

Fistulas and Grafts: The Basics

This webinar will start shortly

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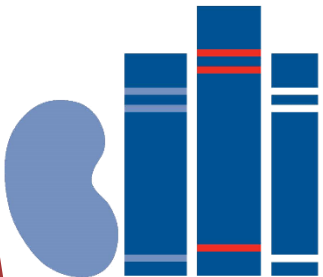
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Today's Presenter

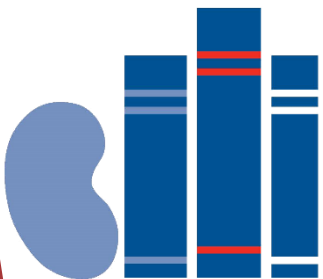


- ▶ David L. Mahoney MD FASN FASDIN
- ▶ Chief Medical Officer, DaVita Hospital Services and SNF Dialysis
- ▶ Nephrologist for 31 years
- ▶ Interventional Nephrologist
- ▶ Former Chief Medical Officer for Lifeline Vascular Care



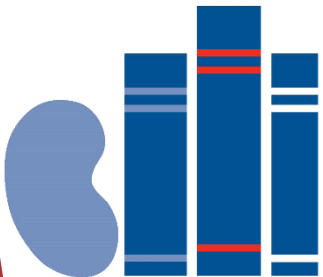
Why Is a Permanent Vascular Access So Important?

- ▶ A well-functioning access is vital to obtaining adequate dialysis
