

# Vascular Access for Hemodialysis

WHAT ARE THE OPTIONS?

WHAT WORKS BEST FOR YOU?

Tuesday October 20, 2020 2:00pm-3:30pm

## Tips & Security

- We have muted your audio, you can hear us but we cannot hear you
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- This session is not being recorded



# Vascular Access for Hemodialysis

Thank you for attending our first Vascular Access for Hemodialysis Webinar!

Welcome to patients, families, loved ones and staff members!

- ▶ PURPOSE: To talk about the different vascular access options for hemodialysis
- ▶ GOAL: To help you think about which option(s) might work best for you so you can discuss your wishes with the Kidney care team

*welcome*

# Housekeeping

- ▶ We have muted your audio. You can hear us, but we cannot hear you.
- ▶ We have turned off your video. You can see us, but we cannot see you.
- ▶ General questions are welcome throughout the presentation! Please discuss questions specific to your situation with your kidney care team.
- ▶ To ask a Question:
  - ▶ Click/tap on Q&A
  - ▶ Type in your question and press enter. This will send your question to the presenter
  - ▶ When there is a break in the presentation, the presenter will respond to questions
- ▶ After the Session, you will be asked to complete a feedback form
  - ▶ Please complete this form to make our sessions even better!



# Modality Planning in the Current Environment


- ▶ Usually these discussions take place in a very different way
  - ▶ Face to face, group sessions, encouraged to have loved ones present
- ▶ This Session supplements but does not replace conversations with your kidney care team
  - ▶ The goal is to provide an overview, food for thought
  - ▶ Please bring this back to the team at your home clinic to discuss how this applies to you or your loved ones
- ▶ If you told us when you registered that it was okay, we will let your home team know you attended today so they can follow up!



# Outline

- ▶ The Importance of Vascular Access- Dr. Mike Bevilacqua
- ▶ Vascular Access Options, the advantages and disadvantages of each
  - ▶ Danielle McLaren, Vascular Access RN, Interior Health
  - ▶ Deidra Goodacre, Vascular Access RN, Northern Health
- ▶ Lived experience with vascular access options:
  - ▶ Lyle Roberts
- ▶ Wrap up – Dr. Mike Bevilacqua





Our Goal: Help you to make an informed decision about the best access for you.

- UNDERSTAND THE OPTIONS
- WORK WITH YOUR KIDNEY CARE TEAM EARLY TO DETERMINE YOUR BEST OPTION
- ENSURE YOU GET THE BEST ACCESS, AT THE RIGHT TIME FOR THE RIGHT REASONS

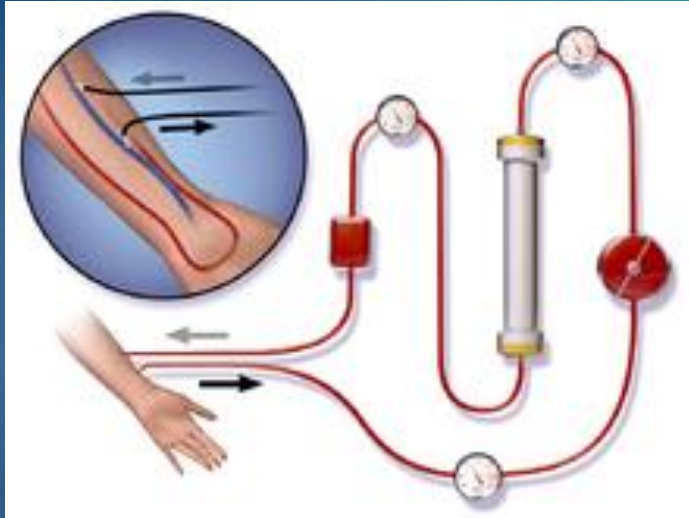


# Hemodialysis and Vascular Access



- Hemodialysis is a treatment for people with kidney disease
- Dialysis filters wastes and excess water from your blood
- Hemodialysis can be done at home, or in a dialysis clinic in your area
- Uses a special filter, an “artificial kidney”
- To do this, we need access to your bloodstream
- We have several ways to access your bloodstream, these are called your vascular access
- You may require several (different) vascular accesses during your time on hemodialysis
- You, your team and your situation will determine which access is best

# How does a Vascular Access work?



[https://upload.wikimedia.org/wikipedia/commons/thumb/7/7d/Blausen\\_0313\\_Dialysis.png/220px-Blausen\\_0313\\_Dialysis.png](https://upload.wikimedia.org/wikipedia/commons/thumb/7/7d/Blausen_0313_Dialysis.png/220px-Blausen_0313_Dialysis.png)

- A way to access your bloodstream if and when dialysis is needed
- Each time you have hemodialysis, this access is used
- The access is connected with tubes to a dialysis machine
- One tube takes the blood out of the body so it can go through a filter and get cleaned
- Another tube returns the clean blood to your body

**Your Vascular  
Access is Your  
Lifeline!**



# Types of Vascular Accesses



FISTULA



GRAFT



CATHETER

Let's review each type of access and talk about the advantages and disadvantages...

