Pediatric history

كتابة الطلاب

#Identification

- Name of baby (triple name)
- Age and date of birth
- Gender
- Blood group
- Source of history (mother – father – grandmother)
- Occupation of parents
- Residence of parents
- Religion of parents

#Date of admission

#Date of examination

#Chief compliant

- Mention the main reason that brings the patient to the hospital (up to 3 chief compliant)
- Duration of chief compliant

#History of present illness

- Last time the patient was **well**
- The **story** (take it from the source like the mother, ask her to tell you the full story then summarize it and write it in her words)
- **Analysis** of the symptoms
- Complete the **same system**
- **Relevant systems** (ask about any system related to the involved system)
- **Routine questions**: always ask about (fever, sweating, urine output, feeding, activity, sleep, weight loss)
- Ask about attention to **private doctor or primary health centers PHC** (ask about investigations, treatment, improvement or not)
- **Admission** (ask about investigations, treatment, improvement or not)
- Any **new event** that may occur during hospitalization ((worsening of baby condition ask about sleep + activity (smile/fatigue) + feeding all will decreased))
- **Outcome** (the condition of patient at the moment of taking history)

((convert these points to story and write it))

#Systems review (questions here depend on the age of baby)

- **GIT** → abdominal pain, diarrhea, constipation, vomiting, hematemesis, melena, jaundice, nausea and loss of appetite (the last two describe as poor feeding)
- **Respiratory** → dyspnea, noisy breathing, cough, hemoptysis, sputum
- **CVS** → dyspnea, palpitation (the mother could feel palpitation of her baby), cyanosis
- **Genitourinary** → color and amount of urine, hematuria, pyuria, dysuria, frequency, any abnormality in the genetalia
- **Nervous system** → headache, convulsions, abnormal movements
- **Loco-motor** → joint pain and stiffness, joint swelling, waking, abnormal movements, restricted movements
- **Hematology** → epistaxis, bruises, patichae
- **Skin** → dryness, discoloration, pigments, itching, rash, lump, hair and nail changes

#Pre-natal (Ante-natal)

- ANC (does the mother attend regular visits to private doctor or PHC)
- Disease of mother during pregnancy (infections like Toxoplasma-HIV-Rubella-Cytomegalovirus-Chickenpox-Hepatitis --- TORCH infection appear as fever + skin rash + joint swelling --- other diseases like D.M and hypertension and anemia)
- Drugs taken during pregnancy
- Exposure to radiation during pregnancy
- Smoking
- Bleeding
- Previous abortion or neonatal death
- Admission to hospital for any reason
- Vaccine
- Number of child

#Natal

- Place of delivery (at home or hospital)
- Type of delivery (vaginal or caesarian section CS) if CS what is the indication? Elective or emergency?
- Duration of delivery (normal or prolonged)
- Any complication during labor
- Instrument use in the delivery
- Gestational age (pre-term or term or post-date or post-term)
- Weight of the baby (normal AGA , Small SGA , Large LGA)

#Post-natal (first 28 days of life)

- Immediate crying

- Time of discharge from the hospital (24 hours – 48 – more)
- NICU admission
- When the baby passed urine (within first 24 hours) and meconium (the first stool) (within first 48 hours)
- Movement
- Neonatal jaundice, Cyanosis (fetal distress), Fit, bleeding
- Baby developed other diseases? Treatment?

#Past-medical history

- Previous similar disease
- Previous admissions
- Chronic diseases
- Previous infections (measles, others)
- Blood transfusion

#Past-surgical

- Previous operations (indication, type, outcome)
- Circumcision in male and ear piercing in female (at which age, any complications)
- Hospitalization

#Drug history

- Drug taking by mother (chronic use)
- Drug taking by baby (chronic use)
- Allergy to drug and other substances

#Feeding history

1- Breast feeding
   - Way of feeding (using both right and left breast each feeding time)
   - Regular (at least every 3 hours) or on demand
   - Any problem with feeding (large nipple, others)

2- Bottle feeding
   - Way of feeding
   - Way of preparation
   - Type of formula use (lactose free, soy milk formula, others)
   - Way of sterilization of the bottle (boiling, Washing, brushing)
   - Number of bottles
   - Number of feeding
   - Regular (at least every 3 hours) or on demand
   - Any problem occur after bottle feeding (diarrhea, others)

- Put the bottle in freeze for cooling

3- Mixed feeding (breast and bottle feeding)
4- Semi-solid or solid food → at which age start solid food? Type of it?
   - At which time given
   - Type
   - Any problem occur after this feeding
5- Weaning: at which age milk was taken off his diet
6- Pica: Ask if the child eat soil, wood or other things (caused by iron deficiency anemia – Ca deficiency – lead poising)

#Immunization history

- Take the vaccines on regular Iraqi schedule or not?
- On national immunization day only?
- Type of vaccine? , At which age?
- Any complications (fever, pain, convulsion, rash, excessive crying) pertussis vaccine cause convulsion – shock
- Time of last vaccine
- Notes: RV not give to baby after 3 and 8 months of age / BCG not give to baby after 1 year of age / BCG should return if the scar (ندبة) not appear

Age	**VACCINE**
24 hours after birth	BCG, HBV , OPV
2 months	DTP-HepB-Hib, OPV, RV
4 months	DTP-Hib, OPV, RV
6 months	DTP-HepB-Hib, OPV, RV
9 months	Measles, Vit.A 100,000 U
15 months	MMR
18 months	DTP-Hib, OPV, Vit.A 200,000 U
4-6 years	DTP, MMR, OPV

Name	**In Arabic**	**Type**	**Route**
BCG	بي سي جي	Live attenuated TB bacteria	ID
HBV	إلتهاب الكبد الفيروسي ب	Inactivated hepatitis B virus	IM
OPV	شلل الأطفال فموي	Live attenuated Polio virus	Oral
RV	الفايروس العجلي	Live attenuated Rotavirus	Oral
Measles	الحصبة المنفردة	Live attenuated measles virus	SC
MMR	الحصبة المختلطة	Live attenuated, mumps, rubella viruses	SC
DTP	اللقاح الثلاثي	Diphtheria and Tetanus Toxoid + inactivated pertussis bacteria	IM
DTP-Hib	اللقاح الرباعي	DTP + Inactivated Influenza virus	IM
DTP-HepB-Hib	اللقاح الخماسي	DTP + Inactivated Influenza virus + Inactivated hepatitis B virus	IM

