

**Harvard Medical School Department of  
Continuing Education and the Renal Division  
of Brigham and Women's Hospital**



***Nephrology Rounds***  
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**Vascular Access for Hemodialysis**

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**Objectives**

This issue of *Nephrology Rounds* will help the reader to:

- use the history of vascular access as a background to understanding the current challenges of access care
- review the physiology and clinical consequences of the different types of hemodialysis access modalities
- comprehend the basics of the physical examination of arteriovenous fistulas and grafts.

**Questions:**

1. Surgeons, radiologists, and nephrologists perform vascular access interventions.  
True  False
2. Willem Kolff's first dialysis patient in 1943 died as she ran out of access sites.  
True  False
3. Carbothane is a material used to make tunneled hemodialysis catheters and it is weakened by iodine, alcohol, and peroxide.  
True  False
4. Endovascular diagnostic and therapeutic procedures for dialysis access care were made possible by the many advances in computer-assisted imaging technology.  
True  False
5. The main concern in an artery-side-to-vein-end anastomosis is venous hypertension.  
True  False
6. Ultrasound-guided venous (>2.5 mm) and arterial (>2 mm) mapping can identify vessels of suitable size for arteriovenous fistula (AVF) creation.  
True  False

7. Surgery centers with >100 AVF placements per year per surgeon have 1-year primary patency rates in excess of 70%.

True  False

8. Arteriovenous grafts (AVGs) have the same stenosis and thrombosis rates as native fistulas, and one-tenth the number of infections.

True  False

9. Augmentation is a change in quality of the AVF pulse; with severe stenosis, a water-hammer pulse becomes much weaker.

True  False

10. Characteristics of a normal AVG are a thrill only at the site of the arterial anastomosis, a soft pulse, and a low-pitched continuous bruit.

True  False

To receive AMA category 1 credit, you must correctly answer 60% of the test questions.

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Please keep a copy of your test before submission. A certificate will be sent upon successful completion of the test along with the answer key after the deadline date indicated.

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