Essex Partnership University
NHS Foundation Trust

SECTION 15: TREATMENT OF EATING DISORDERS

Formulary and Prescribing Guidelines

15.1 Introduction

Please review the Trust document “Guidelines for the assessment and treatment of eating disorders” in the CAMHS Operational Policy.

When screening for eating disorders one or two simple questions should be considered for use with specific target groups

1. Do you think you have an eating problem?
2. Do you worry excessively about your weight?’

Early detection may be helped by five screening questions using **The SCOFF questionnaire.** Screening tools such as SCOFF should not be used as the sole method to determine whether or not people have an eating disorder.

A score of **two or more** positive answers should raise clinical suspicion and lead to an in depth diagnostic evaluation.

1. Do you ever make yourself **S**ick because you feel uncomfortably full?
2. Do you worry you have lost **C**ontrol over how much you eat?
3. Have you recently lost more than **O**ne stone in a three month period?
4. Do you believe yourself to be **F**at when others say you are too thin?
5. Would you say that **F**ood dominates your life?

It is important to take into account that clients with eating disorders can develop Acute Kidney Injury through a variety of mechanisms associated with each condition. These can include stone formation, hypokalaemia and other electrolyte imbalance, as well as volume loss through induced vomiting, abuse of diuretics and laxatives, and low dietary intake. Clinicians should be vigilant in the monitoring of physical health especially serum creatinine and levels of hydration.[1]

NICE guideline NG69 (Eating Disorders: recognition and treatment) gives evidence-based recommendations on assessment, treatment, monitoring and inpatient care for children, young people and adults with eating disorders. The recent quality statement published by NICE[6] gives further suggestions on the provision of services – “Service providers (such as community eating disorder teams and secondary adult mental health services) ensure that referral pathways are in place for people with suspected eating disorders to access assessment and treatment services within 4 weeks for children and young people, or within a locally agreed timeframe for adults. Service providers should also ensure that healthcare professionals have training in assessment and treatment referral, and have supervision with monitoring of competency.”

15.2 Management for all eating disorders[2]

Provide acute medical care (including emergency admission) for people with an eating disorder who have severe electrolyte imbalance, severe malnutrition, severe dehydration or signs of incipient organ failure.

For people with an eating disorder who need supplements to restore electrolyte balance, offer these orally unless the person has problems with gastrointestinal absorption or the electrolyte disturbance is severe.

For people with an eating disorder and continued unexplained electrolyte imbalance, assess whether it could be caused by another condition.

Encourage people with an eating disorder who are vomiting to:

- have regular dental and medical reviews
- avoid brushing teeth immediately after vomiting
- rinse with non-acid mouthwash after vomiting
- avoid highly acidic foods and drinks.

Advise people with an eating disorder who are misusing laxatives or diuretics:

- that laxatives and diuretics do not reduce calorie absorption and so do not help with weight loss
- to gradually reduce and stop laxative or diuretic use.

Advise people with an eating disorder who are exercising excessively to stop doing so.

For people with an eating disorder and a co-morbidity:

- When prescribing take into account the impact malnutrition and compensatory behaviours can have on medication effectiveness and risk of side effects
- Asses how the eating disorder will affect medication adherence eg for medication than can affect body weight
- Take into account the risks of medication that can compromise physical health due to pre-existing medical complications
- Offer ECG monitoring for people who are taking medication that could compromise cardiac functioning (eg cause electrolyte imbalance, bradycardia <40 beats per minute, hypokalaemia or a prolonged QT interval). This includes antipsychotics, tricyclic antidepressants, macrolide antibiotics and some antihistamines.

15.3 Anorexia nervosa

Provide support and care for all people with anorexia nervosa in contact with specialist services, whether or not they are having a specific intervention. Support should:

- include psychoeducation about the disorder
- include monitoring of weight, mental and physical health, and any risk factors
- be multidisciplinary and coordinated between services

- involve the person's family members or carers (as appropriate).

When treating anorexia nervosa, be aware that:

- helping people to reach a healthy body weight or BMI for their age is a key goal
- Weight gain is key in supporting other psychological, physical and quality of life changes that are needed for improvement or recovery.
- When weighing people with anorexia nervosa, consider sharing the results with them and (if appropriate) their family members or carers.

