

Failure to Thrive and Neglect

CARE Presentation

Alicia Daniels, PGY-1

Neglect

- Failure to provide for a child's basic physical, emotional, educational or medical needs
- Physical neglect:
 - Failure to provide adequate food, clothing, shelter, hygiene, or protection
 - Inadequate supervision with risk of harm to the child



Epidemiology

- Neglect accounts for >50% of child abuse cases reported to child protective services in developed countries
- Each year in the US, there are ~2000 childhood fatalities due to abuse and neglect
 - At least 1/3 of fatal cases due to neglect

Failure to Thrive

- Inadequate nutrition to maintain growth and development
- Growth that deviates from recognized norms for age and gender
 - Weight for age decreasing across 2 percentiles from a previously established growth pattern
 - Weight (or weight-for-length) more than 2 standard deviations below the mean



Growth Charts

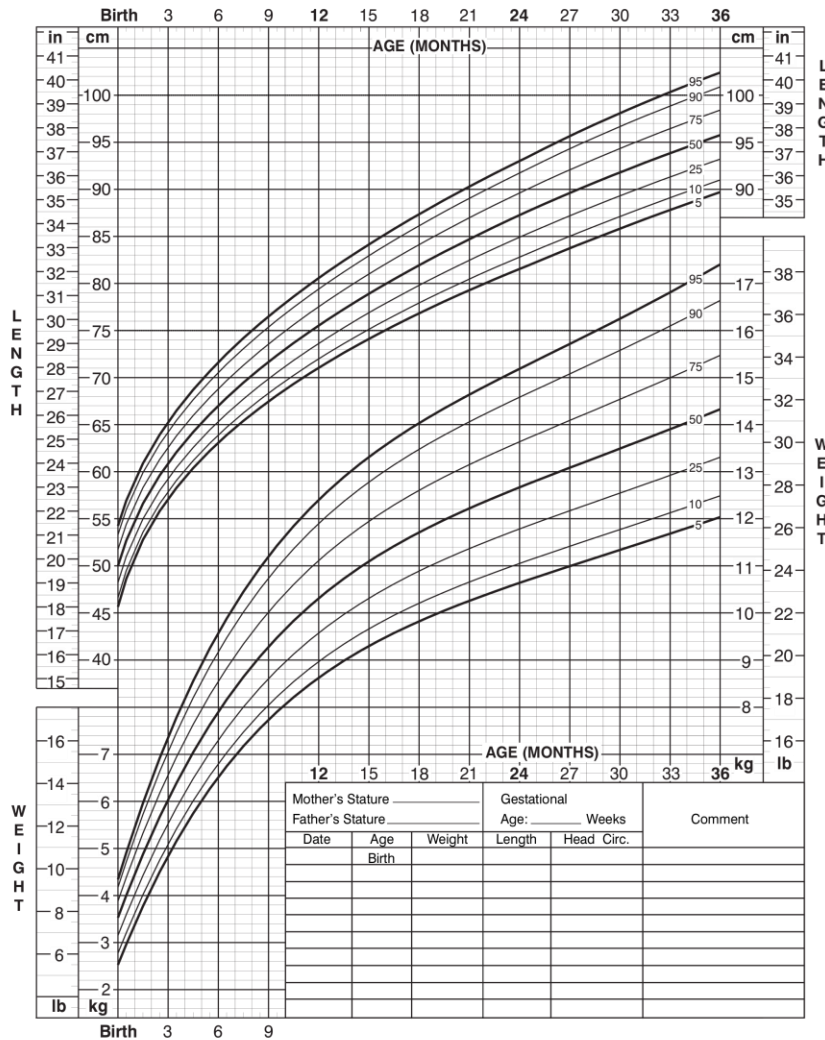
- CDC and WHO charts are available
- Correct growth curve for prematurity up to
 - 24 months postnatal age for weight
 - 40 months postnatal age for height
 - 18 months postnatal age for HC
- Diagnosis specific charts are available
 - Down syndrome, Turner syndrome, Marfan syndrome, Achondroplasia



