Ashford and St. Peter's Hospitals
NHS Foundation Trust

GUIDELINE FOR THE MANAGEMENT OF ANOREXIA NERVOSA / EATING DISORDERS INCLUDING RISK ASSESSMENT

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Guideline History		
Date	**Comments**	**Approved By**
Nov. 2012		PNQCG Committee
Nov. 2017	• Electrolytes defined • HR and BP switched • Selenium added in investigations • Snacks to be completed in 20 mins • Patient can be allowed off ward if compliant	PNQCG Committee
Mar. 2023	• Salient points in history of patients with T1DM included alongside proposed diagnostic criteria for T1DE • Red flags for high risk refeeding added • Risk assessment framework updated	Paediatric Guidelines Meeting 20/03/2023

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1. Introduction

Eating disorders including anorexia nervosa are associated with serious harms, up to and including death. In order to tackle these, it is therefore vital that more is done to identify them at the earliest stage possible to enable the provision of appropriate care and treatment.

Ideally, there should be joint clinical management between the Paediatric team, Dieticians and the Eating Disorders Service (and where applicable the Paediatric Diabetes Team)

ADMISSION CRITERIA:

One or more of the following:

- Rapid weight loss > 1kg/ week
- Weight for height (WFH) <75%, BMI < 2nd centile, WFH = (actual BMI/50th Centile BMI) x 100
- Medically compromised, e.g. syncope, seizures, severe electrolyte imbalance, cardiac failure, arrhythmias etc.
- Severe dehydration
- Biochemical abnormalities – low K, Na, Ca, Mg, PO4, glucose, albumin
- Severe bradycardia (<50 b/min day, <45 b/min night)
- Hypotension (<80/50) mmHg)
- Hypothermia (<35˚C)
- Persistent vomiting/ bingeing/ purging
- Severely depressed and/ or suicidal ideation / acute psychosis
- Failure or poor response to outpatient treatment

SALIENT POINTS IN HISTORY:

- Duration of symptoms, rapidity of weight loss
- Early feeding history
- Restrictive diet, bingeing, purging, laxative/ diuretic abuse, excessive exercise
- Intake including fluids on good/bad days, urine output
- Feeling of hunger, fullness
- Fear of fat and/or weight gain / unhappy to eat to gain weight
- Suicidal ideation, deliberate self-harm/ overdose
- Co-morbid mental illness (Anxiety, Phobia, OCD, Depression)
- Menstrual history
- Sleep disturbance
- Relationships, school
- Family history of Eating Disorder or Mental Illness
- History to elicit complications
- History to rule out other conditions e.g. Hyperthyroidism, Diabetes Mellitus, Malignancy, Infection, IBD, Coeliac Disease, Autoimmune Disorders etc.

SALIENT POINTS IN HISTORY OF PATIENTS WITH T1DM:

- Increase in HbA1c >86mmol/L or erratic blood glucose levels
- Multiple ED or ward admissions with hyperglycaemia, DKA
- Recurrent ketonaemia (>3mmol/L)
- Recurrent severe hypoglycaemia (≥2 over 2 years)
- Over-exercising
- Impaired awareness of hypoglycaemia
- Weight loss (See Table 1 below) or fear of weight gain
- Body image concerns
- History of eating disorder diagnosis
- Diabetes distress
- Fear of hypoglycaemia
- Mental health comorbidity (e.g. depression, GAD)
- Secrecy about T1DM management
- Failure to request regular prescriptions
- Disengagement from diabetes services
- Poor school/work performance/attendance
- Conflict at home around meals and eating/diabetes management

SALIENT POINTS ON EXAMINATION:

- Weight, height, BMI, WFH
- Temperature, hydration, lying and standing HR and BP **(>20 beats/min, >10 mmHg drop is a concern)**
- Oversized clothes, decreased subcutaneous fat and muscle mass
- Note pubertal status
- Blue peripheries
- Bradycardia, hypotension, arrhythmia, murmur
- Alopecia, Lanugo hair
- Peripheral oedema
- Abdominal bloating / tenderness

SUSS Test –Sit Up Squat Stand

Sit up

The patient is asked to sit up from lying supine on a flat surface without using

the hands, if possible.

Squat

The patient is asked to squat and to rise without using the hands, if possible.

Rating

The scale used for rating both squatting and sitting is as follows:

0 = completely unable to rise
1 = able to rise only with use of hands
2 = able to rise with noticeable difficulty
3 = able to rise without difficulty.

