‘I’m fat’

Assessment and management of the young person with an eating disorder in a general practice setting

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Alice

- 13 year old girl
- Identical twin
- Prem, NG feeding in NICU
- Onset of symptoms 12yrs

Teased about pre-adolescent chubbiness
‘Healthy eating’ focus at school
Failed to get into
  Rep. netball team
  School council
Twin identity issues
Alice

- Weight 1 year prior = 68kg
  - As weight ↓ became more & more driven and obsessed by weight.
  - Weight loss 23.5 kg in 1 year (35%)
  - Weight loss 5 kg in last month
- No periods last 2 months (?)more)
- Exercising 1-2 hours per day
- No purging
- Fluid restricting
- Last 4 months low mood, low energy, anxious
- Awaiting assessment at specialist eating disorder service
Growth Chart - height
Growth Chart - weight

Weight for age percentiles:
Girls, birth to 20 years

Adapted from the National Center for Health Statistics (NCHS) - USA 2002
Growth Chart - BMI

Body Mass Index for age percentiles:
Girls, 2 to 20 years

Adapted from the National Center for Health Statistics (NCHS) - USA 2002
# Full Blood Count

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<td>MCV - Mean Cell Volume</td>
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<td>MCH - Mean Cell Haemoglobin</td>
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<td>WBC - White Cell Count</td>
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<td>Eosinophil</td>
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**BLOOD FILM:**
Classical Anorexia Nervosa

1. Refusal to maintain body weight at or above 85% of expected, or failure to make expected weight gain during period of growth
2. Intense fear of gaining weight or becoming fat even though underweight
3. Disturbed body image – denial that low weight is a problem
4. Amenorrhoea (in post menarcheal females)
Anorexia Nervosa

• Third most common chronic illness in adolescent girls and young women
• Highest mortality rate of any psychiatric disorder
• 20% die within 20 years (½ malnutrition, ½ suicide)
• 12X increased mortality cw healthy adolescents
General trends in community

- Increased focus in young people on weight
- **14 -16 yr old girls** (Grigg 1996)
  - 77% wanted to lose weight
  - 57% unhealthy dieting
  - 33% disordered eating
  - 12% distorted body image
- **8 year old girls** (Robinson 2001)
  - 35% unhappy with their weight
  - 24% dieting
Trends in AN

- Younger age of onset
  - pre-pubertal/early adolescent increasing
- Increasing prevalence 3%
  - Boys 10% of total
- Previously overweight (BMI normal or high)
- 1/3 of those with low weight don’t meet AN criteria
  - EDNOS or ‘food avoidant emotional disorder’
  - Still have same complication/comorbidity rate
Prognosis

• Average duration of illness is 5-6 years
• Mortality 3-20% (improving)
• 47% full recovery (all ages)
• Adolescents with AN at 3.5 years (US study of young people in a tertiary treatment centre)

75% excellent or much improved
Mean weight = 94% IBW
79% females menstruating
Most = good social & educational functioning
Children vs Adults

• Higher risk rapid medical deterioration
• Risk of potentially irreversible effects on physical and emotional development
• BMI less useful, can be normal even when quite malnourished, use BMI centiles
• Linear Growth impairment
• Pubertal Delay
How do these young people present to you

- Never because they think they have a problem
- Usually because parents are concerned about child’s weight loss and altered eating pattern
- May present with complications of weight loss – fainting, general malaise
- May be an incidental finding while in for routine matter
Assessment needs to include

- History of weight loss and growth
- History of dieting or food restriction
- History of exercising
- History of purging
- Menstrual history
- Family history and circumstances
- Measurement of height and weight
- Physical examination
- Standard psychiatric assessment
- Standard investigations
Assessment – corroborate with parent also

• History of weight loss
  – initial weight, rate of loss, highest and lowest weights, current weight

• History of dieting or food restriction
  – amounts and types of food eaten, actual amounts eaten each meal, food hiding, beliefs about food types.

• Fluid restriction
Exercise

• Exercise/activity levels hours per day
• Covert exercise
• Current participation in elite sports e.g. gymnastics, ballet, athletics
Bulimic symptoms
(uncommon in younger children)

- Bingeing (high calorie foods eaten rapidly in a short space of time)
- Vomiting
- Laxative abuse
- Under-dosing of insulin in diabetics
Precipitants to weight loss

- Stressful life events
- Teasing about weight or size
- ‘Healthy eating’ campaign at school
- Pressure from sports coach
- Family or friends dieting
- Self imposed achievement pressure
- Ill health - physical/mental
Physical history

• Menstrual history – onset, LMP
• Other physical symptoms/illnesses
• Energy levels, cold tolerance, fainting
BMI and ideal body-weight

- BMI = weight (kg) ÷ (height x height) (metres)
- Use age adjusted BMI percentile chart to assess where young person is and to calculate target weight
- These can be downloaded from CDC web-site
- In younger children/adolescents we use expected height vs actual height based on
  - Bone age
  - Mid-parental height
  - Previous growth records
Examination

- Height, accurate weight, BMI, BMI centile
- HR, body temperature, lying and standing BP
- Capillary refill
- Peripheral cyanosis
- Pubertal status
- Assessment of mental state / HEADSS assessment
- Stigmata of binging/purging/self harm (roughness on knuckle of index finger, enlargement parotid glands, cutting etc on arms)
- Peripheral or sacral oedema
Mental state exam - look especially for:-

