std. Error Difference	95% Confidence Interval	
						Lower	Upper
Cervical	-5.582	51	< 0.001	-20.225	3.623	-27.499	-12.951
Thoracic	-10.489	48.733	< 0.001	-23.484	2.239	-27.984	-18.984
Lumbar	-4.481	52	< 0.001	-18.349	4.095	-26.565	-10.132

Table 7.18 Results of independent samples *t*-test between age-at-death and intervertebral osteophyte presence / absence by vertebral level for the female sample.

Vertebral Level	t	Degrees of Freedom	*P*-value	Mean Difference	Std. Error Difference	95% Confidence Interval	
						Lower	Upper
Dens	-5.897	66	< 0.001	-19.95	3.383	-26.705	-13.195
C2/C3	-3.549	67	0.001	-16.181	4.56	-25.283	-7.08
C3/C4	-6.873	68	< 0.001	-21.929	3.19	-28.295	-15.562
C4/C5	-6.928	69	< 0.001	-21.619	3.121	-27.844	-15.393
C5/C6	-6.511	68	< 0.001	-20.931	3.215	-27.347	-14.516
C6/C7	-6.509	68	< 0.001	-20.826	3.199	-27.21	-14.441
C7/T1	-5.72	71	< 0.001	-20.055	3.506	-27.045	-13.064
T1/T2	-4.565	71	< 0.001	-17.008	3.726	-24.437	-9.579
T2/T3	-5.985	71	< 0.001	-19.298	3.225	-25.727	-12.868
T3/T4	-3.582	71	0.001	-14.143	3.948	-22.015	-6.271
T4/T5	-3.783	71	< 0.001	-16.423	4.341	-25.079	-7.768
T5/T6	-4.576	71	< 0.001	-20.691	4.521	-29.707	-11.676
T6/T7	-4.471	70.000	< 0.001	-21.067	4.711	-30.463	-11.670
T7/T8	-5.326	70	< 0.001	-27.048	5.078	-37.175	-16.92
T8/T9	-10.103	14.172	< 0.001	-29.333	2.903	-35.554	-23.113
T9/T10	-5.101	70	< 0.001	-23.267	4.561	-32.363	-14.17
T10/T11	-4.148	70	< 0.001	-18.218	4.392	-26.977	-9.458
T11/T12	-5.625	70	< 0.001	-20.175	3.587	-27.328	-13.021
T12/L1	-3.591	69	0.001	-13.535	3.769	-21.053	-6.016
L1/L2	-4.061	71	< 0.001	-14.437	3.555	-21.526	-7.349
L2/L3	-6.774	70	< 0.001	-21.047	3.107	-27.243	-14.85
L3/L4	-6.173	70	< 0.001	-19.819	3.211	-26.222	-13.416
L4/L5	-5.054	69	< 0.001	-17.799	3.522	-24.825	-10.773
L5/S1	-6.458	69	< 0.001	-20.639	3.196	-27.014	-14.263

Table 7.19 Results of independent samples *t*-test between age-at-death and intervertebral osteophyte presence / absence by vertebral region for the female sample.

Vertebral region	t-test for Equality of Means						
	t	Degrees of Freedom	*P*-value	Mean Difference	Std. Error Difference	95% Confidence Interval	
						Lower	Upper
Cervical	-7.474	67	< 0.001	-23.041	3.083	-29.194	-16.888
Thoracic	-3.257	69	0.002	-26.216	8.048	-42.272	-10.161
Lumbar	-4.494	68	< 0.001	-17.371	3.865	-25.084	-9.658

Table 7.20 Results of ANOVA for the relationship between age-at-death and intervertebral osteophyte severity by vertebral level for the total sample.

Vertebral Level	Contrast estimate	Hypothesized value	Difference	Std. error	*P*-value	95% confidence interval	
						Lower	Upper
Dens	17.793	0	17.793	3.759	< 0.001	10.349	25.238
C2/C3	23.592	0	23.592	6.150	< 0.001	11.413	35.771
C3/C4	21.972	0	21.972	4.931	< 0.001	12.207	31.736
C4/C5	28.186	0	28.186	5.643	< 0.001	17.014	39.358
C5/C6	27.548	0	27.548	5.649	< 0.001	16.363	38.733
C6/C7	17.670	0	17.670	4.268	< 0.001	9.218	26.121
C7/T1	0.928	0	0.928	6.265	0.883	-11.473	13.329
T1/T2	22.692	0	22.692	4.068	< 0.001	14.640	30.744
T2/T3	17.102	0	17.102	3.175	< 0.001	10.817	23.386
T3/T4	23.672	0	23.672	9.193	0.011	5.476	41.869
T4/T5	26.300	0	26.300	9.251	0.005	7.990	44.610
T5/T6	21.737	0	21.737	2.740	< 0.001	16.315	27.160
T6/T7	21.356	0	21.356	2.941	< 0.001	15.534	27.177
T7/T8	21.335	0	21.335	6.055	0.001	9.349	33.321
T8/T9	23.679	0	23.679	8.851	0.008	6.160	41.198
T9/T10	23.749	0	23.749	6.230	< 0.001	11.418	36.079
T10/T11	24.125	0	24.125	5.952	< 0.001	12.344	35.907
T11/T12	25.985	0	25.985	6.020	< 0.001	14.070	37.900
T12/L1	19.128	0	19.128	2.994	< 0.001	13.202	25.054
L1/L2	17.088	0	17.088	2.876	< 0.001	11.397	22.779
L2/L3	17.373	0	17.373	2.450	< 0.001	12.523	22.222
L3/L4	19.832	0	19.832	2.219	< 0.001	15.439	24.224
L4/L5	19.255	0	19.255	2.256	< 0.001	14.789	23.720
L5/S1	19.300	0	19.300	2.111	< 0.001	15.121	23.479

Table 7.21 Results of ANOVA for the relationship between age-at-death and intervertebral osteophyte severity by vertebral level for the male sample.

Vertebral Level	Contrast estimate	Hypothesized value	Difference	Std. error	*P*-value	95% confidence interval	
						Lower	Upper
Dens	13.803	0	13.803	6.883	0.05	-0.029	27.635
C2/C3	21.093	0	21.093	6.743	0.003	7.542	34.644
C3/C4	21.208	0	21.208	6.131	0.001	8.887	33.528
C4/C5	27.344	0	27.344	5.893	< 0.001	15.502	39.187
C5/C6	26.724	0	26.724	6.019	< 0.001	14.628	38.821
C6/C7	14.883	0	14.883	5.161	0.006	4.512	25.255
C7/T1	0.154	0	0.154	6.785	0.982	-13.475	13.782
T1/T2	15.892	0	15.892	9.999	0.118	-4.182	35.967
T2/T3	15.548	0	15.548	9.375	0.103	-3.282	34.379
T3/T4	9.773	0	9.773	7.187	0.180	-4.657	24.202
T4/T5	23.848	0	23.848	9.743	0.018	4.288	43.408
T5/T6	17.821	0	17.821	4.361	< 0.001	9.066	26.575
T6/T7	17.174	0	17.174	4.837	0.001	7.468	26.881
T7/T8	17.656	0	17.656	6.867	0.013	3.871	31.442
T8/T9	19.683	0	19.683	9.245	0.038	1.132	38.234
T9/T10	22.689	0	22.689	6.353	0.001	9.941	35.438
T10/T11	24.183	0	24.183	5.964	< 0.001	12.21	36.156
T11/T12	19.053	0	19.053	8.752	0.034	1.491	36.615
T12/L1	17.219	0	17.219	4.106	< 0.001	8.979	25.459
L1/L2	16.168	0	16.168	3.93	< 0.001	8.281	24.055
L2/L3	16.193	0	16.193	3.579	< 0.001	9.01	23.376
L3/L4	20.124	0	20.124	3.116	< 0.001	13.874	26.374
L4/L5	19.641	0	19.641	3.606	< 0.001	12.404	26.878
L5/S1	19.265	0	19.265	3.204	< 0.001	12.836	25.694

Table 7.22 Results of ANOVA for the relationship between age-at-death and intervertebral osteophyte severity by vertebral level for the female sample.

Vertebral Level	Contrast estimate	Hypothesized value	Difference	Std. error	*P*-value	95% confidence interval	
						Lower	Upper
Dens	19.692	0	19.692	4.617	< 0.001	10.469	28.916
C2/C3	21.966	0	21.966	10.455	0.040	1.08	42.853
C3/C4	16.807	0	16.807	8.322	0.048	0.186	33.427
C4/C5	19.819	0	19.819	2.962	< 0.001	13.906	25.731
C5/C6	17.312	0	17.312	3.002	< 0.001	11.319	23.306
C6/C7	23.802	0	23.802	8.495	0.007	6.836	40.767
C7/T1	17.008	0	17.008	4.567	< 0.001	7.896	26.119
T1/T2	24.603	0	24.603	4.535	< 0.001	15.556	33.65
T2/T3	17.584	0	17.584	3.598	< 0.001	10.406	24.762
T3/T4	25.299	0	25.299	9.417	0.009	6.508	44.089
T4/T5	18.956	0	18.956	3.783	< 0.001	11.409	26.503
T5/T6	25.388	0	25.388	3.594	< 0.001	18.217	32.559
T6/T7	24.457	0	24.457	3.71	< 0.001	17.054	31.86
T7/T8	27.927	0	27.927	3.496	< 0.001	20.951	34.903
T8/T9	28.385	0	28.385	4.282	< 0.001	19.839	36.931
T9/T10	21.48	0	21.48	3.684	< 0.001	14.129	28.831
T10/T11	22.155	0	22.155	4.192	< 0.001	13.79	30.519
T11/T12	32.806	0	32.806	8.55	< 0.001	15.741	49.871
T12/L1	21.856	0	21.856	4.749	< 0.001	12.378	31.335
L1/L2	18.905	0	18.905	4.725	< 0.001	9.478	28.332
L2/L3	18.667	0	18.667	3.439	< 0.001	11.805	25.529
L3/L4	19.977	0	19.977	3.264	< 0.001	13.464	26.491
L4/L5	19.145	0	19.145	3.057	< 0.001	13.043	25.248
L5/S1	20.284	0	20.284	3.08	< 0.001	14.137	26.431

Table 7.23 Results of independent samples *t*-test between age-at-death and facet joint osteophyte presence / absence by vertebral level for the total sample.

Vertebral Level	t	Degrees of Freedom	*P*-value	Mean Difference	Std. Error Difference	95% Confidence Interval	
						Lower	Upper
O1/C1	-2.833	118	0.005	-9.809	3.462	-16.665	-2.953
C1/C2	-3.196	119	0.002	-20.949	6.555	-33.928	-7.970
C2/C3	-4.436	122	< 0.001	-14.762	3.328	-21.350	-8.174
C3/C4	-4.171	121	< 0.001	-14.059	3.371	-20.732	-7.386
C4/C5	-4.587	119	< 0.001	-16.816	3.666	-24.075	-9.557
C5/C6	-7.246	35.235	< 0.001	-20.150	2.781	-25.794	-14.506
C6/C7	-3.767	120	< 0.001	-14.769	3.921	-22.532	-7.007
C7/T1	-6.160	53.584	< 0.001	-16.280	2.643	-21.580	-10.980
T1/T2	-4.664	124	< 0.001	-17.128	3.672	-24.397	-9.860
T2/T3	-3.360	126	0.001	-11.357	3.380	-18.046	-4.668
T3/T4	-5.821	126	< 0.001	-16.208	2.785	-21.719	-10.698
T4/T5	-4.240	124	< 0.001	-11.685	2.756	-17.139	-6.231
T5/T6	-3.366	122	0.001	-9.876	2.934	-15.684	-4.068
T6/T7	-2.147	123	0.034	-7.510	3.498	-14.435	-.585
T7/T8	-2.252	36.379	0.030	-7.098	3.153	-13.490	-.707
T8/T9	-2.926	37.798	0.006	-8.578	2.932	-14.514	-2.643
T9/T10	-4.583	75.474	< 0.001	-12.051	2.629	-17.288	-6.813
T10/T11	-4.078	123	< 0.001	-12.313	3.020	-18.290	-6.336
T11/T12	-5.381	123	< 0.001	-14.861	2.762	-20.327	-9.395
T12/L1	-2.698	124	0.008	-8.422	3.122	-14.601	-2.244
L1/L2	-3.393	126	0.001	-11.136	3.282	-17.630	-4.642
L2/L3	-4.423	127	< 0.001	-12.744	2.881	-18.445	-7.043
L3/L4	-5.568	126	< 0.001	-14.535	2.610	-19.701	-9.369
L4/L5	-4.929	126	< 0.001	-12.953	2.628	-18.153	-7.752
L5/S1	-6.553	124	< 0.001	-16.400	2.503	-21.353	-11.446

Table 7.24 Results of independent samples *t*-test between age-at-death and facet joint osteophyte presence / absence by vertebral region for the total sample.

Vertebral region	t-test for Equality of Means						
	t	Degrees of Freedom	*P*-value	Mean Difference	Std. Error Difference	95% Confidence Interval	
						Lower	Upper
Cervical	-6.933	112	< 0.001	-17.719	2.556	-22.783	-12.655
Thoracic	-3.739	114	< 0.001	-11.113	2.972	-17.001	-5.225
Lumbar	-5.287	121	< 0.001	-14.016	2.651	-19.264	-8.767

Table 7.25 Results of independent samples *t*-test between age-at-death and facet joint osteophyte presence / absence by vertebral level for the male sample.

Vertebral Level	t	Degrees of Freedom	*P*-value	Mean Difference	Std. Error Difference	95% Confidence Interval	
						Lower	Upper
O1/C1	-1.343	51	0.185	-6.699	4.989	-16.714	3.316
C1/C2	-2.477	51	0.017	-36.538	14.752	-66.154	-6.923
C2/C3	-3.226	52	0.002	-14.832	4.598	-24.058	-5.606
C3/C4	-3.42	51	0.001	-16.125	4.715	-25.591	-6.659
C4/C5	-2.598	49	0.012	-14.637	5.633	-25.957	-3.317
C5/C6	-3.995	51	< 0.001	-20.71	5.184	-31.118	-10.301
C6/C7	-2.243	50	0.029	-12.818	5.715	-24.298	-1.338
C7/T1	-4.005	51	< 0.001	-18.465	4.611	-27.722	-9.208
T1/T2	-3.611	52	0.001	-18.667	5.169	-29.039	-8.294
T2/T3	-4.668	54	< 0.001	-21.545	4.615	-30.798	-12.293
T3/T4	-3.704	53	0.001	-15.372	4.15	-23.697	-7.047
T4/T5	-1.995	48.941	0.052	-7.594	3.807	-15.244	0.057
T5/T6	-1.72	51	0.092	-8.025	4.667	-17.394	1.344
T6/T7	-1.699	52	0.095	-9.489	5.586	-20.698	1.72
T7/T8	-1.769	52	0.083	-9.486	5.364	-20.25	1.277
T8/T9	-2.997	53	0.004	-15.133	5.05	-25.262	-5.005
T9/T10	-4.464	26.695	< 0.001	-15.879	3.557	-23.182	-8.577
T10/T11	-3.435	37.016	0.001	-12.759	3.714	-20.285	-5.233
T11/T12	-4.103	53	< 0.001	-16.437	4.006	-24.472	-8.403
T12/L1	-2.396	54	0.02	-10.987	4.587	-20.183	-1.792
L1/L2	-3.287	54	0.002	-15.487	4.712	-24.934	-6.039
L2/L3	-4.618	54	< 0.001	-18.862	4.085	-27.052	-10.673
L3/L4	-6.19	53.913	< 0.001	-19.238	3.108	-25.47	-13.007
L4/L5	-5.193	54	< 0.001	-17.837	3.435	-24.723	-10.95
L5/S1	-5.143	53	< 0.001	-17.587	3.42	-24.446	-10.728

Table 7.26 Results of independent samples *t*-test between age-at-death and facet joint osteophyte presence / absence by vertebral region for the male sample.

Vertebral region	t-test for Equality of Means						
	t	Degrees of Freedom	*P*-value	Mean Difference	Std. Error Difference	95% Confidence Interval	
						Lower	Upper
Cervical	-4.303	48	< 0.001	-15.409	3.581	-22.61	-8.208
Thoracic	-2.504	45	0.016	-10.729	4.285	-19.36	-2.098
Lumbar	-4.845	51	< 0.001	-17.196	3.549	-24.322	-10.07

Table 7.27 Results of independent samples *t*-test between age-at-death and facet joint osteophyte presence / absence by vertebral level for the female sample.

Vertebral Level	t	Degrees of Freedom	*P*-value	Mean Difference	Std. Error Difference	95% Confidence Interval	
						Lower	Upper
O1/C1	-2.544	65	0.013	-12.29	4.83	-21.936	-2.643
C1/C2	-2.347	66	0.022	-17.984	7.664	-33.286	-2.682
C2/C3	-3.057	68	0.003	-14.906	4.875	-24.634	-5.177
C3/C4	-2.552	68	0.013	-12.321	4.829	-21.957	-2.685
C4/C5	-3.737	68	< 0.001	-18.261	4.886	-28.012	-8.511
C5/C6	-6.996	37.421	< 0.001	-19.733	2.821	-25.446	-14.021
C6/C7	-5.328	31.462	< 0.001	-16.35	3.068	-22.604	-10.096
C7/T1	-3.095	70	0.003	-14.623	4.725	-24.047	-5.199
T1/T2	-3.057	70	0.003	-15.912	5.206	-26.294	-5.53
T2/T3	-0.967	70	0.337	-4.508	4.664	-13.81	4.794
T3/T4	-4.432	71	< 0.001	-16.827	3.797	-24.398	-9.256
T4/T5	-4.057	71	< 0.001	-14.502	3.574	-21.629	-7.375
T5/T6	-2.843	69	0.006	-11.067	3.893	-18.834	-3.301
T6/T7	-1.401	69	0.166	-6.468	4.616	-15.676	2.74
T7/T8	-0.916	69	0.363	-5.024	5.487	-15.971	5.922
T8/T9	-0.669	23.55	0.51	-2.392	3.577	-9.781	4.998
T9/T10	-2.295	69	0.025	-9.822	4.28	-18.361	-1.282
T10/T11	-2.852	69	0.006	-11.979	4.2	-20.358	-3.601
T11/T12	-3.569	68	0.001	-13.676	3.832	-21.321	-6.03
T12/L1	-1.503	68	0.137	-6.456	4.295	-15.026	2.114
L1/L2	-1.711	70	0.091	-7.796	4.555	-16.88	1.289
L2/L3	-2.206	71	0.031	-8.772	3.977	-16.701	-0.842
L3/L4	-2.794	70	0.007	-10.807	3.869	-18.523	-3.092
L4/L5	-2.467	70	0.016	-9.427	3.821	-17.047	-1.807
L5/S1	-4.294	69	< 0.001	-15.478	3.605	-22.669	-8.288

Table 7.28 Results of independent samples *t*-test between age-at-death and facet joint osteophyte presence / absence by vertebral region for the female sample.

Vertebral region	t-test for Equality of Means						
	t	Degrees of Freedom	*P*-value	Mean Difference	Std. Error Difference	95% Confidence Interval	
						Lower	Upper
Cervical	-5.513	62	< 0.001	-19.873	3.605	-27.079	-12.666
Thoracic	-2.745	67	0.008	-11.325	4.125	-19.559	-3.091
Lumbar	-3.032	68	0.003	-11.606	3.828	-19.245	-3.967

Table 7.29 Results of ANOVA for the relationship between age-at-death and facet joint osteophyte severity by vertebral level for the total sample.

Vertebral Level	Contrast estimate	Hypothesized value	Difference	Std. error	*P*-value	95% confidence interval	
						Lower	Upper
O1/C1	7.546	0	7.546	3.223	0.021	1.163	13.929
C1/C2	14.813	0	14.813	4.635	0.002	5.636	23.991
C2/C3	22.443	0	22.443	7.318	0.003	7.954	36.933
C3/C4	18.379	0	18.379	6.456	0.005	5.593	31.164
C4/C5	16.826	0	16.826	5.348	0.002	6.234	27.418
C5/C6	27.794	0	27.794	9.892	0.006	8.206	47.383
C6/C7	0.813	0	0.813	7.679	0.916	-14.394	16.021
C7/T1	13.663	0	13.663	3.721	< 0.001	6.297	21.030
T1/T2	6.642	0	6.642	7.423	0.373	-8.053	21.336
T2/T3	29.821	0	29.821	7.107	< 0.001	15.753	43.889
T3/T4	12.262	0	12.262	3.464	0.001	5.405	19.118
T4/T5	24.757	0	24.757	9.689	0.012	5.575	43.940
T5/T6	13.237	0	13.237	3.608	< 0.001	6.094	20.380
T6/T7	10.413	0	10.413	6.307	0.101	-2.074	22.900
T7/T8	5.536	0	5.536	5.976	0.356	-6.295	17.368
T8/T9	7.444	0	7.444	5.909	0.210	-4.253	19.141
T9/T10	14.532	0	14.532	5.418	0.008	3.806	25.258
T10/T11	18.048	0	18.048	5.287	0.001	7.580	28.515
T11/T12	14.551	0	14.551	3.841	< 0.001	6.947	22.155
T12/L1	11.178	0	11.178	4.391	0.012	2.486	19.871
L1/L2	10.983	0	10.983	7.696	0.156	-4.250	26.216
L2/L3	9.953	0	9.953	4.230	0.020	1.581	18.326
L3/L4	16.381	0	16.381	3.119	< 0.001	10.206	22.555
L4/L5	22.408	0	22.408	9.124	0.015	4.347	40.468
L5/S1	15.260	0	15.260	2.404	< 0.001	10.502	20.019

Table 7.30 Results of ANOVA for the relationship between age-at-death and facet joint osteophyte severity by vertebral level for the male sample.

Vertebral Level	Contrast estimate	Hypothesized value	Difference	Std. error	*P*-value	95% confidence Interval	
						Lower	Upper
O1/C1	6.926	0	6.926	4.409	0.123	-1.929	15.781
C1/C2	25.837	0	25.837	10.431	0.017	4.895	46.778
C2/C3	26.468	0	26.468	9.975	0.011	6.422	46.514
C3/C4	20.634	0	20.634	7.797	0.011	4.957	36.311
C4/C5	11.673	0	11.673	9.947	0.247	-8.338	31.683
C5/C6	28.101	0	28.101	9.826	0.006	8.345	47.857
C6/C7	-6.281	0	-6.281	8.402	0.458	-23.184	10.621
C7/T1	12.324	0	12.324	5.064	0.019	2.147	22.501
T1/T2	10.292	0	10.292	6.005	0.093	-1.763	22.347
T2/T3	29.936	0	29.936	9.271	0.002	11.324	48.548
T3/T4	11.378	0	11.378	9.675	0.245	-8.046	30.802
T4/T5	8.411	0	8.411	5.299	0.119	-2.237	19.059
T5/T6	18.943	0	18.943	6.86	0.008	5.158	32.729
T6/T7	18.459	0	18.459	10.032	0.072	-1.691	38.609
T7/T8	4.843	0	4.843	8.086	0.552	-11.398	21.084
T8/T9	8.982	0	8.982	7.521	0.238	-6.117	24.081
T9/T10	7.093	0	7.093	6.015	0.244	-4.982	19.168
T10/T11	11.555	0	11.555	10.142	0.260	-8.815	31.925
T11/T12	15.5	0	15.5	4.931	0.003	5.6	25.399
T12/L1	17.702	0	17.702	6.558	0.009	4.543	30.862
L1/L2	13.907	0	13.907	10.436	0.188	-7.034	34.849
L2/L3	9.788	0	9.788	5.281	0.069	-0.808	20.385
L3/L4	17.711	0	17.711	4.076	< 0.001	9.532	25.889
L4/L5	21.71	0	21.71	8.287	0.012	5.074	38.346
L5/S1	14.963	0	14.963	3.833	< 0.001	7.267	22.659

Table 7.31 Results of ANOVA for the relationship between age-at-death and facet joint osteophyte severity by vertebral level for the female sample.

Vertebral Level	Contrast estimate	Hypothesized value	Difference	Std. error	*P*-value	95% confidence interval	
						Lower	Upper
O1/C1	8.077	0	8.077	4.727	0.092	-1.366	17.52
C1/C2	12.717	0	12.717	5.419	0.022	1.896	23.537
C2/C3	18.98	0	18.98	11.009	0.089	-3.006	40.966
C3/C4	13.289	0	13.289	11.472	0.251	-9.623	36.201
C4/C5	17.717	0	17.717	6.589	0.009	4.562	30.873
C5/C6	17.251	0	17.251	10.815	0.115	-4.341	38.843
C6/C7	16.208	0	16.208	11.174	0.152	-6.102	38.517
C7/T1	14.681	0	14.681	5.587	0.011	3.532	25.83
T1/T2	8.479	0	8.479	8.012	0.294	-7.509	24.466
T2/T3	27.684	0	27.684	10.511	0.010	6.703	48.665
T3/T4	14.425	0	14.425	4.1	0.001	6.246	22.604
T4/T5	26.347	0	26.347	9.856	0.009	6.68	46.014
T5/T6	10.878	0	10.878	4.402	0.016	2.09	19.665
T6/T7	6.41	0	6.41	8.325	0.444	-10.207	23.026
T7/T8	6.384	0	6.384	9.104	0.486	-11.788	24.556
T8/T9	2.823	0	2.823	8.603	0.744	-14.344	19.99
T9/T10	15.55	0	15.55	5.895	0.010	3.784	27.317
T10/T11	20.911	0	20.911	6.393	0.002	8.151	33.671
T11/T12	12.72	0	12.72	6.383	0.050	-0.024	25.465
T12/L1	6.78	0	6.78	6.062	0.267	-5.322	18.882
L1/L2	8.147	0	8.147	11.414	0.478	-14.629	30.924
L2/L3	7.966	0	7.966	6.759	0.243	-5.517	21.449
L3/L4	15.426	0	15.426	4.505	0.001	6.435	24.416
L4/L5	13.994	0	13.994	3.494	< 0.001	7.022	20.965
L5/S1	16.942	0	16.942	3.288	< 0.001	10.379	23.504

Table 7.32 Results of Pearson's statistical test between age-at-death and intervertebral osteophytosis for the total sample.

Variable		Age-at-death	Variable		Age-at-death
DENS	Pearson Correlation	0.549	T6_7IVD	Pearson Correlation	0.559
	P - Value	< 0.001		*P* - Value	< 0.001
	N	121		*N*	128
C2C3IVD	Pearson Correlation	0.471	T7_8IVD	Pearson Correlation	0.609
	P - Value	< 0.001		*P* - Value	< 0.001
	N	122		*N*	128
C3C4IVD	Pearson Correlation	0.628	T8_9IVD	Pearson Correlation	0.564
	P - Value	< 0.001		*P* - Value	< 0.001
	N	124		*N*	129
C4C5IVD	Pearson Correlation	0.685	T9_10IVD	Pearson Correlation	0.574
	P - Value	< 0.001		*P* - Value	< 0.001
	N	125		*N*	129
C5C6IVD	Pearson Correlation	0.693	T10_11IVD	Pearson Correlation	0.608
	P - Value	< 0.001		*P* - Value	< 0.001
	N	124		*N*	128
C6C7IVD	Pearson Correlation	0.648	T11_12IVD	Pearson Correlation	0.623
	P - Value	< 0.001		*P* - Value	< 0.001
	N	124		*N*	129
C7T1IVD	Pearson Correlation	0.476	T12L1IVD	Pearson Correlation	0.526
	P - Value	< 0.001		*P* - Value	< 0.001
	N	128		*N*	127
T1_2IVD	Pearson Correlation	0.542	L1_2IVD	Pearson Correlation	0.514
	P - Value	< 0.001		*P* - Value	< 0.001
	N	128		*N*	129
T2_3IVD	Pearson Correlation	0.551	L2_3IVD	Pearson Correlation	0.602
	P - Value	< 0.001		*P* - Value	< 0.001
	N	127		*N*	128
T3_4IVD	Pearson Correlation	0.494	L3_4IVD	Pearson Correlation	0.648
	P - Value	< 0.001		*P* - Value	< 0.001
	N	128		*N*	129
T4_5IVD	Pearson Correlation	0.501	L4_5IVD	Pearson Correlation	0.621
	P - Value	< 0.001		*P* - Value	< 0.001
	N	129		*N*	127
T5_6IVD	Pearson Correlation	0.576	L5_S1IVD	Pearson Correlation	0.660
	P - Value	< 0.001		*P* - Value	< 0.001
	N	128		*N*	127

Table 7.33 Results of Pearson's statistical test between age-at-death and intervertebral osteophytosis for the male sample.

Variable		Age-at-death	Variable		Age-at-death
DENS	Pearson Correlation	0.480	T6_7IVD	Pearson Correlation	0.445
	P - Value	< 0.001		*P* - Value	0.001
	N	53		*N*	56
C2C3IVD	Pearson Correlation	0.512	T7_8IVD	Pearson Correlation	0.502
	P - Value	< 0.001		*P* - Value	< 0.001
	N	53		*N*	56
C3C4IVD	Pearson Correlation	0.592	T8_9IVD	Pearson Correlation	0.506
	P - Value	< 0.001		*P* - Value	< 0.001
	N	54		*N*	57
C4C5IVD	Pearson Correlation	0.696	T9_10IVD	Pearson Correlation	0.589
	P - Value	< 0.001		*P* - Value	< 0.001
	N	54		*N*	57
C5C6IVD	Pearson Correlation	0.764	T10_11IVD	Pearson Correlation	0.638
	P - Value	< 0.001		*P* - Value	< 0.001
	N	54		*N*	56
C6C7IVD	Pearson Correlation	0.650	T11_12IVD	Pearson Correlation	0.589
	P - Value	< 0.001		*P* - Value	< 0.001
	N	54		*N*	57
C7T1IVD	Pearson Correlation	0.384	T12L1IVD	Pearson Correlation	0.509
	P - Value	0.004		*P* - Value	< 0.001
	N	55		*N*	56
T1_2IVD	Pearson Correlation	0.478	L1_2IVD	Pearson Correlation	0.512
	P - Value	< 0.001		*P* - Value	< 0.001
	N	55		*N*	56
T2_3IVD	Pearson Correlation	0.515	L2_3IVD	Pearson Correlation	0.579
	P - Value	< 0.001		*P* - Value	< 0.001
	N	54		*N*	56
T3_4IVD	Pearson Correlation	0.456	L3_4IVD	Pearson Correlation	0.668
	P - Value	< 0.001		*P* - Value	< 0.001
	N	55		*N*	57
T4_5IVD	Pearson Correlation	0.468	L4_5IVD	Pearson Correlation	0.646
	P - Value	< 0.001		*P* - Value	< 0.001
	N	56		*N*	56
T5_6IVD	Pearson Correlation	0.494	L5_S1IVD	Pearson Correlation	0.665
	P - Value	< 0.001		*P* - Value	< 0.001
	N	55		*N*	56

Table 7.34 Results of Pearson's statistical test between age-at-death and intervertebral osteophytosis for the female sample.

Variable		Age-at-death	Variable		Age-at-death
DENS	Pearson Correlation	0.596	T6_7IVD	Pearson Correlation	0.638
	P - Value	< 0.001		*P* - Value	< 0.001
	N	68		*N*	72
C2C3IVD	Pearson Correlation	0.446	T7_8IVD	Pearson Correlation	0.697
	P - Value	< 0.001		*P* - Value	< 0.001
	N	69		*N*	72
C3C4IVD	Pearson Correlation	0.655	T8_9IVD	Pearson Correlation	0.624
	P - Value	< 0.001		*P* - Value	< 0.001
	N	70		*N*	72
C4C5IVD	Pearson Correlation	0.677	T9_10IVD	Pearson Correlation	0.567
	P - Value	< 0.001		*P* - Value	< 0.001
	N	71		*N*	72
C5C6IVD	Pearson Correlation	0.641	T10_11IVD	Pearson Correlation	0.605
	P - Value	< 0.001		*P* - Value	< 0.001
	N	70		*N*	72
C6C7IVD	Pearson Correlation	0.661	T11_12IVD	Pearson Correlation	0.654
	P - Value	< 0.001		*P* - Value	< 0.001
	N	70		*N*	72
C7T1IVD	Pearson Correlation	0.553	T12L1IVD	Pearson Correlation	0.546
	P - Value	< 0.001		*P* - Value	< 0.001
	N	73		*N*	71
T1_2IVD	Pearson Correlation	0.587	L1_2IVD	Pearson Correlation	0.525
	P - Value	< 0.001		*P* - Value	< 0.001
	N	73		*N*	73
T2_3IVD	Pearson Correlation	0.578	L2_3IVD	Pearson Correlation	0.627
	P - Value	< 0.001		*P* - Value	< 0.001
	N	73		*N*	72
T3_4IVD	Pearson Correlation	0.533	L3_4IVD	Pearson Correlation	0.641
	P - Value	< 0.001		*P* - Value	< 0.001
	N	73		*N*	72
T4_5IVD	Pearson Correlation	0.533	L4_5IVD	Pearson Correlation	0.611
	P - Value	< 0.001		*P* - Value	< 0.001
	N	73		*N*	71
T5_6IVD	Pearson Correlation	0.641	L5_S1IVD	Pearson Correlation	0.657
	P - Value	< 0.001		*P* - Value	< 0.001
	N	73		*N*	71

Table 7.35 Results of Pearson's statistical test between age-at-death and facet joint osteophytosis for the total sample.

Variable		Age-at-death	Variable		Age-at-death
O1C1FJ	Pearson Correlation	0.246	T6_7FJ	Pearson Correlation	0.227
	Sig. (2-tailed)	0.007		Sig. (2-tailed)	0.011
	N	120		N	125
C1C2FJ	Pearson Correlation	0.281	T7_8FJ	Pearson Correlation	0.149
	Sig. (2-tailed)	0.002		Sig. (2-tailed)	0.096
	N	121		N	125
C2C3FJ	Pearson Correlation	0.391	T8_9FJ	Pearson Correlation	0.184
	Sig. (2-tailed)	< 0.001		Sig. (2-tailed)	0.039
	N	124		N	126
C3C4FJ	Pearson Correlation	0.377	T9_10FJ	Pearson Correlation	0.324
	Sig. (2-tailed)	< 0.001		Sig. (2-tailed)	< 0.001
	N	123		N	125
C4C5FJ	Pearson Correlation	0.407	T10_11FJ	Pearson Correlation	0.392
	Sig. (2-tailed)	< 0.001		Sig. (2-tailed)	< 0.001
	N	121		N	125
C5C6FJ	Pearson Correlation	0.442	T11_12FJ	Pearson Correlation	0.435
	Sig. (2-tailed)	< 0.001		Sig. (2-tailed)	< 0.001
	N	123		N	125
C6C7FJ	Pearson Correlation	0.210	T12L1FJ	Pearson Correlation	0.254
	Sig. (2-tailed)	0.020		Sig. (2-tailed)	0.004
	N	122		N	126
C7T1FJ	Pearson Correlation	0.406	L1_2FJ	Pearson Correlation	0.261
	Sig. (2-tailed)	< 0.001		Sig. (2-tailed)	0.003
	N	125		N	128
T1_2FJ	Pearson Correlation	0.342	L2_3FJ	Pearson Correlation	0.346
	Sig. (2-tailed)	< 0.001		Sig. (2-tailed)	< 0.001
	N	126		N	129
T2_3FJ	Pearson Correlation	0.403	L3_4FJ	Pearson Correlation	0.483
	Sig. (2-tailed)	< 0.001		Sig. (2-tailed)	< 0.001
	N	128		N	128
T3_4FJ	Pearson Correlation	0.425	L4_5FJ	Pearson Correlation	0.494
	Sig. (2-tailed)	< 0.001		Sig. (2-tailed)	< 0.001
	N	128		N	128
T4_5FJ	Pearson Correlation	0.396	L5_S1FJ	Pearson Correlation	0.541
	Sig. (2-tailed)	< 0.001		Sig. (2-tailed)	< 0.001
	N	126		N	126
T5_6FJ	Pearson Correlation	0.344			
	Sig. (2-tailed)	< 0.001			
	N	124			

Table 7.36 Results of Pearson's statistical test between age-at-death and facet joint osteophytosis for the male sample.

Variable		Age-at-death	Variable		Age-at-death
O1C1FJ	Pearson Correlation	0.213	T6_7FJ	Pearson Correlation	0.308
	Sig. (2-tailed)	0.127		Sig. (2-tailed)	0.023
	N	53		N	54
C1C2FJ	Pearson Correlation	0.328	T7_8FJ	Pearson Correlation	0.196
	Sig. (2-tailed)	0.017		Sig. (2-tailed)	0.156
	N	53		N	54
C2C3FJ	Pearson Correlation	0.445	T8_9FJ	Pearson Correlation	0.334
	Sig. (2-tailed)	0.001		Sig. (2-tailed)	0.013
	N	54		N	55
C3C4FJ	Pearson Correlation	0.468	T9_10FJ	Pearson Correlation	0.350
	Sig. (2-tailed)	< 0.001		Sig. (2-tailed)	0.010
	N	53		N	54
C4C5FJ	Pearson Correlation	0.384	T10_11FJ	Pearson Correlation	0.357
	Sig. (2-tailed)	0.005		Sig. (2-tailed)	0.008
	N	51		N	54
C5C6FJ	Pearson Correlation	0.505	T11_12FJ	Pearson Correlation	0.488
	Sig. (2-tailed)	< 0.001		Sig. (2-tailed)	< 0.001
	N	53		N	55
C6C7FJ	Pearson Correlation	0.101	T12L1FJ	Pearson Correlation	0.381
	Sig. (2-tailed)	0.475		Sig. (2-tailed)	0.004
	N	52		N	56
C7T1FJ	Pearson Correlation	0.463	L1_2FJ	Pearson Correlation	0.365
	Sig. (2-tailed)	< 0.001		Sig. (2-tailed)	0.006
	N	53		N	56
T1_2FJ	Pearson Correlation	0.390	L2_3FJ	Pearson Correlation	0.459
	Sig. (2-tailed)	0.004		Sig. (2-tailed)	< 0.001
	N	54		N	56
T2_3FJ	Pearson Correlation	0.571	L3_4FJ	Pearson Correlation	0.623
	Sig. (2-tailed)	< 0.001		Sig. (2-tailed)	< 0.001
	N	56		N	56
T3_4FJ	Pearson Correlation	0.377	L4_5FJ	Pearson Correlation	0.612
	Sig. (2-tailed)	0.005		Sig. (2-tailed)	< 0.001
	N	55		N	56
T4_5FJ	Pearson Correlation	0.254	L5_S1FJ	Pearson Correlation	0.551
	Sig. (2-tailed)	0.066		Sig. (2-tailed)	< 0.001
	N	53		N	55
T5_6FJ	Pearson Correlation	0.373			
	Sig. (2-tailed)	0.006			
	N	53			

Table 7.37 Results of Pearson's statistical test between age-at-death and facet joint osteophytosis for the female sample.

Variable		Age-at-death	Variable		Age-at-death
O1C1FJ	Pearson Correlation	0.273	T6_7FJ	Pearson Correlation	0.182
	Sig. (2-tailed)	0.026		Sig. (2-tailed)	0.130
	N	67		N	71
C1C2FJ	Pearson Correlation	0.277	T7_8FJ	Pearson Correlation	0.113
	Sig. (2-tailed)	0.022		Sig. (2-tailed)	0.346
	N	68		N	71
C2C3FJ	Pearson Correlation	0.351	T8_9FJ	Pearson Correlation	0.052
	Sig. (2-tailed)	0.003		Sig. (2-tailed)	0.666
	N	70		N	71
C3C4FJ	Pearson Correlation	0.305	T9_10FJ	Pearson Correlation	0.323
	Sig. (2-tailed)	0.010		Sig. (2-tailed)	0.006
	N	70		N	71
C4C5FJ	Pearson Correlation	0.420	T10_11FJ	Pearson Correlation	0.414
	Sig. (2-tailed)	< 0.001		Sig. (2-tailed)	< 0.001
	N	70		N	71
C5C6FJ	Pearson Correlation	0.396	T11_12FJ	Pearson Correlation	0.392
	Sig. (2-tailed)	0.001		Sig. (2-tailed)	0.001
	N	70		N	70
C6C7FJ	Pearson Correlation	0.326	T12L1FJ	Pearson Correlation	0.170
	Sig. (2-tailed)	0.006		Sig. (2-tailed)	0.159
	N	70		N	70
C7T1FJ	Pearson Correlation	0.367	L1_2FJ	Pearson Correlation	0.182
	Sig. (2-tailed)	0.001		Sig. (2-tailed)	0.126
	N	72		N	72
T1_2FJ	Pearson Correlation	0.317	L2_3FJ	Pearson Correlation	0.253
	Sig. (2-tailed)	0.007		Sig. (2-tailed)	0.031
	N	72		N	73
T2_3FJ	Pearson Correlation	0.277	L3_4FJ	Pearson Correlation	0.386
	Sig. (2-tailed)	0.018		Sig. (2-tailed)	0.001
	N	72		N	72
T3_4FJ	Pearson Correlation	0.455	L4_5FJ	Pearson Correlation	0.414
	Sig. (2-tailed)	< 0.001		Sig. (2-tailed)	< 0.001
	N	73		N	72
T4_5FJ	Pearson Correlation	0.482	L5_S1FJ	Pearson Correlation	0.541
	Sig. (2-tailed)	< 0.001		Sig. (2-tailed)	< 0.001
	N	73		N	71
T5_6FJ	Pearson Correlation	0.333			
	Sig. (2-tailed)	0.005			
	N	71			

APPENDIX 8

METRIC VARIABLES, AGE-AT-DEATH AND SEX

Table 8.1 Results of Pearson's correlation coefficient test between the metric variables and age-at-death for the male sample.

