Failure to Thrive

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Center for Miracles

Failure to Thrive

- A common symptom
- Not a diagnosis (though there is a CPT code)
- A physical sign that a child is not getting adequate nutrition
- Affects 5-10% of children under the age of 3 years old

Thriving

A concept that implies a child not only grows physically in accordance with published norms for age and sex, but also exhibits the characteristics of normal progress of developmental milestones in all spheres-neurological, psychosocial, emotional.

Ericson’s Theory of Development

<table>
<thead>
<tr>
<th>Age</th>
<th>Task</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infancy (Birth to 18 months)</td>
<td>Trust/Mistrust</td>
<td>Develop a sense of trust when caregivers provide reliable care, affection. A lack of this will lead to mistrust.</td>
</tr>
<tr>
<td>Toddler (2 years to 3 years)</td>
<td>Autonomy/Shame and Doubt</td>
<td>Children need to develop a sense of personal control over physical skills and a sense of independence. Success leads to feelings of shame and doubt.</td>
</tr>
<tr>
<td>Preschool (3 to 5 years)</td>
<td>Initiative /Guilt</td>
<td>Children need to begin asserting control and power over the environment. Success in this stage leads to a sense of purpose. Children who try to assert too much power experience disapproval, resulting in a sense of guilt.</td>
</tr>
<tr>
<td>School Age (6 to 11 years)</td>
<td>Industry/Inferiority</td>
<td>Children need to cope with new social and academic demands. Success leads to a sense of competence, while failure results in feelings of inferiority.</td>
</tr>
</tbody>
</table>

http://psychology.about.com/library/bl_psychosocial_summary.htm

Piaget’s Theory of Development

- The Sensorimotor Period (birth to 2 years)
  - limited to motor reflexes
  - builds on reflexes to develop more sophisticated procedures
  - coordinate into increasingly lengthy chains of behavior

Common Anthropometric Criteria for diagnosing failure to thrive

- Body mass index for age less than the 5th percentile
- Length for age less than the 5th percentile
- Weight deceleration crossing two major percentile lines
- Weight for age less than the 5th percentile
- Weight less than 75 percent of median weight for age
- Weight less than 75 percent of median weight for length
- Weight velocity less than the 5th percentile

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Sarah Z. Cole, DO
Jason S. Lanham, MAJ, MC, USA
Failure to Thrive

• term used to describe inadequate growth in early childhood, but no consensus exists concerning the definition of FTT
  – Absolute terms—height or weight below the 3rd to 5th % for age on more than one occasion
  – Relative terms—a height or weight measurement that decreases 2 major percentiles using the standard growth chart

Organic vs Inorganic

Non-Organic Failure to Thrive

• Organic-relating to or affecting a bodily organ; a disease in which there is a physiological change to some tissue or organ of the body

Non-Organic Failure to Thrive

• There is no physiologic change noted in an organ or organ system.
  > Historically attributed to psychological neglect or maternal deprivation
  > This simplistic description is obsolete
  > The cause of growth failure is malnutrition

Why Does it Matter?

• The effects of under nutrition can be damaging regardless if they are permanent
  – Loss of motivation to explore
  – Diminished physical activity
  – Delay in acquiring motor skills
  – Delay in acquiring cognitive skills
  – Reduced resistance to infection

Why does it matter?

• Brain Development
  – From conception until the third year of life the brain grows at a rate that is unmatched by any other time in life
  – Considered a critical period
  – The child’s environment plays a role in this development
  – The environment can either assist or disrupt

Why Does it Matter?

• During the first two years of life, the brain is wired
• Synapses eliminated based on whether connections are made
• Poor nutrition has an adverse impact on myelination

Outcomes

• Early failure to thrive
  – vulnerability to short stature
  – poor arithmetic performance
  – poor work habits
  – Home visiting attenuated some of the negative effects.