- **Signs of bingeing/purging**: Russells' sign (callous on back of hand from induced vomiting), dental erosions, palatal petechiae / scratches, parotitis
- **Signs of vitamin and mineral deficiency:** Anaemia, bruises, glossitis, bleeding gums, hypercarotenemia (yellow skin + white conjunctiva), Chvostek's (↓Mg), Trousseau's sign (↓Ca)
- **Look for signs of Deliberate Self Harm**
- **Think of other conditions if:** Enlarged thyroid, hepatosplenomegaly, lymphadenopathy

Assess risk to life (see Risk Assessment Framework)

- Assess for **High risk** of refeeding
  - Under 18 years: WFH <70%
  - Little or no intake for >4 days
  - Low potassium, phosphate, magnesium
  - White blood cell count <3.8
  - Low thiamine and other vitamins
  - Infection, e.g., pneumonia, cardiac disease, liver disease, alcohol misuse, other serious disease

SALIENT POINTS ON INVESTIGATION at first presentation:*

- FBC + film, Clotting levels, ESR/CRP
- U+Es, LFTs, Amylase, Lipid Profile (Hypercholesterolaemia), Glucose
- Calcium (ionized), Magnesium, Phosphate, (Selenium and Zinc if very ill)
- Ferritin, Iron studies, Vit D, Folate, B12,
- TFTs (Sick Euthyroid Syndrome)
- VBG (Hypochloraemic alkalosis with bingeing/ purging, metabolic acidosis with laxative abuse)
- Coeliac screen, Ig(s)
- ECG (prolonged QTc interval >450ms, bradycardia)
- Urinalysis – proteinuria, haematuria, glucose, ketones
- Consider: β HCG/ urine pregnancy test (if persistent vomiting), autoimmune screen etc if criteria for Eating Disorder not fulfilled
- Pelvic ultrasound if not recently performed

If patient already screened, baseline investigations required: FBC, U+Es, Glucose, LFTs. Ca, PO4, Mg, VBG, urine and ECG

***MANAGEMENT (Refer to GUIDANCE FOR WARD MANAGEMENT OF PATIENTS ADMITTED WITH KNOWN OR SUSPECTED ANOREXIA NERVOSA for more details)**

- Joint with EDS and Dietician (+ Local paediatric diabetes team in patients with T1DM)
- Manage in open bay – **DO NOT ISOLATE**
- Print out Appendix 1 from Guidance for Ward Management of Patients Admitted with Known or Suspected AN and share management expectations with patients and parents
- Strict bed rest for all patients initially – use commode. This may be liberalized based on their progress
- Strict input and output chart
- **Most patients will have cool peripheries, prolonged CRT and bradycardia** (as Basal Metabolic rate may be decreased by 25%) **and will not require fluid boluses which can be dangerous** and may result in pulmonary oedema and/or cardiac failure due to sudden strain on the cardiac muscle
- If patient has a prolonged CRT and a "**normal HR"** or tachycardic they may be hypovolaemic. First offer oral fluids at 10 ml/kg over 1 hour in the form of Diarolyte. If oral fluids are refused, offer same volume via NGT. **Only give a bolus of 0.9% Saline over 1 hour if patient refuses fluids via alternative routes and is very dehydrated**. Once the bolus is given via any route this should then be followed by further **oral** intake. Subtract fluid given from total daily fluid requirement (6-8 glasses of fluid are required daily for healthy functioning 120 – 150 ml glasses for younger children and 250 – 300 ml glasses for teenagers) – see below for further guidance on normal fluid requirements and dehydration*

    - Observations at least 6 hourly including blood glucose
    - If patient is hypoglycaemic (BSL ≤2.6 mmol/l) then offer Glucogel followed by **oral** intake, with frequent BSL checks. Offering continuous iv fluids is counterproductive as it avoids the feeding management and may result in cardiac failure due to sudden strain on the cardiac muscle if large volumes are suddenly administered
    - Twice weekly pre-breakfast weights – aim for 0.5 – 1 kg increase per week
    - **Remember FOOD = MEDICINE therefore all intake must be supervised and documented**
    - Encourage to use commode before meals
    - Assess whether at risk of Refeeding Syndrome (presence of any **High risk** of refeeding).
    - **Remember Refeeding Syndrome can have cardiac, neurological, haematological complications (Phosphate shifts) and strict protocol must be followed***(see Refeeding Guideline hyperlink)