Birth to 36 months: Boys
Length-for-age and Weight-for-age percentiles

NAME _____

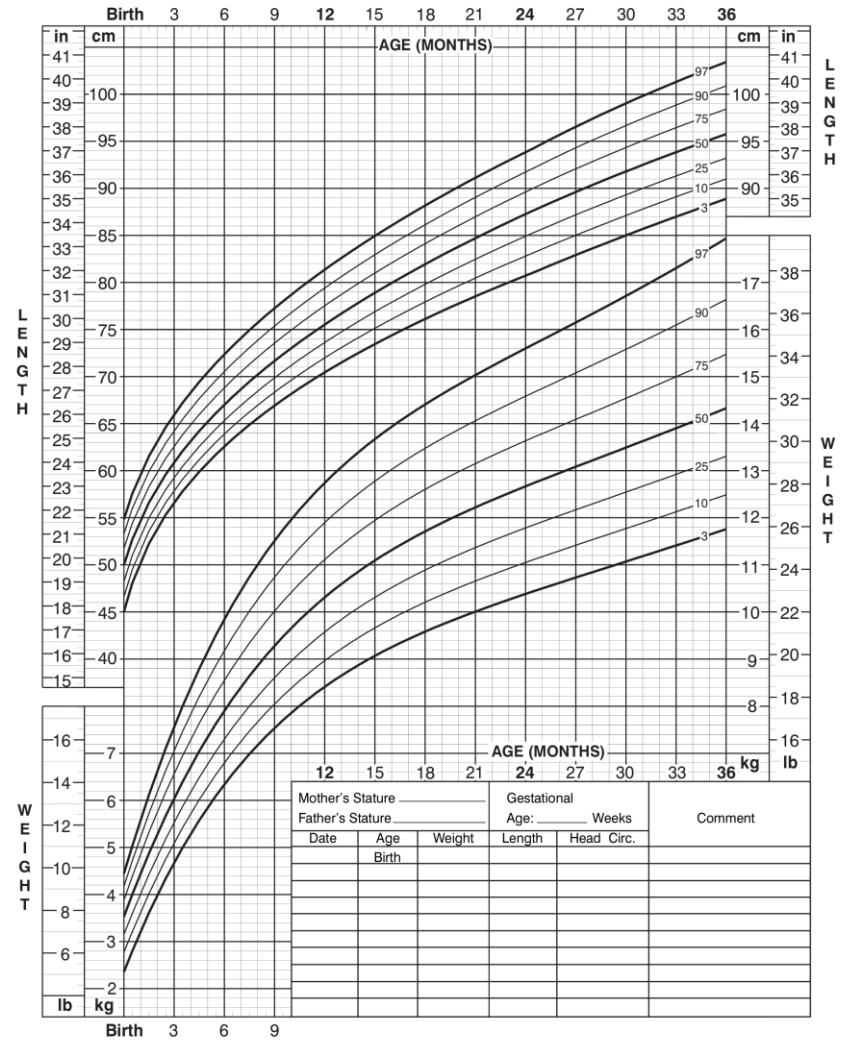
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Birth to 36 months: Boys
Length-for-age and Weight-for-age percentiles

NAME _____

RECORD # _____



Published May 30, 2000 (modified 4/20/01).
 SOURCE: Developed by the National Center for Health Statistics in collaboration with the National Center for Chronic Disease Prevention and Health Promotion (2000).
<http://www.cdc.gov/growthcharts>



