



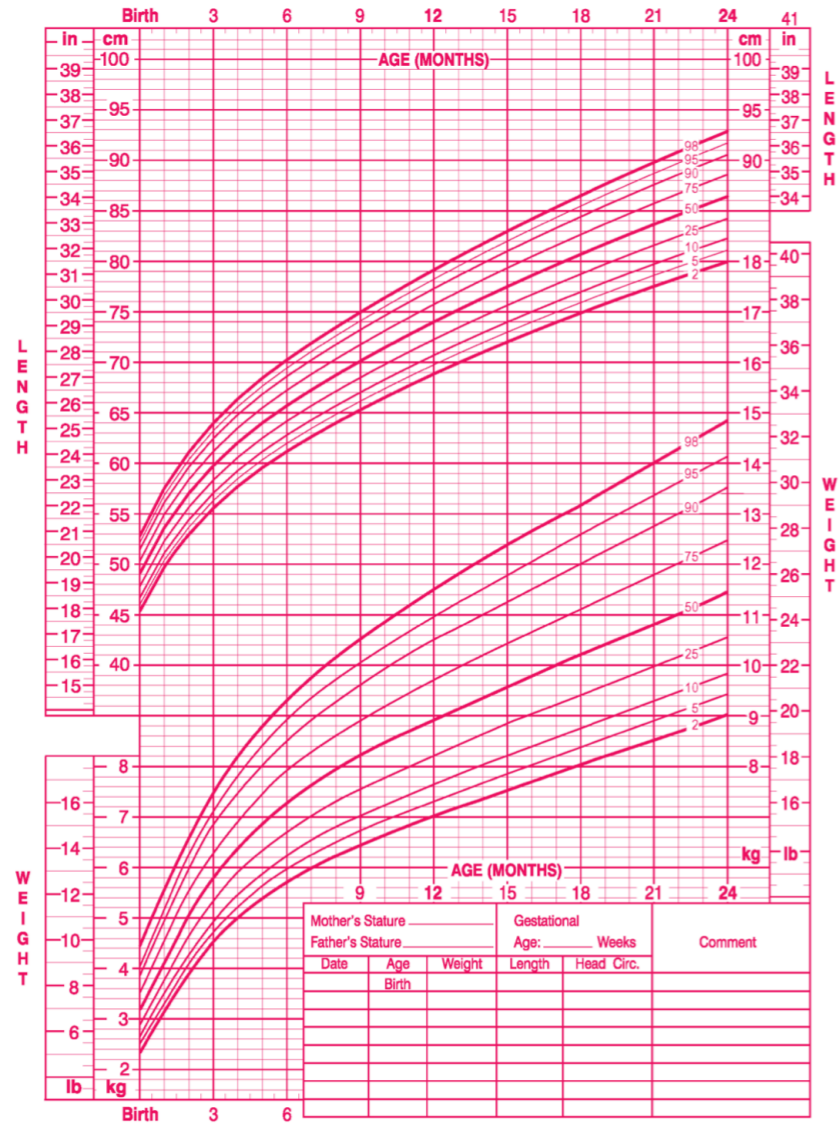
Failure to thrive

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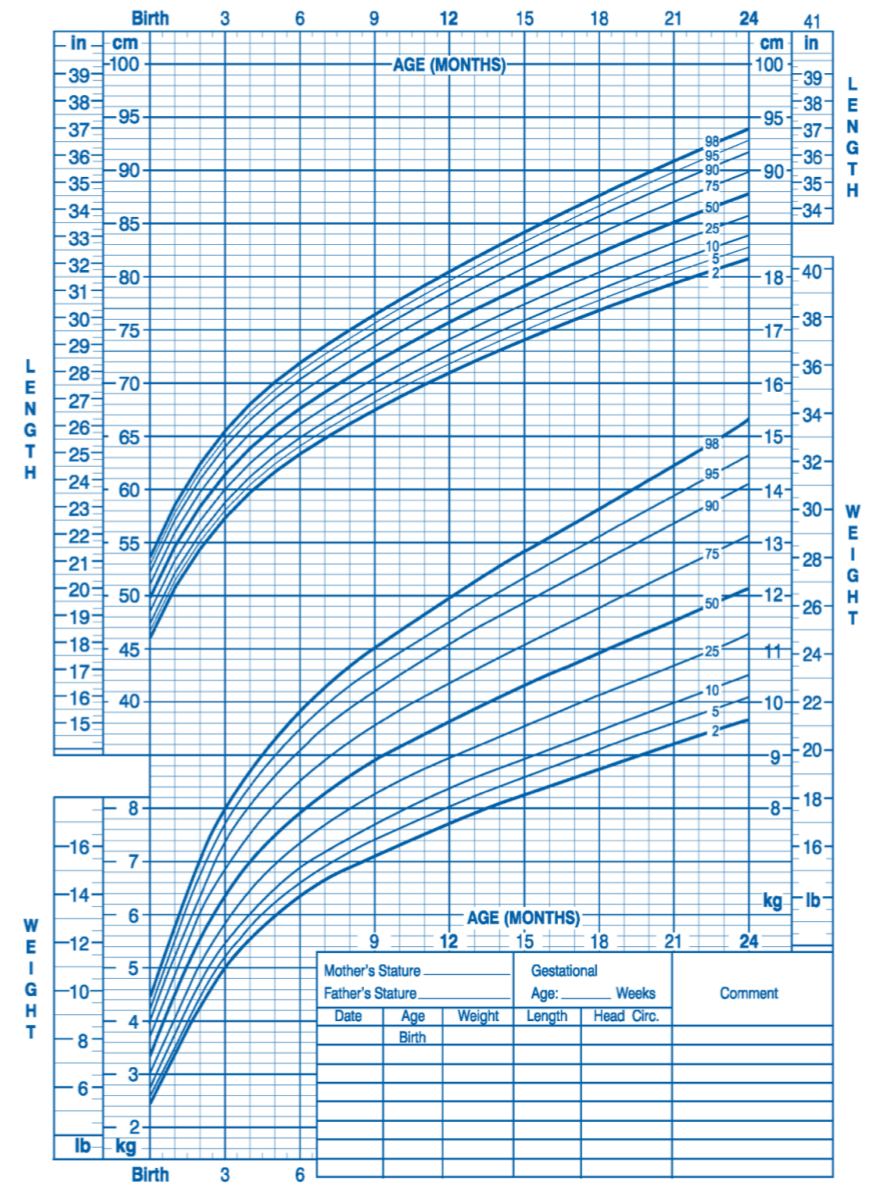
Objectives

- the growth charts (centiles /percentiles)
- What is failure to thrive
- Causes ?
- Approach to child with failure to thrive

