

PEDS EXAM II

INTRO- Dr. Emmett

- **Definition of pediatrics:**
 - It's not "midget medicine" = everything on just a smaller scale
 - It's a specialty of:
 - **1) promise-** what other specialty can do more to shape future generations
 - **2) education**
 - Unfortunately children don't come with a set of instructions
 - We need a license to drive, marry, but not to have children
 - Parents need direction in providing good care
 - **3) advocacy:**
 - Someone must speak for children in today's society with all its problems:
 - Destruction of the family unit
 - Single parents with the absence of role models
 - ↑ed divorce rate
 - Day care- licensed, unlicensed, ↑ed illness
 - In 1999, the federal government spent an average of \$17,688 on every person >65 yrs old and \$2491 on every child <18 yrs old → why? Because kids don't vote
 - **4) medical care**
 - This is the easiest part
 - Good protoplasm- the majority will get well without us
 - On the other hand, children are:
 - Dynamic growing organisms- malleable
 - Early childhood experiences which shape future emotional and social growth
 - Proper intervention at appropriate times could alter abnormal patterns
 - Good care requires both physical and emotional support
 - It's continually changing as are all forms of medicine
 - Some of the newer concepts to be addressed:
 - Infant nutrition
 - Return to breast feeding- LaLeche vs the working mother
 - Fad diets- food additives, vitamins
 - Pregnancy, delivery, rooming in, home deliveries, birthing centers
 - HMO's, early d/c, managed care, loss of continuity of care
 - Child care
 - AIDS, drug abuse
 - Death and dying
- **History:**
 - The most imp't part of the exam
 - If one listens, the pt will tell you what's wrong
 - Problem in peds- infants and children are unable to give good histories → therefore all info is second hand and as a result prejudiced
 - An evaluation must be made as to the reliability of the historian
 - Some are better than others and some have a special agenda
 - **Munchausen syndrome:**
 - Illness by proxy coined in 1977; has been changed → new name is **Fabricated or Induced Illness in Childhood**
 - These are people who deliberately give their children meds to make them sick or break their bones → the parents get attention from their children being sick
- **Physical exam:**
 - Will not go into specific detail- this isn't a course in physical diagnosis
 - Remember:
 - You can't approach the child in the same way as an adult
 - You can't start at the top and work downward
 - The child is fearful of new situations esp when undressed
 - The order of the exam should be observe, listen, then examine
 - **Observe-** watch the child while taking the hx
 - Are his actions appropriate
 - Does he separate easily
 - Is the child active or does he appear ill
 - **Facies:**
 - Peculiar or funny looking- **FLK** (= funny looking kid)
 - Nystagmus present
 - Abnormal mvmts- twitching, tremors, TICS
 - Eyes- sunken or dull
 - **Skin color:**
 - Cyanosis, jaundice, pallor, carotinemia
 - Rash, abnormal pigmentation
 - **Activity:**

- o Fed or led
 - o Limp or gait disturbance
- **Position-** is the child lying on the exam table with:
 - o Head deviated to one side = acute myositis, cerebellar tumors, congenital asymmetry of face and head
 - o Opisthotonic = CNS infection, tetanus, phenothiazide intoxication
 - o On side with knees drawn up = peritoneal irritation
- **Listen:**
 - Is the language appropriate for age
 - What is the interaction between parent and child
 - **Nature of the cry:**
 - o **Weak** = seriously ill child
 - o **Hoarse** = laryngitis, epiglottitis, foreign body, croup
 - o **High pitched** = intracranial pathology, ↑ intracranial pressure
 - o **Moaning** = meningitis, toxic infant (babies aren't supposed to moan → if you hear moaning, it's a really big problem)
 - o **Grunting** (↑ intrathoracic pressure- you need higher pressure to force the O₂ across the alveolar membrane) = respiratory distress and cardiac failure (55% of cases), invasive bacterial disease with fever (25%), other problems without respiratory distress (i.e. intestinal obstruction, SS disease, skull fx with subdural hematoma, or intussusception (20%))
 - o **Infrequent** = MR, Down syndrome, hypothyroidism (hypothyroidism isn't seen in babies in NY because babies are screened for it)
 - o **Excessive** (is >2 hrs of crying/day (normal is 2 hrs/day)) = colic (starts at 3 wks, disappears at 3 months, is 3 hrs of nonstop crying 3x/wk), parental anxiety, maladjustment
- **Examine:**
 - Start with the least invasive part of the exam
 - Examine the kid wherever he's comfortable (e.g. on mom's lap, on the floor)
 - At 9-10 months there's stranger anxiety (they'll cry at the office) → when kids develop language (2 or 2 ½), crying stops because you can distract them while you examine them
 - Talk to the child and explain- use age appropriate explanations and never lie.
- **Looking at pics:**
 - o Down syndrome- can make diagnosis by looking at the pinky finger (it's short and incurving)
 - o Celiac disease- need a gluten-free diet
 - o Marasmus (is caloric deprivation (starvation))- fat and hair loss, buccal fat pads remain
 - o Turner's syndrome (have a single X chromosome)- have a webbed neck, trident hairline, never develop sexually
 - o Nephrotic syndrome (is a protein-losing nephropathy (kidneys leak albumin (albumin keeps fluid within the vessels)))- kid looks swollen
 - o Ectodermal dysplasia (is an abnormality of CT)- have bulging eyes, an odd shaped head
 - o Fetal alcohol syndrome
 - o Trisomy 18 (Edwards syndrome)- small jaw, low set ears, rocker-bottom feet, abnormal pinna
 - o Congenital hypothyroidism- large tongue, big fat baby
 - o Cephalohematoma- swelling is limited by the sutures of the skull, this doesn't cause any damage to the brain, the baby will get jaundice once the blood gets reabsorbed
 - o Caput succadenum- no biggie
 - o Facial nerve palsy- is common, goes away, is d/t one side of the face being pushed against the mom's sacrum during labor
 - o Brachial plexus injury- arm is in ABD and IR
 - o Acrocyanosis- feet being blue
 - o Purpura-torch- purple spots are a vasculitis and are always a problem, these kids have multiple problems
 - o Hyaline membrane disease/respiratory distress syndrome
 - o Cystic fibrosis- intercostal retractions
- **Growth and development:**
 - o **Definitions:**
 - **Growth-** is the ↑ in the size of an organ or individual as a whole
 - **Development:**
 - Is the orderly sequence of maturation in function as one goes from fetus to adult
 - It's an interactive dynamic process molded by genetic and environmental influences
 - It follows a dynamic sequential pattern with a varying timetable in both normal and abnormal children.
 - It follows a cephalocaudal pattern with a proximodistal progression of function consistent with myelination (i.e. this is the way the nervous system is myelinated)
 - o **Influencing factors:**
 - **1) genetic**
 - Sets the upper limits of growth and development
 - Operates thru a wide spectrum where environmental factors play no role to where they're necessary to produce clinically evident alterations
 - Variable penetrance and expressiveness can produce wide spectrums of clinical manifestations
 - **Epigenetics-** the study of the mechanisms of how genes are turned on or off
 - **2) environmental**

