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Session 3/4: Health Appraisal and Screening

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Nurse Builders

Health Appraisal and Nursing Process Domain

- Goal: what is normal, what is progressing, what is referable
- Nursing Process – used to organize assessment and care
- Requires good communication skills
  - Active listening (verbal and non-verbal cues)
  - Open-ended questions (What are your concerns, How do you usually deal with..)
  - Restate, clarify, summarize
  - Be non-judgmental, culturally appropriate
  - Use terms appropriate for mental/cognitive age
  - Eye level
  - Truthful

Health history (data collection)

- Observe
- What brings you here today (chief complaint)
  - Chief complaint is written in their words
  - Where (location); what (describe, what makes it worse or better); when (onset, duration, frequency); how much (intensity); other symptoms (achy, nausea, rash)
- Last intake – what was it
- What have you done/taken for problem – did it help
  - Who did you tell about the problem
- Health history
- Amount of sleep
- Health status of family members
- Stressors (home, school, friends); feelings of sadness
- High risk behaviors

Physical assessment

- Hand hygiene before and after
- Ask permission before touching
- Vital signs
  - Temperature: oral electronic (sublingual pocket with lips closed), tympanic (pull ear up and back and rotate probe handle toward jaw), or temporal artery (middle of forehead to hairline)
    - 97.5-98.6 – orally (fever >101F/ 38.3C; some use 100.4F/ 38C)
    - Take temp 30-60 minutes after intervention and 20-30 minutes after drinking hot or cold
  - Heart rate
    - Apical at PMI (left of midclavicular line at 4^{th} intercostal space if <7; at 5^{th} intercostal space if >7
    - Rate, rhythm, quality of sound (murmurs), strength of pulse
    - Rate: 102-121/min. at age 3; 84-104 at age 10; 74-97 at 17

Physical assessment

- Respiratory rate and status
  - Abdominal breathing in young children; thoracic in older children
  - 23-27 at age 3; 17-21 at age 10; 16-20 at age 17
  - Observe for: depth and pattern; presence of restlessness, irritability and position of comfort; color around mouth (circumoral cyanosis) and fingertips (clubbing); muffled voice (with drooling); shortness of breath; cough; wheeze; stridor; barrel chest
    - CAN THEY SPEAK A FULL SENTENCE
  - Pulse oximetry: normal is 95%-100%
- Blood pressure
  - It doesn't matter which arm – but be consistent
    - Cuff at heart level; sit a few minutes before taking
  - Bladder cuff width = 40% of arm circumference between olecranon process (elbow) and acromion (shoulder); 2/3 – ¾ of upper arm
    - bladder cuff should cover >80% of arm circumference
    - Too small ☾ higher reading
  - BP ranges: 90/50 at age 3; 100/62 at age 10; 120/80 at 17 [systolic over diastolic]
    - Retake in 5 minutes if abnormal, especially with headache, bounding pulse, and flushing for hypertension; weak pulse, diaphoresis, pallor and dizziness for hypotension; hypertension is usually asymptomatic
    - Decrease in BP is a LATE sign of shock in children
  - Korotkoff sound is when sound disappears

Physical assessment

- **Pain (acute)**
  - Character of pain (burn, ache, stab), onset, location and radiation, duration, frequency, exacerbation (what makes it worse)
  - Swelling, redness, tender, range of motion, guarding
  - Intensity – use pain scale – mostly for acute pain
    - FACES for preschool
    - Numeric scale (0-10) - ages 8 and up
    - Visual Analog Scale
    - FLACC for non-verbal (facial expression, legs [relaxed or drawn up], activity, crying, consolability)
  - Treatment
  - Reinforce that pain is not punishment

Additional assessments

- Nutrition (what, when, with whom); check hair and skin; check teeth
- Inspection (look listen smell)
- Palpation (feel)
  - Finger pads are more sensitive than finger tips; ulnar surface of palm more sensitive for vibration; dorsal (back) of hand best for temperature
- Percussion (tapping to induce sound waves)
    - Tympany (loud/gi); resonance (hollow/normal lungs); dullness (thud/liver);flatness (bones)
- Auscultation (listen with stethoscope [bell for low sounds (cardiac); diaphragm for high-pitched sounds (lungs/bowel)]
  - Intensity, pitch, duration, quality

Screening

- **Assessment and screening are not the same: assessment is of an individual or situation; screening is of large population groups**
- **Identifies the existence or extent of a particular problem that has morbidity, and tries to prevent the morbidity with reliable interventions; NOT A DIAGNOSIS**
- Incidence (new cases/period of time/specific population)
- Prevalence (old and new cases/period of time; proportion of population)
- Screen at times when treatment would work (vision/ scoliosis)
- BEFORE testing: eliminate factors that would interfere with results (noise, forgot glasses, has a cold)
- Tools must be reliable (get same results each time) and valid (measures what it says it does) [Examples: scales and growth charts do not result in a diagnosis]
- Positive findings are basis for referral

Screening

- Inform parents in letter
- Work with staff to explain mandate or need and find best time
- Prepare students of what is expected of them
- Know policy and procedure for screening
- Know criteria for referral
- Be aware of FERPA if have help recording results
- Follow up on referrals

Height and weight

- Height via Stadiometer
  - Firm floor, not carpeted, headplate at 90 degrees, no shoes
  - 4 points of contact with wall: heels, buttocks, shoulders, head
  - **Measure to nearest 1/8 inch (0.1cm)**
  - [short stature < 10^{th} percentile; note parents; refer if near growth spurt (epiphysis)]
- Weight via scale
  - Shoes off, minimal clothing, same scale/ time of day
  - Provide privacy
  - Calibrate scale daily; place on hard surface and zero between students
  - **Measure to nearest ¼ pound (0.1kg)**
- **Beware of student who crosses over multiple percentiles**

Body Mass Index

- CDC growth charts (percentile age for height; age for weight)
- BMI – need exact age, height, weight
  - WEIGHT DIVIDED BY HEIGHT SQUARED
- Underweight - <5% (<18.5 kg/m^2)
- Normal weight – 5% - <85% (18.5 - <25)
- **Overweight – 85% - <95% (25-29.99)**
- **Obese – ≥95% (≥30)**

Eyes and Vision

- 4 cranial nerves: optic (2), oculomotor (3 – pupil size and movement of eyelids), trochlear (4 – movement of eye downward and inward – convergence), and abducens (6 – lateral eye movement)
- External eye:
    - Ptosis – drooping eyelid
    - Palpebral fissure – angle of eye slit
    - Stye (hordeolum) = infected abscess of eyelid
  - Conjunctiva – lining of eyelid
- Internal eye
  - Sclera – white, opaque
  - Cornea – transparent – with nerves
    - Iris is colored part under cornea – center = pupil – controls amount of light that enters
  - Ciliary body/ ciliary reflex – muscles ☾ accommodation (convergence)