Length-by-Age & Weight-by-Age Percentiles for GIRLS from birth to 24 months

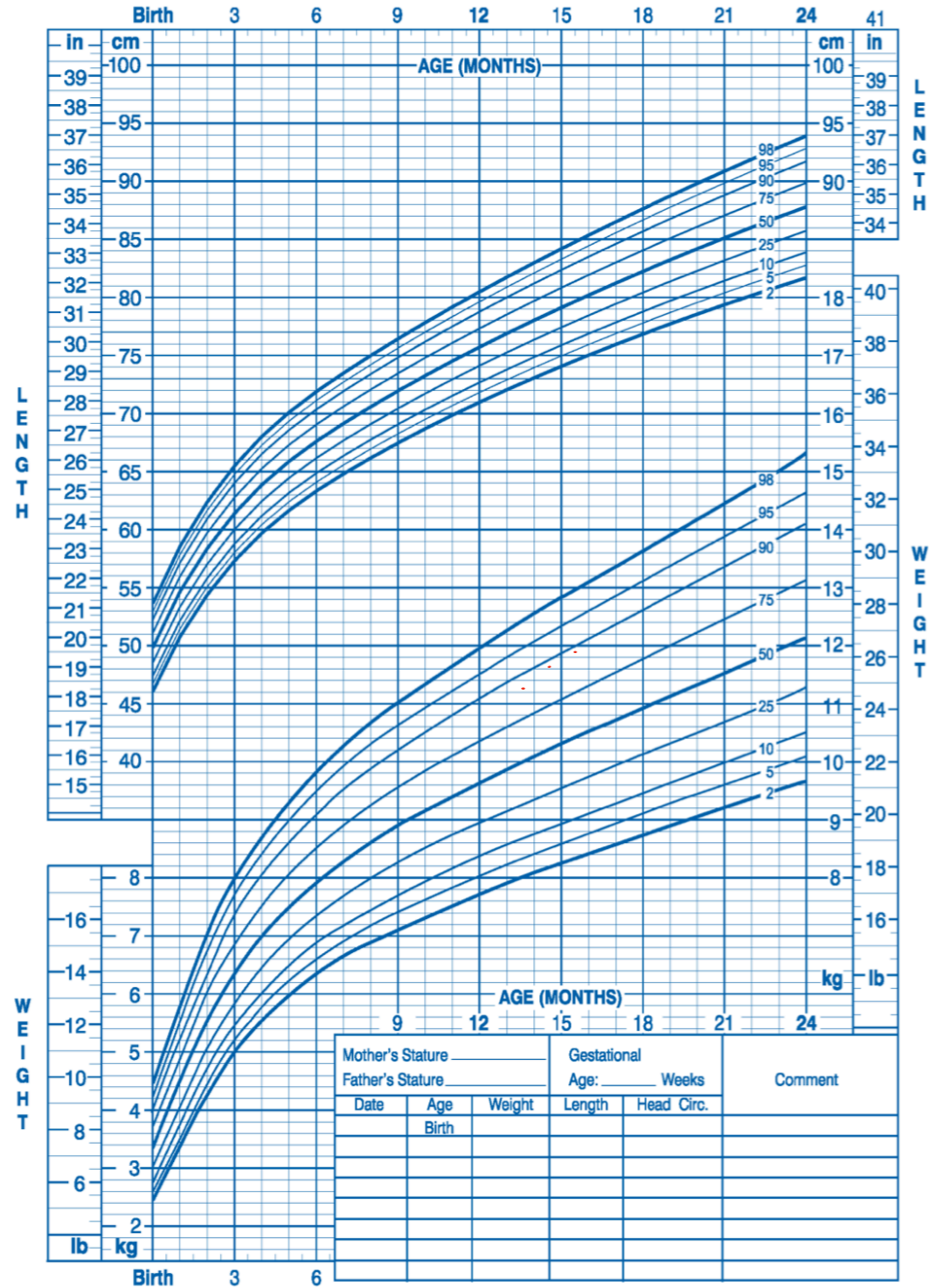


Length-by-Age & Weight-by-Age Percentiles for BOYS from birth to 24 months

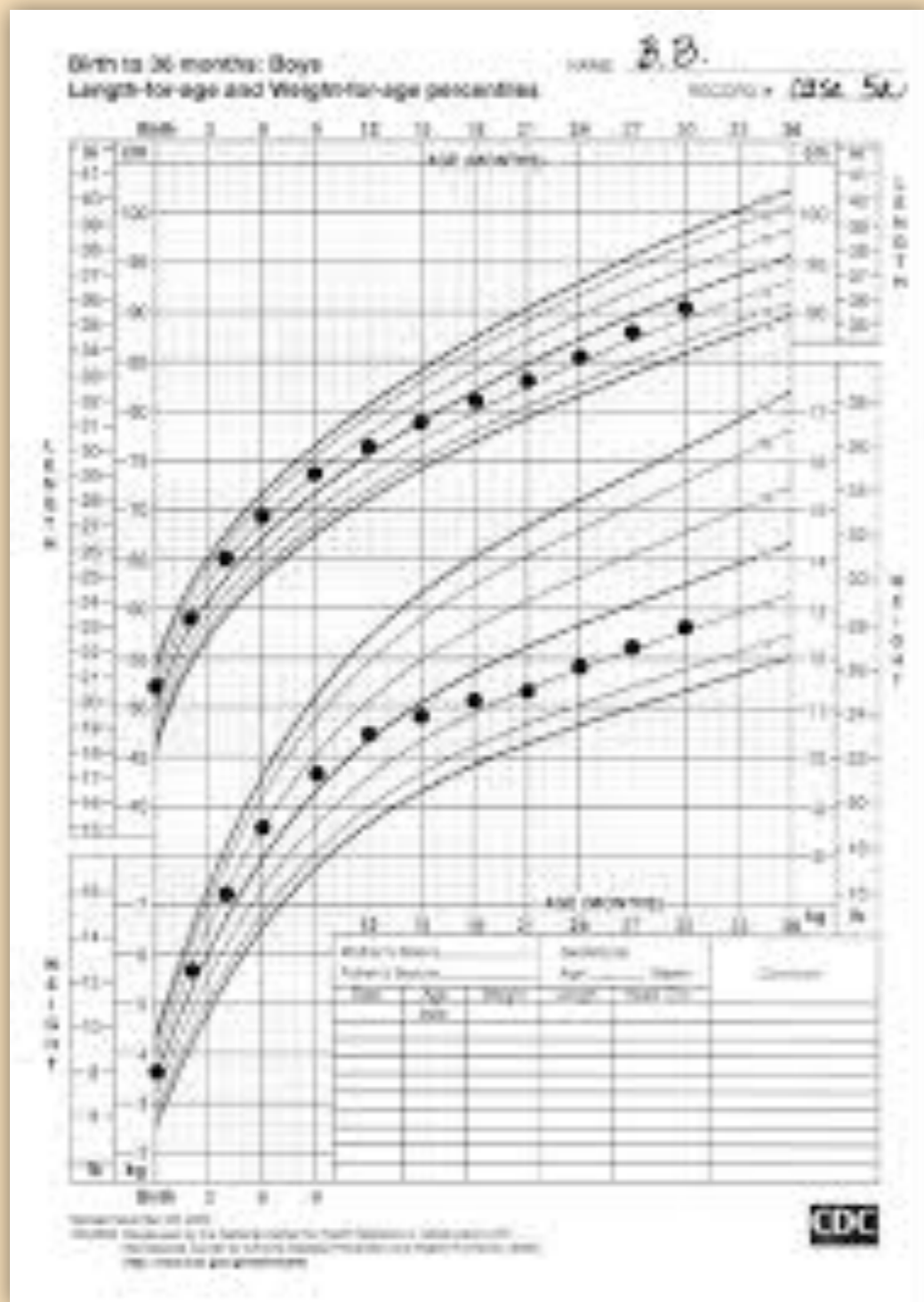


Length-by-Age & Weight-by-Age Percentiles for BOYS

from birth to 24 months



3 months old with wt 5.4 kg
6 months wt 6.6 kg
9 months 7.4 kg



- **FTT is a description and not a diagnosis**
- **Sub optimal weight gain and growth in infants and toddlers**
- **Growth below the 3rd percentile or**
- **Change in growth that has crossed 2 major growth percentiles**
- **Remember 3% normal kids fall below 3rd percentile**

