

In The Name of God



(A PROJECT OF NEW LIFE COLLEGE OF NURSING KARACHI)

Introduction to physical examination & general survey.

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Learning Objectives:

After the end of this session learner will be able to:

- ❑ Identify the general principles of conducting an examination.
- ❑ Identify the equipment needed to perform a physical examination.
- ❑ Describe the appropriate technique of inspection, palpation, percussion & auscultation.
- ❑ Discuss the procedure & sequence for performing a general assessment of a client.
- ❑ Compose a statement which reflects an overall impression of a client's health status.
- ❑ Discuss the guidelines for documenting physical examination.
- ❑ Document the PE findings of patients in PE documentation sheet on an ongoing basis

Physical Examination

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- A systemic approach of using five senses applying different techniques to gather data base to identify and manage health problem



TABLE 16–5 Using the Senses to Observe Client Data

Sense | Example of Client Data

Vision	Overall appearance (e.g., body size, general weight, posture, grooming); signs of distress or discomfort; facial and body gestures; skin color and lesions; abnormalities of movement; nonverbal demeanor (e.g., signs of anger or anxiety); religious or cultural artifacts (e.g., books, icons, candles, beads)
Smell	Body or breath odors
Hearing	Lung and heart sounds; bowel sounds; ability to communicate; language spoken; ability to initiate conversation; ability to respond when spoken to; orientation to time, person, and place; thoughts and feelings about self, others, and health status
Touch	Skin temperature and moisture; muscle strength (e.g., hand grip); pulse rate, rhythm, and volume; palpatory lesions (e.g., lumps, masses, nodules)

Principles of Physical Examination

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- Set the stage
- Environment
- Brief explanation in start
- Head to toe approach
- Standing on right side
- Less threatening to invasive
- External then internal
- Normal to affected area
- Body symmetry from both sides

Self preparation

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- Anxiety
- Organization
- Mannerisms
- Safety
- Gentleness
- Competence

Equipment preparation

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- Within reach and ready
- Arranged as per need
- Extra supplies / equipments
- Clean & warm equipment

Patient preparation

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- Explain when, where and why the assessment will take place
- Keep appointment
- Properly covered
- Comfort
- Help the client prepare:
 - ▣ Empty bladder
 - ▣ Change clothes
 - ▣ Change into gown
 - ▣ Properly covered

Environment preparation

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- Privacy
- Noise Control
- Drapes
- Adequate light
- Room temperature
- Client position

Cont...

- ❑ Easy access to a restroom.
- ❑ A door or curtain that ensure privacy.
- ❑ Adequate warmth for client comfort.
- ❑ A padded, adjustable table or bed.
- ❑ A lined receptacle for soiled articles.
- ❑ Sufficient room for moving to either side of the client.
- ❑ A clean counter for placing examination equipment.

Equipment Required for PE

Cont....



Gloves



Gowns



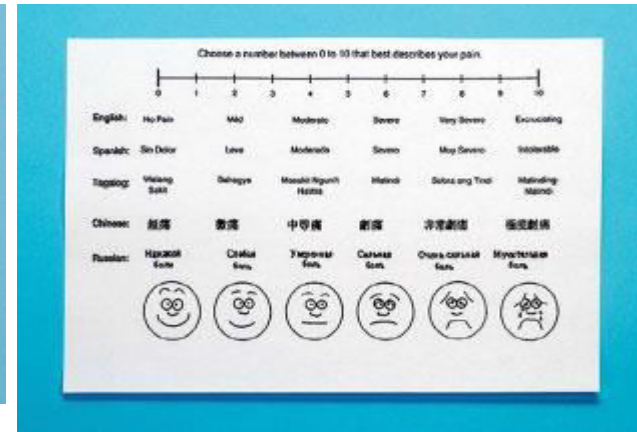
Sphygmomanometer



Thermometer (oral, rectal, tympanic)



Watch

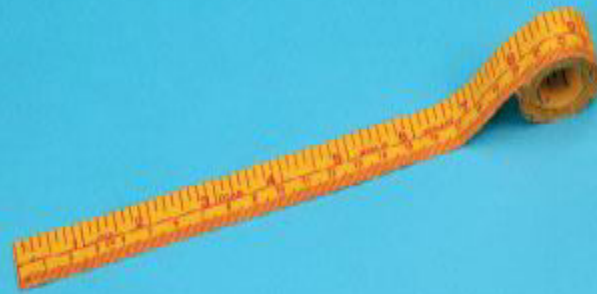


Pain rating scale

Cont....



