

TOP 5 / PEER REVIEWED



TOP 5

Ways to Choose & Use a Stethoscope

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How a stethoscope is used depends on the patient, the location where the patient is examined, and the reason the patient is presented. Veterinarians should always have a stethoscope readily available to quickly determine the best direction for a case. For example, a stethoscope will quickly reveal a heart murmur in a kitten or puppy, lack of GI sounds in a horse with colic examined in a field, return of GI sounds following small intestinal surgery, crackles or wheezes in a dyspneic dog, lack of lung sounds or muffled heart sounds in a dyspneic cat, and arrhythmias or tachycardia in a dog brought to the emergency room.

Top 5 Ways to Choose & Use a Stethoscope

- Choose the Best, Not the Most Expensive
- Be Familiar with the Features
- Do Not Neglect the Earpieces
- Position Patients Properly
- Take Time to Listen for Arrhythmias

Buying a stethoscope is one of the first steps most veterinarians take when assembling their clinical tool kit. Veterinary students entering their clinical phase often ask me, *Which is the best stethoscope to buy?* My answer varies for each student and practitioner. (See **Table 1.**)

Here are my top 5 pieces of advice on how to select the best stethoscope and how to properly use it for cardiac evaluation.

1 Choose the Best, Not the Most Expensive

If possible, try several stethoscopes on different species and different-sized patients before buying. I prefer a small

pediatric stethoscope for kittens and puppies, but I miss gallop sounds with a pediatric stethoscope on larger dogs. I definitely like a larger size for horses and cows. I also use an electronic stethoscope for recording and teaching because it was designed for the hearing-impaired and it amplifies *all* sounds.

A good stethoscope should have comfortable earpieces angled slightly forward to fit snugly into the ear canals. The best tubing is about 1/8 inch (ie, 3 mm) in internal diameter and as short as is practical for easy use. Double tubing is theoretically superior to single tubing for transmitting sounds accurately, especially at higher frequencies; however, in practice, both single tubing (ie, Littmann-type) and double tubing (ie, Sprague Rappaport-type) models work well.

Do not buy a stethoscope because it is the most expensive. I love my pediatric one, which is one of the cheapest out there!

2 Be Familiar with the Features

Know how to use a stethoscope's features. For example, the chest piece is designed to permit accentuation of high or low

frequency vibrations, which is accomplished by incorporating a bell and a diaphragm in most models.

All veterinary students are taught how S1, S2, S3, and S4 heart sounds are created, and most veterinarians know there is both a bell and a diaphragm, yet I am frequently asked when and why one side should be used versus the other. The answer is that both should be used. The diaphragm (ie, the flat piece) accentuates high frequency sounds (eg, murmurs). The bell (ie, literally, the bell or cup-shaped piece) tends to accentuate lower frequencies and is useful for detecting low intensity sounds (eg, gallops due to S3 and S4 heart sounds).

3 Do Not Neglect the Earpieces

Most stethoscopes come with different options for earpieces (eg, small or large, soft or firm). No earpiece is a one-size-fits-all. They should be comfortable, the user should be able to appropriately angle the sounds toward the eardrum, and they should fit in the user's ear, sealing in the ear canal so minimal background/ambient environmental noise is heard and there is excellent acoustic transmission of sound to the eardrum.

Veterinarians should always have a stethoscope readily available to quickly determine the best direction for a case.

TABLE 1 | **Which Stethoscope Should I Buy?**

1

Choosing the right stethoscope can be overwhelming. If you are constantly on the move with a stethoscope draped around your neck all day, you may prefer one that is lightweight. If you see mostly puppies and kittens, you may prefer a pediatric stethoscope, whereas if you see mostly horses, you will want long tubing. A cardiologist will opt for the best acoustic quality. Following are the author's preferences, but other good options are available.