Medication should not be used as the sole or primary treatment for anorexia nervosa. There are few controlled trials to guide treatment with medicines for anorexia nervosa. Prompt weight restoration to a safe weight, family therapy and structured psychotherapy are the main interventions. The aim of physical treatment is to improve nutritional health through re-feeding, with limited evidence for the use of any pharmacological interventions other than those prescribed to correct metabolic deficiencies. Medicines may be used to treat co-morbid conditions, but have a very limited role in weight restoration. Olanzapine is the only one shown conclusively to have any effect on weight restoration in anorexia nervosa.

Treatment with a multivitamin/multimineral supplement in oral form is recommended during weight restoration.

Anti-depressants are often used to treat co-morbid major depressive disorder and obsessive compulsive disorder. However, caution should be used as these conditions may resolve with weight gain alone.

15.3.1 MARSIPAN: Management of Really Sick Patients with Anorexia Nervosa[3]

Whether inpatient care is needed to actively monitor medical risk parameters such as blood tests, physical observations and ECG (for example bradycardia below 40 beats per minute or a prolonged QT interval) that have values or rates of change in the concern or alert ranges: refer to table 1 below from Management of Really Sick Patients with Anorexia Nervosa (MARSIPAN) (CR189), Guidance 1 and 2 from junior MARSIPAN (CR168).

Table 1.

Risk assessment in anorexia nervosa
BMI: weight (kg)/height2 (m2) • low risk 15–17.5 • medium risk 13–15 • high risk <13
Physical examination: • measure vital signs (increase risk levels in brackets): low pulse (<40 bpm), blood pressure (especially if associated with postural symptoms) and core temperature (<35ºC) • muscle power reduced • Sit up–Squat–Stand (SUSS) test (scores of 2 or less, especially if scores falling)
Blood tests: • low sodium: suspect water loading (<130 mmol/L high risk) or occult chest infection with associated SIADH • low potassium: vomiting or laxative abuse (<3.0 mmol/L high risk) (note: low sodium and potassium can occur in malnutrition with or without water loading or purging) • raised transaminases • hypoglycaemia: blood glucose <3 mmol/L (if present, suspect occult infection, especially

with low albumin or raised C-reactive protein) • raised urea or creatinine: the presence of any degree of renal impairment vastly increases the risks of electrolyte disturbances during re-feeding and rehydration (although both are difficult to interpret when protein intake is negligible and muscle mass low)
ECG: • bradycardia • raised QTc (>450 ms) • non-specific T-wave changes • hypokalaemic changes

Guidance 1: Risk assessment framework for young people with eating disorders[4]

	Red (High risk)	*Amber (alert to high concern)*	*Green (moderate risk)*	*Blue (low risk)*
BMI and weight	Percentage median BMI<70% (approx. below 0.4th BMI centile)	Percentage median BMI 70–80% (approx. between 2nd and 0.4th BMI centile)	Percentage median BMI 80–85% (approx. 9th–2nd BMI centile)	Percentage median BMI>85% (approx. above 9th BMI centile)
	Recent loss of weight of 1 kg or more/week for 2 consecutive weeks	Recent loss of weight of 500–999 g/week for 2 consecutive weeks	Recent weight loss of up to 500 g/week for 2 consecutive weeks	No weight loss over past 2 weeks
Cardiovascular health	Heart rate (awake)<40 bpm[a]	Heart rate (awake) 40–50 bpm	Heart rate (awake) 50– 60 bpm	Heart rate (awake) >60 bpm
		Sitting blood pressure: systolic <0.4th centile (84–98 mmHg depending on age and gender[b]); diastolic <0.4th centile (35–40 mmHg depending on age and gender[a])	Sitting blood pressure: systolic <2nd centile (98–105 mmHg depending on age and gender); diastolic <2nd centile (40–45 mmHg depending on age and gender[a])	Normal sitting blood pressure for age and gender with reference to centile charts[a]

	Red (High risk)	*Amber (alert to high concern)*	*Green (moderate risk)*	*Blue (low risk)*
	History of recurrent syncope; marked orthostatic changes (fall in systolic blood pressure of 20 mmHg or more, or below 0.4th– 2nd centiles for age, or increase in heart rate of >30 bpm)	Occasional syncope; moderate orthostatic cardiovascular changes (fall in systolic blood pressure of 15 mmHg or more, or diastolic blood pressure fall of 10 mmHg or more within 3 min standing, or increase in heart rate of up to 30 bpm)	Pre-syncopal symptoms but normal orthostatic cardiovascular changes	Normal orthostatic cardiovascular changes
	Irregular heart rhythm (does not include sinus arrhythmia)			Normal heart rhythm
			Cool peripheries; prolonged peripheral capillary refill time (normal central capillary refill time)	
ECG abnormalities	QTc>460 ms (girls) or 400 ms (boys) with evidence of bradyarrhythmia or tachyarrhythmia (excludes sinus bradycardia and sinus arrhythmia); ECG evidence of biochemical abnormality	QTc>460 ms (girls) or 400 ms (boys)	QTc<460 ms (girls) or 400 ms (boys) and taking medication known to prolong QTc interval, family history of prolonged QTc or sensorineural deafness	QTc<460 ms (girls) or 400 ms (boys)

