

Phase Review

→ **Phase 1** of the AOMC Vascular/Endovascular PQI identified that an area in need of improvement in the clinic was communication of pre-operative and peri-operative patient expectations. This need was measured through patient interviews conducted over a two month period.

→ **Phase 2** of the AOMC Vascular/Endovascular PQI applied these domains in the creation and distribution of Factsheets addressing the following procedures:

- Peripheral angiography, angioplasty, and stent placement
- Transcarotid Artery Revascularization (TCAR)
- Endovascular Aneurysm Repair (EVAR)
- Ellipsys Percutaneous Fistula Creation

→ **Phase 3** of the AOMC Vascular/Endovascular PQI analyzed feedback from patients regarding Factsheets from a period of time spanning from November of 2021 to November 2022. These results are summarized in **Figure 5**.

- Of 46 total patients who received Factsheets:

- ❑ 22 during follow-up after their procedure were able to identify specific information on the Factsheets that they state they would have otherwise not known or forgotten.
- ❑ 6 during follow-up after their procedure stated benefit to the FactSheet, but did not specify what information was beneficial.
- ❑ 5 during follow-up after their procedure stated no clear benefit to the Factsheet.
- ❑ 13 received Factsheets, but did not have feedback recorded

→ During the year that Factsheets were disseminated, only 2 outpatient procedures were cancelled after booking. This is improved compared to 6 from 2019.

- Both patients that had cancellations had not received Factsheets.

Arnot Vascular
FACTSHEET: Peripheral angiography, angioplasty, and stent placement

What it is: Peripheral angiography is a test that involves injecting contrast through a small tube that goes into the arteries of your legs. The contrast is picked up on X-rays to locate areas of plaque buildup or blockage. Once these are found, your doctor may be able to fix them by inflating a small balloon (angioplasty) or by placing a small tube to keep the artery open (stent).

What to expect...

BEFORE

- **CONTINUE** to take all of your medications, including **Aspirin** and **Plavix**, as long as they are not on the following lists:
 - STOP taking Xarelto, Eliquis, Aggrenox, Pradaxa, Tield, and Proscar **3 DAYS** before your procedure.
 - If you are on Warfarin, the Coumadin clinic will need to give you exact instructions.
 - Medications you should plan to **STOP** taking the **morning** of your procedure, if you are a **DIABETIC**:
 - Oral diabetic medications, like Metformin, Jardiance, Januvia, Trajenta, etc.
 - Short-acting insulin, like Humalog or Lispro
 - Non-insulin injections, like Trulicity, Victoza, Byetta, etc.
 - **Diabetics** on insulin should only take **50%** of the normal dose of long acting insulin the **night before** your procedure.
- You will need to arrange transportation **TO AND FROM** the hospital on the day of your procedure.
- **DO NOT** eat or drink anything after midnight the day before your procedure. You are allowed to have small sips of water for medications.

THE DAY OF

- Plan to arrive approximately one hour before your procedure start time in order to be registered and prepared.
- A nurse will place an IV in your arm so that moderate sedation medications can be given for the procedure.
- These medications are similar to what is given for a colonoscopy.
 - They will make you sleepy, but you will be able to speak and breathe normally.
- The doctor will make a small cut in your groin, usually opposite of the side that is bothering you.
- A small amount of contrast will be injected directly into your arteries.
- Based on what the doctor sees, you may have a stent placed or a balloon inflated inside of the artery to help open it up.

AFTER

- After the procedure is done, you will **need to lay flat on your back in bed for 4 hrs.**
- You may have some pain or even numbness in your groin, which should ease up with time.
- You might have pain in the leg that was treated.
 - When blood goes back to a place that was blocked off, it can cause "reperfusion pain," similar to when your hands are cold and sting when you run them in hot water.
 - This should go away with time.
- Your ride will be called 4 hrs after the procedure to come pick you up.
- Avoid heavy lifting and strenuous exercise for a few days.
- You will follow-up in vascular clinic in **2 weeks.**
- After your visit, the doctor will likely order an ultrasound of your leg arteries and ask you to follow-up again in 4-6 weeks.

Figure 1

Arnot Vascular
FACTSHEET: Endovascular Aneurysm Repair (EVAR)

What it is: EVAR is a minimally invasive surgery to repair an aneurysm. It is performed through small cuts in each groin while x-rays are used to guide the doctor during the procedure. The aneurysm in the abdomen is fixed from the inside using a special tube called a stent, that is carefully placed to make a new wall for the aorta and 'exclude' the aneurysm so that it does not get bigger.

What to expect...

