







# PHYSICAL ASSESSMENT AS A SCREENING TOOL

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# PHYSICAL ASSESSMENT

## OBSERVE

- **Body size & type**
- **Facial expressions**
- **Self-care**
- **unusual appearance**
- **Cultural factors**



## EVALUATE

- **Posture**
- **Movement**
- **Patterns & Gait**
- **Balance**
- **Coordination**



- **In an acute care or trauma setting**
- Vital Signs And the ABCDE
- AMPLE



# MENTAL STATUS

- **Level Of Consciousness**
- **Orientation**
- **Ability To Communicate**

# Glasgow Coma Scale

Points Scored

	①	②	③	④	⑤	⑥
Best motor response	 No motor response	 Extends to pain (decerebrate)	 Flexes to pain (decorticate)	 Withdraw from pain	 Localize to pain	 Obeys commands
Best verbal response	 No verbal response	 Incomprehensible sounds	 Inappropriate words	 Confused	 Oriented	
Eye opening "four eyes" 	 No opening	 Pain	 Verbal Command	 Spontaneous		



Remember, even a toaster has a GCS of 3!

sketchymedicine.com

Category





# *ECOG, EASTERN COOPERATIVE ONCOLOGY GROUP.*

- 0 Fully active, able to carry on all pre-disease performance without restriction (Karnofsky 90-100%)
- 1 Restricted in physically strenuous activity but ambulatory and able to carry out work of a light or sedentary nature, e.g., light house work, office work (Karnofsky 70-80%)
- 2 Ambulatory and capable of all self-care but unable to carry out any work activities. Up and about more than 50% of waking hours (Karnofsky 50-60%)
- 3 Capable of only limited self-care, confined to bed or chair more than 50% of waking hours (Karnofsky 30-40%)
- 4 Completely disabled. Cannot carry on any self-care. Totally confined to bed or chair (Karnofsky 10-20%)
- 5 Dead (Karnofsky 0%)



# NUTRITIONAL STATUS

- Plays a part in growth and development
- recovery from infection, illness, wounds, and surgery



# *CLINICAL SIGNS AND SYMPTOMS OF MALNUTRITION*

- Muscle wasting
- Alopecia (hair loss)
- Dermatitis; dry, flaking skin
- Chapped lips, lesions at corners of mouth
- Brittle nails
- Abdominal distention
- Decreased energy level, fatigue, lethargy
- Peripheral edema
- Bruising



# BODY AND BREATH ODORS

- A Fruity breath odor (diabetic ketoacidosis)
- Bad breath



1. Pulse (heart rate)
2. **Blood pressure**
3. **Core body temperature (oral or ear)**
4. **Respirations**
  - **Pulse oximetry**
  - **Skin temperature**
  - **Pain (now called the 5th vital sign)**



## ***PULSE RATE***

- normal range: 60 to 100 beats/min
- It is recommended that the pulse always be checked in two places in older adults and in anyone with diabetes
- Pulse strength (amplitude) can be graded as
  - 0 Absent, not palpable
  - 1+ Pulse diminished, barely palpable
  - 2+ Easily palpable, normal



- 3+ Full pulse, increased strength
- 4+ Bounding, too strong to obliterate



# INTEGUMENTARY SCREENING EXAMINATION

**5 Students and 5 Teachers around the CAMPFIRE**







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**TABLE 4-7**      Staging of Pressure Ulcers\*

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**Stage I:** Skin changes observable ( $\uparrow$  or  $\downarrow$  temperature, tissue consistency), sensation (pain, itching)

**Stage II:** Epidermis and dermis layers are damaged (partial-thickness); ulcer is superficial and presents as an abrasion, blister, or shallow crater

**Stage III:** Damage through to subcutaneous tissue (full-thickness skin loss); does not extend through fascia; appears as a deep crater

**Stage IV:** Involvement of muscle, bone, tendon, joint capsule or other supporting structures (full-thickness tissue loss)

