

**Please Read the User Manual first:** This is a quick reference guide

**Exam Purpose:** The ABI-Q procedure is a 1-2 minute exam to quickly and effectively assess the lower extremity arteries for peripheral artery disease. It utilizes PVR waveforms at both ankles.

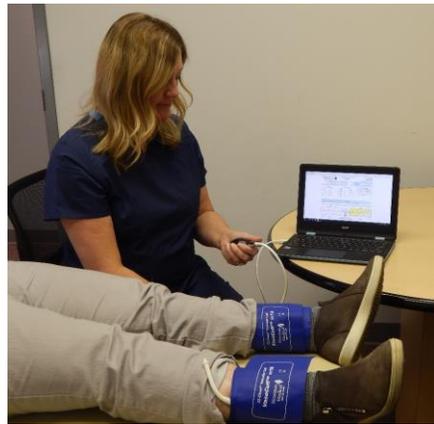
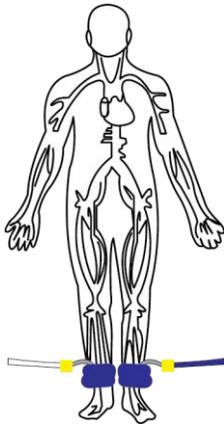
**Background:** The ABI-Q exam is a test that examines arterial waveforms to determine the need for further vascular evaluation. The test is intended to aid in the diagnosis of peripheral artery disease, but does not provide a diagnosis in and of itself

## The simple ABI-Q Procedure (Basic)

**Opening the exam:** On the computer desktop, double click the simpleABI icon. When the program opens select *File* → *New* → *New ABI-Q Report*. The report will open and you can enter patient information, risk factors, symptoms, ICD codes, etc.

**Attaching cuffs:** With the patient in the supine position, wrap 10cm cuffs at each ankle. Attach the hose from the PVR control unit to right cuff as shown below.

\*NOTE\* the image is reversed as if you are looking at the patient lying down.



### Obtaining Waveforms:

1. To obtain a PVR waveform click on the right **PVR** button directly below the waveform field.
2. Tighten the thumb valve and pump the bulb to roughly 80 mmHg pressure and then slowly deflate to roughly 65 mmHg and stop. The center section of the target pressure gauge will turn green (if red, too low or too high). When a constant green, click on the **Get Waveform** button. **PVRs require patient cooperation; limb motion affects the waveform. Patients should be instructed not to move or talk during this test.** The waveform will start to appear within 10 seconds.
3. If you are not satisfied with the waveform, leave the cuff inflated (in the green) and click on the **Get Waveform** button again to overwrite the previous waveform.
4. Release the air in the cuff and move the hose to the left leg cuff and repeat the above steps. On your computer keyboard, press the tab key to highlight the left leg PVR section or simply click on the left leg **PVR** button. Repeat the waveform sequence for the other leg.
5. Under each waveform will be the calculated ABI-Q.
6. When finished, save the report

## The simple ABI-Q Procedure (Exercise)

**Background:** Approximately 30% of patients with PAD symptoms but a normal resting diagnosis will have an abnormal diagnosis after exercise. Your practice will improve the clinical diagnosis of patients with PAD by implementing an exercise program in your vascular diagnostic collection.

1. Have the patient perform an exercise to increase blood flow to the extremities
  1. \*PREFERRED\* have the patient perform 50 dorsiflexions (raising the toes towards the shin).
  2. Have the patient perform 50 toe raises (or until exhaustion).
  3. Hall walking or treadmill walking may be performed until exhaustion or for up to 5 minutes.
2. Have the patient quickly lie down (if standing or walking) and perform the exam as described above in the basic exam.
3. Note in comments or interpretation field what exercise was performed, exercise duration, etc.
4. When finished, save the report.