- ▶ Central venous catheters (CVCs) are associated with significantly higher risks of infection, hospitalization and vascular complications
- ▶ CVCs are associated with much higher annual cost of care for a dialysis patient



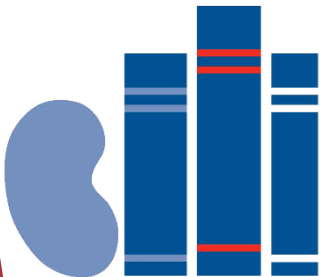
KDOQI Guideline for Dialysis Vascular Access

- ▶ KDOQI is the Kidney Disease Outcomes Quality Initiative
- ▶ Periodically the guidelines published by KDOQI are reviewed and updated, based upon the latest clinical research and physician expertise
- ▶ The KDOQI Guideline for Dialysis Vascular Access was revised in 2019 and published in 2020
- ▶ The new Guideline has a more patient-centered approach

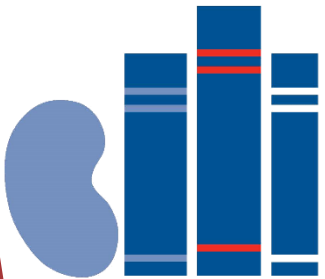
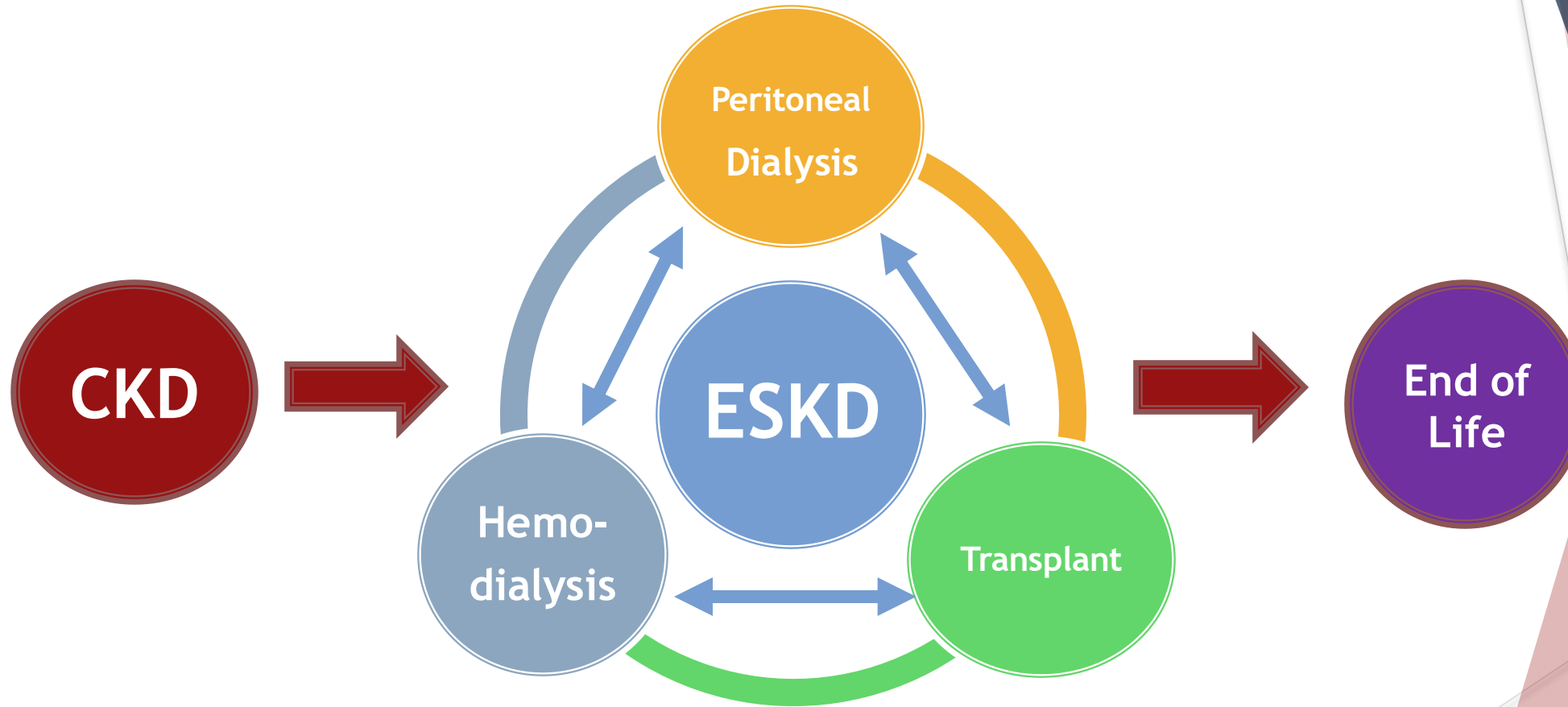