	Red (High risk)	*Amber (alert to high concern)*	*Green (moderate risk)*	*Blue (low risk)*
Hydration status	Fluid refusal Severe dehydration (10%): reduced urine output, dry mouth, decreased skin turgor, sunken eyes, tachypnoea, tachycardia[c]	Severe fluid restriction Moderate dehydration (5–10%): reduced urine output, dry mouth, normal skin turgor, some tachypnoea, some tachycardia,[c] peripheral oedema	Fluid restriction Mild dehydration (<5%): may have dry mouth or not clinically dehydrated but with concerns about risk of dehydration with negative fluid balance	Not clinically dehydrated
Temperature	<35.5°C tympanic or 35.0°C axillary	<36°C		
Biochemical abnormalities	Hypophosphataemia, hypokalaemia, hypoalbuminaemia, hypoglycaemia, hyponatraemia, hypocalcaemia	Hypophosphataemia, hypokalaemia, hyponatraemia, hypocalcaemia		
Disordered eating behaviours	Acute food refusal or estimated calorie intake 400–600 kcal per day	Severe restriction (less than 50% of required intake), vomiting, purging with laxatives	Moderate restriction, bingeing	

	Red (High risk)	*Amber (alert to high concern)*	*Green (moderate risk)*	*Blue (low risk)*
Engagement with management plan	Violent when parents try to limit behaviour or encourage food/fluid intake, parental violence in relation to feeding (hitting, force feeding)	Poor insight into eating problems, lacks motivation to tackle eating problems, resistance to changes required to gain weight, parents unable to implement meal plan advice given by healthcare providers	Some insight into eating problems, some motivation to tackle eating problems, ambivalent towards changes required to gain weight but not actively resisting	Some insight into eating problems, motivated to tackle eating problems, ambivalence towards changes required to gain weight not apparent in behaviour
Activity and exercise	High levels of uncontrolled exercise in the context of malnutrition (>2 h/day)	Moderate levels of uncontrolled exercise in the context of malnutrition (>1 h/day)	Mild levels of uncontrolled exercise in the context of malnutrition (<1 h/day)	No uncontrolled exercise
Self-harm and suicide	Self-poisoning, suicidal ideas with moderate to high risk of completed suicide	Cutting or similar behaviours, suicidal ideas with low risk of completed suicide		
Other mental health diagnoses		Other major psychiatric codiagnosis, e.g. OCD, psychosis, depression		

	Red (High risk)	*Amber (alert to high concern)*	*Green (moderate risk)*	*Blue (low risk)*
Muscular weakness – SUSS Test Sit up from lying flat	Unable to sit up at all from lying flat (score 0)	Unable to sit up without using upper limbs (score 1)	Unable to sit up without noticeable difficulty (score 2)	Sits up from lying flat without any difficulty (score 3)
Stand up from squat	Unable to get up at all from squatting (score 0)	Unable to get up without using upper limbs (score 1)	Unable to get up without noticeable difficulty (score 2)	Stands up from squat without any difficulty (score 3)
Other	Confusion and delirium, acute pancreatitis, gastric or oesophageal rupture	Mallory–Weiss tear, gastrooesophageal reflux or gastritis, pressure sores	Poor attention and concentration	

BMI, body mass index; bpm, beats per minute; ECG, electrocardiogram; OCD, obsessive–compulsive disorder; SUSS, Sit Up, Squat–Stand.
a. Patients with inappropriately high heart rate for degree of underweight are at even higher risk (hypovolaemia). Heart rate may also be increased purposefully through the consumption of excess caffeine in coffee or other drinks.
b. Jackson et al, 2007.
c. Or inappropriate normal heart rate in an underweight young person.