* Black, Dubowitz, Krishnakumar, Starr 2010
### Differential Diagnosis
#### Infants and toddlers

<table>
<thead>
<tr>
<th>Inadequate caloric intake</th>
<th>Inadequate caloric absorption</th>
<th>Excessive caloric expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breastfeeding problem</td>
<td>Malnutrition</td>
<td>Thyroid disease</td>
</tr>
<tr>
<td>Improper formula preparation</td>
<td>Malabsorption</td>
<td>Chronic infection or immunodeficiency</td>
</tr>
<tr>
<td>GERD</td>
<td>Pyloric stenosis</td>
<td>Chronic pulmonary disease</td>
</tr>
<tr>
<td>Caregiver depression</td>
<td>GI atresia or malformation</td>
<td>Congenital heart disease or heart failure</td>
</tr>
<tr>
<td>Lack of food availability</td>
<td>Inborn error of metabolism</td>
<td>Malignancy</td>
</tr>
<tr>
<td>Cleft lip or palate</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Child or adolescent

<table>
<thead>
<tr>
<th>Inadequate caloric intake</th>
<th>Inadequate caloric absorption</th>
<th>Excessive caloric expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mood disorder</td>
<td>Malnutrition</td>
<td>Thyroid disease</td>
</tr>
<tr>
<td>Eating disorder</td>
<td>Celiac Disease</td>
<td>Chronic infection or immunodeficiency</td>
</tr>
<tr>
<td>GERD</td>
<td>Malabsorption</td>
<td>Chronic pulmonary disease</td>
</tr>
<tr>
<td>Irritable bowel syndrome</td>
<td>Inflammatory bowel disease</td>
<td>Congenital heart disease or heart failure</td>
</tr>
<tr>
<td></td>
<td>Inborn error of metabolism</td>
<td>Malignancy</td>
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</table>

### Contributing Factors of FTT

#### Medical Diagnosis
- Pain, change in diet, trauma, weight loss
- Parental Anxiety affects feeding

#### Risks
- Poverty
- Lack of social support
- Maternal competence
- Lower maternal education level
- Maternal depression
- Non-responsive feeding styles
- Substance abuse
- Busy households
- Large families
- Mental illness in caregiver
- Concern for obesity
- Domestic violence
- No PCP
- Lack of health insurance
- Cognitive deficits in caregiver

### Example
- Infant with congenital heart disease
- Poor feeding secondary to fatigue
- Poor weight gain secondary to inadequate calories
- Parental anxiety regarding feedings/meals
- Coercive feeding behaviors
- Development of Feeding Behavior Problems
- Ongoing feeding issues after medical diagnosis corrected
Challenges

• Providers
  – Vague definitions
  – Variations in individuals
  – Background of obesity epidemic
  – Alliance with parents
  – Difference in perception

• Families
  – May not be a priority
  – Implications to parental role
  – Sensitive issue

Height 75.3 cm
Weight 8.595 kg
Grade of Malnutrition
Chronic Mild
Acute Moderate
Food Security

• Used to describe what our nation should be seeking for all its people – assured access at all times to enough food for an active, healthy life, with no need for recourse to emergency food sources or other extraordinary coping behaviors to meet basic food needs.

http://www.frac.org/html/hunger_in_the_us/hunger_index.html

Food Insecurity

• the lack of access to enough food to fully meet basic needs at all times due to lack of financial resources. There are different levels of food insecurity.
  • Without Hunger
    • “the lack of access to enough food to fully meet basic needs at all times due to lack of financial resources.”
  • With Hunger
    • “…one or more people in the household were hungry over the course of the year because of the inability to afford enough food.”

http://www.frac.org/html/hunger_in_the_us/hunger_index.html

Risks

• Lack of Social Support
  – Family/parent who is isolated
  – Lack of extended family
  – Unable to identify PCP
  – Marital strife/divorce/single parent
  – Immigration status

Risk

• Maternal Competence
  – First time mother
  – Teenage parents
  – Cognitive limitations
  – Mental health issues
  – Lack of understanding of normal growth and development