- If at risk of refeeding, subtract the calories from the Glucogel from total daily requirement.
- Allow 30 minutes for meal and 20 minutes for snack and replace food or fluid dropped or hidden
- Do not allow patient to visit bathroom for 1 hour following meals (if not on strict bed rest).
- If patient refuses to eat or drink (see Feeding Against Consent)
- Treat bacterial infections aggressively
- If laxatives are required avoid stimulants
- In some cases, the patient can be allowed a short supervised time off the ward if compliant with their meal plan and agreed by the medical team
- Aim to transfer to an Inpatient Unit (via CEDS) if not compliant once **medically** stable

Risk assessment framework for assessing impending risk to life (MEED Guidance May 2022)

	Red: High impending risk to life	Amber: Alert to high concern for impeding risk to life	Green: Low impending risk to life
BMI and weight	Under 18 years: WFH <70%	Under 18 years: WFH 70–80%	Under 18 years: WFH >80%
Weight loss	Recent loss of weight of ≥1kg/week for 2 weeks (consecutive) in an undernourished patient* Rapid weight loss at any weight, e.g., in obesity or ARFID	Recent loss of weight of 500–999 g/week for 2 consecutive weeks in an undernourished patient	Recent weight loss of up to 500g/week for 2 consecutive weeks
CVS Health			
Heart rate (awake)	<40 bpm	40–50 bpm	>50
Blood pressure	Standing systolic BP <0.4th centile for age	Standing systolic BP <0.4th centile for age	Normal standing BP for age and gender with reference to centile charts
ECG abnormalities	<18 years: QTc >460ms (female), 450ms (male) And any other significant ECG abnormality	<18 years: QTc >460ms (female), 450ms (male) And no other ECG anomaly Taking medication known to prolong QTc interval	<18 years: QTc <460ms (female), 450ms (male)
Orthostatic changes	History of recurrent syncope Postural drop in systolic BP of >20 mmHg or increase in heart rate of >30 bpm (35bpm in <16 years)	Occasional syncope Postural drop in systolic BP of >15 mmHg or increase in heart rate of up to 30 bpm (35bpm in <16 years)	Normal orthostatic cardiovascular changes Normal heart rhythm
Hydration status	Fluid refusal Severe dehydration (10%): reduced urine output, dry mouth, postural BP drop (see above), decreased skin	Severe fluid restriction Moderate dehydration (5–10%): reduced urine output, dry mouth, postural BP drop (see above), normal skin	Minimal fluid restriction No more than mild dehydration (<5%): may have dry mouth or concerns about

	turgor, sunken eyes, tachypnoea, tachycardia	turgor, some tachypnoea, some tachycardia, peripheral oedema	risk of dehydration with negative fluid balance
Temperature	<35.5°C tympanic or 35.0°C axillary	<36°C	>36°C
Muscular Function			
Sit up from lying flat	Unable to sit up from lying flat, or only by using upper limbs to help (score 0 or 1)	Unable to sit up from lying flat without noticeable difficulty (score 2)	Able to sit up from lying flat with no difficulty (Score 3)
Stand up from squat	Unable to sit up from squat, or only by using upper limbs to help (score 0 or 1)	Unable to stand up from squat without noticeable difficulty (score 2)	Able to stand up from squat with no difficulty (Score 3)
Haematology abnormalities			
	Low white cell count Haemoglobin <10g/L		
Biochemical abnormalities			
	Hypophosphataemia and falling phosphate Hypokalaemia (<2.5mmol/L) Hypoalbuminaemia Hypoglycaemia (<3mmol/L) Hyponatraemia Hypocalcaemia Transaminases >3x normal range Inpatients with diabetes mellitus: HbA1C >10% (86mmol/mol)		
Other clinical state			
	Life-threatening medical condition, e.g., severe haematemesis, acute confusion, severe cognitive	Non-life-threatening physical compromise, e.g., mild haematemesis, pressure sores	Evidence of physical compromise, e.g., poor cognitive flexibility, poor concentration

