

Immunization, Well baby and School Health Program

15/2/2023

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A 6-month-old female infant is brought to your office by her mother for a routine well-child visit.
How you will approach this patient ?



Risk Assessment

Dr. Mawiyah Alnujaydi

01



History



Important to ask

Concern and question

Medical history (past medical history, surgical history, antenatal and postnatal)

Medication and vaccination

Allergies

Previous screening results (newborn blood screening , newborn hearing screening)



Important to ask

Nutrition (breast milk ,formula:type/brand ,problem with feeding ,feeding per 24 hours, vit D supplements)

Elimination (regular soft stool,urine)

Sleep (Normal pattern, on back,safe sleep surface)

Behavior

Activity



Her mother is concerned that she is not yet saying "mama;" because **her best friend's baby said "mama" by age 6 months.**

Your patient was born via an uncomplicated pregnancy to a 23-year-old PI mother.

She was delivered by SVD at full term and there were no complications in the neonatal period. You have been following her since her birth.

She has had appropriate growth and development up to this age and is **up-to-date on his routine immunizations.**



Development



DEVELOPMENTAL SURVEILLANCE & SCREENING

- Development **surveillance**, done at every office visit, is an informal process comparing skill levels to lists of milestones.
- Developmental **screening** involves the use of standardized screening tests to identify children who require further diagnostic assessment.

Screening tools at three of the health maintenance visits:

9 months, 18 months, and 30 months



Development Surveillance

Consists of:

- Eliciting and attending to caregiver concerns.
- Maintaining a Developmental history.
- Observing parent-child interactions.
- Identifying risk and protective factors.

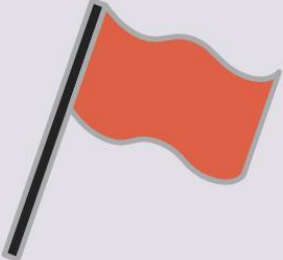
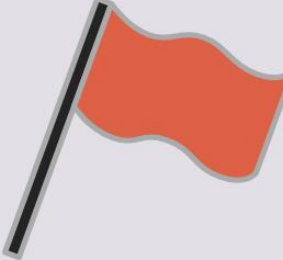
	Social-emotional	Language/communication	Cognitive	Motor
6 months	<ul style="list-style-type: none">▪ Knows familiar people▪ Likes to look at themselves in the mirror▪ Laughs	<ul style="list-style-type: none">▪ Takes turns making sounds with you▪ Blows "raspberries" (sticks out tongue and blows)▪ Makes squealing noises	<ul style="list-style-type: none">▪ Puts things in their mouth to explore them▪ Reaches to grab a toy they want▪ Closes lips to show they do not want more food	<ul style="list-style-type: none">▪ Rolls from tummy to back▪ Pushes up with straight arms when on tummy▪ Leans on hands to support themselves when sitting

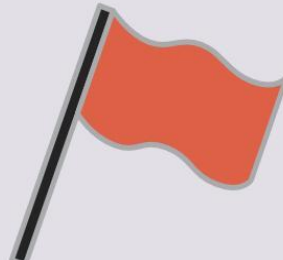
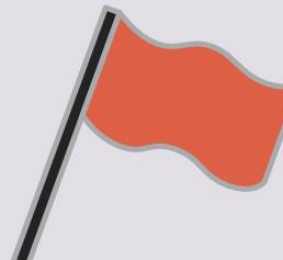



What are the critical points
in development milestones ?



Red flags

Gross motor	Limit ages	Hearing, speech and language	Limit ages
Head control Sits unsupported Stands with support Walks independently	4 months 9 months 12 months 18 months 	Polysyllabic babble Consonant babble Saying 6 words with meaning Joins words 3-word sentences	7 months 10 months 18 months 2 years 2.5 years 

Vision and fine motor	Limit ages	Social behaviour	Limit ages
Fixes and follows visually Reaches for objects Transfers Pincer grip	3 months 6 months 9 months 12 months 	Smiles Fear of strangers Feeds self/spoon Symbolic play Interactive play	8 weeks 10 months 18 months 2–2.5 years 3–3.5 years  

On developmental examination:

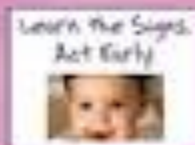
She is seen to sit for a short period of time without support, reach out with one hand for your examining light, pick up a Cheerio with a raking grasp and put it in her mouth, and she is noted to babble frequently.



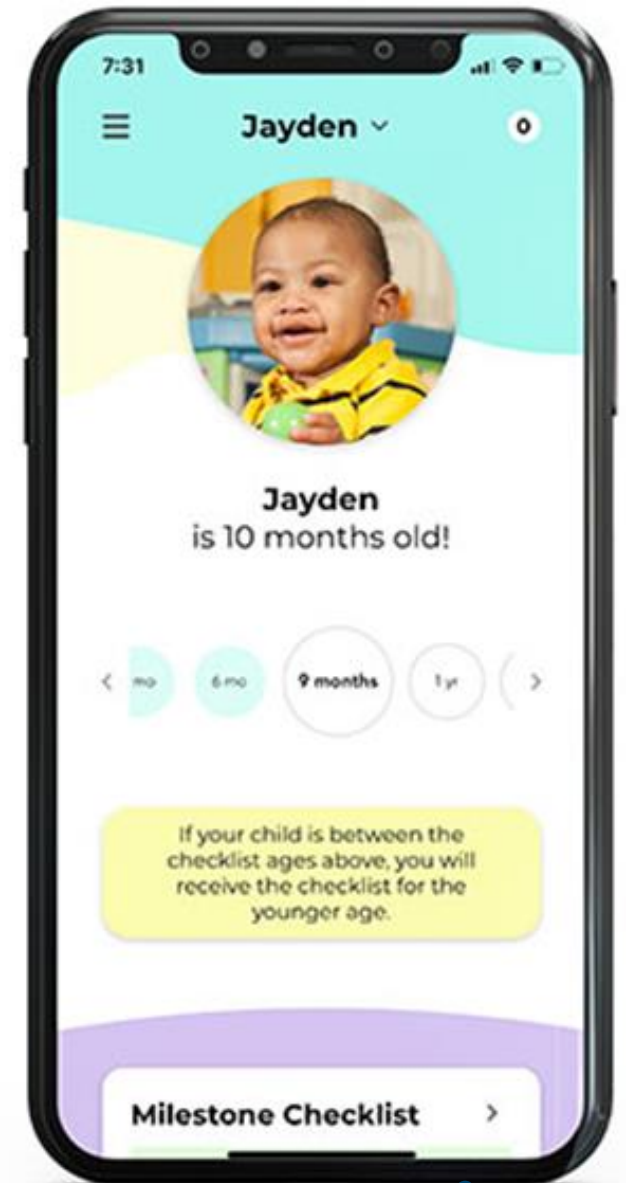
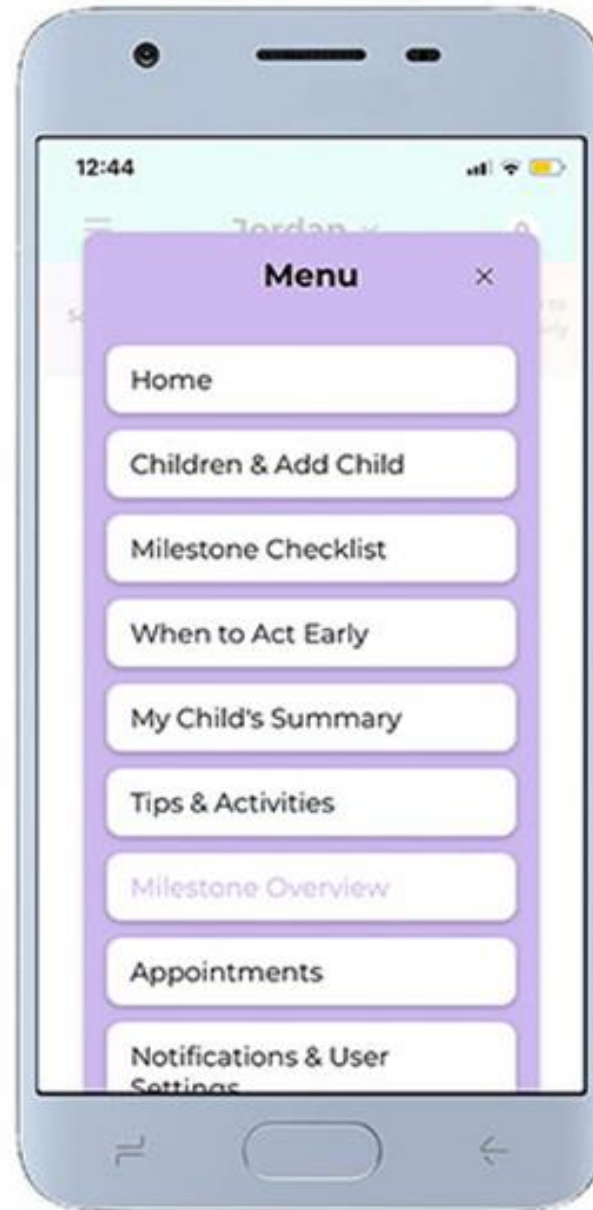
6 Months - Blows "raspberries"



[cdc.gov/Milestones](https://www.cdc.gov/Milestones)



CDC's Milestone Tracker App



ساعدي طفلك على التعلم والنمو

يمكنك مساعدة طفلك على التعلم والنمو. تحدثي معه واقرئي له وغني معه وألعباً سوياً كل يوم. فيما يلي بعض الأنشطة لقضاء وقتٍ ممتع مع طفلك الذي يبلغ ستة أشهر.

طفلك في عمر ستة أشهر

اسم الطفل سن الطفل تاريخ اليوم

إن الطريقة التي يلعب بها طفلك ويتعلم ويتحدث ويتفاعل ويتحرك من خلالها تقدم دلالات هامة عن تطور الطفل. مراحل التطور الأساسية هي الأشياء التي يستطيع معظم الأطفال القيام بها عند عمر معين. تحقق من مراحل التطور الأساسية التي بلغها طفلك بإتمام ستة أشهر. خذي النتائج وتحدثي مع طبيب طفلك في كل زيارة عن مراحل التطور الأساسية التي بلغها طفلك وعمما تتوقعه لاحقاً.

ما يمكنك فعله لطفلك الذي يبلغ من العمر ستة أشهر:

- العبي على الأرض مع طفلك كل يوم.
- تعلمي قراءة مزاج طفلك. إذا كان سعيداً، فاستمري بفعل ما تفعلينه. أما لو كان مستاءً، فخذي بعض الوقت لترجي طفلك.
- علمي طفلك كيف يهدئ نفسه حين يكون مستاءً. قد يمص أصابعه لتهدئة نفسه.
- استخدمي اللعب "التبادلي" — وعندما يتسم، ابتسمي؛ وحين يصدر أصواتاً، قلديه.
- كرري أصوات طفلك وقولي كلمات بسيطة شبيهة بتلك الأصوات. على سبيل المثال، إذا كان طفلك يقول "باه" قولي "بابا" أو "باب".
- اقرئي الكتب لطفلك يومياً. امتدحيه حين يتلثم وكأنه "يقرأ" أيضاً.
- حين ينظر طفلك إلى شيء، أشيري إليه وتحدثي عنه.
- حين تسقط منه لعبة على الأرض، التقطها وأعيدها إليه. حيث إن هذه اللعبة تساعد على فهم فكرة السبب والنتيجة.
- اقرئي كتباً مصورة وملونة لطفلك.
- أشيري إلى أشياء جديدة لطفلك وسميها.
- أعرضي لطفلك صور مبهجة في المجلات وسميها.
- أمسكي بطفلك معتدلاً وهو جالس أو ادعاه بوسادات. دعيه ينظر حوله وناوليه ألعاباً لينظر إليها بينما يتوازن.
- ضعي طفلك على بطنه أو ظهره وضعي أعباءه بعيداً عن متناوله قليلاً. شجعيه على التقلب للوصول إلى الألعاب.

تصرفي في وقت مبكر بالتحدث مع طبيب طفلك إذا كان طفلك:

- لا يحاول الوصول للأشياء التي يمتناوله
- لا يظهر مشاعر مودة لمقدمي الرعاية له
- لا يستجيب للأصوات حوله
- يجد صعوبة في توصيل الأشياء لفمه
- لا يُصدر أصوات حروف المد ("آه"، "إيه"، "أوه")
- لا يتقلب في أي الاتجاهين
- لا يضحك أو يُصدر أصوات عويل
- يبدو متخشياً وعضلاته مشدودة
- يبدو متهدلاً جداً مثل الدمية القماش

أخبري طبيب طفلك أو الممرضة إذا لاحظتي أيًا من هذه العلامات المحتملة الدالة على تأخر تطور الطفل في هذا العمر، و تحدثي مع شخص في مجتمعك على دراية بالخدمات التي تُقدم للأطفال الصغار في منطقتك، مثل برنامج التدخل المبكر العام بالولاية. لمزيد من المعلومات، انتقلي إلى www.cdc.gov/concerned أو اتصلي بـ 1-800-CDC-INFO (1-800-232-4636).

