



Proform

**Nutrition
& Energy**



Good Nutrition & Wound Healing

Nutrition plays a role in the onset and healing of wounds

Proform



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Good Nutrition & Wound Healing

Wound background

Nutrition plays a role in the onset and healing of wounds¹. Pressure ulcers, are a common preventable wound which extract a considerable cost

- Financially
- Socially
- Nutritionally

A Pressure ulcer is classified as, "Any lesion caused by unrelieved pressure resulting in the damage of underlying tissue"².

Risk Factors

Pressure ulcer Risk factors include;

- Decreased sensory perception,
- Excess moisture,
- Low level of activity,
- Poor mobility,
- Exposure to friction and shear
- Poor nutrition.
- Oxygen delivery
- Skin temperature
- Chronic illness
- Demographics²

Prevalence

Pressure ulcers are particularly prevalent in Residential Aged Care facilities, prevalence ranges from 5-35%. Similarly, 5.4-15.6% of the individuals in hospital settings have pressure ulcers; and these figures are higher in certain subpopulations².

Malnutrition and Pressure ulcers

Individuals who are malnourished are more susceptible to pressure ulcers³. Poor nutritional status and dehydration can weaken the skin⁴. Malnutrition is a major problem for aged care institutions, with figures indicating that over two thirds of the residents are undernourished³.

There are many physiological and non physiological factors which may contribute to malnutrition in the elderly.

They include;

- Changes in sense of taste and smell
- Loss of appetite with ageing
- Changes to hormonal and neurotransmitter control
- Physical inactivity
- Side effects of medication
- Oral and swallowing issues
- Problems self-feeding
- Depression and other emotions
- Dementia and other disorders⁵

In aged care institutions, malnutrition can be avoided with adequate screening and assessment of residents to identify those at risk and evaluate their nutritional status⁵.

Screening for Malnutrition

A validated malnutrition screening tool can be used to assist in the malnutrition screening process, (ie MUST tool published by the Malnutrition Advisory Group)⁶.

Steps for malnutrition screening

Assess the Individual's

1- Dietary intake (food and fluid)

2- Nutritional state

- Muscle wasting
- Body weight ($< 85\%$ of ideal based on BMI weight/height²)² or $>$ than 5% weight loss in a month⁶.

Malnutrition screening should occur regularly, as nutritional state can change. Supplementary nutrition should be considered if there are signs of malnutrition – and a dietitian should be consulted as required²



Dietary measure to improve malnutrition

- Assist individuals with feeding when required
- Fortify foods with extra nutrition (add Proform in casseroles, custards, drinks)
- In addition to three main meals, add nutritious snacks, such as milk drinks, yoghurt, custard, cheese and crackers.
- Provide commercial supplements (Proform), as required, to ensure adequate nutrition.

Nutrition and Pressure ulcers

Good nutrition is essential for the treatment of pressure ulcers. Numerous studies have indicated that poor nutrition plays a significant role in the pressure ulcer development³.

Proven Independent risk factors for pressure ulcer progression

- Inadequate protein
- Poor energy intake
- Weight loss²

Providing adequate protein and energy to prevent weight loss will assist wound healing²

Specific nutrient requirements to assist with wound healing

Energy

Adequate energy is required to maintain weight for tissue repair and to prevent protein being used as a source of energy. Individuals with pressure ulcers have 10-60% increased energy requirements⁷

Two servings of Proform provide a 75kg individual with pressure ulcers, 1/5 of their energy intake for the day.

Protein

Patients with pressure ulcers require 25-88% more protein^{7,8}

Breslow studied malnourished nursing home residents with pressure ulcers, and found improvement in pressure ulcer healing when individuals consumed 24% protein supplements Vs 14% protein supplements⁹. While adequate dietary protein is absolutely essential for proper wound healing, there is still debate over the need for specific amino acids^{10,11}.

Proform provides 24% protein.

Fluid

Dehydration can affect circulation, and decrease nutrient and oxygen supply to tissues. Individuals require approximately 2-4L of fluid a day.

Note that patients on air-fluidised beds will need an additional 10 to 15ml/kg of fluid⁸.





Good Nutrition & Wound Healing

Proform provides fluids, along with energy, protein, and nutrients, to assist with wound healing.

Vitamin C

Vitamin C is necessary for, collagen formation, proper immune function, and as a tissue antioxidant¹².

It is unclear whether intakes above the Recommended dietary intake are required for pressure ulcer healing^{13,14}, however, in postoperative wound healing, vitamin C is recommended 100-200% above average estimated requirements (EAR) (30mg/day)^{15,16}, suggesting adequate vitamin C is crucial.

One serve of Proform provides 20mg of Vitamin C

Zinc

Zinc is required for cellular proliferation, protein synthesis and immune function. Deficiency can occur through wound drainage, GI losses and prolonged dietary deficiencies. Zinc intake to meet recommended intakes is required, as zinc deficiency has been associated with impaired wound healing¹⁷. Recommended dietary intake of zinc is 8-14mg/day¹⁵.

One serve of Proform provides 3.1mg of zinc.

Vitamin A

Vitamin A is involved in the skin healing process. An intake of Vitamin A to meet the recommendation of 750 micrograms a day, is required¹.