Skinfold calipers



Measuring tape



Skin marking pen



Platform scale



Examination light



Mirror

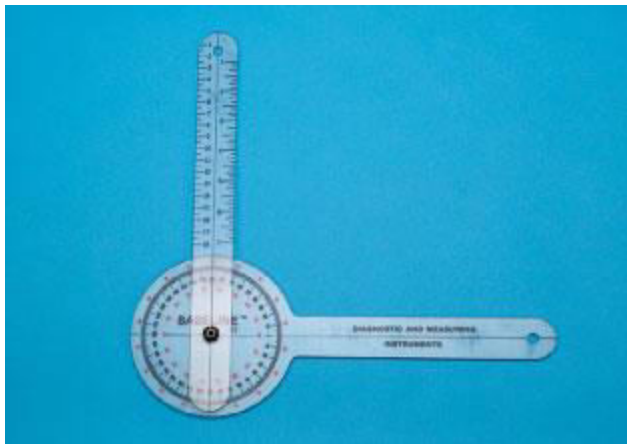
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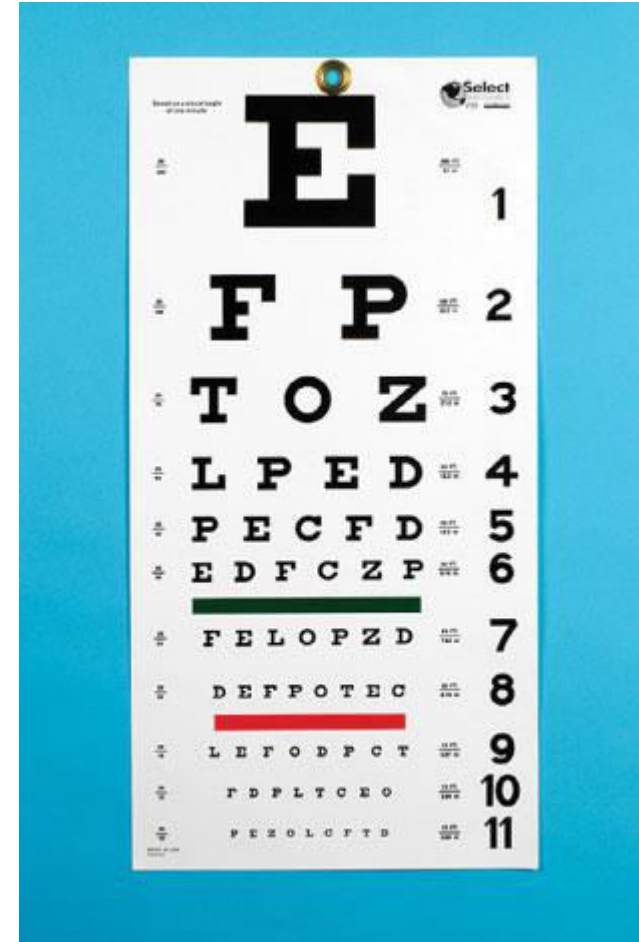
Magnifying glass



Wood's light
















Goniometer



Snellen E chart

TABLE 28-3 Equipment and Supplies Used for a Health Examination

Guidelines	Example	
Flashlight or penlight		To assist viewing of the pharynx and cervix or to determine the reactions of the pupils of the eye
Laryngeal or dental mirror		To observe the pharynx and oral cavity
Nasal speculum		To permit visualization of the lower and middle turbinates; usually, a penlight is used for illumination
Ophthalmoscope		A lighted instrument to visualize the interior of the eye
Otoscope		A lighted instrument to visualize the eardrum and external auditory canal (a nasal speculum may be attached to the otoscope to inspect the nasal cavities)
Percussion (reflex) hammer		An instrument with a rubber head to test reflexes
Tuning fork		A two-pronged metal instrument used to test hearing acuity and vibratory sense
Vaginal speculum (various sizes)		To assess the cervix and the vagina
Cotton applicators		To obtain specimens
Disposable pads		To absorb liquid
Gloves (sterile and unsterile)		To protect the nurse
Lubricant		To ease insertion of instruments (e.g., vaginal speculum)
Tongue blades (depressors)		To depress the tongue during assessment of the mouth and pharynx