Eyes and Vision

- Pupils – should be equal in size and reactive to light and accommodation (when eyes adjust for near vision by pupils constricting, convergence of eyes, and increase convexity of lens)
  - Miosis = pupil constriction <2mm
  - Mydriasis = pupil dilation > 6mm
  - Aniscoria – pupils unequal
- Retina
  - On funduscopic exam, retina is yellow or pink with border of optic disc (contains optic nerve)
    - Red reflex – normal, red-orange round and clear appearance of vascular retina, elicited when light is directed at ocular fundus (Gemini Test)
      - White area in pupil = cataract or retinoblastoma
  - Macula = site for central vision and color perception

Eyes and Vision

- Vision needs optic nerve, and lens and cornea bending (refracting) light to form image – and then brain interpreting it
  - Last sense to mature (age 6-7)
  - Children may be unaware that they can not see
- Signs of vision problems
  - Squinting, blinking, head tilting, rubbing eyes, holding material close, covering one eye, headache
- Photoscreeners and autorefracters do not measure visual acuity directly; they give information on eye structure (eye misalignment and estimation of refractive errors)
  - Instrument screening is not recommended to measure visual acuity

Testing distance visual acuity

- Ability of eye to see clearly at near (16 inches) and far (> 10 feet)
- Tools
  - Vision chart: **LEA symbols, HOTV chart, Sloan chart (or Snellen)**
  - Plastic occluder
  - Good light source for chart (no glare)
  - Chart should be eye level for child
  - Mark floor for 10 or 20 feet
- Directions to test for **MYOPIA** (nearsightedness – difficulty focusing on distant objects [> 10 feet])
  - For young children, go over symbols first
  - **Stand with arches on line or sit with back legs of chair on line**
  - Cover 1 eye but keep both open
  - Test with glasses
  - Start with 20/40 line and move down to 20/20; **pass = read more than half of line**
    - #feet/smallest line read correctly
    - 3-4 years – refer if 20/50 or 2 line difference between eyes (anisometropia)
    - **6 and up – refer if 20/40 or 2 line difference between eyes**
  - Corrected with biconcave lenses

Testing near vision and eye muscles

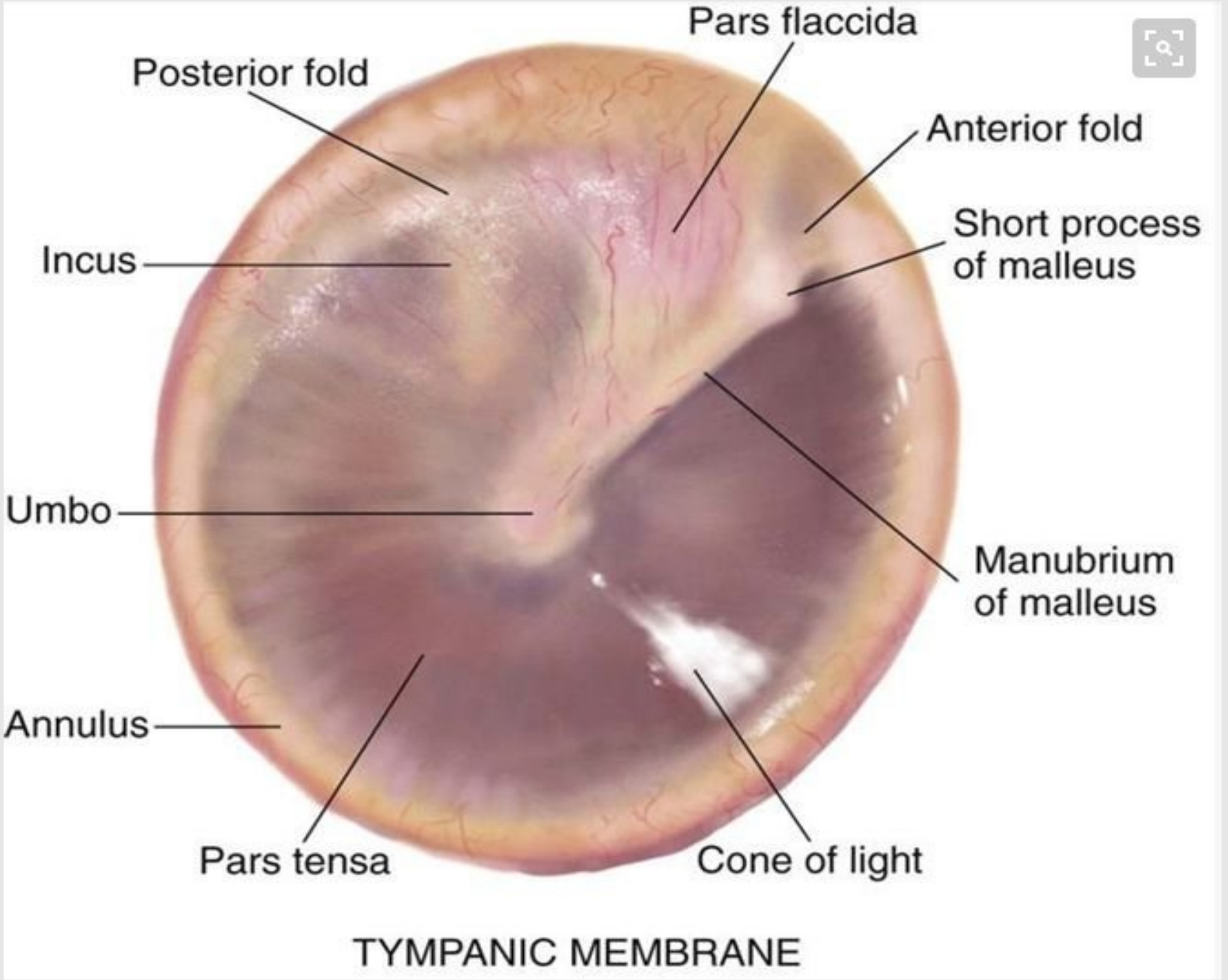
- Testing for **HYPEROPIA** (farsightedness) – inability to focus on near objects
  - Hold chart at 16 inches
  - Corrected with convex lenses
- Testing Eye Muscles
  - Ability of both eyes to focus on one image (binocular vision)
  - Results in depth perception (Stereopsis/Sterioacuity)
    - Measure by using polarized glasses and Stereo Fly/ Butterfly Test – ask child to pinch wings – hands should remain above picture (fails if hits surface of test plate) or Pass 3 Smile Test (point to card with smiley face)
  - Strabismus – abnormal alignment; deviation of 1 eye
    - Hirschberg Test – corneal light reflex test (shine penlight directly into eyes from 12-15 inches; light should fall equally on each pupil
    - **Cover-uncover test** – hold finger/sticker 14 inches away; cover one eye; look at object and remove cover (**neither eye should move**)
  - Nystagmus – involuntary jerky movements

