International Centre for Allied Health Evidence

University of South Australia

International Centre for Allied Health Evidence

iCAHE

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*i*CAHE JC Critical Appraisal Summary

Journal Club Details

Journal Club location	**NARS**
JC Facilitator	**Ellen Musolino**
JC Discipline	**Dietetics**

Question

What are the energy and protein recommendations for patients post neck of femur fracture?

Review Question/PICO/PACO

P: N/A

I: N/A

C: N/A

O: N/A

Article/Paper

Avenell, A., Smith, T.O., Curtain, J.P., Mak, J. and Myint, P.K., 2016. Nutritional supplementation for hip fracture aftercare in older people. *The Cochrane Library*

Please note: due to copyright regulations CAHE is unable to supply a copy of the critically appraised paper/article. If you are an employee of the South Australian government you can obtain a copy of articles from the DOHSA librarian.

Article Methodology: Systematic Review

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Ques No.	Yes	Can't Tell	No	Comments
1	✓			**Did the review address a clearly focused question?** To review the effects (benefits and harms) of nutritional interventions in older people recovering from hip fracture
2	✓			**Did the authors look for the appropriate sort of papers?** We searched the Cochrane Bone, Joint and Muscle Trauma Group Specialised Register, CENTRAL, MEDLINE, MEDLINE InProcess & Other Non-Indexed Citations, Embase, CAB Abstracts, CINAHL, trial registers and reference lists. Example of Key Words: exp Hip Fractures OR ((hip* or femur* or femoral* or trochant* or pertrochant* or intertrochant* or subtrochant* or intracapsular* or extracapsular*) adj3 fracture*). AND exp Food or exp Diet or Nutritional Status or Nutritional Requirements or Nutrition assessment or exp Nutrition Therapy or exp Nutrition Disorders or Dietetics or (food* or feed* or fed or diet* or nutri* or supplement* or calorie* or energy intake or macronutrient* or micronutrient*) or Calcium, Dietary or Iron, Dietary or Phosphorus, Dietary or Potassium, Dietary or Sodium, Dietary or exp Magnesium or Sulfur or Fluorides or exp Trace Elements or (magnesium or chloride* or sulfate* or sulphate* or fluoride* or zinc or copper or selen* or manganese or molybdenum or chromium or cobalt or iodi#e or trace element* or trace metal* or micronutrient*) or Vitamins or exp Carotenoids or (vitamin*or ascorb*or thiamin* or riboflavin* or pyridox*or niacin*or fola* or folic or biotin or cobalamin* or retino* or caroten* or tocopher* or dihydrotachysterol or calcitriol or cholecalciferol or alfacalcidol or alphacalcidol) **Is it worth continuing?** **YES**
3	✓			**Do you think the important, relevant studies were included?** Randomised and quasi-randomised controlled trials of nutritional interventions for people aged over 65 years with hip fracture where the interventions were started within the first month after hip fracture.
4	✓			**Did the review's authors do enough to assess the quality of the included studies?** Two review authors independently assessed risk of bias in all included trials using the Cochrane 'Risk of bias' tool. This assesses sequence generation, allocation concealment, blinding of participants or personnel, blinding of outcome assessment, completeness of outcome data, selective outcome reporting and other potential sources of bias. We considered primary and secondary outcomes separately in our assessment of blinding of outcome assessment and completeness of outcome data. We resolved any differences of opinion by consensus or by consulting a third party.

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5	✓			**If the results of the review have been combined, was it reasonable to do so?** Heterogeneity was assessed by visual inspection of the forest plot (analysis) along with consideration of the Chi² test for heterogeneity and the I² statistic. In some cases for this meta-analysis, levels of heterogeneity were not significant, indicating that these studies were not similar enough to have been compared via meta-analysis. It is worth examining the forest plots provided for their heterogeneity when interpreting the results.
6				**What are the overall results of the reviews?** Eighteen studies examined the use of additional oral feeds that provided energy from sources other than protein, protein, some vitamins and minerals. There was low-quality evidence that these multinutrient oral feeds may not reduce mortality but that they may reduce the number of people with complications (e.g. pressure sore, infection, venous thrombosis, pulmonary embolism, confusion). There was very low-quality evidence that oral multinutrient feeds may reduce unfavourable outcome (death or complications) and that they did not result in increased vomiting and diarrhoea. Four studies examined nasogastric tube feeding, where liquid food is delivered via a tube inserted into the nose and passed down into the stomach, with non-protein energy, protein, some vitamins and minerals. These studies provided very low-quality evidence that tube feeding, which was poorly tolerated, did not seem to make a difference to mortality or complications. Unfavourable outcome was not recorded and there was insufficient evidence on adverse events. One study provided very low-quality evidence that nasogastric tube feeding followed by oral feeds may not affect mortality or complications. It reported that tube feeding was poorly tolerated. One study provided very low-quality evidence that giving feed into a vein initially and then by mouth may not affect mortality but may reduce complications. However, we were surprised that this intervention was being used in people who seemed to be able to take nutrition orally. Increasing protein intake in an oral feed was tested in four studies. These provided low-quality evidence of no clear effect on mortality or complications and very low-quality evidence for a reduction in unfavourable outcome. Studies testing intravenous vitamin B1 and other water soluble vitamins, oral 1-alpha-hydroxycholecalciferol (vitamin D), high dose bolus vitamin D, different oral doses or sources of vitamin D, intravenous or oral iron, ornithine alpha-ketoglutarate versus an isonitrogenous peptide supplement, taurine versus placebo, and a supplement with vitamins, minerals and amino acids, provided low or very low-quality evidence of no clear effect on mortality or complications, where reported. One study, evaluating the use of dietetic assistants to help with feeding, provided low-quality evidence that this may reduce mortality but not the numbers of people with complications. Oral supplements with non-protein energy, protein, vitamins and minerals started before or soon after surgery may prevent complications after hip fracture in older people but may not affect mortality. Adequately sized randomised studies with better design are required. We suggest that the role of dietetic assistants, and of peripheral venous feeding or nasogastric feeding in very malnourished patients, require further evaluation.
7				**How precise are the results?** Both 95% confidence intervals and P values were provided.

8	Journal Club to discuss	**Can the results be applied to the local population?** **CONTEXT ASSESSMENT (please refer to attached document)** – *Infrastructure* – *Available workforce (? Need for substitute workforce?)* – *Patient characteristics* – *Training and upskilling, accreditation, recognition* – *Ready access to information sources* – *Legislative, financial & systems support* – *Health service system, referral processes and decision-makers* – *Communication* – *Best ways of presenting information to different end-users* – *Availability of relevant equipment* – *Cultural acceptability of recommendations* *Others*
9		**Were all important outcomes considered?**
10		**Are the benefits worth the harms and costs?**
11		**What do the study findings mean to practice (i.e. clinical practice, systems or processes)?**
12		**What are your next steps?** ***ADOPT, CONTEXTUALISE, ADAPT*** **And then (e.g. evaluate clinical practice against evidence-based recommendations; organise the next four journal club meetings around this topic to build the evidence base; organize training for staff, etc.)**
13		**What is required to implement these next steps?**

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