

Introduction to Auscultation of the Infant Curriculum



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This curriculum and accompanying product will help participants learn and practice the skill of auscultating the respiratory, cardiac, and abdominal systems of infants.

Curriculum Structure

The *Introduction to Auscultation of the Infant* curriculum is composed of the following lessons. Approximate lesson times are included.

Lesson	Title	Approximate Time
One	FOCUS: Part One – Anatomy Pre-Quiz	10 minutes
One	FOCUS: Part Two – Developmental Considerations Activity	10 minutes
One	LEARN: Infant Auscultation Slide Presentation	20 minutes
One	REVIEW: Infant Auscultation Activity	40 minutes
	Total	1 hour 30 minutes

Lesson Structure

Each lesson begins with a Lesson Overview, Lesson Objectives, and a Lesson at a Glance table that lists the lesson activities, materials required, suggested preparation steps, and approximate class time.

Lesson Sections

The actual lesson follows the overview, which will contain some of the sections described below.

FOCUS

Every lesson begins with a FOCUS activity intended to capture participants' attention. This may be in the form of a small or large class discussion, a game, a review of previous lesson information, or a demonstration. During this activity, participants are introduced to the topic of the lesson.

LEARN

The LEARN activity in each lesson varies in its presentation mode. It may be a slide presentation, group activity, or demonstration.

REVIEW

The majority of lessons end with a REVIEW activity intended to briefly review the lesson's key messages or main points.

Lesson One – Introduction to Auscultation of the Infant

Lesson Overview

In this lesson, participants will learn and practice auscultating the respiratory, cardiac, and abdominal systems of infants.

Lesson Objectives

After completing this lesson, participants will be able to:

- Identify auscultation sites for heart, lungs, and abdomen in infant clients
- Demonstrate the correct pattern for auscultation
- Recognize abnormal cardiac, respiratory, and abdominal sounds in infants

Lesson at a Glance

Activity	Materials	Preparation	Approximate class time
FOCUS: Part One	• <i>Anatomy Pre-Test</i> • <i>Anatomy Pre-Test – Answer Key</i>	1. Print/photocopy <i>Anatomy Pre-Test</i> (one per participant).	10 minutes
FOCUS: Part Two	• <i>Developmental Considerations Activity</i> worksheet • <i>Developmental Considerations Activity – Answer Key</i>	1. Print/photocopy <i>Developmental Considerations Activity</i> (one per participant).	10 minutes
LEARN	• <i>Infant Auscultation Trainer</i> slide presentation	1. Prepare <i>Infant Auscultation Trainer</i> slide presentation for viewing.	20 minutes
REVIEW	• Auscultation Trainer stethoscope • Infant Vital Signs Trainer • <i>Infant Auscultation Check-Off Instructor Resource</i> • <i>Infant Auscultation Check-Off</i> • <i>Infant Auscultation Post-Test</i> • <i>Infant Auscultation Post-Test – Answer Key</i>	1. Print/photocopy <i>Infant Auscultation Check-Off</i> and the <i>Infant Auscultation Post-Test</i> (one per participant). 2. Prepare the supplies needed for the lesson. 3. Set up the Infant Vital Signs Trainer.	30 minutes

Lesson One – Introduction to Auscultation of the Infant

FOCUS: Part One – Anatomy Pre-Test

10 minutes

Purpose:

Participants will learn common anatomical landmarks of the respiratory, cardiac, and abdominal systems in infants.

Materials:

- *Anatomy Pre-Test*
- *Anatomy Pre-Test – Answer Key*

Facilitation Steps:

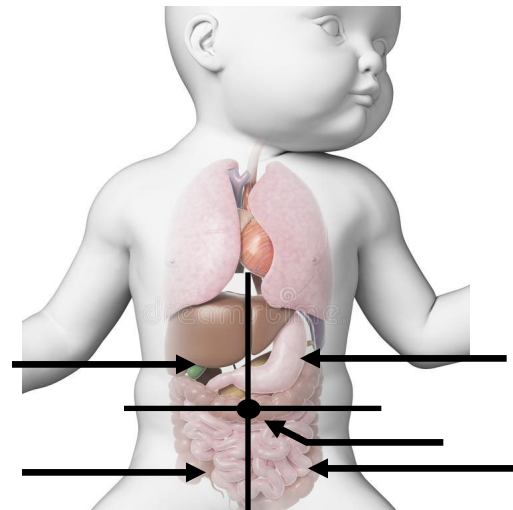
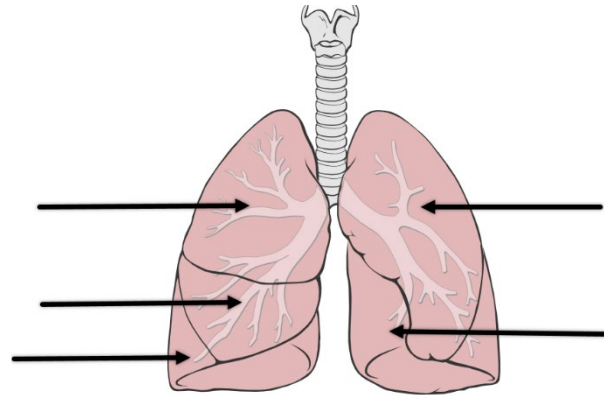
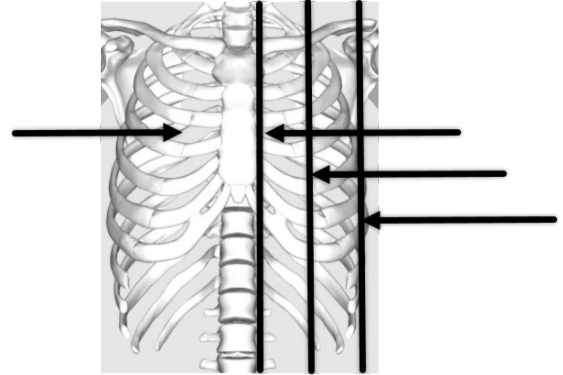
1. Distribute the *Anatomy Pre-Test* prior to or at the start of the class.
2. Have the *Anatomy Pre-Test – Answer Key* available for instructor reference.
3. Have participants complete the Pre-Test.
4. After completion, participants may pair up and compare answers or the instructor may collect and review the answers.

Name: _____ Class: _____

Anatomy Pre-Test

Number the diagrams below with the correct anatomical landmark term.

1. Left Lower Quadrant
2. Umbilicus
3. Anterior Axillary Line
4. Right Upper Quadrant
5. Right Upper Lobe
6. Intercostal Space
7. Left Upper Lobe
8. Right Lower Quadrant
9. Sternal Border
10. Right Middle Lobe
11. Left Upper Quadrant
12. Midclavicular Line
13. Right Lower Lobe
14. Left Lower Lobe



Modified from Anatomography (2013). File:Triceps_brachii_muscle10 [Illustration]. *Wikimedia Commons*.
https://commons.wikimedia.org/wiki/File:Triceps_brachii_muscle10.png

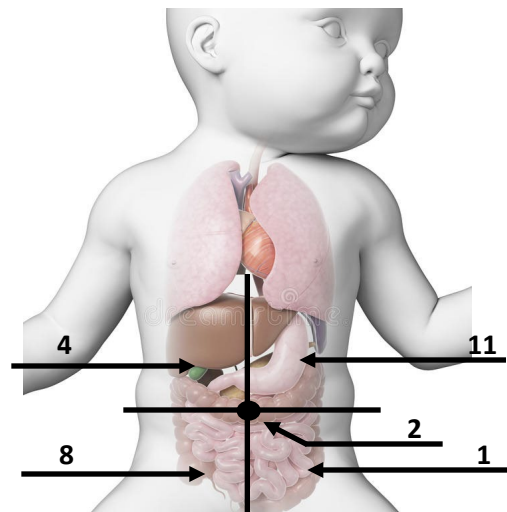
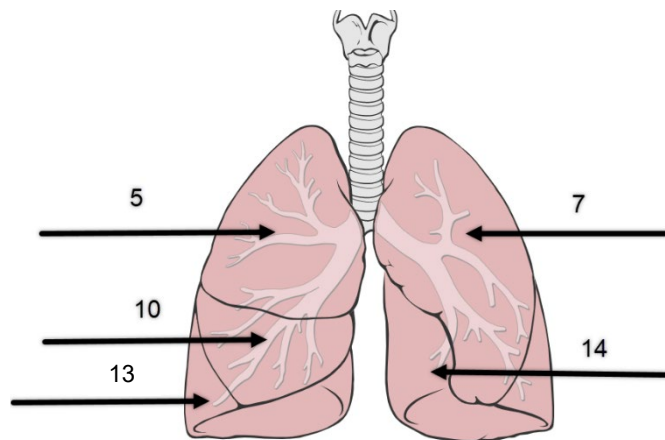
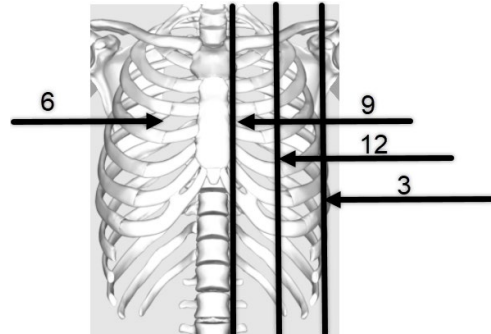
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<https://www.dreamstime.com/stock-photography-organs-baby-medical-illustration-showing-image38958462>