Testing vision

- Tracking
  - Check visual field in 6 cardinal fields of gaze – watch eyes
    - Up, up right, up left, down, down right, down left
  - Move object towards nose
- **AMBLYOPIA** – decreased visual cortical response in one eye
  - A problem of visual acuity and alignment
  - PATCH GOOD EYE BEFORE AGE 6 (is best practice)
- Esotropia – 1 or both eyes turn inward
  - A type of strabismus
- Color
  - Genetic – only tested once
  - **Ishihara Color Test Plates or Pseudoisochromatic / Wagner isochromatic color Plates**
    - Do not trace with finger; use a cotton swab

Ear Assessment and Hearing

- Hearing is essential for language development and language development is essential for learning
  - Speech problems ☾ check hearing
  - Hearing is mature at birth
- Pinna curves to enhance pitch and locate sound; canal curves (must be pulled and straightened to assess); glands make cerumen
- Ear placement – top of ear on line with inner and outer canthus
- Should protrude evenly
- Tympanic membrane: round, concave, translucent, pink or gray
  - Bones connected at 12 o'clock; cone of light (light reflex) at 5 on right and 7 on left
  - Assess for redness and drainage (middle ear vs. inner ear infection)
  - Assess for ear wax (cerumen)
- Otitis externa – swimmer's ear – pain in ear canal when pulled


Pars flaccida
Posterior fold
Anterior fold
Short process of malleus
Incus
Umbo
Manubrium of malleus
Annulus
Pars tensa
Cone of light
TYMPANIC MEMBRANE

Middle and inner ear

- Middle ear: tympanic membrane vibrates 3 bones that transmit sounds to oval window to inner ear
  - Connects ear to nasopharynx via Eustachian tube to equalize ear pressure and drains fluid
    - Because infants and young children have shorter and less angled Eustachian tube, they are more prone to getting secretions from nose and throat into ear ☾ otitis media
- Inner ear: 3 semicircular canals, vestibule (for balance/equilibrium), cochlea with receptor hairs, auditory nerve (8)
  - Labrynthitis - vertigo

Sound

- Sound is caused by sound wave vibrations to stimulate nerve that communicates with temporal lobe and is interpreted.
- **Decibels** = loudness (**normal speech = 50-70 decibels**)
- **Hertz** = pitch (high and low sounds) – number of cycles per second
  - High pitch – like birds chirping or “s” – 4000 Hz
  - Low pitch – like bullfrog or “who” – 250 Hz
- Hearing screening = Threshold Screening (softest level at which they can hear sounds)
- Hearing is affected by: cerumen, nerve damage, fluid in middle ear, swollen adenoids

Hearing screening protocol

- Soundproof room is preferred; quiet room with no ambient noise (ringing phones, heating units, flushing toilets, hall traffic, gym/music rooms)
  - Acoustical tile, drapes, carpeting and solid doors help decrease ambient noise
- 1 table, 2 chairs, electrical outlet
  - Turn chair 90 degrees – so student can not see machine and you pressing it
- Audiometer
  - May need to warm up
  - Test that sound is coming from both sides; red = right; clean with damp cloth (no alcohol)
  - Calibrate annually
  - Remove anything that prevents good seal (earrings/ hair)
  - Press tones for 2-4 seconds – do not use rhythm – vary ear
- Raise ANY hand or signal if hear sound

Hearing screening

- Accepted screening level usually **20 decibels** (may be 25 if noisy)
  - If can’t hear, start at 50 and work down
- **Usually test 1000, 2000, and 4000 Hertz**
- If does not pass, recheck in 2-4 weeks
- Re-test hearing after cold or allergy season
- Threshold is softest level they can hear
- Leading cause of screening failure
  - Fluid, wax, and allergies

Hearing screening

- Young children and those with special needs – otoacoustic emissions (OAE) – NOT a hearing test
  - Emits sound into ear and bounces back; tests integrity of cochlea
- Hearing loss
  - **Conductive hearing loss – middle ear** (often due to chronic otitis media or allergic rhinitis)
  - **Sensorineural hearing loss – inner ear** (meningitis, ototoxic meds, noise [decrease loud music, especially with headphones], damage to auditory nerve)

    0-20 db = normal

    20-40 db = mild hearing loss (ok 1:1 need to see speaker's face)

    41-70 db = moderate hearing loss (conversational speech is difficult)

    71-90 db = severe – can only hear loud and close noise

Other hearing tests

- **Weber Test**
  - Tuning fork midline top of head; where is sound heard best (should be equal)
  - Differentiates conductive and sensorineural hearing loss
- **Rinne Test**
  - Compares air and bone conduction (by seconds)
    - Air-conducted sound is twice as long (30 sec) as bone conduction (15 sec)
  - Tuning fork on mastoid and indicate when sound is gone; then put near ear canal (should be longer than on bone)

Nose and mouth

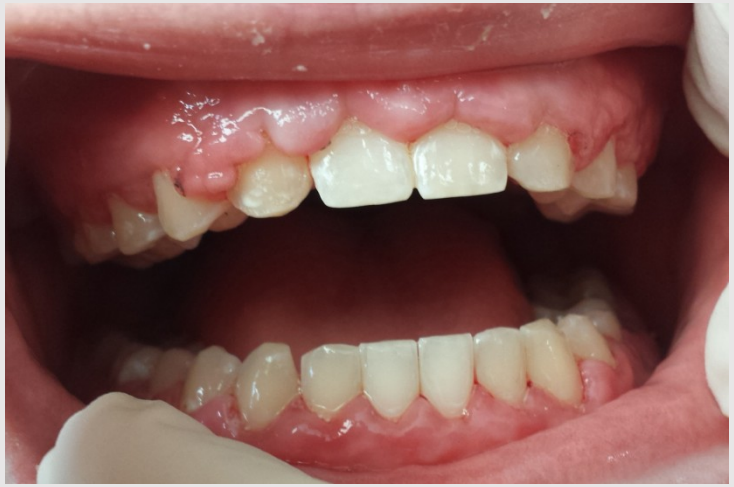
- Moisten, warm and filter air
- Resonate laryngeal sound
- Allergic rhinitis results in pale boggy swollen nares and a nasal crease
- Excoriation of the nares may be nose pickers
- Responsible for smell and taste and saliva to help swallow and digest food
- Sinuses – lighten weight of head; add resonance to voice
  - Continue to develop through adolescence
  - Sinusitis ☾ discomfort and drainage
    - Ethmoid – medial to eyes (between the eyes)
    - Maxillary – lateral to nares (under the eyes)
    - Frontal – above eyes – develop by age 7
    - Sphenoid – behind ethmoid – develops in adolescence