Note: From Fundamentals of Nursing: Concepts, Process, and Practice, 6th ed., by B. Kozier, G. Erb, A. Berman, & K. Burke, 2000, Upper Saddle River, NJ: Prentice Hall Health.







Position of Patient During PE

Positioning


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- Positions used during nursing assessment, medical examinations, and during diagnostic procedures:
 - Dorsal recumbent
 - Supine
 - Sims
 - Prone
 - Lithotomy

TABLE 28-2 Client Positions and Body Areas Assessed

Position	Description	Areas Assessed	Cautions
<p>Dorsal recumbent</p> 	<p>Back-lying position with knees flexed and hips externally rotated; small pillow under the head; soles of feet on the surface</p>	<p>Head and neck, axillae, anterior thorax, lungs, breasts, heart, extremities, peripheral pulses, vital signs, and vagina</p>	<p>May be contraindicated for clients who have cardio-pulmonary problems. Not used for abdominal assessment because of the increased tension of abdominal muscles.</p>
<p>Supine (Horizontal recumbent)</p> 	<p>Back-lying position with legs extended; with or without pillow under the head</p>	<p>Head, neck, axillae, anterior thorax, lungs, breasts, heart, abdomen, extremities, peripheral pulses</p>	<p>Tolerated poorly by clients with cardiovascular and respiratory problems.</p>
<p>Sitting</p> 	<p>A seated position, back unsupported and legs hanging freely</p>	<p>Head, neck, posterior and anterior thorax, lungs, breasts, axillae, heart, vital signs, upper and lower extremities, reflexes</p>	<p>Elderly and weak clients may require support.</p>
<p>Lithotomy</p> 	<p>Back-lying position with feet supported in stirrups; the hips should be in line with the edge of the table.</p>	<p>Female genitals, rectum, and female reproductive tract</p>	<p>May be uncomfortable and tiring for elderly people and often embarrassing.</p>
<p>Sims'</p> 	<p>Side-lying position with lowermost arm behind the body, uppermost leg flexed at hip and knee, upper arm flexed at shoulder and elbow</p>	<p>Rectum, vagina</p>	<p>Difficult for the elderly and people with limited joint movement.</p>
<p>Prone</p> 	<p>Lies on abdomen with head turned to the side, with or without a small pillow</p>	<p>Posterior thorax, hip joint movement</p>	<p>Often not tolerated by the elderly and people with cardiovascular and respiratory problems.</p>

Techniques of PE



Inspection
Palpation
Percussion
Auscultation

Inspection

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- It is also known as **concentrated watching**
- Critical observation
 - ▣ Take time to “observe” with eyes, ears, nose
 - ▣ Use good lighting
 - ▣ Look at color, shape, symmetry, position
 - ▣ Odors from skin, breath, wound
 - ▣ Develop and use nursing instincts
- Inspection is done alone and in combination with other assessment techniques
- Inspection begins the moment you first meet the individual and develop a “general survey”.

General Survey

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- General appearance, gait, nutrition status, state of dress, body build, obvious disability, speech patterns, affect (mood), hygiene, body odor, posture, race, gender, height, weight, vital signs
- Height up to age 2 years is recumbent
 - ▣ Add head circumference if child is less than 2 years old

Palpation

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- It is the act of touching a patient in a therapeutic manner to elicit specific information.
- Touch with different parts of hands
 - ▣ Dorsum / finger / ball of hands
- With different degree of pressure
 - ▣ Light: 1-2 cm (1/2 - 1 inch)
 - ▣ Deep: 4-5 cm (1 to 2 inches or more)
 - ▣ Bimanual: using both hands to trap organ (e.g., uterus, breasts, spleen)
- To identify size, shape, texture, mobility, mass, quality of pulses, joints & bones condition, tenderness, temperature, moisture, fluid & edema, & chest wall vibrations