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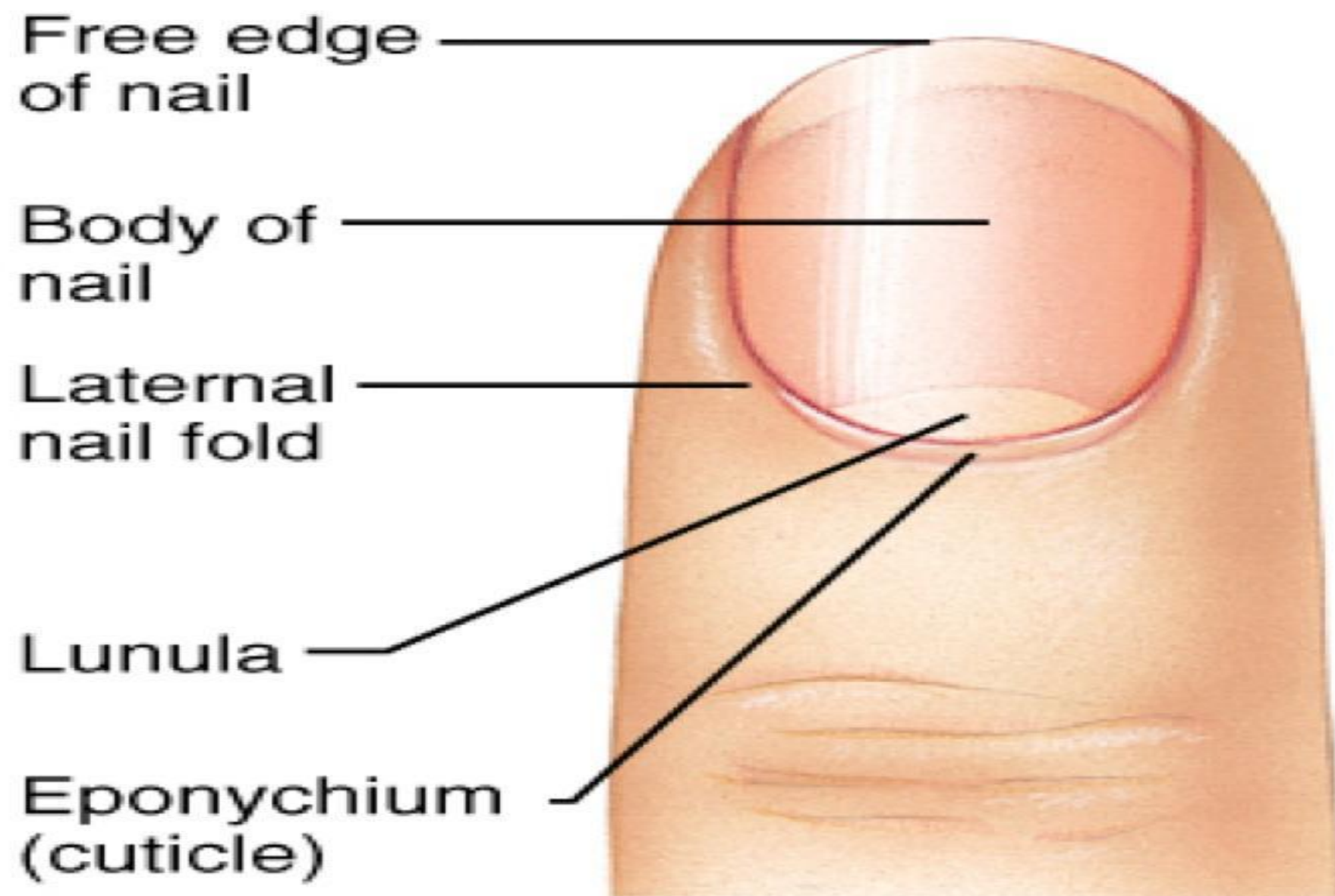
# Observe