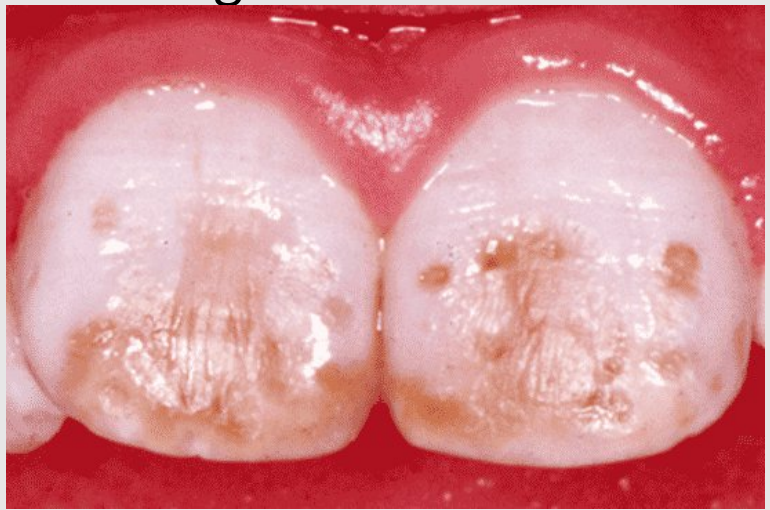
Mouth and throat

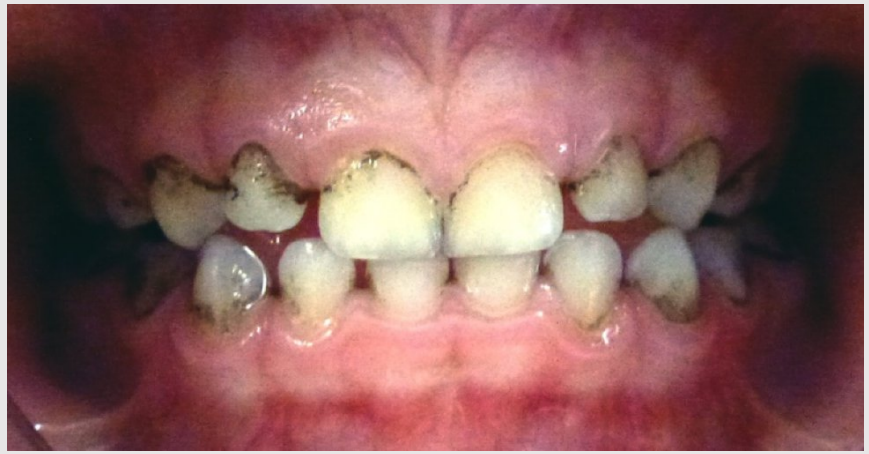
- Lips – cracked (dehydration), cherry red (acidosis), cyanosis, pallor (anemia), ulcers/cankers
- Halitosis or other mouth odors (poor hygiene, dehydration, sinus infection, ketoacidosis, status of teeth)
- Tonsils
  - Part of lymph system; enlarge through school-age
  - Palantine (faucial) on posterior wall of oropharynx
    - Pharyngeal tonsils and adenoids are not visible unless enlarged (like grapes when saying ‘ah’
    - Nasal speech may be enlarged adenoids
  - Assess for redness, swelling, white or yellow exudate, size of airway
  - Tonsils are graded 0 to 4 (occupy >75% of oropharyngeal width)
  - Post tonsillitis – 7-10 days – pain and bleeding (back of throat may look white and have an odor = normal)

Teeth and gums

- 20 deciduous teeth (first tooth out at 5-6)
- 32 permanent teeth as adults (ages 6 to 18)
  - By 18, all but 3rd molars (wisdom teeth)
  - Gingival hyperplasia – with Dilantin
- Assess for missing, loose, or carious teeth; altered shape or position; stains
  - Excess fluoride use results in mottling of the teeth
  - Oral iron intake or caffeine can result in green or black staining
  - Excessive reflux or eating disorders ☾ dental erosion