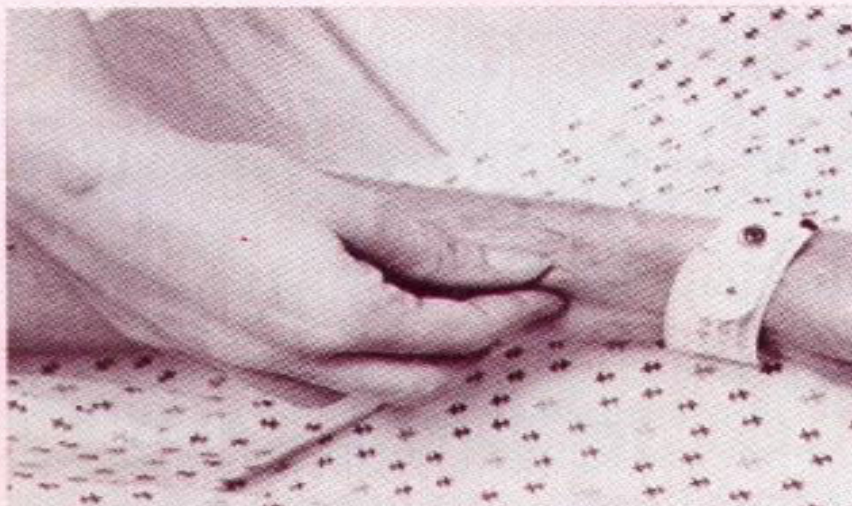
PALPATING EFFECTIVELY: HOW TO USE YOUR HANDS AND FINGERS



To assess your patient's skin temperature, use the backs of your fingers and hands to palpate the face, inflamed areas, and the hands and feet.



To determine size and position of lymph nodes or growths, palpate with the pads of your fingers.

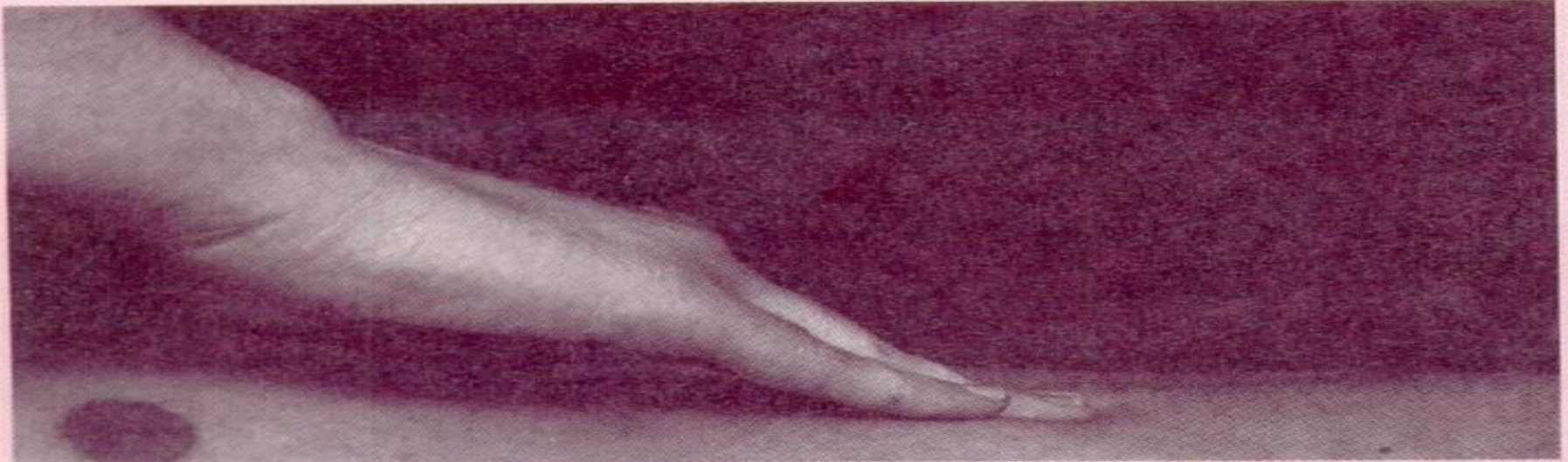


To determine muscle and tissue consistency and joint position, palpate with your thumb and index finger.