- **Edema**
- ***Change in Skin Color***
- ***Mass or Skin Lesion***



## NAIL BEDS EVALUATION

- Nail beds evaluated for color, shape, thickness, texture, and the presence of lesions.
- Systemic changes affect both but the signs are more prominent in fingernails



Free edge  
of nail

Body of  
nail

Lateral  
nail fold

Lunula

Eponychium  
(cuticle)

**(a)**



## CHARACTERISTICS

- Nail bed is highly vascularized and gives the nail its pink color.
- The hard nail is formed at the proximal end.
- One-fourth of the nail is covered by skin known as the proximal nail fold.
- The cuticle seals and protects the space between the proximal fold and the nail plate



- ❑ variations in color, texture, and grooming
- ❑ Capillary refill test



With any nail or skin condition, ask if the

- nails have always been like this or if any changes
- have occurred in the last 6 weeks to 6 months.

# ONYCHOLYSIS

a painless loosening of the nail plate occurs from the distal edge







## ONYCHOLYSIS

- Dermatologic conditions such as dermatitis, fungal disease, and psoriasis.
- Systemic diseases include myeloma, neoplasia, Graves'disease, anemia, and reactive arthritis.
- Medications such as tetracycline, anticancer drugs, non-steroidal anti-inflammatories, and quinine can cause photo-onycholysis .



- Local causes from chemical, physical, cosmetic, or traumatic sources can bring on this condition.



## KOILONYCHIA "SPOON NAILS"

a congenital trait characterized by thin, depressed nails with lateral edges tilted upward, forming a concave profile.



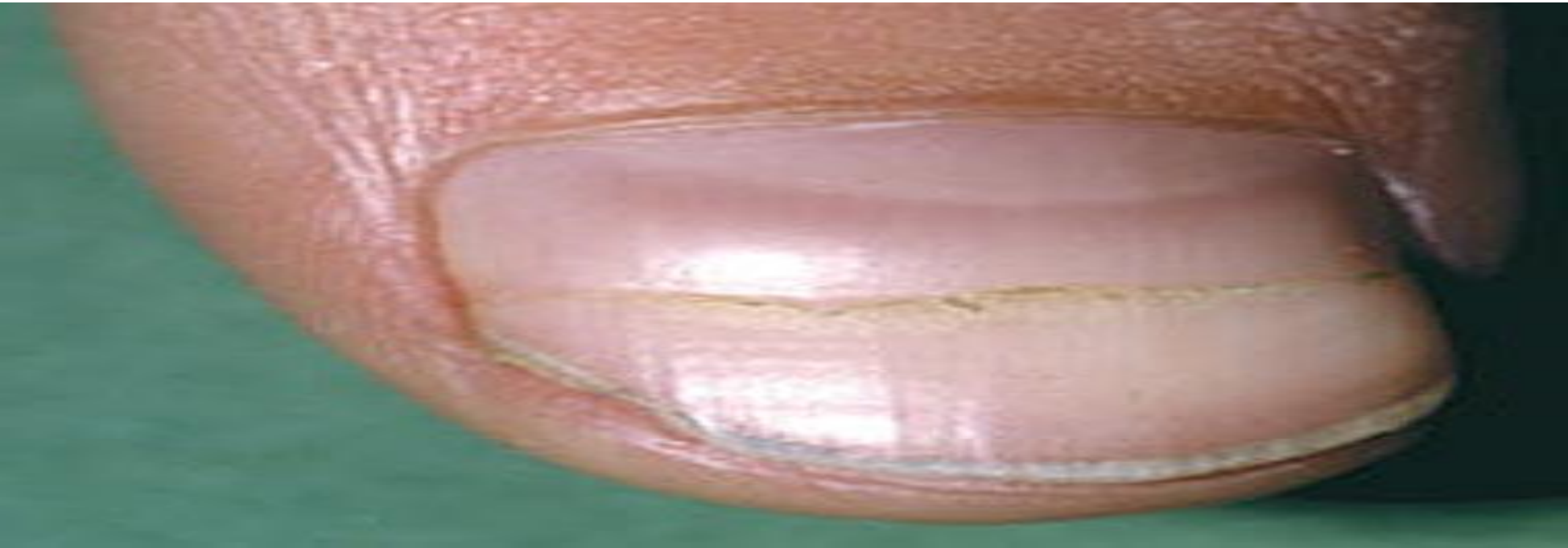


- Koilonychia occur as a result of hypochromic anemia, iron deficiency poorly controlled diabetes of more than 15 years duration, chemical irritants, local injury, developmental abnormality, or psoriasis.
- It can also be an outward sign of thyroid problems, syphilis, and rheumatic fever.