ما يفعله معظم الأطفال الرضع في هذا العمر:

اجتماعياً/عاطفياً

- يعرف الوجوه المألوفة لديه ويبدأ يميز الغرباء
- يحب اللعب مع الآخرين، وخاصة مع الوالدين
- يستجيب لمشاعر الأشخاص الآخرين وعادة ما يبدو سعيداً
- يحب النظر لنفسه في المرآة

اللغة/التواصل

- يستجيب للأصوات بإصدار أصوات
- يصل حروف المد ممًا وهو يُثرثر ("آه"، "إيه"، "أوه") ويحب تبادل الأدوار مع الوالدين أثناء إصدار الأصوات
- يستجيب لمن يناديه باسمه
- يُصدر أصواتاً لإظهار الاستمتاع والاستياء
- يحاول نطق الأحرف الساكنة (نطق غير مفهوم لحرقي "الميم" و"الباء")

النشاط الإدراكي (التعلم والتفكير وحل المشكلات)

- يلقى نظره على الأشياء القريبة منه
- يقرب الأشياء من فمه
- يُظهر الفضول تجاه الأشياء ويحاول الوصول للأشياء البعيدة عن متناوله
- يبدأ بنقل الأشياء من يدٍ لأخرى

التطور الحركي/النمو البدني

- يتقلب في كلا الاتجاهين (من الأمام للخلف ومن الخلف للأمام)
- يبدأ بالجلوس دون دعم
- أثناء وقوفه، يمكنه تحميل وزنه على ساقيه وقد يقفز
- يتأرجح للأمام والخلف، وأحياناً ما يرخف للخلف قبل التحرك للأمام



www.cdc.gov/ActEarly | 1-800-CDC-INFO (1-800-232-4636)

تعلمي الإشارات. تصرفي في وقت مبكر.



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تعلمي الإشارات. تصرفي في وقت مبكر.

Physical examination



Growth parameters

Measure and plot on appropriate World Health Organization (WHO) Growth Chart

- Recumbent length
- Weight
- Head circumference
- Weight for length



A



Head should be aligned with body and gently held in position

Child should be fully supine (flat)

Knees should be pressed down gently

Moveable baseboard

B



Fixed measuring device attached to a wall (stadiometer)

Movable head projection at right angle to board

Head in line with head plate

Horizontal axis of vision

Measurer applies gentle traction beneath the jaw to maintain this position



Head, shoulders, buttocks, and heels in touch with the vertical surface

Hat / hair ornaments removed

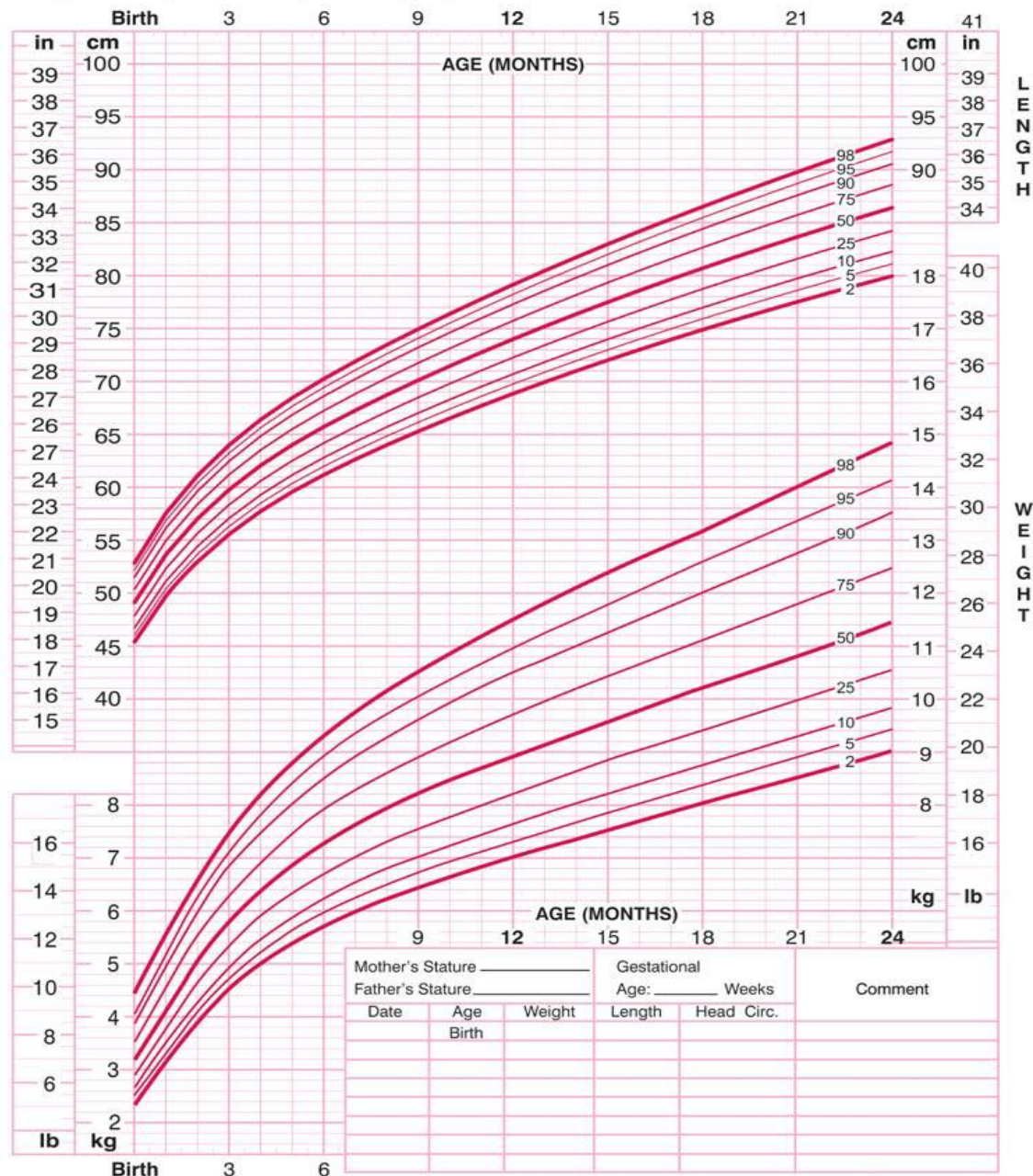
Shoes off, heels together

Birth to 24 months: Girls

Length-for-age and Weight-for-age percentiles

NAME _____

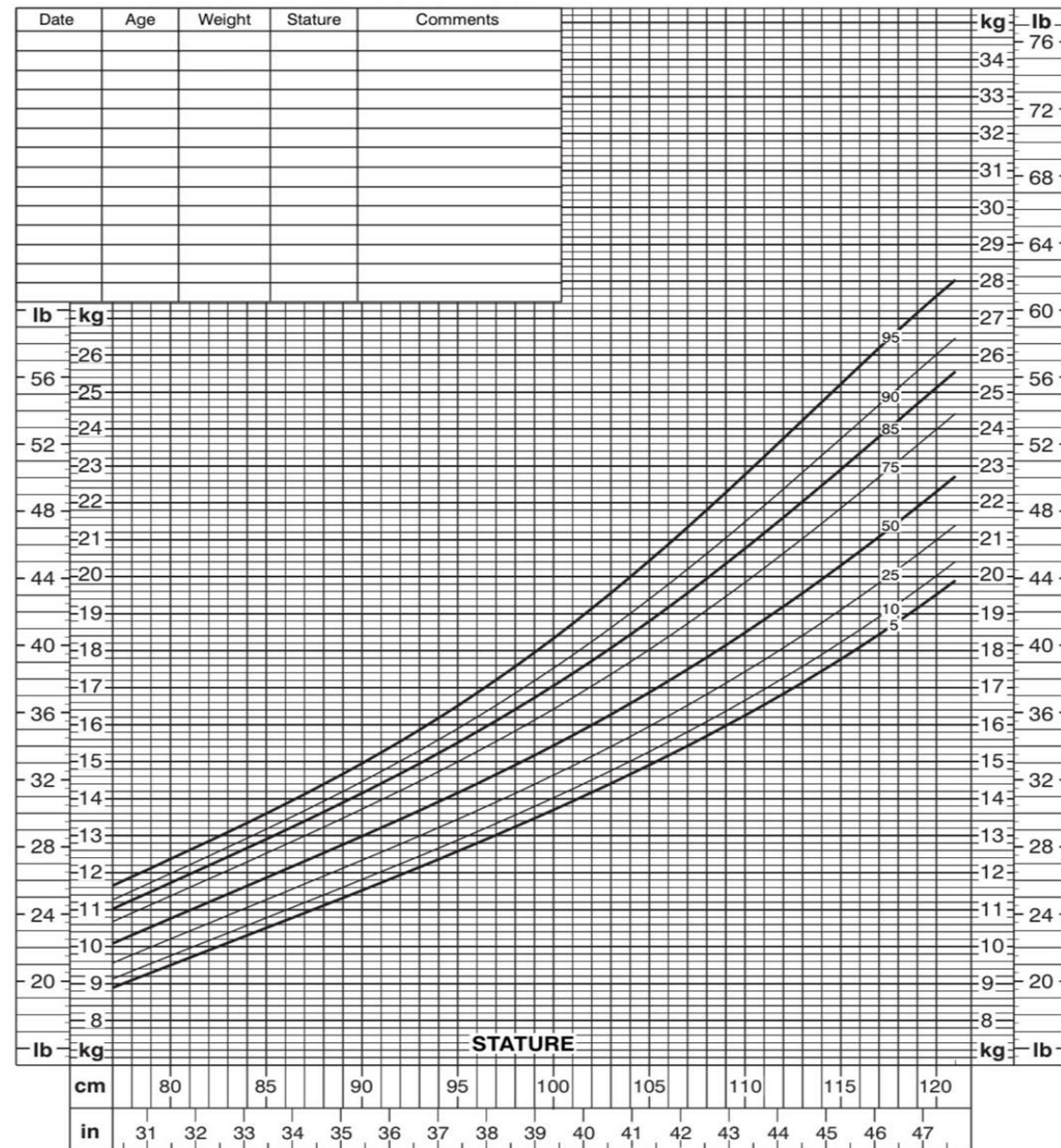
RECORD # _____



Weight-for-stature percentiles: Girls

NAME _____

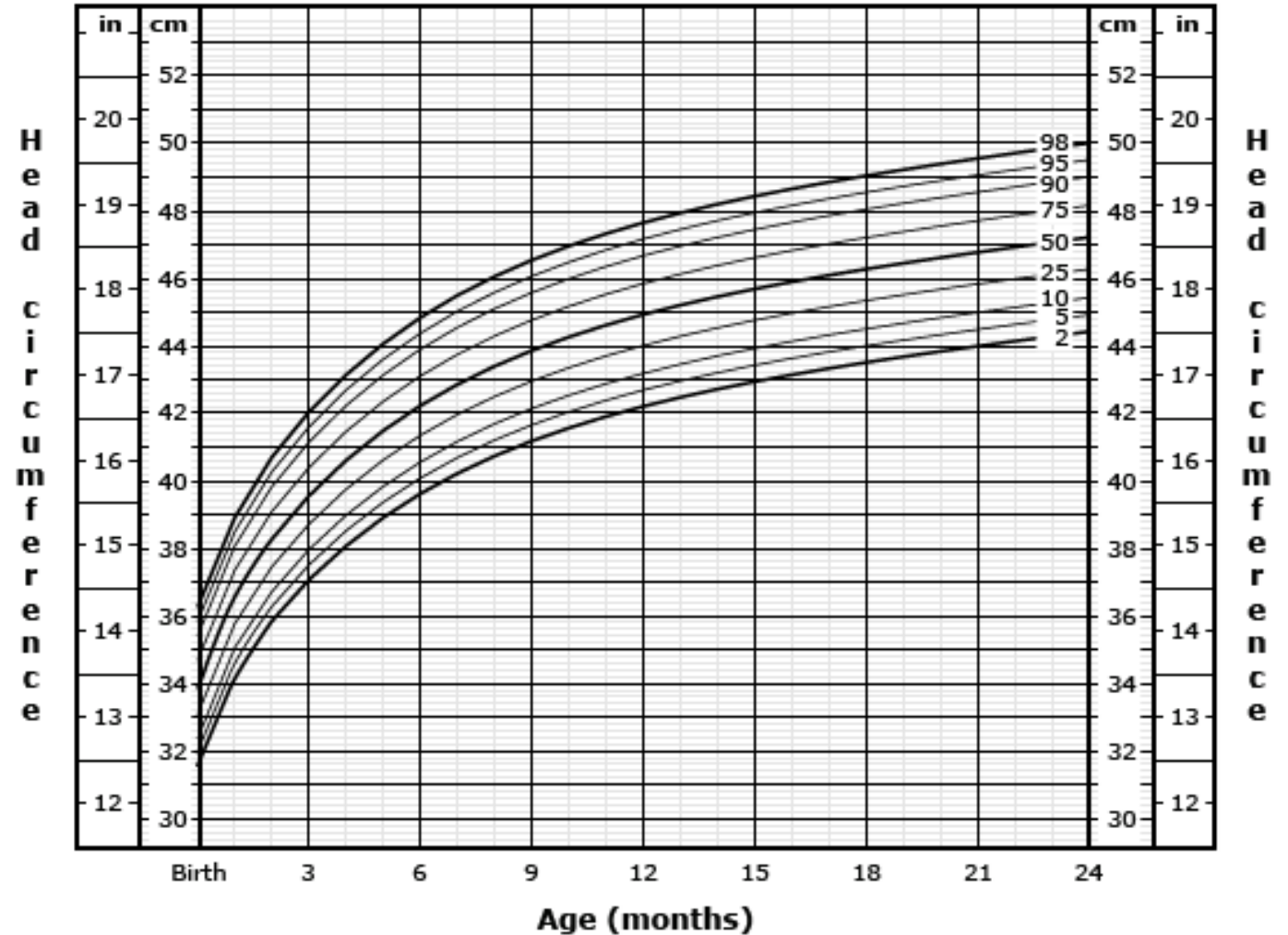
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Head circumference-for-age percentiles, females 0 to 24 months, WHO growth standards



Baby with Typical Head Size



- General observations

Assess alertness and if in any apparent distress.