Variable	Correlation	*P*-value	*N*	Variable	Correlation	*P*-value	*N*
CLML	0.021	0.896	41	HMLRML	-0.040	0.769	55
CLAPD	0.034	0.834	41	FMLTML	-0.095	0.510	50
CLSID	0.021	0.897	41	FMAXHD_VCP	0.262	0.067	50
SH	0.057	0.747	34	FMAXHD_HML	0.276	0.039	56
SB	0.003	0.986	37	FMAXHD_HRML	0.245	0.072	55
HML	-0.083	0.542	56	FMAXHD_HSIZE	0.237	0.084	54
HEB	0.027	0.841	57	TMPEB_VCP	0.216	0.176	41
HVDH	0.104	0.452	54	TMPEB_HML	0.290	0.054	45
HMAXD	0.149	0.281	54	TMPEB_HRML	0.258	0.091	44
HMIND	0.170	0.218	54	TMPEB_HSIZE	0.193	0.210	44
HSIZE	-0.068	0.626	54	TMDEB_VCP	0.365	0.015	44
RML	0.001	0.996	55	TMDEB_HML	0.461	0.001	49
RSD	0.075	0.589	55	TMDEB_HRML	0.455	0.001	48
RTD	0.190	0.165	55	TMDEB_HSIZE	0.408	0.004	48
FML	-0.183	0.169	58	CML_VCP	0.107	0.500	42
FCDA	0.245	0.066	57	CML_HML	0.257	0.089	45
FEB	0.234	0.095	52	CML_HRML	0.197	0.201	44
FMAXHD	0.175	0.188	58	CML_HSIZE	0.182	0.238	44
FNSA	-0.041	0.759	58	CML_FML	0.319	0.031	46
TML	-0.072	0.618	50	CML_FTML	0.288	0.058	44
TMPEB	0.226	0.126	47	CML_FMAXHD	-0.049	0.745	46
TMDEB	0.292	0.038	51	CML_TML	0.258	0.091	44
CAML	0.198	0.188	46	CML_FEB	-0.099	0.513	46
CAMB	0.177	0.257	43	CML_TMPEB	-0.006	0.972	41
VB_ALL_P	-0.026	0.859	50	CML_TMDEB	-0.324	0.032	44
VCP_HML	-0.010	0.944	49	CMB_VCP	0.105	0.524	39
VCP_HRML	-0.040	0.783	49	CMB_HML	0.214	0.173	42
VCP_FML	0.142	0.325	50	CMB_HRML	0.147	0.359	41
VCP_FTML	0.099	0.529	43	CMB_HSIZE	0.147	0.360	41
VCPHRML_FML	0.303	0.034	49	CMB_FML	0.230	0.138	43
VCPHRML_FTML	0.283	0.070	42	CMB_FTML	0.348	0.026	41
VCPFML	-0.110	0.448	50	CMB_FMAXHD	-0.010	0.947	43
VCPFTML	-0.006	0.972	43	CMB_FEB	-0.035	0.824	43
VCPHRML	-0.020	0.890	49	CMB_TML	0.331	0.035	41
HML_FML	0.279	0.037	56	CMB_TMPEB	0.096	0.563	39
HRML_FTML	0.299	0.041	47	CMB_TMDEB	-0.092	0.569	41

Table 8.2 Results of Pearson's correlation coefficient test between the metric variables and age-at-death for the female sample.

Variable	Correlation	*P*-value	*N*	Variable	Correlation	*P*-value	*N*
CLML	0.158	0.210	65	HMLRML	0.270	0.026	68
CLAPD	0.217	0.083	65	FMLTML	0.292	0.023	61
CLSID	0.110	0.385	65	FMAXHD_VCP	0.322	0.009	65
SH	0.419	0.001	55	FMAXHD_HML	0.104	0.395	69
SB	0.471	0.000	55	FMAXHD_HRML	0.162	0.186	68
HML	0.305	0.011	69	FMAXHD_HSIZE	0.093	0.461	65
HEB	0.409	0.000	70	TMPEB_VCP	0.361	0.006	56
HVDH	0.329	0.006	67	TMPEB_HML	0.187	0.156	59
HMAXD	0.452	0.000	69	TMPEB_HRML	0.214	0.107	58
HMIND	0.111	0.365	69	TMPEB_HSIZE	0.159	0.246	55
HSIZE	0.384	0.002	65	TMDEB_VCP	0.172	0.218	53
RML	0.219	0.071	69	TMDEB_HML	-0.020	0.886	56
RSD	0.436	0.000	69	TMDEB_HRML	0.026	0.848	55
RTD	0.349	0.003	69	TMDEB_HSIZE	-0.093	0.514	52
FML	0.216	0.066	73	CML_VCP	0.113	0.441	49
FCDA	-0.061	0.619	69	CML_HML	-0.090	0.527	52
FEB	0.443	0.000	61	CML_HRML	-0.060	0.677	51
FMAXHD	0.367	0.002	72	CML_HSIZE	-0.154	0.295	48
FNSA	-0.119	0.321	71	CML_FML	-0.004	0.976	53
TML	0.324	0.011	61	CML_FTML	-0.060	0.684	49
TMPEB	0.501	0.000	62	CML_FMAXHD	-0.104	0.458	53
TMDEB	0.289	0.026	59	CML_TML	-0.084	0.567	49
CAML	0.173	0.216	53	CML_FEB	-0.351	0.015	48
CAMB	0.155	0.284	50	CML_TMPEB	-0.351	0.012	51
VB_ALL_P	-0.018	0.885	65	CML_TMDEB	-0.131	0.368	49
VCP_HML	-0.330	0.008	64	CMB_VCP	0.115	0.440	47
VCP_HRML	-0.281	0.026	63	CMB_HML	-0.026	0.859	49
VCP_FML	-0.258	0.038	65	CMB_HRML	0.005	0.975	49
VCP_FTML	-0.300	0.027	54	CMB_HSIZE	0.018	0.906	45
VCPHRML_FML	-0.148	0.248	63	CMB_FML	0.026	0.855	50
VCPHRML_FTML	-0.221	0.115	52	CMB_FTML	-0.022	0.885	46
VCPFML	0.147	0.243	65	CMB_FMAXHD	-0.093	0.520	50
VCPFTML	0.256	0.062	54	CMB_FEB	-0.255	0.088	46
VCPHRML	0.192	0.132	63	CMB_TML	-0.042	0.781	46
HML_FML	0.101	0.407	69	CMB_TMPEB	-0.283	0.051	48
HRML_FTML	-0.052	0.700	57	CMB_TMDEB	-0.193	0.200	46

Table 8.3 Independent samples *t*-test between sex and the metric measurement variables.

Variable	Sex	Mean	*P*-value	Variable	Sex	Mean	*P*-value
CLML	Female	134.042	< 0.001	FNSA	Female	127.549	0.883
	Male	148.500			Male	127.690	
CLAPD	Female	10.737	< 0.001	TML	Female	331.131	< 0.001
	Male	12.877			Male	361.530	
CLSID	Female	8.872	< 0.001	TMPEB	Female	66.359	< 0.001
	Male	10.665			Male	73.947	
SH	Female	137.073	< 0.001	TMDEB	Female	45.941	< 0.001
	Male	156.268			Male	51.868	
SB	Female	91.670	< 0.001	CAML	Female	72.297	< 0.001
	Male	101.412			Male	79.435	
HML	Female	291.652	< 0.001	CAMB	Female	38.910	< 0.001
	Male	322.094			Male	44.267	
HEB	Female	53.150	< 0.001	VB_ALL_P	Female	368.634	< 0.001
	Male	61.526			Male	387.096	
HVDH	Female	39.210	< 0.001	VCP_HML	Female	1.266	< 0.001
	Male	45.681			Male	1.204	
HMAXD	Female	20.164	< 0.001	VCP_HRML	Female	0.740	< 0.001
	Male	23.351			Male	0.698	
HMIND	Female	16.405	< 0.001	VCP_FML	Female	0.890	0.046
	Male	18.783			Male	0.871	
HSIZE	Female	384.258	< 0.001	VCP_FTML	Female	0.494	0.016
	Male	429.259			Male	0.481	
RML	Female	208.330	< 0.001	VCPHRML_FML	Female	2.098	0.061
	Male	233.791			Male	2.122	
RSD	Female	10.406	< 0.001	VCPHRML_FTML	Female	1.165	0.363
	Male	12.293			Male	1.172	
RTD	Female	14.233	< 0.001	VCPFML	Female	783.745	< 0.001
	Male	16.009			Male	831.971	
FML	Female	413.586	< 0.001	VCPFTML	Female	1115.613	< 0.001
	Male	445.302			Male	1198.145	
FCDA	Female	78.471	0.004	VCPHRML	Female	869.048	< 0.001
	Male	79.526			Male	941.018	
FEB	Female	71.988	< 0.001	HML_FML	Female	0.706	< 0.001
	Male	80.572			Male	0.725	
FMAXHD	Female	41.519	< 0.001	HRML_FTML	Female	0.672	< 0.001
	Male	47.348			Male	0.691	

Table 8.3 Continued.

Variable	Sex	Mean	*P*-value	Variable	Sex	Mean	*P*-value
HMLRML	Female	499.732	< 0.001	CML_FML	Female	0.175	0.188
	Male	556.214			Male	0.177	
FMLTML	Female	744.533	< 0.001	CML_FTML	Female	0.097	0.386
	Male	808.090			Male	0.098	
FMAXHD_VCP	Female	0.113	< 0.001	CML_FMAXHD	Female	1.747	< 0.001
	Male	0.122			Male	1.677	
FMAXHD_HML	Female	0.143	0.002	CML_TML	Female	0.219	0.980
	Male	0.147			Male	0.219	
FMAXHD_HRML	Female	0.083	0.022	CML_FEB	Female	1.007	0.017
	Male	0.085			Male	0.984	
FMAXHD_HSIZE	Female	0.108	0.013	CML_TMPEB	Female	1.089	0.040
	Male	0.110			Male	1.068	
TMPEB_VCP	Female	0.181	< 0.001	CML_TMDEB	Female	1.564	0.011
	Male	0.191			Male	1.522	
TMPEB_HML	Female	0.228	0.419	CMB_VCP	Female	0.105	< 0.001
	Male	0.230			Male	0.113	
TMPEB_HRML	Female	0.133	0.861	CMB_HML	Female	0.134	0.165
	Male	0.133			Male	0.137	
TMPEB_HSIZE	Female	0.173	0.757	CMB_HRML	Female	0.078	0.453
	Male	0.173			Male	0.079	
TMDEB_VCP	Female	0.125	< 0.001	CMB_HSIZE	Female	0.102	0.518
	Male	0.134			Male	0.103	
TMDEB_HML	Female	0.159	0.291	CMB_FML	Female	0.094	0.001
	Male	0.161			Male	0.099	
TMDEB_HRML	Female	0.093	0.903	CMB_FTML	Female	0.052	0.012
	Male	0.093			Male	0.054	
TMDEB_HSIZE	Female	0.121	0.881	CMB_FMAXHD	Female	0.938	0.590
	Male	0.121			Male	0.932	
CML_VCP	Female	0.197	0.014	CMB_FEB	Female	0.542	0.538
	Male	0.204			Male	0.546	
CML_HML	Female	0.249	0.186	CMB_TML	Female	0.118	0.086
	Male	0.245			Male	0.121	
CML_HRML	Female	0.145	0.030	CMB_TMPEB	Female	0.587	0.590
	Male	0.142			Male	0.591	
CML_HSIZE	Female	0.189	0.012	CMB_TMDEB	Female	0.841	0.694
	Male	0.184			Male	0.837	

Table 8.4 Independent samples *t*-test between sex and the metric measurement variables ≥ 50 years at time of death.

Variable	Sex	Mean	*P*-value	Variable	Sex	Mean	*P*-value
CLML	Female	135.085	< 0.001	FNSA	Female	127.156	0.554
	Male	148.963			Male	127.859	
CLAPD	Female	10.847	< 0.001	TML	Female	335.476	< 0.001
	Male	12.965			Male	361.614	
CLSID	Female	8.934	< 0.001	TMPEB	Female	67.477	< 0.001
	Male	10.620			Male	74.906	
SH	Female	139.142	< 0.001	TMDEB	Female	46.469	< 0.001
	Male	157.439			Male	52.853	
SB	Female	92.841	< 0.001	CAML	Female	73.037	< 0.001
	Male	101.663			Male	80.208	
HML	Female	294.356	< 0.001	CAMB	Female	39.336	< 0.001
	Male	322.568			Male	44.433	
HEB	Female	54.265	< 0.001	VB_ALL_P	Female	369.502	< 0.001
	Male	61.645			Male	387.179	
HVDH	Female	39.707	< 0.001	VCP_HML	Female	1.256	< 0.001
	Male	45.946			Male	1.200	
HMAXD	Female	20.656	< 0.001	VCP_HRML	Female	0.735	< 0.001
	Male	23.560			Male	0.694	
HMIND	Female	16.481	< 0.001	VCP_FML	Female	0.885	0.218
	Male	19.013			Male	0.871	
HSIZE	Female	388.446	< 0.001	VCP_FTML	Female	0.490	0.172
	Male	429.863			Male	0.481	
RML	Female	209.420	< 0.001	VCPHRML_FML	Female	2.094	0.022
	Male	234.938			Male	2.130	
RSD	Female	10.605	< 0.001	VCPHRML_FTML	Female	1.160	0.072
	Male	12.429			Male	1.176	
RTD	Female	14.571	< 0.001	VCPFML	Female	787.913	< 0.001
	Male	16.193			Male	832.058	
FML	Female	416.570	< 0.001	VCPFTML	Female	1125.954	< 0.001
	Male	444.744			Male	1201.268	
FCDA	Female	78.362	0.001	VCPHRML	Female	874.503	< 0.001
	Male	79.711			Male	943.516	
FEB	Female	73.064	< 0.001	HML_FML	Female	0.707	< 0.001
	Male	81.485			Male	0.728	
FMAXHD	Female	42.098	< 0.001	HRML_FTML	Female	0.670	< 0.001
	Male	47.728			Male	0.694	

Table 8.4 Continued.

Variable	Sex	Mean	*P*-value	Variable	Sex	Mean	*P*-value
HMLRML	Female	503.489	< 0.001	CML_FML	Female	0.175	0.093
	Male	558.021			Male	0.179	
FMLTML	Female	752.945	< 0.001	CML_FTML	Female	0.097	0.176
	Male	808.333			Male	0.099	
FMAXHD_VCP	Female	0.114	< 0.001	CML_FMAXHD	Female	1.746	< 0.001
	Male	0.123			Male	1.674	
FMAXHD_HML	Female	0.143	0.007	CML_TML	Female	0.218	0.461
	Male	0.148			Male	0.221	
FMAXHD_HRML	Female	0.084	0.081	CML_FEB	Female	0.997	0.132
	Male	0.085			Male	0.979	
FMAXHD_HSIZE	Female	0.108	0.025	CML_TMPEB	Female	1.078	0.353
	Male	0.111			Male	1.067	
TMPEB_VCP	Female	0.184	0.001	CML_TMDEB	Female	1.562	0.001
	Male	0.194			Male	1.501	
TMPEB_HML	Female	0.230	0.352	CMB_VCP	Female	0.106	< 0.001
	Male	0.232			Male	0.113	
TMPEB_HRML	Female	0.134	0.898	CMB_HML	Female	0.135	0.262
	Male	0.134			Male	0.137	
TMPEB_HSIZE	Female	0.174	0.967	CMB_HRML	Female	0.079	0.850
	Male	0.174			Male	0.079	
TMDEB_VCP	Female	0.126	< 0.001	CMB_HSIZE	Female	0.102	0.853
	Male	0.136			Male	0.103	
TMDEB_HML	Female	0.159	0.029	CMB_FML	Female	0.095	0.002
	Male	0.164			Male	0.099	
TMDEB_HRML	Female	0.093	0.254	CMB_FTML	Female	0.053	0.009
	Male	0.094			Male	0.055	
TMDEB_HSIZE	Female	0.121	0.174	CMB_FMAXHD	Female	0.939	0.412
	Male	0.123			Male	0.927	
CML_VCP	Female	0.198	0.033	CMB_FEB	Female	0.537	0.519
	Male	0.206			Male	0.542	
CML_HML	Female	0.249	0.618	CMB_TML	Female	0.118	0.047
	Male	0.247			Male	0.122	
CML_HRML	Female	0.146	0.122	CMB_TMPEB	Female	0.581	0.249
	Male	0.143			Male	0.590	
CML_HSIZE	Female	0.189	0.126	CMB_TMDEB	Female	0.838	0.539
	Male	0.185			Male	0.831	

Table 8.5 Independent samples *t*-test between sex and the metric measurement variables < 50 years at time of death.

Variable	Sex	Mean	*P*-value	Variable	Sex	Mean	*P*-value
CLML	Female	131.319	< 0.001	FNSA	Female	128.370	0.528
	Male	147.607			Male	127.342	
CLAPD	Female	10.450	< 0.001	TML	Female	322.225	< 0.001
	Male	12.707			Male	361.368	
CLSID	Female	8.711	< 0.001	TMPEB	Female	63.829	< 0.001
	Male	10.750			Male	71.900	
SH	Female	132.819	< 0.001	TMDEB	Female	44.829	< 0.001
	Male	153.818			Male	49.897	
SB	Female	89.053	< 0.001	CAML	Female	70.974	< 0.001
	Male	100.950			Male	77.984	
HML	Female	285.875	< 0.001	CAMB	Female	38.153	< 0.001
	Male	321.171			Male	43.885	
HEB	Female	50.548	< 0.001	VB_ALL_P	Female	366.680	0.004
	Male	61.289			Male	386.935	
HVDH	Female	38.193	< 0.001	VCP_HML	Female	1.288	0.002
	Male	45.150			Male	1.212	
HMAXD	Female	19.111	< 0.001	VCP_HRML	Female	0.749	0.002
	Male	22.933			Male	0.705	
HMIND	Female	16.243	< 0.001	VCP_FML	Female	0.901	0.092
	Male	18.325			Male	0.871	
HSIZE	Female	374.838	< 0.001	VCP_FTML	Female	0.503	0.026
	Male	428.053			Male	0.481	
RML	Female	206.000	< 0.001	VCPHRML_FML	Female	2.106	0.952
	Male	231.618			Male	2.107	
RSD	Female	9.980	< 0.001	VCPHRML_FTML	Female	1.175	0.371
	Male	12.034			Male	1.164	
RTD	Female	13.509	< 0.001	VCPFML	Female	774.368	< 0.001
	Male	15.661			Male	831.803	
FML	Female	407.098	< 0.001	VCPFTML	Female	1093.106	< 0.001
	Male	446.447			Male	1192.317	
FCDA	Female	78.705	0.533	VCPHRML	Female	857.318	< 0.001
	Male	79.158			Male	936.318	
FEB	Female	69.417	< 0.001	HML_FML	Female	0.703	0.024
	Male	78.847			Male	0.720	
FMAXHD	Female	40.287	< 0.001	HRML_FTML	Female	0.675	0.104
	Male	46.568			Male	0.686	

Table 8.5 Continued.

Variable	Sex	Mean	*P*-value	Variable	Sex	Mean	*P*-value
HMLRML	Female	491.875	< 0.001	CML_FML	Female	0.175	0.883
	Male	552.789			Male	0.174	
FMLTML	Female	727.288	< 0.001	CML_FTML	Female	0.097	0.660
	Male	807.618			Male	0.096	
FMAXHD_VCP	Female	0.110	< 0.001	CML_FMAXHD	Female	1.749	0.047
	Male	0.120			Male	1.682	
FMAXHD_HML	Female	0.142	0.118	CML_TML	Female	0.220	0.391
	Male	0.145			Male	0.215	
FMAXHD_HRML	Female	0.082	0.113	CML_FEB	Female	1.027	0.053
	Male	0.084			Male	0.991	
FMAXHD_HSIZE	Female	0.108	0.259	CML_TMPEB	Female	1.109	0.044
	Male	0.110			Male	1.070	
TMPEB_VCP	Female	0.176	0.013	CML_TMDEB	Female	1.568	0.944
	Male	0.186			Male	1.566	
TMPEB_HML	Female	0.225	0.819	CMB_VCP	Female	0.104	0.010
	Male	0.225			Male	0.113	
TMPEB_HRML	Female	0.131	0.983	CMB_HML	Female	0.133	0.449
	Male	0.131			Male	0.136	
TMPEB_HSIZE	Female	0.172	0.686	CMB_HRML	Female	0.077	0.399
	Male	0.171			Male	0.079	
TMDEB_VCP	Female	0.124	0.127	CMB_HSIZE	Female	0.101	0.474
	Male	0.129			Male	0.103	
TMDEB_HML	Female	0.158	0.382	CMB_FML	Female	0.094	0.140
	Male	0.155			Male	0.099	
TMDEB_HRML	Female	0.092	0.305	CMB_FTML	Female	0.052	0.496
	Male	0.090			Male	0.053	
TMDEB_HSIZE	Female	0.121	0.128	CMB_FMAXHD	Female	0.938	0.813
	Male	0.118			Male	0.943	
CML_VCP	Female	0.194	0.194	CMB_FEB	Female	0.550	0.717
	Male	0.201			Male	0.554	
CML_HML	Female	0.249	0.130	CMB_TML	Female	0.118	0.819
	Male	0.242			Male	0.119	
CML_HRML	Female	0.144	0.122	CMB_TMPEB	Female	0.598	0.773
	Male	0.141			Male	0.594	
CML_HSIZE	Female	0.190	0.035	CMB_TMDEB	Female	0.846	0.725
	Male	0.183			Male	0.854	

APPENDIX 9

METRIC VARIABLES AND VERTEBRAL JOINT OSTEOPHYTOSIS

Table 9.1 *P*-values in relation to the skeletal measurement variables and intervertebral osteophytosis presence / absence for the male sample (significant values show in bold).

	Clavicle Length	Clavicle Anterior/Posterior	Clavicle Superior/Inferior	Scapula Height	Scapula Breadth	Humerus Length	Humerus Epicondylar Breadth	Humerus Head Diameter	Humerus Maximum Diameter	Humerus Minimum Diameter	Radius Length	Radius Sagittal Diameter	Radius Transverse Diameter	Femur Length	Femur Condylo-Diaphyseal Angle*	Femur Epicondylar Breadth	Femur Maximum Head Diameter	Femur Neck Shaft Angle	Tibia Length	Tibia Proximal Epiphyseal Breadth	Tibia Distal Epiphyseal Breadth	Calcaneus Length	Calcaneus Breadth	Vertebral Column Length
Dens	0.621	0.057	0.205	0.295	0.299	0.385	0.949	0.681	0.214	0.685	0.396	0.632	0 617	0.583	0.950	0.348	0.371	0.412	0.408	0.982	0.387	0.640	0.833	0.654
C2/C3	0.589	**0.032**	0.886	0.284	0.339	0.543	0.302	0.564	0.527	0.596	0.968	0 639	0 403	0.361	0.117	0.627	0 989	0.893	0.325	0.597	0.822	0.768	0.836	0.605
C3/C4	0.149	**0.019**	0.595	0.457	0.360	0.856	0.503	0.206	0.659	0.646	0 838	0.823	0.762	0.631	0.284	0.450	0.576	0.555	0.731	0.445	0.454	0.381	0.634	0.938
C4/C5	0.391	0.142	0.931	0.119	0.968	0.794	0.834	0.413	0.331	0.534	0 642	0.260	0.144	0.855	0.149	0.273	0.530	0.307	0.984	0.230	0.202	0.222	0 737	0.683
C5/C6	0.571	0.791	0.345	0.726	0.977	0.883	0.961	0.536	0.532	0.220	0.736	0.416	0.311	0.577	0.311	0.219	0.947	0.826	0.900	0.231	0.219	0.929	0.979	0.805
C6/C7	0.743	0.432	0.624	0.833	0.711	0.816	0.808	0.784	0.929	0.484	0.628	0.528	0.699	0.513	0.332	0.240	0.708	0.749	0.527	0.203	0.420	0.887	0.964	0.594
C7/T1	0.799	**0.046**	0.570	0.796	0.322	0.286	0.381	0.152	0.053	0.307	0.881	0.474	0 621	0.447	0.230	0.524	0.534	0.607	0.650	0.601	0.633	0.931	0.640	0.790
T1/T2	0.371	**0.040**	0.951	0.682	0.324	0.618	0.848	0.404	**0.037**	0.494	0.412	0.863	0.755	0.607	0.647	0.846	0.601	0.789	0.127	0.885	0.583	0.269	0.258	0.608
T2/T3	0.821	0.104	0.602	0.183	**0.049**	0.227	0.581	0.889	0.874	0.371	0.927	0.732	0.702	0.367	0.947	0.653	0.474	0.972	0.434	0.588	0.532	0.234	0.949	0.863
T3/T4	0.701	0.440	0.837	0.424	0.132	0.338	0.365	0.586	0.884	0.537	0.770	0.799	0.804	0.197	0.964	0.918	0.764	**0.009**	0.165	0.557	0.711	0.350	0.413	0.159
T4/T5	0.951	0.173	0.550	0.227	0.598	0.335	0.250	0.842	0.571	0.573	0.728	0.585	0.666	0.407	0.152	0.784	0.751	0.702	0.092	0.984	0.906	0.546	0.226	0.427
T5/T6	0.647	0.762	0.724	0.457	0.580	0.668	0.916	0.678	0.564	0.461	0.720	0.846	0.735	0.378	0.525	0.731	0.960	0.055	0.742	0.473	0.450	0 580	0.580	0 890
T6/T7	0.353	0.264	0.956	0.942	0.059	0.112	0.848	0.412	0.529	0.191	0.577	0.943	0.909	**0.050**	0.898	0.938	0.668	0.107	0.090	0.615	0.473	0.735	0.532	0.230
T7/T8	0.604	0.832	0.310	0.443	0.728	0.399	0.126	0.182	0.371	0.186	0.878	0.534	0.616	0.565	0.131	0.323	0.149	0.726	0.187	0.207	0.091	0.303	0.705	0.378
T8/T9	0.568	0.987	0.306	0.857	0.968	0.651	**0.050**	0.239	0.930	0.969	0.494	0.697	0.243	0.616	0.989	0.641	0.941	0.242	0.318	0.539	0.293	0.738	0.324	0.895
T9/T10	0 871	0.335	0.103	0.711	0.526	0.887	0.280	0.995	0.781	0.060	0.457	0.690	0.624	0.419	0.586	0.687	0.270	0.470	0.408	0.751	0.086	0.998	**0.045**	0.870
T10/T11	0.859	0.657	0.539	0.235	0.993	0.398	0.575	0.317	0.650	0.395	0.859	0.236	0.511	0.404	0.194	0.277	0.137	0.874	0.284	0.282	0.158	0.713	0.356	0.547
T11/T12	0.772	0.230	0.773	**0.038**	0.178	0.254	0.887	0.245	0.754	0.651	0.979	0.502	0.540	0.201	0.311	0.323	0.464	0.591	0.369	0.350	0.629	0.838	0.679	0.696
T12/L1	0.890	0.207	0.273	0.054	0.309	0.767	**0.043**	0.189	0.952	0.275	0.598	0.567	0.880	0.680	0.403	0.269	0.230	0.185	0.653	0.377	0.419	0.948	0.218	0.751
L1/L2	0.962	0.898	0.399	0.195	0.382	0.718	0.318	0.921	0.151	0.917	0.165	0.939	0.139	0.728	0.696	0.284	0.851	0.080	0.888	0.931	0.444	0.878	0.573	0.353
L2/L3	0.898	0.961	0.313	0.821	0.747	0.896	0 057	0.513	0.767	0.354	0.238	0.389	0.867	0.818	0.608	0.062	0.926	0.110	0.622	0.237	0.092	0.347	0.285	0.604
L3/L4	0.499	0.561	0.690	0.144	0.251	0.094	0.988	0.741	0.795	0.434	0.909	0.350	0.987	0.077	0.388	0.530	0.624	0.056	0.348	0.597	0.446	0.813	0.431	0.593
L4/L5	0.302	0.073	0.786	0.219	0.906	0.519	0.347	0.519	0.715	0.349	0.544	0.206	0.760	0.632	0.304	0.059	0.367	0.767	0.913	0.158	0.232	0.387	0.512	0.956
L5/S1	0 965	0 262	0.746	0 275	0.781	0 670	0.304	0.459	0 978	0 210	0 284	0.199	0 764	0 692	**0.037**	0 108	0.374	0 736	0.780	0.240	0.157	0 293	0 639	0 869

Table 9.2 *P*-values in relation to the skeletal measurement variables and intervertebral osteophytosis presence / absence for the male sample controlling for age-at-death (significant values show in bold).

	Clavicle Length	Clavicle Anterior/Posterior	Clavicle Superior/Inferior	Scapula Height	Scapula Breadth	Humerus Length	Humerus Epicondylar Breadth	Humerus Head Diameter	Humerus Maximum Diameter	Humerus Minimum Diameter	Radius Length	Radius Sagittal Diameter	Radius Transverse Diameter	Femur Length	Femur Condylo-Diaphyseal Angle*	Femur Epicondylar Breadth	Femur Maximum Head Diameter	Femur Neck Shaft Angle	Tibia Length	Tibia Proximal Epiphyseal Breadth	Tibia Distal Epiphyseal Breadth	Calcaneus Length	Calcaneus Breadth	Vertebral Column Length
Dens	0.668	**0.044**	0.182	0.238	0.295	0.542	0.883	0 922	0.080	0.342	0.395	0 469	0.247	0.997	0.405	0.722	0 718	0.343	0.511	0.578	0 865	0.349	0 543	0.715
C2/C3	0.546	**0.024**	0.837	0.361	0.334	0.759	0.254	0.838	0.228	0.244	0.966	0.452	0.911	0.826	0.519	0.772	0.506	0.979	0.468	0.882	0.220	0.709	0 437	0.677
C3/C4	0.128	**0.013**	0.542	0.588	0.355	0.864	0.428	0.407	0.844	0.230	0.841	0.919	0.582	0.754	0.995	0.877	0 834	0.439	0.939	0.963	0.692	0.825	0.943	0.977
C4/C5	0.344	0.106	0.999	0.179	0.977	0.518	0.937	0.726	0.778	0.873	0 645	0.442	0.586	0.500	0.774	0.915	0.846	0.223	0 751	0.764	0.985	0.634	0.768	0.770
C5/C6	0.508	0.674	0.395	0.568	0.967	0.791	0.928	0.256	0.903	0.701	0.733	0.666	0.979	0.709	0.788	0.901	0.399	0.996	0.838	0.853	0.860	0.439	0.477	0.906
C6/C7	0.811	0.351	0.687	0.653	0.703	0.531	0.708	0.839	0.417	0.919	0.630	0.789	0.572	0.841	0.835	0.865	0.647	0.604	0.736	0.706	0.645	0.536	0.494	0.514
C7/T1	0.754	**0.036**	0.530	0.960	0.318	0.438	0.327	0.071	**0.011**	0.100	0.883	0.324	0 224	0.939	0.748	0.780	0.190	0.723	0.853	0.767	0.496	0.448	0.298	0.721
T1/T2	0.405	**0.030**	0.902	0.774	0.320	0.790	0.915	0.232	**0.010**	0.238	0.413	0 697	0.376	0.961	0.796	0.578	0.280	0.669	0.206	0.612	0.630	0.100	0.116	0.657
T2/T3	0.878	0.080	0.653	0.139	**0.048**	0.355	0.521	0.627	0.524	0.742	0.929	0.546	0.770	0.756	0.464	0.825	0.880	0.912	0.556	0.986	0.870	0.064	0.546	0.787
T3/T4	0.660	0.390	0.796	0.346	0.130	0.455	0.327	0.425	0.597	0.843	0.769	0.956	0.438	0.424	0.533	0.467	0.861	**0.013**	0.230	0.246	0.245	0.151	0.225	0.183
T4/T5	0.993	0.147	0.516	0.265	0.594	0 447	0.220	0.953	0.343	0.878	0.729	0.727	0.937	0.751	0 439	0.364	0.858	0.790	0.134	0.587	0.352	0 272	0.120	0.470
T5/T6	0.678	0.709	0.693	0.525	0.577	0.805	0.871	0.828	0.767	0.673	0.722	0.972	0.942	0.616	0.893	0.893	0.745	0.067	0.863	0.754	0.788	0.324	0.773	0.938
T6/T7	0.328	0.232	0.919	0.874	0.058	0.168	0.898	0.548	0.754	0.340	0 576	0 800	0.558	0.125	0.644	0.533	0.990	0.131	0.128	0.967	0.984	0.405	0.340	0.256
T7/T8	0.565	0.762	0.338	0.513	0.723	0.567	0.149	0.305	0.655	0.414	0.880	0.702	0.911	0.998	0.454	0.765	0.370	0.631	0.275	0.544	0.425	0.690	0.922	0.427
T8/T9	0.547	0.974	0.320	0.785	0.962	0.795	0.057	0.331	0.833	0.702	0.495	0.510	0.100	0.927	0.570	0.798	0.745	0.282	0.443	0.950	0.912	0.788	0.572	0.944
T9/T10	0.815	0.395	0.120	0.829	0.532	0.642	0.326	0.700	0.792	0.207	0.459	0.907	0.812	0.898	0.714	0.655	0.650	0.570	0.576	0.612	0.528	0.440	0.166	0.791
T10/T11	0.802	0.526	0.586	0.301	1.000	0.588	0.640	0.518	0.959	0.792	0.861	0.363	0.961	0.850	0.650	0.750	0.382	0.763	0.415	0.730	0.705	0.738	0.491	0.611
T11/T12	0.706	0.180	0.710	0.060	0.174	0.420	0.973	0.442	0.349	0.792	0.977	0.730	0.133	0.596	0.970	0.932	0.990	0.710	0.529	0.873	0.521	0.346	0.867	0.779
T12/L1	0.937	0.174	0.248	0.075	0.305	0.941	0.052	0.292	0.641	0.519	0.599	0.720	0.479	0.910	0.868	0.632	0.476	0.227	0.817	0.777	0.917	0.561	0.391	0.691
L1/L2	0.908	0.816	0.436	0.136	0.376	0.938	0.367	0.658	**0.046**	0.489	0.166	0.849	**0.026**	0.752	0.632	0.905	0.659	0.110	0.893	0.454	0.694	0.332	0.913	0.307
L2/L3	0.844	0.876	0.347	0.652	0.756	0.642	0.073	0.288	0.368	0.800	0.239	0.579	0.334	0.631	0.673	0.387	0.559	0.151	0.434	0.763	0.611	0.984	0.768	0.530
L3/L4	0.449	0.479	0.747	0.209	0.246	0.185	0.921	0.934	0.746	0.904	0.912	0.527	0.443	0.321	0.867	0.743	0.801	0.084	0.514	0.730	0.711	0.570	0.889	0.673
L4/L5	0.267	0.055	0.843	0.308	0.915	0.764	0.405	0.819	0.800	0.816	0.546	0.346	0.606	0.798	0.952	0.307	0.835	0.894	0 891	0.483	0.858	0.947	0.998	0.862
L5/S1	0 910	0 214	0 800	0 376	0.790	0 942	0.358	0 752	0 520	0 574	0 285	0 331	0 617	0.717	0.274	0.488	0 864	0 866	0 985	0.698	0.727	0 833	0 819	0 777

Table 9.3 *P*-values in relation to the skeletal measurement variables and intervertebral osteophytosis presence / absence for the female sample (significant values show in bold).

	Clavicle Length	Clavicle Anterior/Posterior	Clavicle Superior/Inferior	Scapula Height	Scapula Breadth	Humerus Length	Humerus Epicondylar Breadth	Humerus Head Diameter	Humerus Maximum Diameter	Humerus Minimum Diameter	Radius Length	Radius Sagittal Diameter	Radius Transverse Diameter	Femur Length	Femur Condylo-Diaphyseal Angle*	Femur Epicondylar Breadth	Femur Maximum Head Diameter	Femur Neck Shaft Angle	Tibia Length	Tibia Proximal Epiphyseal Breadth	Tibia Distal Epiphyseal Breadth	Calcaneus Length	Calcaneus Breadth	Vertebral Column Length
Dens	0.632	0.840	0.709	0.140	0.140	0.100	0.452	0.123	**0.034**	0.317	0.458	0.226	0.254	0.233	0.531	0.177	0.238	**0.001**	0.139	**0.007**	0.613	0.339	0 335	0.096
C2/C3	0.522	0.638	0.222	0.851	0.163	0.728	0.772	0 872	0.449	0.573	0.439	0.769	**0.028**	0.895	0.543	0.267	0.935	0.530	0.639	0.115	0.888	0.525	0.370	0 834
C3/C4	0.300	0.235	0.327	0.064	**0.006**	0.180	**0.009**	0.128	**0.015**	0.231	0.301	**0.001**	0.100	0.348	0.686	**0.015**	0.148	0.917	0.160	**0.012**	0.264	0.408	0.498	0 588
C4/C5	0.362	0.149	0.113	**0.046**	**0.044**	0.113	**0.022**	0.098	**0.012**	**0.039**	0.468	**0.007**	0.223	0.245	0.710	**0.042**	**0.011**	0.990	0 079	**0.005**	0.289	0.466	0.489	0.778
C5/C6	0.176	0.568	0.168	**0.017**	0.060	**0.029**	**0.002**	0.051	**0.001**	0.127	0.286	**0.008**	**0.023**	0.356	0.606	0 129	0.152	0.399	0.131	**0.048**	0.370	0.495	0.096	0.570
C6/C7	0.063	0.897	0.189	**0.011**	**0.018**	0.096	**0.027**	0.243	**0.000**	0.654	0.466	**0.025**	**0.010**	0.264	0.911	0.207	0.229	0.657	0.374	**0.043**	0.167	0.519	**0.018**	0.659
C7/T1	**0.021**	0.307	**0.023**	**0.022**	**0.015**	0.157	**0.006**	0.238	**0.004**	0.090	0.140	**0.004**	**0.005**	0.185	0.579	0.063	0.134	0.509	0.134	**0.013**	0.428	0.768	0.397	0.487
T1/T2	**0.032**	0.364	0.125	0.076	**0.008**	0.560	0.198	0.868	0.348	0.232	0.449	0.158	0.480	0.257	0.638	0.058	0.225	0.679	0.523	0 089	0.196	0.949	0.570	0.467
T2/T3	0.075	0.380	**0.026**	**0.005**	**0.002**	**0.008**	**0.036**	0.160	**0.034**	0.140	**0.029**	**0.008**	0.295	**0.013**	0.802	**0.039**	**0.010**	0.627	**0.004**	**0.000**	0.287	0.055	0.198	0.148
T3/T4	0.073	0.722	0.167	**0.001**	0.087	**0.023**	**0.015**	**0.002**	**0.003**	0.924	**0.010**	**0.047**	0.075	**0.012**	0.732	**0.022**	**0.004**	0.133	0.075	**0.003**	**0.003**	**0.026**	**0.021**	**0.015**
T4/T5	**0.014**	0.990	0.419	**0.000**	**0.030**	**0.000**	**0.001**	**0.026**	**0.002**	0.177	**0.001**	0.146	**0.029**	**0.001**	0.174	**0.002**	**0.003**	0.768	**0.002**	**0.000**	**0.008**	**0.001**	**0.000**	0.076
T5/T6	0.097	0.197	0.865	**0.002**	0.054	**0.000**	**0.004**	0.126	**0.003**	0.207	**0.002**	**0.048**	**0.009**	**0.002**	0.168	**0.019**	**0.006**	0.219	**0.001**	**0.000**	**0.001**	**0.001**	0.087	0.634
T6/T7	0.519	0.105	0.866	0.186	0.148	**0.042**	**0.003**	0.413	**0.003**	0.163	0.141	**0.012**	**0.002**	0.111	0.080	0.278	0.122	0.074	**0.043**	0.110	0.065	0.362	0.255	0.667
T7/T8	**0.003**	0.686	0.739	**0.042**	0.175	**0.015**	**0.000**	**0.025**	**0.001**	0.681	**0.030**	0.289	**0.002**	**0.021**	0.258	**0.022**	**0.003**	0.381	**0.016**	**0.019**	**0.009**	**0.008**	0.214	0.443
T8/T9	0.142	0.510	0.612	**0.028**	0.342	**0.015**	**0.002**	0.076	**0.004**	0.673	**0.046**	0.203	**0.000**	**0.022**	0.097	**0.015**	**0.006**	0.843	**0.013**	**0.012**	**0.004**	**0.016**	0.399	0.836
T9/T10	0.079	**0.031**	0.937	**0.014**	0.250	0.062	**0.000**	**0.001**	**0.000**	0.500	0.071	0.249	**0.002**	**0.034**	0.166	**0.001**	**0.002**	0.764	**0.034**	**0.000**	**0.014**	**0.006**	0.221	0.438
T10/T11	0.073	0.125	0.417	**0.012**	0.097	0.095	**0.002**	**0.000**	**0.000**	0.336	0.199	**0.042**	0.108	0.387	0.653	**0.007**	**0.001**	0.853	0.317	**0.008**	**0.050**	0.129	**0.042**	0.871
T11/T12	0.060	0.179	0.695	**0.010**	**0.000**	**0.018**	**0.005**	0.079	**0.001**	0.087	**0.043**	**0.001**	0.056	**0.029**	0.717	**0.014**	**0.025**	0.694	**0.025**	**0.013**	0.346	0.151	0.515	0.379
T12/L1	0.162	0.187	0.398	**0.022**	**0.031**	**0.046**	**0.049**	0.174	0.106	0.720	0.104	**0.007**	0.320	**0.017**	0.970	0.069	**0.019**	0.640	0.064	**0.006**	0.114	**0.024**	0.211	0.655
L1/L2	0.130	**0.048**	0.441	0.275	0.108	0.200	**0.046**	0.123	**0.022**	0.466	0.235	**0.034**	0.321	0.060	0.330	**0.021**	0.148	0.486	0.272	**0.006**	0.273	0.211	0.439	0.437
L2/L3	**0.030**	**0.040**	**0.034**	**0.005**	**0.005**	**0.012**	**0.001**	**0.009**	**0.000**	0.286	**0.020**	**0.005**	**0.027**	**0.031**	0.695	**0.001**	**0.013**	0.103	0.120	**0.000**	0.077	**0.021**	**0.027**	0.888
L3/L4	0.203	**0.013**	0.392	**0.011**	**0.014**	0.097	**0.001**	**0.023**	**0.002**	0.376	0.167	**0.006**	**0.040**	0.124	0.600	**0.001**	**0.013**	0.151	0.298	**0.001**	**0.050**	**0.015**	0.089	0.638
L4/L5	0.118	0.071	0.165	**0.043**	**0.010**	**0.013**	**0.005**	**0.003**	**0.004**	0.376	0.173	**0.011**	0.096	**0.026**	0.548	**0.008**	**0.029**	0.273	0.141	**0.001**	0.068	**0.039**	**0.031**	0.636
L5/S1	**0.003**	0.162	**0.003**	**0.003**	**0.000**	**0.002**	**0.000**	**0.004**	**0.000**	**0.020**	**0.005**	**0.003**	**0.018**	**0.040**	0.324	**0.002**	**0.020**	0 322	0.125	**0.001**	0.154	**0.006**	**0.012**	0.121

Table 9.4 *P*-values in relation to the skeletal measurement variables and intervertebral osteophytosis presence / absence for the female sample controlling for age-at-death (significant values show in bold).