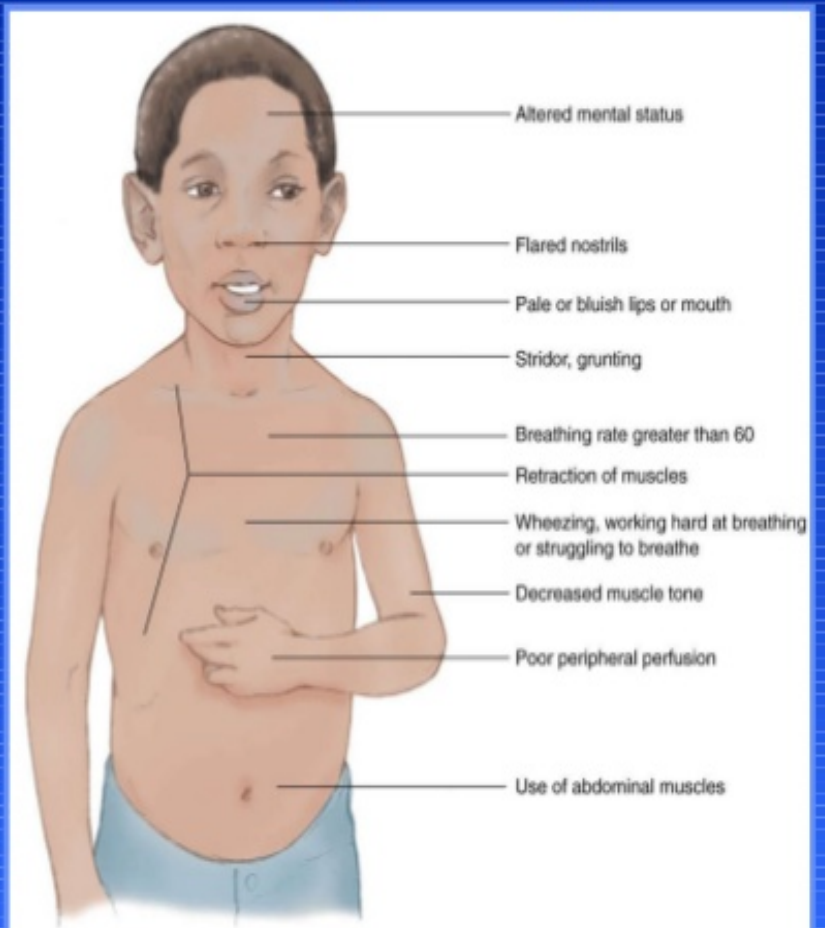
Temporomandibular joint (TMJ) Disorder

- The temporomandibular joint connects the jawbone to the skull
- Symptoms: intense momentary pain when mouth is opened or closed; clicking, popping or grating sound when opening or closing mouth; jaw locks, making it difficult to open or close mouth; ear ache; facial or neck pain, headache, eye pain or tooth pain, tinnitis
- Causes: habits such as teeth clenching or grinding (bruxism), gum chewing, or nail biting; stress, osteoarthritis, fibromyalgia, jaw injury
- Usually self-limited; treatment may include NSAIDS, mouth guards or intermittent use of heat or ice

Respiratory distress

- Nasal flaring
- Chin lag/ shoulders lift
- Suprasternal and substernal and intercostal retractions
- Tripod sitting position/ position of comfort
- Cannot finish a sentence
- Decreased breath sounds/ crackles/ rhonchi/ stridor/ wheeze
- Cough (productive/ non-productive/ paroxysmal, seal bark)
- Drooling/ cannot swallow secretions/ muffled speech (epiglottitis)
- Restless/ irritable

Signs of Respiratory Distress



Respiratory Assessments

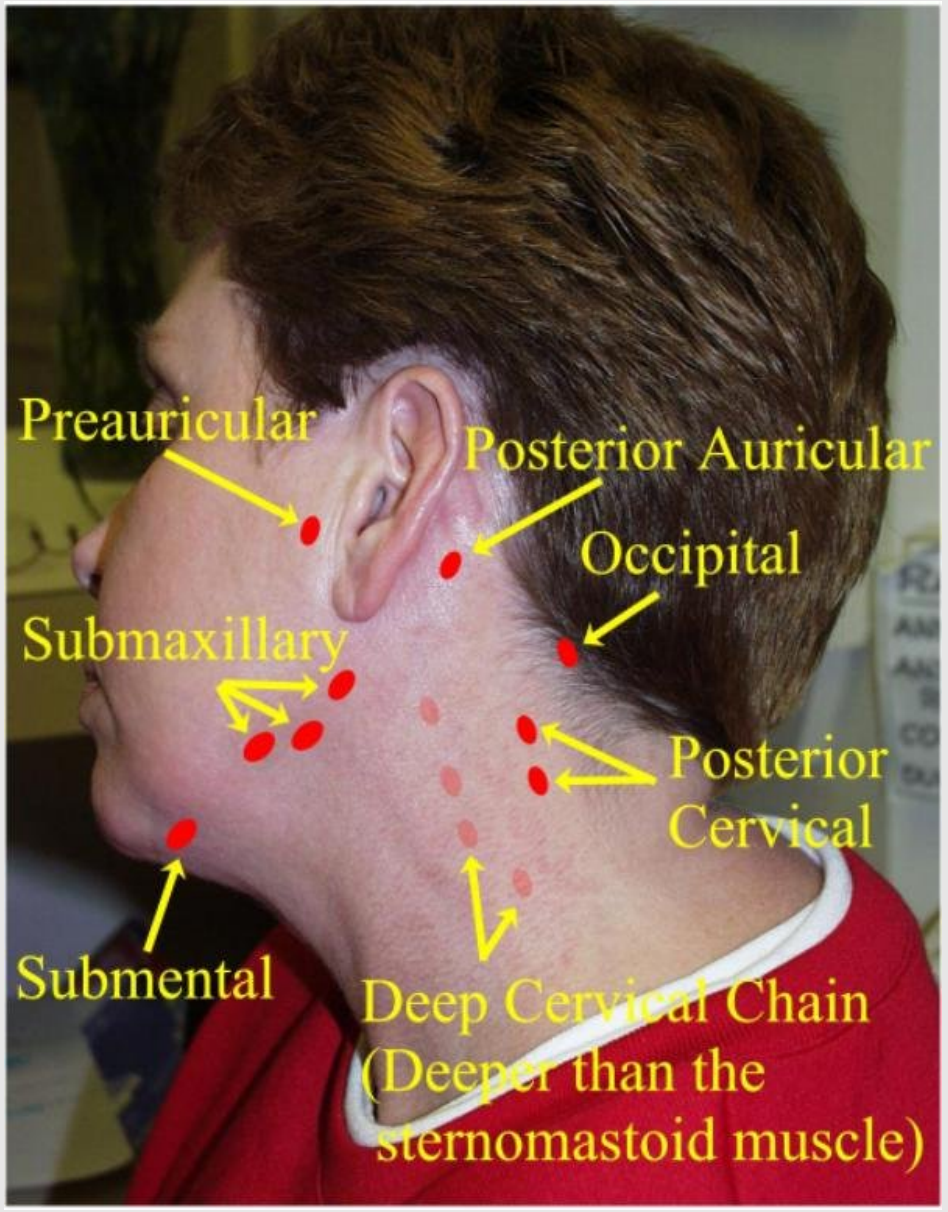
- Pulse oximetry – only on finger and without nail polish
  - <90% may indicate hypoxia
- Peak flow – measures peak expiratory flow rate/ maximum speed at which you exhale air (liters/minute)
- Clubbing of digits
  - Widening and lengthening of terminal phalanges without an angle
  - Due to tissue proliferation from chronic hypoxia
- Abdominal breathing
  - Normal in child <7 but in older children it may indicate pain with lung expansion
- Round barrel chest
  - May indicate history of air trapping related to chronic lung disease
- Position of trachea
  - In pneumothorax (collapsed lung), it deviates toward the healthy lung

Cardiac Assessment

- Cardiac
  - Assess for cyanosis, pulses (presence and strength), respiratory effort
  - Assess for position of comfort (squatting)
  - Tetralogy of Fallot – cyanotic heart defect
  - Student with congestive heart failure who is squatting
    - Normal vital signs
    - What do you do – NOTHING

Assess Lymph Nodes

- Use finger pads to gently circle each node
- Suboccipital, pre and retro auricular, submental, cervical, axillary
- Compare right and left for size, tenderness, and mobility
- Remember that the spleen is a lymph node



Skin lesions/rashes

- Assessment
  - When did it start?
  - Progression or does it come and go?
  - Itch or hurt?
  - Bleeding, weeping?
  - What makes it better or worse?
    - DO NOT USE HEAT ON PRURITIS; **USE COOL COMPRESSES**
  - What have they taken or used on it – when was last time?
  - Other systemic symptoms?
  - Contacts with plants, animals, jewelry, new medication, sun?
  - Others in the family with this problem?
  - Allergies?