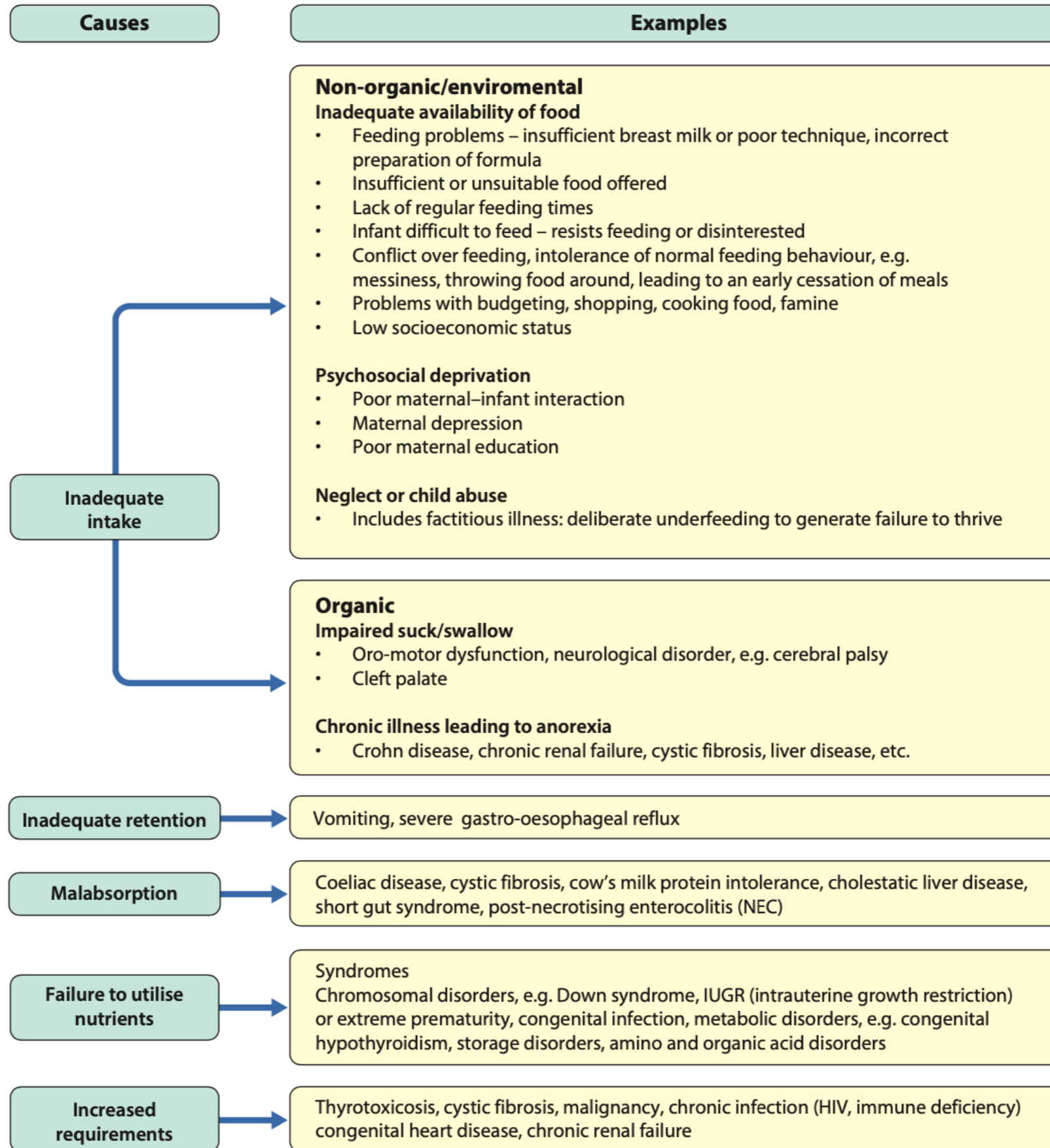
causes

- **Organic Causes**
- **Non-Organic Causes**
- **Both may co-exist**



There are
Numerous
Reasons I am
Failing to
Thriving.

