

# FAILURE TO THRIVE

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- Q1: What factors influence / control growth?
  - Q2: How to know that a child is not growing normally?
  - Q3: What causes failure to thrive? How to classify it?
  - Q4: What specific points in history you need to know?
  - Q5: How to approach examination of a child who has growth failure?
  - Q6: What investigations you need to do on a child with failure to thrive?
  - Q7: How to treat children with failure to thrive?
  - Q8: Take home message.

1) A 2-month-old male infant is brought for a routine health supervision visit. His mother reports that he cries a lot. He feeds vigorously then regurgitates. The regurgitation is nonbilious and nonprojectile. Findings on physical examination are normal except for the fact that the infant's weight has fallen from the 60<sup>th</sup> to the 25<sup>th</sup> percentile for age.

Of the following, the MOST likely diagnosis is:

- A. adrenal insufficiency
- B. cystic fibrosis
- C. gastro esophageal reflux
- D. poor feeding technique
- E. pyloric stenosis

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2) A 6-month-old infant has a large ventricular septal defect complicated by congestive heart failure. His corrective surgery has been delayed because of 2 hospitalizations for bronchiolitis during which he lost weight. He is currently feeding 24 kcal/oz formula, but has not shown any weight gain, and his weight is now below the third percentile for his age. The baby has a good suck, but he takes no more than 60 to 75 mL every 4 hours.

Of the following, the BEST next step to increase this baby's energy intake is to

- A. add microlipid to the current formula
- B. add protein powder to the current formula
- C. change to an amino acid-based formula
- D. increase the caloric density of the current formula to 35kcal/oz
- E. start total parenteral nutrition

3) You are examining a girl at her 1-year health supervision visit. Her weight, length, and head circumference all were at the 10<sup>th</sup> percentile at birth. There were no pregnancy, labor, delivery or nursery complications. Physical examination reveals her weight, length, and head circumference are at the 5<sup>th</sup> percentile.

Of the following, this child's growth parameters MOST likely represent:

- A. a chromosomal abnormality
- B. a malabsorptive disorder
- C. an endocrine disorder
- D. inadequate caloric intake
- E. normal growth

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4) You review a recent clinical case of a 15-month-old boy followed in the well child clinic since 3 months of age. He has a chronic cough and has had 3 episodes of pneumonia in the past 12 months. He was brought in for evaluation of pale foul-smelling diarrhea. His mother described bulky and greasy stools, gassiness, and abdominal distention. Review of the growth chart demonstrated decreasing weight from the 38th percentile at birth to the 10th percentile.

Of the following, the cause of diarrhea in children with this disorder is

- A. cow milk protein intolerance
- B. disaccharidase deficiency
- C. endocrine pancreatic insufficiency
- D. exocrine pancreatic insufficiency
- E. small bowel bacterial overgrowth

5) You are evaluating a 2-year-old child for failure to thrive. The dietary history suggests the boy's caloric intake is 100 kcal/kg per day, which is the recommended dietary allowance (RDA) for his age. He has not been vomiting, and he is passing one to two normal bowel movements per day. On physical examination, he appears to be an active, happy, thin toddler. His weight is 10.5 kg (5<sup>th</sup> percentile), height is 85 cm (25<sup>th</sup> percentile). There is mild eczema on the cheeks and antecubital fossae. The abdomen is not distended, and other findings are normal.

Of the following, the BEST explanation for this child not gaining weight is that he has:

- A. a food allergy
- B. caloric requirements that exceed the RDA
- C. celiac disease
- D. cystic fibrosis
- E. reflux esophagitis

6) Both the weight and height parameters of a 6-month-old girl have dropped to substantially below the 5<sup>th</sup> percentile for age. Until 2 months of age, she had maintained growth at the 50<sup>th</sup> percentile. At that time, her mother returned to work and the grandmother assumed her care. She has received iron fortified formula since birth and currently ingests 6 oz every 4 hours.

Of the following, the best INITIAL step in management of this child is to:

- A. determine how the formula is mixed
- B. obtain a creatinine level
- C. obtain a sweat test
- D. obtain thyroid function studies
- E. reassure the mother that this is a normal growth pattern