THE NURSING COLLECTIVE

Heart & Lung Sounds Quick Reference

Essential Clinical Assessment Guide

Heart Sounds

Normal Sounds

S1 - "Lub"

Caused by: AV valves closing (mitral, tricuspid)

Best heard: Apex

Timing: Start of systole

S2 - "Dub"

Caused by: Semilunar valves closing (aortic, pulmonic)

Best heard: Base

Timing: End of systole

Abnormal Sounds

S3 - "Ken-TUC-ky"

Timing: Early diastole

Clinical: Heart failure, volume overload

Normal in: Children & young adults

S4 - "TEN-nes-see"

Timing: Late diastole (before S1)

Clinical: Hypertension, MI, aortic stenosis

Never normal

Tip: Identifying S1 vs S2

Palpate carotid pulse while listening - S1 occurs with carotid upstroke

Common Murmurs

Systolic Murmurs (Between S1 & S2)

- **Aortic Stenosis:** Harsh, radiates to neck
- **Mitral Regurgitation:** Blowing, radiates to axilla

Diastolic Murmurs (Between S2 & S1) - Always Pathologic

- **Aortic Regurgitation:** Early diastolic, decrescendo
- **Mitral Stenosis:** Mid-diastolic, rumbling

Lung Sounds

Normal Breath Sounds

Vesicular

Location: Peripheral lung fields

Quality: Soft, low-pitched; inspiration longer than expiration (3:1)

Bronchial

Location: Over trachea (abnormal if heard peripherally)

Quality: Loud, high-pitched; expiration longer than inspiration

Abnormal (Adventitious) Sounds

Crackles (Rales)

Sound: Popping, discontinuous (like "Rice Krispies")

Causes: Fluid in alveoli, pneumonia, CHF, pulmonary fibrosis

Timing: Usually inspiration

Wheezes

Sound: High-pitched, musical, continuous

Causes: Narrowed airways - asthma, COPD, bronchospasm

Timing: Usually expiration (worse if also on inspiration)

Rhonchi

Sound: Low-pitched, snoring/rattling, continuous

Causes: Secretions in large airways

Note: May clear with coughing

Stridor - EMERGENCY

Sound: High-pitched, harsh (often heard without stethoscope)

Causes: Upper airway obstruction (croup, epiglottitis, foreign body)

Action: Notify physician immediately

Pleural Friction Rub

Sound: Grating, like leather rubbing or walking on snow

Causes: Inflamed pleural surfaces - pleurisy, pneumonia

Timing: Both inspiration and expiration

Assessment Locations

Heart: "APE To Man"

- **A**ortic: 2nd ICS, right sternal border
- **P**ulmonic: 2nd ICS, left sternal border
- **E**rb's Point: 3rd ICS, left sternal border
- **T**ricuspid: 4th ICS, left sternal border
- **M**itral: 5th ICS, midclavicular line

Lungs: Compare Side to Side

- Anterior: upper, middle, lower lobes bilaterally
- Posterior: upper, middle, lower lobes bilaterally
- Lateral: right middle lobe, left upper lobe

Quick Assessment Tips

- Use diaphragm for high-pitched sounds (breath sounds, S2)
- Use bell for low-pitched sounds (S3, S4)
- Always compare side to side for symmetry
- Warm stethoscope before use
