

**'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

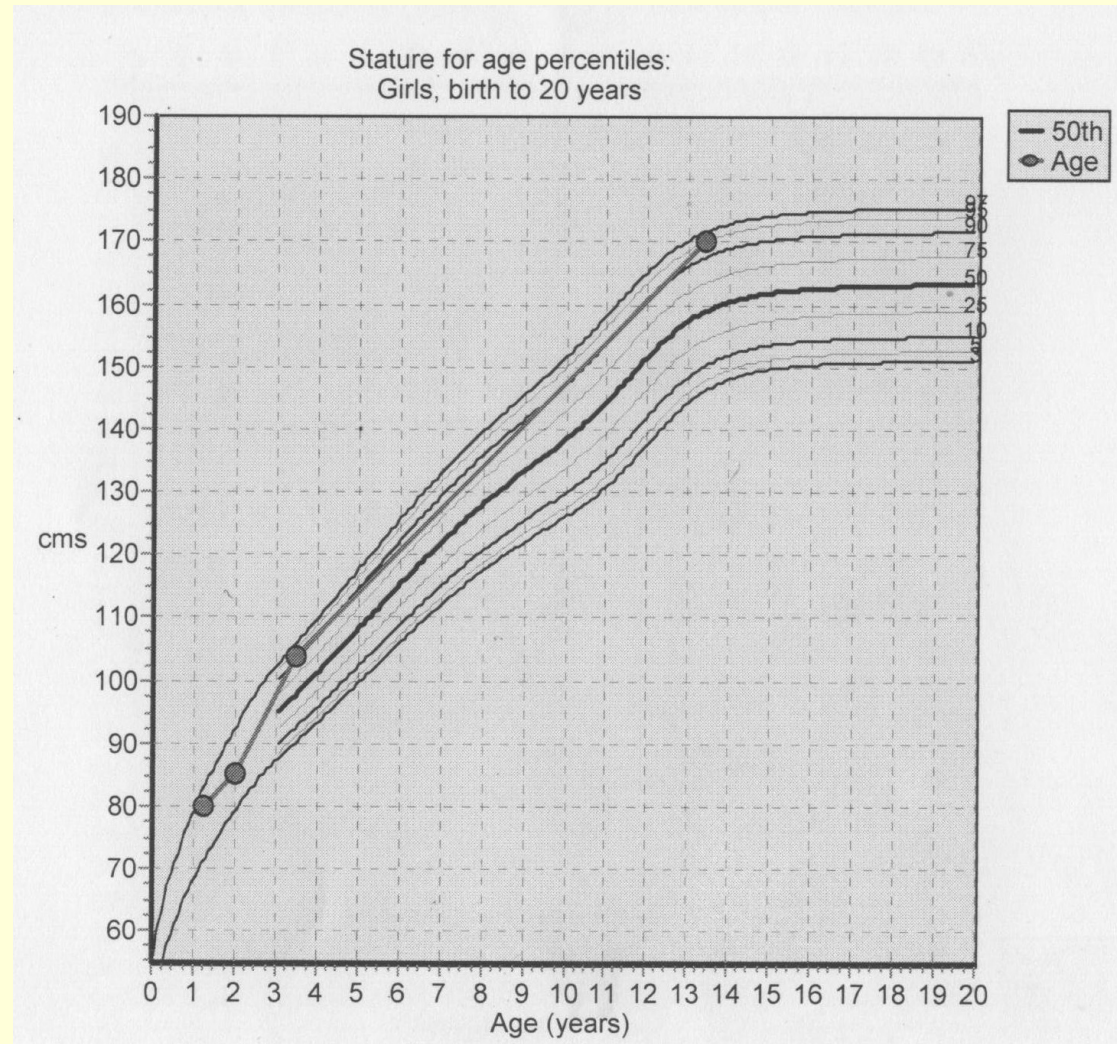
Twin identity issues



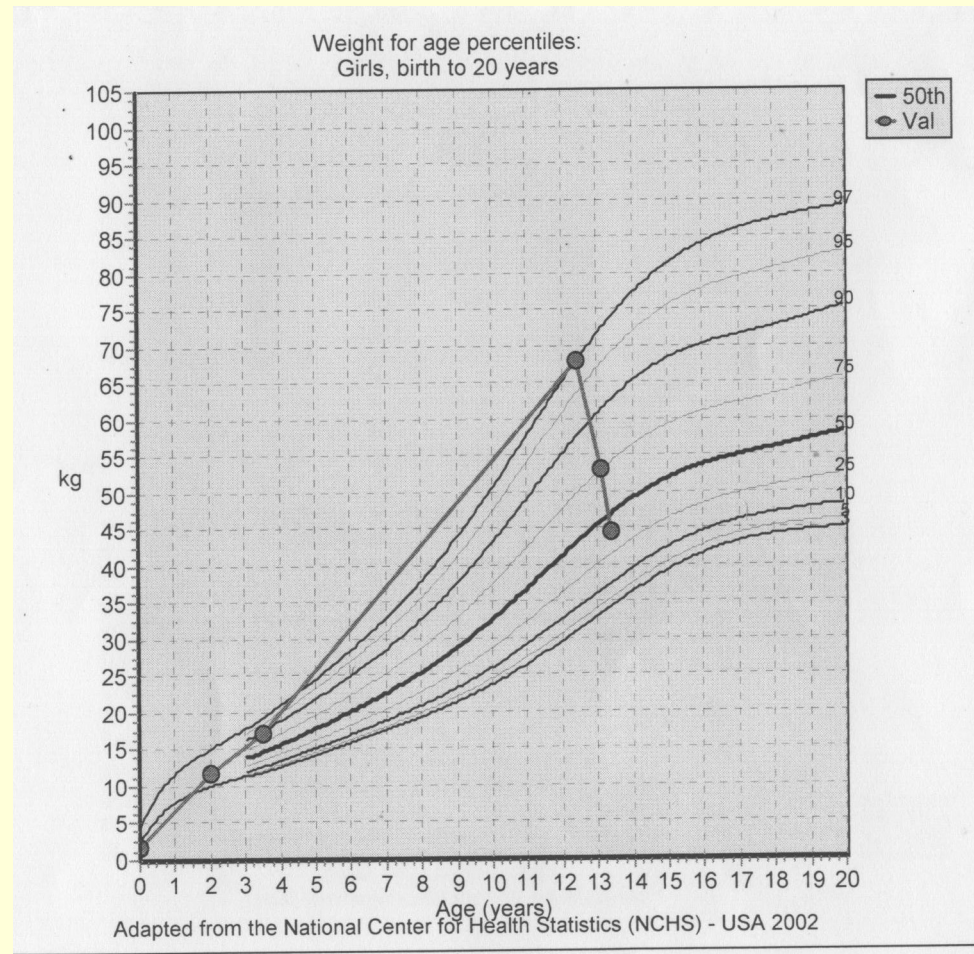
# Alice

- 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

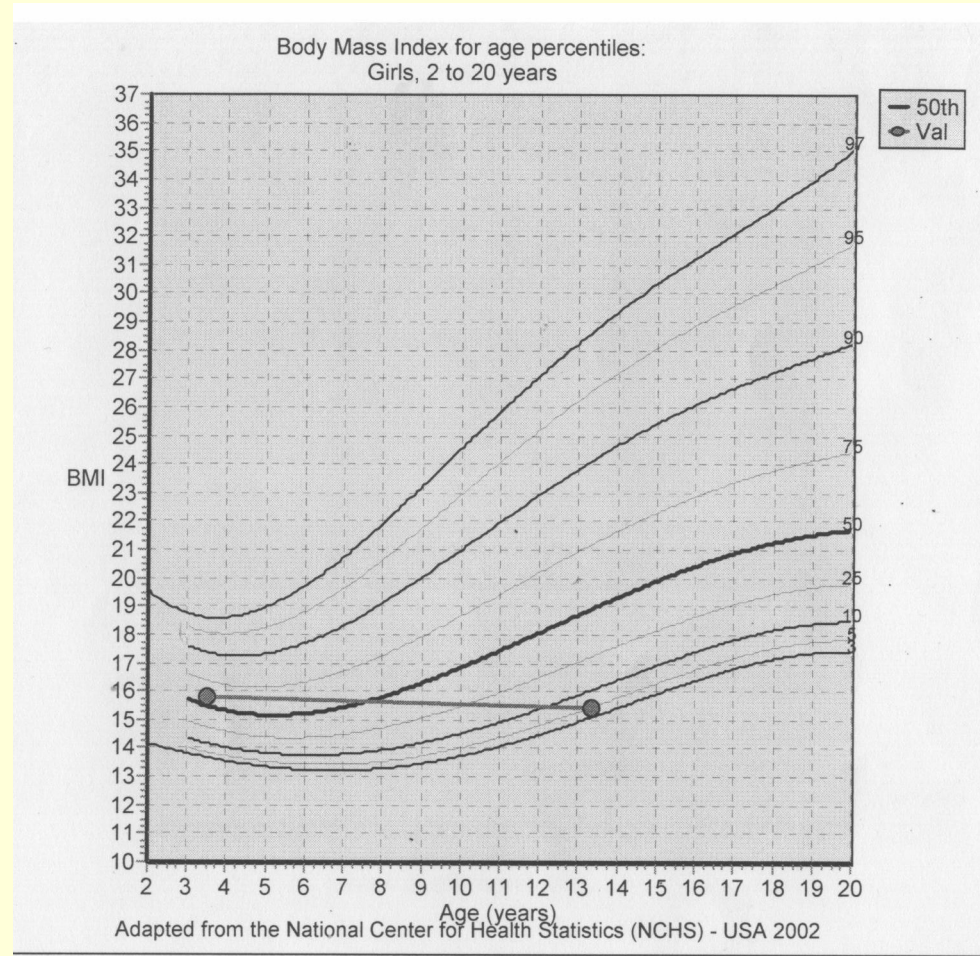
# Growth Chart - height



# Growth Chart - weight








# Growth Chart - BMI





# Full Blood Count

	◀▶ 25.Jan.2009	27.Jan.2009	30.Jan.2009	01.Feb.2009	03.Feb.2009
	08:25	09:30	10:10	08:25	10:00
Hb - Haemoglobin	<b>166</b>	159	139	155	141
