Common Pediatric Issues

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Image source: http://kfpeds.com/

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Learning Objectives

- By the end of this didactic, the NP Resident will be able to:
  - Feel more confident about primary care of newborns
  - **Identify and manage common pediatric conditions**
  - Have talking points for parents with concerns about their children's development/ behavior
  - Manage vaccine hesitant parents
  - Have a reference point for common pediatric labs

Newborns

Image source: https://www.cartoonstock.com/directory/p/pediatrics.asp

Discharge Summary

- Birth Statistics (Gestational Age, Birth Weight, HC, length etc.)
- Look at info surrounding pregnancy and delivery
  - C/S? Vaginal?
- Maternal labs
- APGARS
- Bili levels
- In hospital screenings
  - Congenital heart defects, hearing
- Imms/medications typically given prior to discharge

Before you go into room

- Check weight loss
  - Can lose up to 10% of BW --- https://www.newbornweight.org/
  - Did they lose weight from D/C? If so, how much?
  - What is their average weight gain/day?
- Check bili (if you have access to TCB) -- https://bilitool.org/

Newborn visit

- Feeding
  - Breastmilk? Formula? Both?
  - FREQUENCY of feeds
- Voiding/Stooling
  - Stools should transition gradually from dark brown/greenish to light green or yellowish (mustardy)
  - Goal of 4 stools/day by day 4
  - Breastfed babies should be stooling about every feed the first week or so
- Safe sleep
- Parental concerns
- Anticipatory guidance: Fever > 100.4, projectile emesis with every feed, not voiding every 2 hours, not feeding well

Newborn/Infant exam

- Okay to keep baby in parents arms to start if they are calm in parents arms - goal to keep baby calm and quiet!
- Check growth parameters (this applies for every visit 0-24 months)
  - When in doubt, recheck HC
  - If HC increases > 2 percentiles, consider head US. If > 90%ile, get head US
  - Consider measuring parents HC as well!

Caput VS Cephalohematoma

Caput: crosses suture lines “like a cap”

Image source:
https://www.nicunursenatalie.com/notes/caput-succedaneum

Cephalohematoma: does not cross suture lines

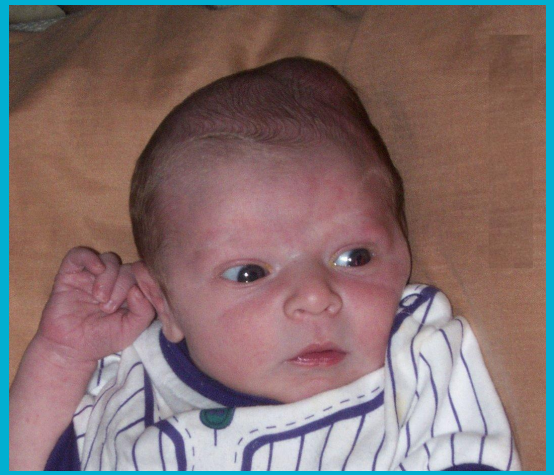


Image source:
https://carriedickson.wordpress.com/2011/03/07/cephalohematoma/

Ear pits

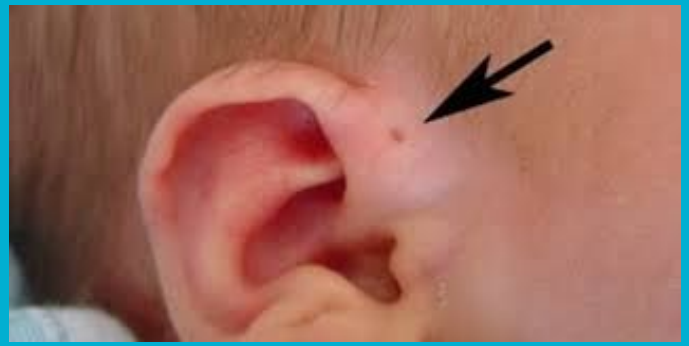


Image source: http://www.myhealth.gov.my/en/93679/

- Can be common, may/may not be associated with hearing impairment.
- Refer to audiology for formal hearing evaluation.
- Renal US should be ordered on the following:
  - Other malformations/dysmorphinc features
  - FHX of deafness or ear or renal malformations
  - Maternal hx of GDM
- Renal US with isolated pit is controversial

Ear tags

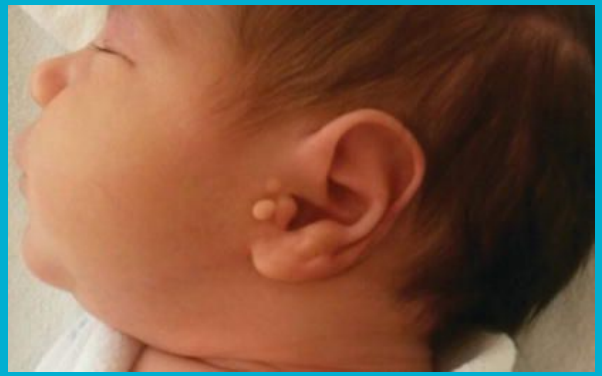


Image source: https://www.intechopen.com/books/congenital-anomalies-from-the-embryo-to-the-neonate/the-neonate-with-minor-dysmorphisms

- Typically benign
- Can be associated with syndromes like brachio-oto-renal syndrome or syndromes that cause cleft lip/palate

Ankyloglossia (Tongue Tie)

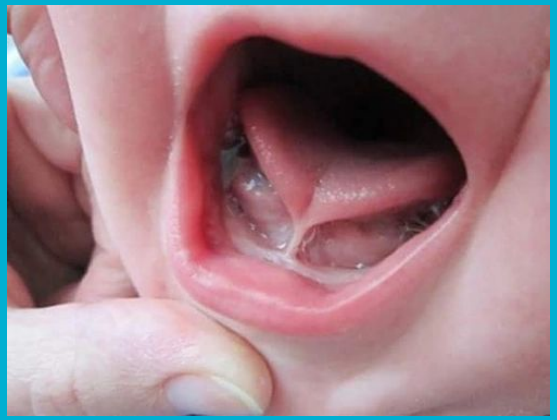


Image source: https://www.mychicodentist.com/benefits-of-a-frenectomy/what-is-a-tongue-tie/

- The majority of infants with tongue-tie are able to feed without difficulty.
- Breastfeeding problems may be more commonly reported amongst infants with tongue-tie.
- If there are breastfeeding issues, may refer to lactation consultant to help with positioning to achieve optimal latch for both mother and baby
- Can refer to ENT for frenotomy however this is becoming less popular and data is very inconsistent

Neonatal Heart Murmurs

- Every newborn is screened for duct dependent heart anomalies prior to discharge.
- Screening methods used are: pre/post ductal O2 AND femoral pulses (absent = aortic coarctation). ALWAYS check femoral pulses!
- ALL neonatal heart murmurs 2/6-6/6 require workup. Need to make sure we r/o ductal dependent defects.
- Duct dependent heart defects all being with a “T”:
    - Tetralogy of fallot
    - Transposition
    - Tricuspid atresia
    - Total anomalous pulm venous return
    - Tuncus arteriosus
    - Other(s) include: coarctation of aorta, pulmonary atresia.

Signs of heart failure

- POOR WEIGHT GAIN
- Breathless/increased WOB/breathing too fast
- Sweating (w/ feeds)
- Not completing feeds – acts “too tired” to complete feed/lazy feeder
- Poor Color/central cyanosis

Umbilical Stump

Image source: https://www2.hse.ie/wellbeing/child-health/umbilical-cord-stump.html

Image source: https://www.bmj.com/content/355/bmj.i5587

- Don’t need to do anything-will fall off within 7-14 days.
  - Tell parents they don’t need to do anything!
- Keep diaper folded below the cord as this will help with cord drying by exposing the cord to air.
- Delay submersive baths until 48 hours after cord falls off
- S/sx of infection (spreading redness, swelling, foul smelling discharge)
- Granuloma (see above) - can treat with silver nitrate. Will stain skin permanently

Umbilical Hernia

Image source: https://community.babycenter.com/post/a68084125/umbilical-hernia-will-it-ever-go-away

- Spontaneous resolution is typically achieved by 3-4 years old. Surgical correction is rarely needed.
  - Less likely if pt. has hernia >1.5 cm OR if hernia fails to close on its own past 5 years of age.
- On exam, may increase in size if infant is crying. Important to make sure that it is completely reducible (may show parents that they can push it back in).
- Educate parents on red flag symptoms: infant appears to be in pain, vomiting, swelling/discoloration to area.
- No special belts/taping quarters over belly button necessary!

Inguinal Hernia

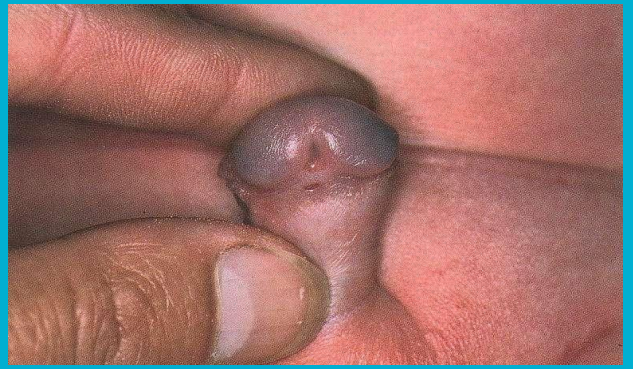
- Generally present within the first year of life as an intermittent, reducible inguinal mass.
- Diagnosis may be made on history alone, without the presence of mass during physical exam.
- Inguinal hernias are much more likely to become incarcerated-we are much more likely to treat this with surgery.
- Refer to surgery.

