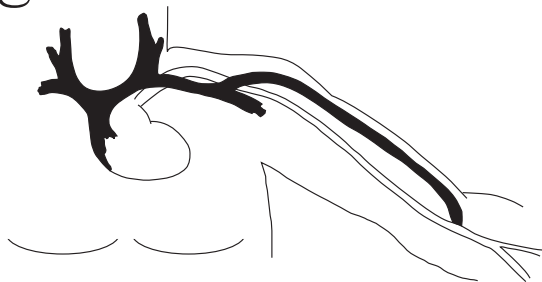


Focusing on
Fistulas
and
Vascular
Access
Solutions
for
Southeast
Michigan



With monthly discussions on strategies for meeting the DOQI benchmarks for Fistulas and Topics in Endovascular Management of Dialysis Access

VOL. 1 No. 3

March 2004

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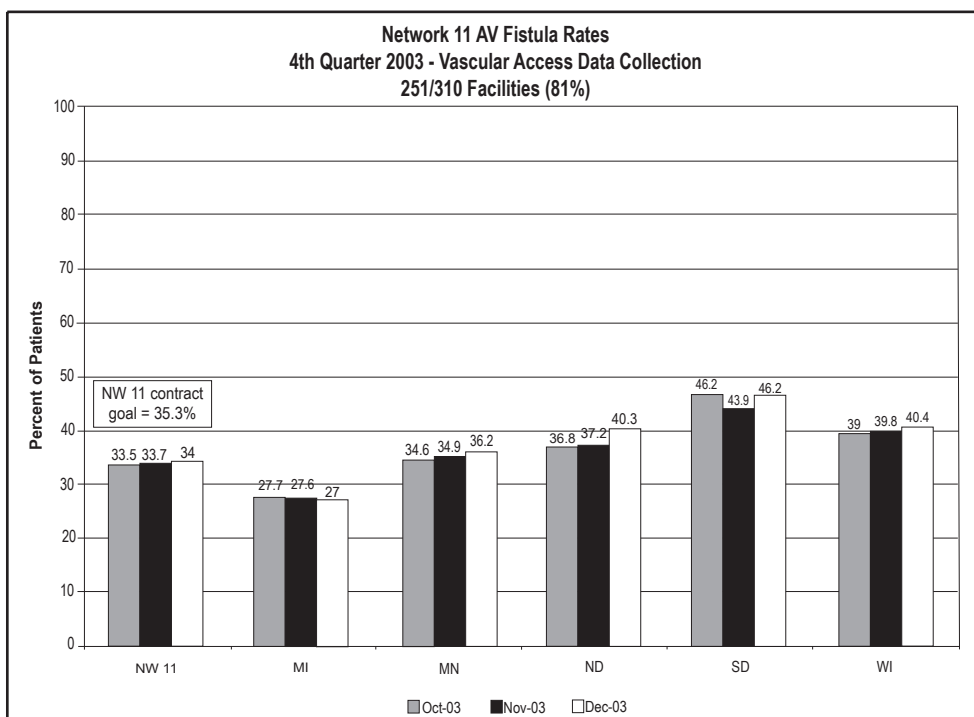
What is Michigan Vascular Access?

Michigan Vascular Access, PC is a practice created to bring high-quality Vascular Access services and the latest in research and industry progress to the hemodialysis patients of Southeast Michigan. Dr. Webb is an American Board of Surgery certified surgeon, and Fellow of the American College of Surgeons (FACS) with ten years experience in organ transplantation, general and laparoscopic surgery, and all phases of vascular access for hemodialysis. His practice is currently limited to the care of patients who require solution of their hemodialysis access needs and problems.

To arrange a consultation, please see the contact information on page 4 of this newsletter.

Current Percentage of Fistulas in Region 11

Michigan dialysis patients lag behind the country and region in AV fistulas! The bar graph below shows 4th quarter 2003 results for prevalence of fistulas in Region 11. All four other states have higher prevalence than Michigan.



Achieving the DOQI Benchmark for Fistulas in Hemodialysis Strategies for 2004

INSTALLMENT THREE

"Superficialization of fistulas too deep to use: A strategy to utilize our hidden vascular assets!"

The ideal fistula is straight, large, and in a location easy to cannulate for dialysis. Fistulas using the cephalic vein running from wrist to shoulder most often approach this ideal, but in many patients those veins are deep, tortuous, or impossible to cannulate. Too frequently, patients are told that they have "bad veins," or that they cannot have a fistula. In the past, I myself have told patients with large arms and deep veins that they could not have a fistula. Fortunately I learned different, and now know better.