Modified from Lynch, P. (2006 File:Lungs diagram simple [Illustration]. *Wikimedia Commons*.
https://commons.wikimedia.org/wiki/File:Lungs_diagram_simple.svg

Anatomy Pre-Quiz – Answer Key

Number the diagrams below with the correct anatomical landmark term.

1. Left Lower Quadrant
2. Umbilicus
3. Anterior Axillary Line
4. Right Upper Quadrant
5. Right Upper Lobe
6. Intercostal Space
7. Left Upper Lobe
8. Right Lower Quadrant
9. Sternal Border
10. Right Middle Lobe
11. Left Upper Quadrant
12. Midclavicular Line
13. Right Lower Lobe
14. Left Lower Lobe



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Modified from Lynch, P. (2006 File:Lungs_diagram_simple [Illustration]. Wikimedia Commons.

https://commons.wikimedia.org/wiki/File:Lungs_diagram_simple.svg

Lesson One – Introduction to Auscultation of the Infant

FOCUS: Part Two – Developmental Considerations

10 minutes

Purpose:

Participants will reflect on ways that an infant's development may affect their behavior while being assessed and ways to approach those developmental differences to collect accurate assessment data.

Materials:

- *Developmental Considerations Activity*
- *Developmental Considerations Activity – Answer Key*

Facilitation Steps:

1. Distribute the *Developmental Considerations Activity* prior to or at the start of the class.
2. Have the *Developmental Considerations Activity – Answer Key* available for instructor reference.
3. Have participants complete the *Developmental Considerations Activity*.
4. After completion, participants may pair up and compare answers. The instructor may review the answers.

Name: _____ Class: _____

Developmental Considerations Activity

Infant developmental stages may affect how an infant tolerates being assessed and healthcare professionals need to be aware of potential infant behaviors that may pose a challenge to auscultation. Consider the two cases below and how care of these infants can be approached to obtain the most accurate and trauma-free assessment.

1. You are working on a postpartum unit and need to assess a 2 day old infant, Benjamin. When you enter the room, he is swaddled and sleeping in his bassinet. You unswaddle him and his arms and legs quickly extend outward and he begins to cry. When you place the stethoscope on him he cries harder and you are unable to hear anything.
 - What developmental needs does a newborn have?
 - How could you approach this infant's assessment differently?
 - What are some ways to help the infant stop crying so he can be assessed?
2. Genevieve is a 10 month infant at the pediatrician's office. You need to listen to her heart and lungs. When you enter the room, she clings to her mother and turns away from you. When you put the stethoscope on her, she pushes it away and begins to cry.
 - What developmental needs does a 10 month old have?
 - How could you approach this infant's assessment differently?
 - What are some ways to help the infant stop crying so she can be assessed?

Developmental Considerations Activity – Answer Key

Infant developmental stages may affect how an infant tolerates being assessed and healthcare professionals need to be aware of potential infant behaviors that may pose a challenge to auscultation. Consider the two cases below and how care of these infants can be approached to obtain the most accurate and trauma-free assessment.