	Clavicle Length	Clavicle Anterior/Posterior	Clavicle Superior/Inferior	Scapula Height	Scapula Breadth	Humerus Length	Humerus Epicondylar Breadth	Humerus Head Diameter	Humerus Maximum Diameter	Humerus Minimum Diameter	Radius Length	Radius Sagittal Diameter	Radius Transverse Diameter	Femur Length	Femur Condylo-Diaphyseal Angle*	Femur Epicondylar Breadth	Femur Maximum Head Diameter	Femur Neck Shaft Angle	Tibia Length	Tibia Proximal Epiphyseal Breadth	Tibia Distal Epiphyseal Breadth	Calcaneus Length	Calcaneus Breadth	Vertebral Column Length
Dens	0.256	0.248	0.858	0.995	0.858	0.849	0.245	0.929	0.961	0.630	0.747	0.337	0.620	0 894	0.697	0 486	0 545	**0.008**	0.983	0.629	0 471	0.802	0 710	0.115
C2/C3	0.894	0.815	0.282	0.181	0.738	0.504	0.063	0.373	0.419	0.351	0.953	0.205	**0.000**	0.556	0.532	0 771	0.202	0.815	0.568	1.000	0.287	0.999	0.663	0.884
C3/C4	0.814	0.947	0.460	0 891	0.625	0.756	0.711	0.824	0.955	0.548	0 880	0.425	0.781	0.829	0.640	0.873	0.515	0.577	0.801	0.918	0.771	0.994	0.978	0.524
C4/C5	0.858	0.689	0.173	0.824	0.962	0.991	0.834	0.980	0.840	0.135	0 684	0.656	0.543	0.994	0.648	0.926	0.556	0.537	0.827	0.619	0.812	0.969	0.938	0.707
C5/C6	0.299	0.658	0.245	0.550	0.855	0.491	0.299	0.711	0.225	0.329	0.986	0.615	0.594	0.846	0.745	0.542	0.627	0.810	0.990	0.653	0.692	0.954	0.339	0.510
C6/C7	0.251	0.371	0.271	0.415	0.683	0.872	0.874	0.649	0.170	0.921	0.717	0.950	0.400	0.997	0.791	0.399	0.463	0.290	0.496	0.648	0.960	0.896	0.088	0.593
C7/T1	0.108	0.949	0.372	0.591	0.691	0.961	0.496	0.687	0.460	0.245	0 684	0.480	0.347	0.761	0.664	0.800	0.751	0.946	0.978	0.961	0.592	0.656	0.864	0.434
T1/T2	0.129	0.960	0.640	0.936	0.489	0.554	0.791	0.264	0.393	0.435	0.926	0.752	0.490	0.788	0.596	0.969	0.822	0.953	0.433	0.647	0.947	0.485	0.985	0.425
T2/T3	0.263	0.979	0.473	0.211	0.195	0.219	0.844	0.899	0.987	0.339	0 238	0.512	0.555	0.158	0.950	0.860	0.408	0.938	0.129	0.129	0.937	0 200	0.429	0.125
T3/T4	0.153	0.376	0.221	**0.013**	0.396	0.178	0.139	**0.036**	0.100	0.802	0.064	0.576	0.525	0.072	0.842	0.165	0.078	0.056	0.429	0.052	**0.026**	0.059	**0.047**	**0.012**
T4/T5	**0.036**	0.601	0.452	**0.002**	0.289	**0.011**	**0.009**	0.224	0.073	0.322	**0.007**	0.929	0.257	**0.007**	0.102	**0.026**	0.074	0.913	**0.037**	**0.014**	0.063	**0.005**	**0.000**	0.066
T5/T6	0.228	0.503	0.974	0.064	0.552	**0.021**	0.236	0.785	0.192	0.405	**0.023**	0.713	0.179	**0.027**	0.099	0.191	0.183	0.452	**0.026**	**0.011**	**0.016**	**0.004**	0.189	0.586
T6/T7	0.835	0.303	0.982	0.934	0.886	0.376	0.193	0.657	0.176	0.332	0.493	0.332	0.069	0.453	**0.048**	0.989	0.906	0.187	0.294	0.799	0.278	0.526	0.447	0.617
T7/T8	**0.015**	0.757	0.889	0.546	0.810	0.251	**0.003**	0.392	0.195	0.952	0.213	0.383	0.092	0.183	0.159	0.294	0.169	0.728	0.243	0.444	0.114	**0.037**	0.419	0.398
T8/T9	0.282	0.909	0.763	0.284	0.749	0.206	0.161	0.593	0.230	0.997	0.246	0.659	**0.028**	0.157	0.067	0.117	0.199	0.777	0.164	0.176	**0.045**	0.051	0.619	0.782
T9/T10	0.218	0.150	0.864	0.218	0.809	0.535	**0.011**	0.058	**0.020**	0.825	0.357	0.829	0.085	0.237	0.642	**0.031**	0.122	0.666	0.358	**0.044**	0.144	**0.029**	0.430	0.395
T10/T11	0.191	0.381	0.454	0.113	0.779	0.527	0.070	**0.017**	**0.010**	0.501	0.583	0.561	0.356	0.949	0.801	0.066	0.052	0.802	0.925	0.127	0.202	0.258	0.081	0.822
T11/T12	0.209	0.623	0.604	0.291	0.052	0.313	0.350	0.753	0.144	0.225	0.286	0.129	0.701	0.242	0.914	0.405	0.572	0.877	0.341	0.564	0.867	0.423	0.899	0.338
T12/L1	0.309	0.423	0 867	0.157	0.231	0.300	0.459	0.686	0.789	0.982	0.363	0.135	0.970	0.091	0.708	0.379	0.215	0.928	0.281	0.064	0.275	0.057	0.329	0.615
L1/L2	0.279	0.165	0.284	0.972	0.647	0.810	0.508	0.652	0.431	0.264	0.643	0.477	0.855	0.272	0.521	0.302	0.885	0.787	0.980	0.192	0.909	0.436	0.686	0.399
L2/L3	0.152	0.297	0.056	0.252	0.374	0.335	0.186	0.354	0.152	0.631	0.216	0.541	0 640	0.316	0.836	0.136	0.561	0.313	0.937	0.099	0.626	0.124	0.117	0.813
L3/L4	0.545	0.121	0.284	0.407	0.549	0.839	0.167	0.484	0.355	0.739	0.718	0.484	0.674	0.647	0.769	0.135	0.476	0.401	0.732	0.213	0.432	0.089	0.295	0.704
L4/L5	0.351	0.353	0.190	0 509	0.367	0.251	0.234	0.118	0.366	0.711	0.671	0.496	0.874	0.195	0.841	0.194	0.513	0.558	0.739	0.129	0.378	0.160	0.106	0.578
L5/S1	**0.027**	0 696	**0.017**	0.178	0 097	0.146	0 115	0 247	0 060	0 084	0 094	0 479	0 566	0 343	0 504	0.236	0 628	0.700	0 934	0.259	0.847	0 053	0.063	0.099

Table 9.5 *P*-values in relation to the skeletal measurement variables and intervertebral osteophytosis severity for the male sample (significant values show in bold).

	Clavicle Length	Clavicle Anterior/Posterior	Clavicle Superior/Inferior	Scapula Height	Scapula Breadth	Humerus Length	Humerus Epicondylar Breadth	Humerus Head Diameter	Humerus Maximum Diameter	Humerus Minimum Diameter	Radius Length	Radius Sagittal Diameter	Radius Transverse Diameter	Femur Length	Femur Condylo-Diaphyseal Angle*	Femur Epicondylar Breadth	Femur Maximum Head Diameter	Femur Neck Shaft Angle	Tibia Length	Tibia Proximal Epiphyseal Breadth	Tibia Distal Epiphyseal Breadth	Calcaneus Length	Calcaneus Breadth	Vertebral Column Length
Dens	0.918	0.911	0.105	0.326	0.241	**0.033**	0.571	**0.050**	**0.038**	0.090	**0.019**	**0.020**	0.071	**0.004**	0.906	0.288	0.091	0.155	**0.020**	0.230	0 242	0.110	0.066	0.253
C2/C3	0.759	0.435	1.000	0.116	0.460	0.741	0 085	0.132	0.736	0.388	0.994	0.689	0 069	0.426	0.086	0.592	0.287	0.702	0.936	0.460	0.852	0 679	0 501	0 822
C3/C4	0.733	0.713	0.999	0.796	0.519	0.771	0.075	0.375	0.982	0.743	0.498	0.879	0.076	0.214	0.130	0.559	0.943	0.681	0.937	0.430	0 973	0.475	0.289	0 495
C4/C5	0.832	0.716	0.745	0.845	0.380	0.664	0.288	0.157	0.279	0.667	0.966	0.553	0.853	0.153	0.357	0.476	0.208	0.463	0.314	0.789	0.459	0 370	0.368	0.885
C5/C6	0.779	0.622	0.988	0.832	0.996	0.891	0.412	0.482	0.277	0.517	0.876	0.600	0.987	0.108	0.336	0.284	0.308	0.781	0.064	0.444	0.232	0.321	0.220	0.739
C6/C7	0.449	0 848	0.798	0.850	0.922	0.636	**0.034**	0.522	0.198	0.448	0.819	0.808	0.482	0.736	0.273	0.618	0.282	0.718	0.914	0.830	0.442	0.313	0.218	0.771
C7/T1	0.568	0.726	0.799	0.993	0.364	0.947	**0.043**	0.301	0.567	0.856	0 688	0.729	0.545	0.838	0.936	0.766	0.222	0.590	0.646	0.863	0.771	0 800	0.642	0.107
T1/T2	0.858	0.207	0.253	0.961	0.899	0.307	0.886	0.721	0 885	0 274	0.234	0.754	0.803	0.223	0.325	0.151	0.841	0.752	**0.050**	0.287	0.329	0.098	0.233	0.120
T2/T3	0.606	0.231	0.427	0.888	0.545	0.243	0.267	0.754	0.932	0.710	0.256	0.623	0.361	0.232	0.729	0.537	0.298	0.414	0.204	0.656	0.896	0.413	0.538	0.171
T3/T4	0.720	0.263	0.400	0.228	0.099	0.077	**0.038**	0.374	0.378	0.635	0.094	0.806	0.659	0.098	0.496	0.615	0.305	0.471	**0.037**	0.395	0.228	0.057	0.541	0.110
T4/T5	0.743	**0.014**	0.952	0.642	0.925	0.904	0.692	0.737	0.870	0.750	0.627	0.961	0.490	0.937	0.741	0.414	0.277	0.055	0.936	0.343	0.199	0 871	0.445	0.444
T5/T6	0.454	**0.050**	0.688	0.753	0.312	0.139	0.939	0.643	0.558	0.944	0.420	0.588	0.698	0.272	0.870	0.995	0.738	0.240	0.433	0.644	0.468	0.394	0.891	0.881
T6/T7	0.601	**0.050**	0.974	0.751	**0.029**	0.082	0.623	0.776	0.884	0.430	0.436	0.707	0.951	0.072	0.375	0.723	0.745	0.212	0.097	0.337	0.595	0.692	0.892	0.887
T7/T8	0.716	0.865	0.249	0.961	0.438	0.058	0.533	0.999	0.920	0.344	0.212	0.719	0.572	0.239	0.342	0.604	0.746	0.799	0.135	0.502	0.964	0.964	0.302	0.984
T8/T9	0.572	0.876	0.184	0.481	0.516	0.330	0.465	0.436	0.193	0.379	0.256	0.467	**0.043**	0.262	0.953	0.943	0.531	0.984	0.161	0.758	0.880	0 245	0.493	0.971
T9/T10	0.632	0.892	0.366	0.887	0.410	0.688	0.215	0.453	0.289	0.728	0.859	0.920	0.060	0.973	0.717	0.484	0.708	0.538	0.602	0.644	0.495	0.345	0.728	0.393
T10/T11	0.587	0.501	0 425	0.886	0.405	0.110	0.858	0.257	0.359	0.318	0.066	0.836	0.758	0.072	0.670	0.716	0.200	0.561	0.172	0.434	0.751	0.298	0.368	0.514
T11/T12	0.611	0.939	0.123	0.927	0.463	0.169	0.718	0.277	0.122	0.511	0.138	0.530	0.090	0.128	0.684	0.955	0.519	0.711	0.091	0.788	0.844	0.239	0.182	0.634
T12/L1	0.472	0.084	0.498	0.321	0.135	0.130	0.104	0.268	0.265	0.905	0.517	0.280	0.370	0.121	0.193	0.234	0.880	0.494	0.253	0.346	0.652	0.938	0.508	0.381
L1/L2	0.804	0.230	0.418	0.737	0.877	0.769	0.110	0.350	0.450	0.627	0.600	0.959	0.688	0.479	0.726	0.200	0.909	0.235	0.833	0.464	0.265	0.965	0.532	0.096
L2/L3	0.805	0.144	0.829	0.859	0.240	0.055	0.486	0.213	0.382	0.705	0.586	0.141	0.704	0.073	0.739	0.493	0.382	0.117	0.303	0.796	0.375	0.850	0.735	1.000
L3/L4	0.555	0.279	0.848	0.803	0.447	0.224	0.322	0.228	0.641	0.718	0.866	0.703	0.916	0.236	0.587	0.246	0.957	0.370	0.611	0.190	0.111	0.605	0.922	0.989
L4/L5	0.864	0.280	0.978	0.392	0.710	0.293	0.472	0.734	0.764	0.443	0.648	0.715	0.515	0.267	0.408	0.206	0.375	0.171	0.201	0.243	0.178	0.980	0.722	0.316
L5/S1	0 896	0 587	0.750	0.359	0 889	0.780	0 236	0 986	0 893	0 197	0 602	0.608	0.277	0.934	0 438	**0.047**	0.152	0 272	0.625	0 092	0 104	0.122	0 513	0.754

Table 9.6 *P*-values in relation to the skeletal measurement variables and intervertebral osteophytosis severity for the male sample controlling for age-at-death (significant values show in bold).

	Clavicle Length	Clavicle Anterior/Posterior	Clavicle Superior/Inferior	Scapula Height	Scapula Breadth	Humerus Length	Humerus Epicondylar Breadth	Humerus Head Diameter	Humerus Maximum Diameter	Humerus Minimum Diameter	Radius Length	Radius Sagittal Diameter	Radius Transverse Diameter	Femur Length	Femur Condylo-Diaphyseal Angle*	Femur Epicondylar Breadth	Femur Maximum Head Diameter	Femur Neck Shaft Angle	Tibia Length	Tibia Proximal Epiphyseal Breadth	Tibia Distal Epiphyseal Breadth	Calcaneus Length	Calcaneus Breadth	Vertebral Column Length
Dens	0.933	0.173	0.085	0.422	0.765	0.213	**0.040**	**0.043**	**0.004**	**0.001**	0 118	**0.016**	**0.008**	**0.012**	0.666	0.117	**0.049**	0.178	**0.024**	0.083	0.070	**0.041**	**0.029**	0.277
C2/C3	0.836	0.520	0.474	0.678	0.757	0.670	0.134	0.868	0.920	0.528	0.746	0.929	0.966	0.643	0.292	0.909	0.693	0.653	0.899	0.711	0.461	0.438	0.283	0 790
C3/C4	0.745	0.693	0.976	0.807	0.671	0.422	0.251	0.889	0.565	0.832	0.499	0.998	0.957	0.515	0.298	0.846	0.750	0.689	0.981	0.656	0.617	0.331	0.197	0.699
C4/C5	0.562	0.504	0.339	0.334	0.890	0.825	0.882	0.766	0.576	0.811	0.516	0.815	0.955	0.592	0.885	0.131	0 058	0.645	0.543	0.318	0.087	0 239	0.155	0 870
C5/C6	0.444	0.817	**0.006**	0.479	0.673	0.505	0.687	0.802	0.832	0.752	0.339	0 671	0.844	0.448	0.944	0.104	**0.044**	0.958	0.210	0.180	**0.040**	0.108	0.059	0.784
C6/C7	0.374	0.305	0.314	0.857	0.215	0.227	0.555	0.302	0.857	0.536	0.179	0.241	0.856	0.864	0.738	0.400	0.126	0 844	0.993	0.887	0.175	0.239	0.180	0.693
C7/T1	0.571	0.276	0.514	0.681	0.848	0.727	0.777	0.883	0.407	0.236	0.349	0.613	0.833	0 840	0.931	0.683	0 209	0.594	0.630	0.930	0.674	0 696	0.550	0.109
T1/T2	0.828	0.301	0.496	0.876	0.345	0.067	0.085	**0.034**	**0.049**	0.285	0.143	0.055	**0.032**	0.329	0.165	**0.038**	0.519	0.697	**0.050**	0.116	0.081	**0.011**	**0.047**	0.123
T2/T3	0.581	0 216	0.553	0.585	0.260	**0.022**	0.179	**0.014**	**0.033**	0.236	0.068	0.069	0.084	0.316	0.443	0.911	0.157	0.484	0.215	0.993	0.462	0.186	0.340	0.204
T3/T4	0.762	0.491	0.702	0.564	0.252	0.225	0 278	0.106	0.407	0.259	0.229	0.473	0.587	0.151	0.295	0.420	0.228	0.461	**0.049**	0.259	0.117	**0.025**	0.353	0.116
T4/T5	0.727	0.084	0.648	0.187	0.488	0.465	0 493	0.629	0.955	0.615	0.272	0.709	0.428	0.699	0.282	0.877	0.547	0.051	0.890	0.729	0.618	0.448	0.899	0.509
T5/T6	0.476	0.502	0.200	0.494	0.497	0.143	0.506	0.106	0.077	0.222	0.376	0.182	0.074	0.581	0.505	0.218	0.241	0.227	0.475	0.573	0.556	0.077	0.510	0.914
T6/T7	0.503	0.974	0.564	0.308	0.251	0.272	0.273	0.580	0.585	0.171	0.432	0.924	0.576	0.175	0.861	0.547	0.740	0.188	0.084	0.939	0.414	0.215	0.436	0.961
T7/T8	0.838	0.507	0 659	0.398	0.950	0.810	**0.049**	0.433	0.340	0.787	0.878	0.679	0.841	0.479	0.587	0.810	0.528	0.670	0.179	0.990	0.366	0.671	0.145	0.944
T8/T9	0.532	0.365	0.688	0.822	0.955	0.942	0.137	0.830	0.828	0.742	0.990	0.977	0.187	0.482	0.430	0.512	0.301	0.901	0.313	0.749	0.502	0.100	0.376	0.783
T9/T10	0.730	0.296	0.737	0.441	0.185	0.242	**0.027**	0.608	0.916	0.874	0.404	0.450	0.268	0.563	0.323	0.530	0.291	0.568	0.655	0.531	0.710	**0.033**	0.982	0.333
T10/T11	0.699	0.276	0.533	0.507	0.754	0.772	0.069	0.412	0.649	0.925	0.860	0.297	0.704	0.282	0.942	0.814	**0.042**	0.478	0.229	0.660	0.758	0.138	0.241	0.643
T11/T12	0.987	0.425	0.739	0.440	0.705	0.715	0.509	0.869	0.887	0.937	0.929	0.621	0.251	0.171	0.982	0.728	0.278	0.696	0.087	0.934	0.436	0.078	0.061	0.587
T12/L1	0.390	0.544	0.217	**0.023**	0.405	0.265	0.055	0.826	0.982	0.582	0.160	0.783	0.831	0.390	0.613	0.577	0.398	0.515	0.345	0.795	0.477	0.342	0 880	0.232
L1/L2	0.803	0.479	**0.046**	0.191	**0.044**	0.096	0.059	0.609	0.750	0.538	**0.030**	0.251	0.615	0.988	0.160	0.614	0.410	0.164	0.914	0.858	0.958	0.273	0.977	**0.036**
L2/L3	0.839	0.866	0.298	0.109	0.512	0.692	0.344	0.839	0.934	0.941	0.273	0.996	0.839	0.333	0.574	0.109	0.075	0.060	0.523	0.154	0.647	0.745	0.552	0.771
L3/L4	0.397	0.141	0.063	**0.008**	0.130	0.327	**0.048**	0.689	0.643	0.142	0.056	0.103	0.714	0.661	**0.024**	0.974	0.249	0.267	0.758	0.735	0 853	0.515	0.333	0.970
L4/L5	0.667	0.930	0.907	0.607	0.617	0.412	0.850	0.185	0.092	0.521	0 604	0.324	0.156	0.665	0.998	0.824	0.928	0.164	0.230	0.873	0.842	0.411	0.283	0.414
L5/S1	0 825	0 632	0 553	0.381	0.347	0 732	0 947	0.248	0 507	0 753	0 959	0.452	0 305	0.289	0 970	0 473	0 478	0 287	0.470	0.593	0 983	0 428	0 886	0 490

Table 9.7 *P*-values in relation to the skeletal measurement variables and intervertebral osteophytosis severity for the female sample (significant values show in bold).

	Clavicle Length	Clavicle Anterior/Posterior	Clavicle Superior/Inferior	Scapula Height	Scapula Breadth	Humerus Length	Humerus Epicondylar Breadth	Humerus Head Diameter	Humerus Maximum Diameter	Humerus Minimum Diameter	Radius Length	Radius Sagittal Diameter	Radius Transverse Diameter	Femur Length	Femur Condylo-Diaphyseal Angle*	Femur Epicondylar Breadth	Femur Maximum Head Diameter	Femur Neck Shaft Angle	Tibia Length	Tibia Proximal Epiphyseal Breadth	Tibia Distal Epiphyseal Breadth	Calcaneus Length	Calcaneus Breadth	Vertebral Column Length
Dens	0.595	0.542	0.820	0.495	**0.034**	0 094	0.880	0.572	0.992	0.114	0.266	0.610	0 988	**0.019**	0.943	0 081	0.541	0 671	0.093	**0.021**	0 632	0 877	0.237	0 724
C2/C3	0 270	0.480	0.110	0.993	0.957	0.649	0.969	0 482	0.288	0 893	0 594	0.387	0.722	0.474	0.223	0.975	0.431	0.811	0 817	0.558	0.844	0.087	0.143	**0.038**
C3/C4	**0.043**	0.713	0.734	0.315	0.122	0.419	0.869	0.468	0.908	0.713	0.475	0.457	0.514	0.460	0.659	0 228	0.829	0.947	0.891	0.180	0.730	0 822	0 098	**0.023**
C4/C5	0.898	0 859	0.117	0.315	0.470	0.484	0.563	0.592	0.125	0.836	0.488	0.183	0.642	0.833	0.635	0.283	0.971	0.294	0.810	0.058	0.978	0.778	0.842	0.233
C5/C6	0.127	0.890	**0.006**	**0.035**	0.266	0.391	0.093	0.280	**0.004**	0.063	0.779	0.233	0.165	0.987	0.466	0.203	0.459	0.400	0.719	**0.047**	0.895	0 971	0.483	0.580
C6/C7	0.579	0.096	0.185	0.108	**0.045**	0.418	**0.021**	**0.004**	0.124	0.138	0.383	**0.037**	0.114	0.311	0.297	**0.012**	**0.004**	0.941	0.615	**0.022**	0.564	0.522	0.242	0.679
C7/T1	0.793	**0.036**	0.159	0.681	0.581	0.311	0.080	0.675	0.087	0.484	0.586	0.969	0.850	0.819	0.787	0.495	0.560	0 835	0.657	0.215	0.741	0.115	0.770	0.314
T1/T2	0.685	0.164	0.745	0.414	0.998	0.877	0.845	0.936	0.461	0.851	0.733	0.733	0.794	0.553	0.647	0.694	0.332	0.130	0.171	0.168	0.795	**0.042**	0.371	0.058
T2/T3	0.810	0.148	**0.037**	0.132	0.358	0 648	**0.021**	0.994	0.212	0.484	0.559	0.166	0.709	0.227	0.906	**0.020**	**0.025**	0.922	0.070	**0.002**	0.369	0.787	0.616	0.383
T3/T4	0.862	0.539	0.099	**0.000**	**0.009**	0.649	0.346	0.940	0.177	0.878	0.720	0.108	0.248	0.675	0.200	0.261	0.689	0.452	0.432	0.052	0.250	0.556	0.754	0.157
T4/T5	**0.010**	0.146	0.227	**0.000**	**0.047**	**0.009**	**0.017**	0.104	**0.006**	0.200	**0.008**	**0.032**	0.113	**0.005**	0.925	**0.022**	**0.002**	0.811	**0.009**	**0.001**	**0.048**	0.117	**0.005**	0.264
T5/T6	0.138	**0.011**	0.994	**0.007**	**0.013**	**0.006**	**0.003**	**0.042**	**0.007**	0.423	**0.014**	**0.008**	0.071	**0.019**	0.483	**0.003**	**0.001**	0.176	**0.010**	**0.000**	**0.006**	**0.050**	0.162	0.640
T6/T7	0.163	**0.015**	0.211	**0.006**	0.057	0.074	**0.000**	0.177	**0.000**	**0.007**	0.222	**0.000**	**0.000**	0.110	0.650	**0.010**	**0.004**	0.894	0.067	**0.001**	**0.004**	0.244	0.087	0.702
T7/T8	**0.003**	0.151	0.371	**0.020**	**0.016**	**0.015**	**0.000**	**0.028**	**0.000**	0.154	**0.029**	**0.007**	**0.000**	0.063	0.368	**0.001**	**0.002**	0.359	**0.029**	**0.001**	**0.003**	**0.016**	0.260	0.422
T8/T9	0.054	0.097	0.447	**0.003**	0.071	**0.004**	**0.000**	**0.022**	**0.000**	0.241	**0.015**	**0.015**	**0.000**	**0.009**	0.101	**0.000**	**0.000**	0.663	**0.006**	**0.000**	**0.000**	**0.002**	0.275	0.564
T9/T10	**0.042**	**0.000**	0.326	**0.006**	0.051	0.087	**0.000**	**0.008**	**0.000**	0.191	0.056	**0.010**	**0.000**	**0.036**	0.186	**0.000**	**0.000**	0.465	**0.039**	**0.000**	**0.000**	**0.003**	0.284	0.356
T10/T11	**0.002**	**0.016**	0.066	**0.006**	**0.013**	**0.010**	**0.000**	**0.001**	**0.000**	**0.027**	**0.020**	**0.004**	**0.005**	**0.033**	0.250	**0.001**	**0.000**	0.330	**0.021**	**0.000**	**0.010**	**0.007**	**0.043**	0.241
T11/T12	0.896	0.413	0.224	**0.008**	**0.018**	0.656	0.337	0.460	0.060	0.807	0.354	**0.047**	0.372	0.856	0.570	0.210	0.054	0.088	0.308	0.127	0.295	0.323	0.520	0.594
T12/L1	**0.048**	0.164	0.287	**0.010**	**0.026**	**0.002**	0.086	0.212	0.079	0.770	**0.031**	0.280	0.119	**0.001**	0.054	0.122	**0.036**	**0.049**	**0.002**	**0.001**	0.298	0.056	0.091	0.480
L1/L2	0.162	0.167	0.530	**0.015**	**0.012**	**0.017**	0.129	0.283	0.083	0 964	0.148	0.197	**0.030**	**0.018**	0.429	**0.012**	0.153	0.912	**0.007**	**0.001**	0.372	**0.026**	0.123	0.830
L2/L3	0.365	0.355	0.820	**0.008**	0.103	**0.043**	0.342	0.207	0.056	0.752	0.252	0.216	0.207	**0.037**	0.226	0.228	**0.049**	**0.007**	**0.023**	**0.011**	0.985	0.062	0.352	0.134
L3/L4	0.449	**0.039**	0.242	**0.001**	**0.002**	**0.020**	**0.020**	**0.044**	**0.030**	0.098	**0.047**	**0.008**	**0.039**	**0.032**	0.604	**0.002**	**0.003**	0.259	0.107	**0.001**	**0.031**	**0.040**	0.343	0.487
L4/L5	0 195	**0.011**	0.148	**0.004**	**0.000**	**0.004**	**0.001**	**0.014**	**0.007**	0.334	**0.011**	**0.006**	0.172	**0.009**	0 865	**0.000**	**0.002**	0.970	**0.024**	**0.000**	**0.042**	**0.001**	0.106	0.846
L5/S1	0 141	**0.020**	0 071	**0.009**	**0.002**	0.062	**0.002**	**0.048**	**0.004**	0 504	0.141	0 057	0 691	0 116	0.577	**0.000**	**0.002**	0.340	0.100	**0.000**	**0.031**	**0.022**	0.128	0 654

Table 9.8 *P*-values in relation to the skeletal measurement variables and intervertebral osteophytosis severity for the female sample controlling for age-at-death (significant values show in bold).

	Clavicle Length	Clavicle Anterior/Posterior	Clavicle Superior/Inferior	Scapula Height	Scapula Breadth	Humerus Length	Humerus Epicondylar Breadth	Humerus Head Diameter	Humerus Maximum Diameter	Humerus Minimum Diameter	Radius Length	Radius Sagittal Diameter	Radius Transverse Diameter	Femur Length	Femur Condylo-Diaphyseal Angle*	Femur Epicondylar Breadth	Femur Maximum Head Diameter	Femur Neck Shaft Angle	Tibia Length	Tibia Proximal Epiphyseal Breadth	Tibia Distal Epiphyseal Breadth	Calcaneus Length	Calcaneus Breadth	Vertebral Column Length
Dens	0.160	0.090	0.541	0.788	0.369	0.596	**0.039**	0.478	0.089	**0.046**	0.951	0.096	0 142	0 138	0.960	0 982	0.278	0.392	0.550	0.519	0.501	0.725	0.381	0.721
C2/C3	0.118	0.886	0.165	0.120	0.152	0.202	0.180	0 088	0 891	0.869	0.268	0 886	0.378	0.171	0.170	0 179	**0.048**	0.709	0.245	0.466	0.478	**0.020**	0.064	**0.031**
C3/C4	**0.020**	0.434	0.812	0.250	0.763	0.105	0.506	0.184	0.468	0.767	0.205	0 896	0.150	0.185	0.478	0.227	0.495	0.883	0.085	0.181	0.125	0.674	**0.032**	**0.021**
C4/C5	0.555	0.222	0.212	0.409	0.113	**0.015**	0 073	**0.012**	0.489	0.780	**0.042**	0 462	0.110	0.154	0.304	0.187	**0.039**	0.830	0.179	0.541	0 082	0.165	0.284	0.288
C5/C6	0.521	0.264	**0.034**	0.574	0.394	0.538	0.670	0.625	0.427	0.214	0.302	0.380	0.593	0.239	0.797	0.346	0.145	0.729	0.276	0.567	0.090	0.351	0.683	0.724
C6/C7	0.735	0.402	0.239	0.410	0.327	0.978	0.216	0.059	0.529	0.279	0.905	0.324	0.479	0 693	0.170	0.163	0.068	0.588	0.168	0.308	0.346	0.124	0.323	0.741
C7/T1	0.882	0.137	0.159	0.429	0.273	0.051	0.586	0.095	0.786	0.551	0.325	0.213	0.418	0.432	0.984	0.454	0.500	0.636	0.170	0.747	0.159	**0.034**	0.456	0.439
T1/T2	0.397	0.592	0.969	0.389	0.099	0.156	**0.050**	0.072	0.094	0.476	0.510	**0.044**	**0.022**	0.774	0.976	0.066	0.438	0.287	0.838	0.322	**0.046**	**0.003**	0.163	0.066
T2/T3	0.937	0.467	**0.036**	0.510	0.811	0.660	0.413	0.186	0.576	0.561	0.988	0.836	0.237	0.472	0.726	0 389	0.300	0.576	0.345	0.080	0.912	0 946	0.766	0.727
T3/T4	0.762	0.761	0.112	**0.012**	0.274	0.946	0.899	0.608	0.647	0.835	0.895	0.403	0.689	0.798	0.112	0.799	0.947	0.167	0.907	0.280	0.504	0.402	0.798	0.422
T4/T5	**0.015**	0.312	0.284	**0.002**	0.609	0.096	0.425	0.723	0.343	0.261	**0.033**	0.642	0.975	**0.022**	0.560	0.422	0.052	0.228	0.120	0.106	0.310	0.208	**0.007**	0.094
T5/T6	0.426	**0.043**	0.536	0.341	0.566	0.188	0.360	0.746	0.807	0.802	0.117	0.628	0.862	0.133	0.588	0.230	0.069	0.351	0.210	**0.042**	0.089	0.165	0.361	0.465
T6/T7	0.303	0.065	0.319	0.207	0.955	0.609	**0.023**	0.812	**0.029**	**0.006**	0.740	0.101	**0.027**	0.412	0.730	0.251	0.165	0.673	0.618	0.106	**0.035**	0.405	0.098	0.438
T7/T8	**0.010**	0.455	0.476	0.613	0.708	0.295	**0.000**	0.688	**0.009**	0.175	0.218	0.645	**0.014**	0.385	0.381	0.089	0.183	0.596	0.525	0.123	**0.030**	**0.039**	0.533	0.140
T8/T9	0.102	0.186	0.448	0.103	0.708	0.102	**0.001**	0.341	**0.009**	0.360	0.102	0.629	**0.008**	0.069	0.081	**0.007**	**0.009**	1.000	0.137	**0.002**	**0.006**	**0.004**	0.572	0.305
T9/T10	0.105	**0.001**	0.554	0.124	0.650	0.655	**0.000**	0.143	**0.004**	0.345	0.291	0.523	**0.017**	0.172	0.197	**0.001**	**0.006**	0.853	0.361	**0.002**	**0.002**	**0.005**	0.536	0.220
T10/T11	**0.022**	0.081	0.198	0.245	0.607	0.178	**0.005**	**0.014**	0.051	0.067	0.198	0.203	0.101	0.263	0.320	**0.043**	**0.012**	0.523	0.317	**0.008**	0.093	**0.025**	0.080	0.217
T11/T12	0.984	0.684	0.217	0.274	0.612	0.872	0.978	0.890	0.329	0.718	0.554	0.388	0.962	0.888	0.543	0.993	0.334	0.134	0.799	0.748	0.836	0.528	0.890	0.882
T12/L1	0.131	0.360	0.386	0.197	0.511	**0.031**	0.806	0.988	0.904	0.952	0.140	0.627	0.712	**0.007**	0.155	0.975	0.385	0.177	**0.038**	**0.042**	0.909	0.139	0.233	0.363
L1/L2	0.359	0.390	0.672	0.201	0.231	0.103	0.882	0.869	0.768	0.644	0.317	0.963	0.259	**0.037**	0.520	0.149	0.720	0.661	0.066	**0.034**	0.960	0.052	0.174	0.679
L2/L3	0.245	0.655	0.757	0.143	0.956	0.279	0.672	0.782	0.704	0.901	0.480	0.750	0.969	0.135	0.332	0.803	0.489	**0.012**	0.227	0.278	0.382	0.074	0.355	0.216
L3/L4	0.842	0.123	0.383	0.062	0.180	0.289	0.453	0.442	0.755	0.164	0.249	0.389	0.552	0.213	0.494	0.141	0.128	0.360	0.822	0.128	0.230	0.066	0.614	0.439
L4/L5	0.429	0.054	0.221	0.177	**0.042**	0.069	0.068	0.217	0.602	0.489	0.078	0.404	0.701	0.058	0.971	**0.027**	0.103	0.591	0.312	**0.014**	0.307	**0.003**	0.258	0.972
L5/S1	0.147	0 126	**0.045**	0.160	0 072	0 290	0.132	0 339	0 159	0 370	0 261	0 816	0.275	0 413	0 694	**0.010**	0 115	0 615	0 809	**0.009**	0 283	**0.018**	0.154	0 747

Table 9.9 *P*-values in relation to the skeletal measurement variables and facet joint osteophytosis presence / absence for the male sample (significant values show in bold).