# How do we choose?

For most people a fistula is our first choice. If a fistula is not possible, then a graft might be an option. If neither a fistula or graft are possible, or dialysis may be short term or temporary, we would usually recommend a catheter.

However:

You and your kidney care team will work together to determine the best option for you based on your treatment goals and needs.



# What is a Fistula?

- Connection made by a surgeon or radiologist
- Joins your own vein to the side of an artery
- The vein then gets bigger and stronger
- The walls of the vessel get thicker as the vein “matures”
- This makes the vein strong enough to withstand needles for dialysis 3x/week



# Fistulas are usually...

- ▶ Created in your non-dominant arm if possible
  - ▶ An ultrasound assessment will help the surgeon to determine the best location
- ▶ Done as a day procedure, you may not need to spend the night in hospital
- ▶ Done using local freezing and medication for comfort
- ▶ Ideally created well before you need to start dialysis to allow time for “maturation”
- ▶ We don't always know exactly when you will need to start dialysis, organize early

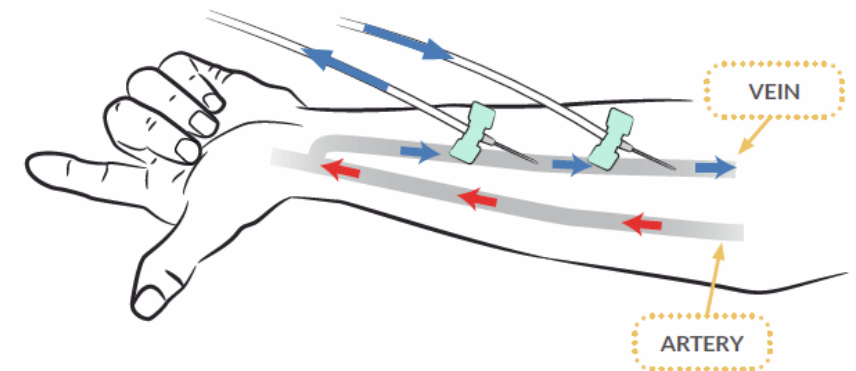
Once this fistula has matured, then we have a way to access your bloodstream for hemodialysis.





# How is a fistula accessed?

- ▶ Each time you come to your dialysis treatment, two needles are placed in your fistula
- ▶ When the treatment is complete, these needles are removed
- ▶ If you have a fear of needles (and most of us do), we have a couple of options for freezing to help to reduce discomfort
- ▶ Some patients prefer to put in their own needles
  - ▶ Your kidney care team can teach you how to do this



Let's watch how a fistula is accessed...





# Fistula Advantages and Disadvantages

## Advantages

- ▶ Perform the best “**GOLD** standard”
- ▶ Fewest problems with infection/clotting
- ▶ Can be created well in advance
- ▶ Last the longest
- ▶ Easiest to look after
- ▶ Most reliable for cleaning blood efficiently
- ▶ Safe to shower and swim
- ▶ Fewer hospitalizations
- ▶ \*Preserves more options for future accesses