Undescended Testes

- If bilateral undescended testes-refer to urology.
- Most testes will descend by 3-6 months.
- If still not descended by 6 months, may opt for orchidopexy.

Hypospadias

- Abnormal ventral placement of urethral opening. Location of the displaced urethral meatus may range anywhere within the glans, shaft of penis, scrotum or perineum.
- Absolute contraindication to circumcision.
- Refer to urology.



Sacral dimple/cleft

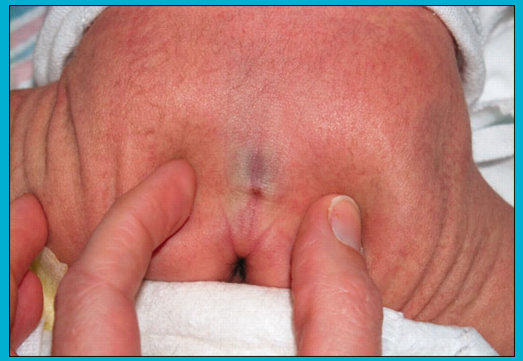


Image source: https://pedsinreview.aappublications.org/content/32/3/109

- Sacral dimples that are:
  - deep and large (>0.5 cm)
  - fall within the superior portion or above the gluteal cleft (> 2.5 cm from the anal verge),
  - or are associated with other cutaneous markers for Neural Tube Defect (drainage, hair tuft, neurological symptoms)

NEED **workup via US** because they may be associated with spinal cord malformations.

Bilirubin

- Bilirubin is needed to determine level of jaundice in neonates
  - Caucasian & black infants peak between 48-96 hours typically
  - Asian infants peak between 72-120 hours
  - Breast milk jaundice - presents AFTER day 3-5, peaks within 2 weeks after birth
- TCB - transcutaneous
  - Cannot use TCB if baby has had phototherapy
- TSB
- BiliTool is your best friend here!
  - Will need date & time of birth

Image source:

(Wong & Bhutani, 2019)

Neonatal Jaundice

- Common Causes
  - Physiologic: LBW, Prematurity
  - Breast feeding/poor feeding
  - Bruising/bleeding: Cephalohematoma
  - Infection
  - Metabolic
  - Hepatic: Biliary atresia, hepatitis
  - Hemolytic: ABO/Rh incompatibility

Sunning for jaundice?

Image source: http://www.costaricarealestateproperty.com/baby-goggles-sunglasses

- Sunning not recommended.
- Best way to help a baby with elevated bili is to make sure that they are taking in enough to help excrete the bilirubin in their stools.
- Communicating that clearly to parents who might be worried is very helpful.
- Also important to communicate why we worry about jaundice/why we are getting bloodwork

Case #1

- 4 do 39w2d male born to 34 yo G2P2 via NSVD, serologies negative who presents for weight check. Yesterday TSB was drawn, TSB was 13.6. Baby is exclusively breastfeeding, gained 40g in 24 hours.
- On exam, jaundice on entire body, scleral icterus
- Mom and baby both O+, Coombs negative
- What are the risk factors?
- TCB in clinic was 17.0
    - Assume baby was born at 1:16 PM on Tuesday 2/16
- What risk category would this put him into? What would your plan be?

Essential points for newborn visit

- Rectal thermometer, must check rectal temp if baby feels warm; fever >100.4 F is a medical emergency
- Safe sleep!!! Back To Sleep
- Don't shake the baby / parental self-care & support system / always safer to put down crying baby in the crib & step out of the room if you're feeling overwhelmed.
- Cord care – best to leave it alone (will fall off within 7-14 days). Submersive baths & tummy time can begin after umbilicus falls off. Hot water check on inside of wrist
- Vitamin D rx - for all babies, not just breastfed only!
- Can direct parents to healthy children's website for more information.

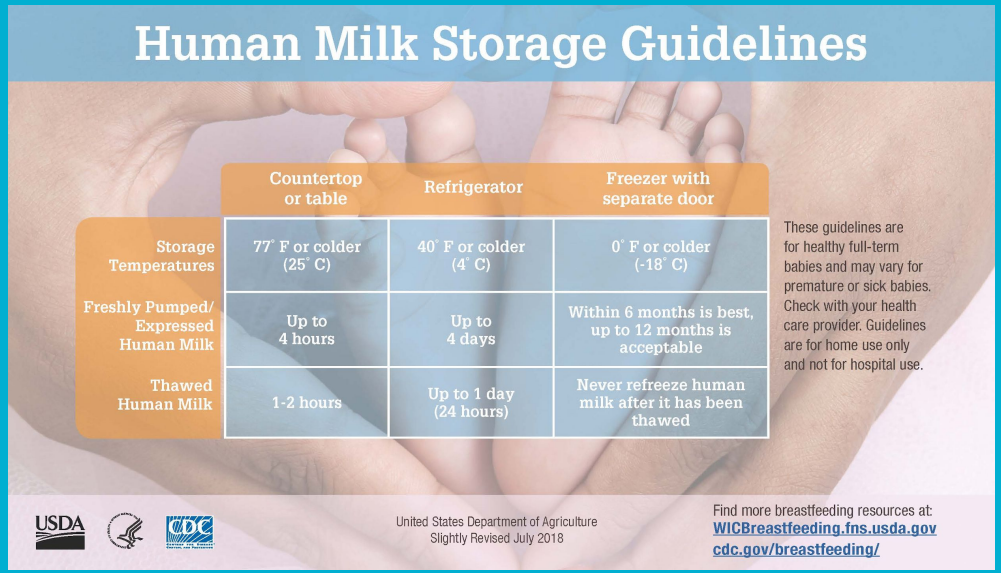
Lactation

- The most important part of establishing and maintaining a good supply is frequent access to the breast
  - Quick assessment of mom's milk supply at newborn visit - do breasts feel heavier today than previously? Are they leaking spontaneously?
  - Setting expectations - in the newborn period, should be bring to breast 10-12x/day; discuss cluster feeding
- Skin to skin is MAGIC
- Bring to the breast on demand, avoid following a strict schedule
  - Helpful tips for mom during a busy clinic day:
    - The more often mom empties her breast, the more milk her body will make!
    - Feeding cues
    - Hands on pumping / hand expression
- Offering support - peer support groups are key
- Connect with a CLC for nipple pain - common but not 'normal'

Hand expression

Breastfeeding resources

- Unicef breastfeeding
- CDC - https://www.cdc.gov/breastfeeding/recommendations/index.htm
- WIC!



Follow up

- Bring baby back for a weight check in a few days or close to 2 weeks of life depending on the situation
- Should be sooner if:
  - baby has elevated TCB
  - social concern
  - or you have concerns about intake/elimination
- Next well visit is a 1 month

Newborn screening

- Completed on all babies born in hospitals
- Example of some of the conditions/labs screened: Adrenoleukodystrophy, SCID, Spinal muscular atrophy, Biotinidase, hypothyroidism, CAH, Galactosemia - galactose, uridyltransferase, Hemoglobinopathies, Amino acid panel, Acylcarnitine panel
- The following website has great tools: ACT sheets
- CT DPH WILL CONTACT YOU WITH NEXT STEPS!

Common Infant Issues

Seborrhea

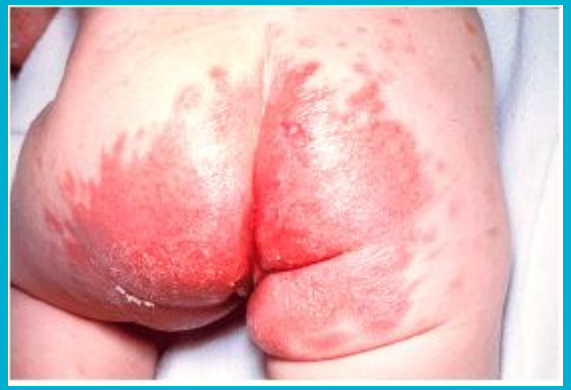
Image source: https://www.shutterstock.com/image-photo/atopic-dermatitis-seborrheic-baby-668731060

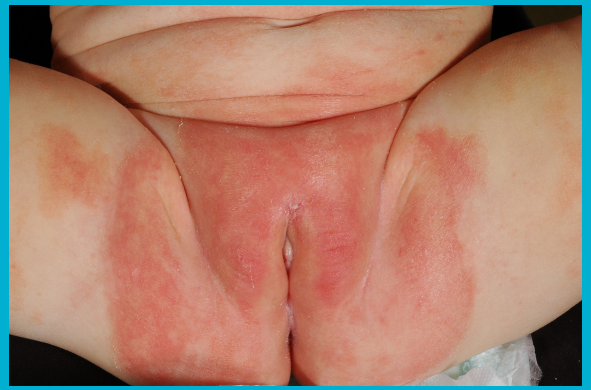
Great dermatology resource: visualdx.com !

- Cradle cap, very common
- Can be difficult to distinguish from other dermatitis - contact irritant, atopy
- CLASSIC - well demarcated erythema with overlying greasy yellowish scales. In darker skin - PIH may be prominent
  - Scalp
  - Eyebrows, forehead
  - Neck/ inguinal folds
- We don't really know what causes it…. thought to be related to mom's hormones +/- *Malassezia*
- Emollients v. hydrocortisone 1% ointment v. ketoconazole 2% cream?

