CREATIVE ACTIONS TO IMPROVE VASCULAR ACCESS OUTCOMES

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OUTLINE

- DCDN VASCULAR HISTORY
- NEW ADMISSIONS
- EDUCATION
- GETTING THE AVF PLACED
- VASCULAR TEAM
- CANNULATION OF NEW AVF
- BUTTONHOLE
DCDN VASCULAR HISTORY

- CMS TARGET GOALS FOR FISTULA RATES

- 2005 - 40%
- 2006 - 40%
- 2007 - 50%
- 2008 - 58%
- 2009 - 66%
DCDN VASCULAR HISTORY
CATHETER RATES

2005 2006 2007
South East Darke Warren North

South  East  Darke  Warren  North
DCDN VASCULAR HISTORY
FISTULA RATES
Renal Network Wake Up Call!

- Became involved in Renal Network Quality Improved Project
- Visit from Renal Network at DCDN!
DCDN Fistula/Catheter Outcomes

The graph shows the outcomes of Fistulas and Catheters from 2008 to 2012. The percentage for Fistulas has been increasing, while the percentage for Catheters has been decreasing over the years.
DCDN VASCULAR HISTORY
DCD VASCULAR QUALITY
INITIATIVE

- DCD had their first initiative meeting September 24, 2004.
- Vascular access protocols for AVF/AVG were implemented.
- Cannulation skill level for staff developed
- Each unit completed a patient access grading system.
- Meeting with vascular surgeons scheduled.
- Timeline for Fistula First developed and communicated.
- Vascular Access Resource Manuals were completed for each unit.
DCDN VASCULAR HISTORY

- In 2006, Transonic program began.
- Transonics are completed quarterly on fistulas. Flow rate should be > 600/ 0% recirculation.
- Transonics are completed monthly on all grafts. Flow rate should be >800/0% recirculation.
- Completed when decrease in adequacy and decrease in blood pump speed. Increased post bleeding time, increased venous pressures, blood squirting around needles.
Preventative Maintenance & Monitoring of Vascular Access
- Grafts - Monitor Monthly
- Fistulas - Monitor Quarterly
- Perform Transonic after any access intervention; i.e. angioplasty/ surgical revision

Access Flow Results
- < 600 ml
- > 20% decrease from last transonic reading

Recirculation Results
- > 0% with Transonic

Notify Nephrologist
Inform Surgeon
Schedule Fistulagram / Diagnostic Workup Within 1 week

* Access Flow Results
  * Access Flow Results < 600 ml
  * or > 20% decrease from last transonic reading

Recurrent Results
- > 0% with Transonic

Notify Nephrologist
Inform Surgeon
Schedule Fistulagram / Diagnostic Workup Within 1 week

* Note each patient is different and monitoring access flow trends is important. Some patients with fistulas may have a flow of 500 and never have a problem. Use all assessment data when evaluating whether or not to refer for fistulagram. 8-2010
NEW PATIENT ADMISSIONS

- When a new referral is made, DCDN tries to get at least a vein mapping prior to discharge.

- Managers of DCDN take referral information and notifies hospital to have done prior to discharge.

- Nephrologists' office patient many times already have an AVF in place.

- Referrals to vascular surgeon are made within the first month and placement within 2-3 months.
EDUCATION

- Education starts the first day of dialysis.

- Staff teach new patients the catheter is only temporary to start dialysis and will be replaced with an AVF which will be permanent.

- Staff coaches are trained staff members. We also have a designated patient coach.

- New patient is immediately educated on catheter risks and higher infection rates.
GETTING AVF PLACED

- After the patient is admitted, if vein mapping was not completed in the hospital, this is completed. The patient is then referred to vascular surgeon. Education must begin as soon as the patient is admitted. Emphasize the catheter is only temporary. This way the patient knows they must get an access. We do have a few resistant patients, this is where the patient coach comes in. She has a fistula. She can be very persuasive.
Vascular Team

- DCDN no longer has a vascular access coordinator. I monitor all accesses at DCDN.

- When a patient is admitted, I follow up with the nephrologists to get AVF placed.

- We have monthly care conferences with the Interdepartmental Team. Accesses are also discussed at this time.

- We have three vascular surgeons we use.
We also are very fortunate to have a nephrologist who also works in our Greater Dayton Vascular Center. The reports are faxed to me following any procedure. I document the reports into EMR and follow up with staff.

He is an excellent educator. He helps educate both patients and staff.

We have several staff coaches at this unit. We have vascular access meeting to discuss patients and work on improving our outcomes and potential problems we may be dealing with.

Our patient coach many times will sit in the lobby and discuss accesses with patients prior to going in for their treatment.

The biggest factors in access placement are team work, education and communication!
EVERYONE WORKING TOGETHER

QAPI Review
Training
Surveillance
Education
Outcomes

Early Referrals
AVF Only
Surgical Selection

Dialysis Facilities
Surgeons
Interventional Radiology
Nephrologists

Pre-Access imaging
Early Intervention for failing accesses

Surgical Approach
Secondary AVF
AVF in Catheter Pt.
CANNULATION OF NEW ACCESS

- DCD works closely with vascular surgeons and GDVC to begin cannulation.

