



# REQUIRED MEDICAL EQUIPMENT FOR AUC CLINICAL MEDICINE ALL SEMESTERS

- Stethoscope Littmann Classic II S.E. / Classic III / Cardiology IV
- Sphygmomanometer: Portable / Blood pressure cuff
- White AUC student short coat (sport coat length, not a knee length lab coat)
- Professional attire for interviewing patients
- Closed toed shoes. Short heels that support rapid mobility. No athletic shoes.
- Clothing does not expose the chest. Skirts/dresses that are not higher than 3 inches above the kneecap when sitting.
- Otoscope/Ophthalmoscope Set (Diagnostic Set) Welch Allyn 97250 -MC or 97250-MS
- Flexible measuring tape (in cm and inches)
- Tuning Forks 512 / 256 & 128 cps
- Mini Snellen & Rosenbaum Eye Charts
- Penlight
- Reflex hammer

## ANATOMY REQUIREMENTS

- Medical Scrubs
- Gloves
- Short White Lab Coat
- Masks

## MEDICAL EQUIPMENT Q & A

### **Why do I need to purchase my own medical equipment?**

We recommend purchasing your own medical equipment as you will need your own equipment to practice with during your time in the modules as well as when you are out on the medical wards in your third and fourth year of medical school. The physical exam maneuvers that you will learn during your time at AUC are learned skills that require regular practice to master.

### **Where can I buy medical equipment?**

The AUC campus store has an online portal that carries the recommended equipment and provides pricing and availability. Private sellers including Amazon also carry the equipment, please see recommended specifications below for the various required articles of equipment.

### **Are there recommendations for specific models?**

See specifications discussion below.

### **Can I sell my equipment to other AUC students when finishing my final semester before beginning clinical rotations?**

We recommend holding onto your equipment as you will likely need it not only during your third and fourth year of medical school both on the wards and for your own practice but also after graduation to maintain your skills and clinical practice.

## MORE Q & A

### **Why do I need a Sphygmomanometer and Blood Pressure Cuffs?**

All students must be able to take an accurate blood pressure. In order to teach you to do this, all students must have a blood pressure cuff.

It is important to understand that sphygmomanometers come with a variety of cuff sizes. The cuff size must be chosen to fit the circumference of the patient's arm.

This is a life-long investment. Buy a very good one now and keep it for your entire career. Do not attempt to learn to do a physical exam with a cheap stethoscope.

### **Why do I need a Littman's Stethoscope?**

If you are going to take the time to listen for faint murmurs and gallops, then it makes sense to get the best possible acoustics. Some important sounds (diastolic murmur of aortic insufficiency, diastolic murmur of mitral stenosis, and S3 gallop) are often difficult to hear in real patients.

Double-Lumen tubes provide better sound quality than single lumen tubes.

The shorter the tubes the less loss of sound from the patient's chest to your ears. The short-tube stethoscopes are 22 inches, and the average length-tube stethoscopes are 27 inches.

- Con: The shorter length makes it harder to walk around with the stethoscope behind your neck and across your shoulders. (The way they place their stethoscopes on ER.)
- Con: The shorter length means you have to get closer to your patient.

Get one with a diaphragm (for high pitched sounds) on one side, and a bell (for low pitched sounds) on the other side. Some of the new Littmann Stethoscopes have tunable diaphragms that obviate the need for a separate bell and diaphragm. While this technology may work on the Littmann brand stethoscopes, I would be careful about buying a generic brand that utilizes this technology.

#### **Recommended:**

**Littmann® Cardiology IV Stethoscope** is two sided, but one side is for adults and the other side for children and very thin adults. Each side is tunable by applying light pressure for the bell mode and by applying firm pressure for the diaphragm mode. Fortunately, however, the pediatric side of the chest piece easily converts to a traditional bell by simply replacing the diaphragm with the non-chill bell sleeve included with each stethoscope. Buy this in 22 inch tubing.

**Littmann® Classic II S.E. / Classic III** are two sided good stethoscopes for use in adults as those have separate diaphragm and bell side and are highly popular among medical students.