Guidance 2: Key physical assessment parameters and action points[4]

Check for/measure	*What to look for*	*When to be concerned (amber or red in risk assessment framework, Guidance 1)*	*Specific management*
Heart rate	Bradycardia, postural tachycardia	<50 bpm or symptomatic postural tachycardia	Nutrition, ECG
ECG (especially if bradycardic or any other CVS complication)	Other cause for bradycardia (e.g. heart block), arrhythmia, check QTc time (measure using Bazett's formula[a]), check electrolytes	Prolonged QTc, heart rate <50 bpm, arrhythmia associated with malnutrition and/or electrolyte disturbances	Nutrition and correct electrolyte abnormalities, increased QTc – bed rest, discuss with cardiologist; medication for arrhythmia or bradycardia likely to be unhelpful unless symptomatic or tachycardi[c]; should correct with nutrition and correct level of electrolytes
Blood pressure	Hypotension – refer to standardised charts for age and gender (www. ucl.ac.uk/paediatricepidemiology/pdfs/ blood_pressure_ centiles.pdf)	Systolic, diastolic or mean arterial pressure below the 0.4th centile for age and gender[b] and/or postural drop of more than 15 mmHg	Nutrition, bed rest until postural hypotension improved; echo likely to be abnormal while malnourished
Hypothermia	Temperature <36°C will usually be accompanied by other features; beware of <35°C		Nutrition, blankets
Assess for dehydration	Hypotension and bradycardia usually related to malnutrition, not acute dehydration	Significant dehydration and malnutrition	ORS orally or via a nasogastric tube preferred treatment unless there is hypovolaemia; beware of giving fluid boluses unless in hypovolaemia – cardiac compromise or hyponatraemia may occur; check electrolytes and renal function
Hypovolaemia	Tachycardia or inappropriate normal heart rate in undernourished young person, hypotension and prolonged capillary refill time		Senior paediatric review. Normal saline 10 ml/kg bolus, then review. If IV fluids are used then these should usually be normal saline with added KCl, with added electrolytes, e.g. phosphate, as required; consider other factors, e.g. intercurrent sepsis, as contributors
Other features of severe malnutrition	Lanugo hair, dry skin, skin breakdown and/or pressure sores		Nutrition; if skin breakdown or pressure sores present, seek specialist wound care advice
Evidence of purging	Low K, metabolic alkalosis or acidosis, enamel erosion, swollen parotid glands, calluses on fingers	Hypokalaemia as below, uncontrolled vomiting with risk of oesophageal and other visceral tears	Specialist nursing supervision to prevent vomiting
Hypokalaemia	Likely to be due to purging. Note: normal electrolyte level does not exclude medical	<3 mmol/l – admit; consider an HDU, PICU or ICU if <2–2.5 mmol/l	Correction; IV initially if <3 mmol/l (oral supplements may still be vomited); ECG

Check for/measure	*What to look for*	*When to be concerned (amber or red in risk assessment framework, Guidance 1)*	*Specific management*
	compromise		
Hyponatraemia or hypernatraemia	Less common but important; consider water-loading	<130 mmol/l – admit; consider an HDU, PICU or ICU if <120– 125 mmol/l	If IV correction, proceed with care
Other electrolyte abnormalities	Check PO_4, magnesium, calcium		
Hypoglycaemia		Hypoglycaemia is a relatively rare finding at presentation and implies poor compensation or coexisting illness (e.g. infection) – admit (once re-feeding is established, brief hypoglycaemia can be found after meals but should normalise rapidly)	Oral or nasogastric correction where possible (sugar drink, hypostop); IV bolus if severe (altered conscious or mental state; seizures): 2ml/ kg of 10% glucose followed by ongoing infusion containing glucose, e.g. 5ml/ kg/h of 10% glucose with 0.45% saline to minimise the risk of rebound hypoglycaemia after IV dextrose bolus; glucagon in malnourished patients may not be effective as glycogen storages are likely to be low
Mental health risk or safeguarding/family	Suicidality, evidence of self-harm, family not coping	Admit for comprehensive psychosocial assessment as per NICE self-harm guidance; admit for place of safety if necessary in the safeguarding context	CAMHS involvement, apply local self-harm and safeguarding procedures as needed

bpm, beats per minute; CAMHS, child and adolescent mental health services; CVS, cardiovascular system; ECG, electrocardiogram; HDU, high-dependency unit; ICU, intensive care unit; IV, intravenous; KCl, potassium chloride; NICE, National Institute for Health and Clinical Excellence; ORS, oral rehydration solution; PICU, psychiatric intensive care unit.

a. Bazett's formula: $QTc = QT/\sqrt{RR}$

b. Jackson et al, 2007.