RBC - Red Cell Count	<b>5.45</b>	<b>5.26</b>	4.62	5.12	4.63
Hct - Haematocrit	<b>0.48</b>	<b>0.47</b>	0.41	<b>0.46</b>	0.41
MCV - Mean Cell Volume	88	88	89	89	88
MCH - Mean Cell Haemoglobin	31.0	30.0	30.0	30.0	31.0
RDW	13.5	13.6	13.5	13.4	13.3
Platelet Count	160	<b>112</b>	<b>117</b>	<b>118</b>	<b>133</b>
WBC - White Cell Count	5.08	<b>3.86</b>	<b>2.30</b>	<b>2.75</b>	<b>2.11</b>
Seg. Neutrophil	2.13	1.93	<b>1.01</b>	<b>0.91</b>	<b>0.80</b>
Basophil	0.05	0.04		0.03	0.02
Eosinophil	0.10	0.12	0.07	0.06	0.02
Monocyte	0.46	0.39	0.21	0.28	0.30
Lymphocyte	2.34	<b>1.39</b>	<b>1.01</b>	1.49	<b>0.97</b>
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 eg 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)  $\div$  (height x height) (metres)
- Use age adjusted BMI percentile chart to assess where young person is and to calculate target weight
- These can be down-loaded 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 bingeing/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
- Gonzales A et al (2007) Eating Disorders in Adolescents *Australian Family Physician* Vol 36 (8) August pp 614-619