Lower Maternal Education

Less than high school education
  Literacy issues
  Problem solving
  Understanding community resources
Risks

Maternal Depression
- Domestic violence
- No access to medical care for parents
- History of abuse/neglect as a child
- Failure to adhere to medical advice

Risks
- Non-responsive feeding styles
  - Prematurity
  - Prolonged NICU stay, affecting bonding
  - Feeding difficulties
  - Oral aversions
  - Poor or weak suck

Risks
- Substance Abuse
  - Distraction of obtaining for drugs
  - Resources used for drugs
  - Inattention to infant needs while using

Diagnosis
Review of past medical records, if available
Feeding History

<table>
<thead>
<tr>
<th>Method</th>
<th>Description</th>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>24-hour diet recall</td>
<td>Food, beverage, supplement intake for 24 hours</td>
<td>Quick/easy No reading/writing No need to bring to clinic</td>
<td>Value depends on interviewer ability Day being reviewed Relies on ability to accurately report food eaten/amounts</td>
</tr>
</tbody>
</table>

Food Diary

A 3-7 day diary
Record all food, beverage, supplements
Amounts

Allows average daily nutrient intake
Provides details about foods, preparation, dietary patterns Insight into function of home

Value depends on interviewer ability Day being reviewed Relies on ability to accurately report food eaten/amounts

Time commitment for parent Requires reading/writing Process of recording may alter actual intake Must remember to bring to clinic

Calorie Count

Actual nutrient consumption recorded through direct observation or tray audit

Provides visual analysis of actual eating patterns and nutritional intake Useful for inpatients

Estimation of nutrient consumption subjective Serving sizes may vary Frequently inaccurate

Significance

- More than 80% of children with poor growth do not have an underlying medical disorder.
  - The yield of positive laboratory data is less than 1%

Red Flags from the history

- Cannot report a feeding history
- Inappropriate diet for age
- Discrepancies in history suggest caregiver is giving false history
- Bottle propping

Red Flags

- Irregular feeding patterns
- Prolonged meal times
- Unsupervised meals
- Grazing
- Excessive milk or juice
Red Flags

- Information from the school
  - Hoarding food
  - Eating out of the trash
  - Stealing food
  - Stealing money to buy food
  - Behavior issues associated with food
  - Frequent visits to nurses office for food
  - Eating art projects

Concerning feeding practices

- No eye contact during feeding
- Bottle propping
- Observation of feeding lacks mutual pleasurable relationship

Abnormal and intrusive feeding

- **Forced feeding**: forcefully feeding a child even against his or her will, prying open the child’s jaws, and so on.
- **Mechanistic feeding**: feeding precisely at regular scheduled times (clockwork feeds, i.e., precisely every 3 hours), ignoring absent hunger cues, or treating the child like an inanimate object during feeds (best identified while observing a feed)

Abnormal Feeding Behaviors

- **Nocturnal feeding**: feeding an infant while somnolent because the child refuses food or eats small quantities while awake.
- **Persecutory feeding**: constant (often unsuccessful) attempts to feed an infant or child despite refusal, frequent attempts to offer food to get the child to take another suck on the bottle, or ingest another spoonful of food.

Elements of the History

- “WIC gives 4-5 cans per month.”
- “WIC gives 9 cans per month.”
- “We buy the formula with Food Stamps”
- “One can of formula lasts 1-2 weeks.”
- How do you prepare the formula?
- Mother “Five ounces of water, 3 scoops of formula”
- Father “Four ounces of water, 3 scoops of formula”

Conditional distraction: all meals take place with distraction, the child will not eat without distraction, and does not show interest in food.

Prolonged meals: meals are long (>30 min.), child eats minute quantities, parent continues with meal despite lack of success, with or without other abnormal feeding behaviors.
15 month old female

- “What table foods are you feeding your daughter?”
- “Chicken nuggets, radishes, celery, hamburger meat.”