Vitamin E

Vitamin E is involved in the anti-inflammatory response, and immune enhancing effect. An intake to meet the recommended dietary intake of 7-10mg, should be met to allow for best healing¹.

Specific Amino Acids - Arginine

Arginine is a non essential amino acid which in times of stress can become conditionally essential. Arginine is a substrate for wound healing and supplemental arginine has been suggested to aid the healing process.^{10,18,19}

One serve of Proform provides 490mg of Arginine





Nutrition Supplementation Example

Reduced Appetite Mrs C

- **Breakfast:**
 - Corn flakes, milk, sugar
- **Lunch:**
 - Cream of Pumpkin Soup
 - Bread x1
 - Custard dessert
- **Dinner:**
 - 1/2 of main meal (meat, rice, vegetables)

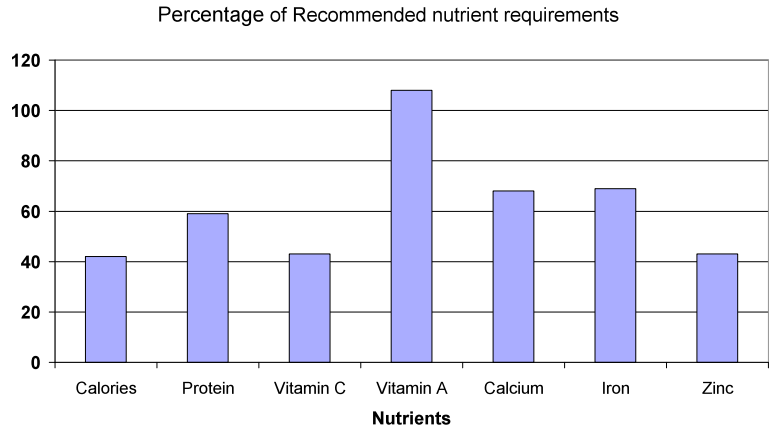


Figure 1. The percentage of recommended nutrient requirements achieved by Mrs C consuming her reduced appetite intake

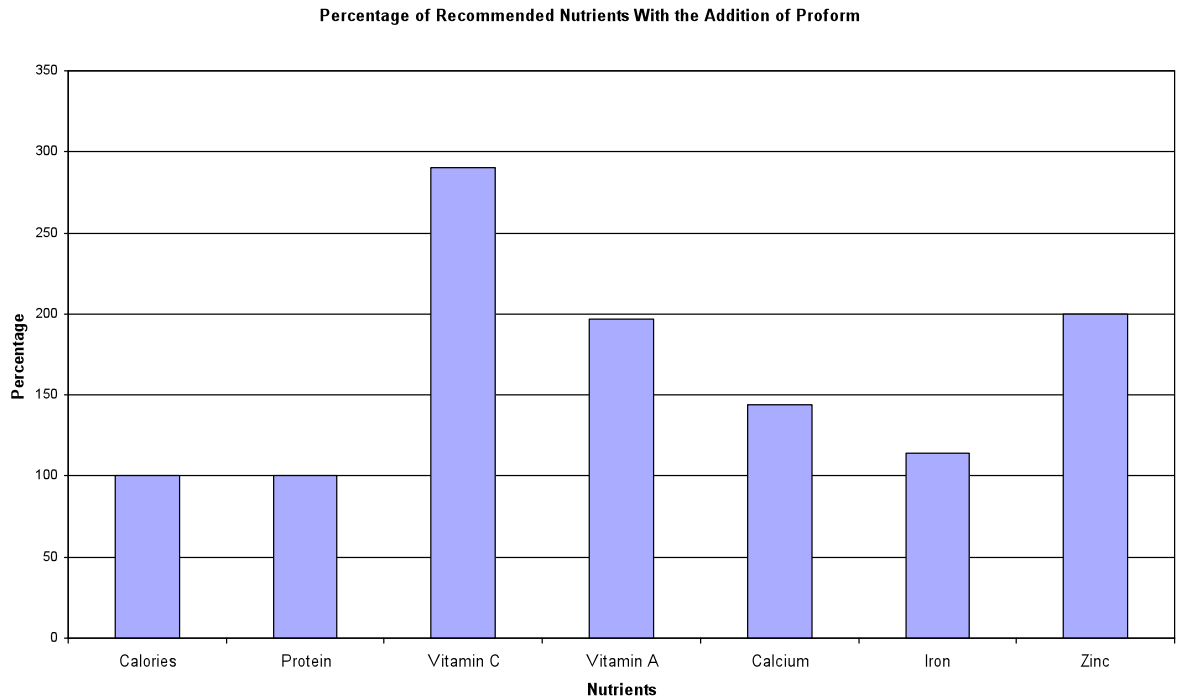


Figure 2. The percentage of recommended nutrient requirements achieved by Mrs C when consuming an additional 1 1/2 serves of Proform in food and a Proform milk drink.



Summary

Malnutrition increases risk for pressure ulcers, and impedes their recovery. Elderly are particularly at risk of wounds, and the prevalence of malnourished elderly in institutions, is high. Malnutrition screening should regularly occur to identify malnourished individuals, and nutrition support provided where required. Proform is a versatile addition to meals and between, to assist individuals receive adequate protein, nutrition, and prevent weight loss, to allow for wound healing.

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