Observe for congenital anomalies.

- Skin

Note skin lesions or jaundice.

- Head

Observe shape (sutures, molding), size, and fontanelles.

Note evidence of birth trauma.

- Eyes

Inspect eyes and eyelids.

Examine pupils for opacification and red reflexes.

Assess visual acuity using fixate and follow response.



- Ears

Observe shape and position of pinnae, patency of auditory canals, and presence of pits or tags.

- Nose

Observe for patency, septal deviation.

- Oral

Note clefts of lip or palate.

Note presence of natal teeth, Epstein pearls.

- Heart

Auscult rate, rhythm, heart sounds, murmurs.

Palpate femoral pulses.

- Abdomen

Examine umbilical cord and cord vessels.



- Genitalia/rectum

Determine that testes are descended; observe for penile anomalies or labial or vaginal anomalies.

Assess position and patency of anus.

- Musculoskeletal

Note any deformities of the back and spine.

Note any foot or arm/hand abnormalities.

Palpate clavicles for crepitus.



She is at the 50th percentile for length and weight and 75th percentile for head circumference.

Her physical examination is normal.



Screening

Norah Alsomali



02

VISION SCREEN



Types of Pediatric Vision Screening

Subjective Measures	Objective Measures
Above 5 years	Since Birth
Optotypes such as: Letters and shapes	Red reflex Corneal light reflex Cover/uncover test



Visual Acuity Assessment for Various Age Groups

Age	Visual milestone
29 Weeks of gestation	Pupillary reaction
Soon after birth	Blinks at light
2 week	Small saccade develops, follows horizontal moving object
2 months	Fixation well developed, develops bifoveal fixation
3 months	Reaches out for objects
4 months	Sensory fusion and accommodation begins to develop
5 months	Meance reflex blink to visual threat
6 months	Accommodation and fusional vergence well developed, stereopsis begins to develop
9 months	Visual differentiation of objects
2 years	Picture matching
3 years	Picture and letter matching
5 years	Stereopsis well developed

Cover/Uncover Test

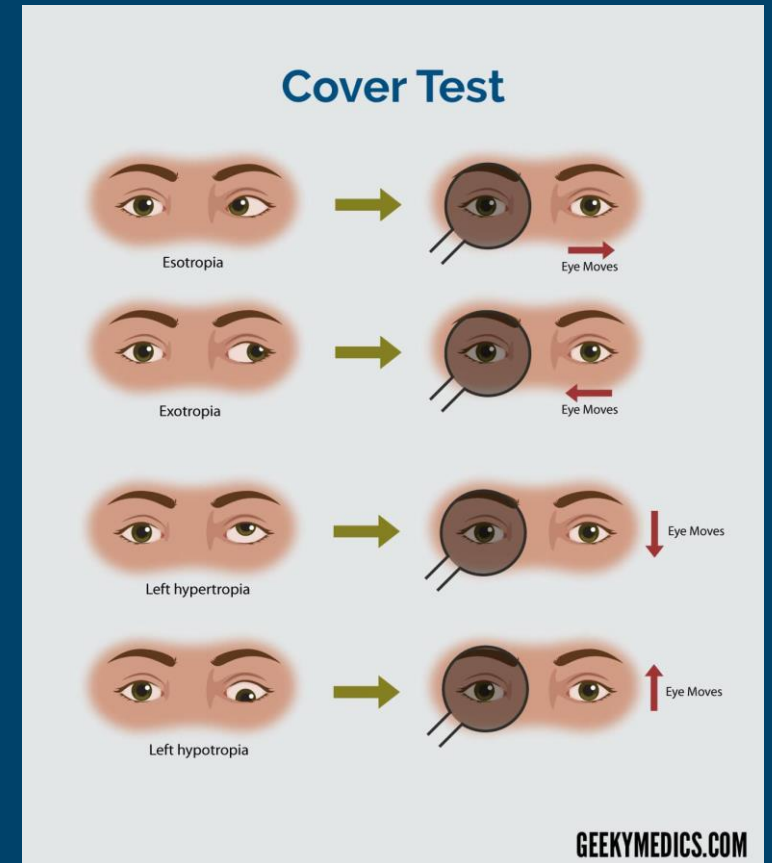


Cover/uncover Test for Amblyopia:

According to U.S. Preventive Services Task Force:

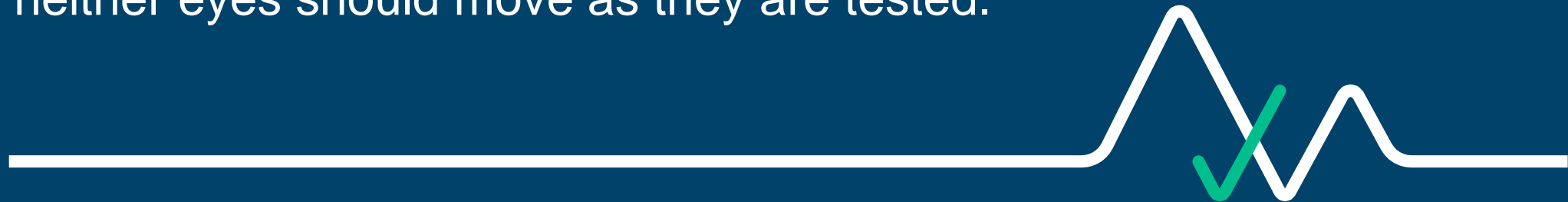
Recommend early detection of amblyopia

Children should have vision screening to detect amblyopia or its risk factors *at least once between 3 and 5 years of age.*



Cover/uncover Test for Amblyopia:

- Accurate test for ocular alignment .
- Testing is done at **3 years of age**, with the patient looking first at a near object and then at a distant object.
- As the patient fixates on the object, one eye is rapidly covered , and the other eye is observed for movement.
- Normally, neither eyes should move as they are tested.

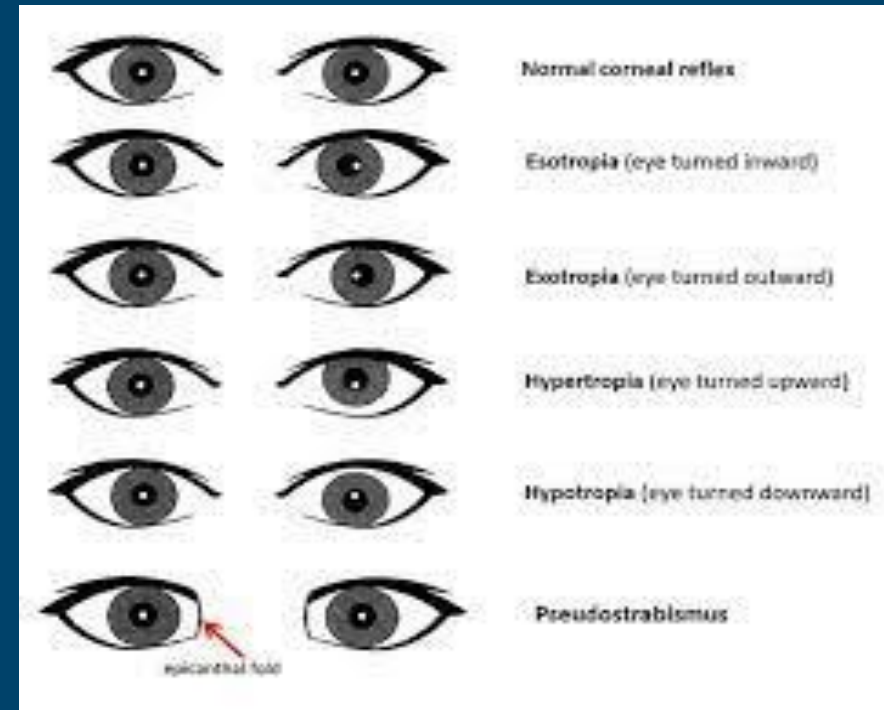


Corneal light reflex for ocular alignment (Hirschberg test):

For testing eye alignment. When a light source is held directly in front of a patient staring straight ahead,

Normal eye alignment will reveal a symmetric reflex in the center of each pupil.

If the light reflex in one eye is:
inward displaced, exotropic.
Outward displaced, esotropic.
Inferior displaced, hypertrophic.



Red Reflex



Red Reflex:

- o Done in darkened room.
- o Direct ophthalmoscope
- o **Equal and bright red reflex** from each pupil should be seen.
- o Any difference between the eyes, an absence of the red reflex, or an abnormal color may indicate a serious illness(leukocoria).



Case

2 months baby girl with normal growth parameters, She is Breast feeding
Came to well baby clinic for 2 months old vaccine.
General examination is unremarkable

Except During eye exam:
Absent red reflex was noticed



Case



Case

What is the provisional diagnosis?

A) Glaucoma

B) Retinoblastoma

C) Congenital cataract

D) Retinal abnormalities



Case

What is the provisional diagnosis?

A) Glaucoma

B) **Retinoblastoma**

C) Congenital cataract

D) Retinal abnormalities



Hearing Screening



Hearing Screening:

- Evaluate gross hearing by observing an infant's response to sound; a startle response, eye blinking, and turning toward the sound is a normal reaction.
- For older children, whisper testing can be used.
- Refer a child at 3 years of age for standardized audiometric testing to ENT.





MAY I HAVE YOUR ATTENTION PLEASE.



Do we need to screen for anemia?





When Do we Screen For Anemia?



IF YOU HAVE A PATIENT EXCLUSIVELY BREASTFED WHEN DO YOU SCREEN FOR ANEMIA IN THIS PATIENT?



Iron Deficiency Anemia:

AAP recommends screening for anemia:

- 9 to 12 months
- 1 and 5 years for patients at risk.

Screening in high risk groups should be performed:

(Premature or low birth weight)

- At birth
- & again at 4 months of age



Risk Factors for Anemia:

- Prematurity
 - Low birth weight
 - Use of non-iron-fortified formula
- or introduction to cow's milk in the first year of life.
- Exclusive breastfeeding without regular intake of iron-fortified food after age 6 months.



Table 1. Screening for Iron Deficiency Anemia in Young Children: Clinical Summary of the USPSTF Recommendation

Population	Asymptomatic U.S. children ages 6 to 24 months
Recommendation	No recommendation Grade: I statement (insufficient evidence)
Risk assessment	No studies assessed the performance of risk assessment tools to identify children who are at increased risk for iron deficiency anemia.
Screening tests	Although the evidence is insufficient to recommend specific tests for screening, measurement of serum hemoglobin or hematocrit is often the first step.
Treatment and interventions	Iron deficiency anemia in children is usually treated with oral iron; the usual dose in infants and young children is 3 to 6 mg/kg of elemental iron per day in 2 to 3 divided doses.
Balance of benefits and harms	The current evidence is insufficient to assess the balance of benefits and harms of screening for iron deficiency anemia in young children.
Other relevant USPSTF recommendations	The USPSTF addresses screening for iron deficiency anemia in pregnant women and iron supplementation during pregnancy in a separate recommendation statement (available at http://www.uspreventiveservicestaskforce.org).

Sickle cell anemia :

- According to USPSTF ,all newborn must undergo screening for SCA at birth.
- Measurement of serum hemoglobin or hematocrit is often the first step.
- The first physician to see the infant at an office visit should verify screening results.



Laboratory Tests:

- ABO/RH (at birth)
- PKU Test (at birth)
- TFT (at birth)
- CBC (at birth, 1 y)
- Sickling test (9 months)



What is the dose of iron?



Iron Supplement:

The AAP recommends that full-term, exclusively breastfed infants start:

- **1 mg/ kg/day** of elemental iron **at 4 months** of age
- Until appropriate iron-containing foods are introduced.
- Elemental iron can be divided 2 to 3 doses.

- Formula-fed infants often receive adequate amounts of iron (average formula contains 10 to 12 mg per L of iron)
- and thus rarely require further supplementation.



MCQ:

A 7 month old boy, brought by his mother as he looks pale.
Patient is vitally stable, he is active with no recent hx of decrease activity.

Weight 8.5, height 70 cm

Labs:(CBC):

WBC= 6,100

Hgb= 8.2 g/dL, Hct= 19.8%, Platelet count 589,000, MCV 68 fL, RDW 21%.