	Clavicle Length	Clavicle Anterior/Posterior	Clavicle Superior/Inferior	Scapula Height	Scapula Breadth	Humerus Length	Humerus Epicondylar Breadth	Humerus Head Diameter	Humerus Maximum Diameter	Humerus Minimum Diameter	Radius Length	Radius Sagittal Diameter	Radius Transverse Diameter	Femur Length	Femur Condylo-Diaphyseal Angle*	Femur Epicondylar Breadth	Femur Maximum Head Diameter	Femur Neck Shaft Angle	Tibia Length	Tibia Proximal Epiphyseal Breadth	Tibia Distal Epiphyseal Breadth	Calcaneus Length	Calcaneus Breadth	Vertebral Column Length
O1/C1	0 649	0.949	0.525	0.120	0.264	0.322	0.094	0 980	0.129	0.257	0.959	0.225	0 427	0 697	0.375	0.209	0.979	0.388	0.803	0 161	0 160	0.190	0 450	0 355
C1/C2																								
C2/C3	0.934	0.629	0.276	0.739	0.495	0.620	0.165	0.362	0.173	0.935	0.332	0.907	0.371	0.155	0.424	0.887	0.706	0.693	**0.044**	0.981	0.144	0.090	0 194	0.547
C3/C4	0.339	0.365	0.387	0.326	0.135	0.204	**0.001**	0.389	0.164	0.393	0.347	0 690	0.507	0.121	0 521	0.609	0.143	0.746	0.430	0.550	0.169	0.370	0.607	0.610
C4/C5	0 096	0.117	0.877	0.234	0.055	0.277	**0.019**	0.704	0.471	0.343	0.387	0.634	0.734	0.292	0.414	0.939	0.784	0.289	0.937	0.555	0.748	0.359	0.403	0.691
C5/C6	**0.042**	0.180	0.507	0.163	0.137	**0.020**	**0.003**	0.575	0.654	0.998	**0.018**	0.545	0.680	**0.018**	0.740	0.371	0.263	0.591	**0.046**	0.345	0.122	0.257	0.933	0.193
C6/C7	0.682	0.904	0.367	0.959	0.787	0.303	0.064	**0.050**	0.537	0.856	0.127	0.968	0.817	**0.001**	0.873	0.243	**0.010**	0.166	0.128	0.657	0.241	0 292	0.165	**0.021**
C7/T1	0.639	0.803	0.955	0.694	0.692	0.608	0.767	**0.040**	0.569	0.628	0.602	0.388	0.952	0.062	0.765	0.412	0.199	0.306	0.338	0.782	0.664	0.645	0.364	0.216
T1/T2	0 450	0.252	0.700	0.798	0.875	0.665	0.786	0.861	0.168	0.240	0.941	0.955	0.873	0.625	0.051	**0.041**	0.939	0.509	0.470	0.057	0.463	0.832	0.711	0.455
T2/T3	0.701	0.569	0.158	0.787	**0.041**	0.182	0.657	0.406	0.443	0.524	0.265	**0.010**	0.901	**0.017**	**0.004**	0.953	0.660	0.073	0.430	0.605	0.888	0.377	0.885	0.742
T3/T4	0.971	0.508	0.745	0.150	0.158	0.281	0.782	0.694	0.696	0.919	0.323	0.217	0.347	0.232	**0.048**	0.407	0.329	0.305	0.749	0.450	0.683	0.162	0.544	0.739
T4/T5	0.759	0.280	0.762	**0.022**	0.126	0.642	0.959	0.592	0.624	0.161	0.990	0.128	0.977	0.432	0.079	0.194	0.452	**0.040**	0.425	0.763	0.168	0.538	0.459	0.529
T5/T6	**0.014**	0.771	0.448	0.942	**0.011**	0.080	0.786	0.913	0.130	0.139	0.173	0.124	0.144	0.326	0.154	0.254	0.643	0.093	0.889	0.951	0.902	0.778	0.665	0.303
T6/T7	0.844	0.646	0.489	0.395	**0.023**	0.274	0.123	0.364	0.172	0.268	0 477	0.192	0.594	0.318	0.472	0.200	**0.038**	0.521	0.815	0.257	0.356	0 961	0.339	0.985
T7/T8	0.334	0.064	0.936	0.504	0.633	0.378	0.958	0.460	0.906	0.759	0.091	0.937	0.205	0.886	**0.002**	0.229	0.879	0.731	0.326	0.149	0.396	0.211	0.342	0.408
T8/T9	0.310	0.964	0.824	0.306	0.129	0.482	0.129	0.488	0.843	0.859	0.537	0 682	0.204	0.487	**0.043**	**0.005**	0.698	0.889	0.513	**0.012**	0.202	0.505	0.194	0.692
T9/T10	0.956	0.183	0.274	0.478	0.785	0.675	0.167	0.569	0.940	0.836	0.973	0.629	0.133	0.906	0.389	**0.031**	0.343	0.106	0.671	0.200	0.274	0.510	0.861	0.356
T10/T11	0.385	0.173	0.477	0.905	0.501	0.528	0.058	0.642	0.677	0.897	0.380	0.564	0.263	0.689	0.991	0.250	0.961	0.670	0.703	0.296	0.904	0.549	0.571	0.655
T11/T12	0.580	0.374	0.946	0.961	0.988	0.399	0.721	0.072	0.812	0.076	0.142	0.396	0.999	0.455	0.076	0.135	**0.006**	0.786	0.713	0.120	0.305	0.300	0.179	0.150
T12/L1	0.212	0.370	0.674	0.931	0.281	0.288	0.890	0.161	0.325	0.639	0.254	0.777	0.175	0.846	0.079	0.057	0.062	0.089	0.292	**0.040**	0.342	0.734	0.212	**0.006**
L1/L2	0.953	0.252	0.263	0.712	0.186	0.935	0.653	0.178	0.875	0.052	0.684	0.842	0.876	0.482	0.951	**0.027**	0.084	**0.022**	0.915	**0.027**	0.409	0.960	0.256	0.637
L2/L3	0.544	0.150	0.147	0.741	0.973	0.430	0.241	0.207	0.200	0.087	0.238	0.231	0.159	0.916	0.748	0.118	0.096	0.120	0.738	0.101	0.150	0.286	0.517	0.951
L3/L4	0.745	0.518	0.340	0.717	0.925	0.928	0.641	0.630	0.490	0.159	0.497	0.196	0.238	0.483	0.374	**0.027**	0.556	0.526	0.909	**0.035**	0.051	0.549	0.298	0.702
L4/L5	0.473	0.117	0.423	0.911	0.508	0.966	0.509	0.654	0.404	0.055	0.534	0.155	0.305	0.162	0.619	0.280	0.549	0.178	0.160	0.371	0.557	0.939	0.888	0.657
L5/S1	0 284	0 810	0.845	0 540	0 984	0.783	0.290	0 668	0 672	0 157	0 310	0 321	0 435	0 800	0 249	**0.030**	0.452	0.466	0.758	0.076	**0.036**	0 943	0 934	0 469

Table 9.10 *P*-values in relation to the skeletal measurement variables and facet joint osteophytosis presence / absence for the male sample controlling for age-at-death (significant values show in bold).

	Clavicle Length	Clavicle Anterior/Posterior	Clavicle Superior/Inferior	Scapula Height	Scapula Breadth	Humerus Length	Humerus Epicondylar Breadth	Humerus Head Diameter	Humerus Maximum Diameter	Humerus Minimum Diameter	Radius Length	Radius Sagittal Diameter	Radius Transverse Diameter	Femur Length	Femur Condylo-Diaphyseal Angle*	Femur Epicondylar Breadth	Femur Maximum Head Diameter	Femur Neck Shaft Angle	Tibia Length	Tibia Proximal Epiphyseal Breadth	Tibia Distal Epiphyseal Breadth	Calcaneus Length	Calcaneus Breadth	Vertebral Column Length
O1/C1	0 637	0.972	0.513	0.136	0.266	0.269	0.101	0.876	0.181	0.355	0.960	0.267	0.592	0.533	0.204	0.361	0.849	0.418	0.721	0.258	0.311	0.290	0.567	0.372
C1/C2																								
C2/C3	0.900	0.580	0.257	0.649	0.492	0.775	0.145	0.240	0.075	0.727	0.331	0.937	0.100	0.363	0.968	0.454	0.370	0.785	0.066	0.621	**0.021**	**0.037**	0.101	0 590
C3/C4	0.316	0.326	0.361	0.263	0.134	0.294	**0.001**	0.253	0.066	0.183	0.346	0.543	0.219	0.313	0.937	0.280	**0.041**	0.652	0.529	0.274	**0.029**	0.210	0.401	0 658
C4/C5	0.085	0.098	0.918	0.206	0.055	0.373	**0.016**	0.529	0.270	0.168	0.386	0.510	0.885	0.515	0.592	0.712	0.499	0.248	0.998	0.373	0.459	0.240	0.552	0.641
C5/C6	**0.036**	0.150	0.470	0.133	0.136	**0.038**	**0.002**	0.384	0.364	0.611	**0.018**	0.406	0 853	0.081	0.610	0.117	0.080	0.496	0 071	0.121	**0.014**	0.141	0.795	0.220
C6/C7	0.693	0.883	0.358	0.962	0.790	0.358	0.056	**0.035**	0.406	0.675	0.126	0.884	0.949	**0.007**	0.538	0.104	**0.003**	0.194	0.162	0.404	0.077	0.236	0.139	**0.023**
C7/T1	0.676	0.870	0.914	0.593	0.687	0.783	0.696	**0.018**	0.307	0.897	0.600	0.311	0.510	0.209	0.277	0.107	0.058	0.377	0.468	0.319	0.139	0.310	0.163	0.245
T1/T2	0.466	0.234	0.679	0.893	0.880	0.515	0.718	0.651	0.071	0.100	0.942	0 887	0.704	0.935	0.214	0.174	0.531	0.592	0.609	0.194	0.891	0.497	0.990	0.416
T2/T3	0.658	0 636	0.141	0.660	**0.040**	0.301	0.580	0.225	0.183	0.206	0.264	**0.004**	0.560	0.096	**0.046**	0 460	0.252	0.104	0.577	0.792	0.399	0.737	0.744	0.811
T3/T4	0.995	0.556	0.777	0.105	0.156	0.395	0.715	0.499	0.979	0.709	0.322	0.205	0.716	0.534	0.214	0.958	0.120	0.370	0.911	0.927	0.648	0.379	0.858	0.793
T4/T5	0.736	0.305	0.739	**0.016**	0.124	0.751	0.926	0.478	0.444	0.084	0.991	0.095	0.722	0.614	0.153	0.347	0.299	**0.048**	0.374	0.986	0.291	0.802	0.640	0.497
T5/T6	**0.013**	0.741	0.433	0.973	**0.011**	0.104	0.755	0.755	0.079	0 081	0.172	0.097	0.075	0.476	0.267	0.424	0.462	0.106	0.801	0.795	0.729	0.543	0.841	0.284
T6/T7	0.874	0.602	0.464	0.329	**0.023**	0.336	0.112	0.253	0.105	0.164	0.476	0.152	0.389	0.465	0.674	0.106	**0.017**	0.482	0.937	0.141	0.188	0.783	0.250	0.953
T7/T8	0.323	0.070	0.918	0 441	0.629	0.301	0.994	0.570	0.887	0.541	0.091	0.832	0.100	0.560	**0.008**	0.424	0.893	0.682	0.264	0.302	0.749	0.380	0.515	0.383
T8/T9	0.287	0.899	0.863	0.284	0.128	0.633	0.112	0.675	0.836	0.778	0.535	0.537	0.450	0.825	0.154	**0.014**	0.945	0.805	0.437	**0.027**	0.419	0.753	0.306	0.641
T9/T10	0.914	0.214	0.299	0.456	0.781	0.503	0.144	0.785	0.713	0.772	0.972	0.795	0.347	0.680	0.924	0.105	0.645	0.134	0.553	0.414	0.664	0.857	0.557	0.398
T10/T11	0.354	0.146	0.511	0.973	0.498	0.679	**0.049**	0.460	0.412	0.553	0.379	0.710	0.542	0.949	0.545	0.450	0.613	0.766	0.611	0.499	0.662	0.309	0.366	0.710
T11/T12	0.548	0.415	0.910	0.873	0.993	0.264	0.792	0.141	0.823	0.210	0.143	0.544	0.524	0.155	0.398	0.471	**0.035**	0.899	0.523	0.439	0.943	0.638	0.375	0.127
T12/L1	0.217	0.382	0.684	0.861	0.280	0.223	0.937	0.220	0.202	0.863	0.255	0.671	0.079	0.535	0.231	0.147	0.138	0.108	0.222	0.107	0.748	0.519	0.292	**0.005**
L1/L2	0.985	0.281	0.280	0.653	0.184	0.768	0.712	0.274	0.824	0.127	0.683	0.995	0.735	0.873	0.465	0.112	0.226	**0.030**	0.746	0.115	0.962	0.698	0.425	0.589
L2/L3	0.587	0.182	0.165	0.639	0.979	0.237	0.287	0.369	0.452	0.268	0.239	0.356	0.471	0.454	0.485	0.487	0.323	0.164	0.551	0.383	0.688	0.683	0.927	0.879
L3/L4	0.801	0.599	0.379	0.581	0.933	0.777	0.725	0.980	0.967	0.499	0.499	0.337	0.729	0.931	0.880	0.195	0.869	0.648	0.871	0.197	0.389	0.826	0.723	0.622
L4/L5	0.516	0.147	0.463	0.952	0.514	0.754	0.581	0.989	0.826	0.222	0.536	0.269	0.815	0.502	0.584	0.870	0.920	0.238	0.261	0.938	0.579	0.404	0.354	0.740
L5/S1	0 314	0 893	0 897	0.445	0 977	0.950	0 341	0 989	0.307	0 449	0.312	0 488	0 978	0 637	0 838	0.187	0 949	0 571	0.575	0.296	0.260	0.437	0 515	0.405

Table 9.11 *P*-values in relation to the skeletal measurement variables and facet joint osteophytosis presence / absence for the female sample (significant values show in bold).

	Clavicle Length	Clavicle Anterior/Posterior	Clavicle Superior/Inferior	Scapula Height	Scapula Breadth	Humerus Length	Humerus Epicondylar Breadth	Humerus Head Diameter	Humerus Maximum Diameter	Humerus Minimum Diameter	Radius Length	Radius Sagittal Diameter	Radius Transverse Diameter	Femur Length	Femur Condylo-Diaphyseal Angle*	Femur Epicondylar Breadth	Femur Maximum Head Diameter	Femur Neck Shaft Angle	Tibia Length	Tibia Proximal Epiphyseal Breadth	Tibia Distal Epiphyseal Breadth	Calcaneus Length	Calcaneus Breadth	Vertebral Column Length
O1/C1	0.326	0.851	0.290	**0.041**	0.770	0.486	0.951	0.916	0.078	0.598	0.953	0.262	0.885	0.664	0.972	0.290	0.743	0.076	0.426	0.216	0.930	0.982	0.877	0.336
C1/C2	0.439	0.467	0.084	0.916	0.928	0.993	0.867	0.728	0.230	0.389	0.629	0.354	0.663	0.730	0.817	0.590	0.546	0.617	0.520	0.561	0.584	0.145	0.171	0.244
C2/C3	0.313	0.838	0.116	0.553	0.157	0.239	0.517	**0.017**	**0.043**	0.136	0.467	0.216	0.658	0.335	0.228	0.371	0.228	0.051	0.365	**0.017**	0.849	0.988	0.786	0.534
C3/C4	0.303	0.092	0.272	0.737	0.736	0.655	0.983	0.230	0.243	0.859	0.733	0.454	0.553	0.566	0.476	0.519	0.975	0.213	0.368	0.433	0.799	0.598	0.880	0.385
C4/C5	0.378	0.216	0.759	0.964	0.272	0.960	0.882	0.324	0.660	0.980	0.875	0.244	0.490	0.755	0.768	0.654	0.854	0.074	0.820	0.208	0.364	0.499	0.794	0.505
C5/C6	0.762	0.440	0.297	0.303	0.107	0.231	0.698	0.137	0.148	0.743	0.212	**0.045**	0.801	0.562	0.997	0.384	0.492	0.206	0.479	0.099	0.654	0.628	0.802	0.881
C6/C7	0.980	0.235	0.106	0.062	0.077	**0.043**	0.756	**0.033**	**0.001**	0.323	0.174	**0.009**	0.613	0.152	0.996	0.254	0.286	0.716	0.341	**0.031**	0.228	0.698	0.109	0.192
C7/T1	0.315	0.639	0.372	**0.034**	0.064	0.157	0.919	0.098	**0.019**	0.539	0.130	0.081	0.646	0.284	0.065	0.631	0.592	**0.040**	0.546	0.370	0.231	0.649	0.459	0.098
T1/T2	0.233	0.058	0.378	0.182	0.079	0.641	0.796	**0.050**	**0.024**	0.456	0.400	0.301	0.632	0.783	0.381	0.469	0.364	0.075	0.955	0.348	0.443	0.656	0.724	0.305
T2/T3	0.436	0.076	0.384	0.357	0.125	0.080	0.864	0.112	0.088	**0.010**	**0.049**	0.183	0.623	0.171	0.056	0.354	0.286	0.244	0.258	0.550	0.387	0.954	0.834	0.067
T3/T4	0.351	0.556	0.835	0.148	**0.033**	**0.008**	0.465	0.687	0.329	0.077	**0.015**	0.101	0.309	**0.043**	0.249	0.214	0.446	0.150	**0.019**	0.115	0.382	0.677	0.668	0.068
T4/T5	0.122	0.884	0.691	**0.002**	**0.017**	**0.003**	0.434	0.852	0.421	**0.045**	**0.006**	0.173	0.192	**0.020**	0.749	0.148	0.528	0.882	**0.002**	0.098	0.309	0.229	0.741	0.635
T5/T6	0.211	0.566	0.540	**0.007**	**0.001**	**0.008**	0.662	0.746	0.100	0.222	**0.011**	0.055	**0.033**	**0.010**	0.713	0.487	0.952	0.615	**0.048**	0.180	0.210	0.077	0.383	0.594
T6/T7	0.310	0.125	0.940	**0.003**	**0.050**	**0.004**	0.323	0.871	0.504	0.250	**0.020**	0.306	0.163	**0.002**	0.621	0.433	0.277	0.605	**0.003**	0.084	0.126	**0.002**	0.169	0.980
T7/T8	0 061	0.880	0.794	**0.023**	0.293	**0.000**	0.463	0 880	0.895	0 895	**0.008**	0.062	0.268	**0.000**	0.451	0.826	0.669	0.749	**0.003**	0.427	0.154	0.279	0.083	**0.039**
T8/T9	**0.000**	0.997	0.229	**0.025**	**0.018**	**0.000**	0.946	0.453	0.333	0.867	**0.000**	0.250	0.637	**0.000**	0.945	0.689	0.432	0.548	**0.001**	0.198	0.424	**0.043**	0.330	**0.001**
T9/T10	**0.014**	0.786	0.170	**0.013**	**0.005**	**0.004**	0.930	0.056	0.151	0.101	**0.047**	0.151	0.103	**0.004**	0.924	0.756	0.167	0.976	0.178	0.077	0.409	0.229	0.061	0.590
T10/T11	0.202	0.372	0.359	0.203	0.159	**0.032**	0.598	0.051	0.852	0.230	**0.033**	0.427	0.503	0.167	0.452	0.564	0.367	0.064	0.441	0.359	0.664	0.419	0.241	0.602
T11/T12	0.331	0.928	0.705	0.552	0.127	**0.035**	0.957	0.626	0.701	0.593	0.063	0.548	0.468	**0.033**	0.754	0.692	0.985	0.461	0.157	0.577	0.694	0.781	0.840	0.119
T12/L1	**0.001**	0.159	0.236	0.096	**0.048**	**0.004**	0.974	0.256	0.492	0.181	**0.001**	**0.036**	0.671	**0.004**	0.925	0.621	0.114	0.930	0.134	0.330	0.331	0.104	**0.028**	**0.006**
L1/L2	0.582	0.269	0.197	0.185	0.303	**0.021**	0.925	0.237	0.132	0.117	**0.032**	**0.001**	0.494	0.062	0.421	0.807	0.741	0.615	0.319	0.468	0.336	0.702	0.637	**0.040**
L2/L3	0.066	0.159	**0.031**	0.303	**0.012**	**0.019**	0.086	0.265	0.107	0.448	**0.004**	**0.040**	0.366	**0.015**	0.508	0.205	0.102	0.836	**0.027**	**0.029**	0.188	0.342	0.255	0.072
L3/L4	0.114	0.318	0.598	0.221	**0.005**	**0.006**	0.207	0.715	0.582	0.273	**0.008**	**0.023**	0.947	**0.002**	0.346	0.136	0.112	0.952	**0.012**	**0.049**	0.101	0.449	0.774	**0.009**
L4/L5	0.092	0.468	0.985	0.094	**0.010**	**0.001**	0.224	0.183	0.145	**0.043**	**0.008**	**0.009**	0.490	**0.006**	0.487	0.170	0.199	0.464	**0.018**	0.084	0.119	0.068	0.643	0.057
L5/S1	**0.043**	0 455	0 518	0.212	**0.012**	**0.004**	0.168	0.186	0.279	0 136	**0.009**	**0.025**	0 428	**0.020**	0 519	0.322	0.337	0 947	**0.046**	0 208	0.560	0.294	0.653	**0.034**

Table 9.12 *P*-values in relation to the skeletal measurement variables and facet joint osteophytosis presence / absence for the female sample controlling for age-at-death (significant values show in bold).

	Clavicle Length	Clavicle Anterior/Posterior	Clavicle Superior/Inferior	Scapula Height	Scapula Breadth	Humerus Length	Humerus Epicondylar Breadth	Humerus Head Diameter	Humerus Maximum Diameter	Humerus Minimum Diameter	Radius Length	Radius Sagittal Diameter	Radius Transverse Diameter	Femur Length	Femur Condylo-Diaphyseal Angle*	Femur Epicondylar Breadth	Femur Maximum Head Diameter	Femur Neck Shaft Angle	Tibia Length	Tibia Proximal Epiphyseal Breadth	Tibia Distal Epiphyseal Breadth	Calcaneus Length	Calcaneus Breadth	Vertebral Column Length
O1/C1	0.537	0.731	0.344	0.168	0.554	0.924	0.229	0.400	0.489	0.411	0.602	**0.010**	0.423	0.914	0.936	0.882	0.501	0.150	0.928	0.833	0.375	0.778	0.925	0.362
C1/C2	0.662	0.811	0.104	0.331	0.337	0.453	0.234	0.240	0.827	0.541	0.970	0.922	0.186	0.872	0.847	0.080	0.106	0.821	0.843	0.513	0.188	0.052	0.080	0.262
C2/C3	0.560	0.405	0.147	0.560	0.832	0.749	0.694	0.127	0.421	0.238	0.919	0.990	0.552	0.724	0.309	0.702	0.903	0.110	0.999	0.236	0.313	0.628	0.911	0.568
C3/C4	0.160	**0.023**	0.318	0.273	0.717	0.212	0.296	0.644	0.932	0.929	0.367	0.731	0.121	0.257	0.588	0.750	0.327	0.341	0.121	0.783	0.473	0.356	0.644	0.413
C4/C5	0.153	**0.039**	0.878	0.185	0.961	0.304	0.091	0.965	0.226	0.727	0.352	0.726	**0.043**	0.282	0.817	0.274	0.229	0.169	0.222	0.692	0 073	0.204	0.451	0.545
C5/C6	0.426	0.920	0.367	0.991	0.505	0.794	0.334	0.366	0.955	0.990	0.566	0.487	0.151	0.872	0.988	0.596	0.909	0.373	0.888	0.890	0.221	0.311	0 851	0.837
C6/C7	0.683	0.549	0.136	0.293	0.431	0.230	0.361	0.213	0.351	0.495	0.452	0.140	0.609	0.404	0.962	0.965	0.733	0.981	0.818	0.353	0.526	0.950	0.219	0.175
C7/T1	0.565	0.881	0.444	0.319	0.454	0.584	0.158	0.416	0.261	0.719	0.384	0.635	0.535	0.653	0.112	0.403	0.530	0.089	0.844	0.526	0.566	0.963	0.751	0.087
T1/T2	0.444	0.195	0.451	0.972	0.622	0.670	0.317	0.252	0.299	0.600	0.842	0.784	0.106	0.722	0.455	0.688	0.834	0.151	0.311	0.533	0.989	0.335	0.429	0.281
T2/T3	0 590	0.145	0.424	0.558	0.226	0.127	0.455	0.187	0.156	**0.013**	0.075	0.331	0.891	0.235	0.128	0.753	0.466	0.295	0.324	0.872	0.419	0.915	0.739	0.065
T3/T4	0.705	0.857	0.492	0.911	0.662	0.142	0.340	0.378	0.366	0.167	0.125	0.875	0.669	0.236	0.345	0.645	0.436	0.337	0.209	0.695	0.929	0.836	0.322	0.058
T4/T5	0.267	0.439	0.347	0.082	0.350	**0.045**	0.393	0.349	0.406	0.105	**0.040**	0.920	0.880	0.122	0.342	0.906	0.475	0.788	**0.033**	0.872	0.803	0 489	0.937	0.589
T5/T6	0.395	0.986	0.261	0.070	**0.029**	0.082	0.463	0.443	0.912	0.376	0.054	0.609	0.250	**0.044**	0.584	0.671	0.298	0.401	0.242	0.912	0.570	0.217	0.647	0.555
T6/T7	0.437	0.224	0.460	**0.014**	0.150	**0.015**	0.806	0.412	0.882	0.338	**0.043**	0.726	0.373	**0.004**	0.790	0.789	0.553	0.488	**0.009**	0.165	0.219	**0.004**	0.222	0.997
T7/T8	0 075	0.998	0.628	**0.040**	0.527	**0.001**	0.226	0.617	0.544	0.974	**0.010**	0.084	0.351	**0.001**	0.591	0.541	0.938	0.663	**0.007**	0.692	0.243	0.316	0.074	**0.037**
T8/T9	**0.000**	0.962	0.604	**0.020**	**0.002**	**0.000**	0.803	0.555	0.386	0.902	**0.000**	0.302	0.743	**0.000**	0.826	0.776	0.621	0.510	**0.000**	0.178	0.467	**0.048**	0.330	**0.001**
T9/T10	**0.031**	0.868	0.071	0.094	0 093	**0.024**	0.274	0.245	0.643	0.162	0.117	0.577	0.339	**0.004**	0.935	0.532	0.619	0.763	0.483	0.427	0.810	0.404	0.107	0.560
T10/T11	0.351	0.675	0.767	0.754	0.603	0.145	0.613	0.193	0.311	0.349	0.094	0.820	0.903	0.413	0.591	0.649	0.993	0.120	0.887	0.740	0.903	0.697	0.388	0.569
T11/T12	0.597	0.472	0.637	0.464	0 884	0.253	0.124	0.571	0.218	0.846	0.255	0.321	0.633	0.145	0.905	0.283	0.189	0.731	0.617	0.218	0.653	0.417	0.798	0.104
T12/L1	**0.003**	0.277	0.093	0.266	0.191	**0.005**	0.540	0.615	0.878	0.246	**0.001**	0.182	0.801	**0.008**	0.761	0.944	0.277	0.786	0.225	0.702	0.448	0.153	**0.039**	**0.005**
L1/L2	0.800	0.479	0.054	0.444	0.572	0.081	0.393	0.531	0.540	0.180	0.089	**0.022**	0.948	0.125	0.574	0.312	0.738	0.766	0.521	0.963	0.479	0.960	0.843	**0.036**
L2/L3	0.121	0.307	**0.026**	0.897	0.110	0.080	0.503	0.643	0.483	0.601	**0.016**	0.250	0.906	**0.045**	0.202	0.670	0.393	0.953	0.096	0.178	0.378	0.573	0.421	0.066
L3/L4	0.212	0.589	0.288	0.970	0.081	**0.045**	0.957	0.605	0.458	0.422	**0.041**	0.274	0.337	**0.011**	0.123	0.621	0.544	0.698	0.064	0.387	0.278	0.719	0.953	**0.007**
L4/L5	0.165	0.759	0.589	0.480	0.123	**0.013**	0.915	0.627	0.797	0.085	**0.037**	0.117	0.815	**0.023**	0.236	0.539	0.707	0.298	0.070	0.353	0.258	0.176	0.924	**0.050**
L5/S1	0 151	0 977	0 325	0 756	0 426	0.107	0 843	0 967	0 362	0.306	0.102	0 728	0 441	0.131	0.711	0 543	0.589	0.582	0.347	0 593	0 716	0 709	0 874	**0.028**

Table 9.13 *P*-values in relation to the skeletal measurement variables and facet joint osteophytosis severity for the male sample (significant values show in bold).

	Clavicle Length	Clavicle Anterior/Posterior	Clavicle Superior/Inferior	Scapula Height	Scapula Breadth	Humerus Length	Humerus Epicondylar Breadth	Humerus Head Diameter	Humerus Maximum Diameter	Humerus Minimum Diameter	Radius Length	Radius Sagittal Diameter	Radius Transverse Diameter	Femur Length	Femur Condylo-Diaphyseal Angle*	Femur Epicondylar Breadth	Femur Maximum Head Diameter	Femur Neck Shaft Angle	Tibia Length	Tibia Proximal Epiphyseal Breadth	Tibia Distal Epiphyseal Breadth	Calcaneus Length	Calcaneus Breadth	Vertebral Column Length
O1/C1	0.726	0.488	0.984	0.217	0.471	0.408	0.933	0.139	0.256	0.186	0.650	0.275	0.309	0.990	0.221	0.142	0.942	0.128	0.536	0.148	0.072	0.177	0.123	0.893
C1/C2	0.945	0.310	0.946			0.768	0.111	0.153	0.077	0 071	0.410	0.714	**0.019**	0.278	0.147		0.163	0.624						0.342
C2/C3	0.612	0.452	0.496	0.781	0.331	0.566	0.171	0.371	0.185	0.069	0.340	0.978	0.109	0.235	0.131	0.790	0.239	0.923	0.512	0.781	0.789	0.268	0.393	0.333
C3/C4	0.778	0.407	0.744	0.745	0.153	0.967	0.283	0.488	0.600	0 952	0.838	0.612	0.359	0.679	0.191	0.316	0.466	0.429	0.392	0.759	0.448	0.254	0.352	0.959
C4/C5	**0.004**	0.680	0.550	0.268	0.129	0.602	0.654	0.863	0.489	**0.038**	0.666	0.885	0.774	0.741	0.574	0.629	0.768	0.178	0.843	0.635	0.515	0.785	0.566	0.669
C5/C6	0.113	0.486	0.624	0.698	0.270	0.283	0.321	0.496	0.676	0.909	0.650	0.236	0.992	1.000	0.279	0.688	0.954	0.832	0.926	0.836	0.567	0.785	0.605	0.151
C6/C7	0.278	0.453	0.596	0.381	0.909	0.463	0.291	0.215	0.271	0.078	0.386	0.536	0.286	0.718	0.892	0.580	0.187	0.130	0.694	0.942	0.584	0.540	0.303	0.703
C7/T1	0.757	0.591	0.962	0.693	0.447	0.293	0.105	0.655	0.853	0.889	0.695	0.896	0.871	0.099	0.833	0.738	0.097	0.843	0.850	0.596	0.977	0.481	0.497	0.299
T1/T2	0.628	0.184	0.289	0.227	0.308	0.339	0.309	**0.031**	0.081	0.356	0.656	0.234	0.916	0.201	0.172	0.418	0.169	0.477	0.830	0.353	0.774	0.225	0.731	0.654
T2/T3	0.578	0.899	0.483	0.611	0.480	0.721	0.687	0.555	0.778	0.535	0.511	0.774	0.111	0.868	0.465	0.808	0.768	0.790	0.647	0.944	0.721	0.272	0.158	0.780
T3/T4	0.087	0.959	0.626	0.612	0.157	0.269	0.867	0.549	0.206	0.984	0.735	0.304	0.985	0.616	0.477	0.682	0.949	0.377	0.967	0.843	0.599	0.169	0.115	0.102
T4/T5	0.898	0.157	0.974	**0.008**	**0.040**	0.465	0.926	0.718	0.692	0.874	0.786	0.283	0.519	0.740	0 297	0.199	0.511	0.543	0.139	0.249	0.103	0.183	0.074	0.618
T5/T6	0.213	0.328	0.214	0.364	0.266	0.097	0.316	0.771	0.877	0.718	0.219	0.162	0.666	0.142	0.516	0.406	0.268	0.424	0.886	0.419	0.418	0.223	0.141	0.482
T6/T7	0.792	0.353	0.388	0.129	0.238	0.075	0.153	0.391	0.153	0.508	0.073	0.328	0.572	0.054	0.728	0.641	**0.030**	0.490	0.959	0 815	0.815	0.907	0.332	0.196
T7/T8	0.499	0.077	0.171	**0.001**	0.356	0.359	0.389	0.307	0.908	0.253	0.551	0.502	0.775	0.913	0.851	0.481	0.776	0.472	0.290	0.632	0.929	0.584	0.358	0.462
T8/T9	0.374	0.318	0.305	**0.002**	0.230	0.843	0.555	0.198	0.379	0.850	0.667	0 650	0 838	0.987	0.887	0.515	0.698	0.400	0.371	0 686	0.424	0.327	0.158	0.290
T9/T10	0.588	0.870	0.986	0.353	0.491	0.409	0.488	0.981	0.498	0.223	0.901	0.480	0.527	0.772	0.283	**0.043**	0.418	0.902	0.412	**0.046**	0.972	0.230	0.590	0.856
T10/T11	0.250	0.199	0.543	0.705	0.614	0.383	0.807	0.890	0.825	0.343	0.322	0.584	0.562	0.550	0.637	0.342	0.432	0.383	0.412	0.500	0.953	0.491	0.550	0.159
T11/T12	0.727	0.519	0.343	0.370	0.843	0.462	0.890	0.245	0.823	0 077	0.109	0.836	0.282	0.155	0.129	**0.003**	0.083	0.750	0.060	**0.019**	**0.040**	0.204	0.383	0.102
T12/L1	0.685	0.979	0.128	0.482	0.129	0.917	0.973	0.285	0.806	0.652	0.693	0.200	0.263	0.557	0.787	0.555	0.798	0.302	0.690	0.435	0.505	0.580	0.580	0.639
L1/L2	0 801	0.228	0.752	0.169	**0.009**	0.922	0.561	0.207	0.436	0.412	0.717	0.469	0.655	0.595	0.836	0.977	0.493	0.933	0.863	0.807	0.814	0.366	0.528	0.826
L2/L3	0.307	0.202	0.458	0.991	0.652	0.413	0.868	0.290	0.844	0.982	0.601	0.846	0.493	0.999	0.383	0.133	0.663	**0.030**	0.753	0.091	0.260	0.803	0.859	0.924
L3/L4	0.783	0.489	0.508	0.784	0.645	0.933	0.876	0.422	0.539	0.611	0.277	0.764	0.163	0.649	0.547	0.365	0.721	0.563	0.971	0.368	0.163	0.337	0.709	0.902
L4/L5	0.731	0.600	0.137	0.782	0.679	0.968	0.966	0.357	0.690	0.412	0.494	0.510	0.803	0.916	0.558	0.893	0.986	0.870	0.856	0.800	0.696	0.709	0.735	0.961
L5/S1	0 773	0 095	0 613	0 556	0 588	0.946	0 533	0 310	0 759	0.111	0 329	0 654	0 159	0 774	0 209	0.060	0.951	0.425	0.565	0.100	0.107	0.932	0.912	0.101

Table 9.14 *P*-values in relation to the skeletal measurement variables and facet joint osteophytosis severity for the male sample controlling for age-at-death (significant values show in bold).

	Clavicle Length	Clavicle Anterior/Posterior	Clavicle Superior/Inferior	Scapula Height	Scapula Breadth	Humerus Length	Humerus Epicondylar Breadth	Humerus Head Diameter	Humerus Maximum Diameter	Humerus Minimum Diameter	Radius Length	Radius Sagittal Diameter	Radius Transverse Diameter	Femur Length	Femur Condylo-Diaphyseal Angle*	Femur Epicondylar Breadth	Femur Maximum Head Diameter	Femur Neck Shaft Angle	Tibia Length	Tibia Proximal Epiphyseal Breadth	Tibia Distal Epiphyseal Breadth	Calcaneus Length	Calcaneus Breadth	Vertebral Column Length
O1/C1	0.698	0.474	0.957	0.226	0.387	0.318	0.809	0.210	0.367	0.178	0.605	0.303	0.468	0.754	0.085	0.308	0.866	0.113	0.434	0.296	0.200	0.279	0.186	0.958
C1/C2	0.997	0.282	0.869			0.936	0.153	0.270	0.145	0.058	0.437	0.795	**0.047**	0.516	0.356		0.276	0.559						0.389
C2/C3	0.508	0.468	0.310	0.704	0.386	0.729	0.315	0.838	0.389	**0.038**	0.331	0.873	0.410	0.407	0.376	0.856	0.456	0.986	0.519	0.911	0.338	0.106	0.196	0 398
C3/C4	0.404	0.475	0.483	0.882	0.201	0.884	0.468	0.966	0.923	0.594	0.828	0.840	0.885	0.968	0.406	0.451	0.895	0.385	0.353	0.948	0.691	0.367	0.458	0.886
C4/C5	**0.003**	0.641	0.521	0.235	0.172	0.642	0.763	0.657	0.349	**0.028**	0.638	0.996	0.608	0.874	0.711	0.986	0.589	0.175	0.706	0.989	0.297	0.966	0.737	0.778
C5/C6	0.071	0.414	0.552	0.574	0.303	0.291	0.201	0.248	0.397	0.572	0.514	0.186	0.645	0.775	0.714	0.249	0.419	0.922	0.963	0.326	0.090	0.924	0.818	0.157
C6/C7	0.238	0.465	0.726	0.401	0.951	0.482	0.317	0.243	0.300	0.093	0.361	0.551	0.310	0.675	0.738	0.703	0.244	0.145	0.695	0.793	0.734	0.586	0.343	0.671
C7/T1	0.784	0.662	0.848	0.846	0.440	0.353	**0.050**	0.286	0.513	0.835	0.573	0.486	0.844	0.137	0.725	0.317	**0.030**	0.667	0.882	0.999	0.514	0.215	0.219	0.220
T1/T2	0 635	0.202	0.277	0.239	0.348	0.445	0.288	**0.014**	**0.047**	0.278	0.627	0.227	0.819	0.315	0.219	0.494	0.120	0.532	0.859	0.423	0.983	0.164	0.624	0.638
T2/T3	0.495	0.849	0.313	0.796	0.316	0.690	0.840	0.860	0.657	0.425	0.385	0.277	0.333	0.976	0.711	0.290	0.642	0.592	0.723	0.485	0.177	0.443	0.326	0.780
T3/T4	0.087	0.947	0.610	0.396	0.130	0.278	0.804	0.634	0.263	0.874	0.652	0.257	0.967	0.723	0.600	0.840	0.768	0.438	0.881	0.995	0.806	0.223	0.168	0.112
T4/T5	0 864	0.116	0.971	**0.003**	**0.038**	0.548	0.991	0.870	0.878	0.787	0.770	0.220	0.625	0.921	0.429	0.291	0.394	0.638	0.107	0.329	0.158	0.276	0.115	0.580
T5/T6	0.171	0.387	0.121	0.315	0.207	0.146	0.229	0.443	0 632	0.541	0.217	0.079	0.840	0.241	0.628	0.678	0.159	0.437	0.820	0.644	0.811	0.360	0.250	0.479
T6/T7	0.762	0.402	0.303	0.103	0.181	0.082	0.109	0.230	0.088	0.320	0.060	0.240	0.730	0.083	0.969	0.265	**0.011**	0.445	0.947	0.413	0.287	0.600	0.155	0.160
T7/T8	0.494	0.080	0.181	**0.001**	0.366	0.331	0.431	0.361	0.999	0.248	0.542	0.537	0.897	0.819	0.777	0.554	0.692	0.462	0.268	0.720	0.786	0.665	0.422	0.491
T8/T9	0.329	0.340	0.338	**0.001**	0.204	0.823	0.647	0.290	0.522	0.717	0.724	0.575	0.964	0.840	0.760	0.733	0.533	0.379	0.324	0.907	0.709	0.473	0.243	0.279
T9/T10	0.582	0.990	0.961	0.402	0.517	0.340	0.565	0.794	0.379	0.188	0.903	0.522	0.652	0.577	0.408	0.060	0.528	0.969	0.474	0.065	0.695	0.292	0.707	0.856
T10/T11	0.186	0.168	0.557	0.811	0.518	0.400	0.637	0.663	0.928	0.255	0.270	0.685	0.752	0.680	0.449	0.524	0.285	0.404	0.473	0.695	0.697	0.329	0.385	0.169
T11/T12	0.540	0.466	0.279	0.515	0.763	0.293	0.866	0 058	0.408	0.089	0.095	0.910	**0.039**	**0.033**	0.344	**0.015**	0.137	0.835	**0.030**	0.070	0.223	0.443	0.729	**0.044**
T12/L1	0.665	0.938	0.097	0.530	0.141	0.740	0.766	0.080	0.460	0.720	0.620	0.135	0.081	0.950	0.711	0.968	0.917	0.289	0.420	0.892	0.799	0.266	0.907	0.476
L1/L2	0.817	0.225	0.737	0.175	**0.010**	0.837	0.516	0.145	0.388	0.400	0.751	0.453	0.530	0.760	0.850	0.835	0.432	0.832	0.740	0.969	0.487	0.254	0.389	0.766
L2/L3	0.303	0.164	0.518	0.925	0.683	0.286	0.939	0.228	0.941	0.926	0.498	0.909	0.393	0.693	0.146	0.252	0.789	**0.027**	0.645	0.165	0.461	0.981	0.890	0.868
L3/L4	0.797	0.381	0.459	0.934	0.659	0.760	0.874	0.761	0.780	0.657	0.201	0.673	0.343	0.803	0.834	0.796	0.790	0.510	0.781	0.762	0.743	0.782	0.887	0.738
L4/L5	0 633	0.994	0.136	0.908	0.605	0.692	0.871	0.565	0.782	0.353	0.378	0.453	0.909	0.802	0.945	0.492	0.736	0.674	0.784	0.766	0.568	0.313	0.286	0.885
L5/S1	0 898	0 082	0.752	0.478	0 633	0.772	0 664	0 103	0.502	0.105	0.209	0 671	**0.050**	0.298	0.421	0.235	0.692	0.502	0.433	0.328	0 552	0.369	0.540	0.055

Table 9.15 *P*-values in relation to the skeletal measurement variables and facet joint osteophytosis severity for the female sample (significant values show in bold).