## BEAU'S LINES

are transverse grooves or ridges across the nail plate as a result of a decreased or interrupted production of the nail by the matrix





- The cause is usually an acute illness or systemic insult such as chemotherapy for cancer.
- Other common conditions associated with Beau's lines are poor peripheral circulation, eating disorders, cirrhosis associated with chronic alcohol use, and recent myocardial infarction (MI).
- Since the nails grow at an approximate rate of 3 mm/month, the date of the initial onset of illness or disease can be estimated by the location of the line.



- The dent appears first at the cuticle and moves forward as the nail grows. Measure the distance from the dent to the cuticle and add 3 to account for the distance from the cuticle to the matrix. This is the number of weeks ago the person first had the problem
- are temporary until the impaired nail formation is corrected ( if and when the individual returns to normal health ) .
- can also occur as a result of local trauma to the hand or fingers .



## SPLINTER HEMORRHAGES

- **These red-brown linear streaks may be the sign of a silent M I or the client may have a known history of M I .**
  - **Can also be present in Bacterial endocarditis, vasculitis , or renal failure .**





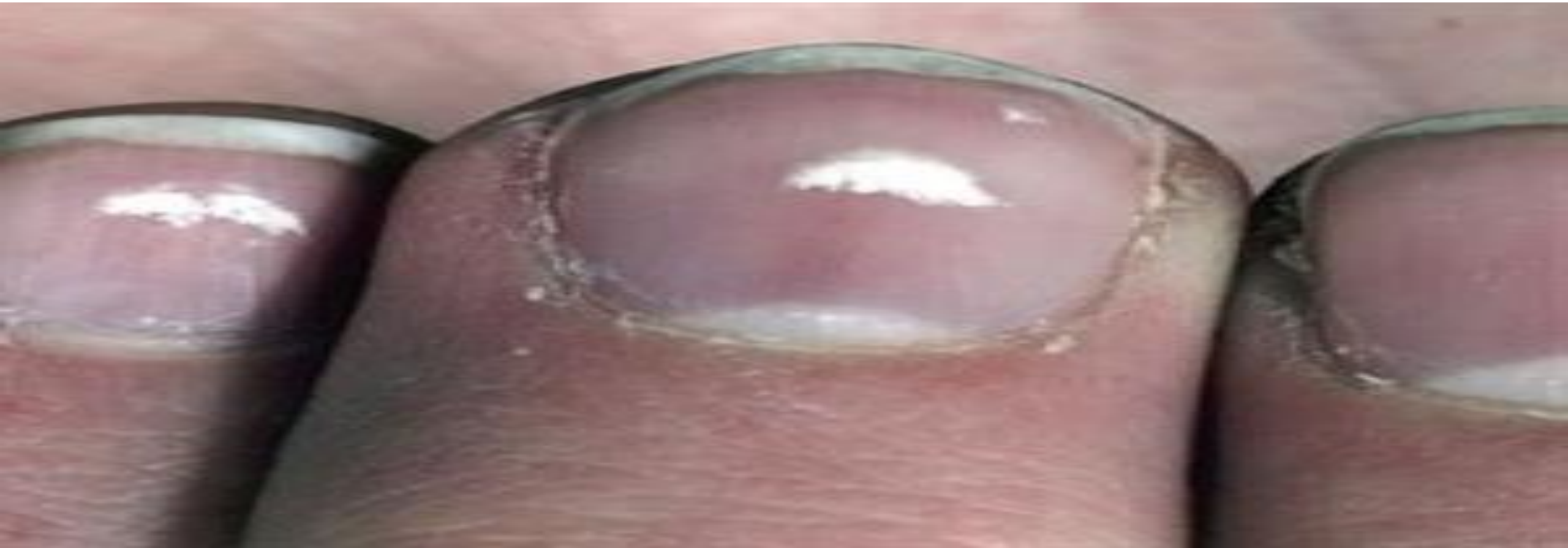


- Whenever splinter hemorrhages are observed in the nails , visually inspect both hands and the toe nails as well .**
- If the client cannot recall any recent illnesses , look for a possible cardiac history or cardiac risk factors.**



# LEUKONYCHIA OR WHITE NAIL SYNDROME

**Is characterized by dots or white lines**





- ❑ It can be congenital but sometimes acquired in association with hypocalcemia, hypochromic anemia, renal failure, malnutrition, MI, cirrhosis and arsenic poisoning.
- ❑ Key board punching is another acquired cause
- ❑ Leukonychia totalis



## PARONYCHIA

is an infection of the fold skin at the margin of a nail. There is an obvious red, swollen site of inflammation that is tender or painful.





- Acute bacterial infection or chronic occupationally induced fungal infection.
- History of finger exposure to chemical irritants, acrylic nails or nail glue, or sculpted nails.
- Paronychia of one or more fingers is not uncommon in people who pick, bite, or suck their nails.
- Health care professionals are at increased risk for paronychia from infection with bacteria such as *Streptococcus* or *Staphylococcus*



- ❑ *Green coloration* of the nail may indicate *Pseudomonas infection*.
- ❑ Untreated infection can spread to the deep spaces of the hand and beyond.
- ❑ It is especially important to recognize any nail bed irregularity because it may be a clue to malignancy. Likewise, anyone with diabetes mellitus, immuno compromise, or history of steroids and retroviral use are at increased risk for paronychia formation.
- ❑ Early identification and medical referral are imperative to avoid more serious consequences.