BEFORE

- **CONTINUE** to take all of your medications, including **Aspirin** and **Plavix**, as long as they are not on the following lists:
 - STOP taking Xarelto, Eliquis, Aggrenox, Pradaxa, Tield, and Proscar **3 DAYS** before your procedure.
 - If you are on Warfarin, the Coumadin clinic will need to give you exact instructions.
 - Medications you should plan to **STOP** taking the **morning** of your procedure, if you are a **DIABETIC**:
 - Oral diabetic medications, like Metformin, Jardiance, Januvia, Trajenta, etc.
 - Short-acting insulin, like Humalog or Lispro
 - Non-insulin injections, like Trulicity, Victoza, Byetta, etc.
 - **Diabetics** on insulin should only take **50%** of the normal dose of long acting insulin the **night before** your procedure.
- You will need to arrange transportation to the hospital on the day of your procedure. **DO NOT** eat or drink anything after midnight the day before your procedure. You are allowed to have small sips of water for medications.

THE DAY OF

- Plan to arrive approximately one hour before your procedure start time in order to be registered and prepared.
- You may be under general anesthesia for the procedure, which means that you are completely asleep.
 - Or you may be given moderate sedation, which is similar to what is given for a colonoscopy.
- The doctor will make small cuts in both your groins.
- Using a small amount of contrast and x-rays, a stent will be placed in your aorta to fix the aneurysm.

AFTER

- After the procedure is done, you will **need to lay flat on your back in bed for 4 hrs.**
- You may have some pain or even numbness in your groin, which should ease up with time.
- You might have pain in your abdomen following the procedure.
 - This is a common side effect of 'excluding' the aneurysm that should get better with time.
 - Plan to stay at the hospital for 1-2 nights.
- Avoid heavy lifting and strenuous exercise for a few days.
- You will follow-up in vascular clinic in **2 weeks.**
 - After your visit, the doctor will likely order an ultrasound of your aorta and ask you to follow-up again in 4-6 weeks.

Figure 2

Examples of the disseminated Factsheets for Peripheral angiography, angioplasty, and stent placement (**Figure 1**) Aortic Endovascular Aneurysm Repair (EVAR) (**Figure 2**) Transcarotid Artery Revascularization (TCAR) (**Figure 3**) and Ellipsys Percutaneous Fistula Creation (**Figure 4**)

Arnot Vascular
FACTSHEET: TransCarotid Artery Revascularization (TCAR)

What it is: Transcarotid Artery Revascularization (TCAR) is a minimally invasive procedure to treat carotid artery disease and help prevent future strokes. This is done by placing a special tube called a 'stent' in the carotid artery to open up the artery and keep the plaque that is there from breaking off.

What to expect...

BEFORE

- It is especially important that you **CONTINUE** taking **Aspirin, Plavix, and your "statin" medication**.
- **STOPPING ANY ONE OF THESE 3 MEDICATIONS WILL RESULT IN THE CANCELLATION OF YOUR PROCEDURE.**
- **STOPPING ANY ONE OF THESE 3 MEDICATIONS WILL RESULT IN THE CANCELLATION OF YOUR PROCEDURE.**
- Only stop or change your medications according to this list:
 - STOP taking Xarelto, Eliquis, Aggrenox, Pradaxa, Tield, and Proscar **3 DAYS** before your procedure.
 - If you are on Warfarin, the Coumadin clinic will need to give you exact instructions.
 - Medications you should plan to **STOP** taking the **morning** of your procedure, if you are a **DIABETIC**:
 - Oral diabetic medications, like Metformin, Jardiance, Januvia, Trajenta, etc.
 - Short-acting insulin, like Humalog or Lispro
 - Non-insulin injections, like Trulicity, Victoza, Byetta, etc.
 - **Diabetics** on insulin should only take **50%** of the normal dose of long acting insulin the **night before** your procedure.
- You will need to arrange transportation to the hospital on the day of your procedure. **DO NOT** eat or drink anything after midnight the day before your procedure. You are allowed to have small sips of water for medications.

THE DAY OF

- Plan to arrive approximately one hour before your procedure start time in order to be registered and prepared.
- You will either be under general anesthesia for the procedure, which means that you are completely asleep, or sedation.
 - Your doctor will discuss which option may be better for you.
- An incision will be made above your collarbone that is about an inch or two in length.
 - You will have another small puncture at your groin.
- Your doctor will place a tube directly into your carotid artery and connect it to a system that will direct blood flow away from your head, to prevent any loose plaque from reaching your brain.