Important Concepts of the Updated KDOQI Guideline for Dialysis Vascular Access

- ▶ Access planning should consider the individual life circumstances of the patient and consider age, prognosis, lifestyle and patient preferences in selecting the right access
- ▶ The patient and nephrologist should develop a Life Plan, which is essentially a means of planning ahead and anticipating the course of the patient's kidney care journey
- ▶ The overriding concept is to be ready for “What's next?”

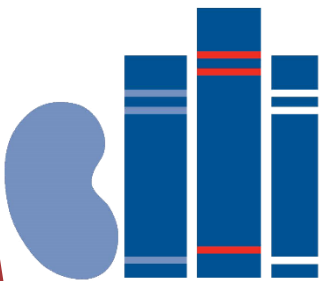


Kidney Care Journey



Types of Vascular Access

- ▶ Central Venous Catheter
- ▶ Arteriovenous Graft
- ▶ Arteriovenous Fistula

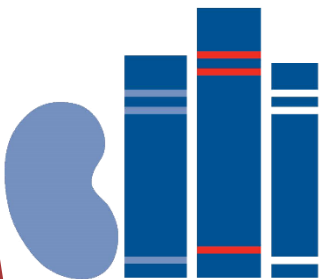
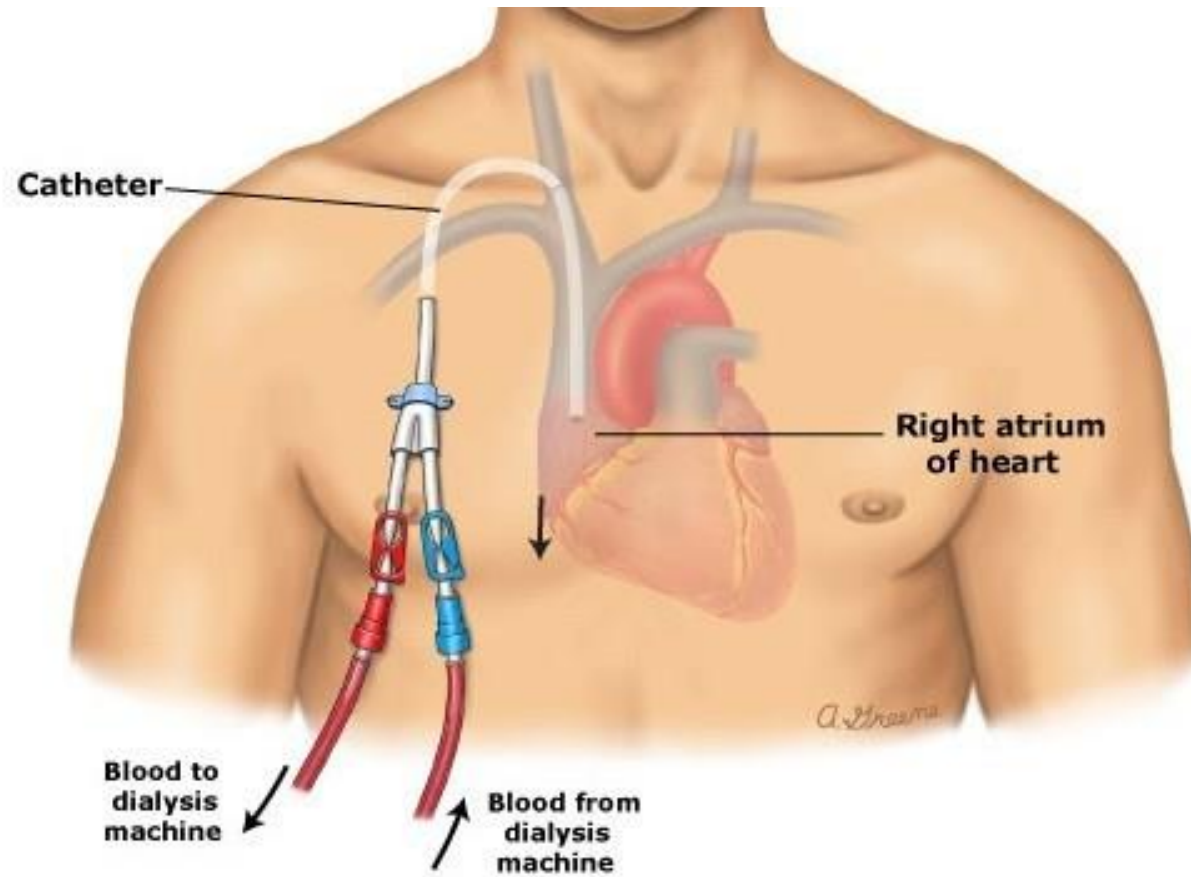


Central Venous Catheters

- ▶ Over 80% of patients start dialysis with a catheter
- ▶ Ideally, a dialysis patient would never have a catheter
- ▶ A catheter may be tunneled or non-tunneled
- ▶ A catheter may often be necessary if the permanent access is not functioning properly and requires a procedure
- ▶ The best CVC is the one you just had removed

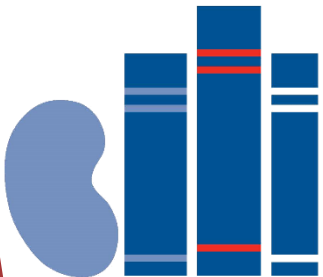


CVCs - Anatomy



CVCs - What You Should Know

- ▶ Catheters have a very high rate of infection
- ▶ They must be kept dry
- ▶ They have limited blood flow rates compared to a permanent access
- ▶ They irritate the walls of the veins in which they sit and cause a chronic inflammation, leading to vein narrowing and blockage



