

ERAS 2016 – Abstract Submission

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WHAT IS THE EVIDENCE FOR NUTRITIONAL SUPPLEMENTATION IN A HIP AND KNEE REPLACEMENT ERAS PROTOCOL?

T. Wainwright¹, J. Branney², S. Dyal², R. Middleton¹

¹Orthopaedic Research Institute, ²Faculty of HSS, Bournemouth University, Bournemouth, United Kingdom

Presentation Preference: Oral or Poster

Objectives:

Carbohydrate loading (CL) is an accepted component of general surgery ERAS protocols. The role of nutritional supplementation within hip and knee replacement ERAS is unclear. This review examines the evidence for nutritional supplements accelerating achievement of discharge criteria.

Methods:

Table 1 details the literature search

Results:

PsycINFO, PsycARTICLES, ScienceDirect, MEDLINE, CINAHL, and Cochrane searched on 29/10/15. Peer reviewed, English, from 1990: [(MH "Arthroplasty, Replacement, Hip")OR(MH "Hip Prosthesis")OR(Hip*)N5(arthroplast* OR prosthesis* OR replace*)OR THA OR THR OR(MH "Arthroplasty, Replacement, Knee")OR(MH "Knee Prosthesis")OR(Knee*)N5(arthroplast* OR prosthesis* OR replace*)OR TKA OR TKR]AND[preoperative OR pre operative OR postoperative OR post operative]AND[Nutriti* OR (MH "Dietary Carbohydrates") OR carbohydrat* OR(MH "Diet+")OR protein OR amino acids OR "branched chain amino acid" OR glutamine OR omega-3 fatty acids OR docosahexaenoic acid OR DHA OR eicosapentenoic acid OR EPA OR iron OR vitamin C OR ascorbic acid OR vitamin D OR B vitamin* OR selenium OR zinc OR calcium].
8 RCTs were identified

One RCT concluded that a protein-rich drink 3xday did not reduce length of stay (LOS), complications or readmission rates¹. Six RCTs compared pre-op CL to placebo; CL did not effect insulin sensitivity^{2,3,4,5} or body composition or IGF-I bioavailability⁶ but was associated with less hunger and nausea pre-op and less pain 20h post-op⁷. Supplementation with amino acids might suppress the loss of quadriceps muscle strength after total knee arthroplasty⁸.

Conclusion:

The evidence does not support the use of nutritional supplementation to accelerate achievement of discharge criteria. The majority of studies have examined pre-operative CL with little research examining the effects of other common supplements.

References:

- 1.Petersen et al. Acta Anaesthesiol Scand 2006;50(6):712-7.
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- 3.Soop et al. Clin Nutr 2004;23:733-41.
- 4.Ljunggren and Hahn. Trials. 2012;13(1):97-107.
- 5.Ljunggren et al. Clin Nutr 2014;33(3):392-8 7p.
- 6.Aronsson et al. Aging Clin Exp Res 2009;21(2):97-101 5p.
- 7.Harsten et al. Eur J Anaesthesiol 2012;29(6):271-4.
- 8.Nishizaki et al. Asia Pac J Clin Nutr 2015;24(3):412-20.

Disclosure of Interest: None Declared