Failure to Thrive

Failure to Thrive is generally defined as weight <3rd percentile or falling across two major percentile lines. Choose the appropriate growth chart for gender, age, and genetic syndromes. The most common cause is **inadequate dietary intake**.

APPROACH

HISTORY

Nutritional Hx: 72h dietary recall, feeding environment (who feeds, timing of meals, grazing, distractions), pickiness, introduction of solids and common allergens, breast or formula fed

Symptoms:
- GI: abdominal pain, stool pattern/quality (Bristol chart, mucous or blood), emesis
- Non-GI: floppy or stiff muscles, fatigue, sweating, cough, shortness of breath, headache

Pregnancy Hx: gestational age, maternal disease, infections

PMHx: recurrent infections, medications, developmental milestones, prior growth trajectory

FHx: parental heights (calculate mid-parental height for growth potential), allergy, genetic syndromes, chronic illnesses listed under "Increased Metabolic Demand"

SocHx: caregiver stressors, mental health, parental expectations

PHYSICAL EXAM

Measurements:
- Weight, height, head circumference (<2 yrs) trended over time
- Use growth charts designed for specific genetic syndromes (e.g., TSM 21, Turner Syndrome)
- Correct for prematurity until 24 months

Focused physical:
- General: dysmorphic features, subcutaneous fat distribution, muscle mass
- Neuro: hypo or hypertonia
- CV, Resp, Abdo: look for signs of chronic disease (e.g., murmur, abdo mass, extra-intestinal manifestations of IBD)
- Caregiver-child interaction
- Developmental/behavioural observation

DIFFERENTIAL DIAGNOSIS

INTAKE ISSUES

- **Insufficient food intake:** difficulty breastfeeding, improper formula mixing, food insecurity, neglect, feeding aversion
- **Mechanical issues:** cleft palate, dental lesions, oromotor issues

INCREASED METABOLIC DEMAND

- Congestive heart disease (CHF)
- **Inflammatory diseases and immunodeficiencies** (e.g., IBD, SLE, celiac disease, cystic fibrosis)
- **Endocrine disorders** (e.g., hyperthyroidism, Type 1 DM)
- **Hematologic issues** (e.g., leukemia)

INCREASED LOSSES

- Vomiting
- Gastroesophageal reflux disease (GERD)
- Malabsorption / Chronic diarrhea

INVESTIGATIONS

- Per CPS guidelines, if clinically indicated after thorough H&P, may obtain basic workup including CBC, renal and liver panels, iron studies, inflammatory markers (ESR, CRP, TTP, IgA), TSH, UA
- Consider karyotype, microarray, bone age (XR of hand and wrist) if also short stature

MANAGEMENT

1. If the patient demonstrates normal growth with adequate caloric intake, no further investigations required.
2. Treat the underlying cause; reassure parents if no underlying disease is detected
3. Provide education about age-appropriate diet, scheduling, child-specific behavioural interventions
4. Fortify food (e.g., increase caloric density – add cream to soup, butter to rice, fortified formula)
5. Refer to lactation consultant, dietician, SLP, or social work as needed

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