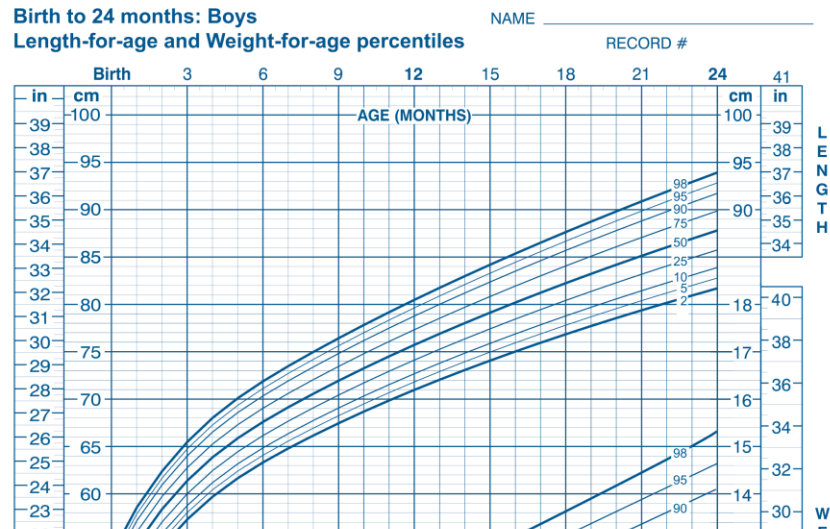
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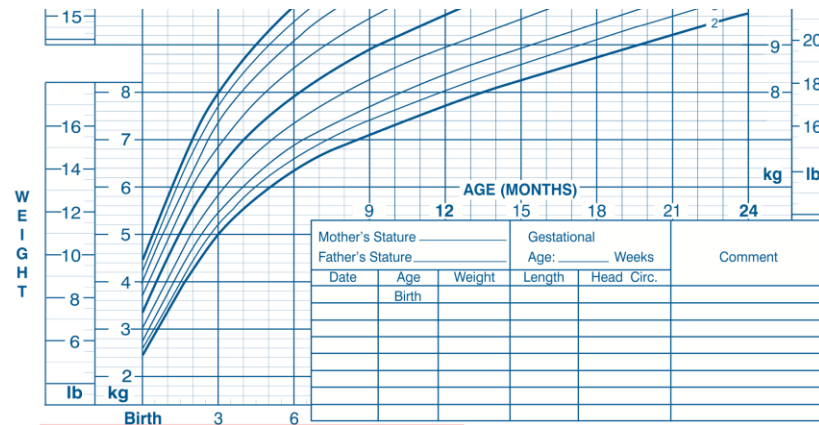


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WHO



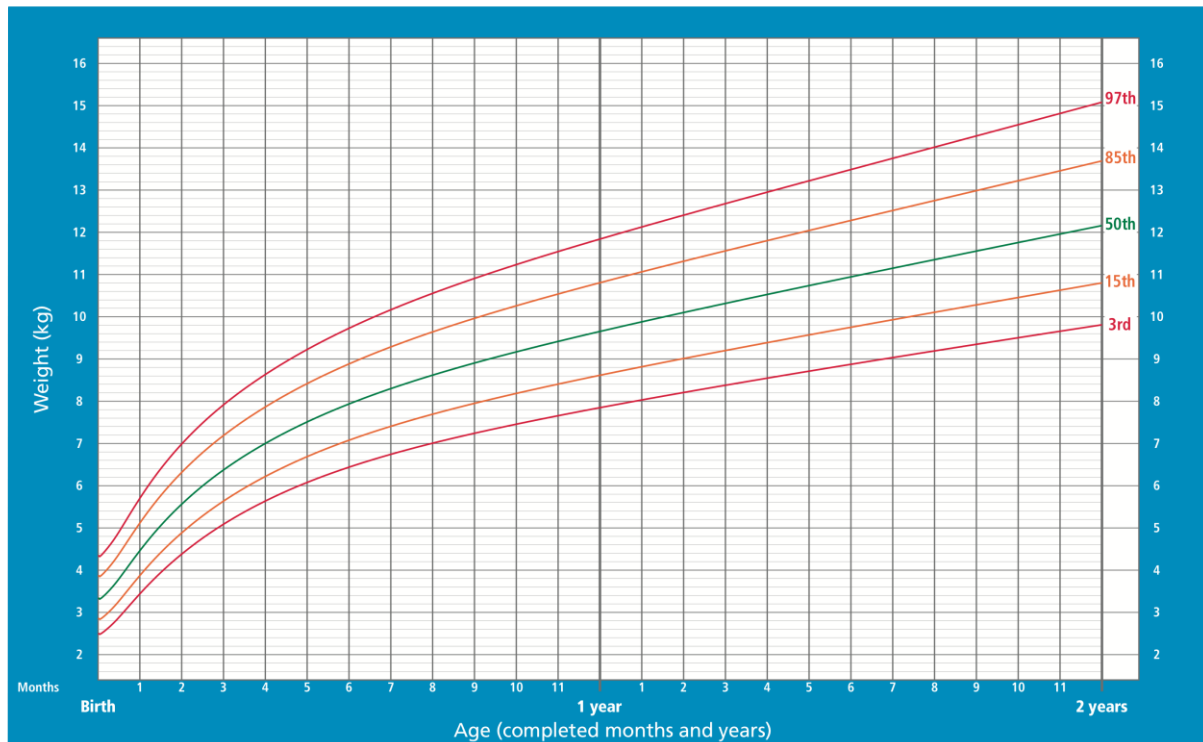
Published by the Centers for Disease Control and Prevention, November 1, 2009
 SOURCE: WHO Child Growth Standards (<http://www.who.int/childgrowth/en>)