Causes of failure to thrive



Organic Causes Of Failure To Thrive

- Poor calorie input
- Vomiting
- Inadequate absorption of food
- Organ failure - including cardiac, renal, neurological, and serious chronic disease
- Metabolic or endocrine abnormalities
- Persistent infection
- Syndromes

1. Poor Calorie Input

- This area overlaps considerably with the non - organic causes of failure to thrive.
- mother may not be feeding baby, or food may be inappropriate.
- maternal milk production may be poor,
- baby may have a condition that makes it difficult to feed such as cleft palate.
- malnutrition

2. Vomiting

- Indicator of general infection
- Pyloric stenosis
- Gastro- esophageal reflux
- Hiatus hernia
- Esophageal incoordination
- UTI

3. Inadequate Absorption Of Food

- **Intrinsic Reasons:**
 - Coeliac Disease
 - Lactose Intolerance
 - Pancreatic Insufficiency, As Caused By Cystic Fibrosis
 - Inflammatory Bowel Disease
- **Extrinsic Reasons:**
- **Parasitic Infestation,**
 - giardiasis

4. Serious Chronic Disease

These include:

- Cerebral palsy
- Hepatic failure
- Renal failure
- Degenerative disorders

5. Persistent Infection

- **Recurrent infection of tonsils and adenoids**
- **Parasitic or Bacterial infections of GIT**
- **TB**
- **HIV**

6. Metabolic Or Endocrine Abnormalities

- **Hyperthyroidism**
- **Hypothyroidism**
- **Diabetes mellitus**
- **Growth hormone deficiency**
- **Inborn errors of metabolism**

7. syndromes

There Are A Massive Number Of Syndromes Which Result In Failure To Thrive. They Include:

- Down's Syndrome
- Foetal Alcohol Syndrome
- Congenital Infections
- Skeletal Dysplasias
- Turner's Syndrome
- Bartter's Syndrome

Non-organic Failure To Thrive

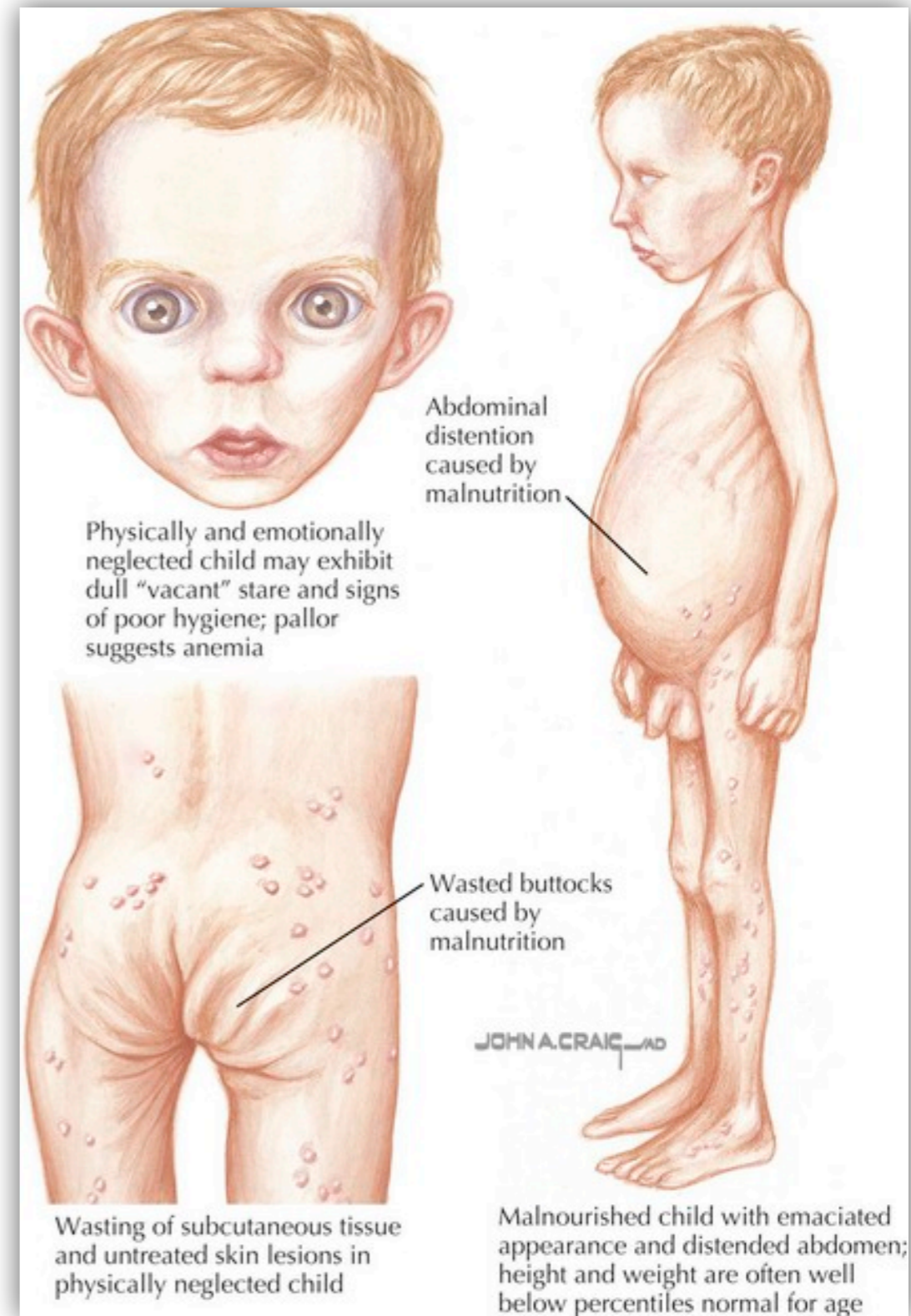
- **Commonest Cause**
- **One of the earliest indications of serious parent/child interaction dysfunction.**
- **It is a form of neglect in which the child's growth is inhibited in the home environment while showing a normal or above growth velocity when placed out of home.**