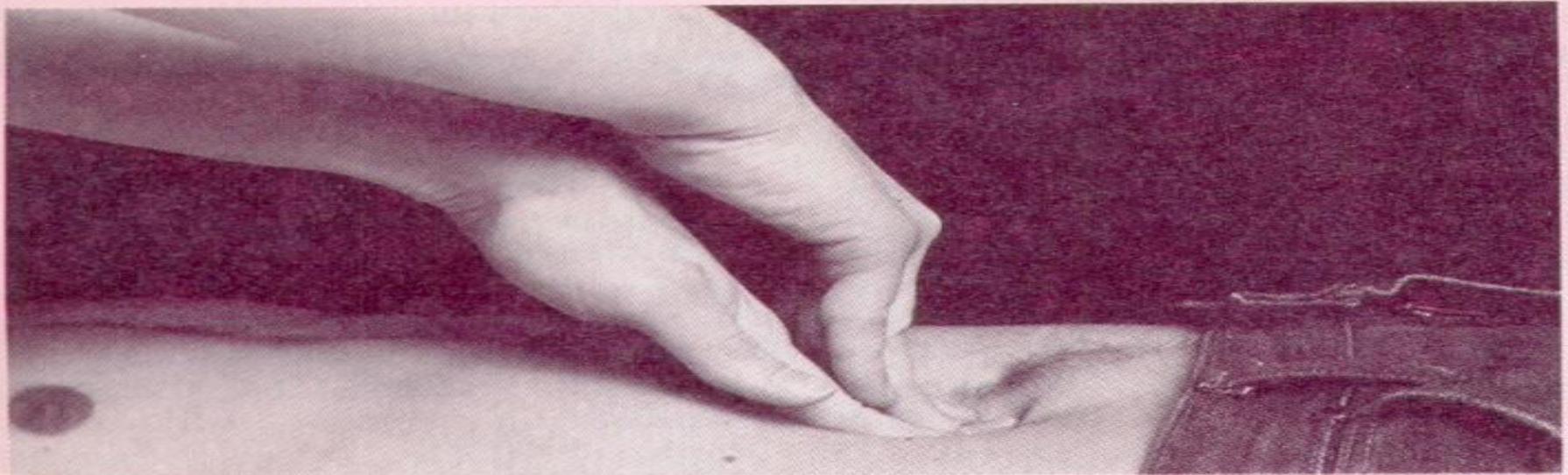


To assess for fremitus, palpate with the ball of your hand.

PERFORMING LIGHT AND DEEP PALPATION



To perform light palpation, press gently on your patient's skin with the pads of your fingers, indenting about $\frac{1}{2}$ to $\frac{3}{4}$ inches (1 to 2 cm). Move your hand in a circular motion.



To perform deep palpation, increase your fingertip pressure, indenting about $1\frac{1}{2}$ to 2 inches (4 to 5 cm). The nurse shown here is using both hands to perform *bimanual* deep palpation.

Percussion

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- Striking the body surface sharply to create sound waves
- Sound produced determines the feature of underlying organ
- Useful to identify organ position, size and density
- Useful to detect fluid or air in a cavity