Diagnosis

- Physical exam
  - Anthropometrics-Ht/Wt/Head Circumference in children less than 2 years old
  - Plot Ht/Wt/ head circumference on growth chart
- Lab work as indicated by medical history
- Often need to consecutive visits for a complete assessment
- DDST-II developmental screening for children less than 6 years old

Red Flags noted on Physical Exam

- No eye contact
- Concerned or worried look in infant
- Expressionless face
- Does not cuddle
- No vocalization
- Dirty skin
- Dirty clothes
- Diaper rash

Physical Exam findings

- Skin infections
- Insects
- Loss of subcutaneous fat
- No subcutaneous fat
- Thinning hair
- Protuberant abdomen
- Presence of lanugo
- Short stature
- Edema

Waterlow Criteria

Classification of protein-energy malnutrition

<table>
<thead>
<tr>
<th>Acute Malnutrition</th>
<th>Chronic Malnutrition</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 90%</td>
<td>&gt; 95%</td>
</tr>
<tr>
<td>80-89%</td>
<td>90-94%</td>
</tr>
<tr>
<td>70-79%</td>
<td>85-89%</td>
</tr>
<tr>
<td>&lt; 70</td>
<td>&lt; 85%</td>
</tr>
</tbody>
</table>

Acute Malnutrition

actual wt (kg) = expected WT for HT (cm) X 100 at the 50th%  

Chronic Malnutrition

Actual HT (cm) = Expected HT for age at 50th% X 100

Effective care is:

- Interdisciplinary
  - Consult Social worker, Nutritionist, Speech Therapy, Therapeutic Feeding Team, other sub-specialties as needed
- Sustained beyond the time of the acute nutritional and medical crisis
Management

- Recommendations based on the findings from the History and Physical
- Photographs
- Communication with the PCP
- Follow up to record weight/height at each visit
- Plot on growth chart
- Refer to ECI if less than 3 yo

Pediatric Advisor A-B

- Feeding disorder of infancy or early childhood
- Eating misbehaviors
- Feeding your baby

Normal Portion Sizes

<table>
<thead>
<tr>
<th>Food</th>
<th>Ages 1-3 years</th>
<th>Ages 3-5 years</th>
<th>Ages 6-8 years</th>
<th>Ages 8+ years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meat, poultry, fish</td>
<td>1-2 TBSP</td>
<td>1 oz.</td>
<td>1-2 oz.</td>
<td>2 oz.</td>
</tr>
<tr>
<td>Fats</td>
<td>1/4</td>
<td>1/2</td>
<td>3/4</td>
<td>1 egg</td>
</tr>
<tr>
<td>Cooked dried beans</td>
<td>1-2 TBSP</td>
<td>3-5 TBSP</td>
<td>5-8 TBSP</td>
<td>1/2 cup</td>
</tr>
<tr>
<td>Pasta, rice, potatoes</td>
<td>1-2 TBSP</td>
<td>3-5 TBSP</td>
<td>5-8 TBSP</td>
<td>1/2 cup</td>
</tr>
<tr>
<td>Bread</td>
<td>% slice</td>
<td>% slice</td>
<td>1 slice</td>
<td>1 slice</td>
</tr>
<tr>
<td>Vegetables</td>
<td>1-2 TBSP</td>
<td>3-5 TBSP</td>
<td>5-8 TBSP</td>
<td>1/2 cup</td>
</tr>
<tr>
<td>Fruit</td>
<td>1-2 TBSP</td>
<td>3-5 TBSP</td>
<td>5-8 TBSP</td>
<td>1/2 cup</td>
</tr>
<tr>
<td>Milk</td>
<td>1/2-1/2 cup</td>
<td>1/2-1/2 cup</td>
<td>1/2-2/3 cup</td>
<td>1 cup</td>
</tr>
<tr>
<td>Fats and oils</td>
<td>To appetite</td>
<td>To appetite</td>
<td>To appetite</td>
<td>To appetite</td>
</tr>
</tbody>
</table>

