CME Post-Test Application - Pocket Guide 2019-Test Version #1

TEST QUESTIONS AND CME APPLICATION-2019
A Pocket Guide to Physiologic Arterial Testing

Note: This CME application is valid only for the first edition of the Pocket Guide to Physiologic Arterial Testing. Continuing Medical Education Credits are authorized and sponsored by the Society for Vascular Ultrasound (SVU) and approved by the ARDMS.

Introduction

• Upon successful completion of the textbook and CME self-test, participants can earn 6 SVU CME credits.
• SVU CME credits may be applied towards the CME requirements of the ARDMS, the ARRT, CCI, and CARDUP, as well as ICAVL and ACR accreditation organizations.
• CME credits have been authorized by the SVU until 12/31/2019. CME credits may or may not be authorized after that date. Please check our website (www.summerpublishing.com) for updates on CME credits.
• Proof of purchase of the book is required before the application will be processed. Please enter the book code on page 2 of this application. The book code is found on the last page of the Pocket Guide.
• Your certificate will be emailed to you, unless you indicate an alternative delivery method (fax or mail). Please write your e-mail address clearly on the test application. Please check your spam folder for the emailed certificate, as e-mail from “unfamiliar” addresses is often sent to spam folders.

Process

1) Read and study the book. Download this test and application from our website at www.Summerpublishing.com. Print entire document, or just print pages 2 and 3. Only one version of the test is needed for CME credits.

2) Take the examination and use the answer sheet provided. Complete the applicant information and the evaluation form (the evaluation form is required for CME activity). Submit pages 2 and 3, (no need to send in the test questions).

3) Enclose payment of $35.00 with check (payable to Summer Publishing), or credit card to cover processing costs. Check must be in US funds. This administrative fee covers the cost of evaluating and grading the examinations, issuing CME certificates, submitting records to the ARDMS, the SVU, and maintaining a record of your CME credits obtained through Summer Publishing.

4) Other individuals (colleagues or co-workers), who have read and studied the Pocket Guide may download this document and apply for CME credits after reading the book and completing the steps above. The fee is $40.00.

5) If there are more than one applicants from your lab or office, use a different test version for the other applicants (test version #2 or #3). If there are more applicants than test versions, the 4th person can use test #1, 5th person test #2, etc. For questions e-mail (Info@Summerpublishing.com).

6) Submit the application, payment and exam answer sheet by mail or fax to:

Summer Publishing, LLC, 4572 Christensen Circle, Littleton, CO 80123
Fax 866-519-0674; E-mail address: Info@summerpublishing.com. Phone 303-734-1789
Please do not mail special delivery, or a method that requires signature delivery.

7) Submitted answer forms will be scored by the CME coordinator of Summer Publishing. The applicant must achieve a grade of 70% or more for CMEs to be issued. (CME credits will not be issued to applicants who have copied completed test answers from other applicants ). Please allow 2 weeks for processing.

8) If an applicant fails the examination, they are allowed to retake the exam one time (after restudying the book) at no extra charge.
Applicant Information

Name: ____________________________________________________________________________
Titles, degrees, credentials:_________________________________________________________________________________________________________

Please enter appropriate registry or membership identification numbers, including birth date.
Birth Date:_________________ ARDMS #_______________ ARRT Reg. #_____________ CCI Reg #________
SVU member # _______________ SDMS #_______________ CARDUP#:___________________
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Include check payable to Summer Publishing, or credit card number for $35.00/$40.00 processing fee.
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ENTER BOOK CODE FOR PROOF OF PURCHASE HERE _____________________________
______________________________________________________________________________
Book code is found on the last page in the Pocket Guide

Course Objectives: Upon completion of reading and studying “A Pocket Guide to Physiologic Arterial Testing”, the participant should be able to:

1. Describe basic Doppler fundamentals as they apply to physiologic arterial testing.
2. Define upper and lower arterial anatomy.
3. Discuss normal arterial hemodynamics and how flow patterns are altered by disease.
4. List diagnostic criteria for lower arterial physiologic diagnostic exams.
5. Describe and understand instrumentation used in physiologic testing of the extremities for peripheral arterial disease (PAD).
6. Utilize indirect testing methods to detect subclavian artery stenosis and thoracic outlet syndrome.
7. Describe test methods to detect digit diseases including Raynaud’s Syndrome and Buerger’s Disease.
8. Describe test protocols as they relate to CPT code guidelines.
9. Interpret physiologic arterial exams for various disease levels based on case study reviews.
10. Identify and apply ICD-9 and new ICD-10 codes for improved reimbursement success.
Name:______________________________________________

Evaluation form: Required for CME. Please circle answer.