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Weight-for-age BOYS

Birth to 2 years (percentiles)



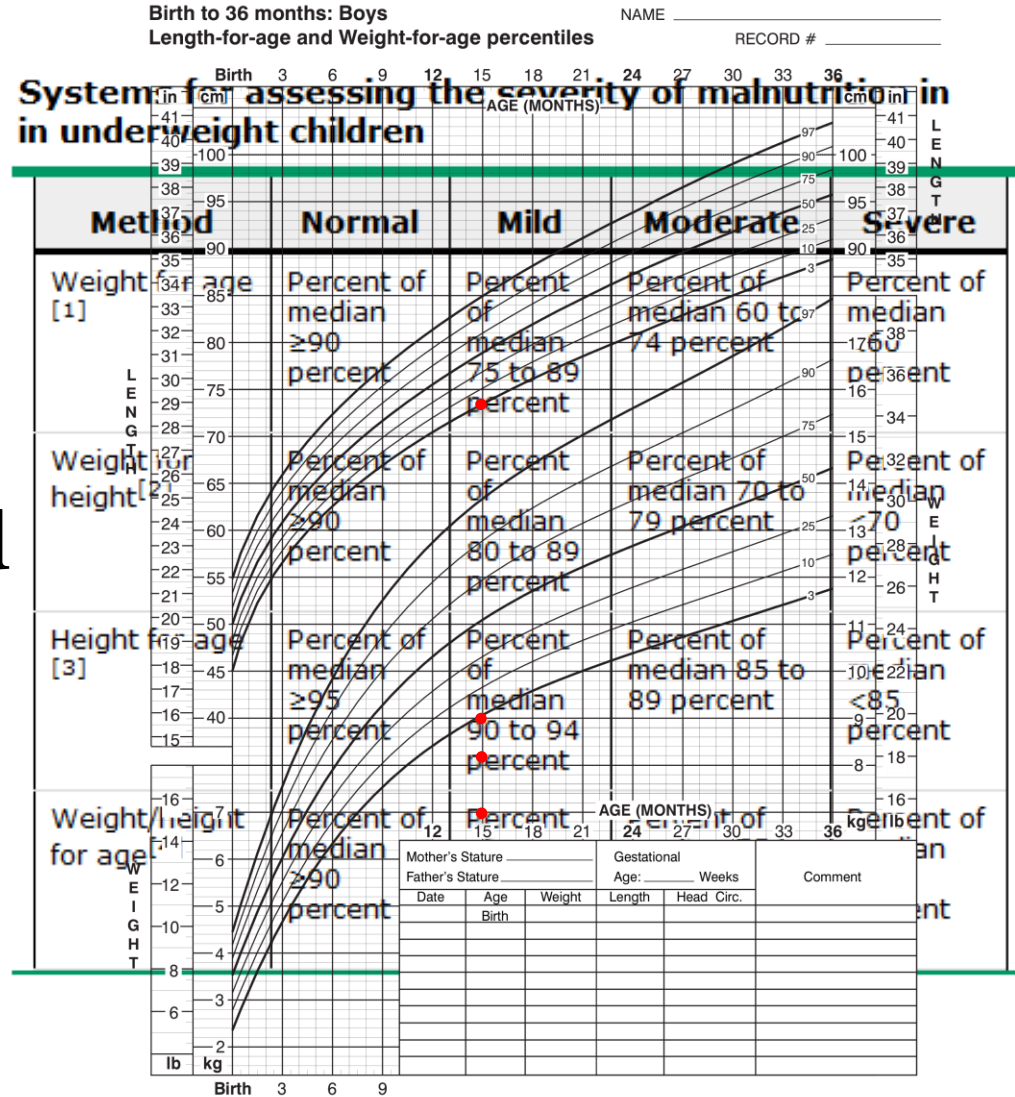
WHO Child Growth Standards

Severity Assessment

1. Gomez Method

2. Waterlow Method

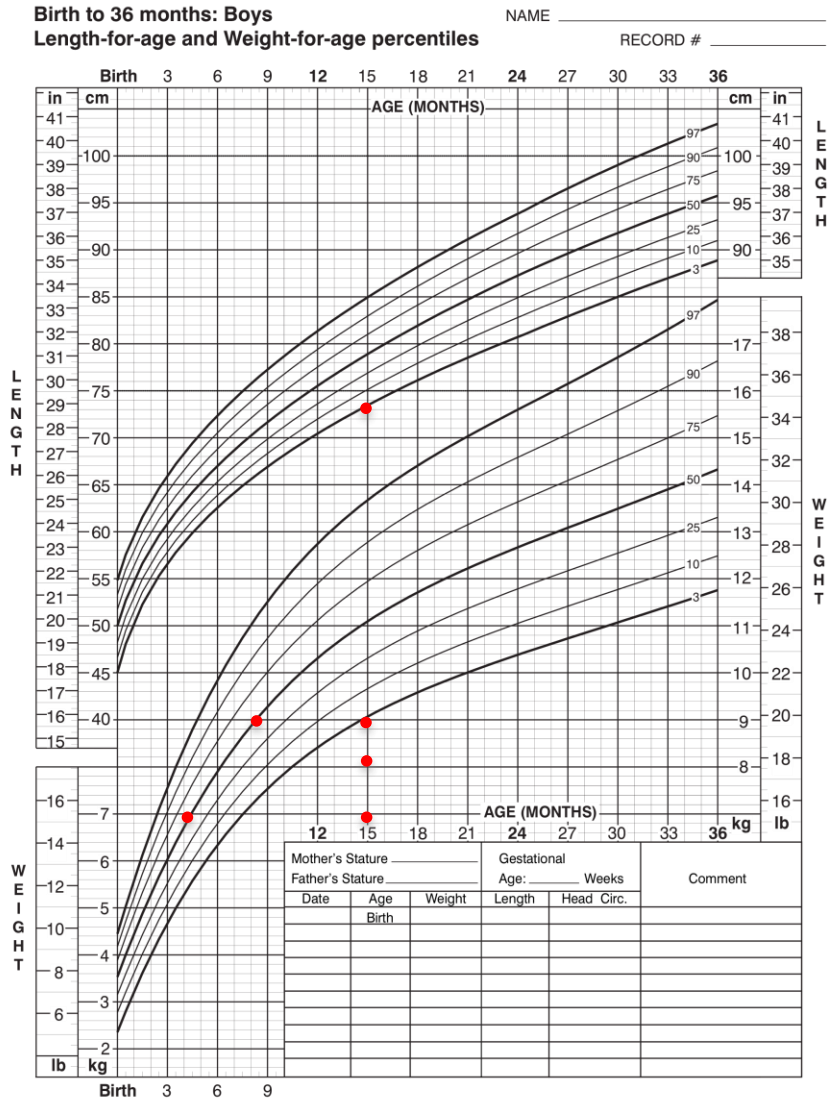
3. McLaren-Read Method



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<http://www.cdc.gov/growthcharts>

Severity Assessment

- This 15 month old's weight (at 3rd%) is the average weight of an eight month old
- This 15 month old's weight (at <<3rd%) is the average weight of a four month old



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Epidemiology

- Limited current data
- FTT accounts for 1-5% of all admissions at tertiary care children's hospitals
- Prevalence of FTT in the community may be closer to 10%
 - Rural areas or areas with more impoverished populations