American Academy of Pediatrics Nutrition Handbook

<table>
<thead>
<tr>
<th>Age</th>
<th>Median weight gain</th>
<th>Calories</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-3 months</td>
<td>16-31 grams per day</td>
<td>116 kcal/kg/day</td>
</tr>
<tr>
<td>3-6 months</td>
<td>17-18 grams per day</td>
<td>100 kcal/kg/day</td>
</tr>
<tr>
<td>6-9 months</td>
<td>12-13 grams per day</td>
<td>100 kcal/kg/day</td>
</tr>
<tr>
<td>9-12 months</td>
<td>9 grams per day</td>
<td>100 kcal/kg/day</td>
</tr>
<tr>
<td>12 months+</td>
<td>7.9 grams per day</td>
<td></td>
</tr>
</tbody>
</table>

WHO Child Growth Standards

<table>
<thead>
<tr>
<th>Age</th>
<th>Weight (grams)</th>
<th>Height (cm/week)</th>
<th>FOC (cm/week)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Premie &lt; 2 kg</td>
<td>15-20 grams/d</td>
<td>0.8-1.1</td>
<td>0.8-1</td>
</tr>
<tr>
<td>Premie &gt; 2 kg</td>
<td>20-30 grams/d</td>
<td>0.8-1.1</td>
<td>0.8-1</td>
</tr>
<tr>
<td>0-4 months</td>
<td>23-34 grams/d</td>
<td>0.8-0.93</td>
<td>0.38-0.48</td>
</tr>
<tr>
<td>4-8 months</td>
<td>10-16 grams/d</td>
<td>0.37-0.47</td>
<td>0.16-0.2</td>
</tr>
<tr>
<td>8-12 months</td>
<td>6-11 grams/d</td>
<td>0.28-0.37</td>
<td>0.08-0.11</td>
</tr>
<tr>
<td>12-16 months</td>
<td>5-9 grams/d</td>
<td>0.24-0.33</td>
<td>0.04-0.06</td>
</tr>
<tr>
<td>16-20 months</td>
<td>4-9 grams/d</td>
<td>0.21-0.29</td>
<td>0.03-0.06</td>
</tr>
<tr>
<td>20-24 months</td>
<td>4-9 grams/d</td>
<td>0.19-0.26</td>
<td>0.02-0.04</td>
</tr>
</tbody>
</table>

Correction for prematurity

- Head circumference until 18 months old
- Weight until 24 months
- Height/length until 40 months
Parent Education

- Review findings of physical exam with parents
- Review growth chart
- Provide/review written instructions
- Provide/review handouts
- Review why there is concern

Infant Hunger and Satiety Cues

<table>
<thead>
<tr>
<th>Approximate Age</th>
<th>Hunger Cues</th>
<th>Satiety Cues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birth to 5 months</td>
<td>Wakes and tosses&lt;br&gt;Sucks on fist&lt;br&gt;Cries and fusses</td>
<td>Seals lips together&lt;br&gt;Turns head away&lt;br&gt;Decreases or stops sucking&lt;br&gt;Sips out the nipple or falls asleep when full</td>
</tr>
<tr>
<td>4 months through 6 months</td>
<td>Cries or fusses&lt;br&gt;Suckles, gas, or crying at caregiver, or cons during feeding to indicate wanting more</td>
<td>Decreases rate of sucking or stops sucking&lt;br&gt;Turns head away&lt;br&gt;Decreases rate of sucking or stops sucking when full&lt;br&gt;Sips out the nipple or falls asleep when full</td>
</tr>
<tr>
<td>5 months through 9 months</td>
<td>Reaches for spoon or food</td>
<td>Eating slows down</td>
</tr>
<tr>
<td>8 months through 11 months</td>
<td>Reaches for food&lt;br&gt;Points to food&lt;br&gt;Gets excited when food is presented</td>
<td>Eating slows&lt;br&gt;Pushes food away&lt;br&gt;Wakes up&lt;br&gt;Eats less&lt;br&gt;Spits out the nipple&lt;br&gt;Turns head away</td>
</tr>
<tr>
<td>10 months through 12 months</td>
<td>Expresses desire for specific food with words or sounds</td>
<td>Shakes head &quot;no&quot;</td>
</tr>
</tbody>
</table>