Stethoscope	Price Range	Pros	Cons
3M Littmann Master Cardiology	\$200–\$220	Probably the best acoustic quality stethoscope available; excellent, durable tubing	The most expensive stethoscope available and may not be necessary unless you are a cardiologist; the large, adult-sized diaphragm may not be useful for puppies and kittens
3M Littmann Cardiology III or IV	\$170–\$180	Excellent acoustics; has 2 tunable diaphragms, a smaller size for puppies and kittens and a larger size for adult dogs	Expensive compared with basic stethoscopes; a small learning curve is required to use the tunable diaphragm (ie, hearing low frequency sounds with light pressure and high frequency sounds with more pressure)
ADC Adscope 600 Platinum Series Cardiology	\$120–\$130	Acoustic quality rivals the Littmann Master Cardiology and Cardiology III/IV; the company offers a lifetime supply of replacement ear tips and diaphragms; earpieces are soft and comfortable but need to be replaced more often	Bulkier and heavier than Littmann stethoscopes
Littmann Classic II Pediatric	\$80–\$90	Good acoustics for everyday practice use; the small size is ideal for small patients and helps identify the location of murmurs, clicks, or split heart sounds in smaller breeds; lightweight; less expensive than the Littmann Cardiology stethoscopes but still maintains enough durability of tubing and acoustics for general practice	In larger breeds, more subtle heart sounds (eg, gallop sounds) may be missed
3M Littmann Lightweight II SE	\$45–\$50	Durable tubing; lightweight; good for listening to GI sounds, in an emergency kit, or for use in an environment in which an expensive stethoscope may get misplaced or damaged	The earpieces are not as comfortable as the more expensive options; the diaphragm is made of metal/resin and not stainless steel like the Littmann Cardiology series
Omron Sprague Rappaport & MDF Acoustica Deluxe Dual Head	\$20–\$25 \$25–\$30	The author recommends both of these stethoscopes to those who may need to take heart rates at home; lightweight and inexpensive	Neither has the acoustic quality considered sufficient for practice



Do not buy a stethoscope because it is the most expensive.

Just like any other heavily used piece of equipment, earpieces can get dirty, and they require maintenance. Prevent lint buildup—which can affect acoustics—by cleaning regularly with 70% isopropyl and a cotton swab. If the tips become uncomfortable or stiff, or if they crack, replace them. Many companies will provide replacements either for free or at a low cost.

Make sure you know how to put earpieces correctly. Do not angle them toward the back of the head—they should aim the sound toward the eardrum. Incorrect headset alignment is a common mistake and one that is easily corrected. When holding your stethoscope in front of you, ensure the earpieces are pointing forward before inserting them.

4 Position Patients Properly

In my experience, achieving adequate auscultation with a patient in any position other than standing is impossible. When a client asks me to listen to Fluffy while the cat sits in her lap, I decline. When Bruiser, who weighs more than me, is being stubborn and will not stand up, I get help to lift him.

I also will close a patient's mouth or cover the nostrils very briefly to get a good cardiac auscultation where breath or panting sounds do not interfere with my auscultation.

Positioning is especially important for cats, who may have murmurs just along the sternum, and when hunting for—and ruling out—a patent ductus arteriosus, which is not found in the typical regions and requires cranial auscultation of the chest. Also, do not put too much pressure on a cat's chest while listening. Cats commonly have dynamic murmurs, and it is possible to create abnormal sounds by exerting too much pressure.

5 Take Time to Listen for Arrhythmias

An arrhythmia can be transient, and you will likely miss most of them if you listen for only 20 seconds or less. Practice listening for a full minute—yes, it is hard—and work up to listening for a full 3 minutes by becoming proficient at moving around the chest to all the valves and in the cranial region, while keeping your hand on the femoral pulse, if possible. This will allow the

best chance to catch an arrhythmia and not miss an important murmur or heart sound. Sometimes, that short space gives you time to think about the case and tie what you are hearing to the reason the patient came to the practice.

Conclusion

Take time to choose your stethoscope and familiarize yourself with its many uses in different scenarios and for different patients. Use it all the time, on every single patient, not just for specific reasons in some patients. Listen to everything you will encounter in practice (eg, respiratory sounds, heart sounds, GI sounds) because knowing normal sounds will help you recognize what is abnormal and be more confident about a diagnosis. ■



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FUN FACT: Amara is a licensed Zumba instructor.