#Developmental

- Gross motor (sit, stand, walk) or crawl
- Fine motor (Grasp, move object from hand to hand, etc.)
- Social (smile, laugh, etc.)
- speech
- vision
- hearing

#Family history

- health of parents, brothers and sisters
- family history of same illness
- family history of chronic disease or infectious disease
- family history of unexplained death
- order of baby in the family
- age of the baby before or after him
- any illness in the family

#Social history

- rural or urban
- source of water
- income
- level of education and occupation of parents
- crowding index ➔ (number of persons/number of rooms) ➔ below 3 is normal and above 3 is crowding
- any domestic animals
- ventilation
- smoking
- sewage disposal

#Obstetrical and gynecological history

- for girls because pediatric age up to 18 years

Pediatric general examination

#Setting

- Introduce yourself
- Gel
- Good light
- Right side
- Patient lie flat and central
- Exposure from nipple to mid-thigh

#General

- Age and sex
- Consciousness (conscious, lethargic, unconscious)
- Alert or not, irritable or sleepy, oriented (in older children)
- Posture (lying in bed, or in lap of his mother)
- Any external corrections (cannula, IV fluid, oxygen mask)
- Built (average build, thin, emaciated, obese)

#Examination of head

1- Shape of the head:
    - Normal
    - Bracheocephaly
    - Scelocephaly
2- Hair:
    - Distribution
    - Fragile or not
    - Thick or silky
    - Discoloration → reddish color of the hair in malnutrition, failure to thrive
    - Alopecia (loss of hair) → localized as in skin disease or generalized as SLE
3- Fontanels:
    - Examine it when baby is sitting and not crying
    - Size → normal 2.5 cm → if large → decrease of bone → hypothyroidism
    - Depressed or sunken → dehydration
    - Bulging → increased intra-cranial pressure ICP – hypernatremia – fluid therapy
    - Anterior fontanel → diamond shape – close in 6-18 months
    - Posterior fontanel → triangular shape – close in 3 months
4- Face Skin color:
    - Pallor → anemia (pallor check), nephrotic syndrome (off colored), hypopituitarism, shock

- Jaundice → increased serum bilirubin ((jaundice appears clinically when increase more than 3.5 mg/dl in child and 5 mg/dl in neonate))
- Plethoric face (red color face) → polycythemia, vasodilation, vascular overload
- Pinkish color face → polycythemia, chronic hypoxia
- Earthy pale complexion → uremia
- Pigmentation → racial, actinic, in disease like Addison's
- Malar flask → in mitral stenosis

5- Eye:

- Anemia → look at palpebral conjunctiva
- Polycythemia → congested conjunctiva
- Jaundice → look at sclera
- Puffiness (edema of the eyelids) → in renal disease and myxedema and allergic
- Xanthelasma → yellowish plaques around the eye
- Sub-conjunctival hemorrhage → in bleeding tendency, conjunctivitis, severe cough
- Sunken eye → dehydration
- Tears on crying or not
- Any discharge (like pus)
- White spots in the iris → Vit. A deficiency
- Signs of dehydration → sunken eye + dryness (tears and glistening)

6- Ear:

- Discharge
- Large or small ears
- Low set ears
- Boat ear (congenital)

7- Nose:

- Nasal discharge
- Look inside for any polyps
- Bleeding
- Flaring of ala nasi (sign of respiratory distress)

8- Lips:

- Cyanosis
- Ulcer
- Herpes labialis
- Angular stomatitis and cheilosis → Iron deficiency anemia & vitamin deficiency

9- Gums:

- Red + swollen + suppuration → gingivitis
- Gingival hypertrophy → in scurvy, leukemia, drugs like phenytoin
- Bleeding gums → inflammation, Vit. C deficiency
- Chelosis → vitamin deficiency

10- Teeth:
- Number of teeth
- Dental caries
- Teeth loss

11- Tongue:
- Color → red in glossitis, pale in severe anemia, yellow in jaundice, blue in central cyanosis
- Moisture → dry tongue in dehydration and air and drugs like anticholinergic
- Fur → in air breathers
- Smooth tongue → in anemia

12- Buccal mucosa:
- Thrush → candida infection
- Aphthus ulcer
- Petechial hemorrhage → bleeding tendency and infection
- Pigmentation → Addison's disease
- Pallor → anemia
- Dryness of the mouth → sign of dehydration

13- Congenital anomalies:
- Cleft lip and cleft palate and Cleft uvula

#Examination of Neck

- Lymphadenopathy ((L.N in neck + axillary + inguinal + epi-trochlear L.N near elbow → enlargement of two L.N in non-adjacent site called generalized lymphadenopathy))
- Neck mass and Thyroid
- Swelling → midline or lateral
- Using of accessory muscle in respiration → sign of respiratory distress

#Examination of Chest

- Abnormal shape
- Rachitic rosary → beaded ribs in rickets
- Signs of dyspnea → flaring of ala nasi – cyanosis – dusky – suprasternal, intercostal, subcostal rescission

#Examination of Abdomen

- Abdominal distention → distention (5F) – flat – scaphoid
- Skin rash → allergy, contact dermatitis, candidiasis
- Sings of wasting → loss of muscle + loss of subcutaneous fat + look at thigh, buttock, arm and pectoralis major muscle
- Sings of dehydration → skin turgor – elasticity

#Examination of Groin

- Wasting → loss of muscle bulk
- Thinning → loss of subcutaneous fat (exam thickness of skin fold)
- L.N
- Hernia → in pediatric (indirect inguinal hernia = swelling of the scrotum)

#Examination of lower limbs

- Joint swelling and deformities (knee joint swelling) and Muscle wasting
- Edema (on the shaft of the tibia – dorsum of foot → pressure at least for 1 min)
- Bowing of leg → in rickets
- Ankle joint widening in rickets
- Color → jaundice, pallor, cyanosis
- Nails ➔ pallor – koilonychias (chronic iron deficiency anemia) – leukonychia (in liver disease and hypo-proteinemia)
- Fungal infection of the foot

