

Refeeding Syndrome

Refeeding syndrome is characterised by the occurrence of cardiac failure, delirium and death¹ due to the metabolic derangements that can occur during the refeeding of a malnourished individual.

Refeeding syndrome is thought to occur when a body in starvation receives an 'influx of enteral glucose, causing an insulin surge, driving glucose, fluid and electrolytes into the intracellular space'² resulting in a rapid reduction of already depleted stores of serum electrolytes such as phosphate, potassium and magnesium. This results in hypophosphatemia, cardiac and neurological events and sudden death.

Many refeeding guidelines recommend initiating refeeding with a low caloric intake, and with slow increases in energy intake to avoid refeeding syndrome. However, a balance needs to be established to prevent underfeeding syndrome.

Underfeeding syndrome occurs when individuals lose weight due to an over-cautious refeeding protocol. This can be as risky as refeeding syndrome, as individuals are put at risk of further medical complications, increased cardiac risk and mortality with further weight loss³.

Research is beginning to demonstrate that more rapid refeeding with early weight gain can be safe⁴, contingent upon limiting the number of calories from carbohydrate and maintaining a normal level of serum phosphate^{5,6}.

The risk factors for refeeding syndrome include the degree of malnutrition and adaptation to this state, the rate of weight loss irrespective of body mass index, the levels of serum minerals and electrolytes (including phosphate and potassium) and the rate of refeeding specifically the amount of carbohydrate in relation to other nutrients¹.

For refeeding guidelines please refer to your local hospital's refeeding guidelines and the clinical practice guidelines for children, adolescents and adults below:

For adults: Guidelines for the Inpatient Management of Adult Eating Disorders in General Medical and Psychiatric Settings in NSW 2014; Developed by the Centre for Eating and Dieting Disorders. (<http://cedd.org.au/>)

For children & adolescents: Eating Disorders Toolkit: A Practice-Based Guide to the Inpatient Management of Children and Adolescents with Eating Disorders. NSW Ministry of Health 2017.

References:

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3. Kohn, M., Madden, S., Clarke, S. (2011). Refeeding in anorexia nervosa: increased safety and efficiency through understanding the pathophysiology of protein calorie malnutrition. *Current Opinion Pediatrics*, 23(4), 390-4.
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6. Whitelaw MH, Gilbertson H, Lam P-Y, et al. Does aggressive refeeding in hospitalized adolescents with AN result in increased hypophosphatemia? *J Adolesc Health* 2010; 46:577–582.