	Clavicle Length	Clavicle Anterior/Posterior	Clavicle Superior/Inferior	Scapula Height	Scapula Breadth	Humerus Length	Humerus Epicondylar Breadth	Humerus Head Diameter	Humerus Maximum Diameter	Humerus Minimum Diameter	Radius Length	Radius Sagittal Diameter	Radius Transverse Diameter	Femur Length	Femur Condylo-Diaphyseal Angle*	Femur Epicondylar Breadth	Femur Maximum Head Diameter	Femur Neck Shaft Angle	Tibia Length	Tibia Proximal Epiphyseal Breadth	Tibia Distal Epiphyseal Breadth	Calcaneus Length	Calcaneus Breadth	Vertebral Column Length
O1/C1	0.518	0.349	0.694	0.281	0.724	0.947	0.966	0.979	0.102	0.918	0.491	0.419	0.682	0.899	0.323	0.437	0.744	0.192	0.635	0.449	0.991	0.922	0.831	0.573
C1/C2	0.439	0.467	0.084	0.916	0.928	0.993	0.867	0.728	0.230	0.389	0.629	0.354	0 663	0.730	0.817	0.590	0.546	0.617	0.520	0.561	0.584	0.145	0.171	0 244
C2/C3	0.873	0.584	0.245	0.905	0.186	0.784	0.834	0.558	0.565	0.716	0.766	0.295	0.724	0.898	0.144	0.933	0.577	0.836	0.579	0.410	0.809	0.239	0.600	0.079
C3/C4	**0.040**	0.660	0.614	0.277	0.068	0.757	0.498	0.624	0.802	0.569	0.673	0.365	0.841	0.826	0.506	0.112	0.378	0.636	0.895	**0.036**	0.694	0.858	0.216	**0.011**
C4/C5	0.087	0.491	0.220	0.995	0.811	0.354	0.665	0.837	0.267	0.464	0.636	0.374	0.996	0.343	0.929	0.451	0.829	0.422	0.347	0.139	0.538	0.976	0.428	0.166
C5/C6	0.189	0 619	0.134	0.505	0.528	0.580	0.664	0.594	0.439	0.737	0.535	0.411	0 585	0.463	0.361	0.702	0.686	0.817	0.533	0.406	0.614	0.269	0.642	**0.031**
C6/C7	0.944	0.092	0.298	0.315	0.126	0.629	**0.032**	**0.002**	0.214	0.142	0.494	0 062	0.185	0.609	0.806	**0.046**	**0.006**	0.789	0.182	0.078	0.781	0.941	0.108	0.632
C7/T1	0.863	0.558	**0.016**	**0.043**	0.439	0.796	0.786	0.251	**0.004**	0.164	0.354	0.814	0.243	0.982	0.708	0.342	0.491	0.379	0.268	0.142	0.785	0.704	0.344	0.955
T1/T2	0.317	0.148	0.140	0.181	0.527	0.241	0.259	0.306	0.203	**0.006**	0.401	0.139	0.526	0.753	0.192	0.321	0.262	0.667	0.517	0.286	**0.005**	0.060	0.952	**0.023**
T2/T3	0.297	0.059	0.185	0.355	0.204	0.731	**0.023**	0.566	0.155	0.126	0.956	0.119	0.457	0.263	0.103	**0.044**	0.437	0.294	0.581	0.235	0.262	0.796	0.329	0.282
T3/T4	0.820	0.225	0.312	0.117	0.137	0.073	0.880	0.502	0.373	0.299	0.276	0.265	0.752	0.098	0.897	0.326	0.932	0.422	0.094	0.274	0.850	0.696	0.630	0.429
T4/T5	0.493	0.147	0.504	0.393	0 203	0.737	0.083	0.798	0.462	0.303	0.931	0.460	0.725	0.368	0.142	0.060	0.728	0.287	0.949	0.395	0.524	0 841	0.188	0.718
T5/T6	0.147	0.301	0 670	**0.012**	**0.045**	**0.006**	0.427	0.681	0.725	0.163	**0.028**	0.527	0.524	**0.017**	0.155	0.512	0.459	0.803	**0.011**	0.284	0.221	**0.046**	0.706	0.475
T6/T7	**0.011**	0.835	0.292	0.142	0.162	**0.003**	0.459	0.769	0.394	0.605	**0.015**	0.443	0.173	0.062	0.304	0.958	0.640	0.969	**0.017**	0.719	0.701	0.090	0.132	**0.011**
T7/T8	0.151	0.419	0.262	0.312	0.566	**0.023**	0.603	0.483	0.305	0.724	0.227	0.567	0.210	0.200	0.635	0.902	0.432	0.232	0.079	0.713	0.450	0.291	0.199	**0.024**
T8/T9	**0.009**	0.871	0.363	**0.029**	0.128	**0.004**	0.801	0.871	0.452	**0.024**	**0.022**	0.061	0.117	**0.012**	0.443	0.552	0.315	0.210	0.105	0.752	**0.035**	**0.043**	0.509	**0.003**
T9/T10	0.084	**0.010**	0.759	0.059	**0.024**	0.291	0.138	**0.034**	0.105	0.240	0.126	**0.039**	**0.040**	0.081	0.580	0.154	**0.023**	0.234	0.097	**0.009**	0.218	0.920	0.486	0.973
T10/T11	0.089	0.169	0.629	0.652	0.086	0.327	0.695	0.382	0.131	0.209	0.321	0.456	0.817	0.269	0.795	0.903	0.669	0.122	0.167	0.232	0.500	0.615	0.382	0.624
T11/T12	**0.041**	0.560	0.445	0.162	0.087	**0.031**	0.982	0.110	0 237	**0.018**	**0.039**	**0.031**	0.315	0.063	0.279	0.847	0.269	0.829	0.200	0.671	0.264	0.093	0.542	0.240
T12/L1	**0.005**	0.105	0.080	**0.013**	**0.027**	**0.004**	0.537	**0.048**	0.056	**0.002**	**0.007**	**0.002**	0.074	**0.003**	0.373	0.301	**0.011**	0.439	0.127	0.075	0.167	0.460	0.318	**0.040**
L1/L2	0.172	0.940	0.386	0.797	0.645	0.269	0.058	0.586	0.272	0.197	0.202	0.406	0.330	0.402	0.908	0.072	0.631	0.259	0.576	0.661	**0.013**	0.121	0.767	0.685
L2/L3	0.211	0.652	0.378	0.828	0.243	0.269	0.421	0.148	0.077	0.072	0.199	0.812	0.315	0.591	0.177	0.581	0.643	0.160	0.381	0.993	0.493	0.664	0.275	0.802
L3/L4	0.113	0.068	0.368	0.543	**0.045**	0.240	0.352	0.076	**0.043**	0.053	0.184	0.165	0.966	0.377	0.591	0.388	0.208	0.376	0.186	0.150	0.988	0.482	0.890	0.735
L4/L5	**0.032**	0.291	0.255	0.074	**0.010**	**0.012**	0.104	0.240	**0.011**	**0.036**	**0.004**	**0.003**	0.392	0.148	0.371	0.137	0.190	0.770	**0.016**	0.123	**0.047**	0.259	0.471	0.139
L5/S1	**0.015**	0.199	0.525	**0.032**	**0.002**	**0.005**	**0.027**	0.168	**0.035**	0.069	**0.013**	**0.033**	0 395	**0.024**	0 250	**0.008**	**0.033**	0.817	**0.001**	**0.008**	0.136	0.326	0.315	0.076

Table 9.16 *P*-values in relation to the skeletal measurement variables and facet joint osteophytosis severity for the female sample controlling for age-at-death (significant values show in bold).

	Clavicle Length	Clavicle Anterior/Posterior	Clavicle Superior/Inferior	Scapula Height	Scapula Breadth	Humerus Length	Humerus Epicondylar Breadth	Humerus Head Diameter	Humerus Maximum Diameter	Humerus Minimum Diameter	Radius Length	Radius Sagittal Diameter	Radius Transverse Diameter	Femur Length	Femur Condylo-Diaphyseal Angle*	Femur Epicondylar Breadth	Femur Maximum Head Diameter	Femur Neck Shaft Angle	Tibia Length	Tibia Proximal Epiphyseal Breadth	Tibia Distal Epiphyseal Breadth	Calcaneus Length	Calcaneus Breadth	Vertebral Column Length
O1/C1	0.736	0.619	0.851	0.778	0.550	0.580	0.407	0.489	0.348	0.803	0.229	**0.039**	0.764	0.759	0.379	0.978	0.637	0.227	0.850	0.888	0.481	0.618	0.635	0.485
C1/C2	0.701	0.850	0.129	0.297	0.294	0.395	0.202	0.199	0.834	0.588	0.887	0.860	0.161	0.808	0.892	0.057	0.074	0.799	0.783	0.450	0.136	**0.034**	0.069	0.203
C2/C3	0.754	0.952	0.307	0.293	0.552	0.859	0.294	0.274	0.893	0.629	0.949	0.713	0.799	0.836	0.146	0.331	0.195	0.794	0.979	0.978	0.688	0.125	0.458	0.072
C3/C4	**0.023**	0.932	0.679	0.578	0.206	0.477	0.833	0.346	0.790	0.664	0.466	0.647	0.506	0.603	0.475	0.421	0.661	0.572	0.502	0.191	0.962	0.929	0.150	**0.010**
C4/C5	**0.025**	0.777	0.375	0.468	0.354	0.066	0.367	0.261	0.884	0.290	0.238	0.802	0.247	0.098	0.997	0.558	0.305	0.485	0.082	0.913	0.843	0.503	0.745	0.129
C5/C6	0.112	0.899	0.178	0.900	0.858	0.312	0.791	0.316	0.902	0.609	0.347	0.818	0.956	0.271	0.331	0.721	0.282	0.754	0.272	0.947	0.994	0.144	0.503	**0.033**
C6/C7	0.763	0.168	0.351	0.635	0.326	0.912	0.096	**0.006**	0.474	0.184	0.694	0.160	0.391	0.832	0.763	0.137	**0.018**	0.898	0.075	0.241	0.541	0.687	0.154	0.676
C7/T1	0.854	0.990	**0.033**	0.239	0.640	0.286	0.349	0.746	**0.046**	0.258	0.141	0.360	0.795	0.570	0.707	0.771	0.718	0.461	**0.046**	0.807	0.718	0.392	0.590	0 827
T1/T2	0.390	0.210	0.176	0.385	0.901	0.396	0.467	0.468	0.367	**0.008**	0.555	0.276	0.852	0.963	0 217	0.616	0.475	0.711	0.872	0.371	**0.008**	0.085	0.769	**0.023**
T2/T3	0.454	0.160	0.232	0.968	0.977	0 259	0.171	0.814	0.678	0.147	0.504	0.518	0.938	0.079	0.074	0.315	0.877	0.143	0.133	0.946	0.635	0.834	0.143	0.194
T3/T4	0.830	**0.048**	0.554	0 813	0.816	0.295	0.080	0.058	0.465	0.331	0.508	0.737	0.343	0.257	0.883	0.542	0.181	0.549	0.372	0.519	0.439	0.865	0.234	0.244
T4/T5	0.696	0.404	0.710	0.999	0.911	0.391	0.532	0.162	0.581	0.335	0.675	0.672	0.615	0.229	0.119	0.401	0.445	0.153	0.537	0.662	0.907	0.922	0.067	0.659
T5/T6	0.274	0.610	0.801	0.112	0.394	**0.028**	0.762	0.471	0.434	0.206	0.071	0.750	0.944	**0.045**	0.174	0.718	0.738	0.978	0.056	0.939	0.513	0.075	0.955	0.395
T6/T7	**0.014**	0.722	0.351	0.294	0.321	**0.005**	0.645	0.503	0.642	0 663	**0.022**	0.663	0.266	0.080	0.307	0.759	0.420	0.909	**0.028**	0.972	0.871	0.103	0.162	**0.010**
T7/T8	0.180	0.335	0.297	0.468	0.809	**0.031**	0.811	0.307	0.428	0.776	0.292	0.775	0.291	0.246	0.649	0.648	0.258	0.200	0.114	0.946	0.561	0.336	0.250	**0.022**
T8/T9	**0.010**	0.909	0.378	**0.027**	0.131	**0.004**	0.896	0.760	0.501	**0.027**	**0.024**	0 060	0.127	**0.014**	0.440	0.589	0.352	0.197	0.117	0.830	**0.039**	**0.046**	0.528	**0.003**
T9/T10	0.144	**0.036**	0.960	0.449	0.230	0.671	0.698	0.180	0.567	0.304	0.295	0.271	0.218	0.180	0.622	0.725	0.146	0.352	0.319	0.171	0.503	0.784	0.792	0.913
T10/T11	0.180	0.387	0.912	0.314	0.793	0.818	0.065	0.909	0.815	0.285	0.667	0.624	0.428	0.579	0.860	0.101	0.478	0.180	0.636	0.806	0.109	0.347	0.661	0.699
T11/T12	0.082	0.875	0.618	0.564	0.442	0.090	0.317	0.381	0.791	**0.032**	0.092	0.168	0.754	0.119	0.250	0.225	0.809	0.696	0.365	0.495	0.140	**0.045**	0.229	0.173
T12/L1	**0.007**	0.154	0.096	**0.023**	0.057	**0.008**	0.886	0.097	0.109	**0.003**	**0.012**	**0.004**	0.139	**0.005**	0.329	0.542	**0.024**	0.363	0.181	0.145	0.218	0.519	0.327	**0.034**
L1/L2	0.212	0.820	0.423	0.859	0.933	0.358	**0.016**	0.785	0.408	0.216	0.257	0.577	0.185	0.472	0.921	**0.018**	0.420	0.297	0.696	0.382	**0.007**	0.094	0.914	0.625
L2/L3	0.266	0.818	0.437	0.707	0.629	0.412	0.131	0.249	0.170	0.093	0.269	0.776	0.134	0.724	0.209	0.259	0.955	0.209	0.583	0.647	0.346	0.567	0 301	0.751
L3/L4	0.223	0.200	0.530	0.237	0.683	0.740	0.571	0.462	0 484	0.071	0.447	0.924	0.174	0.754	0.581	0.569	0.895	0.559	0.755	0.954	0.346	0.251	0.745	0.485
L4/L5	0.092	0.750	0.361	0.800	0.219	0.120	0.958	0.914	0.301	0.068	**0.027**	0.145	0.554	0.504	0.449	0.967	0.873	0.902	0.141	0.938	0.213	0.622	0.912	0.071
L5/S1	**0.029**	0 652	0.768	0 538	0 100	**0.048**	0 889	0 965	0 997	0 102	**0.045**	0 753	0 356	0.102	0.310	0.467	0.719	0 414	**0.022**	0.588	0 645	0 692	0.765	**0.011**

Table 9.17 *P*-values in relation to mechanical loading ratio variables and intervertebral osteophytosis (significant values show in bold).

	Male								Female							
	Vertebral Column / Humerus Length	Vertebral Column / Humerus + Radius Length	Vertebral Column / Femur Length	Vertebral Column / Femur + Tibia Length	Vertebral Column + Humerus + Radius / Femur Length	Vertebral Column + Humerus + Radius / Femur + Tibia Length	Humerus Length / Femur Length*	Humerus + Radius / Femur + Tibia Length	Vertebral Column / Humerus Length	Vertebral Column / Humerus + Radius Length	Vertebral Column / Femur Length	Vertebral Column / Femur + Tibia Length	Vertebral Column + Humerus + Radius / Femur Length	Vertebral Column + Humerus + Radius / Femur + Tibia Length	Humerus Length / Femur Length	Humerus + Radius / Femur + Tibia Length
Dens	0.693	0.783	0.751	0.718	0.590	0.277	0.723	0.208	**0.002**	**0.005**	**0.001**	**0.011**	**0.005**	**0.013**	0.587	0.702
C2/C3	0.633	0.824	0.370	0.372	0.239	0.222	0.619	0.217	0.805	0.629	0.862	0.888	0.943	0.950	0.746	0.661
C3/C4	0.773	0.974	0.589	0.568	0.467	0.359	0.764	0.336	0.520	0.566	0.773	0.654	0.938	0.625	0.589	0.688
C4/C5	0.651	0.487	0.887	0.971	0.792	0.809	0.642	0.621	0.397	0.561	0.383	0.386	0.296	0.181	0.622	0.417
C5/C6	0.836	0.801	0.655	0.510	0.205	0 099	0.125	0.119	0.247	0.423	0.728	0.569	0.968	0.603	**0.041**	0.728
C6/C7	0.685	0.904	0.300	0.241	0.148	0.059	0.208	**0.020**	0.395	0.572	0.759	0.480	0.900	0.558	0.450	0.908
C7/T1	0.255	0.552	0.220	0.244	0.068	**0.020**	0.668	**0.046**	0.619	0.404	0.799	0.523	0.924	0.430	0.905	0.456
T1/T2	0.925	0.558	0.981	0.933	0.705	0.301	0.802	**0.033**	0.909	0.878	0.908	0.899	0.635	0.827	0.220	0.390
T2/T3	0.198	0.391	0.145	0.094	0.051	**0.004**	0.728	**0.023**	0.152	0.297	0.152	0.176	0.234	0.209	0.797	0.335
T3/T4	0.731	0.486	0.748	0.448	0.164	**0.013**	0.156	**0.001**	0.666	0.299	0.464	0.344	0.207	0.182	0.288	0.495
T4/T5	0.932	0.482	0.902	0.501	0.568	**0.037**	0.912	**0.003**	0.054	0.066	**0.016**	**0.025**	**0.027**	**0.038**	0.423	0.432
T5/T6	0.866	0.931	0.282	0.288	**0.040**	**0.024**	0.072	**0.038**	**0.005**	**0.005**	**0.003**	**0.018**	**0.019**	**0.040**	0.777	0.437
T6/T7	0.942	0.638	0.537	0.531	0.110	0.051	**0.016**	**0.005**	0.094	0.155	0.100	0.303	0.194	0.153	0.757	0.586
T7/T8	0.693	0.403	0.515	0.803	0.839	0.468	0.929	0.057	0.083	0.109	**0.039**	0.195	0.056	0.071	0.626	0.458
T8/T9	0.977	0.615	0.939	0 819	0.494	0.128	0.645	**0.008**	**0.026**	**0.039**	**0.008**	**0.013**	**0.013**	**0.015**	0.497	0.269
T9/T10	0.826	0.648	0.409	0.298	**0.049**	**0.005**	**0.028**	**0.000**	0.246	0.286	0.069	0.106	0.051	0.071	0.311	0.273
T10/T11	0.899	0.583	0.961	0.865	0.581	0.240	0.606	**0.032**	0.132	0.199	0.297	0.321	0.717	0.725	0.215	0.363
T11/T12	0.524	0.909	0.354	0.686	0.106	0.141	0.334	**0.017**	0.115	0.169	0.131	0.091	0.302	0.238	0.797	0.537
T12/L1	0.532	0.756	0.350	0.322	0.159	**0.024**	0.445	**0.004**	0.124	0.187	0.064	0.067	0.109	0.112	0.124	0.105
L1/L2	0.276	0.641	0.149	0.125	**0.028**	**0.002**	0.635	**0.008**	0.647	0.835	0.464	0.316	0.453	0.412	0.116	0.202
L2/L3	0.777	0.959	0.279	0.232	**0.033**	**0.014**	0.229	**0.049**	**0.041**	0.061	0.065	0.196	0.238	0.547	0.880	0.656
L3/L4	0.426	0.742	0.156	0.425	**0.021**	**0.046**	0.280	**0.018**	0.079	0.132	0.075	0.206	0.226	0 462	0.956	0.994
L4/L5	0.478	0.764	0.398	0.237	0.176	0.070	0.709	0.132	0.100	0.253	0.117	0.352	0.138	0.397	0.906	0.568
L5/S1	0 652	0 993	0 466	0.308	0 150	0.071	0 564	0 083	0.114	0 188	0 232	0 333	0.559	0 829	0 225	0.153

Table 9.18 *P*-values in relation to mechanical loading ratio variables and intervertebral osteophytosis controlling for age-at-death (significant values show in bold).

	Male								Female							
	Vertebral Column / Humerus Length	Vertebral Column / Humerus + Radius Length	Vertebral Column / Femur Length	Vertebral Column / Femur + Tibia Length	Vertebral Column + Humerus + Radius / Femur Length	Vertebral Column + Humerus + Radius / Femur + Tibia Length	Humerus Length / Femur Length*	Humerus + Radius / Femur + Tibia Length	Vertebral Column / Humerus Length	Vertebral Column / Humerus + Radius Length	Vertebral Column / Femur Length	Vertebral Column / Femur + Tibia Length	Vertebral Column + Humerus + Radius / Femur Length	Vertebral Column + Humerus + Radius / Femur + Tibia Length	Humerus Length / Femur Length	Humerus + Radius / Femur + Tibia Length
Dens	0.669	0.687	0.886	0.916	0.660	0.700	0.579	0.635	0.108	0.124	**0.047**	0.216	**0.035**	0.127	0.943	0.880
C2/C3	0.604	0.701	0.738	0.574	0.964	0.793	0.571	0.792	0.325	0.615	0.445	0.374	0.552	0.501	0.986	0.550
C3/C4	0.740	0.840	0.959	0.825	0.560	0.909	0.347	0.835	0.234	0.363	0.266	0.298	0.485	0.570	0.986	0.885
C4/C5	0.686	0.610	0.428	0.719	0.234	0.343	0.383	0.394	0.343	0.378	0.628	0.580	0.770	0.742	0.977	0.567
C5/C6	0.876	0.958	0.788	0.835	0.796	0.713	0.895	0.904	0.587	0.557	0.333	0.400	0.439	0.626	0.129	0.558
C6/C7	0.650	0.757	0.702	0.443	0.991	0.490	0.940	0.337	0.361	0.382	0.295	0.441	0.532	0.636	0.807	0.900
C7/T1	0.240	0.463	0.466	0.418	0.432	0.188	0.561	0.376	0.271	0.599	0.326	0.495	0.539	0.849	0.545	0.610
T1/T2	0.902	0.634	0.682	0.854	0.638	0.796	0.265	0.216	0.148	0.329	0.375	0.144	0.923	0.454	0.104	0.524
T2/T3	0.185	0.312	0.358	0.178	0.410	**0.048**	0.528	0.161	0.944	0.832	0.790	0.848	0.591	0.669	0.462	0.448
T3/T4	0.753	0.561	0.926	0.631	0.587	0.088	0.460	**0.008**	0.571	0.948	0.940	0.984	0.451	0.578	0.164	0.613
T4/T5	0.954	0.553	0.603	0.673	0.794	0.161	0.494	**0.024**	0.414	0.367	0.125	0.221	0.086	0.183	0.254	0.533
T5/T6	0.848	0.995	0.455	0.415	**0.047**	0.112	0.386	0.149	0.114	0.072	**0.041**	0.154	0.071	0.174	0.497	0.545
T6/T7	0.962	0.711	0.655	0.621	0.381	0.202	0.421	**0.032**	0.657	0.700	0.497	0.644	0.450	0.422	0.938	0.694
T7/T8	0.718	0.482	0.251	0.555	0.198	0.812	0.293	0.342	0.722	0.657	0.327	0.422	0.196	0.306	0.355	0.579
T8/T9	0.996	0.683	0.791	0.909	0.979	0.575	0.846	0.090	0.318	0.307	0.095	0.118	0.054	0.082	0.281	0.347
T9/T10	0.858	0.765	0.792	0.521	0.431	0.098	0.260	**0.008**	0.850	0.951	0.436	0.566	0.174	0.293	0.149	0.360
T10/T11	0.928	0.686	0.567	0.844	0.573	0.888	0.604	0.282	0.693	0.725	0.871	0.814	0.895	0.844	0.374	0.297
T11/T12	0.496	0.776	0.750	0.992	0.740	0.718	0.876	0.223	0.853	0.833	0.674	0.545	0.674	0.688	0.477	0.674
T12/L1	0.511	0.665	0.616	0.507	0.612	0.177	0.989	0.053	0.581	0.617	0.279	0.256	0.240	0.270	0.063	0.133
L1/L2	0.260	0.543	0.348	0.252	0.251	0.056	0.619	0.138	0.458	0.434	0.860	0.990	0.804	0.907	0.052	0.265
L2/L3	0.744	0.908	0.625	0.454	0.380	0.233	0.922	0.505	0.755	0.671	0.620	0.916	0.673	0.685	0.694	0.497
L3/L4	0.401	0.614	0.427	0.696	0.319	0.398	0.945	0.212	0.904	0.887	0.611	0.975	0.620	0.846	0.570	0.837
L4/L5	0.449	0.628	0.849	0.440	0.968	0.508	0.420	0.691	0 876	0.915	0.675	0.820	0.406	0.988	0.552	0.706
L5/S1	0 618	0 849	0 930	0.543	0 929	0 511	0.522	0 524	0 864	0 881	0 869	0 638	0 853	0.404	0 497	0 092

Table 9.19 *P*-values in relation to mechanical loading ratio variables and intervertebral osteophytosis severity (significant values show in bold).

	Male								Female							
	Vertebral Column / Humerus Length	Vertebral Column / Humerus + Radius Length	Vertebral Column / Femur Length	Vertebral Column / Femur + Tibia Length	Vertebral Column + Humerus + Radius / Femur Length	Vertebral Column + Humerus + Radius / Femur + Tibia Length	Humerus Length / Femur Length*	Humerus + Radius / Femur + Tibia Length	Vertebral Column / Humerus Length	Vertebral Column / Humerus + Radius Length	Vertebral Column / Femur Length	Vertebral Column / Femur + Tibia Length	Vertebral Column + Humerus + Radius / Femur Length	Vertebral Column + Humerus + Radius / Femur + Tibia Length	Humerus Length / Femur Length	Humerus + Radius / Femur + Tibia Length
Dens	0.424	0.358	**0.050**	0.068	**0.020**	**0.026**	**0.043**	0.090	0.195	0.288	0.053	**0.039**	**0.026**	**0.023**	0.122	**0.043**
C2/C3	0.664	0.732	0.538	0.551	0.177	0.306	**0.049**	0.258	0.103	0.113	0.272	0.193	0.671	0.441	0.561	0.915
C3/C4	0.828	0.902	0.422	0.621	0.141	0.401	**0.043**	0.401	0.166	0.163	0.206	0.751	0.369	0.781	0.971	0.896
C4/C5	0.719	0.848	0.210	0.285	**0.050**	0.132	0.110	0.202	0.810	0.780	0.716	0.432	0.644	0.298	0.337	0.136
C5/C6	0.798	0.890	**0.033**	0.239	0.159	0.301	0.243	0.317	0.863	0.971	0.843	0.631	0.786	0.577	0.167	0.882
C6/C7	0.929	0.946	0.516	0.717	0.248	0.465	0.171	0.336	0.257	0.247	0.211	0.735	0.271	0.480	0.583	0.380
C7/T1	**0.041**	0.069	**0.024**	0.053	**0.044**	0.162	0.999	0.788	0.993	0.759	0.666	0.834	0.491	0.565	0.204	0.311
T1/T2	0.484	0.494	0.684	0.931	0.947	0.521	0.550	0.136	0.051	**0.027**	**0.034**	**0.012**	0.061	**0.008**	0.347	0.086
T2/T3	0.710	0.695	0.848	0.927	0.984	0.820	0.753	0.554	0.125	0.076	**0.025**	0.070	**0.009**	**0.013**	0.119	**0.037**
T3/T4	0.979	0.983	0.826	0.608	0.677	0.252	0.712	0.176	0.067	**0.046**	0.096	0.058	0.180	0.071	0.923	0.494
T4/T5	0.584	0.669	0.490	0.371	0.349	0.121	0.697	0.204	0.083	0.081	**0.019**	**0.025**	**0.021**	**0.024**	0.271	0.304
T5/T6	0.397	0.515	0.205	0.201	**0.043**	**0.004**	0.324	**0.019**	**0.047**	**0.037**	**0.032**	0.093	0.099	0.111	0.861	0.427
T6/T7	0.113	0.181	**0.032**	**0.012**	**0.017**	**0.001**	0.408	**0.016**	0.168	0.167	0.142	0.294	0.137	0.157	0.851	0.272
T7/T8	0.077	0.103	0.183	0.073	0.461	0.143	0.365	0.953	0.081	0.063	0.085	0.238	0.147	0.250	0.712	0.932
T8/T9	0.496	0.433	0.230	0.115	0.170	**0.022**	0.465	0.194	**0.023**	**0.029**	**0.010**	**0.033**	**0.020**	**0.044**	0.656	0.385
T9/T10	0.655	0.467	0.353	0.178	0.372	0.078	0.427	0.235	0.382	0.254	0.123	0.373	0.068	0.166	0.267	0.227
T10/T11	0.527	0.460	0.230	0.171	0.152	0.053	0.302	0.214	0.158	0.177	0.145	0.151	0.211	0.213	0.582	0.980
T11/T12	0.477	0.434	0.262	0.118	0.244	0.056	0.517	0.306	0.295	0.193	0.446	0.248	0.865	0.416	0.689	0.983
T12/L1	**0.039**	0.065	**0.011**	**0.004**	**0.010**	**0.000**	0.434	**0.025**	**0.028**	0.057	**0.024**	**0.018**	**0.046**	**0.027**	0.389	0.106
L1/L2	0.059	0.120	**0.014**	**0.011**	**0.009**	**0.002**	0.406	0.081	**0.044**	0.407	**0.048**	**0.015**	0.264	0.102	0.590	0.126
L2/L3	0.154	0.312	0.060	0.107	**0.019**	**0.015**	0.481	0.113	**0.001**	**0.008**	**0.001**	**0.001**	**0.019**	**0.013**	0.628	0.183
L3/L4	0.484	0.833	0.288	0.256	0.091	**0.031**	0.574	0.079	**0.005**	**0.007**	**0.010**	0.093	0.055	0.324	0.983	0.745
L4/L5	0.808	0.586	0.868	0.480	0.293	0.053	0.388	0.085	**0.008**	**0.017**	**0.009**	**0.031**	0.056	0.147	0.985	0.971
L5/S1	0.617	0.872	0.421	0.479	0.085	0.088	0.422	0.196	0.294	0.316	0.256	0.266	0.345	0.340	0.764	0.955

Table 9.20 *P*-values in relation to mechanical loading ratio variables and intervertebral osteophytosis severity controlling for age-at-death (significant values show in bold).

	Male								Female							
	Vertebral Column / Humerus Length	Vertebral Column / Humerus + Radius Length	Vertebral Column / Femur Length	Vertebral Column / Femur + Tibia Length	Vertebral Column + Humerus + Radius / Femur Length	Vertebral Column + Humerus + Radius / Femur + Tibia Length	Humerus Length / Femur Length*	Humerus + Radius / Femur + Tibia Length	Vertebral Column / Humerus Length	Vertebral Column / Humerus + Radius Length	Vertebral Column / Femur Length	Vertebral Column / Femur + Tibia Length	Vertebral Column + Humerus + Radius / Femur Length	Vertebral Column + Humerus + Radius / Femur + Tibia Length	Humerus Length / Femur Length	Humerus + Radius / Femur + Tibia Length
Dens	0.378	0.298	0.091	0.093	0.074	0.067	0.151	0.235	0.501	0.628	0.099	0.095	**0.025**	**0.043**	0.074	0.067
C2/C3	0.871	0.947	0.662	0.564	0.514	0.497	0.285	0.503	0.325	0.314	0.609	0.541	0.966	0.886	0.625	0.724
C3/C4	0.979	0.932	0.580	0.604	0.509	0.554	0.333	0.672	0.525	0.472	0.536	0.089	0.680	0.196	0.917	0.826
C4/C5	0.773	0.893	0.411	0.358	0.278	0.466	0.446	0.851	0.096	0.137	0.288	0.552	0.724	0.891	0.183	0.135
C5/C6	0.737	0.736	0.398	0.270	0.508	0.530	0.683	0.844	0.132	0.113	0.114	0.366	0.247	0.657	0.198	0.694
C6/C7	0.992	0.969	0.617	0.719	0.487	0.626	0.305	0.479	0.938	0.889	0.727	0.195	0.615	0.565	0.474	0.527
C7/T1	**0.042**	0.071	**0.028**	0 061	**0.050**	0.186	0.993	0.727	0.224	0.565	0.580	0.430	0.968	0.887	0.098	0.383
T1/T2	0.512	0.514	0.535	0.810	0.598	0.819	0.953	0.298	0.741	0.353	0.308	0.361	0.151	0.103	0.052	0.058
T2/T3	0.936	0.910	0.852	0.988	0.792	0.935	0.802	0.870	0.780	0.502	0.175	0.397	**0.026**	0.063	**0.033**	**0.037**
T3/T4	0.898	0.881	0.957	0.680	0.975	0.384	0.925	0.330	0.378	0.232	0.328	0.292	0.274	0.193	0.476	0.414
T4/T5	0.443	0.518	0.610	0.320	0.694	0.184	0.641	0.518	0.734	0.564	0.155	0.248	0.052	0.127	0.093	0.400
T5/T6	0.238	0.310	0.322	0.226	0.233	**0.020**	0.845	0.148	0.823	0.480	0.359	0.737	0.285	0.467	0.355	0.496
T6/T7	**0.043**	0.060	**0.050**	**0.008**	0.123	**0.003**	0.843	0.133	0.756	0.967	0.761	0.623	0.264	0.643	0.411	0.349
T7/T8	0.075	0.112	0.397	0.172	0.909	0.415	0.082	0.602	0.801	0.815	0.828	0.465	0.443	0.846	0.935	0.690
T8/T9	0.426	0.367	0.288	0.104	0.311	**0.024**	0.774	0.379	0.533	0.421	0.171	0.409	0.084	0.289	0.280	0.493
T9/T10	0.744	0.512	0 629	0.285	0.872	0.185	0.846	0.358	0.495	0.885	0.586	0.838	0.140	0.481	0.053	0.228
T10/T11	0.531	0.550	0.538	0.238	0.579	0.098	0.799	0.315	0.871	0.839	0.656	0.687	0.512	0.600	0.806	0.956
T11/T12	0.372	0.402	0.371	0.143	0.480	0.119	0.906	0.490	0.912	0.602	0.925	0.648	0.869	0.766	0.965	0.879
T12/L1	**0.014**	**0.019**	**0.024**	**0.004**	0.112	**0.002**	0.677	0.178	0.289	0.391	0.149	0.178	0.105	0.145	0.133	0.118
L1/L2	**0.025**	0.053	**0.026**	**0.008**	0.075	**0.007**	0.778	0.363	0.315	0.965	0.177	0.088	0.311	0.221	0.178	0.112
L2/L3	0.127	0.247	0.134	0.121	0.125	0.055	0.761	0.473	**0.034**	0.091	**0.019**	**0.017**	0.052	0.093	0.291	0.365
L3/L4	0.217	0.475	0.439	0.313	0.519	0.200	0.309	0.717	0.164	0.131	0.102	0.648	0.143	0.950	0.583	0.526
L4/L5	0.717	0.942	0.908	0.463	0.983	0.246	0.673	0.541	0.237	0.259	0.105	0.362	0.126	0.573	0.622	0.713
L5/S1	0 421	0 627	0 836	0 520	0.706	0 394	0 467	0 945	0 860	0 980	0 880	0 980	0.744	0.963	0 866	0.361

Table 9.21 *P*-values in relation to mechanical loading ratio variables and facet joint osteophytosis (significant values show in bold).

	Male								Female							
	Vertebral Column / Humerus Length	Vertebral Column / Humerus + Radius Length	Vertebral Column / Femur Length	Vertebral Column / Femur + Tibia Length	Vertebral Column + Humerus + Radius / Femur Length	Vertebral Column + Humerus + Radius / Femur + Tibia Length	Humerus Length / Femur Length*	Humerus + Radius / Femur + Tibia Length	Vertebral Column / Humerus Length	Vertebral Column / Humerus + Radius Length	Vertebral Column / Femur Length	Vertebral Column / Femur + Tibia Length	Vertebral Column + Humerus + Radius / Femur Length	Vertebral Column + Humerus + Radius / Femur + Tibia Length	Humerus Length / Femur Length	Humerus + Radius / Femur + Tibia Length
O1/C1	0.056	0.089	0.113	0.129	0.246	0.134	0.515	0 616	0.082	0.148	0.088	**0.007**	0.139	**0.016**	0.651	0.823
C1/C2									0.225	0.162	0.183	0.140	0.313	0.211	0.489	0.521
C2/C3	0.941	0.802	0.271	0.078	0.117	**0.009**	0.085	**0.023**	0.070	0.111	0.080	0.100	0.118	0.161	0.827	0.784
C3/C4	0.348	0.466	0.193	0.249	0.160	0.311	0.533	0.700	0.524	0.571	0.537	0.930	0.552	0.955	0.733	0.601
C4/C5	0.072	0.066	0.051	**0.009**	0.147	**0.000**	0.964	0.717	0.483	0.561	0.644	0.930	0.756	0.956	0.465	0.756
C5/C6	0.472	0.420	0.255	0.143	0.284	**0.017**	0.492	0.526	0.319	0.305	0.446	0.301	0.690	0.531	0.370	0.513
C6/C7	0.177	0.220	0.940	0.923	0.206	0.089	**0.004**	**0.000**	0.471	0.647	0.590	0.667	0.595	0.801	0.442	0.637
C7/T1	0.649	0.533	0.315	0.475	**0.022**	0.096	**0.004**	**0.022**	0.866	0.992	0.841	0.701	0.929	0.672	0 697	0.527
T1/T2	0.535	0.505	0.145	0.110	0.081	**0.016**	0.133	**0.019**	0.591	0.784	0.638	0.372	0.756	0.395	0.732	0.433
T2/T3	0.387	0.409	**0.023**	0.079	**0.003**	**0.027**	**0.014**	0.107	0.955	0.758	0.930	0.528	0.905	0.513	0.676	0.516
T3/T4	0.512	0.594	0.274	0.581	0 072	0.161	0.173	0.227	0.396	0.285	0.704	0.964	0.821	0.999	0.457	0.759
T4/T5	0.166	0.248	**0.031**	0.167	**0.003**	**0.038**	0.162	0.282	**0.019**	**0.038**	**0.029**	**0.035**	0.124	0.086	0.497	0.994
T5/T6	**0.015**	**0.015**	**0.033**	0.245	0.079	0.218	0.912	0.942	**0.023**	**0.048**	**0.020**	0.054	0.073	0.270	0.727	0.848
T6/T7	0.141	0.212	0.149	0.329	0.237	0.639	0.888	0.587	**0.005**	**0.021**	**0.001**	**0.008**	**0.002**	**0.023**	0.289	0.244
T7/T8	0.932	0.848	0.584	0.392	0.293	0.384	0.347	0.667	0.204	0.649	0.169	0.228	0.264	0.453	0.437	0.382
T8/T9	0.492	0.525	0.277	0.318	0.075	**0.034**	0.166	0.135	0.570	0.483	0.565	0.418	0.552	0.456	0.647	0.511
T9/T10	0.159	0.137	0.605	0.396	0.353	0.404	**0.032**	**0.034**	**0.050**	0.169	**0.025**	0.103	**0.038**	0.327	0.564	0.929
T10/T11	0.737	0.793	0.763	0.732	0.495	0.708	0.539	0.845	0.185	0.203	0.405	0.894	0.917	0.376	0.348	0.112
T11/T12	0.957	0.737	0.957	0.390	0.590	0.067	0.565	0.064	0.513	0.425	0.388	0.931	0.220	0.687	0.644	0.843
T12/L1	0.188	0.242	**0.033**	0.194	**0.003**	**0.011**	**0.027**	**0.013**	0.930	0.598	0.440	0.926	0.208	0.787	0.687	0.631
L1/L2	0.950	0.984	0.387	0.777	**0.049**	0.216	**0.008**	**0.013**	0.705	0.623	0.659	0.870	0.678	0.810	0.765	0.594
L2/L3	0.291	0.170	0.718	0.468	0.294	0.307	**0.041**	**0.002**	0.513	0.241	0.356	0.473	0.361	0.426	0.526	0.668
L3/L4	0.942	0.709	0.552	0.601	0.086	0.082	0.059	**0.011**	0.738	0.605	0.441	0.967	0.180	0.548	0.263	0.324
L4/L5	0.701	0.573	0.319	0.215	**0.030**	**0.027**	**0.014**	**0.003**	0.212	0.418	0.180	0.462	0.214	0.542	0.830	0.964
L5/S1	0 464	0 666	0 226	0 210	0 053	0 060	0 498	0 327	0 457	0 363	0 486	0 634	0 349	0.506	0 631	0 672

Table 9.22 *P*-values in relation to mechanical loading ratio variables and facet joint osteophytosis controlling for age-at-death (significant values show in bold).