## Disadvantages

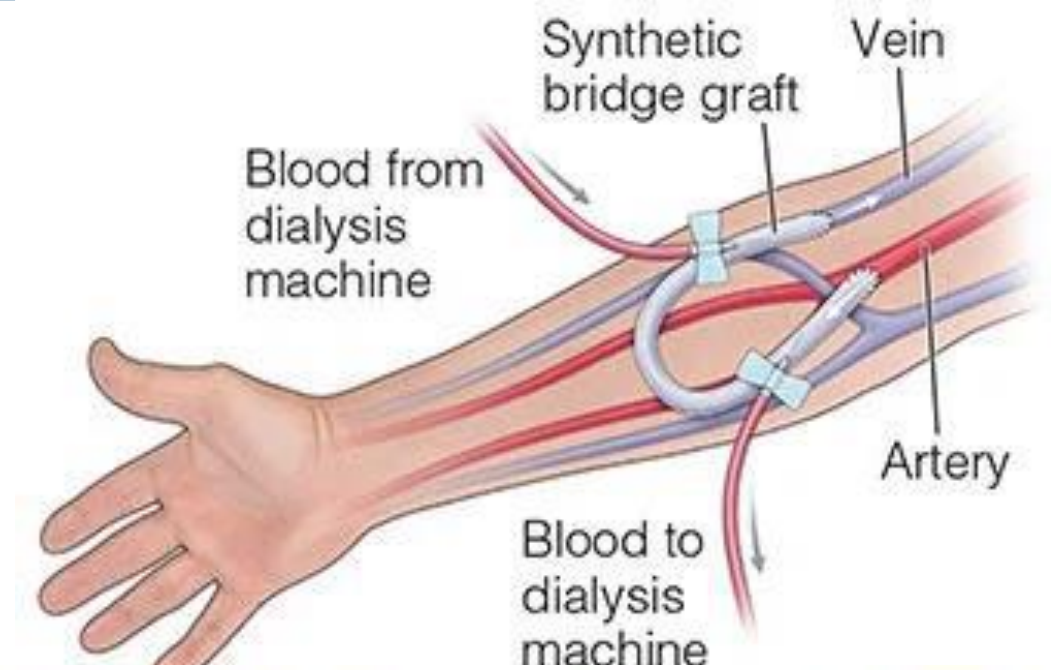
- ▶ Not possible in all patients
- ▶ Take time to mature (develop)
- ▶ 1 out of 5 will not work and may require another surgery
- ▶ Fistula may get larger and more visible on the arm over time
- ▶ Needles are required each dialysis treatment
- ▶ Holding time is required after each treatment

# What is a Graft?

- For some patients, it is not possible to create a fistula
- A graft is similar to a fistula, but it uses a piece of soft, plastic-like tubing to connect the artery to the vein

## Grafts usually...

- Can be used 2-3 weeks after they are created
- Are accessed and cared for like a fistula



# Graft Advantages and Disadvantages

## Advantages

- ▶ Only need time to heal, not “mature” like a fistula
- ▶ Lower risk of infection compared to catheters
- ▶ Easy to look after
- ▶ Safe to shower and swim
- ▶ Preserves more options for future accesses

## Disadvantages

- ▶ May have to wait 2-3 weeks to use
- ▶ More likely than a fistula to have problems with infection or clotting
- ▶ May not last as long as a fistula
- ▶ Needles

# How to get a fistula or graft



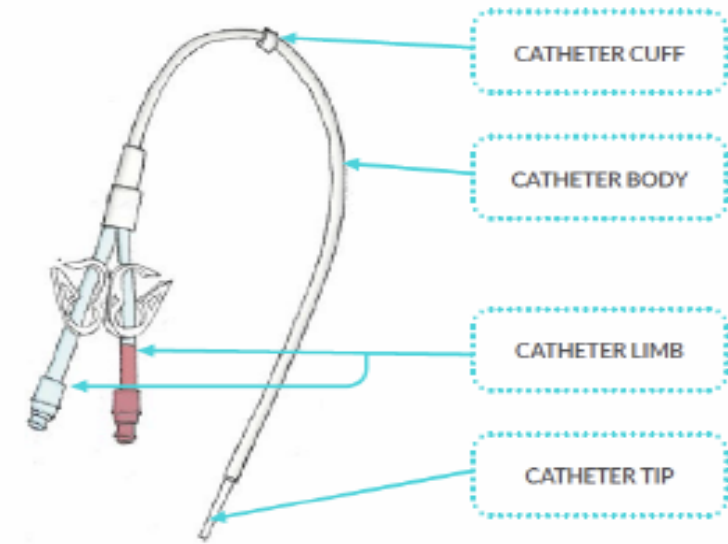
- ▶ Before surgery:
- ▶ Talk to your doctor about your preference
- ▶ Kidney doctor will refer you to a Vascular Surgeon
- ▶ Meet with the Surgeon and the Vascular Access Nurse
  - ▶ Decide on your best option—ultrasound mapping
  - ▶ Ask questions, decide if/when to go ahead
- ▶ Meet with the Anaesthesiologist in person or by phone
  - ▶ Makes sure you are safe for surgery
- ▶ Day of Surgery: Operating Room or a Specialized Area
- ▶ After Surgery: Attend follow up appointments with your Vascular Access Nurse
  - ▶ Sutures, exercises, assessment





