TEWV Community Eating Disorder Service
Guidelines to Physical Monitoring & Physical Risk Assessment in Eating Disorders

Monitoring

These guidelines are based on the NICE, joint colleges and nutritional recommendations.
Reasoning to the use of blood investigations has been provided to assist in the understanding of the rationale.
It is common for patients to present without any symptoms but this does not reflect their associated physical risk. Risk of acute decompensation escalates with rapidity of weight loss and level of BMI with acute increases at BMI <12.5 and risk of acute onset organ failure and death with little prior warning.
Very low body temperature, low BM and low WCC in low BMI patient = infection until proved otherwise (opposite response to the normal patient due to suppressed state) and if missed can lead to rapid onset sepsis and multi-organ failure

Frequency statements are guidance only and consideration should allows be given to specifics of clinical presentation e.g. rate of loss, behaviours, engagement etc within the history

- **Physical Checks:**

Hgt (6 monthly checks due to possible hgt loss) & Weight with calculation of BMI
BP - Sitting & Standing & note of postural drop
Pulse & Core Temp

BMI	Status	Frequency
>16	Not losing	Monthly
16-14	Not losing	Fortnightly
16-14	Losing	Fortnightly increasing to Weekly
< 13.5	Regardless	Weekly

- **Blood Tests**

Initial screen: FBC, U&E's, LFT, Creat, phosphate, Bone profile, Zn, Mg, B12 and Folate, Ferritin
Repeated bloods: FBC, U&E's, LFT, Creat, phosphate, Mg, Ca, ferritin (if store low)
Unless identified abnormalities needing monitoring

BMI	Status	Frequency
>16	Not losing	Initial set – if ok Bi-monthly 3 sets then 3 monthly
16 - 14	Not losing	Initial set – if ok Monthly
16 - 14	Losing	Fortnightly - NB: if 4 sets still normal then monthly ok
< 14	Not losing	Initial Set – fortnightly if 4 sets ok then monthly
< 14 (<13.5)	Losing (Not losing)	Weekly

Clinical Reasoning to bloods:

- K+ and Na+ monitoring due to:

Total body storage changes associated with starvation impact on Na / K pump, cellular shift
Losses associated with purging, diuretic use
Low Na assoc with fluid loading
High K assoc Renal impairment

- Creatinine - monitoring for renal impairment
- Creatinine Kinase (CPK) – nutritional status, muscle breakdown (High CPK + Prolonged QTc = higher risk acute cardiac events)
- Phosphate - shift in starvation and acute drops in re-feeding with associated re-feeding syndrome
- Mg, Ca & Phosphate for re-feeding syndrome risk
- FBC, WCC & Platelets / blood profile monitoring illustrating Bone Marrow suppression
- LFT's (ALT) for fatty liver change from starvation NB co-morbid alcohol use GGT also
- Alk Phos & Ca monitoring Bone Mineral loss, Vit D levels (High Alk Phos = Low Vit D)
- Zn - specific deficiency associated poor intake, impact on Na / K pump, laxatives used / vomiting
- B Vitamins, Folate, Thiamine - poor dietary intake and absorption, greatly increased acute depletion in refeeding with associated sequelae
- Ferritin – Low Hb can be purely low weight related and not necessarily iron related. Prescription of iron should only occur once sure ferritin is low.

Nutritional Checks
Specific possible vitamin, mineral, trace elements deficiencies may be identified from the specialist Nutritional assessment
These may include Vit B Group, Vit C, Vit D, Zn, Se
Specific bloods may be asked for include to assess this: - e.g. Plasma Homocysteine (Vit B Gp status), 250H Vitamin D, Serum Ascorbate, B12 & Folate, Zn, Se, CPK

Bone Scans
Bone mineralisation & composition in early onset (pre-pubertal AN) and mineral loss with chronic BMI < 16 and especially where no MP
Increased risk of osteoporosis, bone pain, pathological fractures.
Recommendations for scan are as follows:

- All patients where BMI < 15 and absent periods > 1 year period

Initial Scan then repeated every 2 years unless indicated earlier.
Referral to specialist as recommend by scan report

Additional Tests

- ECG

For all patients with BMI < 14 baseline. Repeat monitoring if concerns: e.g. purging K+ BMI < 12.5

- Lie to Sit & Squat to stand test – musculoskeletal strength – all BMI <15. Indicator of risk of personal safety esp if assoc hypoglycaemic episode, postural drops.Concordance also with cardiac muscle strength esp. where arrythmias / postural drop