	Male								Female							
	Vertebral Column / Humerus Length	Vertebral Column / Humerus + Radius Length	Vertebral Column / Femur Length	Vertebral Column / Femur + Tibia Length	Vertebral Column + Humerus + Radius / Femur Length	Vertebral Column + Humerus + Radius / Femur + Tibia Length	Humerus Length / Femur Length*	Humerus + Radius / Femur + Tibia Length	Vertebral Column / Humerus Length	Vertebral Column / Humerus + Radius Length	Vertebral Column / Femur Length	Vertebral Column / Femur + Tibia Length	Vertebral Column + Humerus + Radius / Femur Length	Vertebral Column + Humerus + Radius / Femur + Tibia Length	Humerus Length / Femur Length	Humerus + Radius / Femur + Tibia Length
O1/C1	0.058	0.100	0.073	0.092	0.101	**0.040**	0.769	0.270	0.410	0.481	0.304	0.061	0.274	0.071	0.846	0.929
C1/C2									0.642	0.422	0.448	0.442	0.493	0.462	0.353	0.608
C2/C3	0.921	0.776	0.450	0.117	0.404	**0.039**	0.299	0 091	0.373	0.395	0.299	0.381	0.244	0.395	0.940	0.892
C3/C4	0.334	0.403	0.350	0.321	0.531	0.580	0.883	0.851	0.798	0.873	0.949	0.633	0.829	0.730	0.927	0.542
C4/C5	0.068	0.051	0.112	**0.014**	0.487	0.152	0.506	0.414	0.657	0.727	0.676	0.453	0.860	0.589	0.703	0.649
C5/C6	0.454	0.354	0.467	0.202	0.852	0.350	0.881	0.986	0.970	0.849	0.973	0.763	0.964	0.922	0.564	0.431
C6/C7	0.181	0.242	0.909	0.848	0.381	0 465	**0.012**	**0.002**	0.830	0.757	0.856	0.838	0.894	0.838	0.631	0.558
C7/T1	0.670	0.610	0.541	0.652	0.149	0.365	**0.043**	0.154	0.248	0.409	0.339	0.273	0.605	0.340	0.927	0.448
T1/T2	0.518	0.441	0.272	0.170	0.326	0.073	0.455	0.103	0.123	0.266	0.218	0.080	0.461	0.140	0.961	0.353
T2/T3	0.367	0.332	0.079	0.138	0.055	0.149	0.143	0.462	0.816	0.958	0.753	0 437	0.797	0.438	0.748	0.495
T3/T4	0.494	0.521	0.479	0.763	0.178	0.406	0.562	0.671	0.592	0.873	0.546	0.299	0.732	0.464	0.729	0.626
T4/T5	0.160	0.219	0.060	0.222	**0.013**	0.094	0.332	0.536	0.230	0.258	0.200	0.206	0.300	0.266	0.738	0.884
T5/T6	**0.015**	**0.012**	0.056	0.316	0.179	0.406	0.578	0.540	0.192	0.235	0.118	0.277	0.172	0 615	0.510	0.748
T6/T7	0.137	0.189	0.217	0.385	0.463	0.880	0.533	0.328	**0.016**	**0.047**	**0.002**	**0.022**	**0.003**	**0.043**	0.213	0.277
T7/T8	0.917	0.906	0.762	0.509	0.588	0.748	0.648	0.812	0.296	0.769	0.233	0.338	0.300	0.545	0.383	0.403
T8/T9	0.474	0.455	0.486	0.412	0.327	0.094	0.520	0.314	0.640	0.546	0.622	0.452	0.592	0.498	0.616	0.541
T9/T10	0.168	0.172	0.342	0.271	0.964	0.866	0.173	0.150	0.215	0.432	0.093	0.307	0.079	0.580	0.421	0.853
T10/T11	0.714	0.705	0 908	0.898	0.843	0.824	0.899	0.412	0.608	0.690	0.857	0.611	0.644	0.178	0.487	0.092
T11/T12	0.984	0.838	0.595	0.610	0.638	0.392	0.722	0.401	0.564	0.781	0.940	0.264	0.496	0.734	0.426	0.962
T12/L1	0.182	0.213	0.063	0.263	**0.013**	**0.035**	0.077	**0.044**	0.579	0.979	0.763	0.741	0.327	0.959	0.582	0.585
L1/L2	0.971	0.934	0.621	0.585	0.223	0.599	**0.048**	0.079	0.726	0.924	0.817	0.406	0.904	0.561	0.928	0.538
L2/L3	0.308	0.219	0.383	0.293	0.994	0.890	0.294	**0.034**	0.939	0.615	0.741	0.849	0.550	0.688	0.391	0.741
L3/L4	0.977	0.838	0.994	0.882	0.657	0.494	0.531	0.184	0.548	0.804	0.909	0.542	0.341	0.906	0.162	0.385
L4/L5	0.735	0.698	0.700	0.412	0.400	0.321	0.208	0.084	0.753	0.981	0.538	0.943	0.401	0.883	0.952	0.883
L5/S1	0 439	0 550	0 528	0.378	0 471	0 410	0 621	0 895	0.424	0.677	0.657	0 480	0.788	0.837	0.958	0.534

Table 9.23 *P*-values in relation to mechanical loading ratio variables and facet joint osteophytosis severity (significant values show in bold).

	Male								Female							
	Vertebral Column / Humerus Length	Vertebral Column / Humerus + Radius Length	Vertebral Column / Femur Length	Vertebral Column / Femur + Tibia Length	Vertebral Column + Humerus + Radius / Femur Length	Vertebral Column + Humerus + Radius / Femur + Tibia Length	Humerus Length / Femur Length*	Humerus + Radius / Femur + Tibia Length	Vertebral Column / Humerus Length	Vertebral Column / Humerus + Radius Length	Vertebral Column / Femur Length	Vertebral Column / Femur + Tibia Length	Vertebral Column + Humerus + Radius / Femur Length	Vertebral Column + Humerus + Radius / Femur + Tibia Length	Humerus Length / Femur Length	Humerus + Radius / Femur + Tibia Length
O1/C1	0.353	0.386	0.787	0.794	0.742	0.753	0.203	0.906	0.583	0.826	0.548	0.144	0.592	0.174	0.939	0.355
C1/C2	0.475	0.586	0.869		0.426		0.083		0.225	0.162	0.183	0.140	0.313	0.211	0.489	0.521
C2/C3	0.621	0.716	0.879	0.343	0.547	0.471	0.176	0.914	0.053	0.058	0.108	0.076	0.321	0.198	0.805	0.906
C3/C4	0.794	0.873	0.912	0.865	0.749	0.833	0.419	0.913	**0.034**	**0.036**	0.052	0.204	0.164	0.410	0.886	0.962
C4/C5	0.907	0.865	0.767	**0.032**	0.716	0.179	0.746	0.657	0.630	0.495	0.625	0.606	0.817	0.650	0.846	0.818
C5/C6	**0.021**	**0.028**	**0.021**	**0.044**	0.080	0.187	0.921	0.678	0.114	0.123	0.214	0.355	0.479	0.544	0.559	0.837
C6/C7	0.735	0.672	0.609	0.638	0.210	0.356	0.088	0.264	0.433	0.382	0.382	0.159	0.481	0.232	0.894	0.200
C7/T1	0.741	0.555	0.900	0.854	0.419	0.563	0.185	0.354	0.836	0.691	0.956	0.685	0.534	0.944	0.648	0.496
T1/T2	0.192	0.244	0.073	0.091	0.063	**0.042**	0.410	0.163	0.653	0.539	0.774	0.612	0.891	0.722	0.098	0.331
T2/T3	0.539	0.444	0.139	0.136	0.073	0.087	0.111	0.321	0.201	0.247	**0.039**	0.063	**0.016**	**0.046**	0.095	0.169
T3/T4	**0.005**	**0.010**	**0.034**	**0.032**	0.273	0.382	0.217	0.164	0.385	0.466	0.602	0.983	0.602	0.823	0.892	0.528
T4/T5	0 487	0.603	0.464	0.949	0.119	0.408	0.316	0.496	0.403	0.415	0.115	0.198	**0.043**	0.150	0.220	0.463
T5/T6	**0.016**	**0.016**	**0.017**	**0.015**	0.089	0.233	0.925	0.211	**0.034**	0.185	**0.029**	0.128	0.104	0.372	0.865	0.927
T6/T7	0.809	0.754	0.469	0.851	0.380	0.863	0.441	0.542	0.665	0.925	0.814	0.979	0.492	0.815	0.179	0.688
T7/T8	0.113	0.109	0.343	0.304	0.907	0.792	0.203	0.326	0.960	0.758	0.421	0.618	0.345	0.668	0.185	0.887
T8/T9	0.276	0.320	0.294	0.423	0.483	0.820	0.849	0.562	0.881	0.794	0.794	0.609	0.916	0.578	0.962	0.749
T9/T10	0.663	0.700	0.986	0.339	0.697	**0.041**	0.401	**0.014**	0.308	0.144	0.115	0.184	0.087	0.078	0.115	0.119
T10/T11	0.399	0.393	0.336	0.256	0.453	0.535	0.957	0.830	0.160	0.193	0.155	0.198	0.297	0.314	0.584	0.421
T11/T12	0.518	0.774	0.817	0.849	0.586	0.512	0.715	0.848	0.317	0.268	0.450	0.973	0.602	0.856	0.956	0.662
T12/L1	0.693	0.788	0.246	0.750	0.106	0.839	0.232	0.352	0.422	0.380	0.236	0.986	0.141	0.953	0.364	0.898
L1/L2	0 841	0.930	0.402	0.840	0.207	0.610	0.271	0.423	0.537	0.438	0.619	0.723	0.809	0.921	0.811	0.637
L2/L3	0.406	0.342	0.925	0.811	0.380	0.547	0.078	0.116	0.371	0.290	0.299	0.464	0.318	0.560	0.355	0.542
L3/L4	0.754	0.879	0.522	0.674	0.247	0.380	0.640	0.204	0.423	0.299	0.405	0.614	0.427	0.506	0.704	0.885
L4/L5	0.718	0.460	0.607	0.690	0.856	0.941	0.891	0.344	0.300	0.140	0.583	0.551	0.976	0.591	0.122	0.392
L5/S1	0 098	0.222	0 260	0 304	0.561	0.719	0 294	0 476	0 358	0.307	0.355	0 190	0 288	0 065	0 555	0 476

Table 9.24 *P*-values in relation to mechanical loading ratio variables and facet joint osteophytosis severity controlling for age-at-death (significant values show in bold).

	Male								Female							
	Vertebral Column / Humerus Length	Vertebral Column / Humerus + Radius Length	Vertebral Column / Femur Length	Vertebral Column / Femur + Tibia Length	Vertebral Column + Humerus + Radius / Femur Length	Vertebral Column + Humerus + Radius / Femur + Tibia Length	Humerus Length / Femur Length*	Humerus + Radius / Femur + Tibia Length	Vertebral Column / Humerus Length	Vertebral Column / Humerus + Radius Length	Vertebral Column / Femur Length	Vertebral Column / Femur + Tibia Length	Vertebral Column + Humerus + Radius / Femur Length	Vertebral Column + Humerus + Radius / Femur + Tibia Length	Humerus Length / Femur Length	Humerus + Radius / Femur + Tibia Length
O1/C1	0.356	0.416	0.619	0.648	0.867	0.350	0.403	0.384	0.963	0.805	0.803	0.271	0.744	0.283	0.846	0.421
C1/C2	0.480	0.647	0.894		0.881		0.271		0.609	0.440	0.427	0.406	0.513	0.475	0 352	0.591
C2/C3	0.671	0.852	0.931	0.359	0.941	0.726	0.534	0.461	0.119	0.123	0.189	0.154	0.413	0.319	0.912	0.976
C3/C4	0.993	0.869	0.913	0.860	0.637	0.570	0.811	0.429	0.054	0.057	0.077	0.305	0.205	0.539	0.830	0.958
C4/C5	0.952	0.951	0.783	**0.037**	0.553	0.357	0.490	0.228	0.775	0.979	0.897	0.944	0.867	0.982	0.932	0.702
C5/C6	**0.017**	**0.018**	**0.034**	0.051	0.217	0.366	0.468	0.246	0.248	0.249	0.377	0.554	0.651	0.750	0.596	0.748
C6/C7	0.766	0.681	0.554	0.609	0.149	0.293	0.064	0.202	0.744	0.654	0.616	0.082	0.646	0.146	0.856	0.175
C7/T1	0.665	0.550	0.927	0.988	0.737	0.926	0.367	0.704	0.249	0.232	0.502	0.249	0.842	0.642	0.487	0.586
T1/T2	0.210	0.229	0.107	0.103	0.139	0.064	0.636	0.250	0.471	0.397	0.620	0.403	0.991	0.550	0.123	0.292
T2/T3	0.406	0.282	0.165	0.147	0.212	0.189	0.387	0.738	**0.018**	**0.033**	**0.002**	**0.004**	**0.003**	**0.006**	0.117	0.124
T3/T4	**0.005**	**0.008**	**0.046**	**0.041**	0.389	0.523	0.122	0.057	0.799	0.851	0.689	0.304	0.966	0.564	0.709	0.731
T4/T5	0.462	0.529	0.533	0.914	0.209	0.548	0.509	0.754	0.145	0.177	**0.044**	0.056	**0.027**	0.057	0.322	0.429
T5/T6	**0.017**	**0.014**	**0.029**	**0.018**	0.243	0.388	0.518	0.067	0.150	0.456	0.097	0.388	0.170	0.684	0.965	0.926
T6/T7	0.847	0.764	0.634	0.662	0.668	0.675	0.744	0.911	0.875	0.867	0.656	0.794	0.439	0.662	0.217	0.664
T7/T8	0.121	0.120	0.310	0.299	0.768	0.669	0.259	0.439	0.769	0.579	0.308	0.445	0.288	0.532	0.210	0.856
T8/T9	0.262	0.286	0.354	0.476	0.659	0.947	0.619	0.286	0.787	0.706	0.720	0.513	0.874	0.508	0.984	0.732
T9/T10	0.603	0.663	0.848	0.418	0.923	0.063	0.557	**0.021**	0.793	0.432	0.306	0.485	0.153	0.201	0.062	0.152
T10/T11	0.432	0.444	0.273	0.209	0.269	0.303	0.679	0.741	0.585	0.591	0.467	0.693	0.546	0.762	0.443	0.540
T11/T12	0.484	0.693	0.783	0.972	0.659	0.963	0.164	0.335	0.767	0.624	0.812	0.634	0.745	0.622	0.866	0.634
T12/L1	0.627	0.696	0.355	0.651	0.285	0.635	0.580	0.992	0.586	0.517	0.331	0.854	0.189	0.839	0.347	0.836
L1/L2	0.842	0.898	0.480	0.968	0.301	0.833	0.380	0.668	0.719	0.584	0.776	0.878	0.907	0.942	0.865	0.600
L2/L3	0.347	0.299	0.631	0.612	0.742	0.815	0.196	0.226	0.529	0 404	0.401	0.627	0.377	0.692	0.446	0 523
L3/L4	0.802	0.885	0.872	0.887	0.747	0.853	0.704	0.683	0.727	0.958	0.967	0.560	0.726	0.900	0.981	0.959
L4/L5	0.599	0.391	0.469	0.706	0.594	0.885	0.811	0.625	0.773	0.712	0.604	0.669	0.521	0.821	0.202	0.275
L5/S1	0 079	0.160	0 378	0 274	0 983	1 000	**0.048**	0 104	0.438	0.714	0.745	0.982	0 623	0.338	0.802	0.724

Table 9.25 *P*-values in relation to locomotion ratio variables and intervertebral joint osteophytosis for the male sample (significant values show in bold).

	Calcaneus Length / Vertebral Column Length	Calcaneus Length / Humerus + Radius Length	Calcaneus Length / Humerus Length + Head Diameter+ Epicondylar Breadth	Calcaneus Length / Femur + Tibia Length	Calcaneus Length / Femur Head Diameter	Calcaneus Length / Tibia Proximal Epicondylar Breadth	Calcaneus Length / Tibia Distal Epicondylar Breadth	Calcaneus Breadth / Vertebral Column Length	Calcaneus Breadth / Humerus + Radius Length	Calcaneus Breadth / Humerus Length + Head Diameter+ Epicondylar Breadth	Calcaneus Breadth / Femur + Tibia Length	Calcaneus Breadth / Femur Head Diameter	Calcaneus Breadth / Tibia Proximal Epicondylar Breadth	Calcaneus Breadth / Tibia Distal Epicondylar Breadth	Femur Head Diameter / Vertebral Column Length	Femur Head Diameter / Humerus Length + Head Diameter+ Epicondylar Breadth	Tibia Proximal Epicondylar Breadth / Vertebral Column Length	Tibia Proximal Epicondylar Breadth / Humerus Length + Head Diameter+ Epicondylar Breadth	Tibia Distal Epicondylar Breadth / Vertebral Column Length	Tibia Distal Epicondylar Breadth / Humerus Length + Head Diameter+ Epicondylar Breadth*
Dens	0.622	0.605	0.464	0.597	0.064	0.671	**0.032**	0.428	0.487	0.330	0.751	0.132	0.669	0.063	0.242	0.116	0.995	0.798	0.288	0.391
C2/C3	0.580	0.276	0.271	0.097	0.587	0.707	0.940	0.909	0.615	0.648	0.154	0.889	0.801	0.627	0.657	0.491	0.568	0.428	0.548	0.811
C3/C4	0.703	0.426	0.376	0.248	0.985	0.662	0.697	0.953	0.653	0.628	0.241	0.889	0.579	0.662	0.268	0.349	0.686	0.650	0.430	0.270
C4/C5	0.527	0.372	0.359	0.282	0.931	0.671	0.530	0.881	0.957	0.968	0.595	0.531	0.976	0.673	0.129	0.582	0.453	0.616	0.190	0.153
C5/C6	0.611	0.845	0.692	0.922	0.582	0.214	0.059	0.559	0.865	0.700	0.605	0.751	0.700	0.475	0.426	0.909	0.539	0.541	0.258	0.200
C6/C7	0.552	0.645	0.716	0.768	0.701	0.274	0 083	0.356	0.679	0.689	0.528	0.750	0.714	0.587	0.753	0.730	0.745	0.457	0.384	0.416
C7/T1	0.635	0.978	0.664	0.671	0.873	0.603	0.284	0.243	0.710	0.906	0.697	0.658	0.656	0.632	0.677	0.936	0.905	0.324	0.654	0.209
T1/T2	0.466	0.114	0.198	0.408	0.120	0.065	**0.019**	0.297	0.182	0.244	0.553	0.168	0.243	0.091	0.803	0.850	0.526	0.745	0.204	0.235
T2/T3	0.128	0.267	0.332	0.586	**0.023**	**0.033**	**0.017**	0.421	0.924	0.935	0.412	0.410	0.665	0.411	0.501	0.118	0.937	0.550	0.613	0.367
T3/T4	0.932	0.376	0.381	0.900	0.139	0.358	0.074	0.746	0.326	0.277	0.866	0.181	0.379	0.162	0.233	0.437	0.795	0.618	0.430	0.772
T4/T5	0.971	0.678	0.725	0.574	0.257	0.257	**0.048**	0.165	0.081	0.067	0.656	**0.027**	0.066	**0.008**	0.244	0.352	0.749	0.795	0.265	0.854
T5/T6	0.473	0.816	0.385	0.562	0.193	0.394	**0.044**	0.981	0.463	0.720	0.275	0.765	0.890	0.667	0.565	0.786	0.949	0.485	0.368	0.552
T6/T7	0.710	0.771	0.611	0.185	0.313	0.426	**0.048**	0.633	0.712	0.210	0.986	0.209	0.124	**0.010**	**0.049**	0.360	0.286	0.815	**0.022**	0.385
T7/T8	0.157	0.213	0.613	**0.046**	0.572	0.687	0.103	0.836	0.898	0.485	0.796	0.235	0.350	**0.013**	**0.005**	0.138	0.141	0.800	**0.001**	0.132
T8/T9	0.581	0.397	0.981	0.079	0.603	0.688	0.085	0 682	0.218	0.606	0.091	0.610	0.389	0.677	0.757	0.548	0.762	0.095	**0.040**	0.838
T9/T10	0.606	0.374	0.160	0.549	0.128	0.723	**0.002**	0.393	0.223	0.281	**0.022**	0.210	**0.040**	0.856	0.346	0.574	0.727	**0.035**	0.154	0.260
T10/T11	0.663	0.788	0.838	0.268	0.100	0.967	**0.039**	0.276	0.309	0.448	0.174	0.837	0.748	0.462	**0.013**	0.056	0.372	0.889	0.092	0.136
T11/T12	0.601	0.910	0.829	0.597	0.119	0.385	0.072	0.810	0.495	0.718	0.587	0.600	0.486	0.350	0.153	0.248	0.469	0.989	0.311	0.839
T12/L1	0.525	0.752	0.333	0.578	0.083	0.532	**0.049**	0.767	0.274	0.570	0.198	0.836	0.813	0.680	0.246	0.455	0.900	0.363	0.407	0.992
L1/L2	0.229	0.441	0.504	0.903	0.262	0.287	**0.011**	0.559	0.935	0.994	0.307	0.954	0.439	0.491	0.584	0.839	0.360	0.204	0.558	0.703
L2/L3	0.808	0.699	0.728	0.370	0.987	0.463	**0.049**	0.903	0.487	0.509	0.075	0.526	0.364	0.990	0.837	0.418	0.895	0.831	0.241	0.237
L3/L4	0.951	0.301	0.309	0.074	0.455	0.669	0.192	0.698	0.093	0.064	**0.031**	0.716	0.543	0.806	0.243	0.165	0.404	0.559	0.227	0.162
L4/L5	0.896	0.417	0.435	0.267	0.569	0.525	0.173	0.630	0.504	0.535	0.122	0.742	0.891	0.858	0.273	0.356	0.654	0.534	0.461	0.329
L5/S1	0.894	0.351	0 366	0.148	0 659	0 569	0.135	0 477	0 805	0.779	0.154	0 506	0.864	0.658	0.336	0.402	0 655	0.798	0 339	0.227

Table 9.26 *P*-values in relation to locomotion ratio variables and intervertebral joint osteophytosis for the male sample controlling for age-at-death (significant values show in bold).

	Calcaneus Length / Vertebral Column Length	Calcaneus Length / Humerus + Radius Length	Calcaneus Length / Humerus Length + Head Diameter+ Epicondylar Breadth	Calcaneus Length / Femur + Tibia Length	Calcaneus Length / Femur Head Diameter	Calcaneus Length / Tibia Proximal Epicondylar Breadth	Calcaneus Length / Tibia Distal Epicondylar Breadth	Calcaneus Breadth / Vertebral Column Length	Calcaneus Breadth / Humerus + Radius Length	Calcaneus Breadth / Humerus Length + Head Diameter+ Epicondylar Breadth	Calcaneus Breadth / Femur + Tibia Length	Calcaneus Breadth / Femur Head Diameter	Calcaneus Breadth / Tibia Proximal Epicondylar Breadth	Calcaneus Breadth / Tibia Distal Epicondylar Breadth	Femur Head Diameter / Vertebral Column Length	Femur Head Diameter / Humerus Length + Head Diameter+ Epicondylar Breadth	Tibia Proximal Epicondylar Breadth / Vertebral Column Length	Tibia Proximal Epicondylar Breadth / Humerus Length + Head Diameter+ Epicondylar Breadth	Tibia Distal Epicondylar Breadth / Vertebral Column Length	Tibia Distal Epicondylar Breadth / Humerus Length + Head Diameter+ Epicondylar Breadth*
Dens	0.447	0.323	0.257	0.237	0.083	0.678	0.133	0.271	0.266	0.179	0.224	0.138	0.528	0.096	0.736	0.392	0.592	0.483	0.895	0.911
C2/C3	0.851	0.692	0.626	0.520	0.477	0.694	0.306	0.778	0.980	0.997	0.714	0.863	0.972	0.446	0.549	0.865	0.912	0.781	0.494	0.252
C3/C4	0.989	0.912	0.778	0.802	0.831	0.649	0.503	0.748	0.982	0.968	0.896	0.915	0.782	0.480	0.981	0.953	0.744	0.846	0.568	0.674
C4/C5	0.825	0.909	0.820	0.976	0.760	0.657	0.566	0.565	0.623	0.577	0.462	0.556	0.720	0.911	0.736	0.591	0.941	0.814	0.841	0.779
C5/C6	0.304	0.282	0.237	0.249	0.703	0.223	0.606	0.301	0.434	0.330	0.328	0.784	0.437	0.728	0.600	0.188	0.736	0.836	0.545	0.538
C6/C7	0.304	0.196	0.279	0.437	0.846	0.283	0.581	0.185	0.326	0.354	0.543	0.779	0.488	0.814	0.365	0.442	0.604	0.997	0.490	0.331
C7/T1	0.395	0.520	0.884	0.675	0.995	0.613	0.968	0.117	0.401	0.580	0.471	0.682	0.462	0.837	0.165	0.366	0.532	0.717	0.345	0.830
T1/T2	0.310	**0.030**	0.076	0.114	0.152	0.067	0.100	0.194	0.085	0.130	0.142	0.176	0.168	0.136	0.639	0.391	0.929	0.870	0.760	0.984
T2/T3	0.059	0.077	0.126	0.149	**0.035**	**0.035**	0.136	0.256	0.589	0.741	0.850	0.428	0.481	0.573	0.742	0.427	0.446	0.902	0.472	0.842
T3/T4	0.720	0.163	0.199	0.537	0.174	0.365	0.308	0.572	0.187	0.170	0.494	0.188	0.267	0.235	0.660	0.822	0.763	0.367	0.820	0.202
T4/T5	0.832	0.384	0.454	0.880	0.310	0.265	0.221	0.109	**0.040**	**0.034**	0.197	**0.028**	**0.039**	**0.015**	0.652	0.721	0.869	0.526	0.868	0.412
T5/T6	0.345	0.530	0.226	0.916	0.230	0.401	0.197	0.899	0.593	0.843	0.636	0.753	0.758	0.750	0.970	0.457	0.682	0.299	0.965	0.833
T6/T7	0.903	0.870	0.369	0.560	0.374	0.433	0.250	0.512	0.537	0.144	0.456	0.216	0.079	**0.018**	0.183	0.676	0.544	0.561	0.345	0.981
T7/T8	0.285	0.520	0.980	0.308	0.684	0.673	0.713	0.960	0.799	0.290	0.578	0.246	0.213	**0.028**	0.054	0.431	0.426	0.418	0.052	0.789
T8/T9	0.824	0.784	0.600	0.406	0.710	0.675	0.496	0.770	0.371	0.818	0.421	0.593	0.547	0.859	0.931	0.161	0.840	**0.022**	0.613	0.241
T9/T10	0.350	0.095	**0.033**	0.538	0.184	0.750	0.089	0.543	0.462	0.534	0.325	0.197	0.095	0 929	0.873	0.763	0.349	**0.003**	0.709	0.656
T10/T11	0.952	0.686	0.417	0.996	0.143	0.951	0.410	0.444	0.558	0.721	0.860	0.862	1.000	0.670	0.130	0.260	0.883	0.444	0.353	0.986
T11/T12	0.342	0.517	0.398	0.607	0.169	0.395	0.515	0.591	0.862	0.937	0.548	0.624	0.318	0.520	0.758	0.790	0.928	0.545	0.836	0.160
T12/L1	0.346	0.386	0.157	0.772	0.109	0.542	0.296	0.927	0.448	0.764	0.673	0.819	0.993	0.856	0.715	0.874	0.590	0.164	0.811	0.191
L1/L2	0.098	0.102	0.162	0.205	0.357	0.297	0.193	0.323	0.507	0.591	0.830	0.985	0.662	0.712	0.121	0.306	0.073	**0.048**	0.361	0.204
L2/L3	0.459	0.579	0.638	0.688	0.806	0.479	0.606	0.761	0.968	0.961	0.738	0.497	0.612	0.714	0.175	0.073	0.401	0.318	0.598	0.583
L3/L4	0.714	0.782	0.745	0.536	0.584	0.685	0.987	0.967	0.246	0.180	0.379	0.688	0.799	0.559	0.983	0.653	0.968	0.920	0.813	0.879
L4/L5	0.556	1.000	0.934	0.993	0.710	0.539	0.902	0.375	0.913	0.916	0.728	0.771	0.856	0.620	0.905	0.979	0.685	0.992	0.415	0.621
L5/S1	0 739	0 904	0 874	0.788	0.817	0.586	0 865	0 261	0 758	0 788	0.888	0.532	0 854	0.915	0 806	0.892	0.654	0 667	0.562	0.736

Table 9.27 *P*-values in relation to locomotion ratio variables and intervertebral joint osteophytosis for the female sample (significant values show in bold).

	Calcaneus Length / Vertebral Column Length	Calcaneus Length / Humerus + Radius Length	Calcaneus Length / Humerus Length + Head Diameter+ Epicondylar Breadth	Calcaneus Length / Femur + Tibia Length	Calcaneus Length / Femur Head Diameter	Calcaneus Length / Tibia Proximal Epicondylar Breadth	Calcaneus Length / Tibia Distal Epicondylar Breadth	Calcaneus Breadth / Vertebral Column Length	Calcaneus Breadth / Humerus + Radius Length	Calcaneus Breadth / Humerus Length + Head Diameter+ Epicondylar Breadth	Calcaneus Breadth / Femur + Tibia Length	Calcaneus Breadth / Femur Head Diameter	Calcaneus Breadth / Tibia Proximal Epicondylar Breadth	Calcaneus Breadth / Tibia Distal Epicondylar Breadth	Femur Head Diameter / Vertebral Column Length	Femur Head Diameter / Humerus Length + Head Diameter+ Epicondylar Breadth	Tibia Proximal Epicondylar Breadth / Vertebral Column Length	Tibia Proximal Epicondylar Breadth / Humerus Length + Head Diameter+ Epicondylar Breadth*	Tibia Distal Epicondylar Breadth / Vertebral Column Length	Tibia Distal Epicondylar Breadth / Humerus Length + Head Diameter+ Epicondylar Breadth*
Dens	0.222	0.486	0.452	0.330	0.964	0.078	0.821	0.139	0.808	0.557	0.850	0.998	0.290	0.982	**0.045**	0.766	**0.002**	0.244	0.391	0.507
C2/C3	0.609	0.878	0.795	0.966	0.724	0.201	0.250	0.465	0.562	0.210	0.457	0.452	0.952	0.274	0.905	0.914	0.390	0.166	0.841	0.275
C3/C4	0.692	0.901	0.768	0.815	0.727	**0.044**	0.861	0.404	0.712	0.647	0.841	0.824	0.215	0.631	0.535	0.995	0.302	0.323	0.915	0.478
C4/C5	0.889	0.791	0.258	0.427	0.083	**0.008**	0.420	0.663	0.817	0.941	0.961	0.264	0.129	0.559	0.073	0.253	0.142	0.458	0.920	0.489
C5/C6	0.649	0.486	0.149	0.846	0.932	0.103	0.607	0.416	0.372	0.393	0.485	0.239	0.687	0.967	0.541	0.325	0.254	0.617	0.955	0.276
C6/C7	0.926	0.818	0.358	0.785	0.892	0.114	0.309	**0.038**	**0.047**	**0.035**	0.098	**0.045**	0.713	0.735	0.554	0.594	0.229	0.878	0.392	0.812
C7/T1	0.586	0.342	0.144	0.407	0.854	**0.011**	0.331	0.464	0.853	0.698	0.830	0.644	0.114	0.367	0.494	0.937	0.260	0.484	0.864	0.621
T1/T2	0.267	0.550	0.269	0.618	0.256	**0.042**	0.273	0.925	0.585	0.433	0.783	0.983	0.257	0.412	0.727	0.482	0.633	0.591	0.830	0.939
T2/T3	0.436	0.838	0.739	0.358	0.870	0.244	0.428	0.744	0.865	0.900	0.537	0.673	0.272	0.827	0.339	0.709	0.306	0.483	0.536	0.113
T3/T4	0.685	0.794	0.755	0.832	0.935	0.936	0.371	0.204	0.551	0.477	0.944	0.601	0.707	0.319	0.611	0.506	0.891	0.635	0.462	0.757
T4/T5	0.364	0.921	0.762	0.919	0.432	0.274	0.570	0.368	0.390	0 249	0.913	0.440	0.883	0.917	0.303	0.661	0.288	0.801	0.662	0.547
T5/T6	**0.015**	0.454	0.295	0.550	0.101	0.585	0.532	0.113	0.949	0.978	0.357	0.871	0.205	0.221	0.105	0.625	0.102	0.649	0.333	0.824
T6/T7	0.711	0.572	0.523	0.942	0.587	0.993	0.922	0.530	0.697	0.776	0.887	0.696	0.925	0.786	0.485	0.338	0.934	0.332	0.651	0.532
T7/T8	0.223	0.274	0.316	0.614	0.410	0.171	0.421	0.941	0.956	0.857	0.803	0.657	0.707	0.529	0.108	0.874	0.633	0.466	0.678	0.960
T8/T9	0.211	0.505	0.390	0.983	0.381	0.213	0.585	0.997	0.761	0.699	0.803	0.648	0.087	0.245	0.084	0.935	0.499	0.533	0.481	0.957
T9/T10	0.080	0.062	0.148	0.400	0.951	0.561	0.838	0.764	0.633	0.956	0 929	0.192	**0.022**	0.205	0.088	0.617	0.107	0.389	0.717	0.979
T10/T11	0.256	0.517	0.961	0.200	0.461	0.448	0.808	0.145	0.122	0.517	0.085	0.792	0.993	0.606	**0.016**	0.355	0.070	0.854	0.502	0.628
T11/T12	0.239	0.968	0.791	0.611	0.690	0.316	0.559	0.491	0.754	0.594	0.459	0.354	0.115	0.532	0.374	0.700	0.482	0.976	0.743	0.193
T12/L1	**0.033**	0.259	0.286	0.776	0.397	0.756	0.654	0.086	0.496	0.499	0.800	0.771	0.282	0.505	0.132	0.587	0.150	0.451	0.509	0.924
L1/L2	0.710	0.875	0.949	0.896	0 427	0.156	0 898	0.959	0.882	0.679	0.807	0.863	0.076	0.254	0.668	0.964	0.136	0.181	0.582	0.823
L2/L3	0.122	0.777	0.991	0.435	0.334	0.302	0.601	0.252	0.532	0.363	0.311	0.447	0.658	0.894	0.060	0.923	**0.004**	0.311	0.363	0.411
L3/L4	**0.050**	0.235	0.404	0.209	0.447	0.436	0.919	0.351	0.474	0.294	0.538	0.965	0.375	0.903	**0.019**	0.561	**0.004**	0.335	0.096	0.756
L4/L5	0.652	0.951	0.637	0.980	0.721	0.148	0.840	0.550	0.576	0.730	0.604	0.589	0.550	0.826	0.079	0.957	**0.046**	0.417	0.339	0.832
L5/S1	0 140	0 649	0 980	0 271	0 320	0.553	0 622	0.306	0 519	0 417	0 260	0 492	0.820	0 986	0.241	0 819	0.121	0 870	0 839	0 227

Table 9.28 *P*-values in relation to locomotion ratio variables and intervertebral joint osteophytosis for the female sample controlling for age-at-death (significant values show in bold).

	Calcaneus Length / Vertebral Column Length	Calcaneus Length / Humerus + Radius Length	Calcaneus Length / Humerus Length + Head Diameter+ Epicondylar Breadth	Calcaneus Length / Femur + Tibia Length	Calcaneus Length / Femur Head Diameter	Calcaneus Length / Tibia Proximal Epicondylar Breadth	Calcaneus Length / Tibia Distal Epicondylar Breadth	Calcaneus Breadth / Vertebral Column Length	Calcaneus Breadth / Humerus + Radius Length	Calcaneus Breadth / Humerus Length + Head Diameter+ Epicondylar Breadth	Calcaneus Breadth / Femur + Tibia Length	Calcaneus Breadth / Femur Head Diameter	Calcaneus Breadth / Tibia Proximal Epicondylar Breadth	Calcaneus Breadth / Tibia Distal Epicondylar Breadth	Femur Head Diameter / Vertebral Column Length	Femur Head Diameter / Humerus Length + Head Diameter+ Epicondylar Breadth	Tibia Proximal Epicondylar Breadth / Vertebral Column Length	Tibia Proximal Epicondylar Breadth / Humerus Length + Head Diameter+ Epicondylar Breadth*	Tibia Distal Epicondylar Breadth / Vertebral Column Length	Tibia Distal Epicondylar Breadth / Humerus Length + Head Diameter+ Epicondylar Breadth*
Dens	0.452	0.655	0.856	0.459	0.705	0.705	0.778	0.304	0.823	0.604	0.916	0.708	0.993	0.499	0.560	0.474	0.129	0.614	0.844	0.747
C2/C3	0.942	0.948	0.438	0.894	0.460	0.953	0.103	0.755	0.570	0.228	0.424	0.276	0.343	0.082	0.290	0.696	0.741	0.325	0.460	0.393
C3/C4	0.895	0.680	0.690	0.967	0.392	0.689	0.664	0.738	0.727	0.703	0.769	0.513	0.987	0.734	0.269	0.617	0.449	0.792	0.501	0.767
C4/C5	0.712	1.000	0.626	0.590	0.203	0.249	0.798	0.965	0.832	0.993	0.971	0.450	0.702	0.944	0.885	0.502	0.821	0.949	0.514	0.760
C5/C6	0.343	0.659	0.401	0.955	0.596	0.877	0.972	0.723	0.381	0.431	0.433	0.116	0.446	0.478	0.310	0.148	0.573	0.238	0.422	0.475
C6/C7	0.678	0.970	0.773	0.587	0.534	0.983	0.661	0.113	**0.049**	**0.042**	0.080	**0.015**	0.099	0.251	0.281	0.324	0.591	0.598	0.924	0.882
C7/T1	0.313	0.491	0.408	0.559	0.796	0.303	0.663	0.787	0.868	0.753	0.900	0.389	0.700	0.916	0.387	0.610	0.598	0.989	0.357	0.920
T1/T2	0.187	0.706	0.560	0.785	0.507	0.432	0.549	0.757	0.596	0.470	0.720	0.723	0.897	0.920	0.361	0.709	0.300	0.938	0.620	0.659
T2/T3	0.710	0.995	0.853	0.473	0.583	0.952	0.213	0.956	0.853	0.943	0.582	0.912	0.832	0.719	0.632	0.980	0.698	0.912	0.199	0.209
T3/T4	0.881	0.683	0.555	0.720	0.802	0.407	0.549	0.314	0.558	0.497	0.899	0.471	0.833	0.581	0.600	0.692	0.457	0.862	0.773	0.601
T4/T5	0.532	0.978	0.494	0.956	0.311	**0.049**	0.372	0.516	0.395	0.265	0.956	0.343	0.496	0.595	0.927	0.396	0.931	0.496	0.951	0.737
T5/T6	**0.035**	0.356	0.118	0.445	0.051	0.137	0.340	0.196	0.939	0.981	0.389	0.937	0.499	0.425	0.669	0.380	0.444	0.994	0.588	0.966
T6/T7	0.956	0.686	0.859	0.950	0.409	0.577	0.837	0.733	0.706	0.814	0.924	0.532	0.611	0.879	0.584	0.178	0.366	0.151	0.364	0.710
T7/T8	0.385	0.200	0.122	0.491	0.246	**0.011**	0.221	0.686	0.967	0.813	0.850	0.857	0.998	0.937	0.801	0.747	0.522	0.209	0.882	0.785
T8/T9	0.334	0.413	0.194	0.898	0.249	**0.033**	0.376	0.791	0.753	0.666	0.815	0 806	0.208	0.469	0.605	0.646	0.898	0.312	0.803	0.751
T9/T10	0.164	**0.039**	0.055	0.304	0.789	0.676	0.540	0.977	0.643	0.992	0.977	0.300	0.108	0.472	0.690	0.886	0.573	0.755	0.961	0.773
T10/T11	0.381	0.435	0.662	0.161	0.615	0.924	0.619	0.219	0.124	0.543	0.078	0.555	0.655	0.403	0.180	0.561	0.297	0.844	0.767	0.788
T11/T12	0.436	0.863	0.779	0.755	0.987	0.835	0.300	0.753	0.742	0.553	0.501	0.542	0.493	0.984	0.617	0.428	0.562	0.552	0.350	0.326
T12/L1	0.057	0.209	0.163	0.690	0.280	0.691	0.491	0.128	0.501	0.518	0.827	0.905	0.527	0.706	0.577	0.784	0.488	0.672	0.683	0.933
L1/L2	0.947	0.753	0.761	0.964	0.275	0.629	0.800	0.824	0.890	0.706	0.851	0.690	0.259	0.509	0.460	0.737	0.660	0.353	0.985	0.976
L2/L3	0.301	0.590	0.514	0.302	0.150	0.638	0.284	0.510	0.544	0.401	0.272	0.250	0.493	0.383	0.849	0.583	0.255	0.742	0.893	0.657
L3/L4	0.143	0.151	0.144	0.135	0.200	0.514	0.687	0.650	0.486	0.327	0.484	0.674	0.836	0.549	0.452	0.871	0.187	0.737	0.360	0.509
L4/L5	0.978	0.874	0.919	0.853	0.450	0 833	0.803	0.840	0.587	0.778	0.556	0.385	0.734	0.688	0.749	0.724	0.508	0.809	0.727	0.918
L5/S1	0 337	0 475	0 510	0 176	0.142	0 355	0.302	0 594	0 532	0 458	0 225	0 283	0 358	0 443	0 583	0 487	0.857	0 603	0 554	0 410

Table 9.29 *P*-values in relation to locomotion ratio variables and intervertebral joint osteophytosis severity for the male sample (significant values show in bold).