Consequences

- Rapid brain growth during infancy and early childhood suggests that any biological insult during this time can affect development and cognitive outcome
- Children with FTT often have developmental delay at the time of presentation
- Several studies have shown a correlation between FTT and lower IQ



Etiology

Inadequate nutrient intake

Causes of

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Inappropriate feeding technique

Disturbed caregiver/child relationship

Economic deprivation

Inappropriate nutrient intake (eg, excess fruit juice consumption, factitious food allergy, inappropriate preparation of formula, inadequate quantity of food, inappropriate food for age, neglect, food fads)

Inappropriate parental knowledge of appropriate diet for infants and toddlers

Insufficient lactation in mother

Gastroesophageal reflux

Psychosocial problems

Maternal/infant dysfunction

Mechanical problems (cleft palate, nasal obstruction, adenoidal hypertrophy, dental lesions)

Sucking or swallowing dysfunction (CNS, neuromuscular, esophageal motility problems)

disease, milk allergy,

al insufficiency, or

h as galactosemia,

Failure to Thrive and Neglect

- FTT is often multifactorial
- Each patient and family is unique and must be evaluated as such
- Neglect may manifest in a variety of ways leading to FTT



Etiology

Inadequate nutrient intake

Inappropriate feeding technique

Disturbed caregiver/child relationship

Economic deprivation

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Inappropriate parental knowledge of appropriate diet for infants and toddlers

~~Insufficient lactation in mother~~

~~Gastroesophageal reflux~~

Psychosocial problems

Maternal/infant dysfunction

~~Mechanical problems (cleft palate, nasal obstruction, adenoidal hypertrophy,~~

~~Sucking or swallowing dysfunction (CNS, neuromuscular, esophageal motility~~



Risk Factors

- Poverty and/or social isolation
- Young/single mothers without social supports
- Alcohol or other substance abuse
- Domestic violence
- Previous child abuse in the family
- Parental history of abuse as a child
- Parental depression, stress, marital strife/divorce
- **Intellectual disability and psychological abnormalities in the parents**
- Parents with inadequate adaptive and social skills
- **Parents who are overly focused on career and/or activities away from home**
- Infant with low birth weight or prolonged hospitalization
- Failure to adhere to medical regimens
- **Lack of knowledge of normal growth and development**



Hospitalization

- Decision to admit based on several factors
 - Severity of malnutrition
 - Significant dehydration
 - Presence of significant medical problems, including concurrent infections
 - Safety of the child
 - Need for multidisciplinary approach/diagnostic workup that is most effectively performed in the hospital setting
 - Failure of intensive outpatient therapy

Case Workup

- 16mo male direct admit for poor weight gain after seeing LSU Pediatrician for 1st time
- Weight <<5% and height 5%
- Mom reports seeing PCP in the community
- PCP does not have record of this patient
- No record of vaccines in LINKS System
- Review of CHNOLA EMR reveals history of skull fracture with missed follow up appointments

Feeding History

Formula Fed

- Type of formula
- Method of obtaining formula
- Method of mixing (concentration)
- Frequency and quantity of feedings
- Assistance required to feed
- Additional liquid or solid intake

Breast Fed

- Frequency and duration of feedings
- Milk letdown
- Sense of fullness/emptying
- Maternal observation of baby swallowing
- Maternal diet and medical problems while breastfeeding
- Additional liquid or solid intake

Additional History

- **HPI:** hunger vital signs, obtain 72-hour dietary record, describe feeding routine, feeding skills (vigorous vs difficult feeder), time required to feed, behavior during feedings, sleep schedule, daily routine, identify caregiver(s) responsible for feeds, child response to caregivers, parental concerns

Additional History

- **PMH: developmental and birth history, current meds, allergies**
- **FH: growth histories, genetic disorders, endocrine disorders, neurological disorders, unexpected infant deaths**
- **SH: family stressors, parents' personal history of abuse, eating disorders, psychiatric illness, alcohol/drug use, domestic violence, nutritional beliefs**