CVCs - Complications



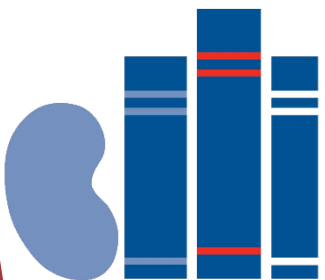
Exit site infection



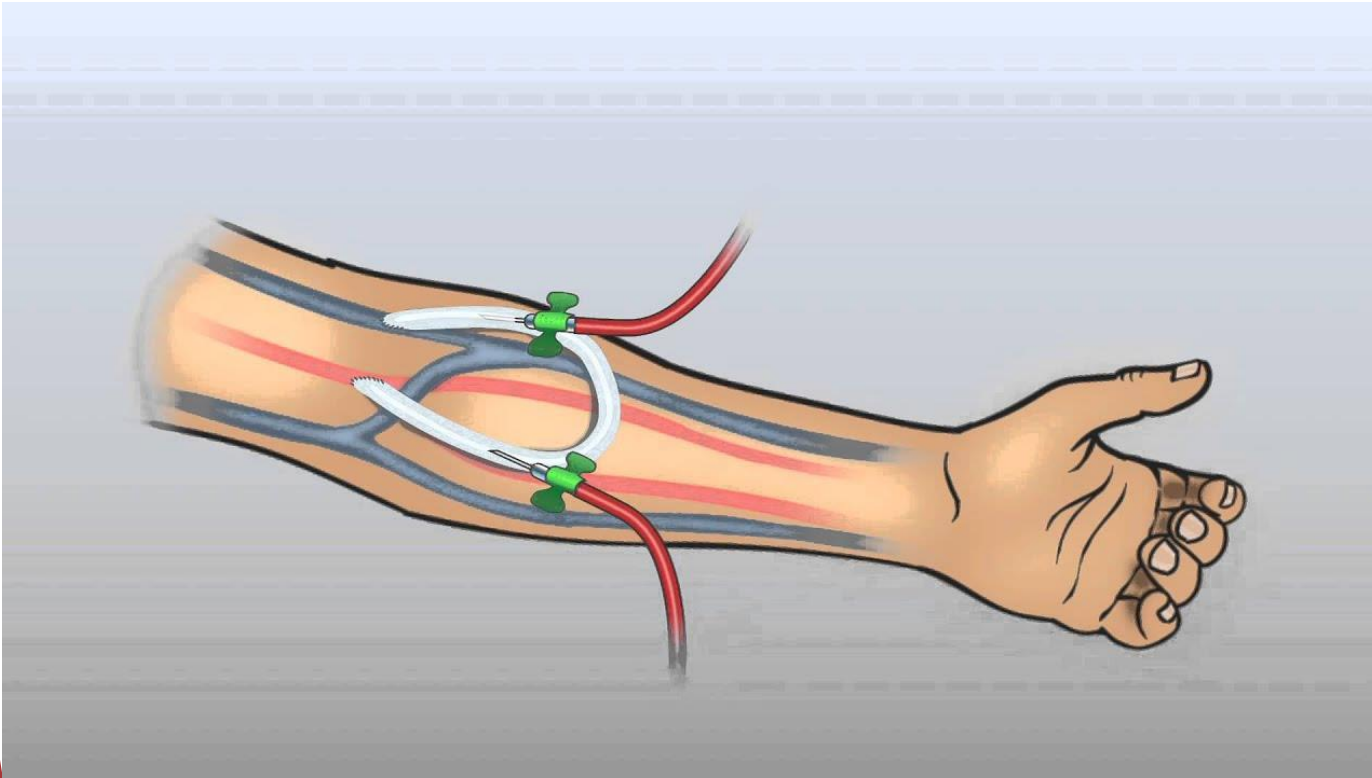
Catheter cuff exposed



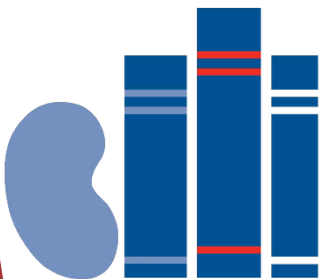
Arm swelling due to central vein narrowing



Arteriovenous Grafts

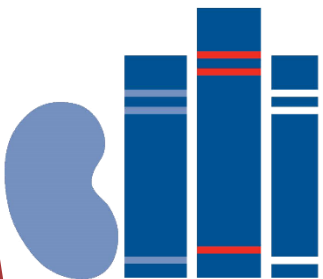


- Flow from artery to vein
- Are made of a synthetic material
- May be placed in the forearm, upper arm, thigh or chest
- Are an excellent alternative for patients with blood vessels that are not adequate for creating an arteriovenous fistula
- Can last for several years with proper maintenance and care



Arteriovenous Grafts - FAQs

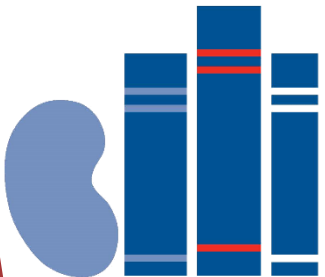
- ▶ Why does my graft have these bulging areas?
- ▶ My graft keeps clotting. What is going on?
- ▶ My graft is taking longer to stop bleeding. Why?
- ▶ I was told my graft is failing. What does that mean, and what do I need to do?
- ▶ Why can't I have an IV in the arm with the graft?
- ▶ I have a transplant and my graft is clotted. Does it need to come out?