	slowing, diabetic ketoacidosis, upper gastrointestinal perforation, significant alcohol consumption		
Disordered eating behaviours	Acute food refusal or estimated calorie intake <500kcal/day for 2+ days		
Engagement with management plan	Physical struggles with staff or parents/carers over nutrition or reduction of exercise Harm to self Poor insight or motivation Fear leading to resistance to weight gain Staff or parents/carers unable to implement meal plan prescribed	Poor insight or motivation Resistance to weight gain Staff or parents/carers unable to implement meal plan prescribed Some insight and motivation to tackle eating problems Fear leading to some ambivalence but not actively resisting	Some insight and motivation to tackle eating problems May be ambivalent but not actively resisting
Activity and exercise	High levels of dysfunctional exercise in the context of malnutrition (>2h/day)	Moderate levels of dysfunctional exercise in the context of malnutrition (>1h/day)	Mild levels of or no dysfunctional exercise in the context of malnutrition (<1h/day)
Purging behaviours	Multiple daily episodes of vomiting and/or laxative abuse	Regular (=>3x per week) vomiting and/or laxative abuse	
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	

*** Patients losing weight at higher BMI should be assessed for other signs of medical instability and weight loss strategies to determine risk.**

Proposed diagnostic criteria for T1DE (MEED Guidance May 2022)

a. Type 1 diabetes mellitus

b. Intense fear of weight gain, body image concerns or fear of insulin promoting weight gain

c. Recurrent inappropriate direct or indirect* restriction of insulin (and/or other compensatory behaviour**) to prevent weight gain

d. Insulin restriction, disordered eating or compensatory behaviours causing at least one of the following: harm to health, clinically significant diabetes distress, impairment of daily functioning

* Indirect restriction of insulin refers to reduced insulin need/use due to significant carbohydrate restriction.

** Dietary restriction, self-induced vomiting, laxative use, excessive exercise, over-use of thyroid hormones, over-use of diabetes medication believed to avoid weight gain or promote weight loss.

[*]British Nutrition Foundation- Nutrition Bulletin- Hydration and health: a review B. Benelam, L. Wynes. Vol 35 Iss 1 March 2010, pgs 3-25

- Body water is controlled under normal circumstances and fluctuates by < 1%/dy.
- Dehydration is defined as ≥ 1% loss of body mass (assuming no food restriction).
- Loss of body mass of approximately 1% occurs after 13 hours of fluid restriction, 2% after 24 hours, 3% after 37 hours.
- Mild dehydration is defined as 1-2% body mass loss.
- ≥ 2% body mass loss can result in impaired cognition (Ritz and Berrit 2005).

European Food safety Authority 2008

- 6-8 glasses of fluid are required daily for healthy functioning
- 120 – 150 ml glasses for younger children and 250 – 300 ml glasses for teenagers
- On average males and females 4 -8 years old require 1.6 l/dy
- Males 9 – 13 years 2.1 l/dy
- Females 9 – 13 years 1.9 l/dy
- Males > 14 years 2.5 l/dy
- Females > 14 years 2.0 l/dy

2. Supporting References

1. Medical Emergencies in Eating Disorders: Guidance on Recognition and Management. May 2022: https://www.rcpsych.ac.uk/docs/default-source/improving-care/better-mh-policy/college-reports/college-report-cr233-medical-emergencies-in-eating-disorders-(meed)-guidance.pdf?sfvrsn=2d327483_52

2. NICE guideline CG9 Jan 04: http://guidance.nice.org.uk/CG9

3. NICE guideline NG69 May 17: http://guidance.nice.org.uk/NG69

3. Supporting relevant trust guidelines

To be used in conjunction with the following departmental documents: -

A&E Clerking Proforma for Eating Disorders (to use in A&E)

Eating Disorders Ward refeeding Booklet (for MDT use on ward)

Eating Disorders Booklet – Parents

Eating Disorders Booklet – Patient

Eating Disorders Meal Plan – Standard Template

Feeding Against Consent

Refeeding guideline and checklist for patients at risk of refeeding syndrome including those with an eating disorder 8 -18 years

Detailed guidance for ward management of patients admitted with known or suspected anorexia nervosa including patient / parent care plan

4. Guideline Governance

a. Scope

This guideline is relevant to all staff caring for all children from 0-18 years old across the emergency department, inpatient ward and outpatient department.

b. Purpose

i. This guidelines aims to facilitate a common approach to the management of children. At times deviation from the guideline may be necessary, this should be documented and is the responsibility of the attending consultant.

ii. This guideline is subject to regular review to ensure ongoing evidence based practice.

c. Duties and Responsibilities

All healthcare professionals responsible for the care of all children 0-18years should be aware of practice according to this guideline.

d. Approval and Ratification

This guideline will be approved and ratified by the Paediatric Guidelines Group.