15.4 Bulimia nervosa (including binge eating disorder)[2]

Psychological interventions should be considered first line for bulimia. Adults with bulimia and binge eating disorder may be offered a trial of an antidepressant such as fluoxetine. Selective Serotonin Reuptake Inhibitors (SSRIs) are the antidepressant of first choice. The effective dose of fluoxetine is 60mg daily. Patients should be informed that this can reduce the frequency of binge eating and purging but long term effects are unknown. Medication should not be offered as the sole treatment for bulimia.

Fluid and electrolyte disturbances occur in bulimia nervosa and relate to the severity of symptoms and the general nutritional status. Common abnormalities include dehydration, hypokalaemia, hypochloraemia, and alkalosis. Dehydration can cause volume depletion and consequently low blood pressure with a rapid pulse. Patients can complain of dizziness because of orthostatic hypotension and weakness. In extreme cases, renal function can be compromised. Secondary hypoaldosteronism can lead to rebound, fluid retention and peripheral oedema when laxatives and diuretics are withdrawn. Low potassium causes weakness in all muscle and most worryingly cardiac arrhythmias, which may lead to death in severe cases. Renal function can also be affected. Metabolic alkalosis may augment potassium depletion. Diuretic abuse, particularly thiazide and loop diuretics, can produce marked potassium and sodium depletion. Low sodium and magnesium levels occur less commonly but both have potentially serious consequences. If severe the former may cause central nervous system disturbances, whilst the latter results in muscle weakness, cardiac arrhythmias and mood changes. Low magnesium is also associated with other abnormalities such as hypocalcaemia and hypokalaemia. Clinicians should consider the presence of low magnesium levels in the face of refractory hypokalaemia. In general, these abnormalities settle with cessation of purging behaviours. If needed, oral rather than IV supplementation is advised. Advice from a physician and/or paediatrician may be necessary if there is severe metabolic disturbance (Connan, Lightman & Treasure, 2000). Very rarely patients may require hospital admission to manage severe purging behaviour.

15.5 Diabetes[2]

For people with an eating disorder and diabetes, the eating disorder and diabetes teams should:

- collaborate to explain the importance of physical health monitoring to the person
- agree who has responsibility for monitoring physical health
- collaborate on managing mental and physical health comorbidities
- use a low threshold for monitoring blood glucose and blood ketones
- use outcome measurements to monitor the effectiveness of treatments for each condition and the potential impact they have on each other.

When treating eating disorders in people with diabetes:

- explain to the person (and if needed their diabetes team) that they may need to monitor their blood glucose and blood ketones more closely during treatment

- consider involving their family members and carers (as appropriate) in treatment to help them with blood glucose control.

Address insulin misuse as part of any psychological treatment for eating disorders in people with diabetes.

Offer people with an eating disorder who are misusing insulin the following treatment plan:

- a gradual increase in the amount of carbohydrates in their diet (if medically safe), so that insulin can be started at a lower dose
- a gradual increase in insulin doses to avoid a rapid drop in blood glucose levels, which can increase the risk of retinopathy and neuropathy
- adjusted total glycaemic load and carbohydrate distribution to meet their individual needs and prevent rapid weight gain
- psychoeducation about the problems caused by misuse of diabetes medication
- diabetes educational interventions, if the person has any gaps in their knowledge.

For people with suspected hypoglycaemia, test blood glucose:

- before all supervised meals and snacks
- when using the hypoglycaemia treatment algorithm
- after correction doses.

For people with bulimia nervosa and diabetes, consider monitoring of:

- glucose toxicity
- insulin resistance
- ketoacidosis
- oedema.

When diabetes control is challenging:

- do not attempt to rapidly treat hyperglycaemia (for example with increased insulin doses), because this increases the risk of retinopathy and neuropathy
- regularly monitor blood potassium levels
- do not stop insulin altogether, because this puts the person at high risk of diabetic ketoacidosis.

Insulin injections

Cutaneous amyloidosis at the injection site has been reported in patients using insulin and this may affect glycaemic control. Remind patients to rotate injection sites within the same body region.[2]

15.6 Re-feeding syndrome

Re-feeding problems encompass life-threatening acute micronutrient deficiencies, fluid and electrolyte imbalances, and disturbances of organ function and metabolic regulation that may result from over-rapid or unbalanced nutrition support. They can occur in any severely malnourished individual but are particularly common in those who have had very little or no food intake, even including overweight patients who have eaten nothing for protracted periods. Re-Feeding Syndrome is characterised by a range of life-threatening clinical and biochemical abnormalities including cardiac failure, pulmonary oedema, dysrhythmias, acute circulatory fluid overload or circulatory fluid depletion, hypophosphatemia, hypokalaemia, hypomagnesaemia and occasionally hypocalcaemia and/or hyperglycaemia.