The cephalic vein in the forearm and the upper arm is associated with (bound down by) a layer of connective tissue from a point several inches above the wrist (Image #1). Subcutaneous tissue (fat, "padding", "insulation") resides between that fascia and the skin. The more padding, the deeper the vein. We can ask the patient to lose weight to shrink this layer and bring the vein close to the skin, but this advice is often unreasonable.

The alternative is to move the vein closer to the skin and make it accessible for cannulation. Acceptance of this concept has allowed many

people to have a fistula who were previously not thought to have that potential. Ordinarily, the vein is fistulized, and then superficialized later only if adequate growth is observed. Patients are happy to hear that a "bad" fistula can be moved and made usable.

The cephalic vein in the upper arm is the one most often superficialized. Whether the draining vein of a forearm graft or fistula (see this month's fistula of the month), or a fistula created at the elbow, a long incision is made

healed, the fistula can be used - usually in a matter of just a few weeks.

If the vein is the draining vein of a forearm graft or fistula, it may not be necessary to place a catheter while the upper part heals, because the forearm portion continues to be usable. Eventually the forearm portion starts to fail, and the upper arm vein is connected to the brachial artery with abandonment of the forearm graft or fistula.

Superficializing the cephalic vein in the forearm is also possible, but is less common. If depth is the only reason that a forearm fistula is unusable, then bringing it to the surface not only can make it functional, but also preserve and develop the upper arm veins for future use.

Veins deep in the upper extremity can be usable no matter how big the arm, and should be considered a "hidden asset" for the dialysis patient. Superficialization of fistulas running too deep is a "high-yield operation" in the hands of an experienced

Access surgeon. Every forearm graft should be considered a bridge to an upper arm fistula as a patient's lifetime need for dialysis access is considered in a proactive fashion.

Multiple examples of superficialized fistulas can be seen in the PowerPoint presentation "Achieving the DOQI Benchmark for Fistulas in Hemodialysis: Strategies for 2004".

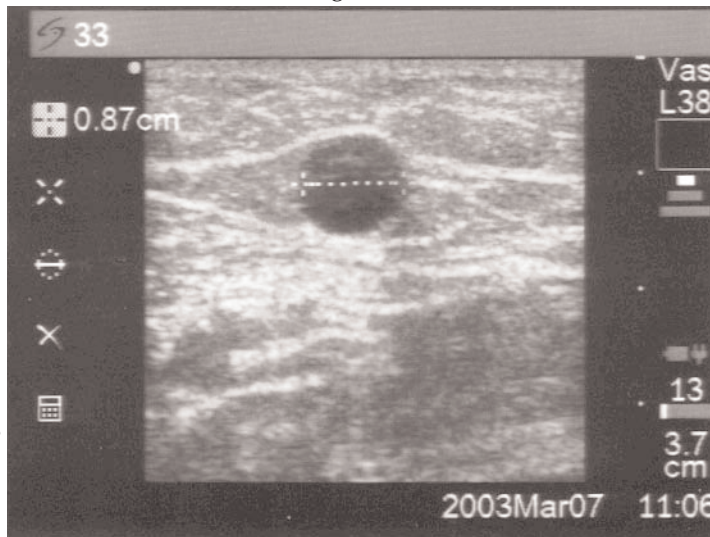


Image #1

medial to the vein and the vein freed from elbow to shoulder. Branches are divided, stenoses fixed, and the arterialized vein divided just above the elbow. The mobilized vein is drawn through a tunnel created lateral to the incision so that the fistula will not be cannulated through a scar, and the two ends reattached. When the incision is

"ACHIEVING THE DOQI BENCHMARK FOR FISTULAS IN HEMODIALYSIS — STRATEGIES FOR 2004"

is a one-hour presentation of 18 strategies and a demonstration of practical surgical techniques to increase the number of fistulas created, matured, successfully cannulated and maintained over time. Surgical examples are drawn from the author's full-time vascular access practice.

For an advance presentation of this talk, contact Michigan Vascular Access at 734.502.1239.

NEXT MONTH!

**BASILIC TRANSPOSITION:
USING THE LARGEST
VEIN IN THE ARM**

Endovascular Topics

The myth of "permanent access" and when to arrange for a shuntogram.

One of the great myths of vascular access is that of "permanent access". In truth, there is no such thing - there is "long-term access" (a graft, fistula or cuffed catheter) and "short term access" (a temporary catheter). Patients and practitioners frequently find themselves frustrated when they encounter problems with "permanent access" and apply unrealistic expectations to the situation. A clear understanding of the natural history of grafts and fistulas, coupled with a plan to deal with the problems that inevitably occur, is necessary if we are to avoid loss of access and the disruption of our normal lives that can occur.