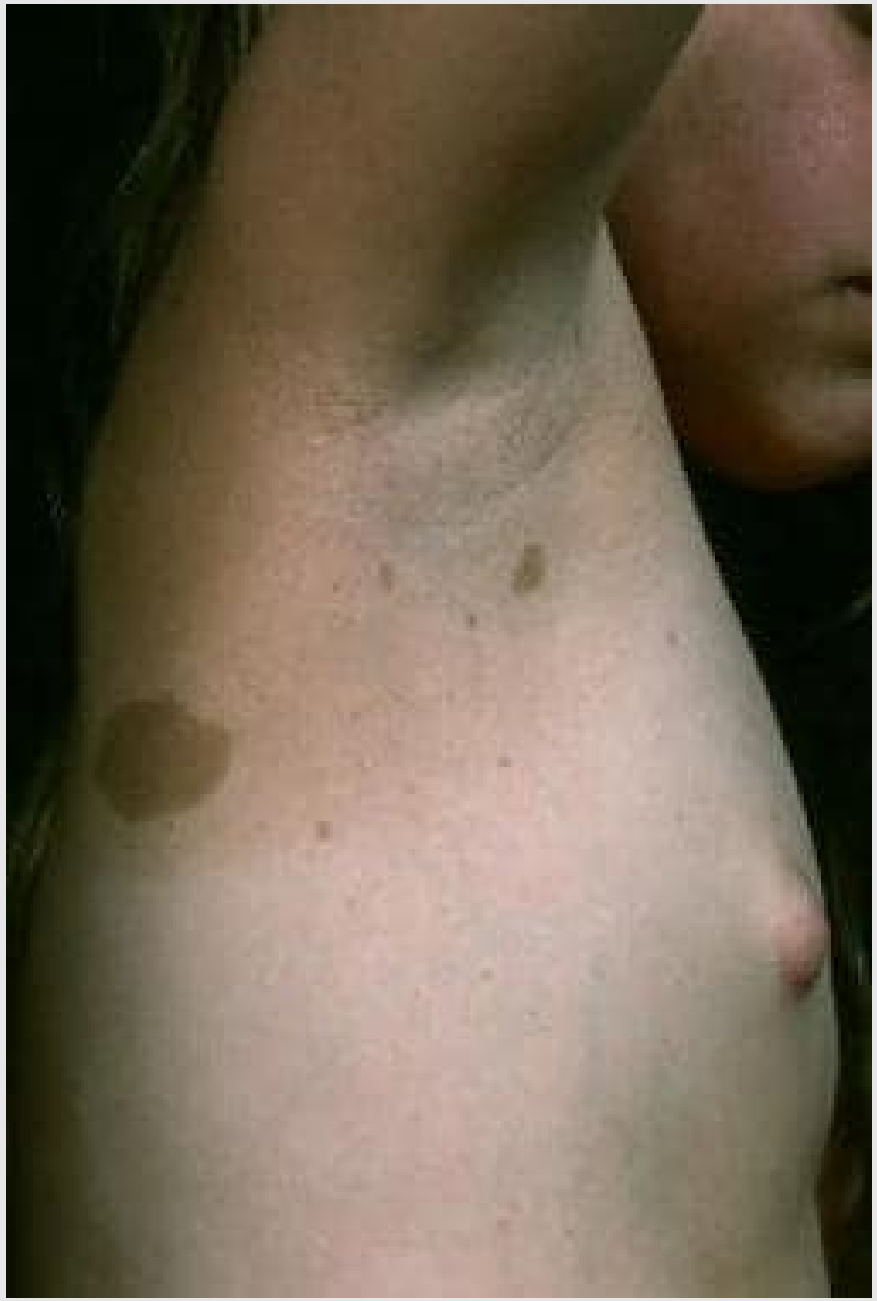
Color

- Petechiae – red-purple nonblanchable dots (platelet deficiency)
- Ecchymosis – bruise – red/purple nonblanchable discoloration ☾ yellow
- Purpura – discolored/purple spots due to blood vessel leaks
- Cyanosis
- Jaundice (start as yellow sclera)
- Paleness (anemia)

Skin rashes/lesions

- Lesions
  - Macule – flat and small <1cm
  - Papule – raised and small (many viral exanthems = maculopapular) < 1 cm
  - Plaque – confluence of papules (psoriasis), rough, firm
  - Vesicles – papules filled with fluid – varicella
  - Crust – (secondary lesion) – thickened dried exudate when vesicle or pustule bursts
  - Wheal – transient firm raised edematous papule with irregular shape and pruritic
    - Hives/ urticaria – lots of wheals
  - Lichenification – (secondary lesion) – rough, thickened epidermis from chronic rubbing, as in eczema)
  - Keloid – (secondary lesion) – overgrowth/ hypertrophic scar tissue replacing collagen of injured dermis
  - Striae – stretch marks
  - Acanthosis nigricans – hyperpigmented velvety plaques in axilla, groin, posterior neck, associated with insulin resistance

- Café au lait spots
  - Flat, light brown, vary in size
  - Linked to neurofibromatosis, type I
    - If >6 lesions > 0.5cm
- Neurofibromatosis
  - Nerve system tumors
  - Pain
  - Possible learning disorder



Skin lesions

- Linear [may indicate poison ivy, mites]
- Annular (circular) [may indicate tinea capitus and corporis/ ringworm]
  - Bullseye [Lyme]
- Grouped/ coalesced
- Note if margins are raised (indurated)

Acne

- Non-infected (papular) or infected (pustular) – follicle pores plugged with sebum and sloughed cells
  - Increased with hormone stimulation of sebaceous glands
- Closed comedons (whiteheads) and open comedons (blackheads)
  - Black is oxidized, it is NOT dirt
  - NOT due to diet or hygiene, although exacerbated by menses, sweating, wearing helmets and cosmetics
- Teach
  - Wash face bid with soap and water
  - Apply topical benzoyl peroxide – do not pick
  - Promote self esteem and decrease emotional factors
  - [Accutane **(ISOTREINOIN**) = teratogenic; must have pregnancy test and use birth control]