Non-organic(Psychosocial)FTT include:-

- Inadequate diet because of poverty, food insufficiency, or errors in food preparation.
- Poor parenting skills (lack of knowledge of sufficient diet).
- Child/parent interaction problems (autonomy struggles, coercive feeding, maternal depression).
- Parental cognitive or mental health problems.
- Child abuse or neglect, emotional deprivation.
- Rumination, a rare disorder associated with repeated regurgitation and re chewing of food.

● C.M.

- It ranges from just poor growth in comparison with their peers to manifestations similar to those of severe malnutrition.
- In psychosocial FTT there may be **signs of neglect** e.g. diaper rash, unwashed skin, untreated impetigo, uncut and dirty fingernails, or unwashed clothing. A flattened occiput with hair loss may indicate that the infant has been unattended for prolonged periods. Other features may include delays in social and speech development, avoidance of eye contact, expressionless face, & hypotonia.



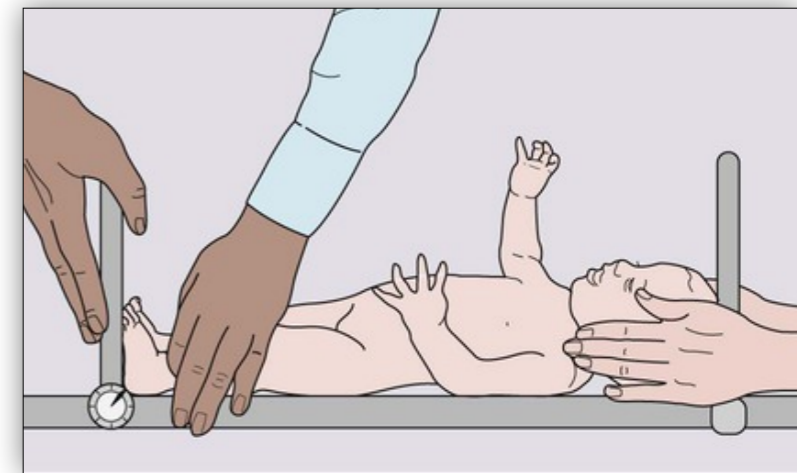
❖ Approach to infant with FTT:-

The hx in any patient with FTT must include a detailed dietary hx with observation of maternal-child interaction.