1) To what extent was the material in the book of direct value in your practice?

2) To what extent were the stated course objectives met?
   Greatly.  Partially.  Not at all.

3) The quality of the graphics and educational material were:
   Excellent.  Good.  Fair.  Poor.

4) What did you like best about the book and self instructional program?
   __________________________________________________________
   __________________________________________________________

5) What did you like the least about the book and self instructional?
   __________________________________________________________
   __________________________________________________________

6) What subject matter should be included in future editions?
   __________________________________________________________
   __________________________________________________________

The Society for Vascular Ultrasound has determined that a minimum of 40 Post-test questions are required for 6 CME credits.

Please circle one answer for each question.  Online Test Version # 1

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1. What is the most common symptom of peripheral arterial disease?
A. Claudication.
B. Rest Pain.
C. Trophic nails.
D. Reduced pedal pulses.

2. Which of the following symptom is NOT associated with peripheral arterial disease?
A. Rest pain
B. Claudication
C. Blue toe syndrome
D. Limb swelling

3. Thromboangiitis obliterans is a fixed occlusive disease of the digits. What is another name for this condition?
A. Marfan’s syndrome.
B. Raynaud’s syndrome.
C. Buerger’s disease.
D. Takayasu’s arteritis.

4. Which of the following is another name for the internal iliac artery?
A. Profunda Iliac artery.
B. Profunda femoris artery.
C. Hypogastric artery.
D. Inferior epigastric artery.

5. What is the first major tibial artery branching off the distal popliteal artery?
A. Dorsalis pedis artery.
B. Anterior tibial artery.
C. Peroneal artery.
D. Gastrocnemius artery.

6. Which of the following arterial wall structures is in direct contact with blood flow?
A. Endothelium.
B. Adventitia.
C. Media.
D. Intima.

7. Which artery supplies the most blood to the reproductive organs?
A. Hypogastric artery.
B. Inferior buttock artery.
C. Inferior epigastric artery.
D. External iliac artery.

8. Perfusion in tissue is controlled by vasoconstriction and vasodilation in which of the following structures?
A. Arterioles.
B. Capillaries.
C. Large feeding arteries.
D. Small veins.

9. Which of the following is the reason why flow velocity cannot be accurately measured with hand-held continuous-wave Doppler?
A. The depth of the vessel is unknown.
B. The frequency shift cannot be measured.
C. The transmitted Doppler frequency is not known.
D. The Doppler angle cannot be measured.

10. Which of the following is an advantage of continuous-wave Doppler over pulsed-wave Doppler specifically for segmental pressure determination?
A. Higher transmit frequency.
B. Can be used at a 80-90° angle.
C. Can process venous and arterial signals together.
D. No aliasing.

11. Leg pain with exercise that is not due to arterial occlusive disease is often referred to as:
A. Buerger’s disease.
B. Rest pain.
C. Pseudo-claudication.
D. Arteritis.

12. Which of the following ankle/brachial indices (ABI) is most consistent with the symptom of ischemic rest pain?
A. 0.3
B. 0.5
C. 0.8
D. 1.0

13. Which of the following conditions would cause an abnormal pulse volume recording (PVR) at the high-thigh location?
A. Significant aortoiliac disease.
B. Internal iliac artery stenosis.
C. Popliteal artery occlusion.
D. Superficial femoral artery occlusion.

14. Which of the following principles, effects or laws apply to increased pressure gradient over stenosis related to increased flow volume?
A. Poiseuille’s law.
B. Bernoulli’s effect.
C. Reynolds law.
D. Murphy’s law

15. The “blue toe” syndrome is a symptom of what condition?
A. Vasospasm.
B. Arteritis.
C. Popliteal entrapment.
D. Thromboemboli.
16. When obtaining ankle blood pressures, what is the primary reason for having the patient in a flat, supine position?
A. Patient comfort.
B. Venous pressure reduction.
C. Reduce/eliminate hydrostatic pressure.
D. Easier Doppler placement.

17. ABIs are calculated in the following manner: the left ankle pressure is divided by the left brachial pressure, and the right ankle pressure is divided by right brachial pressure. True or False?
A. True
B. False

18. Photoplethysmography uses which of the following modalities for blood flow evaluation.
A. Pulse volume recording.
B. Infrared light.
C. Ultraviolet light.
D. Ultrasound.