## **DO I REALLY NEED MY OWN OPHTHALMOSCOPE AND OTOSCOPE?**

You will need an Ophthalmoscope and Otoscope in all modules. You will need it in your clinical rotations, internship, and residency. You will also need it if you see patients in the hospital once you go into practice. The patient rooms in the hospital do not have this equipment on the walls. Our experience is that in most hospitals you will have a difficult time finding this equipment to borrow. You need your own.

The difference is the type of rechargeable handle. The advantage of the convertible handle is that you can carry two extra C-batteries to use whenever the rechargeable handle has lost charge. The advantage of Lithium battery handle is that it is much lighter and a bit smaller. This may be very advantageous for students with small hands. Also, the lithium charge lasts much longer than the charge on the Ni-Cad battery. The Coaxial Welch Allyn Ophthalmoscope head is also essential. We recommend choosing either the 97250-MC Classic Set or the 97250-MS Classic Smart (Lithium) Set.

We strongly recommend buying only a Welch Allyn ophthalmoscope or otoscope. The difference between these two sets above and cheaper equipment is enormous. Our experience with the cheaper equipment is that at best it is much harder to use and at worst it does not work at all.

We also strongly recommend against buying the PanOptic equipment, unless you also buy the traditional Coaxial Ophthalmoscope head (around \$170 for the head alone). The reason is that the learning curve for the traditional Coaxial Ophthalmoscope head is much steeper than the learning curve for the PanOptic and because the PanOptic is not likely to be available for your use in the student/house staff clinics and in your practice clinics. So, if you have not learned to use the traditional Coaxial Ophthalmoscope you will be at a serious disadvantage. On the other hand if you wish to purchase the PanOptic head when you go into practice, you can learn to use it relatively easily. **In order to pass the physical examination competency test, you must be able to use a traditional Coaxial Ophthalmoscope.**

## **WHAT KIND OF REFLEX HAMMER DO I NEED:**

Hammers can be viewed at [http://www.mfdirect.com/list\\_4.htm](http://www.mfdirect.com/list_4.htm)

The tomahawk hammer that is cheap and often provided by pharmaceutical companies for free is not a good choice. If someone has 1+ reflexes, you will likely not be able to detect them at all. If someone is 3+ you can use the head of your stethoscope and get a response. Buy the MDF Tromner Neurological Reflex Hammer (MDF555-02); or at least then ADC 3694BK Tromner Neurological Reflex Hammer. You can buy these from various suppliers including Amazon.



## THERE ARE MANY TYPES OF TUNING FORKS, WHAT DO I NEED?

You will need to buy two tuning Forks. One, a 128 Hz tuning fork for testing vibration sense while performing Neurological Exam. And the second, a 256 / 512 Hz tuning fork for Auditory Exam There is some benefit to purchasing a weighted tuning fork, which improved somewhat the ease of use.

### Any other information?

Your 3M™ Littmann® Stethoscope will give you many years of durable service, especially if you follow the care and maintenance tips listed below.

### General Care

Your Littmann stethoscope is designed to provide years of reliable service. Routinely cleaning your stethoscope will ensure optimal acoustical performance. For more information, see [Cleaning and Care](#).

### Optimizing the Acoustical Performance

If your stethoscope's acoustical performance appears to be lacking or absent, try one of following:

## USE OF YOUR STETHOSCOPE

- Proper Headset Alignment: Littmann stethoscopes have headsets which have been designed to be worn at an anatomically correct angle, oriented toward the user's ear canals. Before placing the ear tips in your ears, hold the stethoscope headset in front of you so that the ear tubes point away from you (Figure A).
- When the ear tips are in your ears, the ear tips should be pointed forward (Figure B).
- Not everyone's ear canals are the same. If after inserting the ear tips in proper manner, the fit does not seem comfortable, and acoustic performance does not improve, grasp each of the ear tubes, adjusting the headset for a custom fit.
- Improperly wearing the stethoscope headset can result in poor acoustical seal, and in some cases, complete sound blockage (Figure C).
- Proper Fit of Ear tips: It is important that the proper sized ear tips be used to achieve optimal acoustical performance. This is especially true when using the soft-sealing ear tips. If the soft-sealing ear tip is too large for the user, the compression of that ear tip while in the ear, could result in poor acoustical performance. This could also be true if the ear tip is too small. Finding the individual's correct ear size results in the best acoustical performance.
- Check for Obstructions: If the stethoscope is commonly carried in a pocket, or hasn't routinely been cleaned, it is possible that lint or dirt could be obstructing the sound pathway. Routine care and maintenance can prevent this from happening.
- Check the Seal: Stethoscopes rely on an airtight seal in order to transmit body sounds from the patient to the user's ear. Loose parts in the chest piece, loose tubing, or cracked tubing can prevent an airtight seal.
- Index the Bell: When using a double-sided stethoscope, the user needs to open, or index the bell or diaphragm by rotating the chest piece. If the diaphragm is open, the bell will be closed, preventing sound from coming in through the bell, and vice versa.