	Calcaneus Length / Vertebral Column Length	Calcaneus Length / Humerus + Radius Length	Calcaneus Length / Humerus Length + Head Diameter+ Epicondylar Breadth	Calcaneus Length / Femur + Tibia Length	Calcaneus Length / Femur Head Diameter	Calcaneus Length / Tibia Proximal Epicondylar Breadth	Calcaneus Length / Tibia Distal Epicondylar Breadth	Calcaneus Breadth / Vertebral Column Length	Calcaneus Breadth / Humerus + Radius Length	Calcaneus Breadth / Humerus Length + Head Diameter+ Epicondylar Breadth	Calcaneus Breadth / Femur + Tibia Length	Calcaneus Breadth / Femur Head Diameter	Calcaneus Breadth / Tibia Proximal Epicondylar Breadth	Calcaneus Breadth / Tibia Distal Epicondylar Breadth	Femur Head Diameter / Vertebral Column Length	Femur Head Diameter / Humerus Length + Head Diameter+ Epicondylar Breadth	Tibia Proximal Epicondylar Breadth / Vertebral Column Length	Tibia Proximal Epicondylar Breadth / Humerus Length + Head Diameter+ Epicondylar Breadth	Tibia Distal Epicondylar Breadth / Vertebral Column Length	Tibia Distal Epicondylar Breadth / Humerus Length + Head Diameter+ Epicondylar Breadth*
Dens	0.648	0.823	0.924	0.353	0.953	0.731	0.679	0.319	0.826	0.585	0.613	0.586	0.554	0.586	0.605	0.893	0.818	0.658	0.876	0.855
C2/C3	0.560	0.482	0.522	0.802	0.770	0.140	0.688	0.321	0.389	0.375	0.605	0.537	0.149	0.582	0.169	0.177	0.685	0.415	0.770	0.674
C3/C4	0.565	0.482	0.442	0.750	0.795	0.074	0.629	0.263	0.317	0.251	0.452	0.452	0.060	0.390	0.412	0.571	0.553	0.250	0.877	0.979
C4/C5	0.475	0.605	0.812	0.963	0.923	0.176	0.671	0.329	0.591	0.724	0.920	0.956	0.271	0.747	0.362	0.416	0.831	0.157	0.764	0.692
C5/C6	0.479	0.429	0.529	0.955	0.888	0.256	0.660	0.232	0.349	0.377	0.796	0.602	0.235	0.532	0.573	0.570	0.977	0.473	0.678	0.980
C6/C7	0.234	0.128	0.181	0.205	0.791	0.067	0.397	0.075	0.122	0.136	0.150	0.881	0.108	0.411	0.158	0.078	0.978	0.738	0.527	0.421
C7/T1	0.210	0.979	0.644	0.932	0.300	0.733	0.774	0.086	0.840	0.873	0.826	0.520	0.689	0.692	**0.013**	0.363	0.224	0.317	0.118	0.796
T1/T2	0.340	0.136	0.175	0.314	0.375	**0.011**	0.068	0.413	0.388	0.450	0.711	0.727	0.191	0.387	0.183	0.598	0.621	0.536	0.645	0.580
T2/T3	0.738	0.872	0.979	0.701	0.846	0.103	0.479	0.693	0.859	0.938	0.594	0.784	0.271	0.632	0.751	0.740	0.087	0.058	0.319	0.413
T3/T4	0.607	0.515	0.385	0.795	0.231	0.150	0.502	0.586	0.944	0.897	0.553	0.949	0.223	0.477	0.652	0.741	0.573	0.653	0.957	0.693
T4/T5	0.658	0.956	0.929	0.809	0.315	0.413	0.158	0.988	0.546	0.528	0.291	0.824	0.986	0.524	0.638	0.347	0.864	0.570	0.430	0 205
T5/T6	0.186	0.339	0.176	0.653	0.094	0.063	**0.016**	0.507	0.950	0.886	0.515	0.787	0.673	0.421	0.928	0.859	0.974	0.786	0.514	0.538
T6/T7	0.605	0.534	0.986	0.136	0.235	0.147	0.113	0.568	0.512	0.937	0.220	0.479	0.222	0.207	0.576	0.287	0.636	0.418	0.289	0.428
T7/T8	0.977	0.090	0.244	0.090	0.954	0.810	0.870	0.219	0.917	0.560	0.967	0.193	0.085	0.111	0.986	0.422	0.714	0.124	0.706	0.334
T8/T9	0.278	0.752	0.333	0.845	0.269	0.102	0.094	0.508	0.951	0.594	0.714	0.569	0.376	0.256	0.722	0.674	0.909	0.783	0.645	0 636
T9/T10	0.127	0.231	0.066	0.338	0.368	0.100	**0.026**	0.590	0.854	0.863	0.438	0.477	0.656	0.926	0.349	0.242	0.610	0.398	0.919	0.844
T10/T11	0.404	0.693	0.364	1.000	0.200	0.054	0.106	0.302	0.723	0.429	0.942	0.289	0.165	0.226	0.695	0.629	0.626	0.308	0.646	0.467
T11/T12	0.372	0.850	0.522	0.913	0.282	0.055	0.150	0.183	0.651	0.373	0.888	0.200	0.087	0.152	0.902	0.857	0.746	0.231	0.855	0.619
T12/L1	0.249	0.733	0.969	0.319	0.307	0.254	0.172	0.616	0.259	0.355	0.065	0.903	0.935	0.695	0.523	0.660	0.778	0.338	0.779	0.456
L1/L2	0.106	0.658	0.719	0.986	0.462	0.338	0.070	0.308	0.670	0.580	0.230	0.722	0.541	0.822	0.191	0.802	0.250	0.935	0.967	0.294
L2/L3	0.980	0.205	0.119	0.095	0.478	0.581	0.659	0.639	0.582	0.480	0.185	0.875	0.450	0.905	0.637	0.989	0.857	0.522	0.410	**0.036**
L3/L4	0.886	0.459	0.322	0.195	0.822	0.655	0.127	0.852	0.759	0.564	0.192	0.664	0.746	0.435	0.740	0.647	0.315	0.088	0.135	**0.010**
L4/L5	0.807	0.677	0.746	0.369	0.216	0.155	0.060	0.926	0.973	0.918	0.456	0.147	0.252	0.112	**0.034**	0.127	0.153	0.083	**0.046**	**0.029**
L5/S1	0.671	0.114	0.098	0.114	0 920	0 782	0 480	0 872	0 616	0 635	0.309	0 454	0.905	0 591	0 141	0 093	0 444	0 307	0 237	0.118

Table 9.30 *P*-values in relation to locomotion ratio variables and intervertebral joint osteophytosis severity for the male sample controlling for age-at-death (significant values show in bold).

	Calcaneus Length / Vertebral Column Length	Calcaneus Length / Humerus + Radius Length	Calcaneus Length / Humerus Length + Head Diameter+ Epicondylar Breadth	Calcaneus Length / Femur + Tibia Length	Calcaneus Length / Femur Head Diameter	Calcaneus Length / Tibia Proximal Epicondylar Breadth	Calcaneus Length / Tibia Distal Epicondylar Breadth	Calcaneus Breadth / Vertebral Column Length	Calcaneus Breadth / Humerus + Radius Length	Calcaneus Breadth / Humerus Length + Head Diameter+ Epicondylar Breadth	Calcaneus Breadth / Femur + Tibia Length	Calcaneus Breadth / Femur Head Diameter	Calcaneus Breadth / Tibia Proximal Epicondylar Breadth	Calcaneus Breadth / Tibia Distal Epicondylar Breadth	Femur Head Diameter / Vertebral Column Length	Femur Head Diameter / Humerus Length + Head Diameter+ Epicondylar Breadth	Tibia Proximal Epicondylar Breadth / Vertebral Column Length	Tibia Proximal Epicondylar Breadth / Humerus Length + Head Diameter+ Epicondylar Breadth	Tibia Distal Epicondylar Breadth / Vertebral Column Length	Tibia Distal Epicondylar Breadth / Humerus Length + Head Diameter+ Epicondylar Breadth*
Dens	0.455	0.823	0.645	0.702	0.886	0.725	0.974	0.218	0.602	0.412	0.890	0.496	0.431	0.533	0.354	0.686	0.533	0.908	0.461	0.680
C2/C3	0.463	0.369	0.461	0.572	0.948	0.211	0.833	0.245	0.298	0.306	0.285	0.576	0.134	0.695	0.637	0.470	0.990	0.582	0.315	0.271
C3/C4	0.408	0.301	0.325	0.491	0.850	0.101	0.995	0.186	0.231	0.196	0.210	0.460	0.058	0.504	0.884	0.958	0.888	0.417	0.364	0.518
C4/C5	0.357	0.418	0.691	0.576	0.718	0.267	0.650	0.166	0.327	0.454	0.256	0.852	0.151	0.774	0.171	0.148	0.748	0.315	0.221	0.690
C5/C6	0.168	0.109	0.183	0.361	0.915	0.150	0.967	0.057	0.115	0.125	0.121	0.516	0.083	0.416	0.171	0.125	0.591	0.779	0.166	0.396
C6/C7	0.158	0.060	0.115	0.115	0.802	0.065	0.466	0.055	0.092	0.112	0.084	0.880	0.102	0.415	0.085	**0.049**	0.803	0.847	0.341	0.246
C7/T1	0.174	0.835	0.717	0.809	0.320	0.710	0.719	0.065	0.728	0.939	0.682	0.560	0.633	0.720	**0.007**	0.310	0.194	0.343	0.072	0.893
T1/T2	0.148	**0.015**	**0.038**	**0.034**	0.424	**0.008**	0.292	0.202	0.122	0.179	0.081	0.663	0.076	0.401	0.360	0.923	0.837	0.395	0.893	0.179
T2/T3	0.932	0.772	0.758	0.901	0.942	0.088	0.713	0.942	0.938	0.914	0.985	0.828	0.205	0.669	0.866	0.561	0.189	0.099	0.688	0.754
T3/T4	0.453	0.322	0.281	0.474	0.251	0.157	0.784	0.711	0.872	0.776	0.965	0.933	0.164	0.539	0.936	0.925	0.820	0.837	0.613	0.335
T4/T5	0.337	0.531	0.587	0.644	0.310	0.376	0.532	0.604	0.913	0.871	0.982	0.682	0.566	0.553	0.763	0.668	0.633	0.897	0.701	0.848
T5/T6	**0.048**	0.089	0.051	0.135	0.112	0.056	0.122	0.201	0.581	0.508	0.563	0.683	0.384	0.448	0.292	0.315	0.365	0.364	0.424	0.484
T6/T7	0.279	0.977	0.561	0.556	0.245	0.090	0.648	0.328	0.769	0.684	0.973	0.426	**0.049**	0.246	0.538	0.642	0.667	0.655	0.566	0.672
T7/T8	0.966	0.167	0.384	0.179	0.935	0.764	0.293	0.151	0.817	0.359	0.281	0.142	**0.041**	0.124	0.667	0.723	0.867	0.487	0.613	0.854
T8/T9	0.061	0.288	0.108	0.518	0.275	0.103	0.275	0.378	0.841	0.423	0.617	0.680	0.326	0.348	0.228	0.273	0.229	0.445	0.474	0.462
T9/T10	**0.015**	**0.005**	**0.000**	**0.019**	0.254	0.086	**0.046**	0.458	0.788	0.518	0.959	0.224	0.400	0.696	**0.044**	**0.016**	0.088	**0.008**	0.362	0.200
T10/T11	0.192	0.231	0.109	0.462	0.135	**0.038**	0.239	0.127	0.401	0.223	0.492	0.252	0.093	0.269	0.164	0.115	0.965	0.558	0.711	0.922
T11/T12	0.154	0.409	0.267	0.553	0.209	**0.033**	0.356	0.053	0.358	0.190	0.297	0.123	**0.025**	0.145	0.526	0.735	0.840	0.370	0.471	0.651
T12/L1	**0.035**	0.499	0.406	0.756	0.322	0.138	0.780	0.281	0.447	0.556	0.432	0.731	0.834	0.352	**0.043**	0.549	0.177	0.763	**0.022**	0.192
L1/L2	**0.006**	0.055	0.122	0.136	0.387	0.195	0.298	0.090	0.769	0.952	0.971	0.664	0.676	0.635	**0.004**	0.159	**0.007**	0.312	**0.048**	0.311
L2/L3	0.495	0.804	0.491	0.580	0.358	0.773	0.714	0.405	0.899	0.769	0.668	0.604	0.440	0.720	0.062	0.185	0.126	0.685	0.430	0.643
L3/L4	0.600	0.821	0.771	0.893	0.934	0.579	0.985	0.359	0.586	0.949	0.823	0.618	0.403	0.694	0.267	0.422	0.978	0.257	0.682	0.423
L4/L5	0.603	0.722	0.735	0.835	0.218	0.089	0.411	0.372	0.646	0.557	0.666	0.128	0.107	0.232	0.431	0.591	0.684	0.224	0.865	0.537
L5/S1	0 772	0 440	0 331	0 706	0 990	0 919	0 480	0 255	0 836	0 847	0 643	0.336	0 565	0 849	0 884	0.522	0 659	0 838	0 408	0 759

Table 9.31 *P*-values in relation to locomotion ratio variables and intervertebral joint osteophytosis severity for the female sample (significant values show in bold).

	Calcaneus Length / Vertebral Column Length	Calcaneus Length / Humerus + Radius Length	Calcaneus Length / Humerus Length + Head Diameter+ Epicondylar Breadth	Calcaneus Length / Femur + Tibia Length	Calcaneus Length / Femur Head Diameter	Calcaneus Length / Tibia Proximal Epicondylar Breadth	Calcaneus Length / Tibia Distal Epicondylar Breadth	Calcaneus Breadth / Vertebral Column Length	Calcaneus Breadth / Humerus + Radius Length	Calcaneus Breadth / Humerus Length + Head Diameter+ Epicondylar Breadth	Calcaneus Breadth / Femur + Tibia Length	Calcaneus Breadth / Femur Head Diameter	Calcaneus Breadth / Tibia Proximal Epicondylar Breadth	Calcaneus Breadth / Tibia Distal Epicondylar Breadth	Femur Head Diameter / Vertebral Column Length	Femur Head Diameter / Humerus Length + Head Diameter+ Epicondylar Breadth	Tibia Proximal Epicondylar Breadth / Vertebral Column Length	Tibia Proximal Epicondylar Breadth / Humerus Length + Head Diameter+ Epicondylar Breadth*	Tibia Distal Epicondylar Breadth / Vertebral Column Length	Tibia Distal Epicondylar Breadth / Humerus Length + Head Diameter+ Epicondylar Breadth*
Dens	0.796	0.387	0.412	0.190	0.703	**0.030**	0.210	0.237	0.476	0.336	0.712	0.438	0.341	0.676	0.869	0.476	0.134	0.207	0.736	0.527
C2/C3	0.943	0.053	**0.032**	0.113	0.190	**0.003**	**0.025**	0.719	0.384	0.219	0.444	0.396	**0.037**	0.056	0.395	0.505	**0.030**	0.242	0.067	0.694
C3/C4	**0.035**	0.218	0.242	0.625	0.915	**0.012**	0.443	0.847	0.450	0.440	0.557	0.099	0.252	0.639	0.062	0.251	0.212	0.073	0.540	0.647
C4/C5	0.605	0.883	0.660	0.598	0.586	**0.002**	0.373	0.276	0.562	0.404	0.895	0.742	0.064	0.426	0.513	0.522	0.072	**0.012**	0.684	0.735
C5/C6	0.969	0.760	0.433	0.950	0.789	**0.024**	0.939	0.381	0.363	0.251	0.437	0.332	0.293	0.989	0.817	0.929	0.179	0.288	0.606	0.453
C6/C7	0.739	0.698	0.928	0.906	0.596	**0.014**	0.423	0.259	**0.035**	**0.010**	0.150	0.205	0.660	0.566	**0.007**	**0.022**	**0.031**	0.231	0.516	0.767
C7/T1	0.351	0.298	0.053	0.310	0.121	**0.007**	0.327	0.685	0.448	0.385	0.650	0.898	0.381	0.909	0.261	0.282	0.157	0.094	0.819	0.841
T1/T2	0.814	**0.040**	**0.029**	**0.031**	0.129	**0.001**	**0.043**	0.383	0.826	0.986	0.633	0.932	0.133	0.449	**0.029**	0.198	**0.011**	0.126	0.260	0.509
T2/T3	0.493	0.965	0.562	0.165	0.325	**0.003**	0.380	0.296	0.665	0.468	0.968	0.598	0.174	0.987	**0.009**	**0.042**	**0.019**	**0.029**	0.417	0.749
T3/T4	0.681	0.190	0.109	0.158	0.244	**0.004**	**0.049**	0.160	0.963	0.961	0.688	0.937	0.133	0.241	0.169	0.874	**0.012**	0.173	**0.036**	0.696
T4/T5	0.948	0.235	0.192	0.225	0.237	0.542	0.685	0.237	0.289	0.242	0.903	0.762	0.919	0.908	0.086	0.301	0.237	0.896	0.515	0.366
T5/T6	0.416	0.942	0.942	0.992	0.907	0.285	0.305	0.279	0.946	0.967	0.483	0.761	0.141	0.104	**0.020**	0.313	**0.047**	0.224	0.371	0.957
T6/T7	0.712	0.828	0.600	0.963	0.676	0.088	0.151	0.194	0.201	0.357	0.740	0.711	0.479	0.566	0.058	0.429	0.176	0.532	0.480	0.609
T7/T8	0.351	0.480	0.947	0.829	0.431	0.864	0.839	0.966	0.752	0.437	0.724	0.698	0.173	0.305	0.075	0.855	0.285	0.984	0.524	0.916
T8/T9	0.101	0.260	0.394	0.619	0.463	0.729	0.911	0.879	0.742	0.545	0.527	0.378	**0.017**	0.128	**0.014**	0.505	0.175	0.995	0.432	0.945
T9/T10	0.092	**0.024**	0.137	0.228	0.669	0.138	0.338	0.752	0.822	0.814	0.862	0.063	**0.004**	0.054	**0.017**	0.073	**0.026**	0.076	0.229	0.281
T10/T11	0.163	0.306	0.818	0.232	0.553	0.302	0.868	0.332	0.615	0.755	0.646	0.418	0.176	0.430	**0.034**	0.436	**0.026**	0.540	0.588	0.794
T11/T12	0.226	0.854	0.453	0.957	0.949	**0.030**	0.291	0.284	0.792	0.508	0.779	0.809	**0.038**	0.240	**0.047**	0.057	0.123	0.285	0.230	0.659
T12/L1	0.187	0.998	0.751	0.812	0.784	0.192	0.915	0.187	0.900	0.904	0.811	0.916	0.246	0.838	0.223	0.633	**0.046**	0.502	0.928	0.296
L1/L2	0.081	0.722	0.800	0.813	0.106	0.687	0.137	0.616	0.908	0.875	0.526	0.618	0.349	0.880	0.325	0.539	**0.033**	0.422	0.637	0.184
L2/L3	**0.004**	0.520	0.514	0.896	0.636	0.603	0.675	0.127	0.962	0.930	0.989	0.581	0.866	0.767	**0.005**	0.657	**0.003**	0.742	0.400	0.191
L3/L4	**0.036**	0 671	0.730	0.463	0.857	0.734	0.397	0.445	0.440	0.172	0.983	0.275	0.401	0.206	**0.002**	0.277	**0.005**	0.471	0.109	0.968
L4/L5	**0.011**	0.333	0.428	0.298	0.324	0.632	0.418	0.482	0.623	0.852	0 865	0.561	0.208	0.611	**0.005**	0.524	**0.004**	0.433	0.207	0.365
L5/S1	0 144	0 509	0 573	0 540	0 585	0.333	0 365	0 633	0 978	0 812	0 927	0.790	0 243	0 981	**0.043**	0 239	**0.008**	**0.050**	0 177	0.555

Table 9.32 *P*-values in relation to locomotion ratio variables and intervertebral joint osteophytosis severity for the female sample controlling for age-at-death (significant values show in bold).

	Calcaneus Length / Vertebral Column Length	Calcaneus Length / Humerus + Radius Length	Calcaneus Length / Humerus Length + Head Diameter+ Epicondylar Breadth	Calcaneus Length / Femur + Tibia Length	Calcaneus Length / Femur Head Diameter	Calcaneus Length / Tibia Proximal Epicondylar Breadth	Calcaneus Length / Tibia Distal Epicondylar Breadth	Calcaneus Breadth / Vertebral Column Length	Calcaneus Breadth / Humerus + Radius Length	Calcaneus Breadth / Humerus Length + Head Diameter+ Epicondylar Breadth	Calcaneus Breadth / Femur + Tibia Length	Calcaneus Breadth / Femur Head Diameter	Calcaneus Breadth / Tibia Proximal Epicondylar Breadth	Calcaneus Breadth / Tibia Distal Epicondylar Breadth	Femur Head Diameter / Vertebral Column Length	Femur Head Diameter / Humerus Length + Head Diameter+ Epicondylar Breadth	Tibia Proximal Epicondylar Breadth / Vertebral Column Length	Tibia Proximal Breadth / Humerus Length + Head Diameter+ Epicondylar Breadth*	Tibia Distal Epicondylar Breadth / Vertebral Column Length	Tibia Distal Epicondylar Breadth / Humerus Length + Head Diameter+ Epicondylar Breadth*
Dens	0.886	0.460	0.695	0.215	0.878	0.225	0.447	0.208	0.319	0.212	0.885	0.190	0.981	0.793	0.485	0.183	0.353	0.371	0.933	0.608
C2/C3	0.910	0.066	0.086	0.143	0.355	**0.024**	0.100	0.850	0.524	0.340	0.709	0.685	0.241	0.221	0.901	0.331	0.134	0.378	0.164	0.666
C3/C4	0.079	0.216	0.172	0.620	0.669	0.223	0.901	0.980	0.570	0.589	0.545	0.195	0.969	0.846	0.234	0.361	0.739	0.181	0.778	0.588
C4/C5	0.912	0.796	0.996	0.547	0.726	0 053	0.859	0.645	0.495	0.339	0.861	0.903	0.407	0.913	0.393	0.813	0.795	0.055	0.682	0.548
C5/C6	0.374	0.724	0.564	0.890	0.422	0.277	0.602	0.639	0.205	0.152	0.256	0.068	0.788	0.396	0.136	0.320	0.852	0.847	0.213	0.464
C6/C7	0.432	0.550	0.706	0.561	0.748	0.311	0.763	0.205	**0.004**	**0.001**	**0.028**	**0.007**	0.159	0.096	0.094	0.073	0.199	0.381	0.954	0.508
C7/T1	0.144	0.250	0.087	0.298	0.246	**0.042**	0.451	0.922	0.534	0.384	0.730	0.585	0.763	0.660	0.963	0.525	0.775	0.283	0.617	0.978
T1/T2	0.320	**0.030**	**0.049**	**0.021**	0.165	**0.006**	0.095	0.623	0.945	0.807	0.754	0.730	0.495	0.969	0.461	0.288	0.336	0.311	0.948	0.783
T2/T3	0.657	0.928	0.836	0.174	0.531	**0.030**	0.729	0.441	0 663	0.461	0.992	0.767	0.497	0.606	0.194	0.084	0.270	0.080	0.973	0.807
T3/T4	0.997	0.238	0.182	0.202	0.241	**0.023**	0 064	0.226	0.926	0.878	0.777	0.911	0.378	0.425	0.517	0.996	0.092	0.241	0.112	0.546
T4/T5	0.776	0.285	0.448	0.306	0.390	0.596	0.850	0.388	0.266	0.209	0.828	0.534	0.354	0.592	0.757	0.526	0.781	0.587	0.957	0.457
T5/T6	0.726	0.894	0.485	0.817	0.580	0.836	0 527	0.462	0.915	0.950	0 508	0.943	0.615	0.301	0.387	0.458	0.608	0.466	0.846	0.571
T6/T7	0.942	0.464	0.837	0.769	0.996	0.578	0.249	0.215	0.089	0.241	0.483	0.353	0.726	0.789	0.706	0.790	0.967	0.890	0.996	0.231
T7/T8	0.705	0.190	0.349	0.466	0.094	0.166	0.828	0.567	0.721	0.207	0.824	0.822	0.691	0.647	0.777	0.540	0.496	0.454	0.826	0.642
T8/T9	0.159	0.114	0.112	0.379	0.245	0.179	0.599	0.815	0.669	0.401	0.477	0.354	**0.036**	0.193	0.305	0.733	0.756	0.733	0.882	0.601
T9/T10	0.121	**0.002**	**0.018**	0.104	0 965	0.696	0.603	0.982	0.827	0.712	0.818	0.074	**0.017**	0.111	0.262	0.122	0.267	0.156	0.527	0.115
T10/T11	0.230	0.162	0.401	0.139	0.905	0 839	0.837	0.355	0.435	0 823	0.557	0 806	0.530	0.860	0.318	0.709	0.180	0.727	0.941	0.806
T11/T12	0.285	0 809	0.904	0.676	0 606	0.398	0 685	0.396	0.784	0.437	0.773	0.926	0.233	0.573	0.365	0.185	0.521	0.425	0.574	0.526
T12/L1	0 271	0 890	0.957	0 916	0.557	0 643	0.735	0.296	0 987	0 679	0.740	0.798	0.539	0.552	0.922	0.398	0.348	0 808	0.483	0.509
L1/L2	0.110	0.600	0.437	0.943	**0.043**	0.521	**0.047**	0.709	0.908	0.833	0.531	0.434	0.810	0.491	0.945	0.349	0.176	0.610	0.984	0.253
L2/L3	**0.004**	0.319	0.160	0.727	0.199	0.415	0.272	0.168	0.908	0.946	0.776	0.961	0.392	0.704	0.113	0.979	**0.041**	0.912	0.720	0.297
L3/L4	**0.031**	0 311	0.200	0.203	0 598	0.275	0.649	0 657	0.498	0.199	0 915	0 472	0.865	0.516	0.059	0.445	0.090	0.889	0.234	0.529
L4/L5	**0.014**	0 152	0.102	0.123	0 067	0.206	0.114	0.806	0 477	0 696	0 900	0 808	0.843	0 844	0.149	0.904	0 131	0.884	0.516	0.615
L5/S1	0 181	0 247	0 195	0 194	0 134	0 570	0 095	0 853	0 975	0 778	0 658	0 759	0 959	0 456	0 490	0 624	0 175	0 238	0 550	0 616

Table 9.33 *P*-values in relation to locomotion ratio variables and facet joint osteophytosis for the male sample (significant values show in bold).

	Calcaneus Length / Vertebral Column Length	Calcaneus Length / Humerus + Radius Length	Calcaneus Length / Humerus Length + Head Diameter+ Epicondylar Breadth	Calcaneus Length / Femur + Tibia Length	Calcaneus Length / Femur Head Diameter	Calcaneus Length / Tibia Proximal Epicondylar Breadth	Calcaneus Length / Tibia Distal Epicondylar Breadth	Calcaneus Breadth / Vertebral Column Length	Calcaneus Breadth / Humerus + Radius Length	Calcaneus Breadth / Humerus Length + Head Diameter+ Epicondylar Breadth	Calcaneus Breadth / Femur + Tibia Length	Calcaneus Breadth / Femur Head Diameter	Calcaneus Breadth / Tibia Proximal Epicondylar Breadth	Calcaneus Breadth / Tibia Distal Epicondylar Breadth	Femur Head Diameter / Vertebral Column Length	Femur Head Diameter / Humerus Length + Head Diameter+ Epicondylar Breadth	Tibia Proximal Epicondylar Breadth / Vertebral Column Length	Tibia Proximal Epicondylar Breadth / Humerus Length + Head Diameter+ Epicondylar Breadth	Tibia Distal Epicondylar Breadth / Vertebral Column Length	Tibia Distal Epicondylar Breadth / Humerus Length + Head Diameter+ Epicondylar Breadth*
O1/C1	0.106	0.241	0.464	0.399	0.163	0.919	0.797	0.219	0.556	0.868	0.522	0.457	0.971	0.916	0.215	0 223	**0.034**	0.608	**0.028**	0.326
C1/C2																				
C2/C3	0.133	0.226	0.139	0.713	0.272	**0.004**	0.383	0.089	0.276	0.162	0.761	0.341	**0.011**	0.482	0.605	0.631	0.673	0.301	0.334	0.308
C3/C4	0.466	0.887	0.829	0.985	0.636	0.801	0.814	0.435	0.898	0 889	0.903	0.534	0.724	0.762	0.454	0.855	0.571	0.504	0.295	0.699
C4/C5	**0.038**	0.427	0.542	0.338	0.218	0.549	0.354	0.353	0.479	0.293	0.456	0.510	0.389	0.609	0.306	0.414	**0.044**	0.786	**0.041**	0.949
C5/C6	0.330	0.922	0 865	0.900	0.858	0.351	0.904	0.833	0.383	0.622	0.264	0.328	0.792	0.664	0.814	0.498	0.879	0.419	0.452	0.827
C6/C7	0.916	0.409	0.465	0.896	0.290	0.116	0.799	0.552	0.271	0.259	0.610	0.665	0.101	0.677	0.644	**0.008**	0.241	0.646	0.722	0.573
C7/T1	0.918	0.935	0.952	0.399	0.998	0.942	0.859	0.676	0.583	0.544	0.673	0.580	0.692	0.859	0.918	0.293	0.794	0.894	0.740	0.868
T1/T2	0.385	0.464	0.377	0.833	0.227	**0.004**	0.127	0.712	0.928	0.969	0.227	0.801	0.247	0.864	0.568	0.796	0.290	**0.022**	0.729	0.343
T2/T3	0.446	0.052	**0.039**	**0.006**	0.141	0.797	0.411	0.877	0.337	0.318	**0.037**	0.525	0.801	0.386	0.972	0.647	0.594	**0.049**	0.810	0.208
T3/T4	0.237	0.052	0.052	0.060	0.059	0.559	0.867	0.715	0.393	0.437	0.173	0.295	0.716	0.768	0.682	0.385	0.300	0.246	0.443	0.372
T4/T5	0.918	0.480	0.470	0.383	0.465	0.933	0.335	0.976	0.414	0.396	0.105	0.262	0.248	0.587	0.129	0.292	0.551	0.885	0.871	0.164
T5/T6	0.131	0.674	0.338	0.988	0.360	0.788	0.816	0.496	0.367	0.063	0.992	0.859	0.953	0.705	0.218	0.295	0.300	0.214	0.421	0.158
T6/T7	0.887	0.610	**0.022**	0.565	0.133	0.318	0.131	0.228	0.772	0 450	0.700	0.764	0.668	0.277	**0.045**	0.737	0.165	0.175	0.210	0.252
T7/T8	0.836	0.407	0.348	0.305	0.317	0.880	0.826	0.905	0.557	0 506	0.276	0.379	0.532	0.337	0.722	0.469	1.000	0.369	0.968	0.646
T8/T9	0.886	0 667	0 661	0.558	0 873	0 099	0.279	0 510	0.244	0.198	0 073	0.357	0.950	0.505	0.788	0.563	0.275	**0.007**	0.562	0.246
T9/T10	0.207	0.597	0.693	0.314	0.962	0 880	0.472	0.548	0.615	0.449	0.827	0.434	0.466	0.259	**0.032**	0.360	0.094	0.525	0.060	0.433
T10/T11	0.205	0.482	0.473	0.194	0.280	**0.049**	0.079	0.231	0.505	0.218	0.106	0.190	0.165	0.239	0.940	0.647	0.771	0.086	0.946	0.951
T11/T12	0 814	0 805	0.865	0.798	0.127	0 615	0 064	0.869	0.830	0 662	0.280	0.705	0.578	0.930	0.121	**0.031**	0.925	0.672	0.517	0.669
T12/L1	**0.029**	0.078	0.056	0.212	**0.045**	**0.023**	0.063	0.506	0.654	0 644	0.958	0.752	0.648	0.973	0.779	0.312	0.651	0.511	0 807	0.769
L1/L2	0 825	0.768	0 303	0 840	0.191	**0.044**	0 051	0.292	0.234	0.397	0 490	0.725	0.306	0.463	0.151	0.113	0.053	0.055	0.102	0.805
L2/L3	0.420	0.967	0.868	0.409	0.965	0 810	0.084	0.548	0.796	0 821	0.411	0.925	0.952	0.437	0 066	0.368	**0.029**	0.577	**0.038**	0.383
L3/L4	0 982	0.935	0 835	0.420	0.746	0.297	**0.026**	0.657	0 537	0.363	**0.040**	0.522	0 632	0.982	0.594	0.697	0.200	0.102	0.108	0.065
L4/L5	0.712	0.470	0 547	**0.046**	0 768	0 824	0 206	0 953	0 690	0 694	**0.027**	0 787	0 852	0 897	0.367	0.428	0 247	0.324	0.182	0.410
L5/S1	0 451	0 850	0 970	0 618	0 312	0 230	**0.014**	0 493	0 899	0 923	0 258	0 492	0 799	0 287	0 811	0 531	0 599	0 237	0 215	**0.029**

Table 9.34 *P*-values in relation to locomotion ratio variables and facet joint osteophytosis for the male sample controlling for age-at-death (significant values show in bold).

	Calcaneus Length / Vertebral Column Length	Calcaneus Length / Humerus + Radius Length	Calcaneus Length / Humerus Length + Head Diameter+ Epicondylar Breadth	Calcaneus Length / Femur + Tibia Length	Calcaneus Length / Femur Head Diameter	Calcaneus Length / Tibia Proximal Epicondylar Breadth	Calcaneus Length / Tibia Distal Epicondylar Breadth	Calcaneus Breadth / Vertebral Column Length	Calcaneus Breadth / Humerus + Radius Length	Calcaneus Breadth / Humerus Length + Head Diameter+ Epicondylar Breadth	Calcaneus Breadth / Femur + Tibia Length	Calcaneus Breadth / Femur Head Diameter	Calcaneus Breadth / Tibia Proximal Epicondylar Breadth	Calcaneus Breadth / Tibia Distal Epicondylar Breadth	Femur Head Diameter / Vertebral Column Length	Femur Head Diameter / Humerus Length + Head Diameter+ Epicondylar Breadth	*Tibia Proximal Epicondylar Breadth* / Vertebral Column Length	Tibia Proximal Epicondylar Breadth / Humerus Length + Head Diameter+ Epicondylar Breadth	Tibia Distal Epicondylar Breadth / Vertebral Column Length	Tibia Distal Epicondylar Breadth / Humerus Length + Head Diameter+ Epicondylar Breadth*
O1/C1	0.140	0.368	0.615	0.593	0.143	0.915	0.905	0.264	0.675	0.985	0.721	0.452	0.981	0.869	0.350	0.117	0.151	0.800	0.088	0.710
C1/C2																				
C2/C3	0.087	0.109	0.069	0.400	0.310	**0.004**	0.835	0.056	0.169	0.095	0.348	0.351	**0.007**	0.577	0.904	0.915	0.966	0.481	0.064	**0.044**
C3/C4	0.357	0.616	0.932	0.659	0 577	0.807	0.438	0.330	0.689	0.912	0.620	0.521	0.610	0.651	0.139	0.406	0.361	0.698	0.068	0.212
C4/C5	**0.023**	0.283	0.398	0.178	0.242	0.554	0.550	0.264	0.615	0.389	0.759	0.500	0.480	0.527	0.075	0.803	**0.017**	0.976	**0.004**	0.584
C5/C6	0.245	0.818	0.906	0.749	0.920	0.355	0.703	0.679	0.554	0.714	0.630	0.318	0.656	0.543	0.585	0.975	0.579	0.639	0.108	0.260
C6/C7	0.864	0.329	0.398	0.783	0.277	0.117	0.910	0.518	0.236	0.232	0.507	0.662	0.095	0.696	0.396	**0.002**	0.310	0.760	0.988	0.303
C7/T1	0 849	0.521	0.590	0.923	0.894	0.954	0.485	0.488	0.344	0.322	0.615	0.599	0.522	0.960	0.375	0.075	0.766	0.592	0.491	0.268
T1/T2	0.259	0.220	0.186	0.660	0.274	**0.004**	0.395	0.548	0.813	0.783	0.615	0.818	0.170	0.984	0.193	0.363	0.549	0.060	0.607	0.961
T2/T3	0 646	0.171	0.124	**0.047**	0.105	0.784	0.070	0.902	0.570	0.535	0.216	0.507	0.977	0.269	0.360	0.699	0.910	0.166	0.412	0.904
T3/T4	0.433	0.155	0.139	0.238	**0.042**	0.569	0.304	0.915	0.615	0 654	0.559	0.283	0.539	0.614	0.233	0.122	0.631	0.409	0.870	0.921
T4/T5	0.731	0.730	0.671	0.681	0.409	0.941	0.656	0.880	0.552	0.509	0.217	0.255	0.314	0.508	**0.038**	0.140	0.335	0.929	0.658	0.369
T5/T6	0 075	0.908	0.547	0 573	0.403	0.795	0.707	0 405	0.445	0.108	0.547	0.847	0.835	0.599	0.090	0.572	0.164	0.374	0.131	0.535
T6/T7	0.786	0.713	0.232	0.761	0.118	0.314	**0.049**	0.186	0.657	0.604	0.467	0.756	0.742	0.245	**0.013**	0.374	0.084	0.345	0.071	0.663
T7/T8	0 993	0.676	0 559	0 600	0.271	0 889	0.385	0.939	0.744	0.671	0.565	0.369	0 651	0.267	0.400	0.246	0.641	0.618	0.397	0.716
T8/T9	0.728	0.932	0 889	0.914	0 944	0.101	0.573	0.630	0.346	0 279	0.172	0.348	0.844	0.420	0.643	0.953	0.459	**0.016**	0.909	0.615
T9/T10	0.187	0.961	0.975	0.727	0.867	0.890	0.973	0.721	0.400	0.277	0.562	0.448	0.351	0.354	0.165	0.823	0.237	0.827	0.315	0.846
T10/T11	0.115	0.265	0.284	0.052	0.326	**0.050**	0.228	0.153	0.348	0.108	**0.009**	0.200	0.115	0.140	0.386	0.885	0.879	0.166	0.340	0.384
T11/T12	0.588	0.427	0 497	0.475	0.177	0.627	0.603	0.916	0.886	0.934	0.996	0.726	0.780	0.710	0.485	0.160	0.399	0.852	0.478	0.272
T12/L1	**0.017**	**0.036**	**0.007**	0 068	0 054	**0.023**	0.166	0.418	0.779	0 745	0 638	0.743	0 560	0.840	0.421	0.538	0.404	0.700	0.330	0 300
L1/L2	0 639	0 401	0.113	0 593	0.231	**0.046**	0.533	0.402	0.361	0.554	0.893	0.710	0.211	0.681	0.444	0.311	0.161	0.140	0.480	0.417
L2/L3	0 650	0 527	0.670	0.922	0 834	0 823	0.723	0.781	0.464	0.500	0.794	0.951	0.735	0.621	0.354	0.945	0.308	0.982	0.353	0.647
L3/L4	0 656	0 475	0 599	0.731	0.903	0.307	0.425	0 954	0 944	0 714	0 452	0.496	0.892	0.711	0.552	0.507	0.619	0.366	0.821	0.812
L4/L5	0 924	0 864	0 822	0.463	0 604	0 842	0.740	0 708	0 817	0 815	0.458	0.753	0 842	0.796	0.817	0.845	0.780	0.807	0 829	0.375
L5/S1	0 226	0 531	0 476	0 474	0 426	0 238	0 248	0 272	0 650	0 630	0 813	0 519	0 537	0 479	0 374	0 755	0 803	0 578	0 906	0 430

Table 9.35 *P*-values in relation to locomotion ratio variables and facet joint osteophytosis for the female sample (significant values show in bold).