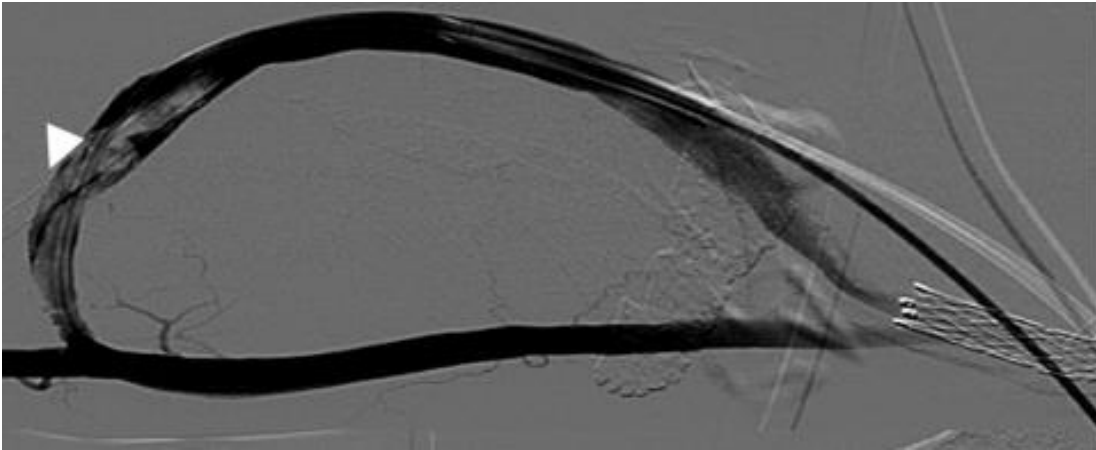
Graft Bulges



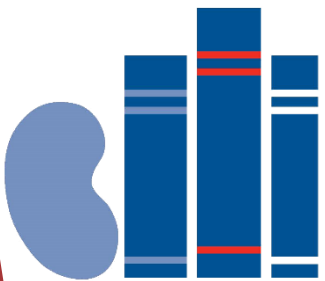
- Due to loss of graft material
- Scar forms in the skin around the graft and contains the blood flow
- This is not caused by anything that you are doing or not doing. It is a result of long-term use of the graft
- Bulges can be removed by having a surgeon replace that portion of the graft
- It is OK to place needles in the bulging areas, but eventually the graft will probably need to be revised surgically



Graft Clotting

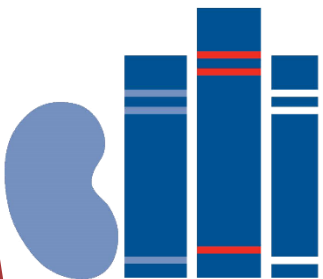
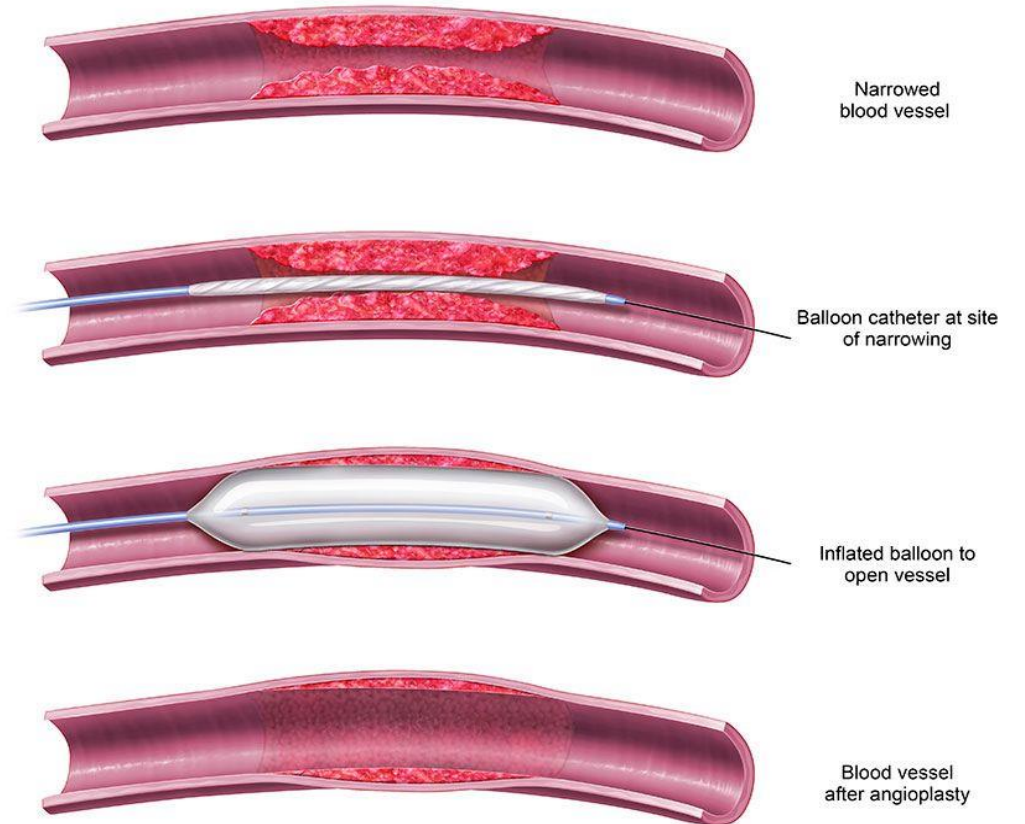