Reticulocyte count is 1.8%. The lab reports microcytosis, hypochromia.

Diagnosis of iron deficiency anemia is established



MCQ:

Iron supplementation is recommended to be given which one of the following is the appropriate dose for this patient ?

A-8.5 mg TID

B-12.75 mg BID

C-3.78 mg OD

D-11 mg OD



MCQ:

Iron supplementation is recommended to be given which one of the following is the appropriate dose for this patient ?

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B- 12.75 mg BID

C- 3.78 mg OD

D- 11 mg OD



Iron dose:

Prophylactic:

1 mg/kg/d

Treatment:

3 -6 mg/kg/d

All can be divided into two or three doses.





BIG ROUND OF APPLAUSE TO YOU ALL!!!

Don't forget to

Smile



Smile forever. Inspiration everywhere

Health Education
Salwa Abbas



03

Health Education

- Safety
- Breast feeding
- Bowel movement
- Dental care
- Sleep
- Sun exposure and vitamin D
- Weaning



Safety :

car seat (vary by state)

1. **Backward facing until 2 years & 20 lb (9 kg).**
2. **Forward facing until 4 years or 40 lb (18 kg) .**
3. **Booster seat until 8 years or 60-80 lb (27 kg -36 kg) .**



Bowel Movements ?!



Breast feeding and bowel movement :

A 4-month-old boy came to WBC with his mother.

He was born at full term, and the delivery was uncomplicated.

Mother worried about his bowel movement , he has been breastfed since birth, mother now changes his diet to bottle feeding, the baby defecates

1-2 times a day,

instead of having 8 to 17 bowel movements per day.



Bowel movement:

Breastfed infants have a bowel movement after each feeding

Formula fed infants have two to three bowel movements per day

By 2 years of age , a child has one to two bowel movement per day



Breast feeding :

Benefits for the mother

Stimulates uterine contractions and prevents from bleeding after delivery

Help the mother to lose weight

Stimulates the production of Prolactin that helps the mother feel calm and relaxed

Plays a role in lowering a mother's risk of breast cancer or uterine cancer

Benefits for the baby

Help strengthening the baby's immunity and ability to fight infections

Lowers the baby's risk of many health issues related to colic, gas, diarrhea and constipation

Lowers the baby's risk of ear infection, diabetes and other illnesses

Reduce the baby's risk of Sudden Infant Death Syndrome



Dental Care Advices



Dental Care :

- Time of tooth eruption **at 4 months** of age .
- The first dental visit is recommended by **12 months of age.**
- Fluoride supplement (if needed).
Starting at 6 months of age.



Sleep Advices





Sleep :

- Infant should sleep on **their backs** on a **firm mattress** for the first year of life.
- Breastfeeding , pacifier use , and room sharing without bed sharing protect against SIDS .



How baby can get vitamin D?



Sun exposure :

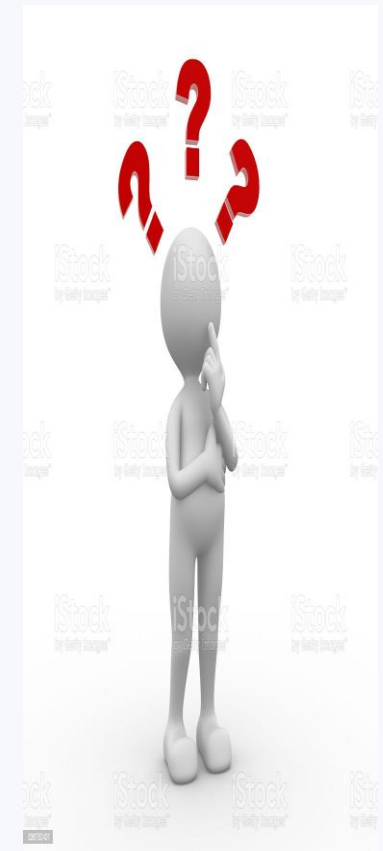
- 5-30 minute of sun exposure between 10 am and 3 pm .
- Twice a week .
- Face , arms , legs or back without sunscreen .



Case :

An exclusively breastfed **2 months old** boy came to well baby clinic for routine examination , he was born at term and delivery was uncomplicated, examination show no abnormalities , without receiving any supplementation since birth , this infant is at greatest risk of developing which of following condition ?

- A. Microcytic anemia
- B. Peripheral neuropathy
- C. Rickets
- D. Intracranial bleed



Case :

An exclusively breastfed **2 months old** boy came to well baby clinic for routine examination , he was born at term and delivery was uncomplicated, examination show no abnormalities , without receiving any supplementation since birth , this infant is at greatest risk of developing which of following condition ?

- A. Microcytic anemia
- B. Peripheral neuropathy
- C. Rickets**
- D. Intracranial bleed





Complementary Feeding



Complementary Feeding

Q : Can I start giving food other than milk at 4 months ?

A : You Should **Never** start **before 6** months of age

Q : Why ?

A : Increase risk of **atopic disease** and **childhood obesity**.

Q: Some Advices



- Reducing **one breastfeeding session** every 3 to 5 days.
- Gradually** start introducing foods and alternative foods.
- Choose a **specific type** of food and avoid mixing more than one type.
- You can introduce all foods for a child under one year old **except** for Juice , honey, yogurt and cows milk .
- You can introduce chicken or meat after the child **can sit on his own** without help, usually at 8 or 9 months.



Immunization

Dareen Qattan

04



Classification of vaccines



Live attenuated

- These viruses and bacteria are weakened
- Usually do not cause diseases
- It may not provide immunity with the first dose, two or **more doses are needed**
- **Contraindicated** in **immunocompromised** patients



Inactivated

- Not live and cannot replicate
- Cannot cause the disease
- Antibody levels against inactivated vaccines decline with time, some inactivated vaccines **may require a booster doses**



Recombinant

- Created by **genetic engineering**
- It produces immunity but doesn't cause infection



All **viral vaccines**
are **live attenuated**
except **HI HI**



- **H**epatitis B
- **I**nactive polio
- **H**epatitis A
- **I**nactive influenza

All **bacterial vaccines**
are **inactivated**
except **TB**

- **T**yphoid
- **B**CG



General Rules for Vaccination

Specific Situations

Considerations



General rules

- Administer recommended vaccines if immunization **history is incomplete or unknown**
- When a **vaccine is not administered** at the recommended age, administer at a subsequent visit
- **Prophylactic antipyretics** are **not recommended** by WHO or Advisory Committee on Immunization Practices (ACIP)



Vaccination in special situations



Preterm infants

- Should be vaccinated at the **same interval as term babies**, irrespective of their chronological age



Pregnancy

- **Toxoids, inactivated vaccines:** No risk
- **Live vaccines:** Women should avoid getting pregnant for 4 weeks after receiving



Breastfeeding

- **Smallpox** vaccine is **contraindicated**
- **Yellow fever** vaccine should be **avoided**



Considerations

- Mild febrile illness or mild dehydration are **not contraindications** for vaccines
- **Antibiotics does not interfere** with efficacy of vaccine and children can take the vaccine
- Inhaled, topical, and oral **steroid** (for <2 weeks) are **not contraindication** for live vaccines



Considerations

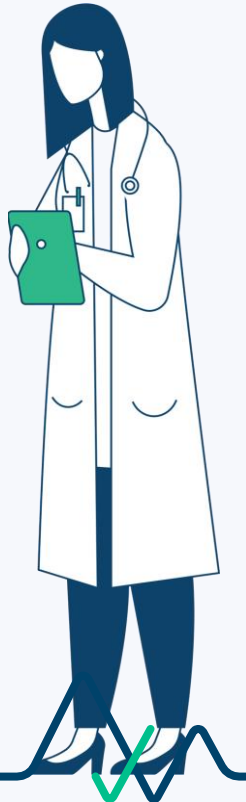
- Oral polio and BCG are **absolutely contraindicated** in HIV patients
- Oral polio is **contraindicated** if there is an **immunocompromised family member**
- Children on **chemotherapy** should receive vaccines 2 weeks before chemo, or 6 months after



4 month old boy, came to take the usual vaccination.

While asking the mother, his father is taking chemotherapy for cancer

What advice can be given?



What advice can be given?



No oral polio

Give injectable polio
as scheduled



Other vaccines
can be given



Is there any side effect from the vaccine?

Any contraindication?



Side effects of vaccines



Pain, swelling, or redness
at the site of injection



Fatigue



Mild fever



Headache



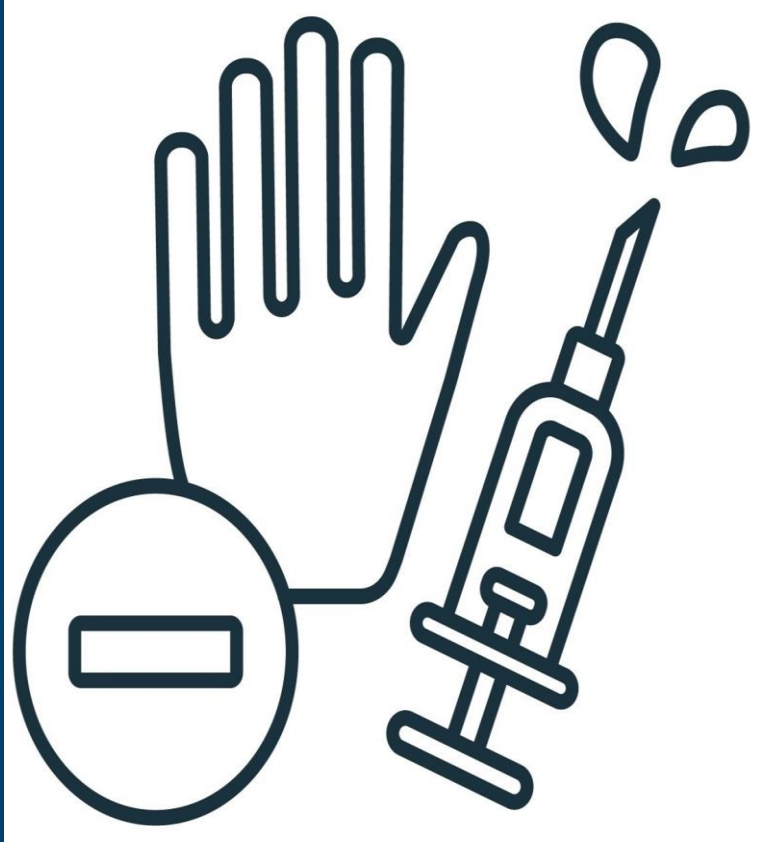
Chills



Muscle and joint aches



Contraindications to vaccination



Severe allergic reaction

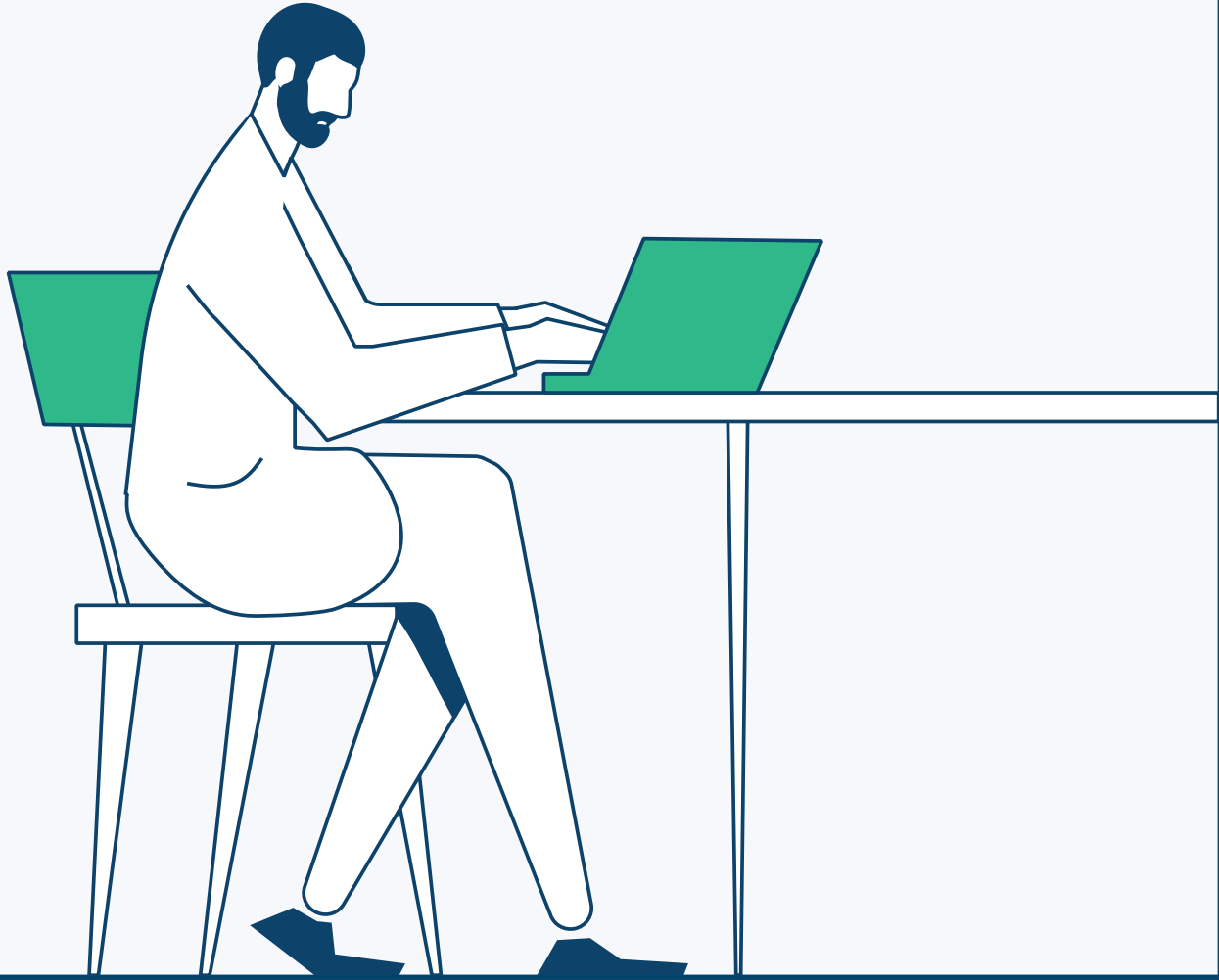


Anaphylaxis to vaccines or their components



Moderate to severe illness with or without fever





Preparation for vaccination



○ Before

- Is the child **sick** today? Or has any **health problem**?
- Does the child have an **allergy** to any medications, food, or any vaccine?
- Has the child had a serious **reaction** to a vaccine in the past?
- Has the child had a **seizure**, brain or nerve problem?



