Section 3: Identification and Management of Refeeding Syndrome

Refeeding syndrome is characterised by electrolyte disturbances and can occur after a period of starvation. The introduction of carbohydrate after a period of starvation results in an increased release of insulin. This insulin release stimulates the ATPase pump which drives potassium into cells and sodium and fluid out of cells into the extracellular space. Magnesium is required as a co-factor for the ATPase pump and phosphate is required intracellularly for energy storage as ATP. This results in reduced extracellular concentrations of potassium, magnesium and phosphate. Thiamine deficiency is common in a patient at risk of refeeding syndrome as it is coenzyme for carbohydrate metabolism.

Identification of those at risk of refeeding syndrome

Identification of those at risk of refeeding syndrome is limited by lack of evidence. NICE 2006 developed criteria based on consensus opinion which are listed below.

Patient has one or more of the following:
• BMI less than 16 kg/m2 • unintentional weight loss greater than 15% within the last 3–6 months • little or no nutritional intake for more than 10 days • low levels of potassium, phosphate or magnesium prior to feeding
Or patient has two or more of the following:
• BMI less than 18.5 kg/m2 • unintentional weight loss greater than 10% within the last 3–6 months • little or no nutritional intake for more than 5 days • a history of alcohol abuse or drugs including insulin, chemotherapy, antacids or diuretics.

The Avoidance and Treatment of Refeeding Syndrome in At-risk adults

The avoidance and treatment of those with refeeding syndrome is by the same measures. Guidance below is adapted from ASPEN Consensus recommendations for Refeeding Syndrome (April 2020)

Aspect of care	Recommendations	Responsibility
Initiation of calories	Introduction of calories should be gradual	Dietitian
Electrolytes	Serum potassium, magnesium and phosphorous should be measured before initiation of nutrition and prior to increases in nutrition (so may be daily at first) Electrolytes should be replaced as per NHS Borders electrolyte replacement guidance Electrolyte Deficiency Guidance	Medical Staff
Thiamine and multivitamins	Supplement thiamine 100mg /d before feeding and for 5-7 days or longer in patients with high risk of deficiency	Medical staff