#Examination of Back

- Sacral edema
- Pigmentation and Rash
- Meningocele and myelomeningeocele
- Vertebral column → pass your finger along the vertebral column

#Examination of upper limbs

- Abnormal movements and Joint swelling and deformities
- Muscle wasting (wasting of thinner or hypo-thinner muscles)
- Skin color → anemia, cyanosis, jaundice, pigmentations
- Skin lesions → purpura, petechiae, purpupic spots, ecchymosis, hematoma
- Palmer erythema, spider navei, central pallor of the palm
- Nails → clubbing, koilonychias, onycholysis ((GIT causes of clubbing in pediatric are: celiac disease, cystic fibrosis, liver cirrhosis, IBD))
- Hand moisture
- Skin retraction
- Creases → indicate Hg less than 7 – pallor → indicate Hg less than 12
- Widening of wrist joint → on rickets

#Examination of vital signs (all of them calculated by chart or using the following method)

1- Blood pressure
   - (75/55) + age in years
2- Temperature
   - 36.5 – 37.5 = normal
   - < 36.5 = sub-normal
   - < 35 = hypothermia
   - > 37.5 = febrile
   - less than 38 = Low grade fever
   - more than 38 = High grade fever
   - > 39 = hyperthermia
   - > 41 = hyperpyrexia
3- Pulse rate
   - Newborn (< 1 month) → 120-160 bpm
   - infant (1-12 month) → 80-140 bpm
   - toddler (1-3 year) → 80-130 bpm
   - preschooler (3-5 year) → 80-120 bpm
   - school age (6-12 year) → 70-100 bpm
   - adolescent (> 13 year) → 60-100 bpm
4- Respiratory rate
   - 2 months age → 60/min
   - 2 months – 1 year → 50/min
   - 1 year – 5 years → 40/min
   - 5 yeas – 10 years → 30/min
   - More than 10 years → 20/min
5- Anthropotric measures
   - Weight
     - Normal Birth weight 2.5 - 4.5 kg
     - <2.5 kg low birth weight
     - <1.5 kg very low birth weight
     - <1 kg extremely low birth weight
     - Baby double his weight at 6 months
     - Triple at 1 year
     - Quadruple at 2 year
     - Every year 3.5 kg increase (10 g/day)
   - Height
     - Normal birth → 50 cm
     - First year → 75 cm
     - Second year → 85 cm
     - Forth year → 100 cm

    - After that → 6 cm/year
- OFC = occiputo-frontal circumference
    - At birth 35 cm
    - 2 cm per month in the first 3 months
    - 1 cm per month in 3-6 months '
    - 0.5 cm per months in 6 months – 1 year
    - 12 cm in one year
    - 10 cm in the rest of life
    - At birth = 35 cm
    - At 6 months = 44 cm
    - At 1 year = 47 cm

Notes:

#Indication for measuring blood pressure below 3 years:

- Cardiac case
- Renal case
- CNS case

#OFC in chart:

- 95-5 → normal
- Below 5 → microcephaly
- Above 95 → macrocephaly – megalocephaly – hydrocephaly

#Height in chart:

- 95-5 → normal
- Below 5 → short stature
- Above 95 → long stature
- Measure length (lying) if baby less than 2 years
- Measure height (stand) if baby more than 2 years

#Weight in chart:

- 95-5 → normal
- Below 5 → marasmus – kwashiorkor – marasmus on kwashiorkor
- Above 95 → obese

Pediatric abdominal examination

Examination of GIT = Abdominal examination + General examination

#Sequence of examination (from Macleod's)

- Remove the nappy.
- Inspect the abdomen, including the umbilicus and groins, noting any swelling.
- From the infant's right side, gently palpate with the flat of your war right hand. Palpate superficially before feeling for deeper structures.
- Palpate for the spleen. In the neonate it enlarges down the left flank rather than the right iliac fossa.
- Palpate for hepatomegaly:
    - Place your right hand flat across the abdomen beneath the right costal margin.
    - Feel the liver edge against the side of your index finger.
    - If you feel more than the liver edge, measure the distance in the mid-clavicular line from the costal margin to the liver's edge. Describe it in fingerbreadths or measure it with a tape in centimeters.
- Look at the anus to confirm that it is present, patent and in abnormal position
- Digital rectal examination is usually unnecessary and could cause an anal fissure. Indications include suspected rectal atresia or stenosis and delayed passage of meconium. Put on gloves and lubricate your little finger. Gently press your fingertip against the anus until you feel the muscle resistance relax and insert your finger up to your distal interphalangeal joint.

#Normal findings (from Macleod's)

- Distention from a feed or swallowed air is common
- You may see the contour of individual bowel loops through the thin anterior abdominal wall in the newborn, particularly with intestinal obstruction.
- The umbilical cord stump usually separates after 4-5 days. A granuloma may appear later as a moist, pink lump in the base of the umbilicus.
- A small amount of bleeding from the umbilicus is common in neonate.
- The liver edge is often palpable in healthy infants.
- In the neonate the kidneys are often palpable, especially if ballotted.
- Normal liver palpable up to 2 cm under the costal margin in neonate.
- Liver span in child is 2.4 - 6.4 cm but in old child up to 7.4 cm

#Abnormal findings (from Macleod's)

- In **excessive bleeding** from the umbilicus, check that the infant received vitamin K, and consider clotting factor XII deficiency.

