

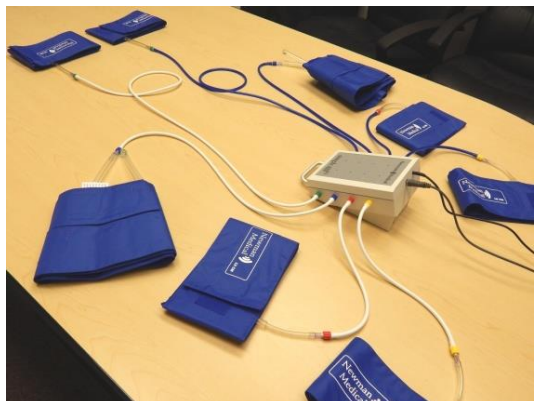
Segmental Examinations with simpleABI Cuff-Link™ Systems

Please Read the Users Manual First. This is a quick reference guide.

Contraindications: Do not perform the ABI exam on someone suspected of having acute deep venous thrombosis, and do not take an arm pressure in an arm with a shunt or dialysis graft.

Exam Purpose: A segmental exam of the leg is an extension of the ABI exam. In this test, you can attempt to localize the site of an occlusion by taking the pressures and waveforms at more locations on the leg. Pressures and PVR waveforms are taken just as in the ABI exam. The Doppler probe location remains at the ankle – usually the PT .

The Segmental Procedure



Setting up

- On the computer desktop screen, select the simpleABI reports icon. When the screen opens click on the File tab, then New, and then select the Segmental report. Fill out the patient information, risk factors, ICD-9 codes, etc.
- Wrap appropriate cuffs at each site. Generally these sites are the ankle, just below the knee (calf), and just above the knee. Attach the hoses from the Cuff Link Control Box to each cuff as shown above. The green connectors go to the arm cuffs, blue above the knee, red below the knee, and yellow to the ankles. White hoses go to the patient's right side, blue to the left.

Pressures

- **Brachial Pressure:** Use the computer cursor and click on the site you would like to begin with, usually the right brachial. Place the Doppler probe at an angle to the skin over the radial artery. Use plenty of ultrasonic gel and slowly move the probe until the best signal is obtained.
- Press and hold **Inflate** on the Cuff Link remote and inflate the cuff until you no longer hear the signal, and continue for an additional 20 mmHg.
- Release the **Inflate** button and the cuff will automatically start to slowly deflate.
- When you hear the Doppler signal return press the **Pressure** button and it will be stored on the screen.
- Press the **Dump** button.

- **Leg Pressures and waveforms:** Press **Next** on the remote and the system will move to the Dorsalis Pedis (DP) site. Take an ankle pressure using the Doppler probe on the dorsalis pedis artery on top of the foot. Inflate the cuff to occlude the artery in the same manner you did on the arm. (Press Inflate, press Pressure, press Dump). Now press **Next** and place the Doppler probe on the posterior tibial (PT) artery behind the inside ankle bone. Obtain the pressure by again pressing **Inflate**, then **Pressure** when the sound returns, and then **Dump**.

- To obtain a **PVR waveform** at the highlighted site, press the button with the **waveform** image on it on the remote. The cuff will inflate to the proper pressure and hold that while the waveform is obtained. The patient should remain still during the measurement; the waveform will appear about ten seconds after the cuff is inflated.
- Press **Dump** after the waveform is obtained.

- Now press **Next** and the system will move to the calf location. Leave the Doppler probe on the posterior tibial (PT) artery. Obtain the pressure as before and then take a PVR waveform by pushing the **waveform** button.

- Press **Dump** when finished with the waveform. Press **Next** and the system will move to the Above knee location where you can take the pressures and waveforms as before.

- **Repeat** the sequence for the other leg – press Next and the system will move to the left brachial location.

- When finished, save the report.

Helpful Hints

Doppler technique:

- Hold the probe close to the end and support the probe with your hand resting on the patient so that the probe does not move as the cuff is inflated and deflated. One of the keys to a successful exam is being able to keep the probe in place as you inflate and deflate. If it moves you will not be able to hear the Doppler sounds return and you will have to repeat the inflation. The “**Cheater**” will help with all of these issues – be sure and fill it with plenty of gel.

Cuff techniques:

- Wrap the cuff snugly. Don't let the patient try to help by lifting their leg, as soon as they relax their muscles the cuff will become loose.
- You can use one or two cuffs above the knee (3 or 4 cuff techniques). When using just one cuff, position a 12cm cuff high on the thigh or use a wide 17cm cuff. If performing the 4 cuff technique place the upper cuff as high as possible and the lower thigh cuff against the upper.
- Taking thigh pressures is uncomfortable for the patient, especially the high thigh. Try to be quick but accurate.
- Cuffs can be placed over thin clothing.

Efficient Protocol:

- Current CPT guidelines for the 93923 segmental test do not require that pressures be obtained at each cuff site on the leg if the exam is performed using both ankle arteries and **PVR** waveforms are obtained at each site. This can significantly reduce the time necessary for this exam.
- From a clinical standpoint, if the ankle ABI is unequivocally normal, you can be sure that the upper leg pressures will be normal as well. This ignores reimbursement issues, however.
- If the ankle pressure is high, above 200 mmHg, this indicates that the artery may be incompressible due to calcification.