- Due to reduced blood flow
- Frequently due to narrowing in the vein which drains the graft
- Clot can often be removed with an endovascular procedure (“through the needle”) rather than needing open surgery
- Grafts that clot frequently are likely to fail



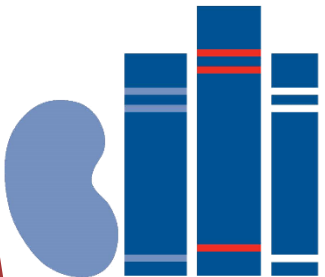
Prolonged Bleeding

- ▶ Usually related to impaired drainage of the graft
- ▶ Often associated with elevated venous pressures on the dialysis machine and frequent machine alarms
- ▶ Usually a sign of graft dysfunction and the need to have the access studied
- ▶ Can often be resolved with angioplasty



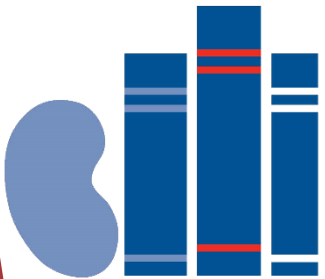
Failing Grafts

- ▶ Frequent clotting
- ▶ Decreased adequacy on lab studies
- ▶ Frequent machine alarms
- ▶ Reduced blood flow rate due to poor flow
- ▶ Can often be revised rather than replaced if intervention is done early enough



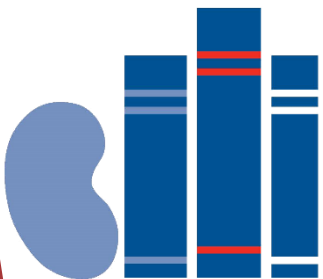
The Access Arm is Sacred!!!!

- ▶ No blood pressures, IVs or blood draws in the access arm
- ▶ BP cuffs and tourniquets can cause the access to clot
- ▶ The access can be injured when cannulated by inexperienced personnel
- ▶ Risk of infection
- ▶ Risk of bleeding



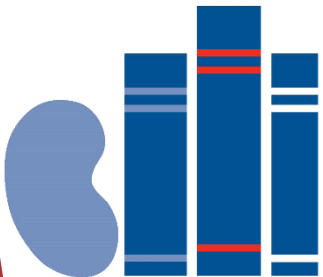
AV Grafts After Transplantation

- ▶ Many grafts fail and have no flow within a year of transplantation
- ▶ The graft remains “isolated” out of the circulation and is at very low risk of infection or bleeding
- ▶ Typically there is no need to remove the clotted graft in the absence of complications
- ▶ The graft may be removed for cosmetic reasons
- ▶ Ask your transplant surgeon about your graft