Focused Review of Systems

- Constitutional: **change in overall appearance, activity level, interaction, or temperament**
- Respiratory: respiratory infections, wheezing, frequent cough, respiratory distress, snoring
- Cardiac: sweating with feeds, cyanosis, poor activity tolerance
- GI: dysphagia, vomiting, stool characteristics, diarrhea or constipation, **apparent food intolerance**
- Renal: polyuria, dysuria, urinary frequency
- Infection: recurrent infections including yeast infections
- Neurologic: swallowing difficulties, abnormal movements, seizures, **delayed development**, loss of developmental milestones
- Derm: skin rashes, jaundice, **any bruises on a young infant**
- MSK: **bony fractures**, deformations

Physical Exam

- Document past and present growth parameters on appropriate growth charts
- **Exam should include** search for dysmorphic features, findings consistent with organic causes of FTT, careful neurological exam, assessment of suck-swallow coordination, **assessment for signs of neglect or abuse, observation of developmental skills and interaction between child/parent and child/examiner**

Physical Exam Findings to Note

- Vitals: changes in BP or HR,
- Gen: **affect, interaction, and**



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- Abdomen: hepatomegaly
- GU: anomalies, anomalies
- Skin: rashes, **poor hygiene**, decreased turgor, **scars, bruises, presence of lanugo hair**
- Neuro: hyper or **hypotonia**, hyperreflexia, poor suck, uncoordinated swallow, developmental delay

febrile, hypoxia
excessive subcutaneous fat

macrocephaly,
fontanelles

g, **visible ribs**
perfusion, cyanosis,

es

trauma

Additional Workup

- Basic screening lab work:
 - CBC
 - CMP
 - Prealbumin
 - ESR/CRP
 - Lead level
 - UA
 - Urine culture
- Additional studies to evaluate for an organic cause of FTT determined by H&P
- Consider skeletal survey



Multidisciplinary Approach

- **Physician**- can document historical clues and physical exam findings concerning for neglect
- **Nursing staff**- can document parent/child interaction and any concerning encounters
- **Social worker**- can perform an assessment and/or notify CPS per CHNOLA protocol
- **Nutritionist**- can analyze a diet diary for caloric intake/nutritional content and make recommendations of dietary adjustments needed to achieve weight gain goals
- **Speech therapist**- can perform bedside evaluation to determine possibility of suck/swallow incoordination
- **Lactation consultant**- can identify and help resolve breastfeeding problems

Documentation

- Avoid medical jargon
- Describe findings in lay person terms:
“18mo is the average weight of a 4mo (and wears 3-6mo clothes)”
vs “18mo is significantly below the 3% for weight compared with peers”
- Give evidence that supports the suspicion of neglect
- Encourage all members of the multidisciplinary team to document interactions with the family

Hospital Course

- Educate the family
- Provide a dietary plan
- Monitor daily weight gain
 - Specific parameters: please weigh patient each am naked and on the same scale
- Obtain resources for mom (WIC, SNAP, transportation)
- Ensure family has a PCP



When to Notify CPS

- If malnutrition is too severe and/or contributing factors are too numerous or will take too long to resolve to provide a safe environment for the child
- If there are signs of abuse
- If there are significant safety risks in the home caused by substance abuse or severe psychiatric/cognitive impairment
- If parent is willfully withholding food with awareness of the consequences for growth
- If neglect occurs during treatment despite showing understanding of the instructions and their potential consequences

Discharge Planning

For Mom

- Implications of FTT
- Specific feeding instructions in writing
- Follow up appointments
- Aid in obtaining resources

For PCP

- Discharge summary
- Follow up appointments
- When to contact CPS

For CPS Worker

- What were the specific concerns
- Does mom need a psych evaluation or assistance caring for the child
- Does mom need resources to obtain food or transportation
- When should the family follow up

Hospital Course

- Patient also found to have developmental delay
- Screening lab work was normal
- Nutrition was consulted and made recommendations to optimize caloric intake
- Patient was weighed daily and gained ~ 250 gm/day during his 3 day hospitalization
- Neurosurgery consulted given history of skull fracture
 - Repeat head CT was normal
 - Skeletal survey was normal
- Social work enrolled family in WIC, Early Steps
- Case reported to DCFS
- Follow up appointment scheduled

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