1. You are working on a postpartum unit and need to assess a 2 day old infant, Benjamin. When you enter the room, he is swaddled and sleeping in his bassinet. You unswaddle him and his arms and legs quickly extend outward and he begins to cry. When you place the stethoscope on him he cries harder and you are unable to hear anything.
 - What developmental needs does a newborn have?
Newborns have a startle reflex that causes their arms and legs to extend and makes them feel as if they are falling. They also need help regulating their temperature and may be cold if not swaddled or being held.
 - How could you approach this infant's assessment differently?
Try loosening the infant's swaddle and putting the stethoscope inside the blankets so as not to disturb him quite so much. Have a parent hold him, or even allow the mother to feed him while he is being assessed so as not to startle him and so as to keep him warm. Warm the stethoscope on your hand before touching it to the infant's skin.
 - What are some ways to help the infant stop crying so he can be assessed?
Have the parents offer the breast, a bottle, or pacifier. Rewrap the infant in a loose swaddle or have the parents hold him to ensure he is not cold. Hold or sway the infant. Shush, sing, or make soothing noises. It is also okay to come back in a few minutes when he has settled and try again.
2. Genevieve is a 10 month infant at the pediatrician's office. You need to listen to her heart and lungs. When you enter the room, she clings to her mother and turns away from you. When you put the stethoscope on her, she pushes it away and begins to cry.
 - What developmental needs does a 10 month old have?
This is an age with strong stranger or separation anxiety. Infants of this age are naturally fearful or hesitant around new people or in new situations and will seek comfort in a familiar caregiver.
 - How could you approach this infant's assessment differently?
Continue to allow the infant to sit on her mother's lap. Sit at the same level and mother and child so you are not towering over her. Sit at a safe distance and talk gently to her at first. Offer the bell of your stethoscope out for her to touch and see that it is safe and not painful. You can lightly touch it on her leg or arm to show her it is okay. Offer a distraction such as a toy or bubbles when it is time to auscultate.
 - What are some ways to help the infant stop crying so she can be assessed?
A distraction such as toys or bubbles. A snack may be appropriate if the parent consents. At this age, if she is very upset and scared, you may need to sit quietly nearby for a few minutes until she decides you are safe or even leave the room and return in a few minutes.

Lesson One – Introduction to Infant Auscultation

LEARN: Infant Auscultation Slide Presentation

30 minutes

Purpose:

Participants will learn the processes and procedures involved in auscultation, including what landmarks and sounds to utilize and listen for.

Materials:

1. *Introduction to Auscultation of the Infant* slide presentation

Facilitation Steps: Share the following information with participants as you show the slide presentation.

Slide 1: Introduction slide.

Slide 2: At the end of this lecture, you should be able to:

- Identify auscultation sites for heart, lungs, and abdomen
- Understand developmental needs of the infant during assessment
- Demonstrate the correct pattern for auscultation
- Recognize abnormal cardiac, respiratory, and abdominal sounds

Note: Techniques can vary by source and patient situation.

Slide 3: Auscultation is the act of listening to internal organs such as the heart, lungs, and gastrointestinal tract.

As an assessment technique, it is usually completed with inspection, palpation, and percussion.

Slide 4: Before beginning your assessment, gather the supplies needed.

1. Knock, enter the room, and approach the patient in a developmentally appropriate way.
2. Identify yourself by name and title.
3. Wash your hands with sanitizer or soap and water.

4. Identify the patient by asking their name and date of birth. Verify this information with a caregiver.
5. Explain the assessment procedure to the patient's caregiver and ask if they have any questions.
6. Sanitize the stethoscope.
7. Complete the assessment from head to toe.

Slide 5: Newborns and very young infants

- These young babies have a startle reflex that can occur with loud noises or sudden movements. Unswaddling a baby and moving them around can cause them to startle and cry. They also have not completely regulated their temperature in the first few days of life and may get cold easily.

Ages 3-9 months

- These infants are social and will smile socially. They do not yet fear people they do not know. They begin to grab at things in front of them and will put objects in their mouths.

9-12 months

- These infants have stranger anxiety and may fear unfamiliar people, place, or activities.

Slide 6: Newborns and very young infants

- For younger infants, try to keep them loosely swaddled or covered and only expose necessary areas of skin at a time. Always warm your stethoscope as well.
- Allow a caregiver to hold them to keep them from startling
- Offer feeding or pacifier to help soothe and distract them.

