

Part IV: Getting Help

John finally agreed to go in for simple testing. The report from his ABI testing is found below:

ABI WORKSHEET

Right Arm:

Systolic Pressure

1

4

2

mmHg

Left Arm:

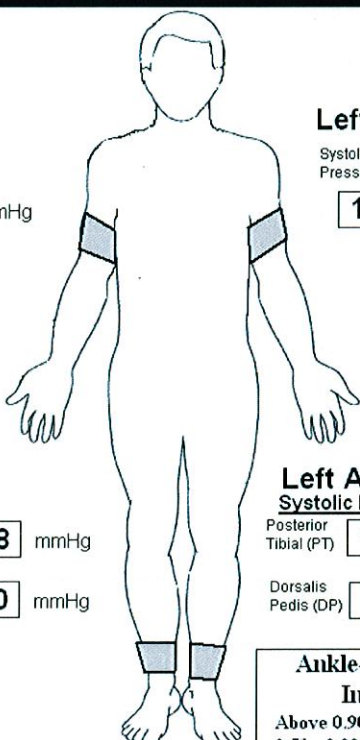
Systolic Pressure

1

3

8

mmHg



Right Ankle:

Systolic Pressure

Posterior Tibial (PT)

0

5

8

mmHg

Left Ankle:

Systolic Pressure

Posterior Tibial (PT)

1

2

9

mmHg

Dorsalis Pedis (DP)

0

6

0

mmHg

Dorsalis Pedis (DP)

1

2

0

mmHg

Ankle-Brachial Index Interpretation

Above 0.90 = Normal
 0.71 - 0.90 = Mild Obstruction
 0.41 - 0.70 = Moderate Obstruction
 0.00 - 0.40 = Severe Obstruction

Right ABI equals Ratio of:

Higher of the Right Ankle Pressures (PT or DP) 60 mmHg = .42*

Higher Arm Pressure (Right or Left) 142 mmHg

Left ABI equals Ratio of:

Higher of the Left Ankle Pressures (PT or DP) 129 mmHg = .91*

Higher Arm Pressure (Right or Left) 142 mmHg

*The lower of these numbers is the patient's overall ABI

Overall ABI (lower ABI) = 0.42

1. Compute John Jones' ABI.
2. Copy the chart of normal and abnormal ABI values into your laboratory journal.
3. Work with your partner to analyze your findings, discuss treatment and answer the following:
 - o What do the values for ABI imply about John's legs? *He has a blockage in leg*
 - o What is most likely occurring inside John's leg to cause this increase in peripheral pressures? How does this relate to smoking? *Smoking hardens the arteries*

- What is arteriosclerosis? What is the difference between arteriosclerosis and atherosclerosis? *both are hardening & thickening of the arteries, but atherosclerosis is because of plaque buildup*
 - How can atherosclerosis be linked to PAD? *If there is buildup of plaque, blood may not get to the*
 - What other tests can be performed to confirm this diagnosis? *angiogram, extremities*
 - If tests confirm that John has a clot in his leg, what treatment options may help relieve his pain and save his leg? *meds, catheter (angioplasty), stent*
4. Visit the Howard Hughes Medical Institution BioInteractive site at <http://www.hhmi.org/biointeractive/cardiovascular/lectures.html> and view the video webcast for Lecture One. Once the video begins playing, move the cursor to fast forward the video to 34:20. You will watch the clip from this point until 40:00. The video clip shows damage to blood vessels in the heart. How can what you saw be applied to the blood vessels of the leg?
 5. Work with your team of four to design a way to show PAD on your Maniken®. Also, use your model to demonstrate a medical intervention that may help treat this condition.
 6. Share your Maniken® medical intervention with the class.

Conclusion

1. What is your ABI? What does this value tell you about your risk of peripheral artery disease?

.42 - has PAD

2. Explain how PAD might impact other body systems.

muscular system will not function properly

3. How do the chemicals in smoke relate to the development of atherosclerosis?

lead to hardening of the arteries

4. Why do you think diabetics are also at increased risk for PAD?

~~*they also have harder arteries b/c*~~
~~*BPT b/c blood is thick*~~ *plaque buildup*

5. Explain why untreated PAD can lead to the loss of a leg. Make sure to mention the specific arteries of the leg.

tissues in the leg lose O₂ for too long which kills them

6. Explain how the endocrine system and the kidneys help play a role in regulating blood pressure.

kidneys cause arteries & veins to constrict and increase circulating blood volume