

### **3:15:4 Re-feeding Syndrome**

**Definition:** Re-feeding syndrome is a condition that most ED patients requiring hospital admission are at risk from. If it is not managed appropriately it can lead to severe medical complications and eventually death.

Refeeding syndrome is characterised by rapid changes in fluids and electrolytes within the body's cells, due to the impact of reintroduction of nutrition in undernourished patients (Mehanna, Moledina, and Macmillan, 2008). Electrolytes (calcium, magnesium, potassium, sodium, phosphate and chloride) are nutrients in the body which play a role in regulating bodily functions; one such important function is regulating the heart beat. Rapid changes in fluid and electrolyte levels within the body's cells (as seen in refeeding syndrome) can result in a range of complications such as respiratory failure, liver dysfunction and central nervous system abnormalities (MARSIPAN, 2014). The cardiac complications associated with re-feeding syndrome can be fatal (MARSIPAN, 2014).

Given the risk of refeeding syndrome careful reintroduction of nutrition, by any route, is vital to prevent re-feeding syndrome. As such a dietitian must be consulted and involved from the outset of treatment.

**Risk of Re-feeding:** The Mental Health Group of the British Dietetic Association have adapted Criteria for determining people at high risk of developing re-feeding problems, NICE (2016).

#### **Patient has one or more of the following:**

- BMI less than 16 Kg/m<sup>2</sup>
  - 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
  - History of alcohol abuse or drugs including insulin, chemotherapy, antacids or diuretics
  - The presence of purging behaviours, such as vomiting and/or laxative misuse
- Or patient has two or more of the following:
- BMI less than 18.5 Kg/m<sup>2</sup>
  - Weight loss greater than 10% within the last 3-6 months
  - Little or no nutritional intake for more than 5 days

**MARSIPAN (2014) also list factors to consider when assessing a patients risk of re-feeding:**

- BMI <13 kg/m<sup>2</sup>
- Recent loss of ≥1 kg for two consecutive weeks
- Little or no nutrition for >5 days
- Acute food refusal
- Pulse <40
- BP low with postural dizziness
- Core temperature <35°C
- Na <130 mmol/L
- K <3.0 mmol/L
- Raised transaminase
- Glucose <3 mmol/L
- Raised urea or creatinine
- ECG: e.g. bradycardia? QTc >450 ms
  
- Increased risk of re-feeding syndrome
- Low initial electrolytes
- Low BMI (<13 or mBMI <70%)
- Significant co-morbidities (e.g. infection, cardiac failure, alcoholism, uncontrolled diabetes)
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**Recommendations for clinical practice in ED (patients who are severely ill with An):**

Re-feeding an ED patient requires a dietitian to be involved. The dietitian will provide an individualized menu plan for the patient depending upon their clinical assessment. It is best to avoid weekend admissions, whenever possible, to allow the dietitian to be involved (See section 3:15:6).

With this in mind no standardised re-feeding plans are included here. Each ED patient has their own individual risks and this needs to be considered on a case by case basis by the dietitian, as part of the MDT, when prescribing the re-feeding menu plan. These patient's needs are too complex, and initial re-feeding is very specific to that individual patient and so it is impossible to provide an emergency re-feeding plan.

**NHSGGC**

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