3-9 months

- Talk to them and give them an opportunity to be social. You may want to offer them something to hold onto, like a toy or tongue depressor, so they don't grab onto your stethoscope.

- Offer distractions like a toy or bubbles, feeding or a snack is appropriate too.

9-12 months

- Allow them to sit on a caregiver's lap. Approach them slowly and allow them to see you are not threatening. Sit on their level rather than standing above them.
- Allow them an opportunity to touch or play with your stethoscope or lightly touch it on their leg or arm so they can see it is not painful.
- Offer distractions like toys, bubbles, or snacks if appropriate.

Slide 7: Placing the patient in a supine position or comfortable position on caregiver's lap, locate the cardiac landmarks: aortic, pulmonic, Erb's point, tricuspid, and mitral.

In newborns, the apical impulse, essentially the tip of the left ventricle, can be palpated at the left sternal border and 4th intercostal space (around the Tricuspid landmark) and moves down to the 5th intercostal space and the midclavicular line as the child ages. It reaches that position around age 3.

Slide 8: Using the diaphragm or bell of the stethoscope, start at the aortic landmark. Listen for one to two cardiac cycles (lub-dub, lub-dub). Identify normal cardiac sounds and listen for any abnormal sounds. Begin with the aortic, then pulmonic, Erb's point, tricuspid, and mitral. The bell is designed for more low frequency sounds and the diaphragm for more high frequency sounds. In newborns and small infants, the bell can also help differentiate sounds in different areas as it is smaller. A pediatric stethoscope would help with this as well.

Note: The auscultation trainer only uses the diaphragm. Instruct participants to listen with the bell of the stethoscope at all sites on real patients.

Slide 9: Infants have faster heartbeats than older children and adults and this is an expected and normal finding.

100-205bpm in an active and awake infant and 90-160bpm in sleeping infants is normal.

Bradycardia is a slow heartrate for age.

Tachycardia is a fast heart rate for age.

It should be noted that an irregular heartbeat that seems to change rate with breathing in or out, or an

occasionally "skipped" beat is very common in infants and children.

Slide 10: You may also hear abnormal sounds. A systolic click is a high-pitched snap sound associated with mitral valve prolapse. S3 is a low-pitched, soft sound after S2 ("dub"), said to sound like the meter of Ken-TUK-key. S4 is a low-pitched, soft sound heard before S1 ("lub") said to sound like TEN-es-see

Slide 11: A cardiac friction rub is a high-pitched scratchy sound caused by inflammation of the pericardium.

A systolic murmur is a crescendo-decrescendo blowing sound between S1 and S2, while a diastolic murmur is a crescendo-decrescendo blowing sound between S2 and S1.

S2 can split with inspiration and return to a single sound with expiration, this is common in children.

Benign murmurs are common in school age children but less common in newborns and infants and should always be noted. Congenital cardiac defects need to be ruled out.

Slide 12: For the respiratory assessment, have the patient in a supine or seated position, on a caregiver's lap if possible/helpful. There are landmarks on the anterior and posterior sides. Note that the landmarks are not over large areas of bone such as the sternum and scapula. The landmarks represent spots that can be listened to, yet keeping your patient in mind is important.

Slide 13: In respiratory auscultation, you are comparing lobes right to left (or left to right). For example, listen to the right upper lobe and compare it to the left upper lobe. The landmarks represent spots that can be listened to yet keeping your patient in mind is important. You cannot ask an infant to take deep breaths for you, so listen for as long as you need in each area. You should focus largely on inspiration, as you are less likely to hear much during expiration without being able to elicit a forced expiration.

Slide 14: Infants breathe faster than older children and adults. Normal range varies by age and slows a little as the infant ages.

Infants also breathe in an irregular pattern, so it is recommended to listen for a full minute to

determine an accurate number of breaths per minute.

A slow rate for age is considered **bradypnea**.

A fast rate for age is **tachypnea**.

Slide 15: Infant respiratory effort is a good indicator if an infant is in distress or not.

Retractions are when accessory muscles are being used to help the infant draw air into the lungs and looks like a pulling or tugging of the skin around the ribs and sternum. Retractions can usually be seen supra-sternally, inter-costally, and sub-costally.