## CLUBBING

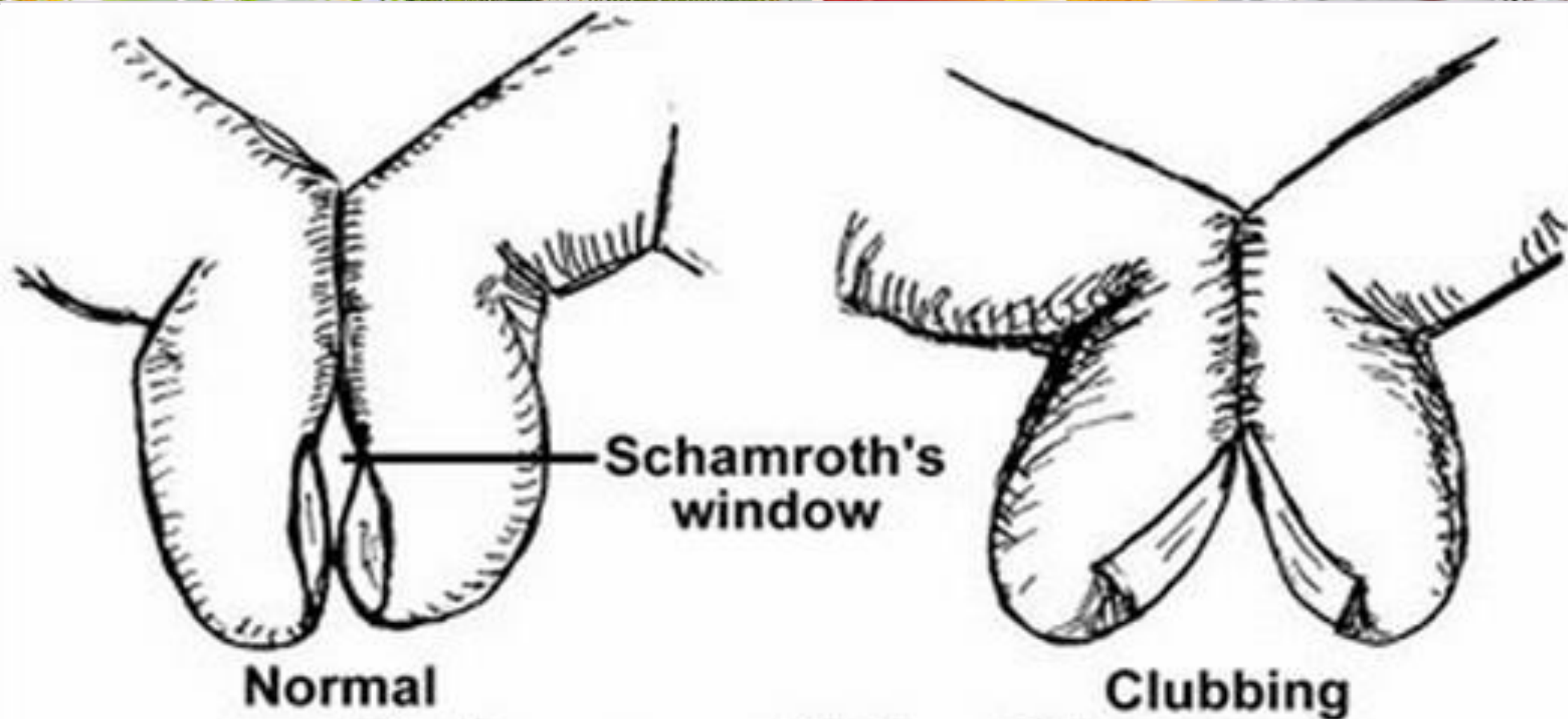
**Usually results from chronic oxygen deprivation in these tissue beds. Observed in clients with advanced chronic obstructive pulmonary disease, congenital heart defects, and cor pulmonale.**





- Can also occur in acute systemic disorder as pulmonary abscess, malignancy or polycythemia.**
- May be the first sign of para-neoplastic syndrome.**
- Assessed by Schamroth method**





Normal

Schamroth's window

Clubbing

# Schamroth's Sign

# NAIL PATELLA SYNDROME

**characterized by an absence or underdevelopment of nail bed changes.**

- Lack of skin creases
- brittle , under developed, cracked, or ridged nail.
- Half moon is triangular in some cases