- **Spreading erythema** around the umbilicus suggests infective omphalitis, and requires urgent treatment.
- **Umbilical hernias** are common, easily reduced, have very low risk of complication and close spontaneously in infancy.
- An **omphalocoele**, or **exomphalos** is a herniation through the umbilicus containing intestine and other viscera covered by a membrane that includes the umbilical cord. It may be associated with other malformations or a chromosomal abnormality.
- **Gastoschisis** is a defect in the anterior abdominal wall with intestinal herniated thought it. There is no covering membrane. The commonest site is above and to the right of umbilicus.
- A **hydrocele** is a collection of fluid beneath the tunica vaginalis of the testis and/or the spermatic cord. Most resolve spontaneously in infancy.
- **Inguinal hernias** are common in the newborn, especially in boys and preterm infants.
- Meconium in the nappy does not guarantee that the baby has a patent anus because meconium can be passed through a **recto-vaginal fistula**.
- Hypokalemia → paralytic ileus → reduce bowel sound
- Intestinal obstruction → bowel sound increase in intensity and frequency

#Causes of hepatosplenomegaly

- Viral infection: viral hepatitis – HIV
- Bacterial infection: brucella – typhoid
- Protozoal infection: kala-azar – malaria
- Hematological diseases: thalassemia
- Malignancy: lymphoma – leukemia
- C.T disease

#Causes of massive (huge) splenomegaly

- Kala-azar
- Myeloid leukemia
- Schistomiasis
- Gaucher's disease

#Complete abdominal examination (like that of adult) (OSCE_2010)

1- GETTING READY

- Greet the patient respectfully and with kindness.
- Explain the procedure to the patient.
- Ask the patient or care giver to undress from the nipple line to the mid-thigh, and cover with a clean sheet. If this is embarrassing, examine the genitalia first and then cover them before examining the rest of the abdomen.

- Wash hands thoroughly and dry them (alternatively use antiseptic gel).
- The patient's position: ask the patient to lie flat on his back with the legs extended. *Older children need to flex the hips to 45° and the knees to 90°. (In very young infants you can examine the infant in the mother's lap).*

2- INSPECTION

- Abdominal movements with respiration
- Breasts
- Pulsations (Epigastric pulsations)
- Hernias
- Umbilicus
- Divercation of recti
- Scars or pigmentations
- Veins
- Visible peristalsis
- Genitalia – Tanner stage

3- PALPATION

- Stand by the right side of the patient (unless you are left handed)
- Make sure that your hand is warm and ask the patient to flex the hips and knees in order to relax the abdomen. (not needed in very young)
- Ask the patient whether there is a painful area or a mass. Always start palpation in the region diagonally opposite to any lesion or pain, and proceed systematically to other regions approaching the affected area last of all.
- Begin in the left iliac fossa and proceed to left lumbar, left hypochondrium, epigastrium, umbilical, suprapubic, right iliac fossa, right lumbar and lastly right hypochondrium. Then palpate more deeply in the same areas.

#Superficial palpation:

- Tenderness
- Rigidity
- Swelling: (relation to diaphragm and if intra or extra abdominal)
- Hernia orifices: Examine the anatomical sites of hernia for swelling (repeat while standing)
- Dilated veins: Determine the direction of the flow by placing two fingers on the vein, sliding one finger along the vein to empty it and then releasing one finger

#Deep palpation:

A. Palpation of the liver:

- Place your right hand on the right iliac fossa (MCL) resting transversely parallel to the costal margin
- Ask the patient to take a deep breath.
- Keep your hand still during inspiration
- As the patient to expire, slide the hand a little nearer to the right costal margin till you palpate lower border of the right lobe of the liver.
- Put your hand in the midline and repeat the above steps till you palpate the lower border of the left lobe of the liver.

- Percussion is done to get the upper border of the liver.
- Record the findings:
  - The degree of enlargement (span in cm between upper and lower borders in MCL)
  - The character of the border (sharp or rounded).
  - The surface (smooth or nodular)
  - The consistency(soft like a lip, firm like a nose, hard like a bone or heterogeneous)
  - The presence of pulsations
  - The presence of tenderness
  - Hepato-jugular (abdomino-jugular) reflux

B. Palpation of the spleen:

- Start palpation from the right iliac fossa with the tips of you hand directed towards the left axilla, and moving toward the left hypochondrium until you feel the spleen
- Record the findings:
  - The consistency
  - The degree and direction of enlargement
  - The character of the border (sharp or rounded), the presence of notch
  - The surface (smooth or nodular)
  - Tenderness

C. Palpation of the kidneys:

1- Bimanual palpation of both kidneys

- Put your hand behind the patient's loin
- Lift the loin and the kidney forward.
- Put the other hand on the lumbar region and ask the patient to take a deep breath.
- During expiration push your hand deeply but gently and keep it still during inspiration
- Repeat as the patient takes his breath.

2- Ballottement is done to confirm renal origin of a swelling (by pushing renal angle upwards, and palpate the kidney by the other hand

D. Palpate for other Abdominal Swellings:

Differentiate intra-abdominal from parietal swellings:

- Relation to the costal margin.
- Behavior on contraction of the abdomen.

4- PERCUSSION:

- Rub your hands together and warm them up before placing them on the patient
- Percuss for ascites and over any masses.
- In the abdomen only light percussion is necessary.
- Start from resonant to dull in the midline

A. Percussion of the liver (span of the liver):

- Determine the upper border of the liver by heavy percussion starting from the 2nd intercostal space opposite the sternocostal junction

- Percuss down along each inter-costal space in the MCL and when you reach the dullness ask the patient to take a deep breath and hold it
- Percuss again, ((tidal percussion), if it became resonant this will denote infra diaphragmatic cause (liver). If it remain dull, this will denote supra diaphragmatic cause(pleural effusion)
- Measure the distance between the upper border (by percussion) and lower border (by palpation) in the right mid- clavicular line, this is the span of the liver.

B. Percussion of the Spleen:

- Percussion of the Traube space {Area defined by the anatomical apex (5th ICS in MCL), left sixth and eighth ribs superiorly, the left midaxillary line (9th, 10th&11th ICS) laterally, and the left costal margin inferiorly}.
- If Traube area is dull: the spleen may be enlarged, full stomach, pulmonary or pleural disease or cardiac dullness.