How to feed your baby step by step

- Store brand infant formulas are required to meet the same standards and guidelines as National Brand Infant Formula
Parent Education—Infants

- Insure that Medicaid is active
- Review available immunization records with parent
- Review findings from Developmental Screening
- Explain ECI services and referral process
- Encourage ongoing follow up with PCP
- Encourage that parent/caregiver read to infant daily
- Clinic provides books to families

Parent Education—Older Children

- All meals at the table
- Limit distractions
- No TV during meal times
- Education on economics of food choices
- Keep paperwork for Food Stamps, WIC, Medicaid up to date to avoid lapse in service
- If supplement needed
  - Pediasure through WIC if under 5 yo
  - Carnation Instant Breakfast if older than 5 yo if family thinks they can purchase

Handout on Adding Calories to Toddler Diets

- Review with parent
- Ask that parent select three strategies to implement with child
- Encourage use of strategies that can be added to only child’s food

Management

- Once demonstrates adequate weight gain, increase intervals between follow up visits
- Communicate with PCP, refer if no PCP
- If no improvement, look for additional medical causes
- Consider hospitalization
- Consider counseling
- Thoughts on supplements
- Use of the school to monitor weights
- Course is slow with long term follow up needed
- Outcomes improved with better management

Barriers to Management

- Parental feelings of having contributed to the child’s problems
- Parental preoccupation with personal, family and financial stresses
- Differences in parental perceptions of child’s healthcare problems
- Parental inability to acknowledge the relevant environmental factors and required interventions
Parents perception

• Two and a half year old male
  – “Are you concerned about his weight?”
  • “No”
  • “We are no longer in need of your services, FTT runs in the family”

• Four month old infant female
  – “All my children have done this.”

• Six year old female
  – “How do you think her weight is doing?”
  • “I think she has lost weight again.”
  – “What changes have you made regarding the concerns for weight loss?”
  • I asked her if she is eating all of her lunch.”

Physical Neglect

• Age 2 y 9 mo female
• Homeless prior to September
• Living with father, father’s significant other, Significant other’s daughter, daughter’s 4 children aged 2 mo, 2 y, 3 y, 5 y and 69 year old male, MGGF of the 4 children listed above
• Came into care of father in September
• Father incarcerated in early March, released from jail the day of the clinic visit, late April
• ER weight Sept. 11.1 kg
• Clinic weight April 9.4 kg
• Medicaid not active
• No healthcare visits since ER

Discharge Information

• Hospital Admit Weight
  – 9.38 kg
• Developed gastroenteritis, on clear liquid diet for several days
• Hospital Discharge weight 9 days later
  – 12.52 kg
  – 290 gram weight gain
  – 32 g per day average weight gain
  – Discharged to foster care
• Follow up at CFM 11 days after discharge
• Expected daily average weight gain 7-9 grams per day

Hospitalization

Infants

• Admission for severe malnutrition, neglect, to protect the child, need for extensive work up

• Infants
  – Daily weight, naked, on same infant scale, same time of day
  – Nutrition consult
  – Calorie count
  – Accurate I&O

Toddlers

• May be able to weigh on infant scale depending on their size
• Weigh in a fresh, dry diaper
• Same scale, same time of day
• Nutrition consult
• Accurate I&O
• Daily weight
• Calorie Count

Management

Treatment must focus on more than medical or nutritional aspects of the problems, there must be attention to family or parent-child interactions, social and developmental issues.
Foster Care

- Placement outside the home should not be considered routine strategy
- Suboptimal foster care only worsens FTT
- Foster parents must not be overburdened with care of many young or special need children
- Foster parents/kinship care should have WIC referral, appropriate nutritional supplements and health insurance