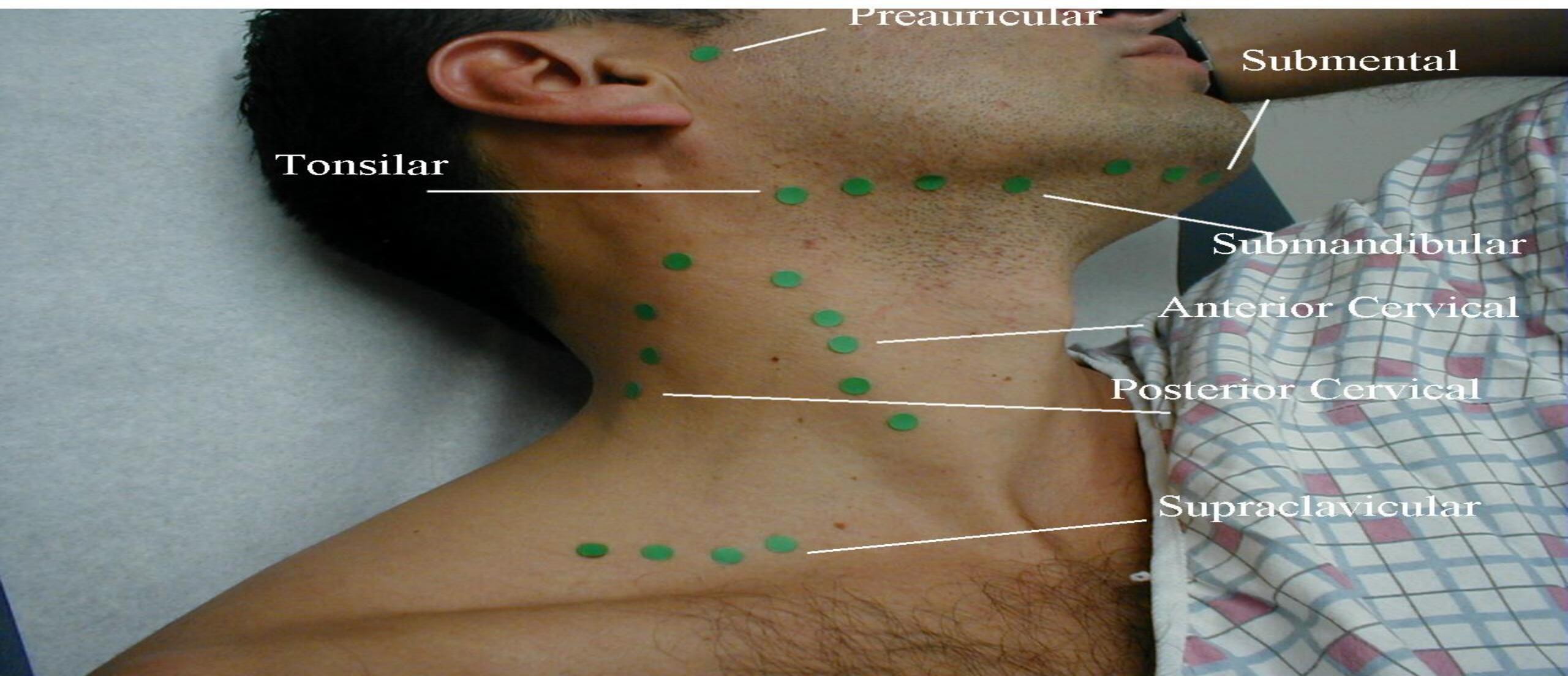




- Skeletal & joint problem are common with this condition
- The client may also develop scoliosis , glaucoma and kidney disease
- Screening is essential



# LYMPH NODE PALPATION





## LYMPH NODE PALPATION

- Visual inspection of the skin overlying lymph nodes and palpation of the lymph nodes.
- Look for any obvious areas of swelling or redness along with any changes in skin color or pigmentation.
- Examining a lump or lesion, use the mnemonic
- Several sites where lymph nodes are potentially observable and palpable



- Palpation must be done lightly.
- "Normal" lymph nodes usually are not visible or easily palpable.
- Not all visible or palpable lymph nodes are a sign of cancer.
- Infections, viruses, bacteria, allergies, thyroid conditions, and food intolerances can cause changes in the lymph nodes.
- People with seasonal allergies often have enlarged, tender, and easily palpable lymph nodes in the submandibular and supraclavicular areas.



- Children often have easily palpable and tender lymph nodes because their developing immune system is continuously filtering out pathogens
- Lymph node changes occur after total hip arthroplasty.
- Supraclavicular lymph nodes are usually present in primary carcinoma of thoracic or abdominal organs.
- Posterior cervical lymph node enlargement can occur during hepatitis



# MUSCULOSKELETAL SCREENING EXAMINATION

**Muscle pain, weakness, poor coordination, and joint pain can be caused by many systemic disorders such as**

- **Hypo-kalemia**
- **Hypothyroidism**
- **Dehydration**
- **Alcohol or drug use**





- vascular disorders**
- GI disorders**
- liver impairment**
- malnutrition**
- vitamin deficiencies**
- psychologic factors.**



- Observed any obvious deformities, abnormalities, disabilities, and asymmetries.
- Inspection and palpation of the skin, muscles, soft tissues, and joints often takes place simultaneously.
- Assess each client from the front, back, and each side.
- Some general examination principles include :



- Offer simple but clear instructions and feedback.
- When comparing sides, test the "normal" side first.
- Examine the joint above and below the "involved" joint.
- Perform active, passive, and accessory or physiologic movements in that order unless circumstances direct otherwise.
- Resisted isometric movements (break test) follow accessory or physiologic motion.
- Resisted isometric motion is done in a physiologic neutral position (open pack position); the joint should not move.