C. Percussion for Ascites (Shifting Dullness)

- Instruct the patient to lie in the supine position
- Place your fingers parallel to the flanks. Start percussion from the region of the umbilicus down to the flank till you elicit a dull tone.
- On detecting dullness, ask the patient to turn to the opposite side, while keeping the examining hand over the exact site of dullness. Keep your hand in position till the patient rests on the opposite side. Repeat percussion; if the flank returns a resonant note and percussion at the umbilicus returns a dull note, that indicates the presence of moderate free ascites.
- Testing for MINIMAL ascites in the knee elbow position: (If shifting dullness is negative) Percuss around the umbilicus while the patient is kneeling in the knee-elbow position.
- In case of MASSIVE ascites: Detect ascites by FLUID THRILL - Detect organomegaly by DIPPING method

5- AUSCULTATION: for intestinal sounds

- It is performed before percussion or palpation as vigorously touching the abdomen may disturb the intestines, perhaps artificially altering their activity and thus bowel sounds.
- Exam is made by gently placing the pre-warmed (accomplished by rubbing the stethoscope against the front of your shirt) diaphragm on the abdomen and listening for 15 or 20 seconds. Practice listening in each of the four quadrants. Normally, peristaltic sounds are heard every 10 to 30 seconds. Comment on presence intestinal sounds

6- EXAMINATION OF THE BACK

- Ask the patient to sit
- Inspect for any swellings, deformities or scars
- Palpate for edema over the sacrum
- Palpate for tenderness over vertebrae

7- EXAMINATION OF GENITALIA AFTER PERMISSION

Pediatric notes

#History of bowel motion (diarrhea)

- **Amount** → increased (watery or loose) in small intestine disease and infections like V.Cholera or decreased (small and bulky) in large intestine disease like Colitis
- **Frequency** → low frequency in large intestine and high frequency in small intestine
- **Color** → normal color either yellow, brown or green – white color indicate biliary obstruction (no bile)
- **Presence blood or mucus**
- **Consistency**
- **Odor** → not important except for fish odor stool in small intestine disease and infections like V.Cholera and viral // bacterial & amebic stool is offensive odor
- **Day or night** → only at night it means UTI or Typhoid – only day it means related to feeding – day and night it means not related to feeding and it is secretory type related to infection like TB, Typhoid, UTI, Brucellosis.
- **Associated features** → colic – fever – sweating – anorexia – Tenesmus (occur during or after defecation)

- Viral infection (Rota virus) = flu like illness then vomiting then diarrhea (high amount + loose + high frequency more than 10) + low grade fever or no fever
- V.Cholera = large amount + watery + loose + high frequency
- Bloody diarrhea = caused by E.coli, Shigella, Salmonella, Campylobacter, Yersinia
- Parenteral diarrhea = due to systemic cause rather than GIT like meningitis, UTI, Otitis
- How to know parenteral = normal general stool + stool culture –ve + source of infection
- Tenesmus = feeling of incomplete defecation + pain during and after defecation
- Bloody diarrhea + Tenesmus = shigellosis
- No-infectious cause of diarrhea = diverticulum – ischemic colitis – hemorrhoids
- Secretory diarrhea not affected by feeding – osmotic diarrhea affected by feeding
- Amebic dysentery = no fever / bacillary dysentery = with fever
- Metabolic acidosis occur in diarrhea due to loss of HCO3- cause deep and decrease breathing to waste CO2
- Significant colors of stool: black – white rice – clay in color
- Toddler diarrhea: diarrhea relived by fasting (celiac disease – lactose intolerance – fructose intolerance – disaccharide deficiency
- Toddler diarrhea is frequently due to excessive sweets & juices consumption by the baby
- Fresh, large amount of blood per-rectum == fissure in ano
- Diarrhea + abdominal distention + weakness = hypokalemia
- Diarrhea + cough = Rotavirus – adenovirus – cystic fibrosis - TB
- Amebic dysentery = features of large intestinal diarrhea // bavillary dysentery = features of small intestinal diarrhea

#Vomiting

- Amount
- Color
- Consistency
- Day/night
- Projectile or not
- Content
- Frequency
- Aggravated factors (food – other)
- Associated with fever, fit, others
  - Vomiting = forceful empting of the gastric content
  - Regurgitation = effortless empting of the gastric content (it is partial empty of gastric content)
  - Post-tussive emesis = vomiting after cough → occur in pertussis infection and mycoplasma pneumonia
  - White vomiting → milk / yellow vomiting → gastric juice / green vomiting → bile
  - Bacterial → diarrhea then vomiting // viral → vomiting then diarrhea
  - Vomiting after eating by 6 hours + fever at night → staph infection
  - Vomiting after eating by more than 12 hours → E.coli and it's group
  - Vomiting after eating by more than 24 hours → Salmonella and it's group

#Fever

- Continuous fever (typhoid) Intermittent fever (malaria) Remittent (infective endocarditis) Pel-ebstein fever (Hodgkin's lymphoma)
- site
- severity (low grade – high grade)
- time (during night like TB which associated with sweating or during day)
- associated with sweating, shivering, Rigor
- Shivering → associated with muscle activity // Rigors → uncontrolled muscle activity
- aggravating factors
- reliving factors: spontaneously or by anti-pyrol

#Cleaning and sterilization of bottle

- First wash bottle with cold water + detergent (to remove protein - albumin)
- Brush it
- Wash it by hot water (to remove lipids - carbohydrate)
- Take off the tit and put the bottle in already boiling water for 10-15min
- Put the tit for 3-5 min in the boiling water
- Then put the bottle in the refrigerator till you will use it

- Types of sterilization:
    - Boiling
    - Steam Sterilizer
    - Using chemicals (that are for sterilizing baby feeding equipment)
- Number of bottles = number of feeds + 1

#Calories calculation for baby

- Normal baby need (100-120 kcal/kg) – preterm baby (150) – less than 6 months age (110) – after one year (100)
- Each ounce = 30 cc of water = 20 kcal
- We multiply the number of daily requirement of calories (100-120 kcal/kg) by the ideal weight of the child
- To calculate the ideal weight you should use the chart or use the following equation ideal weight of the infant = (age in months + 9)/2
- Then we divide it by 20 (the number of ounces that the milk spoon carry)(Ounce=20 Kcal), the result will be the numbers that the child should feed in the day
- e.g. in the child ideal wt. is 5kg , 5*100 = 500 kcal/day , divided by 20, this equals to 25 numbers , that means if the child feeds 5 times/day every bottle should contain 5 numbers

