

## Case Study

# Managing a Neuro-rehab Patient using a High Protein Supplement

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A 49 year old woman was admitted to a Neuro Rehabilitation Unit from an acute general hospital following a diagnosis of Ischaemia, secondary to cortical vein thrombosis and encephalopathy from severe malnutrition and dehydration. This lady experienced a number of significant life issues in close succession which severely affected her mood and subsequently led to self-neglect. She presented with a grade 4 pressure sore, hair loss, short-term memory, fatigue, constipation and at risk of refeeding syndrome.

## Dietetic assessment

**Table One** contains a summary of her dietetic assessment. Normal diet and fluids were recommended. Refeeding biomarkers were corrected at the acute hospital. Vitamin and mineral supplementation were prescribed to correct deficiencies. Extreme fatigue and muscle weakness limited oral intake. Personal preferences restricted supplement choice. The following commercially available supplements were tried and were unsuccessful: milk, juice, yoghurt, pudding, savoury and shot style. The female found she could drink orange squash with ease, however, this provides negligible nutrition. Supplementary enteral tube feeding was refused and the female had capacity to refuse this. Without early nutritional intervention, prognosis was poor, as malnutrition is independently linked to a greater risk of mortality in hospital.<sup>1</sup>

Orange squash was consumed daily, therefore, it was essential to fortify this to improve the nutritional content. Glucose powders worked well in the drink, however, they lacked protein which was necessary for pressure sore recovery. Protein powders did not dissolve in the orange squash so could not be used.

The one supplement that was effective mixed into the patient's orange squash was a liquid protein supplement (30ml – containing 100 calories and 10g protein). The female enjoyed the flavour; it mixed into her orange squash well and could be added to drinks by her bedside. The patient agreed to aim for 5 x 30ml sachets per day and achieved this consistently. **Table One** also displays the outcomes six months into her rehabilitation.

## Evaluation

Although the outcomes cannot be directly attributed to the nutritional intervention, the response to the liquid protein supplement was a turn around moment in the female's rehabilitation. Diet alone was not enough to accelerate recovery and finding a suitable supplement proved challenging. It needed to be high in protein and energy, whilst also being of low volume, compatible with non-milk drinks and taste appealing. This case review highlights the need for a variety of supplements as tools for dietitians to tailor nutritional care plans to the patient's specific needs.

**Table One: Summary of Dietetic Assessment on Admission and at Six Months**

Parameter	On admission	At six months
<b>Weight</b>	44.4kg	55.1kg
<b>BMI</b>	15.7kg/m <sup>2</sup>	19.5kg/m <sup>2</sup>
<b>% Weight change</b>	Weight loss of 26% in six months	Weight gain of 24% in six months
<b>MUST score</b>	6	1
<b>Oral intake</b>	<b>Diet</b>	600 calories 20g protein
	<b>Fluid</b>	900ml
		2470 calories 66g protein
		1800ml
<b>Functional ability</b>	Fully dependant for all care Assistance with eating and drinking	Able to assist in personal care Self feeding
<b>Pressure sore</b>	Grade 4	Healed
<b>Stool chart</b>	Constipation	Increased frequency, softer stool
<b>Appearance</b>	Hair loss, severe LBM losses	Hair growth, LBM anabolism
<b>Memory</b>	Disorientated, short term memory.	Orientated, improved memory
<b>Mood</b>	Severely low mood, depression	Periods of low mood continue

Reference: 1. Stratton R, Marinos E (2006). Deprivation linked to malnutrition risk and mortality in hospital. British Journal of Nutrition; 96: 870-876.