**Preparation
for
vaccination**



○ Before

- Does the child have **cancer**, leukemia, AIDS, or any other immune system **problem**?
- Has the child taken **cortisone**, prednisone, other steroids, or anticancer drugs, or radiotherapy in the past 3 months?
- Has the child received a **transfusion** of blood or blood products, or been given an immune (gamma) globulin in the past 3 months?
- Has the child received **vaccinations** in the past 4 weeks?

**Preparation
for
vaccination**



○ During

- **Relax:** Children interact to their parents' emotions
- **Affection:** Hold the child and speak to him during the administration
- **Breastfeeding:** Before, during or after vaccination helps to stay comfortable
- **Distraction:** A sweet voice or a calming touch, favorite toy or a story



**Preparation
for
vaccination**



What is your advice post-vaccine?



○ After

- Regularly move the arm or leg where the injection is taken
- Loss of appetite or trouble sleeping don't need treatment and disappear within 1 or 2 days
- Paracetamol drugs may be used if a fever is detected
- **Red flags:** side effects are severe, seizure with fever
- Schedule the next appointment



**Preparation
for
vaccination**



National Immunization Schedule

عند الولادة Birth	عمر شهرين 2 months	عمر ٤ شهور 4 months	عمر ٦ شهور 6 months
			• BCG • السل
• HepB • الكبدى ب	• HepB • الكبدى ب	• HepB • الكبدى ب	• HepB • الكبدى ب
	• RV • فيروس الروتا	• RV • فيروس الروتا	• RV • فيروس الروتا
	• DTaP • الثلاثى البكتيرى	• DTaP • الثلاثى البكتيرى	• DTaP • الثلاثى البكتيرى
	• Hib • المستديمة النزلية	• Hib • المستديمة النزلية	• Hib • المستديمة النزلية
	• PCV • العقديه الرئوية المدمج	• PCV • العقديه الرئوية المدمج	• PCV • العقديه الرئوية المدمج
	• IPV • شلل أطفال معطل	• IPV • شلل أطفال معطل	• IPV • شلل أطفال معطل
			• OPV • شلل الأطفال الغموى
			Influenza



National Immunization Schedule

9 months عمر ٩ شهور	12 months عمر ١٢ شهر	18 months عمر ١٨ شهر	24 months عمر ٢٤ شهر
		• الثلاثي البكتيري DTaP	
		• Hib المستديمة النزلية	
	• PCV العقديه الرئوية المدمج		
	• OPV شلل الأطفال الغموي	• OPV شلل الأطفال الغموي	
• Measels الحصبة المفردة			
• MCV4 الحمي الشوكية الرباعي المدمج	• MCV4 الحمي الشوكية الرباعي المدمج		
		• HepA الكبدى أ	• HepA الكبدى أ
		• Varicella الجديري المائى	
	• MMR الثلاثي الفيروسي	• MMR الثلاثي الفيروسي	
Influenza			



National Immunization Schedule

4-6 years عمر ٦-٤ سنوات	11 years عمر ١١ سنة	12 years عمر ١٢ سنة	18 years عمر ١٨ سنة
	• Tdap الثلاثي البكتيري		
• DTaP الثلاثي البكتيري			
• OPV شلل الأطفال الغموي			
			• MCV4 الحمي الشوكية الرباعي المدمج
• Varicella الجديري المائي			
	• فيروس الورم الحليمي* HPV	• فيروس الورم الحليمي* HPV	
• MMR الثلاثي الفيروسي			
Influenza			



National Catch up Vaccination Schedule

Vaccine	Minimum Age for Dose 1*	Minimum Interval Between Doses**			
		Dose 1 to Dose 2	Dose 2 to Dose 3	Dose 3 to Dose 4	Dose 4 to Dose 5
Hepatitis B	Birth	4 weeks	8 weeks and at least 16 weeks after first dose. Minimum age for the final dose is 24 weeks.		
Rotavirus	6 weeks Maximum age for first dose is 15 weeks	4 weeks	4 weeks Maximum age for final dose is 6 months for Rotarix, 8 months for Rotateq, 12 months for Rotasil.		



National Catch up Vaccination Schedule

Vaccine	Minimum Age for Dose 1*	Minimum Interval Between Doses**			
		Dose 1 to Dose 2	Dose 2 to Dose 3	Dose 3 to Dose 4	Dose 4 to Dose 5
Diphtheria, tetanus, and acellular pertussis	6 weeks	4 weeks	4 weeks	6 months	6 months
<i>Haemophilus influenzae</i> type b	6 weeks	4 weeks	4 weeks	8 weeks (as final dose) This dose only necessary for children age 12 through 59 months who received 3 doses before the 1 st birthday.	



National Catch up Vaccination Schedule

Vaccine	Minimum Age for Dose 1*	Minimum Interval Between Doses**			
		Dose 1 to Dose 2	Dose 2 to Dose 3	Dose 3 to Dose 4	Dose 4 to Dose 5
Pneumococcal conjugate	6 weeks	<p>No further doses needed for healthy children if first dose was administered at age 24 months or older.</p> <p>4 weeks if first dose administered before the 1st birthday.</p> <p>8 weeks (as final dose for healthy children) if first dose was administered at the 1st birthday or after.</p>	<p>No further doses needed for healthy children if previous dose administered at age 24 months or older.</p> <p>4 weeks if current age is younger than 12 months and previous dose given at <7 months old.</p> <p>8 weeks (as final dose for healthy children) if previous dose given between 7-11 months (wait until at least 12 months old);</p> <p>OR</p> <p>if current age is 12 months or older and at least 1 dose was given before age 12 months.</p>	<p>8 weeks (as final dose)</p> <p>This dose only necessary for children age 12 through 59 months who received 3 doses before age 12 months or for children at high risk who received 3 doses at any age.</p>	



National Catch up Vaccination Schedule

Vaccine	Minimum Age for Dose 1*	Minimum Interval Between Doses**			
		Dose 1 to Dose 2	Dose 2 to Dose 3	Dose 3 to Dose 4	Dose 4 to Dose 5
Inactivated poliovirus	6 weeks	4 weeks	4 weeks if current age is <4 years. 6 months (as final dose) if current age is 4 years or older.	6 months (minimum age 4 years for final dose).	
BCG	6 – 12 months	After 12 months is given to high risk group according to NTBCP			
Measles Monovalent	9 months	At 11 months of age			



National Catch up Vaccination Schedule

Vaccine	Minimum Age for Dose 1*	Minimum Interval Between Doses**			
		Dose 1 to Dose 2	Dose 2 to Dose 3	Dose 3 to Dose 4	Dose 4 to Dose 5
Measles, mumps, rubella	12 months	4 weeks			
Varicella	12 months	<ul style="list-style-type: none"> • 3 months (till 13 years old) • One month (after 13 years old) 			
Hepatitis A	12 months	6 months			
Meningococcal ACWY	9 months MenACWY-D	3 months	At 18 years old	Whenever needed with 5 years interval	



Catch up Vaccination Summary

Vaccine	Doses	Interval
HBV	3	0-1-6 months
Rota	3	1 month
DTaP	5	1 month, 1 month, 6 months, 6 months
HiB	4	1 month, 1 month, 2 months
PCV	4	1 month, 1 month, 2 months
IPV	4	1 month, 1 month, 6 months



Catch up Vaccination Summary

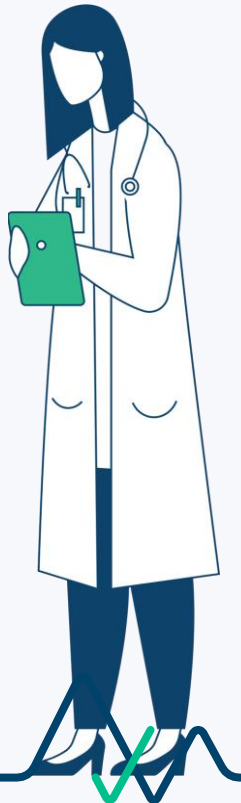
Vaccine	Doses	Interval
BCG	1	-
Measles	2	2 months
MMR	2	1 month
Varicella	2	3 months
MCV	2	3 months
HepA	2	6 Months



**Mother came to your clinic with 2 kids:
2 years old girl, 7 years old boy**

**Both of them did not receive their scheduled vaccination,
EXCEPT for their birth vaccine only**

**What are important points to be considered in there
vaccination catch up?**



What are important points to be considered in there vaccination catch up?

Try to decrease number of visits
(make visits all at the same time)

No more than 4 injections per visit

Put 2 live attenuated vaccine in same time
(not more than 2)



Do not give

2 years old girl

- Rota
- BCG



7 years old boy

- DTaP: dose 5
- HiB
- PCV
- IPV
- Rota
- BCG



Do not give

- DTaP: dose 5

Dose 5 is not necessary if dose 4 was administered at **age 4 years or older**

- HiB

Unvaccinated children **age 5 years or older** who are not considered high risk do not require catch-up vaccination

- PCV

Unvaccinated children **age 5 years or older** who are not considered high risk do not require catch-up vaccination



Do not give

- IPV

Minimum age for final dose is **4 years**

- Rota

Do not start the series on or after **age 15 weeks**

- BCG:

After **12 months** is given to high risk group



Give

2 years old girl

- DTaP: 5 dose
- IPV: 4 doses
- HepA: 2 doses
- HepB: 2 doses
- MMR: 2 doses
- MCV: 2 doses
- Varicella: 2 doses
- PCV: 1 dose
- HiB: 1 dose



7 years old boy

- DTaP: 4 doses
- HepA: 2 doses
- HepB: 2 doses
- MMR: 2 doses
- MCV: 2 doses
- Varicella: 2 doses



Patients' Catch up Vaccination Schedule

Visit	2 years old girl	7 years old boy
1st (today)	DTaP/IPV/HepB/HiB (1st) HepA (1st)/Varicella (1st)	DTaP/IPV/HepB/ (1st) HepA (1st)/Varicella (1st)
2nd (4 wk)	DTaP/IPV/HepB (2nd) MMR-PCV-MCV (1st)	DTaP/IPV/HepB (2nd) MMR-MCV (1st)
3rd (4 wk)	DTaP/IPV (3rd) MMR (2nd)	DTaP/IPV (3rd) MMR (2nd)
4th (3-4 m)	DTaP/IPV (4th) Varicella-MCV- (2nd)	DTaP/IPV (4th) Varicella-MCV-HepA (2nd)
5th (3 m)	DTaP/IPV (5th) HepA (2nd)	

THANK
YOU.



School health program

15/2/2023

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a

الهيئة السعودية للتخصصات الصحية
Saudi Commission for Health Specialties



What is school health Program?

school health program is an organised set of activities and investigations designed to discover early disorders and promote the health and well-being of students.

What are the components of a school health program?

- Clinical detailed history
- Routine child vaccinations
- Screening for multiples common childhood disorders like Dental health , obesity and depression
- Health Education



Case

A 4-year-old male has a BMI of 17.5 kg/m², which places him between the 90th and 95th percentiles for BMI.