#Breast feeding

1- Benefits

- Correct fat-protein balance
- Nutritionally complete
- Promotes healthy growth patterns
- Diseases protection
- Better jaw and tooth development
- Ensues digestibility
- Easier transition to solid food

2- Down sides

- Vitamin K deficiency
- Hypernatremia (at end of first week in babies with inadequate intake)
- Inhibits modern control culture

3- Contraindications

- Galactosaemia
- Maternal HIV infection
- Anti-neoplastic drugs
- Tetracycline
- Lithium

#Types of milk

- Infant formulas (cows milk)
- Whey based milk
- Casein based milk
- Soya infant milk
- Follow on formulas
- Specialized formulas (lactose free, phenylalanine free)

#Signs of good feeding

1- For baby:
    - Urination and bowel motion start to work
    - Smile and not cry
    - Good activity
    - Sleep after feeding
2- For mother:
    - Disappear of pain
    - Disappear of depression
    - Keep her cloths clean

#Causes of faltering growth

1- Organic causes
    - Inability to feed (cleft palate, cerebral palsy)
    - Increased losses (diarrhea, vomiting, GERD)
    - Malabsorption (cystic fibrosis, post-infective, allergic enteropathy)
    - Increased energy requirements (Cystic fibrosis, malignancy)
    - Metabolic (hypothyroidism, congenital adrenal hyperplasia)
    - Syndromes
2- Non-organic causes
    - Insufficient breast milk or poor technique
    - Maternal stress / maternal depression / psychiatric disorder
    - Disturbed maternal-infant attachment
    - Low socio-economic class
    - Neglect

#Approach and management to faltering growth

- Recheck wright-plot weight against centile chart
- Check type and amount of feeding
- Observe feeding technique
- Assess stool
- Examine for underlying illness – appropriate investigations

- Consider admission to observe response to feeding
- Dietician involvement
- Inform general practitioner / health visitor / community nurse

#Acute gastroenteritis

1- Definition: diarrhea associated with nausea and vomiting and abdominal pain
2- Causes:
    - Viral (50-70%) → caliciviruses – rotavirus – adenovirus – parvovirus ➔ one day of high fever followed by vomiting and watery diarrhea هام جداً
    - Bacterial (15-20%) → Shigella – salmonella – C.jejuni – E.coli – V.cholera – Yersinia enterocolitica
    - Parasitic (10-15%) → Giardia – Amebiasis – cryptosporidium – cyclospora
    - Food-borne toxigenic diarrhea → preformed toxin (S.aureus, B.cereus) postcolonization (V.cholera, C.perfringens, enterotoxigenic E.coli, Aeromonas)
    - Drug-associated diarrhea → Antibiotics – laxatives – colchicine – quinidine – cholinergic – sorbitol
3- History:
    - Fever
    - vomiting
    - pain
    - stool (large volumes in enteric infection, small stool in colonic infection, presence of blood in colonic ulceration, white bulky feces that float in small intestine disease, copious (rice water) diarrhea in cholera)
    - Extra-intestinal causes (parenteral diarrhea) → history of recent surgery or radiation, food or drug allergies, endocrine or gastrointestinal disorders, it caused by systemic infections like UTI, rheumatic carditis, pneumonia, meningitis, bronchitis, and other infections
    - Dehydration → orthostasis – lightheadedness – diminished urine formation – marked dehydration – electrolyte loss
4- Physical examination:
    - Hydration and nutritional status: diminished skin turgor – weight loss – resting hypotension – tachycardia – dry mucus membrane- decreased frequency of urination – changes in mental status – orthostasis – absence of tears – poor capillary refill – sunken eyes – depressed fontanels – increased axillary skin folds – dry diapers – muscle wasting – signs of neural dysfunction
    - Abdominal examination → to exclude causes of diarrhea
    - Signs of bacteremia or sepsis
5- Diagnosis:
    - Stool studies and culture: blood and leukocyte in stool , stool culture
    - Routine laboratory test: CBC, electrolytes, renal function, BUN, Decreased serum bicarbonate, acidosis secondary to bicarbonate loss, hypokalemia

- ELISA

6- Treatment:
    - Rehydration: oral or IV
    - Empiric therapy for infectious diarrhea: supportive treatment and drugs like metronidazole
    - Anti-emetic
    - Anti-diarrheal (anti-motility agents)
7- Complications:
    - Dehydration
    - Acidosis = vomiting after treatment + rash / the cause of acidosis is secondary lactose intolerance / give lactose-free milk for 6 weeks
    - Hemolytic-uremic syndrome = anuria + edema + petechia + ecchymosis + coma appear after treatment / caused by any bloody diarrhea and it lead to hematuria and renal failure
    - Guillen-Barry syndrome = weakness of lower limbs / caused by campylobacter infection / appear after treatment
    - Convulsion (Below)

#Causes of convulsion in a child (GIT causes)

- Electrolyte disturbance → hypocalcemia, hypoglycemia, hypomagnesaemia, hypo or hypernatremia (last two lead to convulsion + gastroenteritis) but not hypokalemia
- Meningitis and encephalitis → vomiting + diarrhea
- Shigellosis → small bloody diarrhea with mucus+ convulsion + fever
- Hyper-viscosity of blood (hypovolemia) → cerebral thrombosis (rare)
- Febrile convulsion →
    1- Typical febrile convulsion
        - Age: 6 months – 6 years
        - The type is generalized tonic clonic convulsion
        - Duration: less than 15 min
        - High fever: equal or more than 38 c
        - Single attack
        - No focal neurologic signs
    2- Atypical febrile convulsion
        - Age: less than 6 months – more than 6 years
        - Associated with focal neurologic signs
        - Fever: less than 38 c
        - Duration: more than 15 min
        - Frequent (twice or more)
        - Return to normal

#Sterile pyuria

- Sterile pyuria is the presence of elevated numbers of white cells (>10 white cells/mm3) in urine which appears sterile using standard culture techniques
- Causes:
  - A recently (within last 2 weeks) treated urinary tract infection (UTI) or inadequately treated UTI.
  - UTI with 'fastidious' organism (an organism that grows only in specially fortified artificial culture media under specific culture conditions), e.g. Neisseria gonorrhoeae.
  - Renal tract tuberculosis, chlamydial urethritis.
  - False negative culture due to contamination with antiseptic.
  - Contamination of the sample with vaginal leukocytes.
  - Interstitial nephritis: sarcoidosis (lymphocytes not neutrophils).
  - Urinary tract stones.
  - Renal papillary necrosis: diabetes, sickle cell disease, analgesic nephropathy.
  - Urinary tract neoplasm, including renal cancer and bladder cancer.
  - Polycystic kidneys.
  - Interstitial cystitis.
  - Prostatitis.
  - Other reported associations include appendicitis, systemic lupus erythematosus and Kawasaki disease.