Physical examination should include all systems of body that may affect growth.

Measure periodically all growth parameters including; weight, length/height & (weight/height) ratio to measure the degree of FTT.

In malnutrition, weight is the 1st to be affected, followed by height, whereas head circumference is lastly affected when malnutrition is seriously affect brain growth.

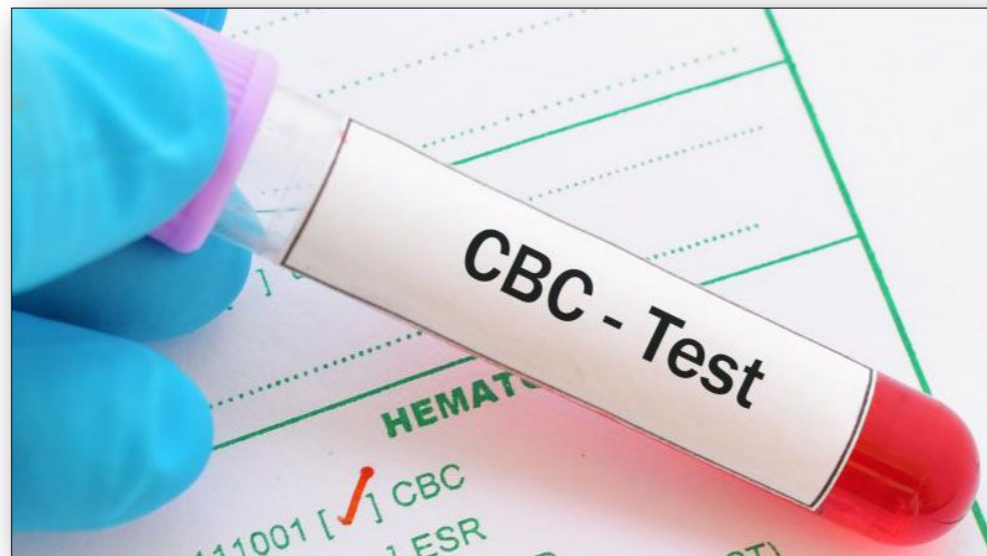


Investigations

- The following is a rough outline of the important preliminary investigations that may be initiated:
- Stool and urine microscopy and culture
- Full blood count and film, followed by serum iron and ferritin, B12 and folate as indicated
- Hospitalize and observe feeding
- Creatinine and electrolytes, plus liver and bone function
- Thyroid function and other endocrine investigations
- Sweat test
- Chromosomal analysis
- Metabolic analysis

CBP & GUE are good initial tests.

Other tests should be judicious & relevant to the findings in hx or exam.



Rx

Indications of hospitalization for patients with FTT include:-

For further investigations, severe malnutrition, failure of home management & to evaluate the parent-child feeding interaction (especially when psychosocial FTT is suspected).

Organic causes of FTT should be treated according to the etiology of the organic illness along with good nutrition.

Inorganic (Psychosocial) FTT should initially be treated at hospital by giving age-appropriate unlimited diet. If the infant starts to gain weight, this is mostly due to Inorganic FTT. However, children with severe malnutrition must be re-fed carefully to avoid re-feeding syndrome.

Prognosis

FTT in the 1st yr of life (regardless of cause) is ominous, because maximal postnatal brain growth occurs in the 1st 6 mo of life as well as brain grows as much in 1st yr as in the rest of the child's life. Thus all patient with FTT require frequent monitoring & assessment.

Prognosis of patients with organic FTT is variable, whereas $\approx 30\%$ of children with psychosocial FTT may develop developmental delay with social and emotional problems.

Early FTT may be associated with \uparrow risk factors for cardiovascular disease e.g. dyslipidemia , HT, and glucose intolerance as an adult.



THANK
YOU

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