Diaper Dermatitis

- Always ask about changes in diaper brand, diaper wipes, new ointments as this would be a fairly easy indication it could be contact dermatitis
- If it spares the folds or isn't beefy red, less likely to be candidal
- If diaper rash is not responding to traditional methods, consider GAS diaper rash (usually presents with redness around anus), which needs to be treated with oral antibiotics, same dosing as for GAS pharyngitis
- Follow the ABC method
    - Air it out
    - Barrier ointment - "like frosting on a cupcake"
    - Change diapers frequently





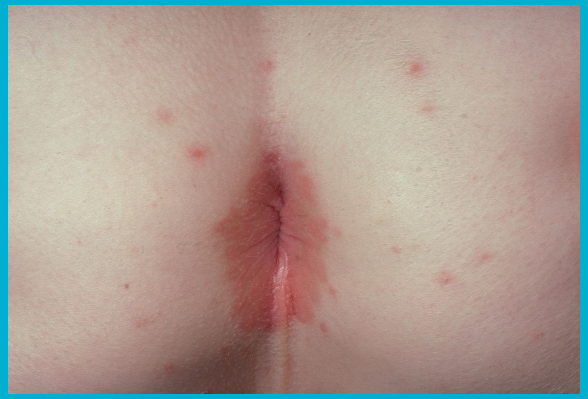


Image sources: https://onlinelibrary.wiley.com/doi/full/10.1111/pde.13484, https://onlinelibrary.wiley.com/doi/full/10.1111/pde.13484

Cafe Au Lait

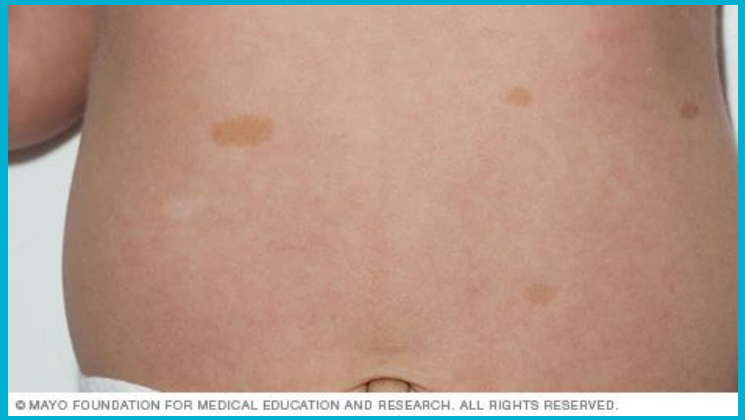


Image source: https://www.mayoclinic.org/birthmarks/sls-20076683?s=2

- If many cafe au lait, think Neurofibromatosis type 1 (NF1)
- Higher suspicion:
  - 6+ macules >5 mm diameter in prepubertal kids, >15 mm pubertal
  - Freckles in axillary/inguinal regions

Hemangiomas

- Complications: Ulceration (most common - occurs in mucosal sites, sites prone to friction), visual impairment, airway involvement, multifocal presentation, aesthetic, complex associations (PHACE, lumbar/sacral location)
- If > 5 hemangiomas, get abdominal US to screen as may be suggestive of intrahepatic hemangioma

Congestion

- Very common for newborns, they have tiny noses!
  - C-section v. SVD ?
- Nasal saline is your best friend
- Avoid oversuctioning which can cause increased inflammation
  - No more often than every 2 hrs, most useful prior to feeds
- If any interference with feeding / sleeping, assess further / consider STRIDOR rather than simple congestion
  - Laryngomalacia -> inspiratory stridor
  - Tracheomalacia -> expiratory or biphasic stridor
  - Referral to ENT
  - Also r/o choanal atresia

Colic - AKA a normal stage of development
2 weeks thru 3-4 months

- Normal exam, normal growth & development
- Some babies cry more than others
- Assess consolability, crying may be at the same time every day
- Check out! And send parents to: http://purplecrying.info/
- Discuss NO SHAKING THE BABY
- Review the 5 S's (**s**uck, "**s**hh," **s**waddle, **s**wing, hold on **s**ide)
    - We want the baby's environment to mimic being inside of mom!
    - 7 S's ???? **S**KIN TO **S**KIN
- Assess parents for coping skills, support network
- Reassure parents that there is an end in site!
- Simethicone v. changing formulas v. eliminating dairy from mom's diet? (we will discuss formula changing later)

Iron Deficiency Anemia

- Most common scenario: low hgb value on finger stick
- Do you need to obtain a hemogram the same day?
  - How low is the finger stick? Is the child symptomatic?
- A general rule - treat hgb < 10.5 with oral iron, near 11 - multivitamins with iron
- Start iron at 3 mg/kg/day, administer with orange juice or water and avoid dairy.
  - Tip - Nova Ferrum is the best tasting liquid iron!
- Repeat labs in 1 month, should see hgb increase at least 1 g/dL. Continue treatment for 1 month after all labs normalize.
- Lab values
  - High RDW
  - Low H/H, Low MCV, Low MCH/MCHC
- Iron Deficiency Panel
  - TIBC - Total Iron Binding Capacity, will be elevated
  - % Saturation - will be low
  - Iron - will be low
  - Ferritin - Indication of iron stores, will be low

(Sandoval, 2020)

A note on lead

- Routine screening at 12m & 24m
- Screening whenever risk assessment (paperwork at WCC) is positive
- Other situations to consider obtaining lead level:
  - GSW w/ retained bullet
  - Keep as ddx for sx that do not resolve w/ common conservative management
    - Abdominal pain, constipation, anorexia, arthralgia, myalgia, excessive fatigue, sleep disturbance, headache, difficulty concentrating, memory problems, irritability, depression
- What to order:
  - Lead, blood (venous collection)
  - Always order in combination w/ h&h

Lead

- IF blood lead level (BLL) is between 2-4, counsel families on risk reduction
  - Wet mop, move furniture over areas of the house with peeling paint
  - Don't use spices / food products / pottery from other countries
  - Always get cold water from faucet, let run for a couple minutes prior to collection
  - Wash hands prior to meals, wash toys frequently
  - Ask about parents' occupations - Construction? Auto mechanic?
    - When home from work, should launder clothes/shower right away
  - Calcium / iron from dietary sources or rx multivitamin
- Do not repeat lab work more often than q4-6 months
  - Instead, if a new exposure is suspected, can obtain ZPP (zinc protoporphyrin)
- BLL >=3.5 -> referral to state lead clinic, run at CCMC

Common Pedi Conditions

Gif source: https://media.giphy.com/media/Xw6yFn7frR3Y4/giphy.gif

Abdominal pain

- This can be due to….a lot of things!
- Some of the most common conditions to keep in mind for kiddos with abdominal pain/discomfort:
  - Constipation
  - UTI (always keep this in mind!)
  - Gastroenteritis
  - Celiac
  - Reflux/H. Pylori
  - Strep throat
  - Anxiety
  - IBD (UC/Crohns)
- The “do not miss” list
  - Appendicitis
  - Intussusception

Constipation!

- Constipation is a VERY common pediatric issue that presents in a variety of ways (although most commonly, infrequent stooling & abdominal pain)
- General management:
  - Start with pear or prune juice, dietary fiber & water. Pear or prune juice ounces depends on age
  - Can then add miralax if no improvement
  - If a child is very constipated, make sure you do a full cleanout - mush & push (miralax *and* senna)
    - Goal is liquid stool

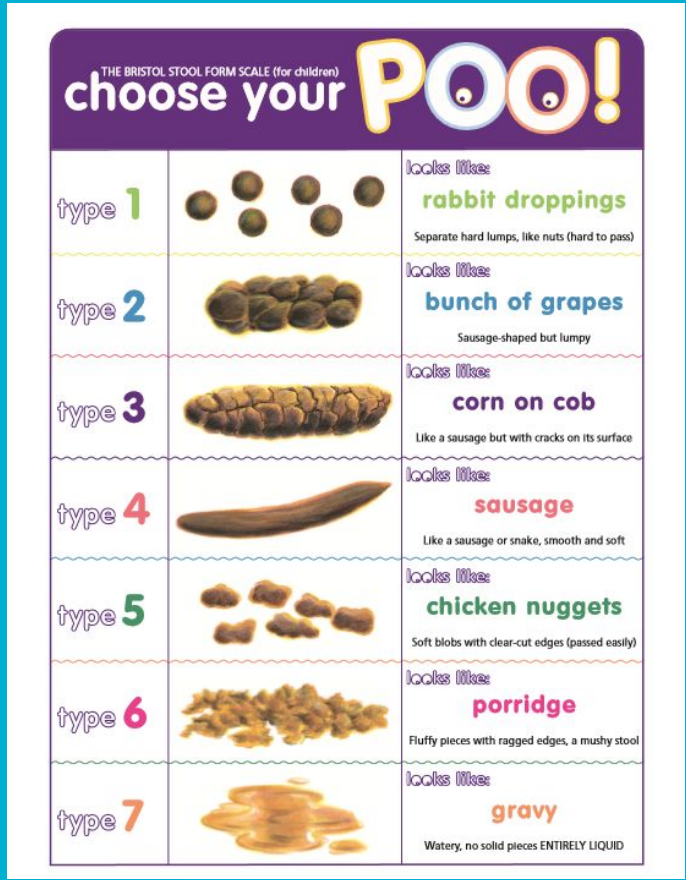


Image source:
https://pediatricsurgery.stanford.edu/Conditions/BowelManagement/bristol-stool-form-scale.html

Failure to Thrive workup

- CBC w/diff
- CMP
- CRP
- ESR
- TSH w/Free T4
- Celiac panel WITHOUT gliadin

Case #2

- Parent contacts clinic with CC constipation in 3 week old female
- Reports she has not stooled in 3 days, has been straining and appears uncomfortable
- No blood in stool
- She is exclusively breastfed, no changes in feeding patterns
- What else do you want to know?