Infants may also use “**belly-breathing**,” where the use of accessory muscles makes their abdomen move up and down with each breath, in order to get more air into the lungs.

Older infants that can sit up may assume the tripod position (tripoding), to help open the lungs as much as possible if they are struggling to breathe normally.

Slide 16: You may also hear abnormal sounds called adventitious sounds.

Wheezes are high or low-pitched musical sounds caused by narrowed airways.

Pleural friction rubs are a low-pitched, coarse, grating sound caused by pleuritis.

Stridor is a high-pitched, crowing sound on inspiration caused by croup or a narrowed airway.

Fine crackles are high-pitched, short crackling sounds.

Coarse crackles are low-pitched, loud bubbling and gurgling sounds caused by secretions in the lungs.

Try to determine if the abnormal sound is present in all fields, or just certain areas. Both lungs or just one. And if it occurs with inspiration, expiration, or both.

Slide 17: For auscultating the abdomen, have the patient lay supine or comfortably on a caregiver’s lap. Theoretically, divide the abdomen into four quadrants at the umbilicus: right upper, right lower, left upper, and left lower.

Slide 18: For abdominal auscultation, follow the large intestine around starting in the right lower quadrant. You may listen in more than one spot and listen for up to 5 minutes. If no gurgling sounds are present after 5 minutes, the bowel sounds are absent.

Slide 19: You may hear abnormal rates of sounds.

Hyperactive bowel sounds are high pitched rushing sounds at over 30 times per minute that indicate increased motility.

Hypoactive bowel sounds are diminished, soft sounds at under five times per minute that indicate decreased motility.

There are no abnormal sounds like in cardiac and respiratory auscultation.

Slide 20: To end the assessment,

1. Make sure the patient is comfortable and safe.
2. Wash your hands
3. Sanitize your stethoscope
4. Document the assessment

Slide 21: Documentation can be via note or computer charting. Note what was heard, where, normal and abnormal, as well as the rate.

Slide 22: Closing slide

Lesson One – Introduction to Infant Auscultation

REVIEW: Infant Auscultation Activity

30 minutes

Purpose:

Participants will practice auscultation of the respiratory, cardiac, and abdominal systems of an infant. Administer a Post-Test to assess mastery.

Materials:

- Infant Vital Signs Trainer RealityScope
- Infant Vital Signs Trainer
- *Infant Auscultation Check-Off Instructor Resource*
- *Infant Auscultation Check-Off*
- *Infant Auscultation Post-Test*
- *Infant Auscultation Post-Test – Answer Key*

Facilitation Steps:

1. Give participants the *Infant Auscultation Check-Off*.
2. Access the *Infant Auscultation Check-Off (Instructor Resource)* page. Following the steps on the check-off page, demonstrate auscultation on the Trainer.
3. Answer any questions participants may have on using the Infant Vital Signs Trainer. Refer to the Quick Start Guide for more information on use.
4. Following the steps on their *Infant Auscultation Check-Off*, have participants practice auscultation on the Trainer.
5. Hand out the *Infant Auscultation Post-Test* to participants. Give them a couple of minutes to complete it.
6. Have participants self-check or peer check their answers as you share them from the Answer Key.

Name: _____ Class: _____

Introduction to Infant Auscultation Check-Off

Instructor Resource

PREPARATION:

Supplies:

- Auscultation trainer
- Auscultation stethoscope

After a demonstration, have participants practice auscultation on the Trainer using the following steps:

Optional: Evaluate the participant's ability to complete auscultation using the following steps. You may score via points or by marking as satisfactory/unsatisfactory.

1.	Gather the supplies needed.	
2.	Knock, enter the room, and approach the infant in a developmentally appropriate way.	
3.	Identify yourself by name and title.	
4.	Wash your hands with sanitizer or soap and water.	
5.	Identify the patient by asking their name and date of birth. Verify this information with infant's caregiver.	
6.	Explain the assessment procedure to the patient's caregiver and ask if they have any questions.	
7.	Sanitize the stethoscope.	
Cardiac Auscultation		
8.	State that you are placing the patient in an appropriate position based on developmental needs.	
9.	Locate the aortic landmark (right sternal border, second intercostal space) and listen with the diaphragm of the stethoscope.	
10.	Assess for normal and abnormal sounds.	
11.	Locate the pulmonic landmark (left sternal border, second intercostal space) and listen with a stethoscope.	
12.	Assess for normal and abnormal sounds.	
13.	Locate Erb's Point landmark (left sternal border, third intercostal space) and listen with a stethoscope.	
14.	Assess for normal and abnormal sounds.	
15.	Locate tricuspid landmark (left sternal border, fourth/fifth intercostal space) and listen with a stethoscope.	
16.	Assess for normal and abnormal sounds.	
17.	Locate the mitral landmark (left midclavicular line, fifth intercostal space) and listen with a stethoscope.	