Community Resources

- WIC
  - About $38.00 per month per recipient (2005)
- Food Stamps
  - Maximum benefit is about $1.40 per person per meal (2005)
- School lunch program
- ECQ
- Medicaid case management for certain groups
- Therapeutic feeding team
- Visiting nurses
- Trained homemakers
- Counseling services
- Community Case Management (Any Baby Can)

Considerations for Nurses

- Accurate anthropometrics—HT, WT, FOC
  - Same scale
  - Same state of dress
  - Weigh infants naked
- Consistent use of the growth chart
  - Correct for prematurity
  - Use of correct growth chart

Considerations for Providers

- Importance of follow up
- Role of CPS
  - Ability to locate
  - Ability to enforce participation
  - Access to broader information on family

Kcal per kg per day required

Kcal per kg per day required = \( \frac{\text{RDA for age} \times \text{Ideal weight-for-weight}}{\text{Actual Weight}} \)

Goal for catch up weight gain is 2-3 times normal weight gain

Considerations for Providers

- Powder Formula Yields—20 cal per ounce
  - Similac Advance 12.9 oz can 95 ounces
  - Similac Sensitive 12.9 oz can 94 ounces
  - Enfamil AR 12.9 oz can 93 ounces
  - Good Start 12 oz can 87 ounces
Calculation of Mid-Parental height

— Boy
  • In: (Father’s Height + Mother’s Height + 5) / 2
  • Cm: (Father’s Height + Mother’s Height + 13) / 2

— Girl
  • In: (Father’s Height - 5 + Mother’s Height) / 2
  • Cm: (Father’s Height - 13 + Mother’s Height) / 2

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<th>Ages 3-5 years</th>
<th>Ages 6-8 years</th>
<th>Ages 8+ years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meat, poultry, fish</td>
<td>1/2 TBSP</td>
<td>1 oz.</td>
<td>1-2 oz.</td>
<td>2 oz.</td>
</tr>
<tr>
<td>Eggs</td>
<td>1/2</td>
<td>1/2</td>
<td>3/4</td>
<td>1 egg</td>
</tr>
<tr>
<td>Cooked dried beans</td>
<td>1-2 TBSP</td>
<td>3-5 TBSP</td>
<td>5-8 TBSP</td>
<td>½ cup</td>
</tr>
<tr>
<td>Pasta, rice, potatoes</td>
<td>1-2 TBSP</td>
<td>3-5 TBSP</td>
<td>5-8 TBSP</td>
<td>½ cup</td>
</tr>
<tr>
<td>Bread</td>
<td>½ slice</td>
<td>½ slice</td>
<td>1 slice</td>
<td>1 slice</td>
</tr>
<tr>
<td>Vegetables</td>
<td>1-2 TBSP</td>
<td>3-5 TBSP</td>
<td>5-8 TBSP</td>
<td>½ cup</td>
</tr>
<tr>
<td>Fruits</td>
<td>½-1/2 cup</td>
<td>1/3-1/2 cup</td>
<td>½-2/3 cup</td>
<td>1 cup</td>
</tr>
<tr>
<td>Fats and oils</td>
<td>To appetite</td>
<td>To appetite</td>
<td>To appetite</td>
<td>To appetite</td>
</tr>
</tbody>
</table>

Codes

- 783.41  FTT  Feeding difficulties mismanagement
- 783.3   Abnormal loss of weight
- 783.2X  Underweight
- 263.9   Unspecified protein-calorie malnutrition
- 995.52  Child abuse Nutritional Neglect
- V69.1   Inappropriate diet and eating habits
  Excludes: anorexia nervosa (307.1)
  bulimia (783.6)
  malnutrition and other nutritional deficiencies (260-269.9)
  other and unspecified eating disorders (307.50-307.59)

Conclusion

- Regular evaluation of height, weight and FOC with documentation on age appropriate growth chart
- Select correct growth for sex, age and method of measurement
- Review the growth chart at each encounter
- Consistent use of the same scale for weights
- Interpretation of growth in context of social and developmental history

Thank you for your attention