- Baggy clothing to disguise weight loss, or clothes that are inadequate for warmth
- Maybe very physically active/restless
- Maybe angry or resistant to being assessed, minimising parents concerns
- Talk and thought content focused on food, fear of fatness, repugnance at own body
- Distorted body image – see self as fat
MSE

- No actual psychotic symptoms but beliefs about body may have delusional intensity
- Mood maybe low due to malnutrition or to co-morbid depressive illness
- Must check for suicidal ideation
- Insight usually impaired w.r.t. own physical state and the need to gain weight
Investigations

Early stages
- FBC + reticulocyte count, ESR
- U & E, Creat
- LH, FSH, oestradiol (or testosterone if male)

If more advanced/severe weight-loss add in
- Bicarb & pH on venous gas (metabolic alkalosis may indicate vomiting)
- LFTs
- Calcium, Phosphate, Magnesium
- TFTs
- ECG – QT & PR interval (identify risk of sudden death)
- Urinalysis including pH, specific gravity and ketones (pH high and specific gravity low if water loaded)
So what next

- Medically unstable – admit medically to paediatric service (under 15 years) or adult
- Moderate to severe but still medically stable – refer to CAMHS and or Specialist Eating Disorder Service
  - Still have to manage then while waiting for an appointment
- Mild or early weight-loss – manage in primary care with regular monitoring and guidance to parents
Admission Criteria

ANY of:
1. Life-threatening weight loss
2. Acute medical complications of malnutrition
3. Acute food refusal
4. Significant dehydration
5. Hypoglycaemia
6. Electrolyte imbalance
7. Physiological instability
8. Abnormal ECG
9. Significant co-morbid psychiatric states
10. Failure to gain weight despite max outpatient Rx
Starship General Paediatric Guidelines

• Admission Criteria will be met if patient has ANY of the following:
• Life-threatening weight loss
• Total body weight < 75% expected (for height)
• Acute weight loss of 15-20% in 3 months
• Acute medical complications of malnutrition
  – Syncope
  – Seizures
  – Pancreatitis
  – Cardiac failure
  – Gastric dilatation
• Acute food refusal
• Significant dehydration
  • (ketones in urine, creatinine is often normal as muscle mass is decreased)
• Hypoglycaemia
• Electrolyte imbalance
  – Hypokalaemia (<3.0 mmol/L)
  – Hypophosphataemia (anything below normal range)
• **Physiological instability**
  – Bradycardia - HR < 50/min
  – Hypotension - Systolic BP < 80 mmHg
  – Hypothermia - Temp < 35.5 C
  – Significant postural drop in BP (> 20mmHg) or rise in HR (increase by > 30 bpm)

• **Abnormal ECG**
  – Arrhythmia
  – Diminished amplitude of QRS complex and T waves
  – Prolonged QTC (>0.44) – (see ECG guideline)
• Significant co-morbid psychiatric states
  – Depression
  – Anxiety
  – Obsessive Compulsive Disorder
• Failure to gain weight despite maximum outpatient treatment
“Food is an important part of a balanced diet”
- Fran Lebowitz (Author)
Focus of treatment for young people is family-based

- Supporting parents to
- Closely supervise their child/adolescent’s
  - Meals and snacks
  - Amounts and types of food they eat
  - Exercise
- Stand firm despite distress and protest
- Work together as parents
  (Based on ‘Maudsley Model’ family therapy)
Ask parents to

• Keep an accurate record of exactly what and how much their child is eating
• ‘normal’ amounts of food will not be sufficient to reverse weight loss
• Child needs to eat maintenance plus lost weight – aim for 250 – 500g/week gain
• May need to involve community dietician
Remember

• Parents and families don’t cause AN
• However higher rate of depression anxiety and eating disorder in families
• Parents find it hard with previously compliant well-behaved high-achieving ‘good’ children, to stand firm
• Treating AN like any other chronic illness reduces guilt and blame
  – ‘what would you do if your child had diabetes and didn’t want their insulin’
Primary care role

- Weekly monitoring of weight and physiological parameters
- Psycho-education about the effects of starvation on the body
- Psycho-education about balanced diet and need for carbohydrate and some fats
- Support for parents and young person to keep going
Anorexic behaviours and emotions

- Impaired cognitive function
- Abnormal emotional processing
- Change in personality
- Low mood, irritable
- Obsessive and anxious
- These behaviours are usually a result of malnutrition and the illness

TREATMENT = FOOD & SUPPORT

Antidepressants ineffective
Re-feeding Syndrome

• Sudden death (first weeks)
  ▪ Hypophosphataemia
  ▪ Hypothermia
  ▪ Hypoglycaemia
  ▪ Prolonged QTc

• Delirium (second two weeks)

• Think of this if
  – At a very low weight or sudden rapid weight loss
  – Sudden re-feeding without supplementary phosphate
Bulimia Nervosa

- Mainstay of treatment is CBT – group or individual
- Important primary care role of monitoring general health
  - Regular electrolytes if vomiting regularly
Take home points

- Think of eating disorders in younger adolescents and children
- Accurate historic and current height and weight
- Use BMI percentile charts for the young
- Admit acutely if medically unstable
- The primary treatment is FOOD
- Support parents to take control early on and reverse weight-loss trend
- Monitor weekly
Resources

- Starship Hospital Website: Anorexia Nervosa guidelines