#Dehydration

- Assessment of dehydration → the following table هام جداً

Plan	Plan A	Plan B	Plan C
Severity	**5% Mild**	**5-10% Moderate**	**>10% Severe**
Appearance	Active, alert	alert, thirsty	looks sick
Consciousness	Fully	Drowsy - irritable	lethargic and unconscious
Fontanel	Normal	Depressed	Severely depressed
Lips and M.M	Normal	Dry	Severely dry
Eyes	Normal	Sunken, decrease tears	Severely sunken, no tears
Pulse	Slightly increased	Fast, low volume	Very fast, thready
Blood pressure	Normal	Hypotension	Severely hypo
Respiration	Normal	Fast	Fast and deep
Skin turgor	Normal	Equal or more than 3 sec	More than 3 sec
Capillary refill	Normal	Up to 3 sec	More than 3 sec
Urine output	Slightly decrease	decreased	Oliguria <400/24h or anuria
Drinking	Normal drinking	Eager to drink	Unable to drink
Weight loss	Up to 5%	6-10%	More than 10%

- Mild dehydration → very thirsty – eager to drink – may lose weight
- Severe dehydration is shock state
- Any cause of vomiting or diarrhea do clinical assessment of dehydration
- Diarrhea → dehydration → acidosis → acidotic breathing → tachycardia
- Causes of polyuria in dehydrated patient = UTI + Parenteral diarrhea + Respiratory infection + Hypokalemia
- How to assess dehydration from history only? By asking about sleep, activity, feeding, urine output, weight loss
- Indication of antibiotics in patient with dehydration: patient below 3 months age – immunocompromised patient – febrile patient – bloody diarrhea – parenteral diarrhea – shock state
- Treatment Plan A ➔
  - rehydration by ORS (oral rehydration solution)
  - give 50 cc after each vomiting and diarrhea
  - if the cause is viral → no treatment is required
  - if the cause is bacterial → give antibiotics
- Treatment Plan B ➔
  - If mild dehydration → give ORS 50 cc/Kg within 4 hours
  - If moderate dehydration → give ORS 100 cc/Kg within 4 hours
  - Then do reassessment of dehydration again
  - If the condition not treated → consider it as Plan C
- Treatment Plan C ➔
  - Hospital admission
  - IV fluid
  - Start IV fluid as bolus dose ((20 cc/kg)) normal saline or ringer → within one hour for infant or within half an hour for child
  - Then repeat the reassessment again → if still severe dehydration repeat the bolus dose ((you can repeat the bolus dose 3 times only))
  - Then calculate 3 things → First is maintenance dose (give glucose saline as 100 cc/kg for first 10 Kg then 50 cc/kg for second 10 Kg then 20 cc/kg for remaining Kg for example if the patient is 24 kg then give 1580 cc) Second is deficit dose (if severe dehydration → 100 cc/kg -- if moderate dehydration → 50 cc/kg) Third is ongoing dose (give 20 cc for each vomiting and diarrhea for example if baby has 2 vomiting and 1 diarrhea then give 60 cc)
  - Now calculate: Final maintenance dose = (Maintenance+Deficit+Ongoing) – bolus then divide it in to 2 doses the first one is given within 8 hours and the second one is given within 16 hours
  - Give potassium (K) = 2 mmol/100cc
  - Note: give all of these doses within 24 hours

#Assessment of malnutrition

- Mild malnutrition → abdominal sub-cutaneous fat is decreased
- Moderate malnutrition → Thigh and buttock sub-cutaneous fat is decreased
- Severe malnutrition → old face appearance
- Protein and calories deficiency:
  - Kwashiorkor (protein deficiency) → change in mod – dull patient – loss of appetite – skin change (dermatitis) – change in skin color – thin hair – wasting – liver enlargement - focal edema (swelling in the limbs and belly)
  - Marasmus (calories deficiency) → good appetite – alert – low weight – severe wasting – little or no edema – minimal subcutaneous fat – severe muscle wasting
  - Marasmic-Kwashiorkor (Protein and calories deficiency) → weight less than 60% of ideal weight – edema
- Vitamins deficiency:
  - Vit A → white spot in the eye
  - Vit B2 → angular stomatitis – glossitis
  - Vit B6 → neurological change
  - Vit B12 → Megaloblastic anemia
  - Vit C → gum hypertrophy
  - Vit D → rickets rosary – widening of wrest – developmental delay – bowing of the lower limbs
  - Vit E → ecchymosis – petechia
- Minerals deficiency:
  - Iron → iron deficiency anemia
  - Zinc → acro-dermatitis in napkin area ((also occur with candidiasis and atopy like contact dermatitis))
- General signs of malnutrition:
  - Face → moon face (kwashiorkor) – simian face (marasmus)
  - Eye → dry eye – pale conjunctiva – Bitot's spots (Vit A) peri-orbital edema
  - Mouth → Angular stomatitis – cheilitis – glossitis – parotid enlargement – spongy bleeding gums (Vit C)
  - Teeth → enamel mottling – delayed eruption
  - Hair → dull – sparse – brittle – hypo-pigmentation – flag sign – alopecia
  - Skin → loose and wrinkled (marasmus) – shiny and edematous (kwashiorkor) dry – poor wound healing – erosions – hypo or hyper pigmentation
  - Nail → koilonychia – thin and soft nail plates – fissures or ridges
  - Musculature → muscles wasting (buttocks and thigh)
  - Skeletal → deformities (Vit C, Vit D, Calcium deficiency)
  - Abdomen → distended – hepatomegaly - fatty liver – ascites
  - Cardiovascular → bradycardia – hypotension – reduced cardiac output – small vessel vasculopathy

