

Case Study: Using Pro-Cal shot™ to increase energy and protein intake for a patient in a community setting

Written by a Nutrition Support Dietitian, Northern Ireland



Patient Details & Medical History

Age:

93 years

Gender:

Female



Diagnosis:

Dementia, hypertension and high blood pressure.

Medical history:

Initial presentation: Poor appetite and oral intake; Unintentional weight loss and confusion. Frequent urinary tract infections (UTIs).

Relevant history:

Anthropometry:

Height: 1.54m.

Weight: 51kg.

BMI: 21.5kg/m².

Weight loss: 13.6% (8kg) in 6 months.

Malnutrition Universal Screening Tool (MUST) score: 2.

Clinical/medication:

- No swallowing issues. Dentures were loose due to weight loss and thus the patient manages a soft diet.
- No pressure ulcers.
- Bowels open x 1 per day, laxative used as required.
- Poor fluid intake despite encouragement. Prone to urinary tract infections (UTIs).
- Mobility has reduced (requires assistance).
- Very compliant with all medications.

Medication	Reason
Bisoprolol	For blood pressure control
Atorvastatin	For lipid (cholesterol) management
Memantine	For dementia/Alzheimer's disease management
Laxido	Laxative

Diet History:

- **Breakfast:** Porridge (30g of oats made with 75ml semi skimmed milk and 75ml water), glass of diluted orange juice.
- **Lunch:** 1-2 mini sausage rolls, ½ slice of bread and butter, and a cup of tea with milk.
- **Mid-afternoon:** Cup of tea, plain biscuit or ½ slice plain cake.
- **Evening meal:** Ready meal (often refuses or manages ½ of the meal at most) or homemade vegetable soup. Mini trifle for pudding. Glass of diluted orange juice.
- **Supper:** Cup of tea, plain biscuit.

Estimated intake: 800kcal, 26g protein, 850ml fluid daily.

Environmental: Lives with family member who has limited cooking skills. Has good additional family support.



Dietetic Assessment

Overall aim/goal:

Aim was to meet the patient's nutritional requirements and prevent further weight loss.

Current management:

Nutritional Requirements:

- Resting Energy Expenditure (REE) = 25kcal/kg = 1275kcal¹
- Physical Activity Level (PAL) = sitting 20%¹
- Total Energy Expenditure (TEE) = REE x PAL = 1530kcal¹
- Protein 1.2g/kg = 61g¹
- Fluid 30mls/kg = 1530ml¹

Dietetic Intervention:

At initial assessment, the patient's intake and nutritional requirements were calculated.

Deficit = 730kcal, 35g protein, 680ml fluid daily.

Rationale for nutrition support was discussed with family member. The family expressed concerns with regards to adding more fat into the patient's diet due to her raised cholesterol level. The importance of increasing the patient's energy intake to meet her nutritional requirements was explained.

Plan agreed:

- Offer a glass of pure orange juice at breakfast instead of diluting juice.
- Use fortified milk – add 4tbsp (60g) of skimmed milk powder to 1 pint full cream milk.
- Make porridge solely using milk (instead of using water) and add 2tbsp (30ml) of double cream.
- Add slice of cheese to bread at lunchtime.
- If having soup for evening meal, try a potato based soup instead of broth style, and add 2tbsp (30ml) of double cream.
- Swap plain biscuits for pancake and butter, cake with cream, custard pot or full fat yoghurt.
- Try a milk based drink at bedtime like hot chocolate or a malt based drink .

The above advice, if all implemented, was expected to increase the patient's intake by 800kcal and 30g protein daily.



Results

Ongoing Management:

First review- 6 weeks after initial assessment

Family supported the patient with all agreed steps in the plan, however the patient refused the following:

- cheese with her bread at lunchtime.
- milky drink at bedtime.
- custard or yoghurt between meals - complained she was too full and preferred her usual plain biscuit.

Intake was calculated at 1250kcal and 45g protein daily, leaving a deficit of 280kcal and 16g protein daily.

Weight had reduced further to 49.5kg, BMI 20.9kg/m².

At this stage it was felt that dietary changes had been maximised and trialling 'compact style' oral nutritional supplements (ONS) was appropriate. A prescription was organised to enable a variety of ONS for the patient to trial.

Check in (phone call 2 weeks later to check supplement compliance)

Family member reported that patient had refused all of the oral nutritional supplements trialled due to a dislike of the flavours.

A trial of Pro-Cal *shot* (neutral flavour) was organised. The patient was advised to try 3 x 40ml per day (providing 400kcal, 8g protein).

Check in (phone call 2 weeks later to check Pro-Cal *shot* compliance)

Family member reported that the patient was tolerating Pro-Cal *shot* and felt that, as it was given in small volumes throughout the day, it was manageable for the patient.

Second Review- 6 weeks post initial assessment.

The patient continued with the agreed dietary changes and was managing 3 x 40ml Pro-Cal *shot* per day.



Discussion

Family had initial concerns regarding nutrition support advice due to the patient's high cholesterol level and family's personal preference of using low fat products. However when the rationale for changes were explained, the family were agreeable to the plan.

This patient had a very poor fluid intake despite constant encouragement from her family, so a low volume ONS was required. The patient disliked the flavours of other 'compact style' supplements and so a neutral flavour supplement was beneficial. Pro-Cal *shot* was deemed an appropriate supplement as it is low volume and available in a neutral flavour.



Conclusions & Key Learnings

Conclusions:

A high energy, high protein diet alongside Pro-Cal *shot* enabled the patient to meet nutritional requirements and stabilised weight.

Key Learnings:

- A high energy, high protein diet, tailored to the patient's likes and dislikes, successfully provided additional energy and protein.
- Pro-Cal *shot* (neutral flavour) is a good option for patients who dislike sweet flavours.

Reference:

1. PENG A Pocket Guide to Clinical Nutrition.

This information is intended for use by Healthcare Professionals only.

Pro-Cal *shot* is a Food for Special Medical Purposes and must be used under medical supervision. Suitable from 3 years of age onwards. Pro-Cal *shot* is for the dietary management of disease related malnutrition. Not suitable as a sole source of nutrition. For enteral use only. Pro-Cal *shot* contains **Milk** (Milk Protein, Lactose) and **Soya** (Soya Lecithin).



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