- **a) bioenvironmental-** figure in the expression of genetic influences with drugs, alcohol, folic acid, poor nutrition, and heat during pregnancy resulting in injury to the CNS or other somatic changes
- **b) socioenvironmental-** plays a role as well
 - Normal infants reach out to explore their environment and if this is limited, CNS function may be led
 - led input d/t to blindness or deafness
 - led mobility = left alone in a crib, CP
 - In a chaotic environment- emotional or sensory deprivation may lead to a ↓ in the quality of the stimulation leading to a led intellectual development
 - High parental goals and expectations play a powerful role in shaping linguistic, intellectual, emotional and social function and skills
- **What is normal:**
 - This is difficult to define
 - Wide variations occur between normal individuals and while the sequence will be identical, the timing will not
 - Despite the fact that mothers put great emphasis on acquisition of major motor milestones, they don't correlate well with intelligence
 - The acquisition of fine motor milestones correlate better
 - There's a huge range of what is normal
 - Generally normal is considered within 2 standard deviations of the mean of the pop studied
 - Despite this definition, it still means that 2.5% of the pop will be either above or below 2 SD of the mean and will be defined as abnormal even through they're perfectly normal
- **Assessment of normal growth:**
 - Because growth progresses rapidly during the first yr, frequent visits are essential to insure a health progression
 - **Attention must be paid to:**
 - **1) weight**
 - Usually doubles by 3-5 months and triples by a yr
 - Breast fed babies may gain very rapidly initially and slow by 6 months
 - Large babies don't follow standard weight gains
 - **2) head circumference**
 - ↑s by:
 - 2cm/month for 3 months
 - 1cm/month for 3 months
 - 0.5cm/month for 6 months
 - The post fontanelle closes by 3-4 months
 - The ant fontanelle closes by 12-15 months
 - **3) length**
 - Growth ↑s by approximately:
 - 2in/month for 3 months
 - 1in/month for 3 months
 - 0.5in/month for 6 months
 - Average ↑ in length is 10-12in in the first yr
 - Growth occurs in discontinuous spurts with ↑s of 0.5-2.5in over 1-2 days with no growth for 2-60 days
 - Measurement of growth velocity in older children is also imp't:
 - 1st yr of life = ½ birth length = 10in
 - 2nd yr of life = ½ 1st yr = 5 in
 - 3rd yr of life = ½ 2nd yr = 2.5in
 - 4th yr to puberty = 2.5in/yr
- **Assessment of normal development- the rapid changes that occur during the first yr include:**
 - **1) primitive reflexes disappear by:**
 - Moro- 5-6 months
 - Rooting- 9 months
 - Palmar grasp- 5 months
 - Asymmetric tonic neck- 9 months
 - **2) 2^o reflexes appear:**
 - Neck righting
 - Parachute
 - **3) gross motor milestones**
 - Holds up head- 6-17 weeks
 - Rolls over- 2-5 months
 - Sits unsupported- 5-8 months
 - Creeps (on hands and knees)- 7-10 months
 - Stands- 5-10 months
 - Walks unassisted- 11-15 months
 - Toilet trained- 24-30 months
 - **4) fine motor milestones**
 - Reaches for an object- 4 months
 - Transfers an object from hand to hand- 7 months
 - Thumbs and finger grasp (pincer)- 9-10 months