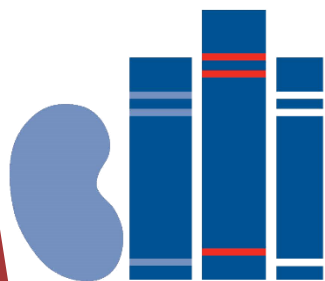
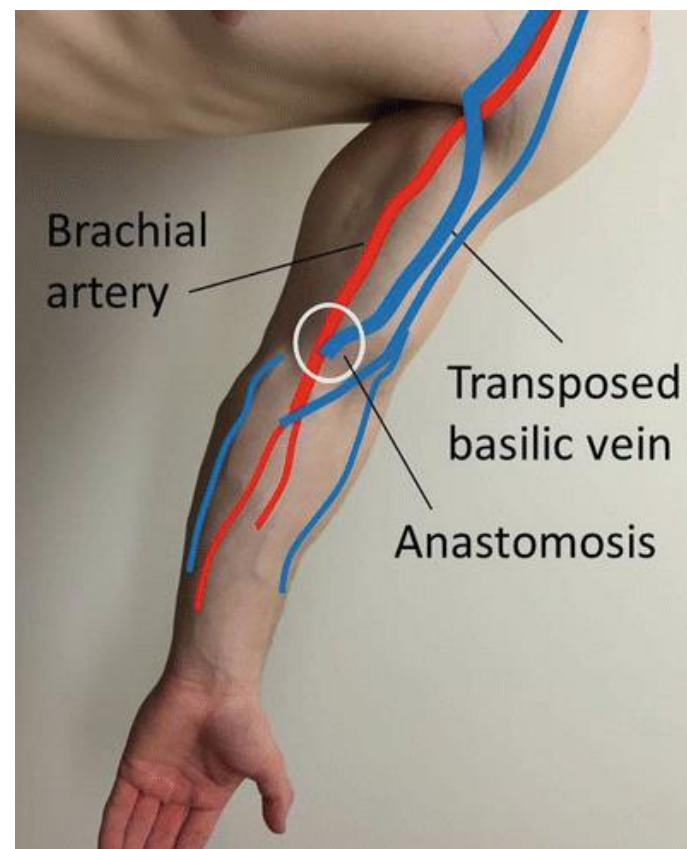
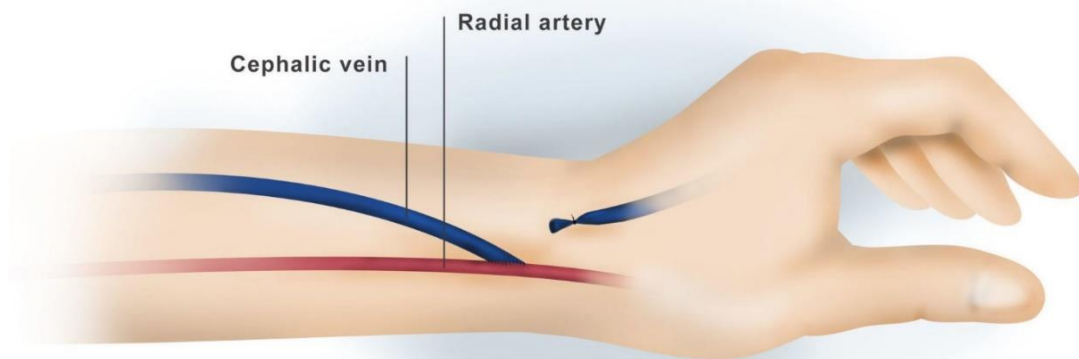


Arteriovenous Fistulas

- ▶ If possible, an AV fistula is the access of choice
- ▶ Fistulas have the longest lifespan and typically the fewest complications
- ▶ A fistula is created by connecting one of your veins to an artery. There is no foreign material involved
- ▶ A fistula requires 4 to 8 weeks to develop before it can be used
- ▶ Not everyone has adequate blood vessels for a fistula

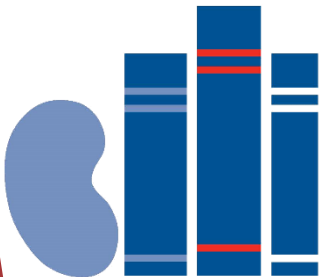


Common Sites for AV Fistulas



Know Your Fistula

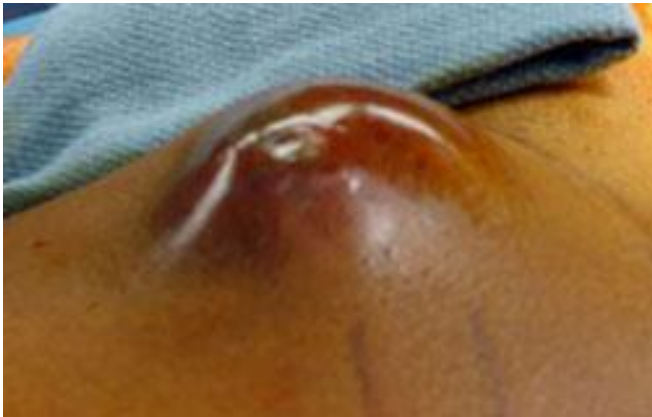
- ▶ Examine your fistula every day
- ▶ It should have a steady “thrill” or buzzing sensation, like a cat purring
- ▶ It should collapse and soften when you raise your arm above your head
- ▶ Get a stethoscope and listen daily. The fistula should have a soft “whoosh” sound, without whistling or disappearance of the sound
- ▶ Shiny skin over the fistula can be an area of dangerous thinness that needs evaluation and possible surgical revision