    - Neurologic → global developmental delay – loss of knee and ankle reflexes – poor memory
    - Hematological → pallor – petechiae - bleeding diathesis
    - Behavior → lethargic – apathetic
- Causes of malnutrition:
    - Major causes → poverty – food process – dietary practices
    - Consequences of health issues like gastroenteritis – chronic illness – HIV
    - Diarrhea and other infections
    - Parasitic infections
    - Abnormal nutrient loss
    - Lack of adequate breast feeding

#Edema in child

- Location:
    - eye puffiness
    - ascites
    - leg swelling → due to DVT or Pre-eclampsia in mother may be normal in baby
    - scrotal edema
    - sacral edema
    - pleural effusion
    - Non-pitting edema → due to lymphatic obstruction – hypothyroidism
- Most common causes of edema:
    - Nutrition → kwashiorkor ((start at leg and continue upward))
    - Renal → nephrotic syndrome ((start from above and continue downward))
    - Heart failure and Liver dysfunction (less common)

#Most common causes of hematemesis in child

- Repeated vomiting → Mallory-Weiss syndrome
- Ulcer (peptic)
- Systemic disease → bleeding disorder

#To assess the severity of disease in child

- Sleeping
- Activity
- Feeding
- Weight loss

#Causes of fever developed in hospital

- Drug induced fever
- Nosocomial infection (pneumonia)
- Phlebitis fever

#In history of present illness: Mention urine output in the following conditions:

- Parenteral diarrhea
- Antibiotic associated diarrhea
- Dehydration
- Hypokalemia → polyuria

#Contraindications of vaccination

- Immunocompromised patient
- Allergy to egg (do not give measles vaccine)

#Serious signs requiring immediate attention

- poor perfusion (indicating shock)
- reduced capillary refill (indicating shock)
- cool peripheries (indicating shock)
- petechial rash over the trunk (suggesting meningococcal septicemia)
- headache, photophobia or neck stiffness (suggesting meningitis)
- dyspnea at rest (indicating loss of respiratory reserve due to pneumonia, asthma)

#Clinical signs associated with severe illness in children

- fever >38 c
- drowsiness
- cold hands and feet
- petechial rash
- neck stiffness
- dyspnea at rest
- tachycardia
- hypotension

#signs that may suggest child neglect or abuse

1- behavioral signs
    - frozen watchfulness
    - passivity
    - over-friendliness
    - sexualized behavior
    - inappropriate dress
    - hunger, stealing food
2- physical signs
    - identifiable bruises (fingertips, handprints, belt buckle, bites)
    - circular (cigarette) burns or submersion burns with no splash marks
    - injuries of differing age

- eye or mouth injuries
- long bone fractures or bruises in non-mobile infants
- posterior rib fracture
- sub-conjunctival or retinal hemorrhage
- dirty, smelly, unkempt child
- bad nappy rash

#Notes on respiratory system

- Cough + choking = tracheoesophageal fistula
- Croup = relieved by cold air
- Hyperactive airway disease = aggravated by cold
- Productive cough = sputum – profuse or small amount
- Dry cough in pneumonia
- Small tinctuous = in bronchial asthma
- Bad odor in bronchiectasis
- White color in asthma
- Dyspnea = in infant crying and feeding is exercise / in toddler: running and walking
- Respiratory distress → mild (tachypnea + flaring ala nasi) moderate (using accessory muscle) sever (cyanosis) very severe (loss of conscious + coma)
- Flu like illness = upper respiratory tract infection
- Bronchodilator nebulizer → give O2 because the bronchodilator drug will lead to ventilation-perfusion dissociation
- Fine crepitation → in pneumonia – heart failure

#Notes from the doctor

- Diarrhea = frequent loose motion
- In diarrhea → take about amount, frequency, semi-form, watery, blood, pus
- Watery + high amount diarrhea = severe fluid loss
- Tensmus + small amount + blood + mucus stool = disease in the colon (colitis)
- Watery stool = disease in small intestine
- Loss of appetite = poor feeding
- Dehydration => ask about urine amount
- If the symptoms of infection disappear in 3 days this means that the infection subside and healed then the patient may develop new infection or still healthy
- If the milk still for one or two hour in the bottle it could lead to infection
- Breast feeding → slime baby + good immunity
- Bottle feeding → obese baby + poor immunity
- Vomiting + diarrhea + polyuria → caused by UTI (cystitis, pyelonephritis)
- Not mention palpitation, chills, rigor, septum during pediatric history taking
- Adenovirus cause respiratory infection with GIT symptoms

- Hypokalemia cause → hypotension + paralytic ileus + arrhythmia
- Don't said diarrhea or cyanosis in pediatric history
- Diarrhea term means → increase amount + increase frequency + increase fluidity
- > 12 hours prolongation of labor after rapture of membrane may cause neonatal sepsis (E.coli, Group B strept.)
- Gastroenteritis cause weakness due to hypokalemia and hypotonia in muscles
- Ejection of milk in one breast is 3 min but baby still sucking the nipple to stimulate milk for next time
- Start solid food at 4-6 month but egg and banana start at 9 month due to allergy
- Dilution of milk → cause vomiting and not give enough calorie
- Hypokalemia – paralytic ileus → lead to decreased bowel sound
- Bad odor of urine normally due to presence of uric acid and may be due to D.M which make purification or inborn error of metabolism or mouse like odor
- At examination you will find clear chest except in Rotavirus or adenovirus infection you will find abnormal breath sound on auscultation
- High body temperature in shigellosis and typhoid fever, mild in adenovirus
- Under-weight baby → due to chronic disease or poor nutrition
- Chronic use of steroid cause obesity, used in asthma – nephrotic syndrome – Crohn's disease – ulcerative colitis
- In children less than 3 years → UTI manifested as diarrhea and vomiting
- First thing affected between anthropometric measures is wright then height (chronic problem) then head circumference (very chronic: months to years)

جميع العناوين الواردة في هذه الملزمة مذكورة في سشنات الأطفال.
تم تصحيح وإضافة المعلومات بالإعتماد على:

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