### Bell Mode (low frequency)

For low-frequency sounds, light contact is used on the chest piece. The diaphragm membrane is contained by a flexible surround that actually suspends it, allowing the membrane to resonate low-frequency sounds.

### Diaphragm Mode (high frequency)

For high-frequency sounds, firm contact pressure is used on the chest piece. By pressing on the chest piece, the diaphragm membrane moves inward until it reaches an internal ring. The ring simply restricts the diaphragm membrane's movement. It blocks, or attenuates, low-frequency sound and allows you to hear the higher frequency sounds.

## CLEANING AND CARE

For a demonstration of the tunable technology see: [Tunable Technology](#).  
3M™ Littmann® Stethoscopes Tunable Technology

Tunable technology provides convenience, versatility and enhanced acoustics. The dual frequency diaphragm combines both bell (low-frequency) and diaphragm (high frequency) into a single side of the chest piece. You control bell and diaphragm modes by pressure on the chest piece rather than by turning it over.

## LEARN HOW TO LISTEN

### Introduction to auscultation.

**Auscultation is a clinical skill worth learning.** The ability to accurately identify various heart, lung, and bowel sounds can help you quickly and efficiently assess patients and monitor their condition. The following conditions and equipment will help you perform a proper auscultation:

A quiet, well-lit, warm room.

An appropriately disrobed patient. This allows you to place the stethoscope directly on the chest or back and will eliminate distortions and frictional noise from clothing.

The ability to examine the patient supine, sitting, and in left lateral recumbent positions. You may hear different sounds, especially abnormal ones, in different positions.

A stethoscope with both a bell and diaphragm (or the capacity to act as a bell and diaphragm) is essential.

**Learn more auscultation skills.** The 3M™ Littmann® Learning Institute App is packed with auscultation training resources that help sharpen your ability to hear.

[Get details](#) and download the app now

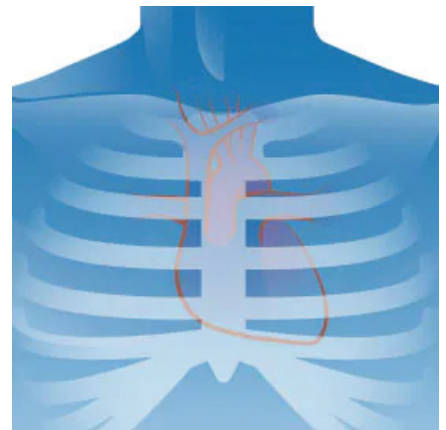


## CARDIAC AUSCULTATION INSTRUCTIONAL POSTER

Cardiac auscultation is a skill that takes practice. Lots of practice. We've developed a handy educational poster to use as a reference when listening for subtle heart sounds with your 3M™ Littmann® Stethoscope.

You'll find a diagram of the heart with key auscultation sites indicated. Visualization of the aortic, pulmonic, tricuspid and mitral areas clarify where to place your stethoscope during a clinical examination to listen to heart sounds. There's also a detailed description of the heart cycle that will help you review the basics of cardiac auscultation.

[Download the Cardiac Auscultation poster.](#) (PDF, 1.16 MB)



## PULMONARY AUSCULTATION INSTRUCTIONAL POSTER

Pulmonary auscultation requires careful attention to both lungs, and comparison of equivalent positions on each side of the chest to identify asymmetry of breath and lung sounds.

Our poster shows you the correct places on the chest – the trachea, zones, and axillas – to place your 3M™ Littmann® Stethoscope when practicing this important skill.

[Download the Pulmonary Auscultation poster.](#) (PDF, 3.23 MB)