A note on infant dyschezia

- A common concern in the first month is ‘constipation’ when really, the issue is infant dyschezia….
- Infants do not have the muscles/coordination to stool like we do so they need to strain to generate enough intraabdominal pressure to move stool through intestines/to defecate
- Breastfed babies can go 7-10 days without stooling, formula fed 5-7 days
- As long as stool is soft, yellowish/greenish, nonbloody, okay to monitor
- Parents get VERY concerned about this but reassurance is all that is needed!
- Can give them some things to do: Belly massage, bicycle legs, +/- rectal stimulation, warm baths

Spitty Babies

- One of the top concerns parents have about babies!
- Red flags for spitty babies: forceful/projectile emesis after every feed, bilious or bloody emesis, decreased UOP, decreased activity level, mass in abdomen, FTT/poor weight gain
- If spitting up small amount/down front of clothes and not irritable, likely a happy spitter - can do some supportive measures for these babies
- History:
  - How often?
  - How much?
  - How soon after feed?
  - What does spit up look like?
  - Is baby fussy after it happens?
  - Any back arching?
  - How much are you feeding? Formula mixed correctly?
  - How often are you feeding?
  - How long do you burp after feeding?

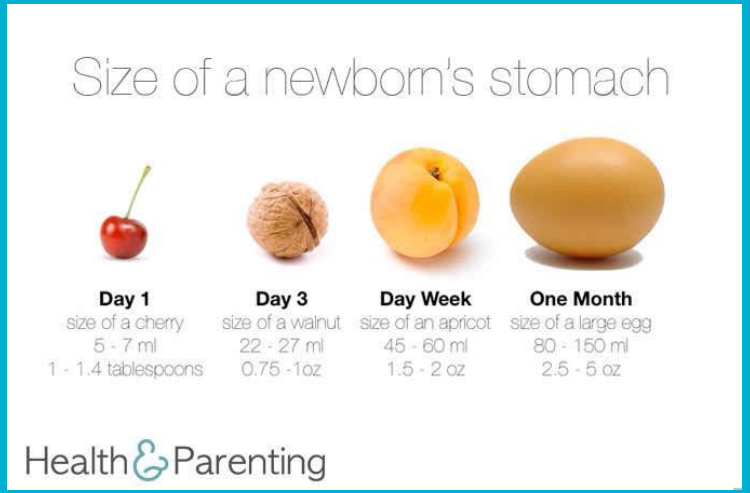


Image source: https://www.pinterest.com/pin/418694096590725909/

Spitty babies - Initial management

- As long as no red flags:
  - Burp for *at least* 10 minutes after feeds
  - Keep upright for 30 min after feeds
  - Try paced bottle feeding - feed 1 oz, burp, feed another ounce etc
  - If breastfeeding and infant is choking often during feeds, consider australian position
  - Can try putting pillow UNDER crib mattress although must emphasize that it must be UNDER

Spitty Babies - Formula changing

- Formula switching - only if not responding to initial management
  - Can try a spit up formulation (Enfamil AR or Similac for Spit Up) or a sensitive stomach formulation (Similac sensitive or Enfamil Gentle ease)
- FPIES/Cows Milk Enterocolitis
  - If blood in stool or very irritable, having frequent spit up and poor or less than ideal weight gain, check stool guiac
    - Even if guiac negative and symptoms significant enough, can switch to Nutramigen/Alimentum
    - In very bad cases of Cow's Milk Enterocolitis may need elemental formula like Elecare
  - If switching to partially hydrolyzed formula - use x 2 weeks and do trial of previous formula to confirm true allergy
  - Most babies will grow out of this around 12 months of age, sometimes a little later
- Avoid soy formulas when possible

Eczema

- Often presents as itchy, dry rash
- History questions:
  - Onset of rash
  - Location of rash
  - Alleviating factors - what lotions or creams have been tried
  - Important questions:
    - What type of soap, detergent, lotion
    - Frequency of bathing
    - Any new topical products?
    - Family history of eczema

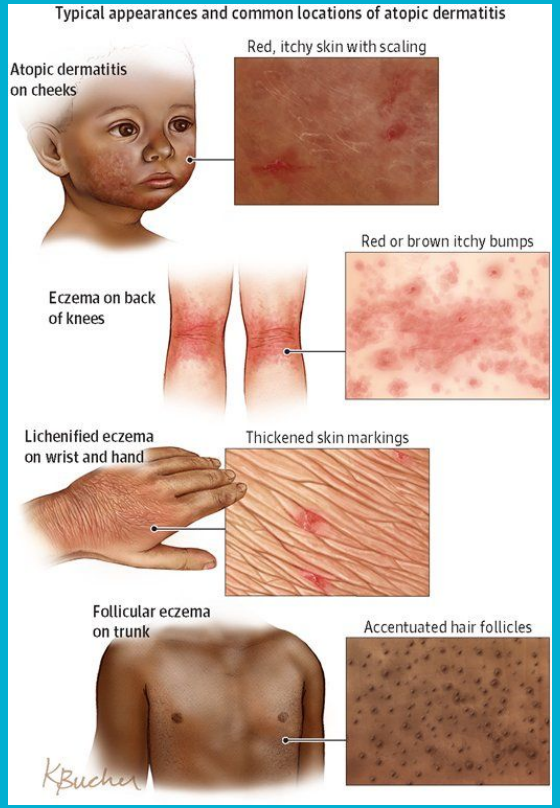


Image source: https://twitter.com/JAMAPediatrics/status/939494848054382592/photo/1

Eczema - Treatment

- Nice thick moisturizer - vaseline or aquaphor are best, apply within 10 minutes after bathing (barely pat dry)
- Unscented soaps, lotions, detergents - Aveeno or Dove sensitive. Avoid Johnson & Johnson soaps!
- Topical corticosteroids
  - In infants, only use hydrocortisone 1% if possible
  - UTD has a lovely steroid potency chart! Ointments vs creams have different potencies
  - Review appropriate use of steroid ointments - only at areas of flares, avoid eyes/genitals, max 2 weeks
- Eucrisa - use twice daily for control/prevention of flares in moderate to severe eczema
- Bleach baths - ½ cup of bleach for 1 tub, ¼ cup for ½ tub, like swimming pool
- Wet wraps

Obesity

- Prevalent & tricky to discuss with school age and adolescent children
- SHAME is counter productive, Motivational Interviewing is very useful
- “It isn’t the numbers on the scale, it is the healthy habits we are building”
  - Without healthy habits there can be negative consequences for the inside of your body
- “Practice bites” of veggies, NO SUGARY BEVS
- Daily activity, less screen time
  - Dance videos on Youtube like Go Noodle
  - Helping mom with household chores
  - Walking the dog
  - Climbing the stairs
- Multidisciplinary care: **don’t forget about BH**; involve nutritionist, refer to your local pediatric weight management program if available
- Obtain screening labs: ALT, lipids (fasting?), hemoglobin a1c

Case #3

- 5 yo female presents for wcc. During exam, she was found to have a small amount of downy pubic hair and breast buds. What would you order?