The problems arise because starvation causes adaptive reductions in cellular activity and organ function accompanied by micronutrient, mineral and electrolyte deficiencies. Abnormalities in malnourished individuals may therefore include:

- Deficiencies of vitamins and trace elements
- Whole body depletion of intracellular potassium, magnesium and phosphate;
- Increased intracellular and whole body sodium and water
- Low insulin levels and a partial switch from carbohydrate metabolism to ketone metabolism to provide energy
- Impaired cardiac and renal reserve with decreased ability to excrete an excess salt and water load
- Abnormalities of liver function

Giving nutrients and fluid to malnourished patients will reverse these changes but in doing so leads to an increase in demands for electrolytes and micronutrients, and a simultaneous shift of sodium and water out of cells. Over-rapid or unbalanced nutrition support can therefore precipitate acute micronutrient deficiencies and dangerous changes in fluid and electrolyte balance.

Criteria for determining people at high risk of developing re-feeding problems[5]

Patient has **one or more** of the following:	Or patient has **two or more** of the following:
1. BMI less than 16 kg/m^2 2. Unintentional weight loss greater than 15% 3. Within the last 3–6 months 4. Little or no nutritional intake for more than 10 days	1. BMI less than 18.5 kg/m^2 2. Unintentional weight loss greater than 10% within the last 3–6 months 3. Little or no nutritional intake for more than 5 days

5. Low levels of potassium, phosphate or magnesium prior to feeding	4. A history of alcohol abuse or drugs including insulin, chemotherapy, antacids or diuretics

Focussing on patients with eating disorders, people at most risk are those with a BMI less than 12 kg/m^2, those who vomit, abuse laxatives and binge, and those with concurrent physical conditions. Patients at high risk of re-feeding syndrome should commence feeding at very low levels of energy and protein but with generous provision of thiamine and other B group vitamins, along with a balanced multi-vitamin and trace element supplement (since they are likely to have multiple deficits that cannot be met by low level oral, enteral or parenteral intake). Levels can then be increased over the next few days as careful monitoring reveals no problems.

Most patients at high re-feeding risk also need generous supplementation of potassium, magnesium and phosphate from the onset of feeding unless blood levels are already high (this may be the case in patients who have renal impairment). It is important to appreciate those patients with normal pre-feeding levels of potassium, magnesium and phosphate can still be at high risk, and that many of those with high plasma levels will still have whole body depletion and may therefore need supplementation as re-feeding progresses and renal function improves.

Treatment of re-feeding syndrome should be undertaken in an acute medical setting and not in a psychiatric ward.

15.7 Physical health assessment

Physical health assessment and monitoring for all eating disorders[2]

Assess fluid and electrolyte balance in people with an eating disorder who are believed to be engaging in compensatory behaviours, such as vomiting, taking laxatives or diuretics, or water loading.

Assess whether ECG monitoring is needed in people with an eating disorder, based on the following risk factors:

- rapid weight loss
- excessive exercise
- severe purging behaviours, such as laxative or diuretic use or vomiting
- bradycardia
- hypotension
- excessive caffeine (including from energy drinks)
- prescribed or non prescribed medications
- muscular weakness
- electrolyte imbalance

- previous abnormal heart rhythm.

15.8 Using the Mental Health Act and compulsory treatment[2]

- If a person's physical health is at serious risk due to their eating disorder, they do not consent to treatment, and they can only be treated safely in an inpatient setting, follow the legal framework for compulsory treatment in the Mental Health Act 1983.

- If a child or young person lacks capacity, their physical health is at serious risk and they do not consent to treatment, ask their parents or carers to consent on their behalf and if necessary, use an appropriate legal framework for compulsory treatment (such as the Mental Health Act 1983/2007).

- Feeding people without their consent should only be done by multidisciplinary teams who are competent to do so.

Appendix 1 provides a guide to the medical risk assessment for eating disorders.

References

1. Guidance for Mental Health Professionals on the management of Acute Kidney Injury. June 2016
2. NICE guideline NG69, May 2017. Updated 16/12/2020. Eating disorders: recognition and treatment. Accessed 26/1/2021.