18.	Assess for normal and abnormal sounds.	
Respiratory Auscultation		
19.	State that you are placing the patient in an appropriate position based on developmental needs.	
20.	Listen to posterior upper lobes, starting at C7 and moving right to left (or left to right) down to T3.	
21.	Assess for normal and abnormal sounds. Listen for one respiration per location.	
22.	Listen to posterior lower lobes, starting at T3 and moving right to left (or left to right) down to T10.	
23.	Assess for normal and abnormal sounds. Listen for one respiration per location.	
24.	Listen to the posterior lower lobes on the posterior axillary line, moving right to left (or left to right) to T8-T10.	
25.	Assess for normal and abnormal sounds. Listen for one respiration per location.	
26.	State that you are placing the patient in an appropriate position based on developmental needs.	
27.	Listen to anterior upper lobes, starting above the clavicle and moving right to left (or left to right) down to the sixth rib on the anterior axillary line.	
28.	Assess for normal and abnormal sounds. Listen for one respiration per location.	
Abdominal Auscultation		
29.	State that you are placing the patient in an appropriate position based on developmental needs.	
30.	Listen to the right lower quadrant.	
31.	Assess for normal and abnormal sounds.	
32.	Listen to the right upper quadrant.	
33.	Assess for normal and abnormal sounds.	
34.	Listen to the left upper quadrant.	
35.	Assess for normal and abnormal sounds.	
36.	Listen to the left lower quadrant.	
37.	Assess for normal and abnormal sounds.	
38.	Provide for patient comfort and safety.	
39.	Wash hands and sanitize stethoscope.	
40.	Document assessment.	
	Score:	

Introduction to Infant Auscultation Check-Off

Practice auscultation on the Trainer using the following steps:

1.	Gather supplies needed.
2.	Knock, enter the room, and approach the infant in a developmentally appropriate way.
3.	Identify yourself by name and title.
4.	Wash your hands with sanitizer or soap and water.
5.	Identify the patient by asking their name and date of birth. Verify this information with infant's caregiver.
6.	Explain the assessment procedure to the patient's caregiver and ask if they have any questions.
7.	Sanitize the stethoscope.
Cardiac Auscultation	
8.	State that you are placing the patient in an appropriate position based on developmental needs.
9.	Locate the aortic landmark (right sternal border, second intercostal space) and listen with the diaphragm of the stethoscope.
10.	Assess for normal and abnormal sounds.
11.	Locate the pulmonic landmark (left sternal border, second intercostal space) and listen with a stethoscope.
12.	Assess for normal and abnormal sounds.
13.	Locate Erb's Point landmark (left sternal border, third intercostal space) and listen with a stethoscope.
14.	Assess for normal and abnormal sounds.
15.	Locate tricuspid landmark (left sternal border, fourth/fifth intercostal space) and listen with a stethoscope.
16.	Assess for normal and abnormal sounds.
17.	Locate the mitral landmark (left midclavicular line, fifth intercostal space) and listen with a stethoscope.
18.	Assess for normal and abnormal sounds.
Respiratory Auscultation	
19.	State that you are placing the patient in an appropriate position based on developmental needs.
20.	Listen to posterior upper lobes, starting at C7 and moving right to left (or left to right) down to T3.