- Staff are graded every six months on their ability to cannulate. There are three levels.

- **Level 1** is the ability to cannulate six out of eight accesses in a two week period. Level 1 staff cannulate both level 1 and 2 accesses.

- **Level 2** is the ability to cannulate a minimum of 13 out of 15 accesses within a two week period. Level 2 may cannulate both level 1 and 2 accesses.

- **Level 3** is the ability to cannulate majority of difficult accesses. These staff are resources to other staff. They are experienced in dialysis. Must demonstrate critical thinking skills. Only RN’s, Tech III and very experienced Tech II staff may cannulate a level 3 accesses.
GRADING ACCESSES

- All accesses are graded every six months by the vascular access team members.

- Protocols are in place for both new AVF’s and AVG’s.

- Only master cannulators or level 3 staff may cannulate the new access.

- Two master cannulators are assigned to a new access. We have two in case one master cannulator is not present.
Grading Accesses (cont.)

- The cannulator begins a protocol sheet on each new access. Each time the access is cannulated, staff complete the protocol sheet. The sheets are kept in a binder. This way the staff knows at all times the progression of the protocol.

- If the staff finds there is a problem, a transonic is immediately completed. The nephrologist is notified. The patient is either referred to the surgeon and or GDVC immediately.

- DCD works closely with the GDVC. We are in constant communication with problems and solutions dealing with the access.
DEVELOPING A BUTTONHOLE

- The buttonhole technique was initiated at DCD in 2006.
- Teresa Carter RN, CNN Associate Clinical Manager at our South unit was instrumental in this process. She attended the ANNA National Spring Meeting and brought the buttonhole technique back to DCD.
- She was mentored by Linda Ball in Washington.
- Teresa co-wrote the policies and procedures and went to our other four units and in serviced all staff.
- She initiated the first buttonhole at the end of 2006.
- Due to her hard work and dedication, our buttonhole initiative program has grown and is very successful.
Percentage of DCD Pts With Buttonholes in Use

- Darke: 68%
- North: 80%
- South: 66%
- Warren: 42%
- East: 7%
BUTTONHOLE PROCESS

- Master cannulators-level 3 must cannulate the sites for at least 3 consecutive weeks.

- After the tracks are established, level 2 or 3 may cannulate the patient.

- Two sharp needles are used until the track is established. Once it is established blunt needles are used with the same gauge.
BUTTONHOLE PROCESS

- Not to be used on AV grafts. Fistulas only.

- The tracks require the same angle and depth of entry each cannulation.

- Scab must be removed from the last cannulation is critical in preventing infection.

- This requires the same cannulator until the track forms.
BUTTONHOLE PROCESS

- Changing to blunt needles after the track is formed prevents cutting of the track.

- Non-diabetic patients will form a track in approximately 8 cannulations.

- Diabetic patients in about 12 cannulations.

- Benefits of buttonhole is fewer infiltrations, fewer missed attempts, less pain for the patient, and may also lengthen the life of the fistula.
Some patients are not a candidate for buttonhole if there is heavily scarred fistulas. Patients with large amounts of subcutaneous tissue in the upper arm may also not be a candidate.

If a third stick must be placed, stay 3/4” away from buttonholes.

If a buttonhole patient is hospitalized or travels, call the specific dialysis unit and explain the patient’s access. If the unit is unfamiliar with buttonhole, they must also cannulate 3/4” away from buttonhole.
TROUBLESHOOTING
BUTTONHOLE ACCESS

- If the sites you choose are not working, choose a new site.

- When the track is established, change to blunt needles. Other staff can then cannulate.

- If after a weekend, you cannot cannulate with blunt needles, change to sharp needles for a few treatments then switch back to blunt.

- Bleeding around the needles during dialysis could be caused by stretching the track or cutting the track with sharp needles during cannulation.

- To advance from one size to another to accommodate higher blood flow rates, use sharp needles of the larger size you want. Place them in the same track but be careful not to cut the track. Use the sharp needles until no resistance is noted with insertion. Switch to blunt needles of the same gauge.
Dialysis Centers of Dayton, North
Certificate of Achievement
For
Buttonhole Blunt Needle Cannulation
Two fifteen gauge, one-inch blunt needles, blood flow rate 400
Self Cannulator

This certificate of accomplishment is awarded to

In recognition of
pain tolerance, perseverance, and
patience with the constant cannulation process
( Including putting up with Dawn for over 30 Cannulations
with sharp and dull needles)
in the quest to preserve the longevity and integrity
his arteriovenous fistula.

__________________________    ______________________
Date                        Signature
IN CLOSING

LOOK FOR THE BIGGEST PROBLEM AND SOLVE IT BECAUSE THEREIN LIES YOUR BIGGEST OPPORTUNITY!

Frits Segar Co-CEO Barclays Group