3. CR189 October 2014 MARSIPAN: Management of Really Sick Patients with Anorexia Nervosa

4. CR168 January 2012 Junior MARSIPAN: Management of Really Sick Patients under 18 with Anorexia Nervosa

5. NICE CG32, Feb., 2006. Nutrition support in adults: Oral nutrition support, enteral tube feeding and parenteral nutrition. http://www.nice.org.uk/CG32

6. NICE Quality standard [QS175], Eating Disorders, published September 2018. https://www.nice.org.uk/guidance/qs175/chapter/Quality-statement-1-Early-assessment-and-treatment Accessed 23/11/2018.

Appendix 1

South London and Maudsley
NHS Foundation Trust

KING'S College LONDON

www.eatingresearch.com
from the Section of Eating Disorders
at the Institute of Psychiatry and
the Eating Disorders Unit at SLaM

A GUIDE TO THE MEDICAL RISK ASSESSMENT FOR EATING DISORDERS

by Professor Janet Treasure (2009)

designed for use with patients with eating disorders:
outpatients in primary and secondary care, medical inpatients, general psychiatric inpatients and eating disorder inpatients.

People with eating disorders, in particular those with anorexia nervosa, are at high risk in terms of their own health and safety. They have the highest mortality of any psychiatric illness. Both their physical state and suicidal behaviors contribute to this risk. Risk to others is less of a concern.

The factors involved in the assessment of risk in people with eating disorders include:
- medical risk
- psychological risk
- psychosocial risk
- insight/capacity and motivation.

A proxy measure for insight/motivation is the response to treatment. If medical risk is high and there is no response to outpatient treatment, it is necessary to measure capacity and consider the use of mental health law.

This Guide aims to help in the understanding of :
1. **the medical risk** - how to assess it, evaluate it and where to refer.
2. **the use of the Mental Health Act** in treatment.

MEDICAL RISK

The medical risk arises from a combination of the restrictive behaviours (food and in some cases fluid) and the compensatory behaviours.

Features in history that indicate medical risk are:
- excess exercise with low weight
- blood in vomit
- inadequate fluid intake in combination with poor eating
- rapid weight loss
- factors which disrupt ritualised eating habits (journey/ holiday/exam).

Body mass index (weight/height^2) is a proxy measure of medical risk in anorexia nervosa (see *Maudsley Body-Mass Index Table*). Metabolic changes are most problematic if weight control measures such as vomiting and laxative abuse are used. Neither BMI nor blood tests alone are adequate markers of risk. Screening for risk with an examination of muscle strength, blood pressure, pulse rate, peripheral circulation and core temperature is essential.

Limitations of BMI as a risk marker for anorexia nervosa:
• potential for deceit
• less reliable if rapid change in weight
• less reliable at extremes of height
• higher risk for each BMI range for men (taller)
• children have a BMI range which changes developmentally*
• less reliable if bulimic features
• less reliable if fluid restriction
• less reliable if physical comorbidity
• BMI not critical with regards to risks associated with fluid and electrolyte balance.

*In children and adolescents, the cut off for BMI to make the diagnosis is a weight and height below the second centile of BMI. It is possible to get centile charts off the web for the USA (the third centile is depicted) – *www.cdc.gov/growthcharts/* Also, Cole and colleagues have produced charts for population norms.

Brief essential medical examination

We recommend the following for a rapid risk assessment, repeated frequently as necessary:

• BMI
• blood pressure and pulse rate, lying and standing
• muscle strength
• examination of the skin and temperature for those at high risk for dryness
• a full physical examination looking for eg infection (note can be with normal temperature) and signs of nutritional deficiency.

Tests for Muscle Strength (see table below for scoring)
1. The stand up/squat test:
The patient is asked to squat down on her haunches and is asked to stand up without using her arms as levers if at all possible.
2. The sit up test:
The patient lies flat on a firm surface such as the floor and has to sit up without, if possible, using her hands.

Tests for Hydration
The sign to notice is dizziness or faintness standing up from sitting.
Postural drop, ie the difference between lying and standing blood pressure and heart rate.

Investigations
1. Frequent investigations of full blood count and chemistry (FBC, ESR, UE, Cr, CK, Gluc, LFTs) are necessary if:
• patients are in a high risk category from a previous assessment
• they have a BMI <15 or
• the BMI is less reliable due to features outlined above, or
• there is a history of purging.

2. ECG is recommended if BMI < 15kg/m^2 and if drugs which have an effect on QT interval are prescribed.

3. Any other appropriate physical investigation pertinent to physical state.

The table on the next page gives values of concern for each part of the assessment and is followed by a management protocol based on risk.

