



# The nutritional management of unintentional weight loss in people with **COPD**

## Key concepts:

- Unintentional weight loss is common in people with COPD and nutritional management has an important role
- Weight loss is related to decreased exercise capacity, health status and increased morbidity
- Opportunities for dietary and nutritional interventions in COPD management should be explored, aiming at early detection and treatment

## Weight loss is common in people with COPD

In people with chronic obstructive pulmonary disease (COPD), energy requirements have been reported to be 15–20% above normal needs due to the increased energy required for breathing. People with COPD are generally underweight and have reduced muscle mass.<sup>1</sup> One United Kingdom based study showed that 23% of subjects with COPD were classified as malnourished. The malnourished subjects had lower lung function measurements, had more dietary problems and had lower nutritional intake compared with the adequately nourished subjects.<sup>2</sup>

Careful balancing of caloric intake is required. One study showed that a total caloric intake in excess of 50% above need was associated with poorer outcomes, while caloric intake of 30% above need was beneficial.<sup>3</sup>

Referral to a dietitian is recommended to establish an appropriate diet for a person with COPD who is malnourished.

## Eating small, frequent meals may help to reduce dyspnoea

As COPD progresses, many people find that breathing becomes more difficult if they eat a heavy meal, so in this situation, eating frequent, small and nutritious (high energy, high protein) meals is best. If people with COPD are not managing to keep their weight above a desired level they may require dietary assistance.<sup>4</sup>

## Evidence for nutritional support is limited

Evidence supporting the use of nutritional supplements for people with COPD is limited. A 2005 Cochrane review found no evidence that nutritional supplementation makes a significant difference to weight gain or health outcomes in people with COPD.<sup>5</sup>

Despite this lack of evidence, international guidelines for the management of COPD in adults suggest that nutritional supplements may improve nutritional status for patients with COPD who are malnourished. Patients using oral nutritional supplements should also be encouraged to exercise regularly to build muscle mass.<sup>6</sup>

The American Thoracic Society also recommends considering nutritional supplementation for people who have involuntary weight loss of more than 10% in the last six months or more than 5% in the past month.<sup>7</sup>

Nutritional management of patients with severe COPD is challenging and interventions should

be extended to the early detection and further prevention of weight loss before patients become malnourished.

## Hypercapnia

A late manifestation of COPD is hypercapnia. It is caused by a reduction in ventilatory drive and is a feature of severe COPD.

In theory, under ideal conditions, dietary fat utilisation produces less CO<sub>2</sub> per O<sub>2</sub> molecule consumed than carbohydrate. However, most studies indicate that consuming excess calories is a more important contributor to increased CO<sub>2</sub> production than the fat composition of the food.<sup>3</sup>

Higher fat supplements have been found to delay gastric emptying. This may be important in determining patient tolerance of these formulas as a delay in gastric emptying can lead to extended periods of abdominal distention.

## Nutritional support

**Pulmocare** is a high fat, low carbohydrate formula designed to minimise CO<sub>2</sub> retention in chronic or acute respiratory insufficiency.

Subsidiary for **Pulmocare** (which contains 1.5 Kcal/mL in 237 mL cans) is available under Special Authority from a specialist or vocationally registered GP for patients who have COPD and have hypercapnia and need the supplement as part of, or as a complete, diet.

## GPs role in the nutritional care of people with COPD

Encourage patients with COPD to make and maintain dietary changes to minimise involuntary weight loss and nutritional depletion.

For those who have lost weight encourage Food First strategies (see Nutrition Support Strategies Page 28).

Advise people with COPD who become breathless when eating, to eat frequent small meals.

Consider oral nutritional supplements for patients who have been identified at risk of malnutrition (BMI < 18.5kg/m<sup>2</sup> or unintentional weight loss > 10% within the last three to six months or a BMI < 20kg/m<sup>2</sup> and unintentional weight loss > 5% within the last three to six months).

For patients who develop hypercapnia, a specialist respiratory oral nutritional supplement may be of value.

Consider referral for dietetic assessment if BMI remains low.<sup>6</sup>

## References:

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**ACKNOWLEDGEMENT:** Thank you to **Dr Lisa Houghton**, Lecturer, Department of Human Nutrition, University of Otago, for expert guidance in developing the original article which appeared in BPJ 15 (Aug, 2008).