Standard Nutritional Support Prescriptions:
Recommend the following prescribed as standard all patients with BMI <=16:
Multivitamin eg forceval (ketovite for vegetarian) 1 per day
Thiamine 100mg TDS PO
Vit B Co Strong 1 OD PO

In addition:
1. If Low WCC and MCV raised
Folic acid 5mg OD to support marrow function even if the folate levels are ok on testing

2. If low ferritin
Ferrous fumarate (tends to be better tolerated than ferrous sulphate)
Consideration to referral for Iron infusion if HB <10 and iron stores very low

Management Decisions:
Please see below for guidelines in relation to physical risk assessment and recommendations

If in doubt at any stage contact local community specialist ED services for advice
Note:

- All patients with BMI <13 should be strongly considered for admission due to their increased medical risk and should be admitted if other physical factors present

- Patients with BMI <=12.5 should always be admitted for nutritional rescue and physical recovery due to their level of risk. MHA can and should be used in these circumstances if required.

Quick reference for Physical Status in Eating Disorders

People with eating disorders, in particular those with Anorexia are at high risk in terms of their own health and safety

Medical Risk

The medical risk arises from the combination of the restrictive behaviours (food and fluid) and compensatory behaviours: exercise, purging

Features that indicate medical risk

- **Excess exercise with low weight**
- **Blood in vomit**
- **Inadequate fluid intake in combination with poor eating**
- **Rapid weight loss**
- **Factors that disrupt ritualized eating habits (journey/holiday/exam)**

The following investigations should be repeated frequently testing for risk

1 **BMI** (Wgt in kg / hgt in m2)

2. **ECG** recommended if BMI<14kg/m² and if drugs that have an effect of QT interval are prescribed.

2 **Blood pressure** and **pulse**.

3 **Muscle strength** (see table)

4 **Core Temp &** Examination of the **skin** signs breakdown, bruising

5 **A full physical** looking for e.g. infection (note temperature could be normal) and signs of nutritional deficiency.

BMI – wgt kg / height m2

Limitations:

Potential for deceit around weight

Less reliable where rapid changes, at extremes of height, where purging / fluid restriction and physical co-morbidity

Score/s in the Concern area

Regular review of parameters (weekly)

referral / discussion with eating disorders service

Agree appropriate medical intervention if needed.

As this signifies medical risk, this should be shared with the patient and carer.

Score/s in the Alert area

Immediate contact and discussion with eating disorders service and physicians if felt appropriate.

Assessment of capacity & possible need for the MHA.

The patient may need urgent medical assessment and specialist ED input. See Joint Management Algorithm

If In-patient – immediate contact with EDS, physicians, dietician as per algorithm

Tees, Esk and Wear Valleys NHS

NHS Trust

Community Eating Disorder Service

Adapted from "A Guide to the Medical Risk Assessment for Eating Disorders" by Prof Janet Treasure, Kings College, London

Examination	Concern	Alert
Nutrition BMI	<14	<12
Weight loss/week	>0.5kg	>1.0kg
Skin Breakdown	<0.1cm	<0.2cm
Purpuric rash	+	
Systolic BP	<90	<80
Diastolic BP	<70	<60
Postural drop (sit-stand)	>10	>20
Pulse rate	<50	<40
Temperature	<35°C (98°F)	<34.5°C(97°F)
Bone Marrow - WCC	<4.0	<2.0
Neutrophil count	<1.5	<1.0
Hb	<11	<9.0
Platelets	<130	<110
Salt / Water Balance		
K+	<3.5	<3.0
Na+	<135	<130
Mg++	0.5-0.7	<0.5
PO4--	0.5-0.8	<0.5
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
Pulse	<50	<40
ECG Corrected QT Interval		>450msec
Arrythmias		YES
Musculo-Skeletal (Squat Test + Sit Up Test)		
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 for leverage	+	
Unable to sit up at all		+

Tests for Muscle Strength : see table above

The Stand Up / Squat Test

The patient is asked to squat down on her haunches, asked to stand up without using her arms as levers if possible.

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.

Test for Hydration

- Signs to notice are dizziness or fainting when standing up from sitting
- Postural drop i.e. the difference between lying and standing blood pressure and heart rate.

BMI

15-17.5 AN

13.5-15 Severe AN

12.5-13.5 Critical AN

<12 Life Threatening Anorexia Nervosa