According to the CDC, he should be classified as being

- A) at a healthy weight
- B) overweight
- C) obese
- D) morbidly obese

01



Childhood obesity



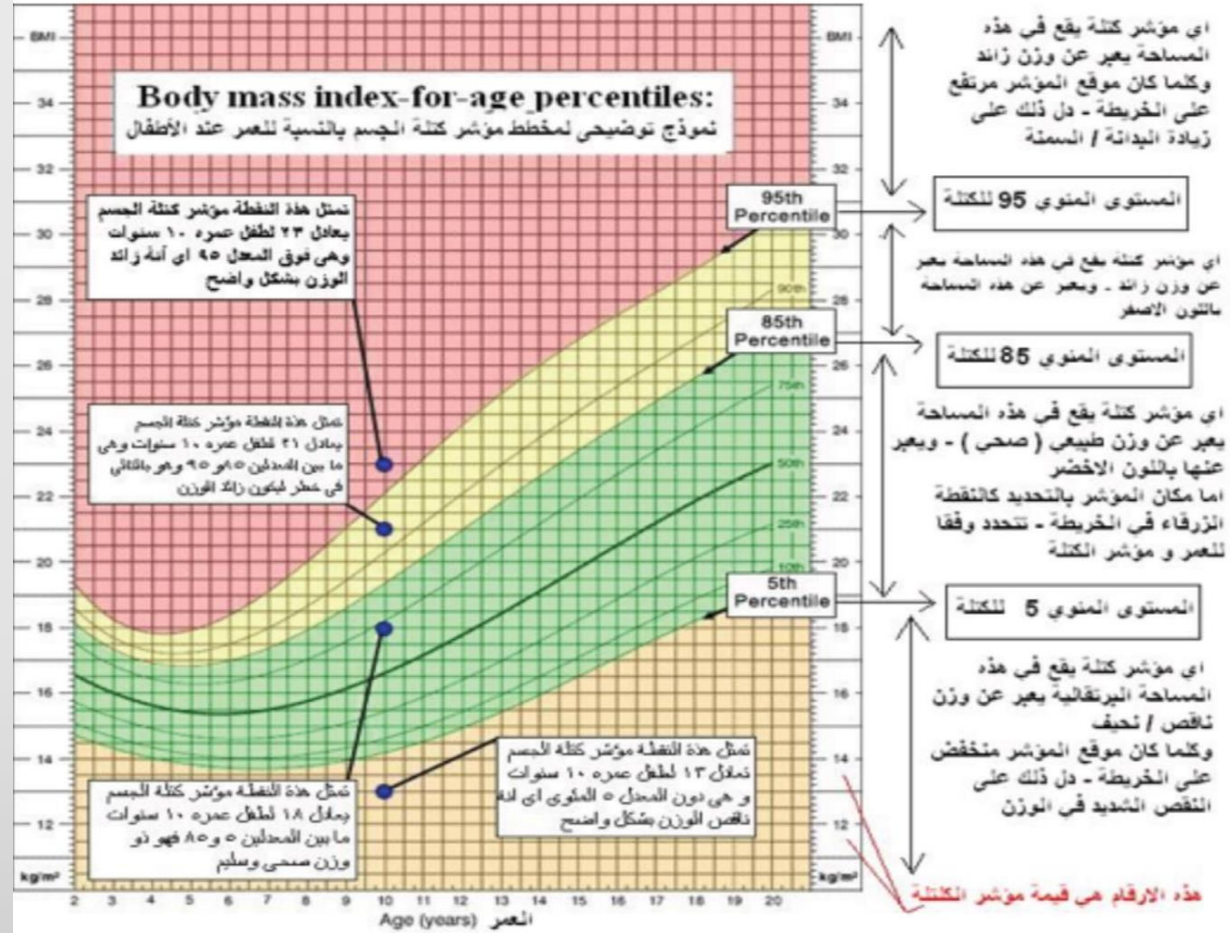
Definition :

- Obesity is defined as an age and sex-specific BMI in the 95th percentile or greater.
- The USPSTF found that age and sex-adjusted BMI percentile is the accepted measure for detecting overweight or obesity in children and adolescents .
- BMI percentile is plotted on growth charts, such as those developed by the CDC .

Weight Status Category	BMI Range
Underweight	Less than the 5 th percentile
Healthy Weight	5 th percentile to less than the 85 th percentile
Overweight	85 th percentile to less than the 95 th percentile
Obesity	95 th percentile or greater
Severe Obesity	120% of the 95 th percentile or greater OR 35 kg/m ² or greater



نموذج توضيحي لمخطط مؤشر كتلة الجسم بالنسبة للعمر عند الأطفال



إذا كان المؤشر في المنطقة البيج	دون الوزن الطبيعي أو نحافة
إذا كان المؤشر في المنطقة الخضراء	وزن طبيعي
إذا كان المؤشر في المنطقة الصفراء	زيادة الوزن
إذا كان المؤشر في المنطقة الحمراء	سمنة



Obese children are at risk of developing which of the following medical problems ?

- A) Non alcoholic fatty liver disease
- B) Chronic obstructive airway disease
- C) Insulin dependent diabetes
- D) Prolapse intervertebral disc
- E) All of the above



Screening for childhood obesity :

- The USPSTF found adequate evidence that screening and intensive behavioural interventions for obesity in children and adolescents 6 years and older can lead to improvements in weight status.
- Obesity in children and adolescents is associated with multiples serious morbidities such as HTN, DM , depression and low self steam .



Pathological causes of obesity include ALL of the following EXCEPT :

- A) Growth hormone deficiency
- B) Prader willi syndrome
- C) Hyperthyroidism
- D) cushing syndrome
- E) Hypopituitaries



Causes :

➤ Only a small percentage of childhood obesity is associated with a hormonal or genetic defect, with the remainder being idiopathic in nature.



Hormonal causes

Hypothyroidism

Hypercortisolism

Primary hyperinsulinism

Pseudohypoparathyroidism

Acquired hypothalamic

Genetic syndromes

Prader-Willi

Laurence-Moon/Bardet-Biedl

Alström

Börjeson-Forssman-Lehmann

Cohen

Turner's

Familial lipodystrophy

Diagnostic clues

Increased TSH, decreased thyroxine (T₄) levels

Abnormal dexamethasone suppression test; increased 24-hour free urinary cortisol level

Increased plasma insulin, increased C-peptide levels

Hypocalcemia, hyperphosphatemia, increased PTH level

Presence of hypothalamic tumor, infection, syndrome trauma, vascular lesion

Associated characteristics

Obesity, insatiable appetite, mental retardation, hypogonadism, strabismus

Obesity, mental retardation, pigmentary retinopathy, hypogonadism, spastic paraplegia

Obesity, retinitis pigmentosa, deafness, diabetes mellitus

Obesity, mental retardation, hypogonadism, hypometabolism, epilepsy

Truncal obesity, mental retardation, hypotonia, hypogonadism

Short stature, undifferentiated gonads, cardiac abnormalities, webbed neck, obesity, 45, X genotype

Muscular hypertrophy, acromegalic appearance, liver enlargement, acanthosis nigricans, insulin resistance, hypertriglyceridemia, mental retardation



In the clinic check the Following :



- Look for any existing complications :
 - Cardiac disease and cardiac risks
 - Assess physical activity
 - Look for any existing psychiatric problem
 - Examine for orthopaedic or skin symptoms and signs



- Common labs :
 - Lipid profile
 - A1c and FPG
 - TSH
 - Liver profile

The management of childhood obesity includes ALL of the Following EXCEPT :

- A) Dietary changes
- B) Physical activity
- C) Behaviours modification
- D) Family involvement
- E) Bariatric surgery





Management

○ Non-pharmacological:

- Behavioural tips.
- Diet .
- Physical activity , goal of 20 to 30 minutes per day (in addition to any school activity).

○ Pharmacological:

- At this time no anorexiants are approved by the U.S. Food and Drug Administration for use in children.
- Orlistat is approved by the U.S. Food and Drug Administration for use in adolescents 12 years and older also has a small effect on weight (BMI reduction < 1).

○ Bariatric surgeries:

- have not been studied sufficiently in children to advise their use.





- The USPSTF found that comprehensive, intensive behavioural interventions with a total of 26 contact hours or more over a period of 2 to 12 months resulted in weight loss
- It is consisted of multiple components and included sessions targeting both the parent and child
- provided information about healthy eating, safe exercising, and reading food labels, stimulus control , goal setting, self-monitoring, contingent rewards, and problem solving; and included supervised physical activity sessions.
- These types of interventions need multidisciplinary teams



HPV Vaccine



A 14-year-old male sees you for a well child examination. He had one dose of HPV vaccine at his last well child examination 1 year ago.

Which one of the following is true regarding HPV vaccine for this patient?

- A) He does not require additional HPV vaccine
- B) He should receive one dose of the vaccine now and no additional HPV vaccine in the future
- C) He should receive the vaccine now and again in 4 months
- D) He should receive the vaccine now and again in 6 months
- E) He should receive the vaccine now, in 2 months, and in 4 months



HPV vaccine

- The 9-valent HPV vaccine protects against HPV types 16 and 18, which cause about 66% of cervical cancers.
- It also protects against HPV 6 and 11, which cause most anogenital warts
- HPV vaccine is recommended for routine vaccination at age 11 or 12 years. (Vaccination can be started at age 9.)
- Also recommended for everyone through age 26 years if not adequately vaccinated when younger.



HPV vaccine

Recommended number of doses	Recommended dosing schedule	population
2	0, 6–12 months*	Persons initiating vaccination at ages 9 through 14 years, except immunocompromised persons
3	0, 1–2, 6 months**	Persons initiating vaccination at ages 15 through 26 years, and immunocompromised persons initiating vaccination at ages 9 through 26 years.

- In a two-dose schedule of HPV vaccine, the minimum interval is 5 months between the first and second dose.
- ** In a three-dose schedule of HPV vaccine, the minimum intervals are 4 weeks between the first and second dose, 12 weeks between the second and third dose, and 5 months between the first and third dose.

CDC Source



Vision Screening



Vision screening

- the AAP guidelines suggest visual acuity measurement at ages 5, 6, 8, 10, 12, and 15 years.
- They found the Periodic screening highly improved outcome with early detection and intervention .



Vision screening

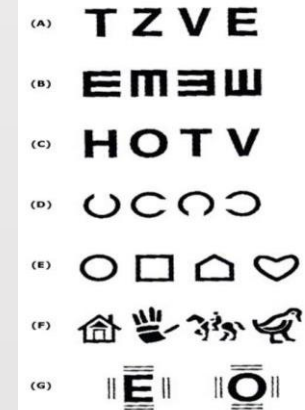
In the history

- Neurologic abnormality
- Family history
- Systematic disease associated with eye abnormalities
- Does the child recognise faces and objects?
- Do the parents notice:
 - Squinting or blepharospasm?
 - Eye deviation?
 - Tearing?

○ In physical Examination :

- External eye examination
- Ocular motility
- Pupillary response
- Simultaneous red reflex
- Corneal light reflex
- Ocular alignment
- Monocular visual acuity

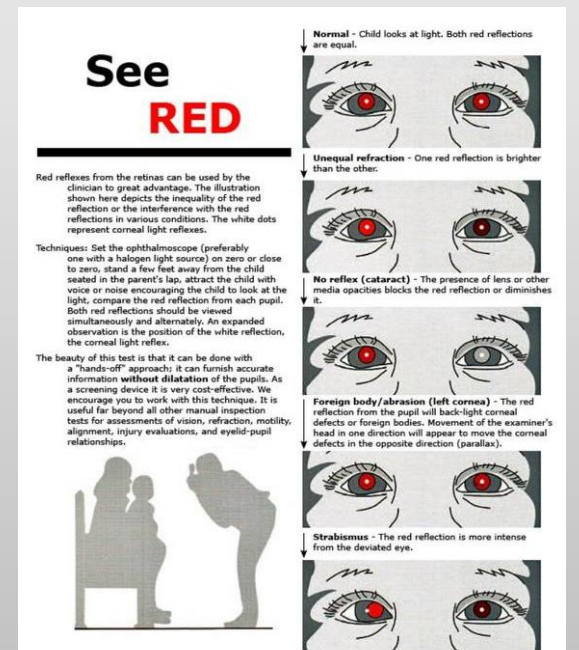
Optotype recognition tests for visual acuity testing



(A) Snellen letters, (B) tumbling E game, (C) HOTV test, (D) Landolt ring test, (E) Lea figures, (F) Allen figures, (G) single optotypes surrounded by crowding bars.

Adapted with permission of American Academy of Ophthalmology, Coats DK, Jenkins RH. Refinements: Vision assessment of the patient 1:1. San Francisco: American Academy of Ophthalmology 1997.

Graphic 60600 Version 4.0



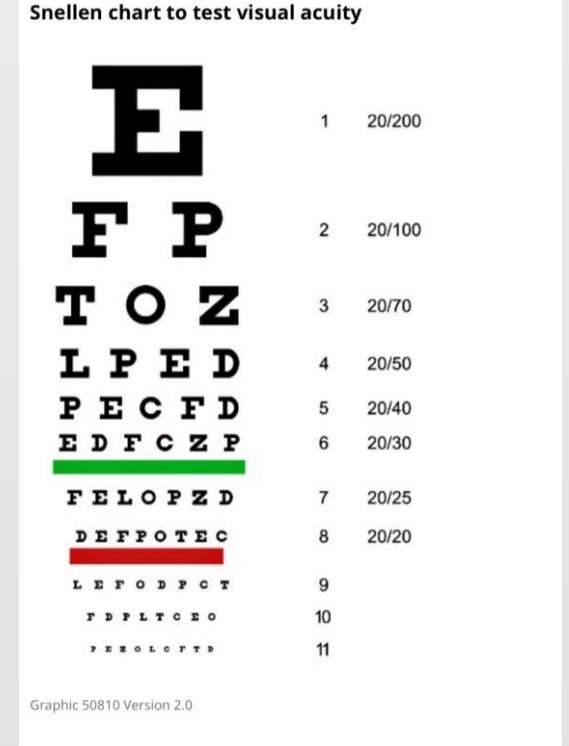
Red reflex examination.