□ **Types of percussion**

- *Mediate or Direct*
- *Immediate or Blunt*
- *Fist or Indirect*

□ **Percussion notes:**

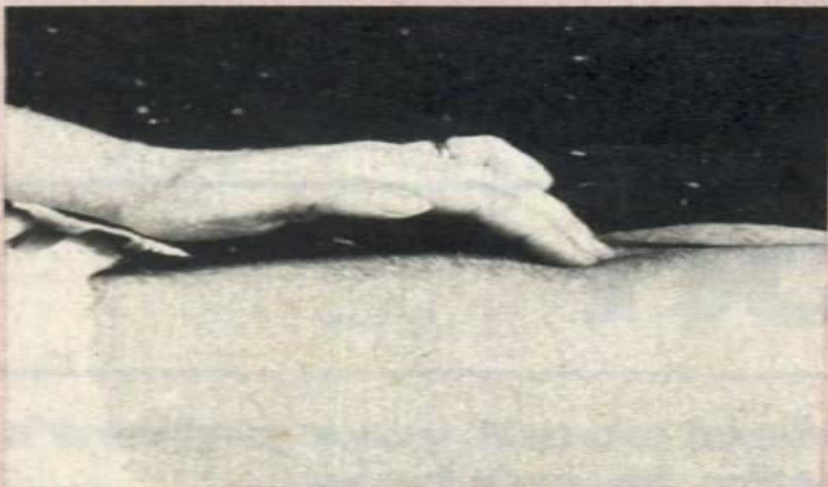
- Flatness (Dull) – Bone and muscle
- Dullness (Thudlike) – Liver, spleen, heart
- Resonance (Hollow) – Air-filled lung/ normal lung
- Hyper resonance (heard over mostly air)- Lung with emphysema
- Tympany (heard over air)- Stomach filled with gas (air)

PERCUSSION: USING THREE METHODS



Mediate percussion

To perform mediate percussion, position your hands as the nurse is doing here. Note that although her pleximeter is touching the skin, the rest of her left hand is not. Remember, after tapping, to withdraw your right hand so you don't damp the vibrations.



Immediate percussion

To perform immediate percussion, use one or more fingers of one hand, as shown here. Again, remember to keep the rest of your hand poised above, but not touching, the skin.



Fist percussion

To perform fist percussion, place the palm of one hand on the patient's back, as the nurse is doing here. Form a fist with the other hand and hit the back of the first hand with it.

Percussion Notes and Their Characteristics

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	Relative intensity	Relative Pitch	Relative Duration	Example of Location
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Flatness	Soft	High	Short	Thigh
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Dullness	Medium	Medium	Medium	Liver
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Resonance	Loud	Low	Long	None lung
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Hyper resonance	Very loud	Lower	Longer	None normally
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Tympany	Loud	High [*]		Gastric air bubble or Puffed-out-cheek
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Auscultation



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- It is the act of active listening to the body organs to gather information on patient's clinical status. Auscultation includes listening to sounds that are voluntarily and involuntarily produced by the body such as the heart and blood vessels and the lungs and abdomen.
- Listening to sounds produced by the body
 - Direct auscultation – sounds are audible without stethoscope
 - Indirect auscultation – uses stethoscope
 - Know how to use stethoscope properly (practice)
 - Fine-tune your ears to pick up subtle changes (practice)
 - Describe sound characteristics (frequency, pitch intensity, duration, quality) (practice)
 - Flat diaphragm picks up high-pitched respiratory sounds best
 - Bell picks up low pitched sounds such as heart murmurs, bruits, aortic aneurysm
 - Practice using BOTH diaphragm

Some Do's and Don'ts while using Stethoscope

- ❑ Warm the diaphragm or bell of the stethoscope before placing it on the client's skin.
- ❑ Explain what you are listening for and answer any questions the client has. This will help to alleviate anxiety.
- ❑ Do not apply too much pressure when using the bell—too much pressure will cause the bell to work like the diaphragm.
- ❑ Avoid listening through clothing, which may obscure or alter sounds.

Breath sounds

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- Bronchovesicular
 - ▣ Normal breath sound
- Wheezing
 - ▣ Narrowing/spasm of bronchioles
 - ▣ Asthma, COPD
- Crackles
 - ▣ Fluid accumulation > PE, Pneumonia
- Friction rub
 - ▣ Inflammation of pleura > pleuritis, pneumonia



References

- Bickley, L. S., Szilagyi, P. G., & Bates, B. (2007). *Bates' guide to physical examination and history taking (11th Ed)*. Philadelphia: Lippincott Williams & Wilkins.
- Weber, Kelley's. (2007). *Health Assessment in Nursing, 3rd Ed: North American Edition*. Lippincott Williams & Wilkins.