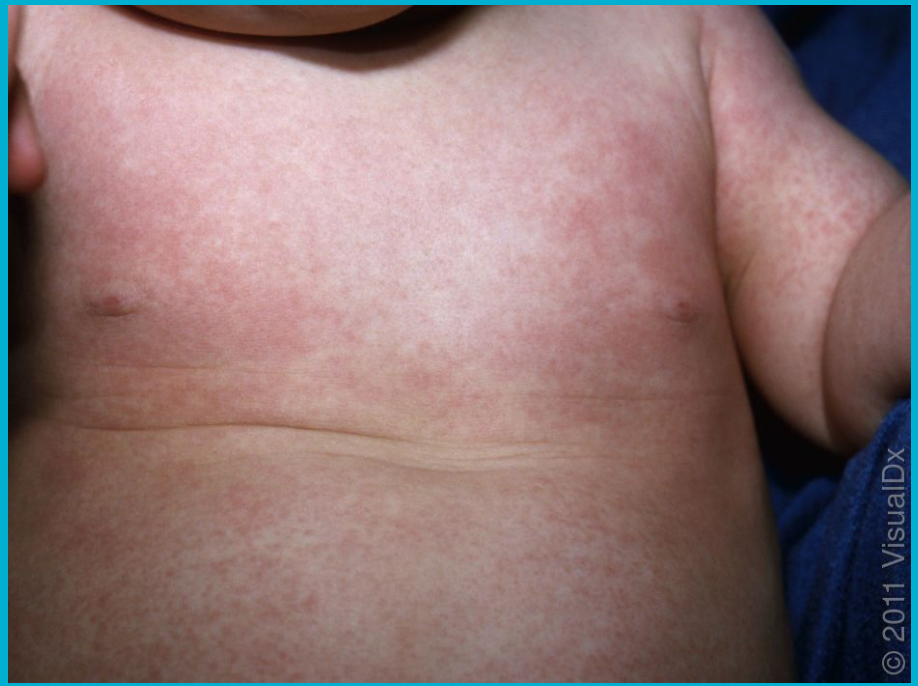
Early Onset Puberty

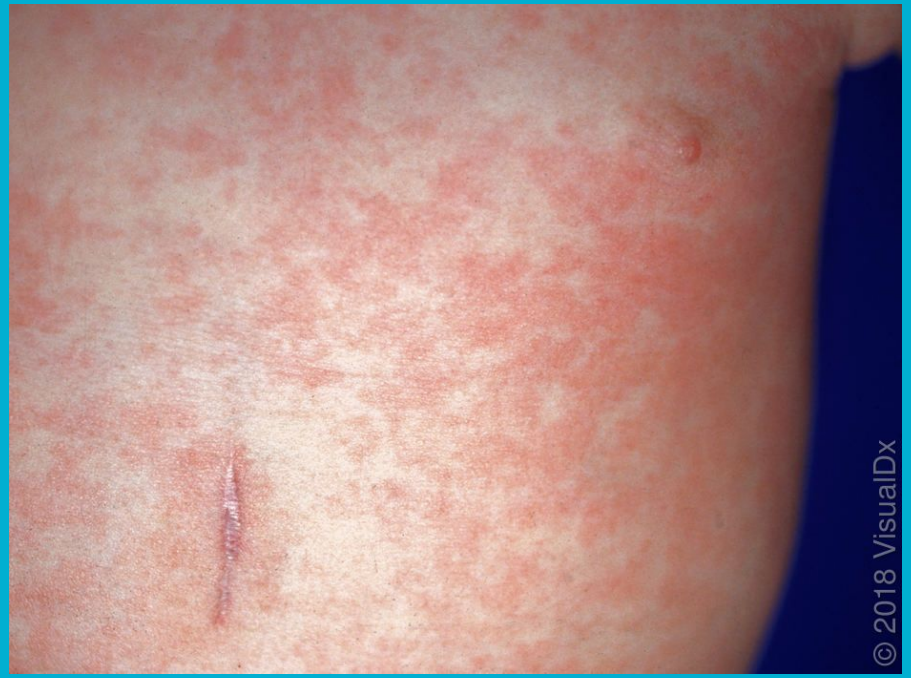
- Premature pubarche: body odor or pubic/axillary hair development at:
  - <8 yo for females
  - <9 yo for males
- Premature adrenarche: above plus androgen changes
- Imaging - Bone age!
- Labs: DHEAS/total testosterone, 17-hydroxyprogesterone
  - DHEAS
    - PP: normal
    - PA: 40-150 mcg/dL
  - Testosterone: < 20 ng/dL for both PP & PA
- Refer: Less than 4, older than 4 to above ages with abnormal labs

(Rubini, 2020)

Pedi Derm Crash Course

Image source: https://media.giphy.com/media/K9MPm9A3CaSkw/source.gif





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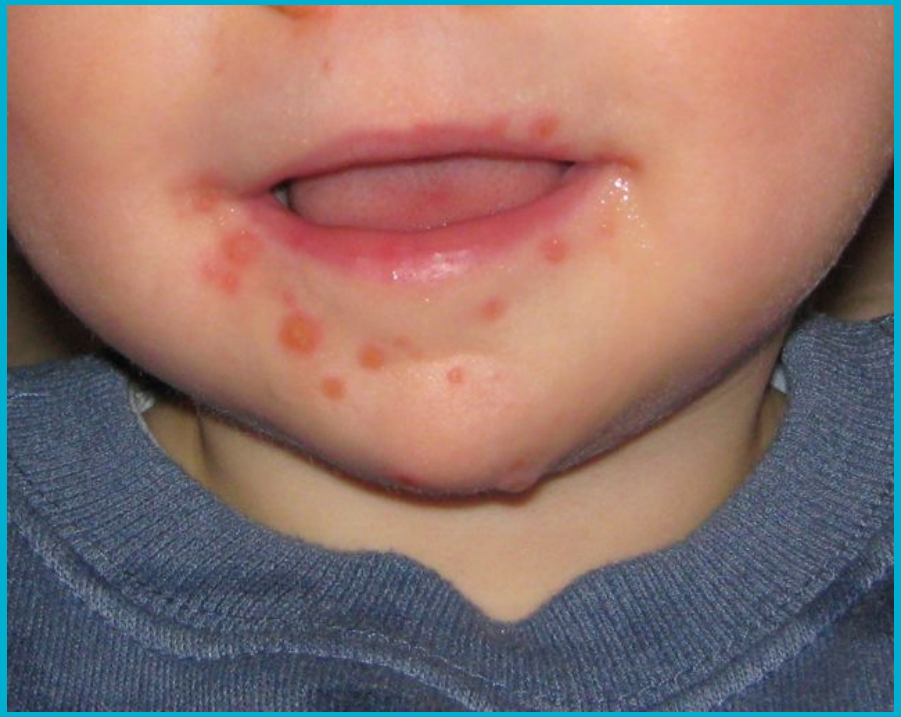
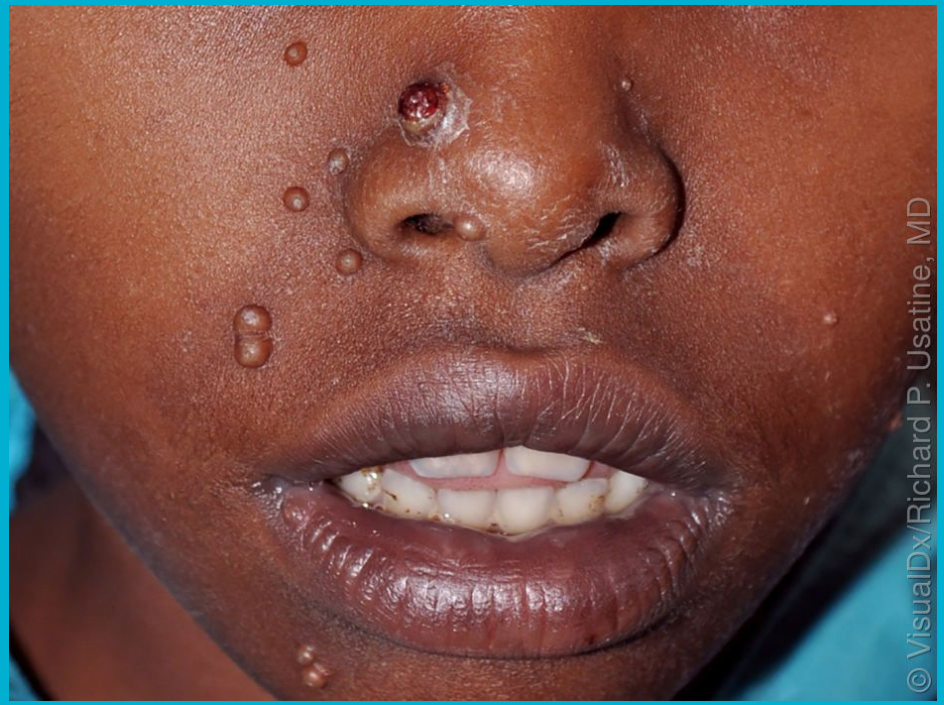
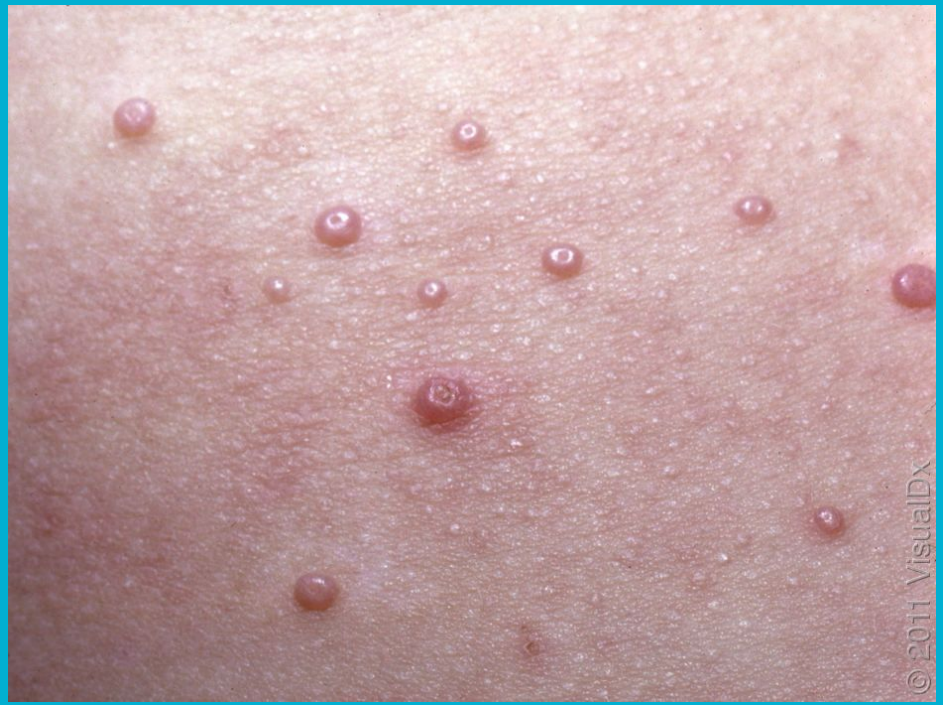


Image sources: https://ghusc.com/coxsackie/ https://www.parents.com/baby/health/other-issues/coxsackie-virus-facts/





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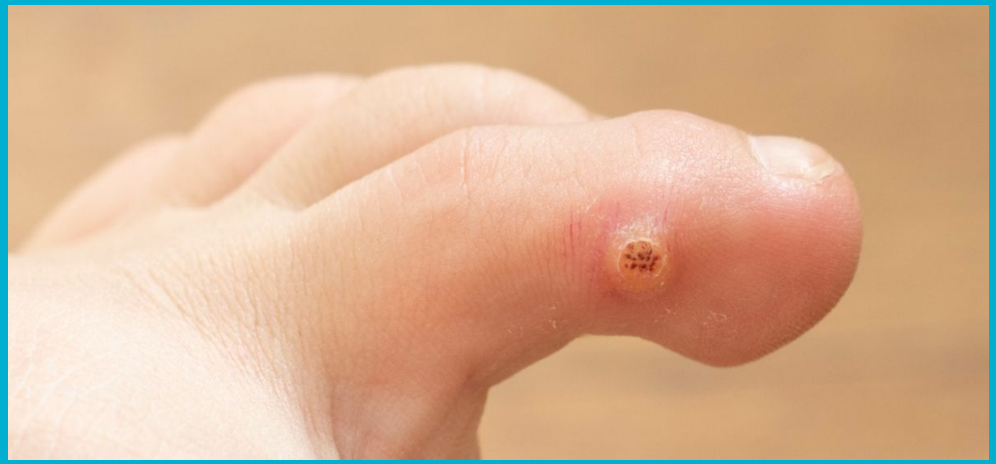