Musculoskeletal

- Ossification of bones occurs in an orderly process
  - BONE AGE – x-ray of carpals
  - End of growth – closure of epiphyseal plates
- Note body proportion (dwarfism vs. achondroplasia)
- Note deviation, limitation, deformity, strength, pain, condition of surrounding tissue, crepitation (grating) as joint moves, difference R/L
- Note range of motion of joints
- Genu varum – bow-leg [RICKETS/Vitamin D]
- Genu valgum – knock-kneed
- Note walking form; walking on toes may indicate neuromuscular disease or CP

Fractures

- Check deformity, sensation, pain, ability to move body part
- Compound fracture: bone tears through skin – open wound
- Greenstick fracture: common in young children due to bone flexibility; compressed side bends and tension side fractures
- Commuted fracture: bone is in pieces
- Spiral fracture: bone breaks as it is twisted; think abuse
- Check circulation, splint joints above and below, apply ice pack

- **Osgood Schlatter's Disease** – inflammation of patellar ligament to tibial tuberosity; aseptic necrosis of tibial tuberosity – painful when kneeling
- **Slipped Capital Femoral Epiphysis** – displaced epiphysis of hip
  - Especially in overweight teens – surgical fixation with screws
- **Legg-Calve'-Perthes Disease** – avascular necrosis of the femoral head
  - Treatment is non-weight-bearing for 2-3 years until revascularization occurs
- Osteogenesis Imperfecta – brittle bones
  - Blue sclera; hypoplasia of teeth (bluish-gray)
  - Encourage non-contact activities
  - Assess hearing loss due to otosclerosis
- Clubfoot (talipes) equinovarus (pointed toes/plantar flexion and soles facing each other (inversion)

Scoliosis – Postural screening

- Especially during growth spurt; identify it early
- Curvature of spine
  - **Kyphosis = convex/protrusion/humpback**; Lordosis = **concave**, swayback
  - Postural – due to standing position or unequal leg lengths – non-progressive
- Scoliosis – structural – **lateral curve**, progressive during growth spurt
  - Assess: posture, spine, level of hips/shoulders, distance between elbows & waist
    - Privacy; sensitivity about body
  - Adams Bend test – stand behind, bend over, check shoulder blades and spine
    - Curvature remains
  - Treatment for >20 degrees: brace (over T-shirt); may need spinal fusion if curve > 40 degrees Cobb angle
    - Check areas of irritation; give emotional support
- Functional/ positional scoliosis: curve will disappear when bending in Adams Bend test

Lead screening (Plumbism)

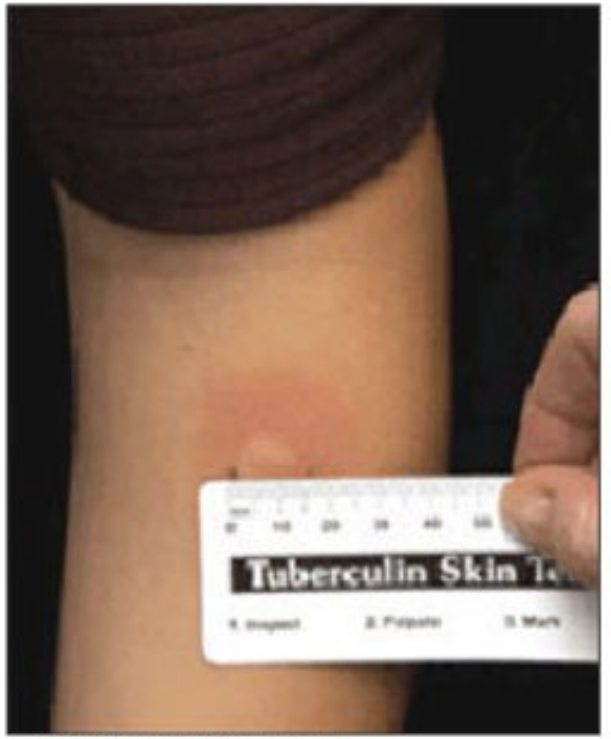
- Lead is neurotoxic; carried by RBCs to bone and tissue
  - Causes anemia, kidney damage, growth delay and neurologic impairment
  - Signs of learning disorders or ADHD or encephalopathy
- In house dust exposed to leaded paint, lead pipes, ceramics, ammunition
- Excreted in urine very slowly; half life = 10 months
- Assess: N/V; anorexia; constipation; abdominal pain; anemia; behavior change
- Any level >3.5µg/dL is positive
  - >45 requires chelation; >70 can cause seizures and death
- Promote fluid intake to excrete lead
- **(There is NO LEAD in pencils) [graphite]**

Tuberculosis

- TB = bacteria – usually inhaled
- In lung – surrounded by macrophages and contained
  - When macrophages break down – TB can be spread
  - Miliary TB = in site other than lung; not contagious
- **TB INFECTION (Latent TB)**
  - **NOT contagious; can not spread; TB+ but normal chest x-ray**
- **TB DISEASE**
  - **5%-10% of those with TB infection ☾ TB disease**
  - **Contagious; can be deadly**

TB Screening

- Tuberculin Skin Test
  - **Measure amount of INDURATION**, 48-72 hours after injection
    - **Record ‘O mm’ rather than negative**
    - >15mm = positive if no risk factors; >10mm positive if traveled or IV drug use or exposed to high-risk adults; >5mm positive if HIV+, immune suppressed or x-ray indicating TB
      - Action: contact public health for next steps
- Quantiferon Gold
  - Measures antibodies
  - (Interferon-gamma release assay)
- Treatment
  - For Infection: isoniazid (INH) as preventive
  - For disease: INH, rifampin, ethambutal & pyrazinamide
  - No isolation for TB infection



Abdominal pain

- Location and describe
- Presence of nausea/ vomiting/ diarrhea/ gas
- Time of last meal and what was eaten
- When was last BM and describe
  - Black – ask bleeding or iron
  - Current jelly – intussusception (involutes) or ulcerative colitis
  - Ribbon-like – Hirschprungs (decreased ganglion ☾ decreased peristalsis
  - Steatorrhea (fatty) – malabsorption, celiac, CF
- Last period/ sexual activity/ vaginal cleaning practices
- Other systemic symptoms

Appendicitis

- Starts as periumbilical pain
- Moves to McBurney's point in RLQ
- Rebound tenderness at McBurney's point
- Rupture ☾ relief of pain ☾ peritonitis – 911
- Do NOT apply heat

Kehr’s sign

- After traumatic injury to abdomen or complaint of left upper quadrant acute pain
- Lay supine with legs elevated (Trendelenberg)
- Gently palpate over spleen
- If pain is elicited at tip of left shoulder – **may indicate ruptured spleen** (or other irritants within peritoneum)
- Call 911