e. Dissemination and Implementation

i. This guideline will be uploaded to the trust intranet 'Paediatric Guidelines' page and thus available for common use.
ii. This guideline will be shared as part of ongoing education within the Paediatric Department for both medical and nursing staff.
iii. All members of staff are invited to attend and give comments on the guideline as part of the ratification process.

f. Review and Revision Arrangements

a. This policy will be reviewed on a 3 yearly basis by the appropriate persons.
b. If new information comes to light prior to the review date, an earlier review will be prompted.
c. Amendments to the document shall be clearly marked on the document control sheet and the updated version uploaded to the intranet. Minor amendments will be ratified through the Paediatric Guidelines Group. A minor amendment would consist of no major change in process, and includes but is not limited to, amendments to documents within the appendices.

g. Equality Impact Assessment

Background • Who was involved in the Equality Impact Assessment
Dr N Siva & Dr E Paraskevopoulou
Methodology • A brief account of how the likely effects of the policy was assessed (to include race and ethnic origin, disability, gender, culture, religion or belief, sexual orientation, age) • The data sources and any other information used • The consultation that was carried out (who, why and how?)
All groups of staff and patients were taken into consideration and there is no bias towards or against any particular group.
Key Findings • Describe the results of the assessment • Identify if there is adverse or a potentially adverse impacts for any equalities groups
There is no evidence of discrimination.
Conclusion • Provide a summary of the overall conclusions
There is no evidence of discrimination.
Recommendations • State recommended changes to the proposed policy as a result of the impact assessment • Where it has not been possible to amend the policy, provide the detail of any actions that have been identified • Describe the plans for reviewing the assessment
This guideline is appropriate for use.

h. Document Checklist

To be completed (electronically) and attached to any document which guides practice when submitted to the appropriate committee for approval or ratification.

Title of the document: GUIDELINE FOR THE MANAGEMENT OF ANOREXIA NERVOSA / EATING DISORDERS INCLUDING RISK ASSESSMENT

Policy (document) Author: Dr N Siva & Dr E Paraskevopoulou

Executive Director: N/A

		Yes/No/ Unsure/NA	Comments
1.	**Title**		
	Is the title clear and unambiguous?	**Yes**	
	Is it clear whether the document is a guideline, policy, protocol or standard?	**Yes**	
2.	**Scope/Purpose**		
	Is the target population clear and unambiguous?	**Yes**	
	Is the purpose of the document clear?	**Yes**	
	Are the intended outcomes described?	**Yes**	
	Are the statements clear and unambiguous?	**Yes**	
3.	**Development Process**		
	Is there evidence of engagement with stakeholders and users?	**Yes**	
	Who was engaged in a review of the document (list committees/ individuals)?		Reviewed at the Paediatric Guidelines Meeting (doctors/nurses)
	Has the policy template been followed (i.e. is the format correct)?	**Yes**	
4.	**Evidence Base**		
	Is the type of evidence to support the document identified explicitly?	**Yes**	

		Yes/No/ Unsure/NA	Comments
	Are local/organisational supporting documents referenced?	**Yes**	
5.	**Approval**		
	Does the document identify which committee/group will approve/ratify it?	**Yes**	
	If appropriate, have the joint human resources/staff side committee (or equivalent) approved the document?	**Yes**	
6.	**Dissemination and Implementation**		
	Is there an outline/plan to identify how this will be done?		Presented at the Paediatric Guidelines Meeting (doctors/nurses)
	Does the plan include the necessary training/support to ensure compliance?	**N/A**	
7.	**Process for Monitoring Compliance**		
	Are there measurable standards or KPIs to support monitoring compliance of the document?	**N/A**	
8.	**Review Date**	**March 2027**	
	Is the review date identified and is this acceptable?	**Yes**	
9.	**Overall Responsibility for the Document**		
	Is it clear who will be responsible for coordinating the dissemination, implementation and review of the documentation?	**Yes**	**Dr E Paraskevopoulou**
10.	**Equality Impact Assessment (EIA)**		
	Has a suitable EIA been completed?	**Yes**	

Committee Approval (Paediatric Guidelines Group)			
If the committee is happy to approve this document, please complete the section below, date it and return it to the Policy (document) Owner			
Name of Chair	**Dr Claire Mitchell**	**Date**	**20/03/2023**
Ratification by Management Executive (if appropriate)			
If the Management Executive is happy to ratify this document, please complete the date of ratification below and advise the Policy (document) Owner			
Date: n/a			