19. The dorsalis pedis artery is a continuation of which vessel?
A. Peroneal artery.
B. Gastrocnemius artery.
C. Anterior tibial artery.
D. Posterior tibial artery.

20. Pulse volume recording is a form of which of the following methods?
A. Impedance plethysmography.
B. Segmental pressures.
C. Photoplethysmography.
D. Pneumo-plethysmography.

23. The American Heart Association recommends that the ABI should be obtained in the following sequence: right arm, right PTA, right DPA, left PTA, left DPA, left arm, and repeat on right arm. True or False?
A. True
B. False

24. For accurate blood pressure determination, the cuff bladder should be at least ____ of the limb circumference.
A. 40%
B. 30%
C. 20%
D. 10%

25. In a Thoracic Outlet Syndrome test using PPGs on the index fingers, bilaterally, what is the most important test position?
A. Arm elevated 180 degrees above the head.
B. Arm abducted 90 degrees, with elbow bend 90 degrees ("pledge" position)
C. “Stick-up” position, hands up, shoulders pressed downward and back.
D. Symptomatic position.

26. What is cold or vibration induced digital vasospasm?
A. Marfan's syndrome.
B. Arteritis.
C. Raynaud's syndrome.
D. Buerger's disease.

27. What is the name of the first major branch of the aortic arch?
A. Axillary.
B. Subclavian.
C. Brachiobasilic.
D. Brachiocephalic.

28. Thoracic Outlet Syndrome is usually caused by extrinsic compression of the subclavian artery. True or False?
A. True
B. False

29. Which of the following is the manual test for palmar arch patency?
A. Adson's test.
B. TOS test.
C. PPG.
D. Allen's test.
30. Which of the following is the abnormal threshold recovery time following a cold immersion test for Raynaud’s?

A. 10 minutes.
B. 7 Minutes.
C. 5 minutes.
D. 2 minutes.

31. A limited physiologic study with ABIs and ankle PVRs is performed. The right ABI is 0.58 and the left is 1.05. Good quality PVRs are normal bilaterally. What is the most likely answer below:

A. Popliteal artery disease on right.
B. Tibial artery disease on right.
C. Normal study
D. A technical error on the right.

32. A patient has a right ABI of 1.42 and a left ABI of 1.6. This indicated which of the following conditions?

A. Normal study.
B. Diabetes mellitus.
C. Calcific medial sclerosis.
D. Arteritis.

33. When submitting CPT codes for reimbursement, CMS (Medicare) allows CPT code 93922 to be submitted with the “treadmill” code 93924 for the same patient during a physiologic arterial study. True or False.

A-True
B-False

34. What is the appropriate CPT code to use for a complete, bilateral noninvasive physiologic study of the lower extremity arteries with pressures and PVR waveforms acquired from the (arms- pressure only), thighs, calves, and ankles, plus post exercise ankle pressures following toe raises.

A. 93922
B. 93923
C. 93924
D. 93925

35. This Doppler waveform is derived from what type of processing or analysis?

A. Autocorrelation.
B. Fast Fourier Transform.
C. Zero crossing detection.
D. Time interval histogram.

36. Which of the following descriptions would best define this PVR and segmental pressure study in the left leg.

A. Aorto-iliac disease.
B. SFA occlusion.
C. Aorto-iliac disease and SFA occlusion.
D. SFA occlusion and tibial disease.

37. In a normal individual during exercise, blood flow volume to skeletal muscles increases, but ankle pressure does not proportionally increase. Which of the following principles, effects or laws would explain this phenomenon?

A. Poiseuille’s law.
B. Bernoulli’s effect.
C. Reynolds law.
D. Murphy’s law

38. What is the name of the tiny blood vessels that lie in the adventitia and supply the arterial wall?

A. Capillaries
B. Venules.
C. Arterioles.
D. Vasa vasorum.
39. During a pre-op exam for radial artery harvest, an Allen test of the left hand is performed with PPG sensors. PPG waveforms of the left thumb and 5th digit go flatline with radial artery compression. This indicates which of the following:

A. This is a normal finding indicating a normal palmar arch.
B. The patient is ulnar dominant.
C. The patient is radial dominant.
D. The radial artery is chronically occluded.

40. A person is found to be ulnar dominate on a PPG Allen test. The radial artery can be harvested for a coronary artery bypass graft if there no other complications present. True or False?

A. True
B. False