Mental/ Behavioral Health

- HEADSS Assessment
  - Home environment/ habits
  - Exercise, education and employment
  - Activities (peer related), abuse, accidents, ambitions
  - Drugs, diet, depresson
  - Suicide
  - Sexuality
  - Safety from injury and violence
- Pediatric Symptom Checklist
  - Assesses changes in emotional and behavioral problems
- Keeping confidences

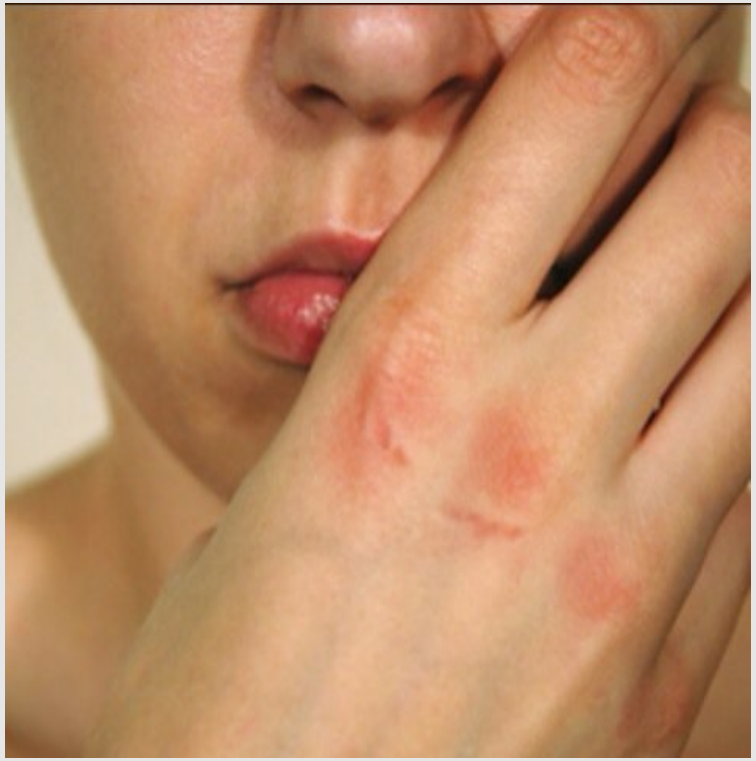
  Yes – UNLESS
  - You are being hurt
  - You are hurting yourself
  - You are hurting someone else

Goals of counseling

- Build resiliency, connectiveness, and coping
  - Assist student in coping with problems
  - Promote academic success
  - Provide skills that will enhance good physical and mental health as they move to the next developmental stage
  - Think about how you should be responding to bullying
    - Immediate response
    - Consistent response
    - Do not have them in the same room
  - Participate in development of a Behavioral Intervention Plan
  - Psychological first aid – what do you do first

Mental/ Behavioral Health

- Substance abuse = misuse
  - Addiction indicates dependence and results in withdrawal symptoms
  - Alcohol is most abused drug by youth – moving to marijuana/ cannabis
  - SBIRT: screen, brief intervention, refer for treatment
- Eating disorders
  - Fear/ perception of being fat
  - Anorexia nervosa
    - Type A personality (perfect, energetic, ultimate in self control)
    - Assess for amenorrhea/ delayed puberty
  - Bulimia nervosa
    - Look for Russell's sign (irritation on knuckles)
    - Dental erosion for bulimia/self-induced vomiting
- <u>Female Athlete Triad</u>
  - Disordered eating
  - Amenorrhea
  - Low bone mineral density
    - Educate about impact on bone health and refer



Mental/ Behavioral Health

- Anxiety
  - Increased fear and worries, real or imagined
  - Relaxation, distraction, role play
- Mood disorders/ **depression (dysthymia)**/ Suicidality
  - Signs: stops normal activities, increased psychosomatic symptoms, cutting
  - “What makes you sad”

  - Have you had thoughts of hurting yourself?
  - Do you have a plan?
  - Do you have access to weapons?

  - Stay with them until arrangements are made to transfer care
  - Safety plan

Mental/ Behavioral Health

- Trichotillomania – the urge to pull out one's hair
  - Bald patches, including eyebrows
  - A type of OCD
- Autism Spectrum Disorder
  - Significant impairment in reciprocal social communication
    - Echolalia (repetition of what is said)
  - Repetitive behaviors that are narrow in focus
    - Do not interrupt their behaviors – unless dangerous
  - Hypersensitive to touch and sounds (DO NOT TOUCH)
- Intentional Non-suicidal Self Injury
  - Coping mechanism to express hurt
- Frequent visitor (headache, pain, dizzy, tired, stomachache)
  - Always assess to r/o underlying organic cause
  - Then check for stressors

Mental/Behavioral Health

- Attention Deficit Hyperactivity Disorder (ADHD)
  - ADHD: H-I - **Hyperactivity/ Impulsivity**
  - ADHD: I **– Inattentive**
  - Altered executive function (frontal lobe – dopamine)
    - Check hearing and vision
    - Check for absence seizures, thyroid disease, sleep, allergy/ pruritis
    - Decreased environmental stimuli
    - Stimulant medications (methylphenidate [Ritalin, Concerta] & amphetamine [Adderall]
      - Results in ANOREXIA (monitor weight; no empty calories) and INSOMNIA (**abused by those without ADHD trying to lose weight or cram**)
      - No increased risk of drug abuse and do not become addicted to stimulants
      - Stimulant abuse by others

Mental / Behavioral Health/ Learning

- Learning Disorder/ Disability
  - Reading, writing, math
  - Visual perceptual deficit, auditory perceptual deficit, sensory perceptual deficit, motor deficit/ hand-eye coordination
  - How do they learn best **– this impacts on the way you teach**
    - Multi-media teaching is best
  - Measured using the Wechsler test
    - MUST have at least a normal IQ
  - Help them compensate
  - Be aware of genetic implications
  - There are no medications for learning disabilities

Bullying

- Intentional harm-doing
- Repeated
- Power imbalance

- What intervention/disciplinary action is best to address it
  - Immediate
  - Consistent
  - Do not have the students work together

Cannabis/ marijuana

- CBD – cannabidiol
  - NOT psychoactive
  - No euphoria
  - Less than 0.3% THC
  - From Hemp Cannabis (since 2018 no longer a Schedule I drug)
  - Calming and anti-inflammatory
  - Epidiolex legally approved for specific seizure disorders (can be given in school)

- THC – tetrahydrocannabinol
  - Psychoactive
  - No impact on respiratory system
  - Percent of THC has increased significantly over the decades
  - Effective for nausea, anorexia, anxiety, and muscle spasms from MS/fibromyalgia