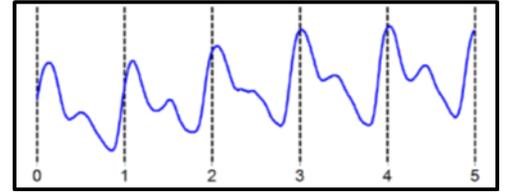
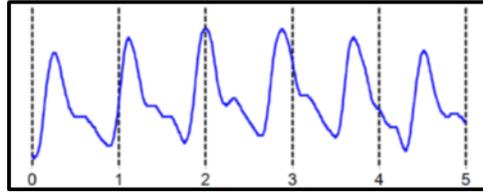
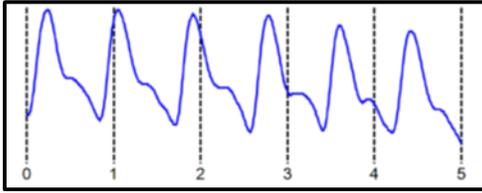
# Waveform Interpretation

## Interpreting Waveforms:

- Additional information can be obtained by analyzing the PVR waveforms.

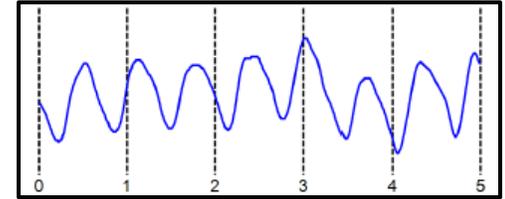
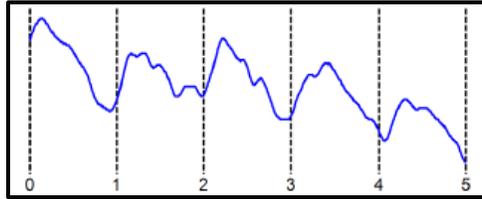
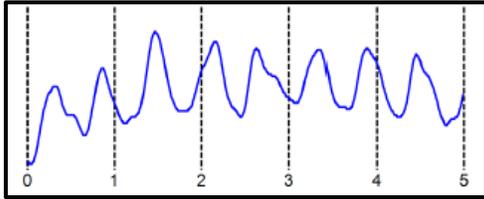
## Normal Waveforms:

- **Normal** PVR waveforms have a sharp upslope and a prominent reflected wave in late systole or diastolic notch.

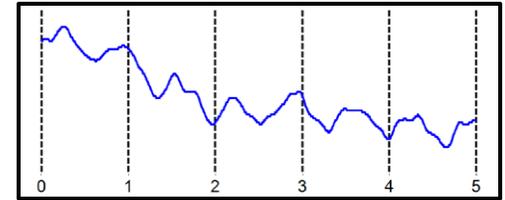
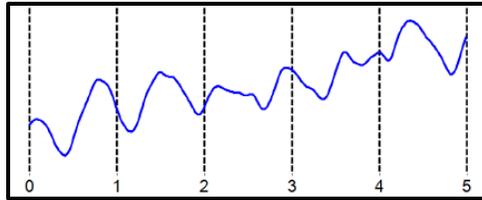
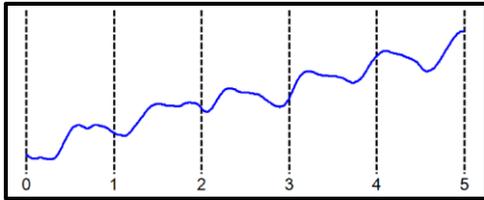


## Abnormal Waveforms:

- **Moderately abnormal** PVR waveforms will cause the waveform to broaden and the reflected wave (diastolic notch) will not be present.



- **Severely abnormal** PVR waveforms have little to no amplitude, or even appear as a 'flatline'.



## Final Interpretation

## Vascular Diagnosis:

- The simpleABI-Q is an aid in the diagnosis of peripheral vascular disease but does not provide a diagnosis in and of itself. After the examination, the physician should consult both the ABI-Q guidelines in conjunction with the waveform interpretation to determine the presence or absence of PAD. Care should be taken to look at each side individually.
- ABI-Q guidelines are shown below.

### **ABI-Q Guidelines:**

ABI-Q	> 1.00	Normal
ABI-Q	0.91 – 0.99	Borderline
ABI-Q	< 0.90	Increased risk of PAD

## Helpful Hints

### Cuff technique hints:

- Wrap the cuff snugly.
- While wrapping cuffs, don't let the patient try to help by lifting their leg - as soon as they relax their muscles the cuff will become loose.
- Placing a pillow under the patient's heels may aid the examination.
- Have the patient remain as still and quiet as possible while taking the waveforms.
- If the patient has tremors that interfere with the waveform, having them do a few dorsiflexions with their toes before taking the waveform can sometimes help.