# What is a Hemodialysis Catheter?

- For some patients, it is not possible to create a fistula or graft
- A piece of tubing that is usually inserted into a large vein in the neck
- The end of the catheter sits in the heart
- The catheter has 2 tubes/openings inside and two ports/ends that are outside the skin
- One side draws blood from the body and the other one brings clean blood back
- Inserted in the X-ray department or the Operating Room



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Short term hemodialysis catheter



Long term hemodialysis catheter (tunneled under the skin)



# Catheter Advantages

## Advantages

- ▶ Can be used immediately
  - ▶ Good when we need to start dialysis urgently
- ▶ Good option for people without adequate blood vessels or conditions that make a fistula or graft not possible
- ▶ Good option for people who may only be on hemodialysis temporarily
  - ▶ Those who will go on to PD
  - ▶ Those who will get a transplant soon
- ▶ No needles!



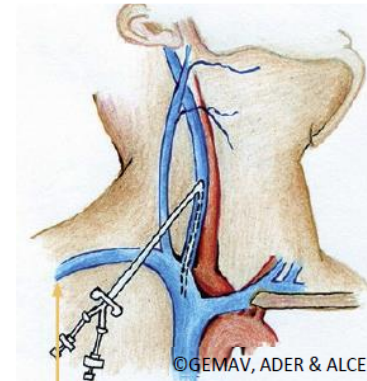
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# Catheter Disadvantages

## Disadvantages

- ▶ Most likely to become infected (these infections can spread throughout the body)
- ▶ More likely to get blocked up and need to be replaced
- ▶ \*Cause vein damage to the large veins that bring blood to the heart—this can limit future dialysis options
- ▶ Don't last as long as other accesses
- ▶ More likely to require procedures to keep them working—more hospitalizations
- ▶ Less reliable to clean blood efficiently
- ▶ More challenging to care for (dressing changes)
- ▶ Unable to get it wet (no swimming or hot tubs)



# Summary

## Catheter



- Tube that is placed through a vein in your neck, tip sits in your heart
- Good option for immediate and short term dialysis needs
- No needles required
- Must cover catheter to shower
- Must not bath or swim
- Require more procedures than fistulas or grafts

## Graft



- Soft artificial tube connects your vein to your artery
- If a fistula is not possible, a graft may be
- Can be used in 2-3 weeks
- Needles required
- Safe to shower, bath and swim
- Requires less procedures than catheters, but more than fistulas

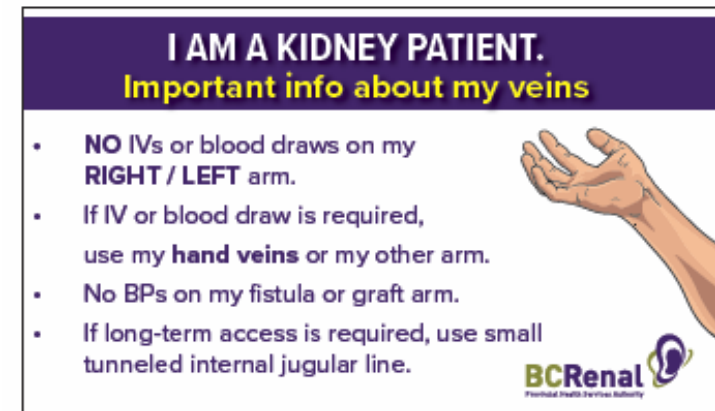
## Fistula



- Made with your own vein and artery
- “Gold Standard”
- Takes time to “mature” so needs to be planned early
- Needles required
- Safe to shower, bath and swim
- Sometimes require additional procedures to get it going, but requires the least ongoing care

# In the meantime...Save your veins!

- ▶ Hemodialysis requires healthy veins and arteries
  - ▶ Smoking cessation
  - ▶ Good blood sugar control
- ▶ Blood work and IVs can damage veins
  - ▶ Ask the lab or nurse to use your hand veins
  - ▶ Ask the lab or nurse to use your dominant arm
- ▶ Save your veins starting now, well before you need an access
- ▶ If you're on dialysis already, ask your dialysis access team to tell you which veins you should be saving