AFTER

- Expect to stay at the hospital for 1-2 nights.
- Please **continue** taking **Aspirin, Plavix, and your "statin" after your procedure.**
- **These are important for keeping the stents and artery open.**
- You will follow-up in vascular clinic in **2 weeks.**
 - After your visit, the doctor will likely order an ultrasound of your neck arteries and ask you to follow-up again in 4-6 weeks.

Figure 3

Arnot Vascular
FACTSHEET: Ellipsys Percutaneous Fistula Creation

What it is: An Arteriovenous fistula (AVF) is the preferred access for hemodialysis in patients with end-stage renal disease (ESRD). AVFs are made by connecting an artery to a vein. We do this in a minimally invasive way by using a system known as Ellipsys, which allows us enter through a small hole in a vein and make this connection without more invasive surgery.

What to expect...

BEFORE

- STOP taking Xarelto, Eliquis, Aggrenox, Pradaxa, Tield, and Proscar **3 DAYS** before your procedure.
- STOP taking Aspirin and Plavix **5 DAYS** before your procedure.
- If you are on Warfarin, the Coumadin clinic will need to give you exact instructions.
- Medications you should plan to **STOP** taking the **morning** of your procedure, if you are a **DIABETIC**:
 - Oral diabetic medications, like Metformin, Jardiance, Januvia, Trajenta, etc.
 - Short-acting insulin, like Humalog or Lispro
 - Non-insulin injections, like Trulicity, Victoza, Byetta, etc.
- **Diabetics** on insulin should only take **50%** of the normal dose of long acting insulin the **night before** your procedure.

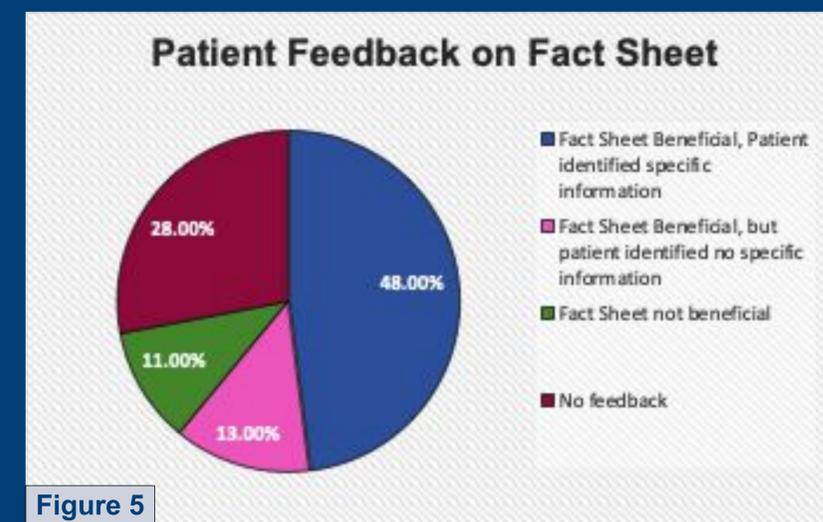
THE DAY OF

- You will need to arrange transportation **TO AND FROM** the hospital on the day of your procedure. **DO NOT** eat or drink anything after midnight the day before your procedure. You are allowed to have small sips of water for medications.
- Plan to arrive approximately one hour before your procedure start time in order to be registered and prepared.
- An anesthesiologist will place an IV in your arm so that medications can be given for the procedure.
 - You will either be under general anesthesia or moderate sedation. Your doctor will explain which one is right for you.
- You will be given something called a 'supraclavicular block' that will make the arm we are working on completely numb.
 - This also helps your veins relax.

AFTER

- After the procedure is done, your arm will likely stay numb for a few more hours.
 - We will give you an arm sling.
- You **MUST** follow-up with an ultrasound of your fistula in **1 week.**
- Expect to come back in about a month to perform a 'maturation procedure' that will help get the fistula ready for use in dialysis.

Figure 4



Multi-Center Extension

→ Results were shared with physicians at the AOMC educational affiliate Larkin Community Hospital who were interested in applying this QI initiative at their vascular and interventional clinics. This initiative was subsequently approved by both institutions and initiated.

→ **Phase 1** at LCH involves gathering data on specific procedures and cancellations rates and communications breakdowns specific to their outpatient clinic over a period of 6 months. The procedure focus in the LCH clinic is specific to the following:

- Peripheral angiography, angioplasty, and stent placement
- Arteriovenous fistulograms and intervention
- Dialysis catheter insertion

→ **Phase 2** will involve the creation of Factsheets that address the procedures in simple, clear language, while also specifically highlighting areas of communication breakdown that lead to cancellations.