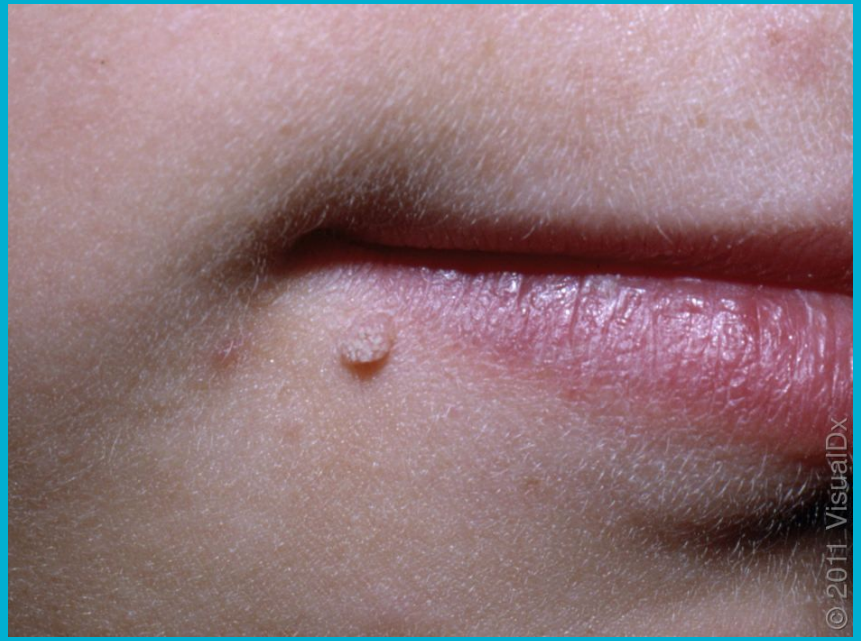
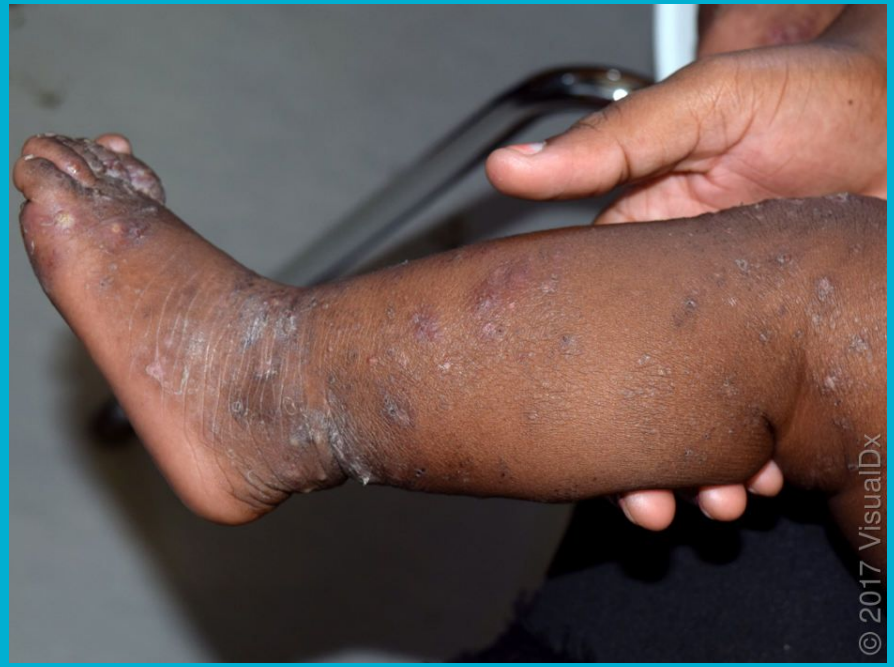
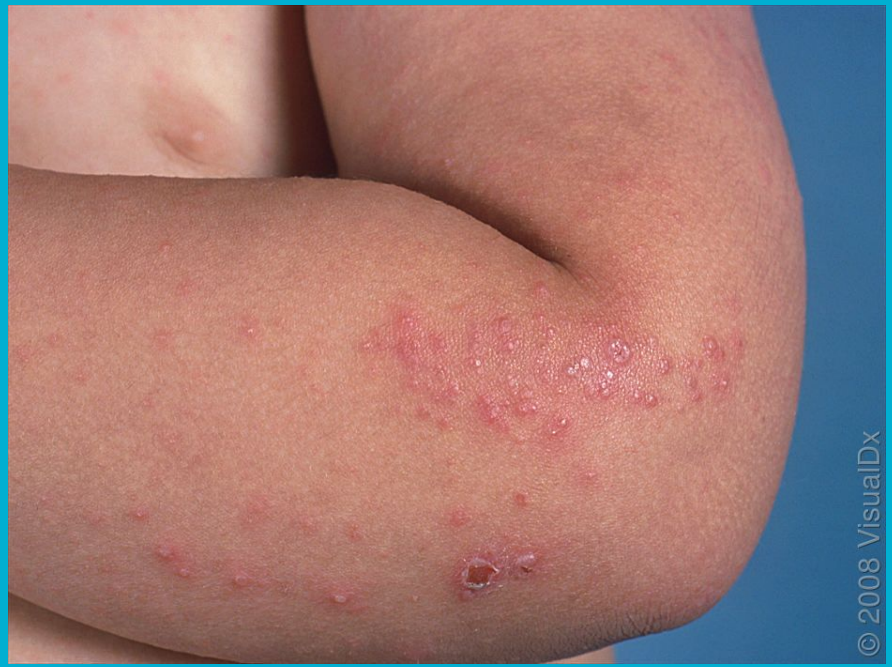


Image sources: https://northeastfoot.com/plantar-warts/, https://www.visualdx.com/visualdx/diagnosis/common+wart?moduleId=101&diagnosisId=52515#view=images&gid=1&pid=61





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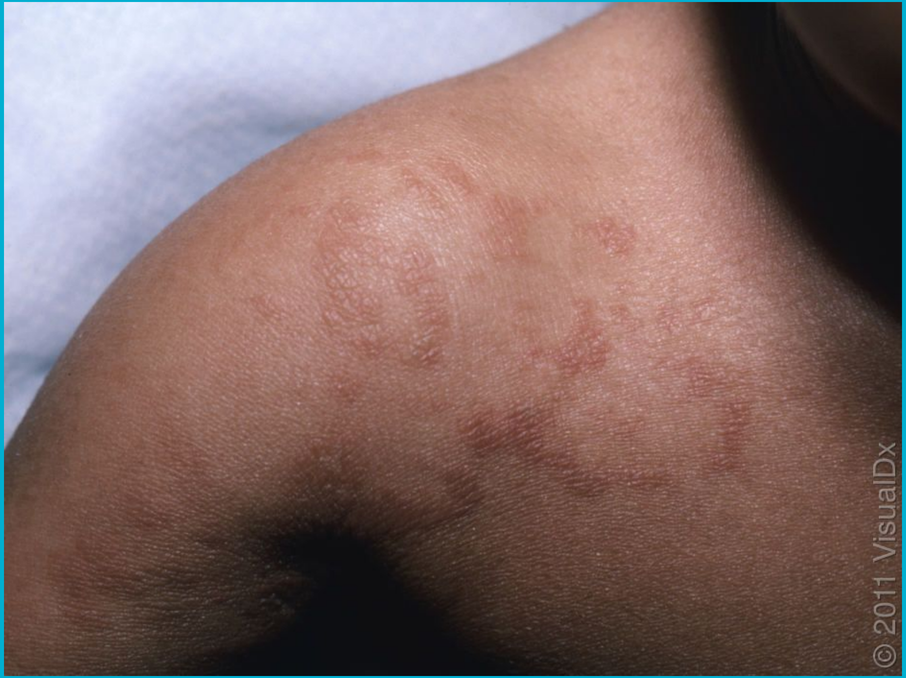