Adapted with permission from: Alfred G. Smith, MD. As printed in: Red Reflex Examination in Neonates, Infants, and Children. Pediatrics 2008; 122:1401.

Vision screening

Indication for referral:

- Positive history
- Abnormal examination
- Eye preference
- Ocular alignment abnormalities
- Visual acuity worse than 20/40 for children 48 through 59 months or worse than 20/30 for children ≥ 60 months in 1 or both eyes
- Visual acuity difference of 2 or more lines between eyes



Rule of 8s for determining the need for referral in childhood vision screening*

Age (years)	Rule of 8s	"Critical line" for normal visual acuity [¶]
2	2 + 6 = 8	20/60
3	3 + 5 = 8	20/50
4	4 + 4 = 8	20/40
5	5 + 3 = 8	20/30
6	6 + 2 = 8	20/20

The patient's age plus the tens digit of the denominator of his or her visual acuity should be ≤ 8 .

[¶] The "critical line" is the line a child is expected to see normally and pass. Visual acuity at or better than this value is considered normal and referral is not necessary. If visual acuity is worse than this level, referral is generally warranted. UpToDate

Hearing Screening



Hearing screening

- The AAP recommends screening for hearing loss using audiometry at five, six, eight, and 10 years of age, and once between 11 and 14 years of age.



Hearing screening

- **Abnormal** hearing screening tests **should** be followed up with formal audiology.
- **Early** intervention in children will **improve** (language, communication, and cognitive skills.)

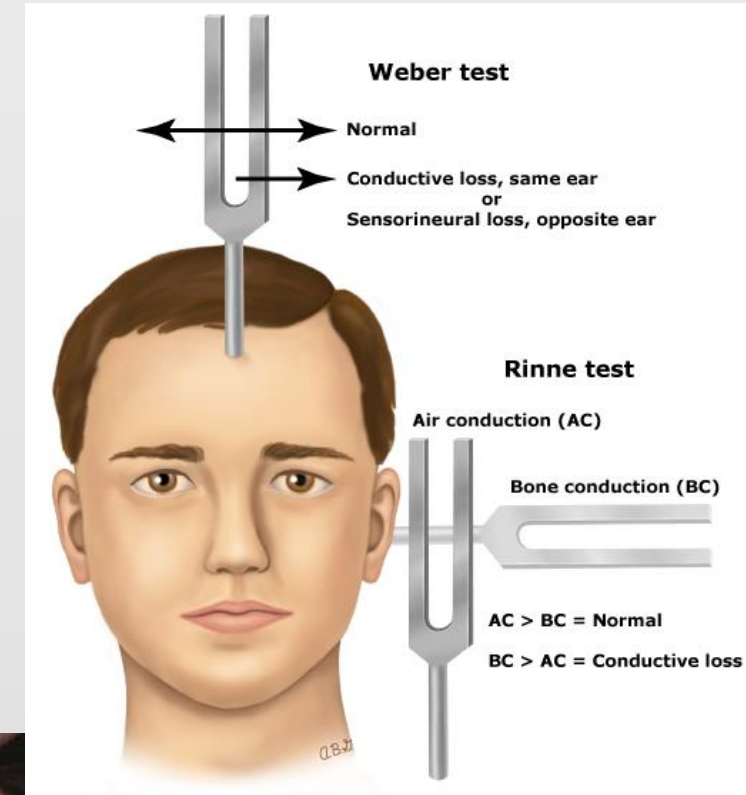
Hearing screening

1. HISTORY:

- onset and progression of hearing loss.
- associated symptoms
 - (pain, drainage from the ear, tinnitus, vertigo, disequilibrium).
- underlying medical conditions.
- Family history.
 - Genetic syndroms.

1. PHYSICAL EXAMINATION:

- Inspection
- Simple hearing test



UPTODATE

Hearing screening

Causes :

1. Conductive hearing loss

1. Obstruction (cerumen impaction)
2. Otitis externa.
3. Infection (eg, acute otitis media and otitis media with effusion).
4. Tympanic membrane perforation
5. Tumors (cholesteatoma, otosclerosis).

1. Sensorineural hearing loss SNHL

1. Hereditary hearing loss.
2. Congenital infection (eg, CMV)
3. Infections(bacterial meningitis)
4. Ototoxic drugs (aminoglycosides,quinine and chloroquine)
5. Noise exposure.
6. Tumor (vestibular schwannoma)

Depression Screening



Depression screening

- ❖ AAP suggest universal screening for depression annually from ages 12–21 years.
- ❖ Targeted screening for depression in children ≥ 10 years and adolescents at high risk for depression, including those:
 - Personal or family history of depression, bipolar disorder, suicidality, substance abuse, or other psychiatric illness
 - Significant psychosocial stressors (e.g., physical or sexual abuse, family crises, neglect, or other trauma)
 - Frequent somatic symptoms
 - Children who are in foster care or adopted .



Depression screening

Depression PHQ-9:

Instructions: How often have you been bothered by each of the following symptoms during the past two weeks? For each symptom put an "X" in the box beneath the answer that best describes how you have been feeling.				
	Not at all	Several days	More than half the days	Nearly every day
Score	(0)	(1)	(2)	(3)
1. Feeling down, depressed, irritable, or hopeless?				
2. Little interest or pleasure in doing things?				
3. Trouble falling asleep, staying asleep, or sleeping too much?				
4. Poor appetite, weight loss, or overeating?				
5. Feeling tired, or having little energy?				
6. Feeling bad about yourself — or feeling that you are a failure, or that you have let yourself or your family down?				
7. Trouble concentrating on things like school work, reading, or watching TV?				
8. Moving or speaking so slowly that other people could have noticed? Or the opposite — being so fidgety or restless that you were moving around a lot more than usual?				
9. Thoughts that you would be better off dead, or of hurting yourself in some way?				
Total ____ =	____	+ ____	+ ____	+ ____
PHQ-9 score ≥ 10: Likely major depression				
Depression score ranges:				
0 to 4: No or minimal depression				
5 to 9: Mild				
10 to 14: Moderate				
15 to 19: Moderately severe				
≥ 20 : Severe				

Management:

1. Psychotherapy .

2. Pharmacotherapy:

first line is Fluoxetine; the second line is Sertraline. Escitalopram or Citalopram are reasonable choices.

3. Combination .

- Regular follow-ups and reassessment of treatment in the acute phase are important 6–12 weeks. After the acute phase, treatment needs to be continued in the continuous and maintenance phase for 6-12 months.

Smoking



Smoking screening

- Insufficient evidence to recommend for or against routine screening or counseling
USPTF

Smoking counselling

- It is reasonable to **ask** adolescents about tobacco use, provide them with data that show that tobacco use causes **illness** and **death**, and offer smoking cessation assistance if needed
“Uptodate”

The latter, 5 As model, is the most popular one and is the recommended model by Saudi Guidelines of Smoking Cessation.

5 As model

5 As model is recommended for health care providers (physicians, dentists, nurses, pharmacists) to ask encountered patients about the status of smoking. It is composed of 5 components; Ask, Advise, Assess, Assist, and Arrange. It takes on average 5 minutes to perform.

Five "A's" of counseling to prevent smoking initiation in children and adolescents

Child's age	Ask	Advise	Assess	Assist	Arrange
Early childhood (0 to 4 years)	<p>Ask parents:</p> <ul style="list-style-type: none"> About their smoking habits and those of other household members <p>(Forms to assist in screening are available from CEASE)*</p>	<p>Advise parents to maintain a smoke-free environment. Message should include health risks to parent and child and importance of parents as role models for child.</p> <p>(Educational and motivational materials available from CEASE)*</p>	<p>Assess readiness to quit among parents or other household smokers.</p>	<p>Assist parents in quit attempt by referral to self-help materials and/or to their own clinician.</p> <p>Quit support[¶]:</p> <ul style="list-style-type: none"> Smokefree.gov (800-QUIT-NOW) National Cancer Institute (877-44U-QUIT) 	<p>Arrange follow-up visit within 3 months if a parent smokes; check on parents' progress at each pediatric follow-up visit.</p>
School age (5 to 12 years)	<p>Ask child:</p> <ul style="list-style-type: none"> How do you feel when someone is smoking near you, and what you do about it? Do you think that it is harmful to try smoking, and do you think that you will smoke when you are older? Have you tried smoking, and do you have friends who smoke? 	<p>Advise child to stop experimenting or give praise for remaining a nonsmoker and/or making an effort to avoid smoke exposure. Remind child of the negative short-term effects of tobacco use, including smell and decreased athletic performance, and personalized health risks (eg, exacerbation of asthma).</p> <p>Advise parents to quit if they are smokers and to give clear antismoking messages to their children.</p> <p>(Educational and motivational materials available from CEASE)*</p>	<p>Assess risk factors for initiating smoking or progressing to regular smoking, including level of experimentation, smoking among peers, depressive symptoms, school performance and attendance, and adverse experiences.</p>	<p>Assist parents in quit attempt if needed[¶].</p> <p>Assist child in developing refusal skills and avoiding exposure.</p> <p>Assist parents in efforts to prevent smoking in their children, through modeling, firm antismoking messages, and smoking bans.</p>	<p>Arrange follow-up visit within 1 to 2 months for any child who is experimenting with smoking or has concerning risk factors for smoking.</p> <p>Refer as needed for any identified risk factors, such as social or learning difficulties or mental health issues.</p>
Adolescents and young adults	<p>Ask adolescent:</p> <ul style="list-style-type: none"> About smoking behavior in a confidential setting About smoking among peers About use of smokeless tobacco 	<p>Advise teens who are smoking to quit, reinforcing personalized health risks and danger of addiction.</p> <p>Praise teens who are not smoking, and remind them of health risks.</p>	<p>Assess motivation and symptoms of tobacco dependence in teens who are smoking.</p> <p>Assess risk factors for smoking initiation among those who are not smoking.</p>	<p>Assist teens who are smoking in quit attempt; include nicotine replacement and referrals as needed^Δ.</p> <p>Assist parents in efforts to prevent smoking in their children, through modeling, firm antismoking messages, and smoking bans.</p>	<p>Arrange follow-up visit within 1 month for any teen who is smoking to support quit attempt or assess motivation and barriers to quitting^Δ.</p> <p>Refer as needed for any identified risk factors, such as social or learning difficulties or mental health issues.</p>

This guidance is based upon the "5 A's" model for tobacco cessation in adults^[1], modified for use in children and for prevention of tobacco initiation^[2]. The strategy can be adapted to prevent vaping initiation, although this has not been specifically studied.

* [CEASE](#) (Clinical Effort Against Secondhand Smoke Exposure), from Massachusetts General Hospital.

[¶] Refer to UpToDate content on management of smoking cessation in adults.

^Δ Refer to UpToDate content on management of smoking and vaping cessation in adolescents.

References:

- Fiore MC, Jaen CR, Baker TB, et al. *Treating Tobacco Use and Dependence: 2008 Update*. Rockville, MD: US Department of Health and Human Services. Public Health Service; 2008
- Klein JD, Camenga DR. Tobacco prevention and cessation in pediatric patients. *Pediatr Rev* 2004; 25:17.

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csi=66be9ebd-2eee-4523-96c0-
09bd56fdb8a2&source=contentShare&imag
eKey=PEDS%2F52025](https://www.uptodate.com/contents/image?csi=66be9ebd-2eee-4523-96c0-09bd56fdb8a2&source=contentShare&imageKey=PEDS%2F52025)



a 13-year-old female came with her mother to the clinic with history of back tilting as have been told her in the school by a family medicine doctor during a screening visit.

She gave history of back pain since 6 months, on – off, not radiating, localized to the mid-thoracic , exacerbated by her sporting activities and relieved by rest

No history of trauma

No history of other body sites pain

No history of fever or skin changes

No other complain

She in engaged in sport activities (soccer and basket ball)



Past Hx unremarkable

Family Hx unremarkable

Allergy hx unremarkable

Menstrual Hx: menarche at age of 12years , regular with normal amount

Examination

Patient is a healthy-appearing adolescent

MBI 85th percentile

Temp. 36.7 BP 112/70 P 75

The right shoulder is slightly higher with minimal waist line asymmetry.

Scoliometer of the thoracic curve is 16° and the lumbar is 7°.

There is no clinical leg-length discrepancy.

The skin has no abnormalities, and the neurological assessment is normal



scoliosis



Definition:

Scoliosis is defined as a lateral curve to the spine that is greater than 10 degrees with vertebral rotation.