SYSTEM	Test or Investigation	Concern	Alert
Nutrition	BMI	<14	<12
	Weight loss/week	>0.5kg	>1.0kg
	Skin Breakdown	<0.1cm	>0.2cm
	Purpuric rash		++
Circulation	Systolic BP	<90	<80
	Diastolic BP	<70	<60
	Postural drop (sit–stand)	>10	>20
	Pulse Rate	<50	<40
Musculo-skeletal (squat and sit-up tests)			
	Unable to get up without using arms for balance	++	
	Unable to get up without using arms as leverage		++
	Unable to sit up without using arms as leverage	++	
	Unable to sit up at all		++
Temperature		<35C <98.0F	<34.5C <97.0F
Bone Marrow	WCC	<4.0	<2.0
	Neutrophil count	<1.5	<1.0
	Hb	<11	<9.0
	Acute Hb drop		++
	(MCV and MCH raised - no acute risk)		
	Platelets	<130	<110
Salt/water Balance	K+	<3.5	<3.0
	2. Na+	<135	<130
	3. Mg++	0.5-0.7	<0.5
	4. PO4--	0.5-0.8	<0.5
	5. Urea	>7	>10
Liver	Bilirubin	>20	>40
	Alkpase	>110	>200
	AsT	>40	>80
	ALT	>45	>90
	GGT	>45	>90
Nutrition	Albumin	<35	<32
	Creatinine Kinase	>170	>250
	Glucose	<3.5	<2.5
Differential Diagnosis	TFT, ESR		
ECG	Pulse rate	<50	<40
	Corrected QT interval (QTC)		>450msec
	Arrythmias		++

• The baselines for these tests vary between labs. Any abnormal result is an indication for concern and monitoring.
• A tachycardia in the presence of signs and investigations of severe risk may be a harbinger of imminent cardiovascular collapse.

1. Scores that do not fall into the risk areas
Stable. Regular review and monitoring of above parameters with routine referral to eating disorders unit/secondary services depending on local resources.
Unstable. If weight is falling ask the person with anorexia nervosa to come up with plan to ensure that nutritional state does not fall into the risk areas. Regularly review the implementation of this plan.

2. Score/s in the concern area
Regular review of parameters (c.weekly) and assessment of capacity with urgent referral to specialised eating disorders team and appropriate medical intervention if needed. As this signifies medical risk this should also be shared with the carer.

3. Score/s in the alert area
Immediate contact and referral to eating disorders unit and physicians if outpatient with assessment of capacity. The patient will need urgent specialist and medical assessment. If inpatient – immediate contact with on-call physicians.

Useful tips

Potassium
This is often chronically low in purging, even down to values <1.5 mmol/L, with no immediate sequelae. Acute changes are more dangerous. Regular feeding with control of purging is usually sufficient for re-establishment of normal levels. If potassium replacement is required, because it is usually caused by a loss of gastric secretion, it should be done with oral replacement with a salt and water replacement such as diorylate with regular electrolyte review and examination of fluid and water status (measurement of urea and lying and standing blood pressure).

Refractory hypokalaemia can also be due to concurrent low magnesium or calcium, and thus these levels may need checking and rectifying. Serum potassium levels may remain low even with potassium supplements if vomiting persists. A proton pump inhibitor such as lanzoprazole to inhibit gastric acid secretion may reduce metabolic alkalosis and help to conserve potassium but should be a second line measure.

Phosphate
Rebound hypophosphataemia can occur on initial refeeding as it is sequestered by carbohydrate metabolism. It can be lethal. Initial refeeding including foods with high phosphorus content – eg milk-based products (>2 pints/day) may be helpful. If necessary about 4 days of oral phosphate supplementation may also be needed.**
** In anorexia nervosa it is rare for there to a an isolated deficiency of any mineral or vitamin and therefore multivitamin and mineral replacement is to be recommended eg Forceval 2 capsules day or Sanatogen Gold

Refeeding oedema
Peripheral oedema is common and harmless during initial refeeding. It resolves within a few weeks spontaneously and rarely needs treatment. It must however be distinguished from oedema secondary to heart failure.

Dehydration
This can rapidly lead to medical crisis through circulatory and renal failure. All patients should be fully assessed for dehydration. Take a corroborative history of fluid intake and signs of decompensation (dizziness/fainting). The physical examination should include assessment of skin turgicity, ocular pressure and lying and standing blood pressure. Regular electrolyte levels should be checked for high urea, creatinine, sodium and potassium levels. Oral replacement is preferable.

Bradycardia
Investigation: ECG, look for heart block or prolonged QT. Measure U & E. If <40 admit. Rewarm (if hypothermic) and give a can of Ensure. Monitor HR overnight.