FAILURE TO THRIVE

Definition: Disproportionate failure to gain weight in comparison to height with no apparent etiology.

Age range: usually diagnosed 0-3 years. Why? Peak time for brain growth/development.

Manifestations:
-chronic problem/not acutely sick
-lack of appropriate weight gain as defined by norms for age/gestation/syndrome
-crossing growth percentiles on growth curve
-growth at less than 3-5% (if not genetically consistent)
-decrease in weight/height ratio

Physiology:
-lack of appropriate calorie intake
-lack of appropriate calorie utilization-malabsorption/metabolic/endocrine

Organic failure to thrive:
-growth failure secondary to a major undiagnosed illness or organ system dysfunction
-10% or less of all cases
-major involved systems are neuro/G.I./renal
-any major illness/dysfunction if untreated in the first three years of life may result in organic failure to thrive

Non-organic failure to thrive:
-"environmental deprivation"
-90% of all cases
-psychosocial problem with caretaker-child interstion
-incorrect feeding technique

Mixed organic and non-organic FTT:
-100% of cases have elements of both
-increased risk of interactional problems with a chronically ill or developmentally abnormal child
-neuro-behavioral changes (ex: anorexia) in a child who is malnourished for any reason

Clinical evaluation:
-careful history and physical are essential to determine workup
-extensive testing to rule out organic disease not suggested by history or exam is shown to be of no use and may actually harm the child

History:
-diet and feeding history—use "typical day" and ask very specific questions
-birth history/prenatal history/developmental history
-social history-include cultural expectations for feeding and growth
-family history: include growth and feeding problems
-review of systems/other concerns

Physical Exam:
-growth parameter-should be relative height and head size sparing unless prolonged malnutrition
-general appearance-include caretaker-child interaction
-careful physical exam to rule out organic etiology
-developmental/neurological exam

Feeding interaction: you need to observe a feed as part of the evaluation.

Lab studies:
-minimal unless indicated
CBC, U/A, renal functions, thyroid, nutritional markers
Consider lead level, bone age, HIV

Indications for hospitalization:
-possibility of abuse/neglect
-need for specific work-up/management if organic etiology suspect
-significant malnutrition
-document weight gain in the hospital (if neglect)

Other services in hospital:
-formal nutrition consult with calorie counts
-multiple specialty consults
-psychology/psychiatry
-rehab services for child
-social services-may need to consider removal of custody for neglect

Prognosis:
-depends on etiology and chronicity of growth disturbance
-catch-up growth with appropriate feedings can average 50-100g/day
-improvement in development and social behavior accompanies nutritional recovery unless primary etiology is neurological delay
-long term outlook does show persistence of intellectual delay in school-age