21.	Assess for normal and abnormal sounds. Listen for one respiration per location.
22.	Listen to posterior lower lobes, starting at T3 and moving right to left (or left to right) down to T10.
23.	Assess for normal and abnormal sounds. Listen for one respiration per location.
24.	Listen to the posterior lower lobes on the posterior axillary line, moving right to left (or left to right) to T8-T10.
25.	Assess for normal and abnormal sounds. Listen for one respiration per location.
26.	State that you are placing the patient in an appropriate position based on developmental needs.
27.	Listen to anterior upper lobes, starting above the clavicle and moving right to left (or left to right) down to the sixth rib on the anterior axillary line.
28.	Assess for normal and abnormal sounds. Listen for one respiration per location.
Abdominal Auscultation	
29.	State that you are placing the patient in an appropriate position based on developmental needs.
30.	Listen to the right lower quadrant.
31.	Assess for normal and abnormal sounds.
32.	Listen to the right upper quadrant.
33.	Assess for normal and abnormal sounds.
34.	Listen to the left upper quadrant.
35.	Assess for normal and abnormal sounds.
36.	Listen to the left lower quadrant.
37.	Assess for normal and abnormal sounds.
38.	Provide for patient comfort and safety.
39.	Wash hands and sanitize stethoscope.
40.	Document assessment.

Name: _____ Class: _____

Infant Auscultation Post-Test

Match the abnormal finding to the correct description by putting the number of the abnormal next to the description.

1. Mid-Systolic Click	Crescendo-decrescendo blowing sound between S1 and S2.
2. S3	Slow breathing. <30-34 breaths per minute depending on age.
3. S4	High-pitched rushing sounds at over 30 times per minute that indicate increased motility.
4. Cardiac Friction Rub	The high-pitched snap sound associated with mitral valve prolapse.
5. Systolic Murmur	Rate over 205 beats/min depending on age and level of consciousness.
6. Diastolic Murmur	Rapid, shallow breathing. Rate >50-57 per minute depending on age.
7. Bradycardia	Low-pitched, soft sound after S2.
8. Tachycardia	High-pitched, crowing sound on inspiration caused by croup or narrowed airway.
9. Bradypnea	Low-pitched, loud bubbling and gurgling sounds.
10. Tachypnea	High-pitched, short crackling sounds.
11. Wheeze	The high-pitched scratchy sound caused by inflammation of the pericardium.
12. Pleural Friction Rub	The low-pitched soft sound heard before S1.
13. Stridor	High or low-pitched, squeaking sounds caused by narrowed airways.
14. Fine Crackles	Diminished, soft sounds at under five times per minute that indicate decreased motility.
15. Coarse Crackles	Crescendo-decrescendo blowing sound between S2 and S1.
16. Hyperactive Bowel Sounds	The low-pitched, coarse grating sound caused by pleuritis.
17. Hypoactive Bowel Sounds	Rate of less than 90 beats/min depending on age and level of consciousness.

Infant Auscultation Post-Test – Answer Key

Match the abnormal finding to the correct description by putting the number of the abnormal next to the description.

1. Mid-Systolic Click	5	Crescendo-decrescendo blowing sound between S1 and S2.
2. S3	9	Slow breathing. <30-34 breaths per minute depending on age.
3. S4	16	High-pitched rushing sounds at over 30 times per minute that indicate increased motility.
4. Cardiac Friction Rub	1	The high-pitched snap sound associated with mitral valve prolapse.
5. Systolic Murmur	8	Rate over 205 beats/min depending on age and level of consciousness.
6. Diastolic Murmur	10	Rapid, shallow breathing. Rate >50-57 per minute depending on age.
7. Bradycardia	2	Low-pitched, soft sound after S2.
8. Tachycardia	13	High-pitched, crowing sound on inspiration caused by croup.
9. Bradypnea	15	Low-pitched, loud bubbling and gurgling sounds.
10. Tachypnea	14	High-pitched, short crackling sounds.
11. Wheeze	4	The high-pitched scratchy sound caused by inflammation of the pericardium.
12. Pleural Friction Rub	3	The low-pitched soft sound heard before S1.
13. Stridor	11	High or low-pitched, squeaking sounds caused by narrowed airways.
14. Fine Crackles	17	Diminished, soft sounds at under five times per minute that indicate decreased motility.
15. Coarse Crackles	6	Crescendo-decrescendo blowing sound between S2 and S1.
16. Hyperactive Bowel Sounds	12	The low-pitched, coarse grating sound caused by pleuritis.
17. Hypoactive Bowel Sounds	7	Rate of less than 90 beats/min depending on age and level of consciousness.

Sources

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