Having a fistula may be like owing a Mercedes, and having a graft may be like owing a Chevy, but in both cases the automobile owner is obliged to keep up with ordinary maintenance or the auto will turn into a piece of junk - the responsible owner does regular oil changes, routine maintenance, and tire rotation. Everyone takes their car to the shop when a "funny sound" in the engine or wobble in the wheels develops - otherwise you find yourself by the side of the road waiting for the AAA tow truck to turn up.

Why do we view our AV grafts and fistulas differently?

Is dialysis access - a life-sustaining necessity - less important than basic transportation?

Is dialysis access less important than the car that sits in our driveway?

No, no, no.....

No - dialysis access represents an important investment that we should monitor and protect, and the reality is that all access requires maintenance and regular repair. Industry figures show that patients with AV grafts require an average of 1-½ procedures a year to maintain dialysis access, AV fistulas less. As none of us likes the prospect of dreading and waiting for the next disaster to disrupt our lives, we would like a better way to monitor our vulnerabilities, predict our problems, and manage our lives.

How are we to know when to seek help with our dialysis access? Just as there are guidelines for auto maintenance, there are guidelines for monitoring the function of AV access. Sophisticated pressure monitoring, recirculation and clearance calculations, and flow measurements are being used in many units to identify patients in need of a diagnostic and corrective procedure (these monitoring techniques will be discussed at greater length in a future edition). Monitoring of access performance and preemptive treatment of problems has been shown to lead to a reduction in hospitalizations, missed

dialysis, and catheter placement.

The simplest measure is the clinical examination - something that can be done by the individual patient, his or her caretaker, the dialysis nurse or attending nephrologist (see box). Evidence of problems with dialysis access should lead quickly to a fistulogram (needle puncture and x-ray of the shunt) and other corrective procedures, such as dilation of narrowings (venoplasty) or stent placement.

A change in mind-set that leads us to (1) expect a need for occasional intervention in our AV access, (2) watch for signs of graft or fistula problems, and (3) intervene electively and effectively to prevent loss of access will help "keep us on the road," and keep us out of the hospital waiting for an emergency procedure.

No one wants to find him or herself standing on the side of the road waiting for the tow-truck.

- ◆ To arrange a elective shuntogram, please call 248.391.6676 and leave contact information for scheduling. For a de clot or other urgent procedure call 734.502.1239 or pager number 248.570.3081.
- ◆ To arrange a presentation of "Endovascular Management of Hemodialysis Access," or Thrombolysis of Dialysis Access Conduits," contact Michigan Vascular Access.



Warning signs for Grafts and Fistulas

- ❖ Prolonged bleeding from access after dialysis - over 20 minutes.
- ❖ Change from a "buzz" or vibration felt over the graft or fistula to a pounding pulse.
- ❖ More than one episode of infiltration or bruising around the graft or fistula.
- ❖ Poor dialysis (insufficient clearance, recirculation) due to low flows.
- ❖ A trend toward decreasing blood flows in a graft or fistula.
- ❖ Elevated venous pressures on dialysis.
- ❖ Swelling of the hand or arm on the side of the graft or fistula.
- ❖ Development of "new veins" or popping out of old veins.
- ❖ Pain in the graft or fistula.
- ❖ Swellings in the graft or fistula.



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**Michigan Vascular
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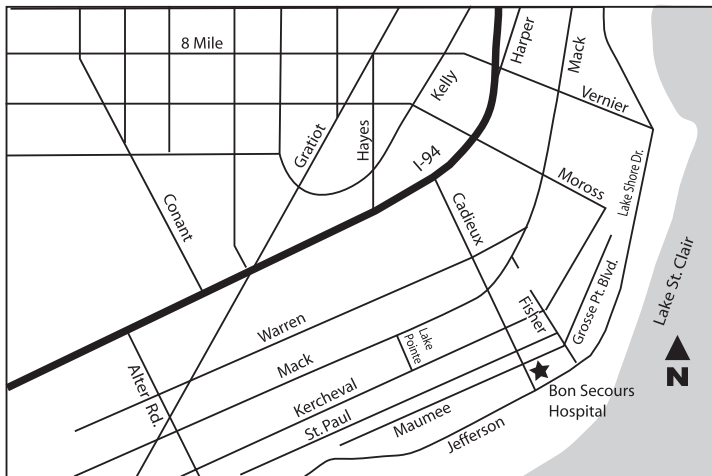
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March 2004

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