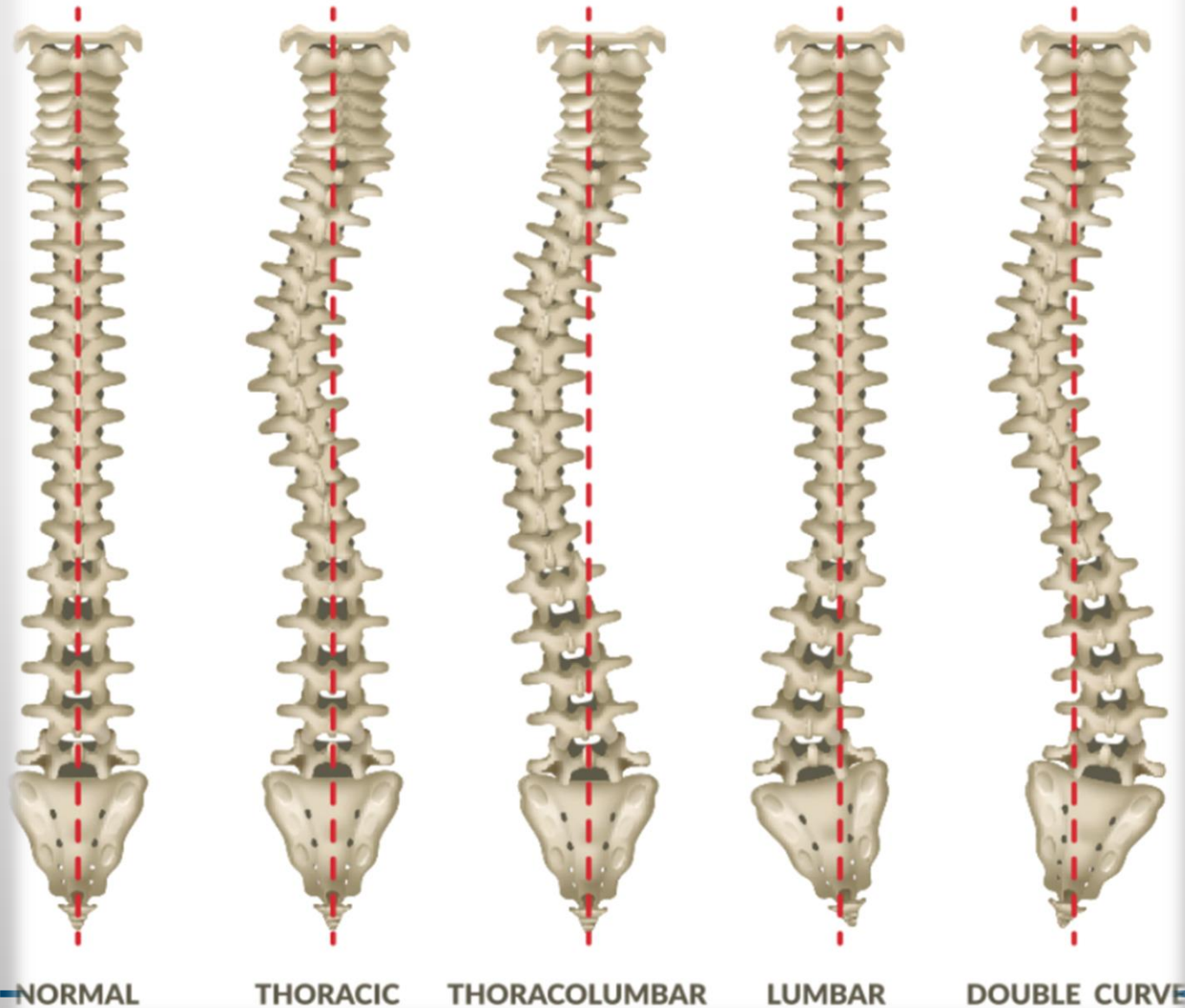
It can be classified as congenital, neuromuscular, or idiopathic; approximately 85% of cases are idiopathic

- Idiopathic scoliosis can be further classified by age of onset:
 1. Infantile (birth to two years)
 2. Juvenile (three to nine years)
 3. Adolescent (10 years and older).

Screening

- ❖ The U.S. Preventive Services Task Force (USPSTF) did not find good evidence that screening in asymptomatic adolescents detects idiopathic scoliosis at an earlier stage than no screening.
- ❖ It also found fair evidence that treating adolescent idiopathic scoliosis decreases pain and disability in only a small proportion of patients.
- ❖ The accuracy of the most common screening test, the Adam's forward bend test, with or without a scoliometer, is variable.

TYPES OF SCOLIOSIS OF SPINE



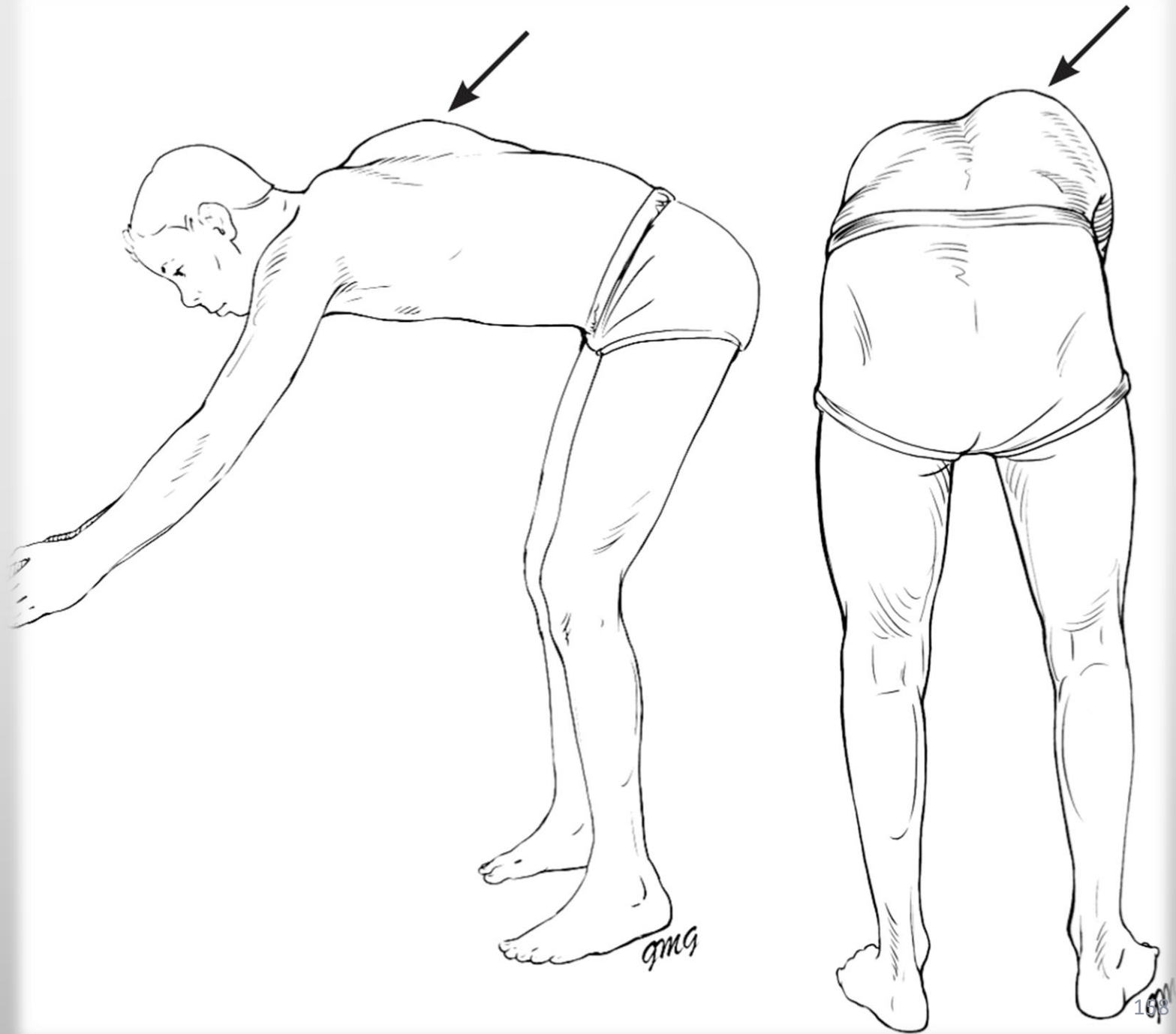
Symptoms :

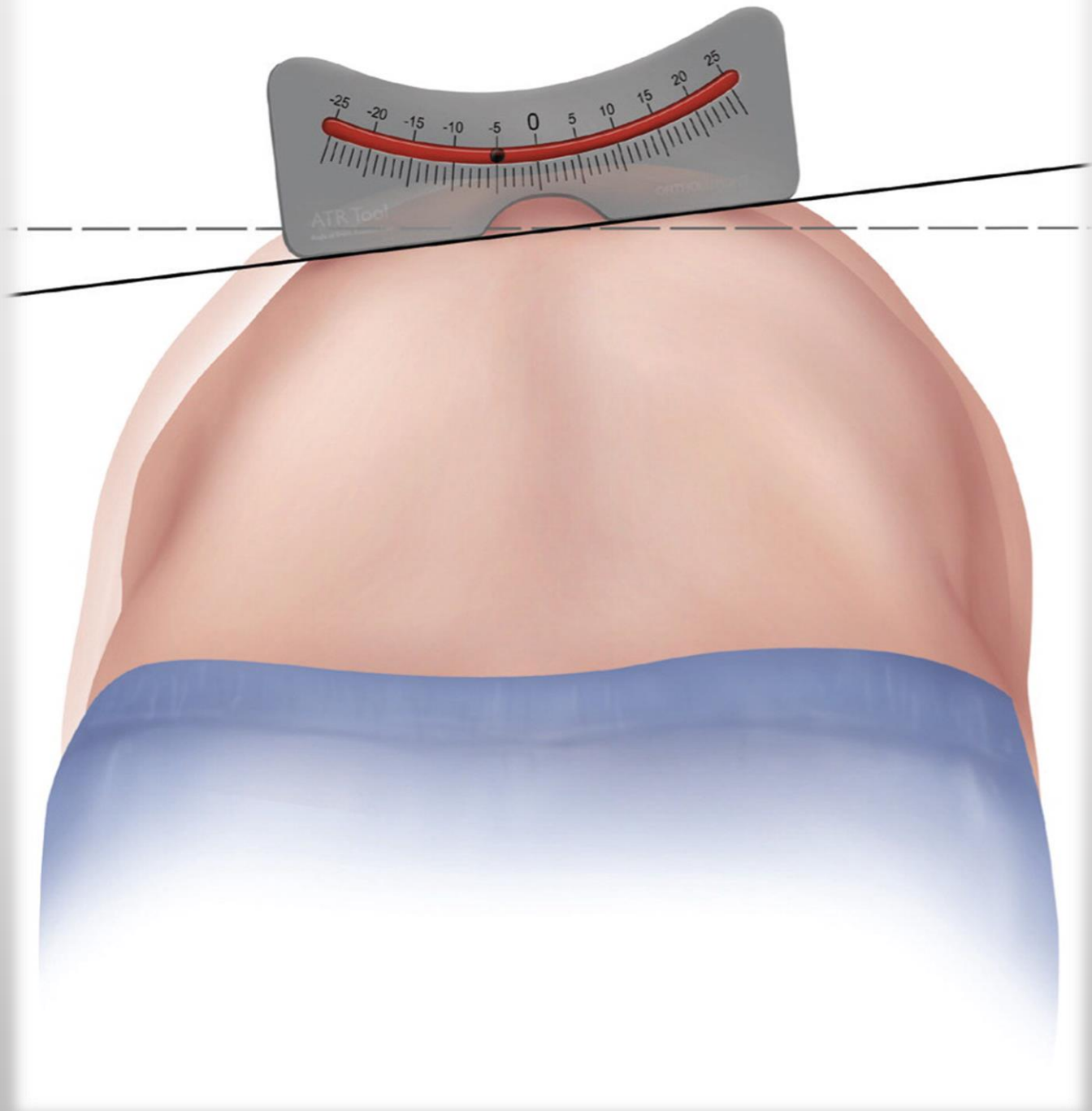
- Commonly asymptomatic and can be noted either during a doctor visit or by family at home.



Physical Examination

- Physical examination for scoliosis mainly consists of the **Adam's forward bend test**
- The patient stands and bends forward at the waist, with the examiner assessing for symmetry of the back from behind and beside the patient.
- Patients with possible scoliosis will have a lateral bending of the spine, but the curve will cause spinal rotation and eventually a rib hump, which is visible on examination.





- The examiner may then attempt to quantify the spinal curve and rotation with a scoliometer, or inclinometer.
- The inclination angle measured by a scoliometer will help determine which patients may need radiography.
- Generally, an angle of trunk rotation that is less than 5 degrees is insignificant and may not require follow-up.
- A measurement of 5 to 9 degrees at least warrants reexamination in six months.
- A measurement of 10 degrees or greater requires radiologic evaluation for Cobb angle measurement

Diagnosis

Thoracic x-ray :

Cobb angle. Tangential lines are drawn from the superior end plate of the superior vertebra and the inferior end plate of the inferior vertebra. The angle formed at the intersection of these two lines is the Cobb angle (62 degrees in this image). A Cobb angle of at least 10 degrees is necessary for diagnosing scoliosis.



Management

- ❖ Management is based on clinical context, symptoms, severity of disease, curve progression and can range from observation alone with serial radiographs to monitor progression in curves $<25^\circ$, to surgical fixation in curves $>45^\circ$ and bracing for those in between.
- ❖ Consider orthopaedics referral for younger individuals with curves $>20^\circ$ due to risk of progression.

THANK
YOU.