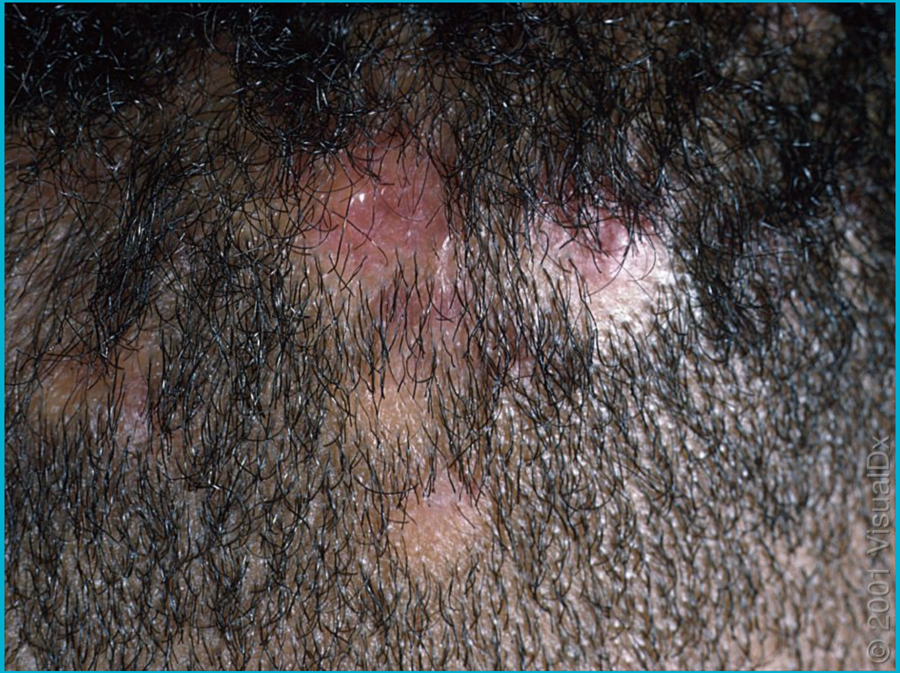

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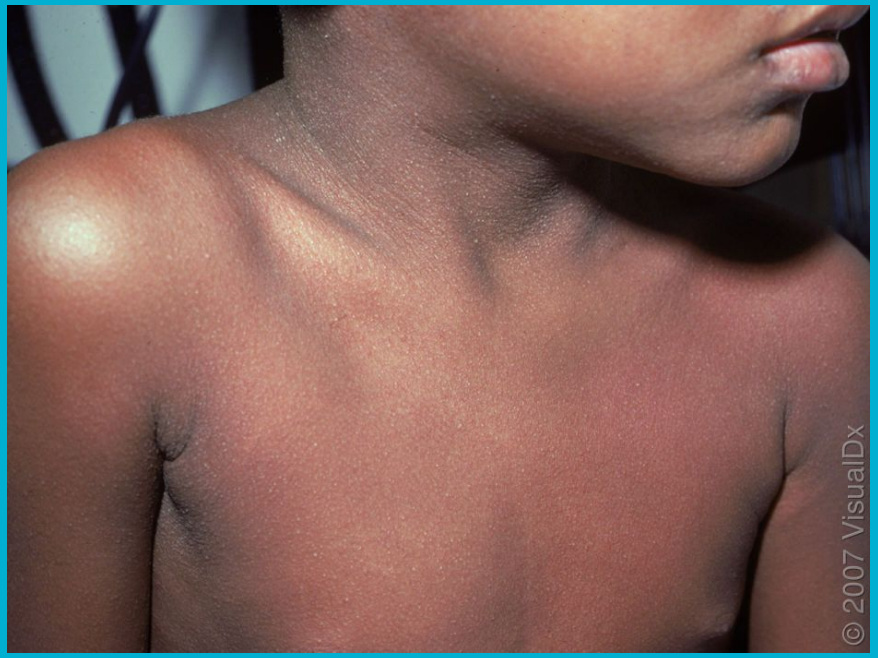

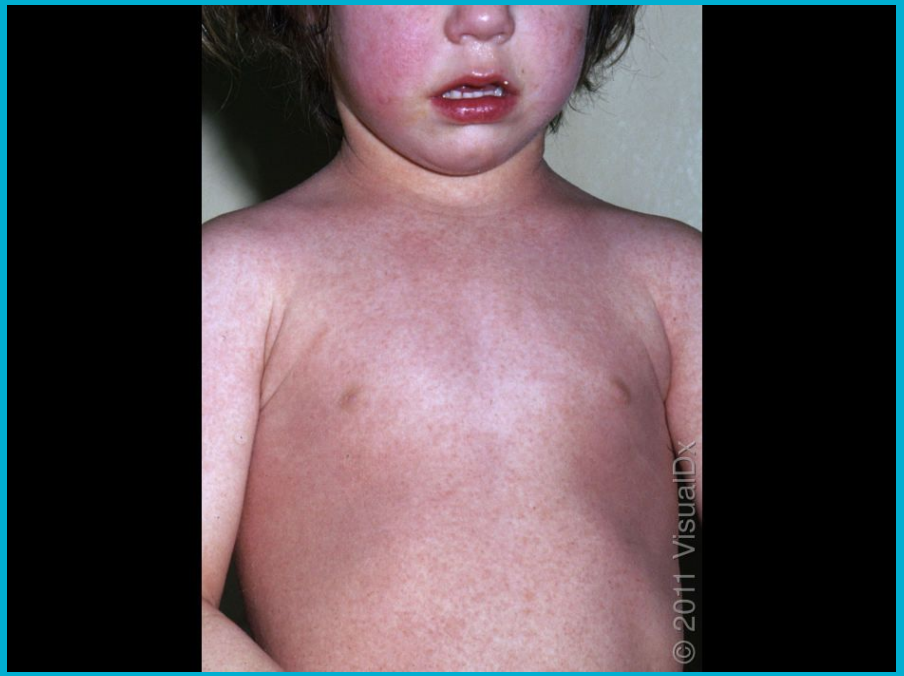

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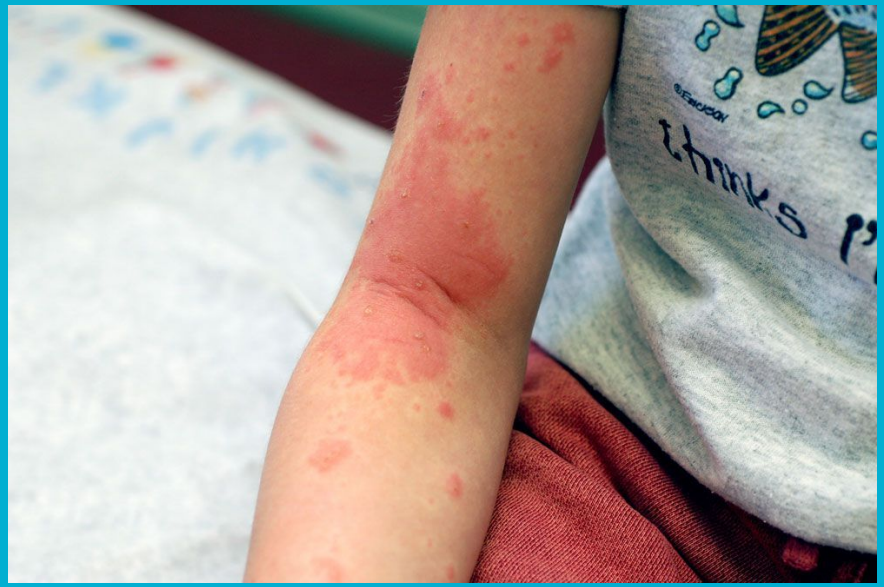

Image sources: https://www.verywellfamily.com/poison-ivy-pictures-4020342

Developmental & Behavioral Concerns

Gif source: https://media.giphy.com/media/RUcHXDGWCC8wM/giphy.gif

Tantrums

- Tantrums are COMMON - 50-80% of 2-3 yo's have weekly tantrums and 20% have daily tantrums
- Some tips to give parents:
  - Routines are helpful! They give everyone a sense of control
  - Give limited choices
  - Pick your battles - don't use the word "no" if you aren't going to stick with it
  - Set clear expectations
  - Try to teach emotion language - "Tell me how you feel right now," "I can tell you feel angry"
  - Consider positive reinforcement - i.e. sticker chart. Avoid doing this with food!

(Needleman, 2019)

Potty Training/Enuresis

- Start potty training by having child go into restroom with parents or siblings so they start to know what potty is for
- Helps to have child's interest in potty training
- KEY POINT FOR PARENTS: no punishment // positive reinforcement is best
- Enuresis:
  - Rule of 2s:
    - #2s (SOFT poops like toothpaste every day)
    - Pee every 2 hours
    - Spend 2 minutes peeing
    - Pee 2 times especially before big trips
    - Don't drink anything 2 hours before bed
    - Drink enough water so you pee light yellow

Sleep Issues

- Get a good sleep history:
  - Bedtime
  - Actual fall asleep time
  - Bedtime routine including screentime prior to bed
  - Bedroom factors (i.e. sharing a bedroom or bed? Safe & secure environment?)
  - Wake up time
  - Naps? If so, what time & how long?

Sleep Issues

- Good sleep hygiene measures:
  - Calming bedtime routine with scheduled bedtime and electronics turn off ideally at least 1 hour before bed
  - If sleep phase shift has occurred, use melatonin to gradually shift back
    - Example: If teen is falling asleep around 2 AM, start by giving melatonin around 1:30 AM, then every few days shift by 15-30 minutes until ideal bedtime is reached
  - Parents need to be reminded that they are often in control of electronics
  - Limit naps to no more than 1 hour
  - Avoid drastic changes to sleep schedule on weekends - only 1-2 extra hours awake or sleeping in

Infant/toddler sleep

- Practice putting infant in crib before falling asleep, should be dozing but not fully asleep
- Two most recommended methods for sleep training:
  - Ferber/Cry it out method
    - Gradually increase amount of time that baby is crying before you go comfort
    - When comforting - brief back rub/acknowledgement, don't remove from crib
    - Usually takes about 2 weeks before child is sleep trained - hardest on parents!
  - Graduated extinction method
    - Start by having parent sit in child's room close to bed until asleep
    - Every night move chair/sitting area a few inches or feet closer to the door until child able to fall asleep without parent in room

Picky Eating

- **Kids Eat In Color** - https://kidseatincolor.com/ // on Instagram! Easily accessible for parents
- Avoid food struggles!!! Parent provides wide variety of health foods, child decides how much to eat
- “Practice bites” of veggies - like learning to ride a bike
- Can review portion sizes - protein serving size of child’s palm
- No bribing with food - tricky
- **Pediasure is not a fix for picky eating - avoid unless truly showing poor weight gain/weight loss/FTT (<5%ile)**

Speech Concerns

- Speech should generally start by 12 months (mama, dada)
- Should be able to understand 50% of speech by 2 yo, 75% by 3 yo and 100% by 4 yo
- If any speech concerns arise, refer to Birth to Three and Audiology