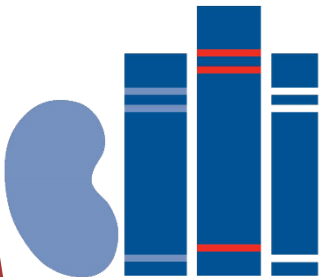
Fistula Problems



Although a fistula ideally does not become grossly enlarged, this is not unsafe. It may represent a high-flow fistula, which can lead to heart problems

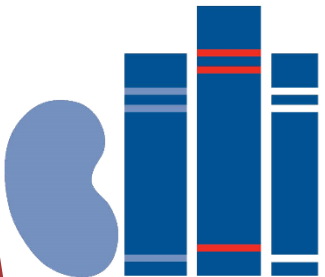


This fistula appears infected, with unstable skin. It is at risk for rupturing and heavy bleeding. Areas of skin overlying the fistula that are slow to heal or appear thin, shiny, or infected require urgent evaluation by a surgeon



Clotted Fistulas

- ▶ Fistulas tend to clot much less often than grafts or catheters
- ▶ It is important to have the clot removed promptly, as it becomes more difficult as time passes



Fistula FAQs

▶ *Why can't I use a new fistula right away?*

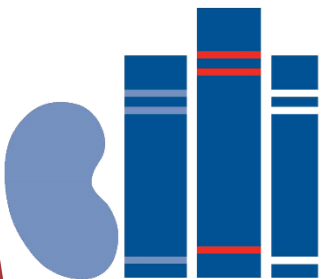
It has to grow and develop to be ready for use

➤ *My new fistula isn't maturing. What's wrong?*

More than half of fistulas require an additional procedure to help them develop. Don't get discouraged. It just takes time

➤ *I had three attempts at a fistula and I don't want to try again. Can't I just keep a catheter?*

➤ Catheters are the least desirable access. An AV graft may be the answer



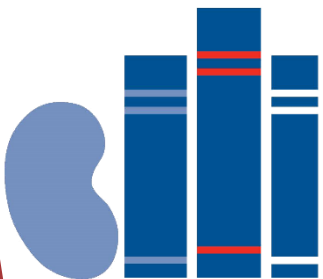
Fistula FAQs - Continued

- ▶ *My fistula just keeps getting bigger. Is that normal?*

Fistulas may enlarge for a number of reasons, such as high flow or a narrowing in the draining veins. A continuously enlarging fistula should be studied to determine if a surgical revision may be necessary

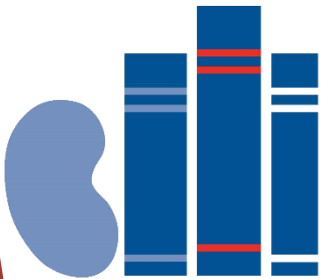
- *My hand on the side of my fistula is cold and aches. Is that normal?*

No. Those symptoms may indicate that there is inadequate blood flow to your hand. Ask your nephrologist to refer you for evaluation



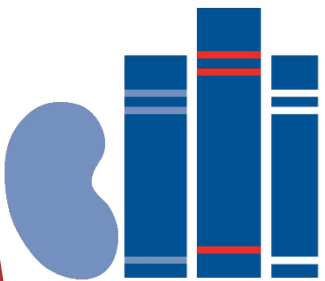
Resources

- ▶ Dialysis Patient Citizens
- ▶ National Kidney Foundation
- ▶ American Association of Kidney Patients
- ▶ Your nephrologist
- ▶ Your dialysis provider



QUESTIONS???????

Thank you for joining today's call.



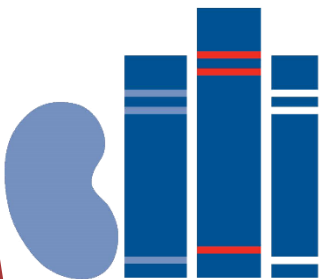
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**Effective Communication
with Your Health Care Team**

Presented by: Stacy Ogbeide, PsyD, ABPP, CSOWM,
Board-Certified Clinical Health
Psychologist, UT Health San Antonio

2:00 pm Eastern March 24, 2022

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