	Calcaneus Length / Vertebral Column Length	Calcaneus Length / Humerus + Radius Length	Calcaneus Length / Humerus Length + Head Diameter+ Epicondylar Breadth	Calcaneus Length / Femur + Tibia Length	Calcaneus Length / Femur Head Diameter	Calcaneus Length / Tibia Proximal Epicondylar Breadth	Calcaneus Length / Tibia Distal Epicondylar Breadth	Calcaneus Breadth / Vertebral Column Length	Calcaneus Breadth / Humerus + Radius Length	Calcaneus Breadth / Humerus Length + Head Diameter+ Epicondylar Breadth	Calcaneus Breadth / Femur + Tibia Length	Calcaneus Breadth / Femur Head Diameter	Calcaneus Breadth / Tibia Proximal Epicondylar Breadth	Calcaneus Breadth / Tibia Distal Epicondylar Breadth	Femur Head Diameter / Vertebral Column Length	Femur Head Diameter / Humerus Length + Head Diameter+ Epicondylar Breadth	Tibia Proximal Epicondylar Breadth / Vertebral Column Length	Tibia Proximal Epicondylar Breadth / Humerus Length + Head Diameter+ Epicondylar Breadth*	Tibia Distal Epicondylar Breadth / Vertebral Column Length	Tibia Distal Epicondylar Breadth / Humerus Length + Head Diameter+ Epicondylar Breadth*
O1/C1	0.793	0.522	0.387	0.878	0.612	0.814	0.516	0.944	0.989	0.892	0.997	0.592	0.761	0.384	0.343	0.701	0.051	0.753	0.251	0.359
C1/C2	0.638	**0.015**	**0.002**	**0.017**	0.204	**0.008**	0.476	0.949	0.230	0.614	0.166	0.277	**0.025**	0.107	0.800	0.242	0.177	0.719	0.751	0.636
C2/C3	0.524	0.286	0.164	0.236	0.333	**0.031**	0.925	0.270	0.934	0.690	0.672	0.478	0.116	0.645	0.195	0.967	**0.009**	0.225	0.784	0.502
C3/C4	0.564	0.916	0.998	0.834	0.995	0.240	0.593	0.357	0.373	0.115	0.345	0.708	0.938	0.742	0.509	0.890	0.190	0.347	0.841	0.881
C4/C5	0.887	0.643	0.788	0.293	0.764	**0.047**	0.930	0.497	0.595	0.217	0.626	0.893	0.645	0.952	0.637	0.773	0.232	0.115	0.748	0.467
C5/C6	0.670	0.073	0.161	0.084	0.322	0.079	0.865	0.611	0.990	0.578	0.838	0.893	0.408	0.454	0.568	0.907	0.146	0.395	0.960	0.562
C6/C7	0.522	0.175	0.241	0.184	0.442	0.199	0.366	0.479	0.476	0.473	0.794	0.557	0.981	0.483	0.814	0.875	0.370	0.561	0.721	0.834
C7/T1	0.365	0.519	0.886	0.718	0.443	0.779	0.657	0.966	0.823	0.267	0.992	0.349	0.751	0.298	0.335	0.571	0.708	0.922	0.897	0.762
T1/T2	0.375	0.555	0.711	0.936	0.453	0.374	0 472	0.693	0.864	0.348	0.797	0.599	0.444	0.179	0.848	0.474	0.761	0.376	0.822	0.502
T2/T3	0.103	0.052	0.207	0.144	0.484	0.791	0 691	0.162	0.179	0.125	0.168	0 435	0.980	0.146	0.517	0.610	0.166	0.369	0.287	0.561
T3/T4	0 359	0.155	0.261	0.176	0.921	0.306	0 686	0.346	0.112	0 270	0.189	0.454	0.212	0.158	0.395	0.158	0.339	0.344	0.084	0.103
T4/T5	0.297	0.282	0.616	0.316	0.259	0.988	0.416	0.898	0.243	0.557	0.321	0.993	0.652	0.585	0.861	0.074	0.473	0.431	0.750	0.086
T5/T6	**0.048**	0.942	0.860	0.992	0 448	0.921	0.776	0.271	0.646	0.511	0.728	0.751	0.587	0.252	0.984	**0.045**	0.414	0 622	0.531	0.306
T6/T7	**0.001**	0.119	0.109	0 674	0.166	0.468	0.245	0.126	0.802	0.697	0.679	0.557	0.706	0.782	0.183	0.566	0.221	0.688	0.299	0.471
T7/T8	0.962	0.206	0.376	0.249	0.368	0.781	0 875	0.774	0.775	0.766	0.986	0.298	0.484	0.537	0.248	**0.021**	0.334	0.057	0.513	0.304
T8/T9	0 953	0.221	0.331	0.207	0.341	0.514	**0.016**	0.591	0.114	0 092	0 091	0.711	0.108	0.955	0.092	**0.003**	0.213	**0.009**	0.067	**0.006**
T9/T10	0.237	0.442	0.388	0.689	0.930	0.947	0.350	0.131	0 594	0.687	0.662	0.556	0.635	0.491	0.509	0.273	0.261	0.334	0.843	0.183
T10/T11	0.949	0.303	0.582	0.893	0.568	0.803	0.235	0 926	0.940	0 452	0.666	0.508	0.660	0.823	0.731	0.434	0.725	0.237	0.609	0.099
T11/T12	**0.048**	**0.035**	0 096	0.165	0.711	0.588	0.848	0.153	0 427	0.777	0.437	0.394	0.866	0.657	0.288	**0.050**	0.386	0.134	0.054	0.095
T12/L1	0 579	0 736	0 868	0 823	0 877	0 464	0 670	0.931	0.595	0.375	0 673	0 499	0.363	0.947	0.815	0.741	0.323	0.224	0.448	0.306
L1/L2	0 329	0.148	0.342	0 238	0.714	0.579	0.283	0 612	0.526	0 988	0.378	0.675	0.576	0.076	0.359	0.333	0.520	0.546	0.825	0.970
L2/L3	0.477	0.084	0.246	0.084	0.830	0.387	0 808	0 975	0 421	0 690	0.155	0.881	0.481	0.571	0.876	0.589	0.960	0.802	0.503	0.713
L3/L4	0 276	0 225	0.324	0.073	0.710	0.221	0.473	0.290	0 269	0 430	0 122	0 532	0.266	0.222	0.468	0 534	0.247	0.612	0.180	0 342
L4/L5	0.796	0 342	0 383	0.268	0 434	0 835	0.700	0.261	0.109	0 188	0.115	0 539	0.262	0.151	0 984	0.293	0.818	0 250	0.584	0 210
L5/S1	0 506	0 280	0 203	0 666	0 624	0 623	0 689	0 297	0 240	0 339	0 476	0 974	0 506	0 723	0 685	0 160	0 433	0 071	0 119	**0.023**

Table 9.36 *P*-values in relation to locomotion ratio variables and facet joint osteophytosis for the female sample controlling for age-at-death (significant values show in bold).

	Calcaneus Length / Vertebral Column Length	Calcaneus Length / Humerus + Radius Length	Calcaneus Length / Humerus Length + Head Diameter+ Epicondylar Breadth	Calcaneus Length / Femur + Tibia Length	Calcaneus Length / Femur Head Diameter	Calcaneus Length / Tibia Proximal Epicondylar Breadth	Calcaneus Length / Tibia Distal Epicondylar Breadth	Calcaneus Breadth / Vertebral Column Length	Calcaneus Breadth / Humerus + Radius Length	Calcaneus Breadth / Humerus Length + Head Diameter+ Epicondylar Breadth	Calcaneus Breadth / Femur + Tibia Length	Calcaneus Breadth / Femur Head Diameter	Calcaneus Breadth / Tibia Proximal Epicondylar Breadth	Calcaneus Breadth / Tibia Distal Epicondylar Breadth	Femur Head Diameter / Vertebral Column Length	Femur Head Diameter / Humerus Length + Head Diameter+ Epicondylar Breadth	Tibia Proximal Epicondylar Breadth / Vertebral Column Length	Tibia Proximal Breadth / Humerus Length + Head Diameter+ Epicondylar Breadth*	Tibia Distal Epicondylar Breadth / Vertebral Column Length	Tibia Distal Epicondylar Breadth / Humerus Length + Head Diameter+ Epicondylar Breadth*
O1/C1	0.965	0.590	0.535	0.790	0.487	0.718	0.365	0.888	0.996	0.868	0.965	0.485	0.876	0.212	0.915	0.531	0.256	0.971	0.476	0.496
C1/C2	0.455	**0.022**	**0.007**	**0.026**	0.307	0.063	0.708	0.746	0.226	0.583	0.184	0.383	0.103	0.241	0.629	0.160	0.559	0.987	0.949	0.710
C2/C3	0.735	0.365	0.307	0.313	0.486	0.194	0.768	0.410	0.925	0.721	0.715	0.688	0.368	0.962	0.670	0.764	0.077	0.281	0.877	0.656
C3/C4	0.764	0.813	0.771	0 915	0.824	0.608	0.753	0.505	0.378	0.123	0.328	0.573	0.535	0.952	0.859	0.943	0.596	0.495	0.932	0.803
C4/C5	0.822	0.788	0.863	0 382	0.968	0.358	0.765	0.742	0.605	0.236	0.584	0.667	0.671	0.561	0.538	0.998	0.927	0.248	0.444	0.600
C5/C6	0.449	0.107	0.310	0.118	0.492	0.446	0.858	0.849	0.984	0.594	0.859	0.896	0.987	0.771	0.772	0.884	0.676	0.654	0.726	0.625
C6/C7	0.351	0.230	0.433	0.234	0.615	0.685	0.540	0.663	0.483	0.501	0.759	0.411	0.447	0.746	0.503	0.670	0.978	0.855	0.980	0.924
C7/T1	0.315	0.639	0.812	0.841	0.284	0.168	0.910	0.724	0.833	0.286	0.950	0.228	0.253	0.560	**0.045**	0.416	0.143	0.631	0.620	0.646
T1/T2	0.226	0 678	0.993	0.944	0.648	0.906	0.737	0.478	0.873	0.370	0.749	0.788	0.990	0.422	0.249	0.630	0.452	0.618	0.511	0.385
T2/T3	0.081	0.061	0.281	0.154	0.544	0.413	0.746	0.135	0.178	0.120	0.171	0.477	0.690	0.161	0.329	0.529	**0.043**	0.233	0.264	0.591
T3/T4	0.189	0.231	0.528	0.247	0 634	0.841	0.988	0.179	0.109	0.245	0.214	0 675	0.769	0.416	**0.027**	0.078	**0.014**	0.132	**0.020**	0.172
T4/T5	0.488	0.366	0.982	0.399	0.145	0.304	0.240	0.846	0.238	0.523	0.346	0.811	0.808	0.880	0.308	**0.032**	0.668	0.198	0.419	0.142
T5/T6	0.105	0.919	0.507	0.879	0 275	0.340	0.522	0.435	0.637	0.477	0.774	0.948	0.844	0 499	0.304	**0.020**	0.831	0.348	0.875	0.437
T6/T7	**0.001**	0.102	0.065	0.617	0 121	0.228	0.179	0.155	0.798	0.682	0 695	0.627	0.892	0.935	0.390	0.459	0.420	0.533	0.421	0.558
T7/T8	0.922	0.208	0.412	0.263	0.334	0.636	0.812	0.753	0.774	0.763	0.985	0.304	0.508	0.525	0.125	0.091	0.186	**0.040**	0.416	0.209
T8/T9	0.979	0.229	0.365	0 215	0 318	0 415	**0.012**	0.583	0.114	0 091	0.092	0.719	0.148	0.924	0.053	**0.002**	0.170	**0.007**	0.058	**0.007**
T9/T10	0.350	0.514	0.609	0.794	0.752	0.474	0.211	0.193	0.599	0.713	0.631	0.450	0.311	0.275	0.985	0.200	0.594	0.186	0.878	0.253
T10/T11	0 827	0.369	0 815	0.789	0.404	0 245	0.136	0 872	0.947	0 471	0 638	0.391	0.286	0.558	0.613	0.345	0.584	0.129	0.392	0.128
T11/T12	**0.017**	0 056	0 214	0.224	0.492	0 572	0.855	0.066	0.419	0 740	0.474	0 259	0.475	0.908	**0.017**	**0.023**	**0.019**	**0.047**	**0.011**	0.147
T12/L1	0.480	0.798	0.705	0.779	0.774	0.217	0 581	0 958	0 599	0.387	0.660	0 435	0.210	0.822	0.381	0.608	0.086	0.147	0 328	0.356
L1/L2	0 233	0.185	0 470	0 278	0 567	0.913	0.384	0 472	0 521	0 992	0.396	0 555	0.958	0.135	0 099	0 257	0 164	0.395	0.659	0 967
L2/L3	0.333	0.114	0.470	0.109	0.983	0 927	0.980	0.780	0 415	0.652	0 170	0.722	0.919	0.848	0.385	0 425	0.521	0.887	0 348	0.860
L3/L4	0 176	0 286	0 564	0 094	0 896	0 603	0.639	0.183	0 264	0 403	0 133	0 676	0.586	0.386	0.096	0.365	**0.035**	0.350	0 090	0.456
L4/L5	0 948	0 428	0 663	0.336	0 281	0.482	0.480	0.151	0 106	0 172	0 126	0 695	0.600	0.300	0.340	0 184	0 265	0.131	0 364	0 278
L5/S1	0 254	0 406	0 472	0 824	0 366	0 386	0 378	0 124	0 233	0 305	0 526	0 739	0 677	0 717	0 052	0 073	**0.016**	**0.016**	**0.024**	**0.047**

Table 9.37 *P*-values in relation to locomotion ratio variables and facet joint osteophytosis severity for the male sample (significant values show in bold).

	Calcaneus Length / Vertebral Column Length	Calcaneus Length / Humerus + Radius Length	Calcaneus Length / Humerus Length + Head Diameter+ Epicondylar Breadth	Calcaneus Length / Femur + Tibia Length	Calcaneus Length / Femur Head Diameter	Calcaneus Length / Tibia Proximal Epicondylar Breadth	Calcaneus Length / Tibia Distal Epicondylar Breadth	Calcaneus Breadth / Vertebral Column Length	Calcaneus Breadth / Humerus + Radius Length	Calcaneus Breadth / Humerus Length + Head Diameter+ Epicondylar Breadth	Calcaneus Breadth / Femur + Tibia Length	Calcaneus Breadth / Femur Head Diameter	Calcaneus Breadth / Tibia Proximal Epicondylar Breadth	Calcaneus Breadth / Tibia Distal Epicondylar Breadth	Femur Head Diameter / Vertebral Column Length	Femur Head Diameter / Humerus Length + Head Diameter+ Epicondylar Breadth	Tibia Proximal Epicondylar Breadth / Vertebral Column Length	Tibia Proximal Epicondylar Breadth / Humerus Length + Head Diameter+ Epicondylar Breadth	Tibia Distal Epicondylar Breadth / Vertebral Column Length	Tibia Distal Epicondylar Breadth / Humerus Length + Head Diameter+ Epicondylar Breadth*
O1/C1	0.274	0.196	0.270	0.210	0.202	0.664	0.655	0.117	0.120	0.140	**0.035**	0.063	0.210	0.354	0.649	0.350	0.227	0.387	0.085	0.075
C1/C2																				
C2/C3	0.339	0.605	0.399	0.606	0.433	0.071	0.251	0.344	0.818	0.617	0.839	0.614	0.334	0.546	**0.014**	**0.022**	0.922	0.331	0.652	0.990
C3/C4	0.740	0.737	0.651	0.750	0.591	0.111	0.681	0.769	0.750	0.702	0.691	0.610	0.145	0.352	**0.029**	**0.034**	0.532	0.267	0.986	0.898
C4/C5	0.351	0.441	0.250	0.588	0.545	0.986	0.962	0.513	0.316	0.172	0.286	0.309	0.572	0.353	0.297	0.402	0.306	0.142	0.706	0.637
C5/C6	0.421	0.413	0.238	0.542	0.508	0.964	0.908	0.546	0.314	0.176	0.277	0.302	0.624	0.357	0.761	0.817	0.401	0.133	0.347	0.286
C6/C7	0.418	0.267	0.447	0.525	0.452	0.670	0.761	0.138	0.164	0.223	0.253	0.941	0.384	0.953	**0.023**	0.560	0.669	0.960	0.301	0.362
C7/T1	0.627	0.403	0.523	0 621	0.729	0.148	0.546	0.566	0.502	0.585	0.733	0.767	0.325	0.794	0.161	**0.050**	0.629	0.382	0.985	0.986
T1/T2	0.067	0.101	0.163	0.263	0.180	**0.005**	0.094	0.199	0.625	0.832	0.966	0.811	0.301	0.673	0.549	0.151	0.800	0.137	0.531	0.566
T2/T3	0.795	0.201	0.159	0.080	0.678	0.976	0.911	0.430	0.108	0.068	**0.013**	0.278	0.427	0.277	0.074	0.354	0.668	0.071	0.672	0.106
T3/T4	0.993	**0.017**	**0.006**	0.064	0.099	0.135	0.401	0.672	**0.013**	**0.004**	**0.013**	**0.037**	**0.036**	**0.044**	0.604	0.277	0.237	0.211	0.464	0.114
T4/T5	0.625	0.294	0.216	0.475	0 216	0.616	0.597	0.210	0.136	0.078	0.069	**0.037**	0.112	0.268	0.181	0.357	0.894	0.898	0.375	0.221
T5/T6	0.799	**0.029**	**0.013**	0.084	0 255	0.329	0 622	0.868	**0.019**	**0.005**	**0.010**	0.088	0 096	0.081	0.363	0.146	0.331	**0.033**	0.514	0.053
T6/T7	0.591	0.794	0.353	0.589	0.701	0.712	0.703	0.689	0.491	0.729	0.656	0.492	0.559	0.692	0.082	0.908	0.744	0.484	0.740	0.567
T7/T8	0.540	0 633	0.581	0.956	0.585	0.771	0.581	0.199	0.912	0.927	0.545	0.269	0.361	0.750	0.313	0.131	0.621	0.307	0.691	0.633
T8/T9	0.934	0.370	0.263	0.452	0.206	0 259	0.900	0.475	0.166	0.093	0.103	0 051	0.073	0.168	0.662	0.271	0.490	0.985	0.967	0.374
T9/T10	0.316	0 225	0.337	**0.022**	0 642	0 604	0.515	0.568	0.654	0.848	0.117	0.325	0.377	0.725	0.235	0.465	0.095	0.051	0.864	0.733
T10/T11	0 482	0 992	0 823	0.939	0 918	0.108	0.347	0.389	0 984	0 857	0.858	0 887	0.259	0.463	0.152	0.195	**0.028**	0.082	0.116	0.446
T11/T12	0.938	0.564	0.515	0.747	0.824	0 582	0.390	0 855	0 903	0.884	0.814	0.717	0.662	0.569	0.572	0.675	0.605	0.196	0.379	0.153
T12/L1	0.512	0.579	0.459	0 844	0 279	0 321	0 210	0 625	0.377	0.430	0.666	0.694	0.932	0 696	0.871	0.522	0.474	0.651	0.239	0.315
L1/L2	0 424	0 303	0.352	0 492	0.734	0 207	0.565	0.467	0.546	0.599	0 500	0.943	0.315	0.622	0.982	0 826	0.870	0.662	0.836	0.923
L2/L3	0 639	0.756	0.701	0 933	0 918	0.188	0.366	0 567	0 764	0 692	0 804	0.975	0 386	0 632	0 405	0.393	0.289	0.273	0.219	0.754
L3/L4	0 376	0.243	0.142	0 091	0.355	0 495	0.746	0 647	0.625	0.476	0.158	0 682	0.716	0 881	0 638	0.788	0.431	0.316	0.206	**0.046**
L4/L5	0.886	0 421	0.468	0 678	0 586	0.437	0.501	0.996	0.582	0 567	0 815	0.668	0 649	0.717	0.491	0.573	0.808	0.983	0.601	0 727
L5/S1	0 306	0 711	0 680	0 625	0 627	0 087	0 053	0 485	0 936	0 989	0 793	0 935	0 524	0 468	0 582	0 825	0 990	0 120	0 631	0 063

Table 9.38 *P*-values in relation to locomotion ratio variables and facet joint osteophytosis severity for the male sample controlling for age-at-death (significant values show in bold).

	Calcaneus Length / Vertebral Column Length	Calcaneus Length / Humerus + Radius Length	Calcaneus Length / Humerus Length + Head Diameter+ Epicondylar Breadth	Calcaneus Length / Femur + Tibia Length	Calcaneus Length / Femur Head Diameter	Calcaneus Length / Tibia Proximal Epicondylar Breadth	Calcaneus Length / Tibia Distal Epicondylar Breadth	Calcaneus Breadth / Vertebral Column Length	Calcaneus Breadth / Humerus + Radius Length	Calcaneus Breadth / Humerus Length + Head Diameter+ Epicondylar Breadth	Calcaneus Breadth / Femur + Tibia Length	Calcaneus Breadth / Femur Head Diameter	Calcaneus Breadth / Tibia Proximal Epicondylar Breadth	Calcaneus Breadth / Tibia Distal Epicondylar Breadth	Femur Head Diameter / Vertebral Column Length	Femur Head Diameter / Humerus Length + Head Diameter+ Epicondylar Breadth	Tibia Proximal Epicondylar Breadth / Vertebral Column Length	Tibia Proximal Breadth / Humerus Length + Head Diameter+ Distal Breadth	Tibia Distal Epicondylar Breadth / Vertebral Column Length	Tibia Distal Breadth / Humerus Length + Head Diameter+ Distal Breadth*
O1/C1	0.371	0.322	0.390	0.402	0.159	0.612	0.943	0.150	0.170	0.187	0.092	0.057	0.248	0.310	0.938	0.189	0.384	0.564	0.241	0.223
C1/C2																				
C2/C3	0.181	0.304	0.195	0.250	0.451	0.063	0.546	0.198	0.546	0.386	0.314	0.558	0.180	0.561	**0.046**	0.057	0.742	0.501	0.163	0.372
C3/C4	0.911	0.890	0.744	0.969	0.505	0.092	0.367	0.889	0.830	0.751	0.991	0.557	0.171	0.296	0.115	0.104	0.317	0.208	0.522	0.480
C4/C5	0.194	0.709	0.407	0.986	0.472	0.972	0.517	0.362	0.436	0.244	0.645	0.285	0.658	0.292	0.846	0.791	0.111	0.254	0.351	0.355
C5/C6	0.253	0.669	0.395	0.953	0.446	0.991	0.479	0.416	0.437	0.256	0.637	0.272	0.772	0.305	0.901	0.975	0.174	0.250	0.054	0.773
C6/C7	0.445	0.295	0.493	0.607	0.476	0.670	0 866	0.152	0.185	0.255	0.328	0.959	0.425	0.924	**0.003**	0.284	0.733	0.956	0.354	0.436
C7/T1	0.472	0.182	0.298	0.276	0.855	0.173	0.930	0.420	0.273	0.346	0.219	0.739	0.209	0.832	0.187	0.062	0.957	0.648	0.416	0.335
T1/T2	0.052	0.064	0.114	0.168	0.199	**0.004**	0.147	0.174	0.537	0.735	0 804	0.809	0.245	0.708	0.277	**0.050**	0.700	0.166	0.314	0.832
T2/T3	0.911	0.269	0.194	0.157	0.419	0.852	0.418	0.580	0.178	0.114	0.057	0.254	0.554	0.206	**0.037**	0.243	0.963	0.111	0.686	0.369
T3/T4	0.929	**0.023**	**0.009**	0.105	0.059	0.144	0.192	0.774	**0.020**	**0.006**	**0.026**	**0.034**	0.058	**0.041**	0.671	0.734	0.169	0.252	0.225	0.205
T4/T5	0.778	0.415	0.292	0.717	0.181	0.595	0.895	0 276	0.182	0 105	0.141	**0.037**	0.137	0.252	0.103	0.490	0.879	0.971	0 640	0.358
T5/T6	0.644	0.060	**0.025**	0.177	0.228	0.372	0.273	0.973	**0.040**	**0.012**	**0.037**	0.108	0.176	0.074	0.179	0.081	0.214	**0.045**	0.167	0.160
T6/T7	0.722	0.898	0.507	0.989	0 638	0.699	0.271	0.554	0.287	0.501	0.180	0.424	0.361	0.687	**0.029**	0.691	0.930	0.652	0.675	0.804
T7/T8	0.604	0.546	0.518	0 816	0.549	0.784	0.727	0.237	0.997	0.998	0.674	0.279	0.401	0.726	0.179	0.078	0.716	0.281	0.998	0.359
T8/T9	0 923	0.530	0.372	0.702	0.195	0 305	0.586	0 576	0 241	0.140	0.218	0 058	0.114	0 158	0.788	0.202	0.351	0.882	0 657	0.657
T9/T10	0 350	0.295	0 417	**0.033**	0.687	0.614	0.356	0 622	0.780	0 980	0.162	0 315	0.321	0.733	0.123	0.328	0.126	0.069	0.867	0.428
T10/T11	0.618	0.779	0.638	0.696	0.917	0.097	0.525	0.509	0.830	0.688	0.706	0.946	0.180	0.467	0.216	0.280	**0.049**	0.106	0.232	0.726
T11/T12	0.712	0.946	0.915	0.434	0 857	0.545	0 871	0.546	0.674	0.720	0.240	0.603	0.394	0.693	0.805	0.493	0.723	0.384	0.617	0.909
T12/L1	0.267	0.225	0.217	0.253	0.308	0.232	0.595	0 973	0.829	0.850	0.466	0.871	0.553	0.711	0.607	0.904	0.879	0.882	0.884	0.977
L1/L2	0.343	0 200	0 244	0.257	0.729	0.158	0 855	0 396	0.418	0 457	0 192	0.877	0.185	0 638	0.519	0.799	0.997	0.736	0 491	0.451
L2/L3	0.719	0 475	0.494	0 691	0.969	0.214	0 685	0 656	0 502	0 469	0 670	0.947	0.287	0 629	0.296	0.321	0.381	0.431	0.403	0.716
L3/L4	0 682	0.724	0.434	0.513	0.296	0.694	0.576	0.838	0.993	0 747	0.766	0.584	0.975	0.956	0.874	0.525	0.762	0.467	0.840	0.415
L4/L5	0 777	0 257	0.299	0.496	0.822	0 462	0 944	0 817	0.349	0.333	0.395	0 699	0 435	0.793	0 814	0.767	0.997	0 824	0.895	0.491
L5/S1	0 083	0 263	0 257	0 141	0 499	0 064	0 295	0 143	0 642	0 614	0 409	0 768	0 333	0 598	0 894	0 477	0 443	0 303	0 423	0 515

Table 9.39 *P*-values in relation to locomotion ratio variables and facet joint osteophytosis severity for the female sample (significant values show in bold).

	Calcaneus Length / Vertebral Column Length	Calcaneus Length / Humerus + Radius Length	Calcaneus Length / Humerus Length + Head Diameter+ Epicondylar Breadth	Calcaneus Length / Femur + Tibia Length	Calcaneus Length / Femur Head Diameter	Calcaneus Length / Tibia Proximal Epicondylar Breadth	Calcaneus Length / Tibia Distal Epicondylar Breadth	Calcaneus Breadth / Vertebral Column Length	Calcaneus Breadth / Humerus + Radius Length	Calcaneus Breadth / Humerus Length + Head Diameter+ Epicondylar Breadth	Calcaneus Breadth / Femur + Tibia Length	Calcaneus Breadth / Femur Head Diameter	Calcaneus Breadth / Tibia Proximal Epicondylar Breadth	Calcaneus Breadth / Tibia Distal Epicondylar Breadth	Femur Head Diameter / Vertebral Column Length	Femur Head Diameter / Humerus Length + Head Diameter+ Epicondylar Breadth	Tibia Proximal Epicondylar Breadth / Vertebral Column Length	Tibia Proximal Epicondylar Breadth / Humerus Length + Head Diameter+ Epicondylar Breadth*	Tibia Distal Epicondylar Breadth / Vertebral Column Length	Tibia Distal Epicondylar Breadth / Humerus Length + Head Diameter+ Epicondylar Breadth*
O1/C1	0.779	0.939	0.676	0.863	0.834	0.755	0.659	0.786	0.825	0.999	0.745	0.982	0.511	0.602	0.516	0.873	0.293	0.677	0.670	0.841
C1/C2	0.638	**0.015**	**0.002**	**0.017**	0.204	**0.008**	0.476	0.949	0.230	0.614	0.166	0.277	**0.025**	0.107	0.800	0.242	0.177	0.719	0.751	0.286
C2/C3	0.810	**0.046**	0.059	0.065	0.330	**0.010**	0.121	0.447	0.491	0.430	0.456	0.738	0.125	0.314	0.409	0.339	**0.022**	0.356	0.088	0.925
C3/C4	**0.026**	0.409	0.519	0.303	0.913	**0.016**	0.098	0.269	0.399	0.154	0.860	0.200	0.198	0.368	**0.005**	0.174	**0.004**	0.096	**0.039**	0.825
C4/C5	0.289	0.470	0.390	0.964	0.968	0.176	0.145	0.097	0.201	0.251	0.248	0.331	0.691	0.734	0.172	0.290	0.058	**0.034**	0.073	0.196
C5/C6	0.601	0.465	0.452	0.671	0.616	**0.032**	**0.028**	0.266	0.807	0.961	0.582	0.638	0.372	0.491	0.201	0.880	**0.012**	0.092	**0.018**	0.114
C6/C7	0.737	0.335	0.298	0.171	0.807	0.790	0.516	0.207	**0.011**	**0.005**	**0.007**	**0.045**	0.130	0.216	**0.010**	**0.019**	0.084	0.309	0.741	0.258
C7/T1	0.937	0.316	0.478	0.676	0.713	0.268	0.500	0.240	**0.035**	0.121	0.182	0.288	0.741	0.786	0.631	0.387	0.158	**0.009**	0.539	0.374
T1/T2	0.949	0.594	0.524	0.605	0.826	0.354	0.399	0.104	0.110	0.166	0.160	0.116	0.245	**0.027**	0.594	0.929	0.402	0.858	0.537	0.171
T2/T3	0.427	0.635	0.969	0.208	0.766	0.391	0.348	0.086	0.367	0.241	0.687	0.161	**0.043**	**0.037**	0.890	0.410	0.992	0.281	0.974	0.402
T3/T4	0.775	0.736	0.769	0.745	0.484	0.501	0 648	0.609	0.660	0.942	0.678	0.780	0.515	0.234	0.578	0.205	0 804	0.801	0.316	0.213
T4/T5	0.995	0.475	0.770	0.322	0.949	0.405	0.682	0.180	0.337	0.203	0.630	0.137	0.060	0.117	0.978	0.657	0.935	0.363	0.975	0.719
T5/T6	**0.036**	0.519	0.497	0.951	0.129	0.675	0.561	0.895	0.431	0.346	0 744	0.702	0.795	0.631	0.747	0.177	0.976	0.189	0.850	0.233
T6/T7	0.834	0.956	0.969	0.986	**0.013**	0.760	0.243	0.991	0.913	0.902	0.894	0.087	0.949	0.495	**0.038**	**0.003**	0.152	0.061	0.151	0.115
T7/T8	0.800	0.928	0.810	0.881	**0.021**	0.966	0.563	0.911	0.892	0.972	0.957	**0.032**	0.832	0.335	**0.024**	**0.002**	0.129	0.137	0.261	0.342
T8/T9	0.994	0.638	0 523	0.682	0.722	0.248	0 605	0.359	0.411	0.401	0.434	0.390	0.702	0.103	0.225	0.271	**0.049**	**0.037**	0.601	0.980
T9/T10	0.552	0.744	0.652	0.308	0.240	0.071	0.387	0.165	0.729	0.761	0.766	0.816	0.385	0.974	**0.048**	0.168	**0.009**	0.120	0.400	0.546
T10/T11	0.690	0.052	0.090	**0.031**	0.300	0.051	0 610	0.304	0.612	0.624	0 994	0.820	0.635	0.686	0.480	0.724	0.222	0.606	0.532	0 100
T11/T12	0.053	**0.000**	**0.002**	**0.004**	0.138	0.082	0.551	0.221	0 621	0 512	0.525	0.986	0.434	0.182	0.860	0.492	0.627	0.115	**0.013**	**0.009**
T12/L1	0 489	0.143	0.308	0.161	0.389	0 690	0.964	0.643	0.652	0 662	0.555	0 375	0.651	0.092	0.501	0.727	0.831	0.369	0.279	0.386
L1/L2	0 082	**0.001**	**0.009**	**0.007**	0.190	0.123	0 458	0 995	0.676	0 414	0 768	0 556	0 782	0 425	0.525	0.251	0.554	0.348	**0.028**	**0.005**
L2/L3	0 467	**0.038**	0.205	0.066	0.533	0 668	0.555	0 287	0.492	0.292	0.663	0.467	0.402	0.765	0.865	0.853	0.686	0.573	0.328	0.221
L3/L4	0 262	**0.043**	0 056	0 063	0 289	0.136	0 658	0 993	0 826	0 899	0 668	0 862	0.473	0.572	0 485	0.965	0.491	0.745	0.576	0.419
L4/L5	0.889	0.173	0.352	0.232	0.553	0.779	0 545	0 684	0.267	0 628	0.324	0.820	0 692	0.171	0.984	0.381	0 794	0.126	0.886	0 600
L5/S1	0 672	0 318	0 222	0 275	0 814	0 117	0 970	0 670	0 603	0 792	0 513	0 962	0 349	0 745	0 711	0 602	0 697	0 513	0 321	0 055

Table 9.40 *P*-values in relation to locomotion ratio variables and facet joint osteophytosis severity for the female sample controlling for age-at-death (significant values show in bold).

	Calcaneus Length / Vertebral Column Length	Calcaneus Length / Humerus + Radius Length	Calcaneus Length / Humerus Length + Head Diameter+ Epicondylar Breadth	Calcaneus Length / Femur + Tibia Length	Calcaneus Length / Femur Head Diameter	Calcaneus Length / Tibia Proximal Epicondylar Breadth	Calcaneus Length / Tibia Distal Epicondylar Breadth	Calcaneus Breadth / Vertebral Column Length	Calcaneus Breadth / Humerus + Radius Length	Calcaneus Breadth / Humerus Length + Head Diameter+ Epicondylar Breadth	Calcaneus Breadth / Femur + Tibia Length	Calcaneus Breadth / Femur Head Diameter	Calcaneus Breadth / Tibia Proximal Epicondylar Breadth	Calcaneus Breadth / Tibia Distal Epicondylar Breadth	Femur Head Diameter / Vertebral Column Length	Femur Head Diameter / Humerus Length + Head Diameter+ Breadth	Tibia Proximal Epicondylar Breadth / Vertebral Column Length	Tibia Proximal Breadth / Humerus Length + Head Diameter+ Breadth*	Tibia Distal Epicondylar Breadth / Vertebral Column Length	Tibia Distal Epicondylar Breadth / Humerus Length + Head Diameter+ Breadth*
O1/C1	0.671	0.959	0.901	0.731	0.616	0.702	0.408	0.678	0.736	0.937	0.873	0.800	0.927	0.301	0.907	0.917	0.536	0.868	0.815	0.900
C1/C2	0.480	**0.017**	**0.005**	**0.020**	0.323	0.053	0.766	0.789	0.264	0.671	0.213	0.422	0.108	0.252	0.611	0.127	0.513	0.997	0.964	0.354
C2/C3	0.893	**0.044**	0.080	0.059	0.424	**0.037**	0.247	0.493	0.522	0.471	0.493	0.898	0.305	0.561	0.724	0.224	0.058	0.516	0.159	0.943
C3/C4	**0.030**	0.387	0.397	0.343	0.787	**0.048**	0.151	0.303	0.438	0.194	0.922	0.266	0.404	0.519	**0.008**	0.228	**0.011**	0.189	0.055	0.753
C4/C5	0.379	0.411	0.187	0.957	0.670	0 639	0.328	0.141	0.168	0.193	0.199	0.187	0.174	0.379	0.592	0.461	0.262	0.081	0.162	0.169
C5/C6	0.727	0.436	0.575	0.634	0.741	0.096	0.056	0.325	0.782	0.861	0.581	0.503	0.700	0.663	0.415	0.723	**0.033**	0.154	**0.034**	0.110
C6/C7	0.592	0.350	0.219	0.179	0.637	0.635	0.636	0.264	**0.009**	**0.005**	**0.007**	**0.022**	**0.021**	0.147	**0.028**	**0.034**	0.193	0.445	0.861	0.241
C7/T1	0.655	0.303	0.287	0.619	0.969	0.821	0.630	0.391	**0.039**	0.108	0.180	0.172	0.284	0.565	0.608	0.588	0.596	**0.026**	0.797	0.245
T1/T2	0.835	0.600	0.479	0.596	0.799	0.245	0.438	0.074	0.105	0.171	0.162	0.127	0.308	**0.035**	0.418	0.990	0.270	0.819	0.631	0.145
T2/T3	0.185	0.554	0.772	0.134	0.962	0.987	0.469	**0.021**	0.320	0.182	0.712	0.242	0.145	0.084	0.270	0.560	0.274	0.500	0.719	0.231
T3/T4	0.710	0.931	0.621	0.669	0.324	0.872	0.911	0.217	0.387	0.762	0.500	0.860	0.934	0.341	**0.037**	0.070	**0.049**	0.347	0.053	0.233
T4/T5	0 965	0.407	0.426	0.293	0.585	0.874	0.898	0.093	0.243	0 137	0 571	0.203	0.207	0.246	0.316	0.839	0.381	0.735	0.593	0.746
T5/T6	**0.042**	0.424	0.271	0.790	**0.043**	0.203	0.363	0.947	0.365	0.269	0.719	0.799	0.902	0.751	0.480	**0.046**	0.369	0.075	0.557	0.284
T6/T7	0.862	0.975	0.904	0.921	**0.008**	0.511	0.185	0.907	0.885	0.871	0.880	0.083	0.809	0.437	**0.011**	**0.002**	0.056	**0.037**	0.103	0.134
T7/T8	0.743	0.975	0.879	0.921	**0.016**	0.857	0.515	0.999	0.912	0.996	0.958	**0.027**	0.696	0.276	**0.007**	**0.002**	0 063	0.108	0.209	0.378
T8/T9	0.992	0 630	0.506	0 672	0.701	0.199	0.629	0.346	0.412	0.401	0.439	0.401	0.727	0.110	0.160	0.253	**0.030**	**0.033**	0.563	0.998
T9/T10	0.732	0.891	0 948	0.410	0.435	0 401	0 698	0.274	0.780	0 837	0.760	0.994	0.872	0.599	0.228	0.299	0.079	0.288	0 649	0.419
T10/T11	0 454	0.066	0.193	**0.050**	0.594	0.373	0.270	0.528	0.666	0.671	0.996	0.608	0.775	0.366	0.771	0.477	0.829	0.962	0.229	0.149
T11/T12	**0.018**	**0.000**	**0.002**	**0.004**	0.196	0.155	0.542	**0.050**	0.430	0.375	0.413	0 773	0.826	0.272	0.399	0.256	0.129	**0.044**	**0.004**	**0.014**
T12/L1	0.444	0.149	0.341	0.177	0.436	0.829	0.919	0 635	0.647	0.657	0 557	0.385	0.667	0.099	0.724	0 880	0.534	0.238	0.238	0.408
L1/L2	0 062	**0.001**	**0.013**	**0.008**	0.239	0.190	0.415	0.841	0.722	0.432	0.765	0 486	0.994	0.451	0.312	0.216	0.331	0.283	**0.020**	**0.006**
L2/L3	0.381	**0.039**	0.265	0.006	0 603	0.916	0 479	0.316	0 512	0 318	0 685	0 444	0.330	0 703	0 622	0 755	0.457	0.477	0.253	0.289
L3/L4	0.114	0 064	0.138	0.086	0.454	0.549	0.969	0.604	0 752	0.810	0 672	0.997	0 977	0.918	0.605	0.732	0.572	0.798	0.221	0 551
L4/L5	0.380	0.154	0.634	0.227	0.238	0.373	0.731	0.297	0.182	0 472	0.262	0.485	0.612	0.292	0.124	0.151	0.100	**0.030**	0.467	0.815
L5/S1	0 162	0 277	0 423	0 340	0 538	0 950	0 569	0 124	0 316	0 513	0 396	0 608	0 836	0 787	0 068	0 167	0 060	0 104	**0.030**	0 070