- Painful joint motion or painful empty end feel of a joint should not be forced.
- Inspect and palpate the skin and surrounding tissue for erythema, swelling, masses, tenderness, temperature changes, and crepitus.
- The forward bend and full squat position as well as walking on toes and heels and hopping on one leg are useful general screening tests.
- Perform specific special tests based on client history and clinical findings.
- *key tests and measures to include in a comprehensive screening and specific testing process of the musculoskeletal system including*
- Patient/Client History (demographics, social and employment history, family and personal history, results of other clinical tests)



- Aerobic Capacity and Endurance
- Anthropometric Characteristics
- Arousal, Attention, and Cognition
- Environmental, Home, and Work Barriers
- Ergonomics and Body Mechanics
- Gait, Locomotion, and Balance
- Motor Function (Motor Control and Motor Learning)



# NEUROLOGIC SCREENING EXAMINATION

- Much of the neurologic examination is actually completed in conjunction with other parts of the physical assessment.
- Acute insult or injury to the neurologic system may cause changes in neurologic status requiring frequent reassessment.
- Systemic disease can produce nerve damage; careful assessment can help pinpoint the area of pathology.



- Mental and Emotional Status**
- Cranial Nerves**
- Motor Function (Gross motor and fine motor)**
- Sensory Function (Light touch, vibration, pain, and temperature)**
- Reflexes**
- Neural Tension**



# MOTOR FUNCTION

- Gait, posture, balance, strength, coordination, muscle tone, and motion.
- Specific tests such as
  - tandem walking,
  - Romberg's test,
  - Diadochokinesia





- Light and sharp touch
- Hot n cold test tubes
- Tuning fork
- proprioception , kinesthesia , stereognosis, graphesthesia and two-point discrimination. Again, all tests should be performed on both sides.



- Deep tendon reflexes (DTRs) are tested in a screening examination at the
- Jaw (Cranial nerve V)
- Biceps (C5-6),
- Brachioradialis (C5-6)
- Triceps (C7-8)
- Patella (L3-4)
- Achilles (S1-2)



- 0 No response, absent
- 1 Low normal, diminished; slight muscle contraction
- 2 Normal, visible muscle twitch and movement of arm/leg
- 3 More brisk than normal, exaggerated; may not indicate disease
- 4 Hyperactive; very brisk, clonus; spinal cord disorder suspected



- Superficial (cutaneous) reflexes (e.g., abdominal, cremasteric, plantar)
- The abdominal reflex is elicited by applying a stroking motion with a cotton-tipped applicator (or handle of the reflex hammer) toward the umbilicus.
- A positive sign of neurologic impairment is observed if the umbilicus moves toward the stroke. The test can be repeated in each abdominal quadrant (upper abdominal T7- T9; lower abdominal T11-T12).
- The cremasteric reflex is elicited by stroking the thigh downward with a cotton-tipped applicator
- A normal response in males is an upward movement of the testicle (scrotum) on the same side. The absence of a cremasteric reflex is indication of disruption at the T12-L1 level. Testing the cremasteric reflex may help the therapist identify neurologic impairment in any male with suspicious back, pelvic, groin including testicular), and/or anterior thigh pain.



- Excessive nerve tightness or adhesion can cause adverse neural tension in the peripheral nervous system. When the nerve cannot slide or glide in its protective sheath, neural extensibility and mobility are impaired. The clinical result can be numbness, tingling, and pain. This could be caused by disc protrusion, scar tissue, or spine changes including cancer metastases
- Reducing symptoms with neural mobilization does not rule out the possibility of cancer. A red flag is raised with any client who responds well to neural mobilization but experiences recurrence of symptoms