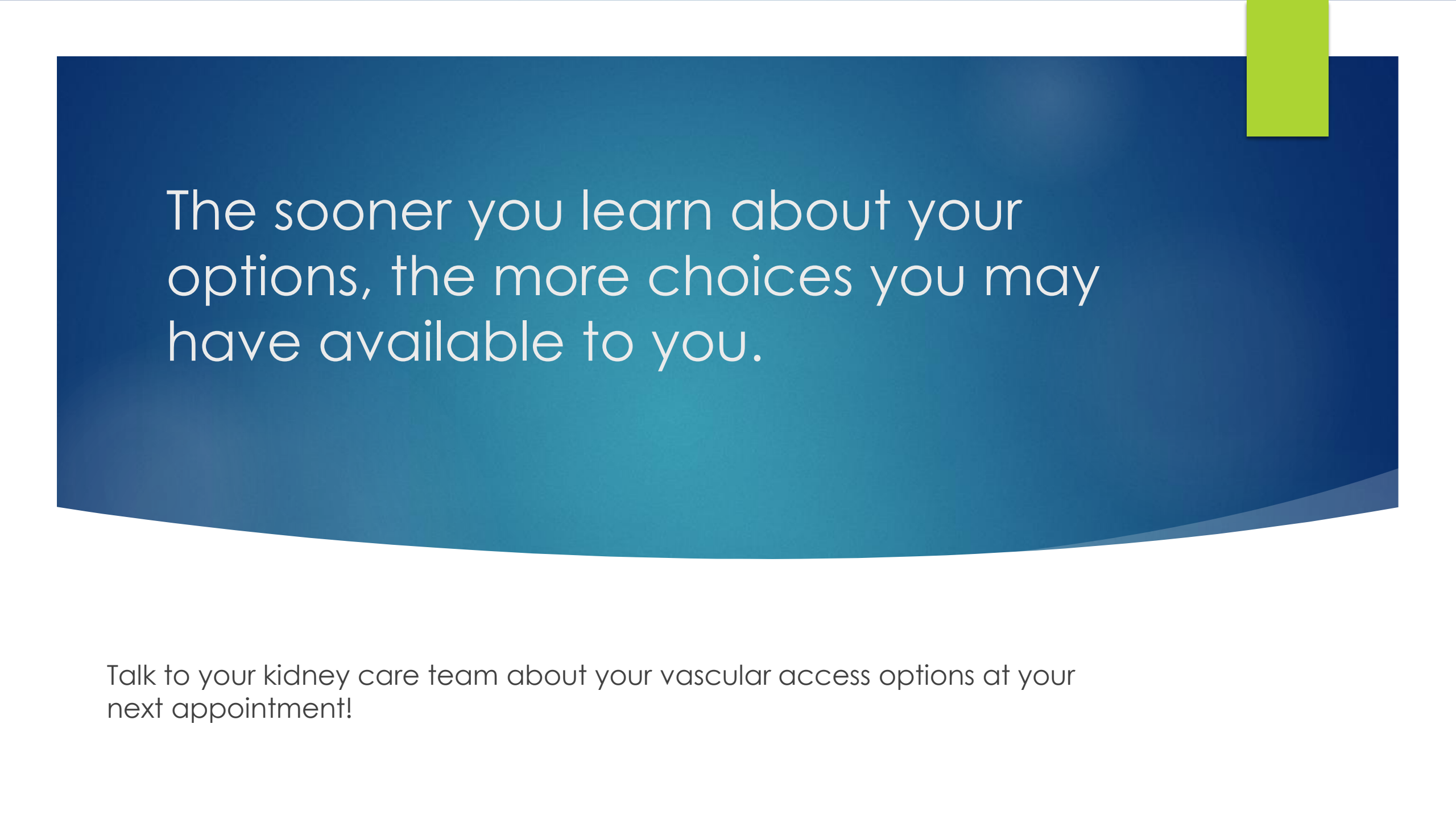


**I AM A KIDNEY PATIENT.**  
**Important info about my veins**

- **NO IVs or blood draws on my RIGHT / LEFT arm.**
- If IV or blood draw is required, use my **hand veins** or my other arm.
- **No BPs on my fistula or graft arm.**
- If long-term access is required, use small tunneled internal jugular line.

**BCRenal**  
British Columbia Health Services Authority





The sooner you learn about your options, the more choices you may have available to you.

Talk to your kidney care team about your vascular access options at your next appointment!



# Patient Experience with Vascular Access

LYLE ROBERTS

Questions??

FOR MORE INFORMATION, GO TO THE BCR WEBSITE:  
SELECT "HEALTH INFO", THEN "VASCULAR ACCESS"  
[WWW.BCRENALAGENCY.CA](http://WWW.BCRENALAGENCY.CA)