Hyperactivity & ADHD

- A few questions to start with:
  - Sleep schedule/ snoring
  - School performance (including if teachers have voiced concerns)
  - Parenting style/attachment
  - Family hx of ADHD
  - Anxiety/depression/significant life events
  - Nutrition? I.e. juice
- Have parents & teacher fill out a Vanderbilt questionnaire
- Get child into BH - this is first line treatment before anything else
- UNDER 4: parenting support programs like Triple P

Hyperactivity Follow up Visit

- When Vanderbilts are positive for diagnosis – issues both at home and at school:
  - Consider stimulants
  - Most helpful to pick a few favorite meds to prescribe and get comfortable with those
- Exam before starting stimulants: BP, cardiac exam.
- FU for stimulants: Behavioral changes, school performance, SEs (tics, appetite and sleep disturbance)
  - Every month initially, every 3 months once stable
  - Call for monthly refills

Depression & Anxiety

- Screen all kids 12+ yo for depression/anxiety
- If endorsing any suicidal ideation, do risk assessment
  - When did they last feel suicidal?
  - Do they have a plan?
  - Do they have access to a means to attempt suicide?
  - Assess for supports - who could they tell if they were feeling this way?
  - If passive SI - okay to inform parent and set up a safety plan including 211
  - If active SI - send to ED

Child Abuse/Trauma

- Important child abuse considerations:
  - Always document birthmarks inc. dermal melanocytosis in notes
  - If you see something suspicious, ask child (if able) and parent about it/how it happened
  - Always check HC in infants <24 months
    - Don't forget to remeasure and verify!
    - If big jump or > 2 %iles increase, get a head US to evaluate for increased fluid
- Always good to have the contact information for your local child abuse specialists if possible so you can get a quick consult if needed - CCMC SCAN 860-837-5890
- Do you know how you are going to disclose a concern to a family? Important to practice and have a set "talk"

Well Child Checks
2 – 24 months

Gif source: https://media.giphy.com/media/91ZWDiiGwCeE8/giphy-downsized.gif

2 & 4 month visits

2 Month visit

- First shots - discuss side effects, acetaminophen dosage
- Postpartum depression screening
  - EPDS v. PHQ-2 (9)
  - SI/HI -> DO NOT MISS
  - Make sure you have a plan for positive screens
- Tummy time

4 Month visit

- Same shots as 2 mo wcc
- Increased mobility - starting to roll (safety)
- Solids i.e. cereals/interest in food
- Teething education
- Postpartum depression screening

6 & 9 month visits

6 month visit:

- Only new shot is the flu shot, 2 doses first year

- Food introduction
- Review teething
- Review safety proofing/increased mobility
- Can start introducing water
    - 4-8 oz/day, with meals, sippy cup
- Ibuprofen & sunscreen now okay

- **REACH OUT AND READ** at well visits from now until 5y

9 month visit

- Review safety! Avoid walkers
- Moving to regularly scheduled meals & snacks
    - 8-12mo Meal plan handout at Healthychildren.org
- Majority of calories should still come from breastmilk or formula
- Introduce sippy cup, straw
- Anticipate eliminating bottle and transitioning to whole milk at 12m
    - But no cows milk or honey until then
- Teeth brushing

12 month visit

- Lots of shots! Plus hgb & lead
- Walking, talking
- No more bottles, no more formula (ensure not using toddler formulas/Nido)
- Car seat stays rear facing until 24 mo
- DELAY JUICE
- Teeth brushing/ time to go to the dentist
- Introducing new foods - encourage parents to keep introducing foods the child ‘doesn’t like’, it may take up to 10 times before they learn to like a food

15, 18 & 24 month visits

15/18 Month

- You may have to be creative with your physical exam! Ask parents for help
- SAFETY
  - Medications & cleaning supplies out of reach / locked away
- Anticipate picky eating - developmentally normal
  - To be discussed further….
- DELAY JUICE until 2y, at least < 4 oz/day
- Make sure child is drinking water
- Screen for anemia

24 Month

- Transition to low fat milk
- Lead & hemogram - screen again
- Behavior
- RX FOR PLAY

Vaccines/Vaccine Hesitancy

How to approach vaccine hesitancy

- Open ended questions // what are parents concerned about?
- Explain SEs of vaccines clearly - we want the body to respond & make antibodies!
- “Is there anything I can say today to make you change your mind?”
  - Indicates that this is important to us as providers!
  - If parents are open/ hesitate, it is a great place to start education
  - Remind parents that it will be discussed at EVERY visit, paperwork will need to be signed
- Can provide parents with handouts to take home and read
  - CDC, https://www.immunize.org/
- Remain non judgemental, you want them to keep coming back to care even if you disagree with their decisions
- Current state movements to eliminate religious exemptions for schools

Common Pedi Labs

(Mostly for reference)

Lipids

- Who to test
  - Standard: 9-11 yo (once), 17-21
  - 2 yo and up:
    - Positive family hx of CVD , parent with dyslipidemia, 2+ high level risk factors OR 1 high level and 2 moderate level risk factors
    - High level risk factors: BMI > 97%ile, HTN needing meds, smoking, DM, CKD,Kawasaki disease w/aneurysm
    - Mod level: BMI > 95%ile, HTN w/o meds, HDL < 40, Kawasaki w/o aneurysm, HIV, nephrotic syndrome, inflammatory disease
- What to order
  - Lipid panel, Non-fasting w/o TG: Total cholesterol, HDL, Non-HDL
  - Lipid panel, standard (fasting): Total cholesterol, HDL, TG, LDL

(Sura, 2020)

Lipids (Continued)

- Cholesterol
  - On non-fasting panel abnormal is as follows:
    - <20 YO: Non-HDL >/= 145 or HDL < 40
    - >20 yo: Non-HDL >/= 190 or HDL < 40
- HDL
  - HDL < 40 = dietary modification, discuss healthy fats +/- RD referral
- LDL (fasting)
  - <110 = normal
  - 110-129 - repeat in 12 months, review diet & physical activity
  - >130 - Refer to CCMC CLASP algorithm, may need to be referred to CCMC Lipid Center

(Sura, 2020)

Lipids (Continued)

- TG
  - If < 10 yo
    - < 75 = normal
    - 75-99 = borderline, dietary modification, physical activity, +/- RD referral, repeat in 12 mo
    - > 100= Refer to CCMC CLASP
  - If >10 yo
    - <90 = normal
    - 90-129 = repeat in 12 months, review diet & physical activity
    - > 130 = Refer to CCMC CLASP algorithm, may need to be referred to CCMC Lipid Center
- When in doubt, refer to CCMC CLASP

(Sura, 2020)

ALT

- Screening
  - 9-11 yo with BMI >95%ile
  - >/= 9 -11 yo with BMI >85%ile and <94%ile with 1+ risk factors
  - <9 years with BMI > 95%ile PLUS family hx of NAFLD, hypopituitarism
  - Risk factors: Central adiposity, insulin resistance, pre-DM/DM, dyslipidemia, sleep apnea
- Results
  - Normal: <23 (girls), <27 (boys)
    - Repeat every 2-3 years unless new risk factors develop
  - 23-44 (girls) or 26-50 (boys)
    - Repeat in 1 year if risk factors unchanged, sooner if develops risk factors
  - 44-80 (girls) or 50-80 (boys)
    - Repeat in 1 month, then monthly if not normalized
    - If elevated x 3 months, refer to GI
- Treatment - dietary and lifestyle modification!

(Emerick & Lee, 2020)

Vitamin D

- Symptoms of vitamin D deficiency
  - Weak bones
  - Muscle weakness
  - Severe: seizures, tetany, hyperreflexia and apneic episodes
- Who to test
  - Dark skinned infants/children, especially if hx of prematurity
  - Children with low vit D intake (picky eaters)
  - Young children with nonspecific symptoms - poor growth, motor delays
  - Children with chronic conditions, especially malabsorptive
  - **Recommended by CLASP guidelines to screen children with obesity**
- Test: Vitamin D 25-hydroxy, total

(Misra, 2020), (Virkud, 2019)(Dunbar, 2017)
Image source: https://foodandhealth.com/vitamin-d-and-you/

Vitamin D (Continued)

- Levels
  - 20-30 = Insufficiency
  - <20 = Deficiency - Treat!
- Treatment - Vitamin D2 or D3
  - Weekly dosing
    - Young children - 15,000-25,000 weekly x 8-12 weeks
    - Older children - 25,000 - 50,000 weekly x 8-12 weeks
  - Daily dosing
    - >12 mo-12 years - 3000-6000 IU daily x 12 weeks
    - >12 yo - 6000 IU daily x 12 weeks
  - Foods: Eggs, fish, milk
- Recheck after 1 month (or after 3 months, per your preference)

(Misra, 2020), (Virkud, 2019)(Dunbar, 2017)

Vitamin D (Continued)

- Maintenance/Insufficiency dosing
  - **ALL** infants - 400 IU vitamin D daily
  - 12 mo-12 years - 600-1000 IU daily
  - 12+ yo - 1000 IU daily
- Tips
  - Take with largest meal of day
  - Ensure at least 500 mg calcium daily, too
  - Most of the liquid tastes & smells bad

(Misra, 2020), (Virkud, 2019)(Dunbar, 2017)

Thyroid labs

- Not routinely recommended as a screening lab in obesity
  - Provider discretion, in general: only if very rapid weight gain or abnormal thyroid exam
- Abnormal thyroid exam: US and labs - thyroglobulin and thyroid peroxidase antibodies (TgAb and TPOAb)
- In general for younger children, always get both TSH & free T4 rather than rflx
- Hyperthyroidism
  - Low TSH, elevated FT4
- Hypothyroidism
  - Elevated TSH, low FT4

(Demirci, 2020)

Questions?!

Image source: https://media.giphy.com/media/ZLxRWG0vhzpiE/source.gif

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