

# The Zen of AVF

[ For one surgeon, AVF placement is the recommended choice for CKD patients ]



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—Dr. Eric Gardner  
Vascular Surgeon



There's a sort of Zen-like quality about Dr. Eric Gardner as he discusses what he does for a living and why he does it.

Having renounced the glamour of performing cardiovascular surgery, he now spends three days a week performing a surgery that makes life more bearable for patients needing dialysis. He is a vascular surgeon who specializes in performing arteriovenous fistula (AVF) placement.

In 2007 Gardner moved his Collierville, Tenn., practice's focus to be strictly on patients needing vascular surgery, primarily AVFs. "When you focus on one niche, you end up getting very good at it," he said.

"I saw a need where dialysis patients were getting upset, because most of the surgeons performing dialysis access surgery typically had more pressing operations that took priority, often resulting in long patient wait times for appointments and ultimately surgery," he said. "The Mid-South has a tremendous population of dialysis patients with untreated hypertension and the gamut of renal disease. No one really focused on these patients in giving them the attention and service that they deserve."

## Patient Education

Most patients who arrive at Gardner's office know why they are there. Their nephrologist has prepped and educated them on the need for dialysis. Once there, Gardner discusses access options and preliminary steps that need to be taken.

"A fistula is always the first goal," he said, when it comes to discussing access options with patients.

He reviews the various placement options for a fistula, but prefers to place a fistula as far from the heart as possible. He explains to patients that an access further away from the heart (such as at the wrist) prolongs lives by saving the bigger veins and allows for more "real-estate" for future access needs.

Gardner typically sees 30 patients a day, twice a week and spends the remainder of the week doing surgery. Of those 30 patients, 8 to 12 are new patients. Most of these patients are going into surgery for fistula placement.

Fistula creation usually takes Gardner an average of 30 minutes and is an outpatient procedure. "I usually tell my patients they can resume their normal activities later that day," he said, with an average total time of 4 to 8 hours including surgery and recovery.

One of the hardest parts of what he does is getting patients to understand and accept what is happening and overcome their fear. It is also one of the best parts. He usually does a comparative analysis of a patient without a fistula and another patient with a fistula.

"Patients who receive their first dialysis treatment with a fistula live longer, have a better quality of life, have fewer hospital visits, fewer infections and less costs," he said. "That usually convinces them. That and the fact that fistula placement is usually a simple procedure to recover from quickly."

Fistulas are preferred to catheters, he said. Catheters extend outside the body, lead to infection and need replacement.

"Having a catheter or graft is less desirable than having a fistula," he said, in regards to fistulas being considered the "gold standard" for vascular access. "I'm able to do the complete range of dialysis access procedures, but knowing how important access strategy is for a dialysis patient, I try to exhaust all possibilities for a fistula before I put in a catheter or graft. It's a quality of life factor. The patient with a fistula typically has fewer complications and dialysis is more effective and efficient."

## Draw a Map

The biggest challenge he and most vascular surgeons face is locating a suitable site for fistula placement as many patients who make their way to his office have often had

multiple vein punctures. Nephrologists are good about identifying patients that may need dialysis and educating patients on saving their arms and/or veins. The non-dominant arm is usually the one chosen for fistula access.

“Many elderly patients or those that have (vascular) trauma from multiple punctures for IVs and blood draws typically will have scarred or nonexistent veins, making it that much more difficult to create dialysis access and have a fistula,” he said.

The key to Gardner’s success is having an ultrasound unit in the exam room with the patient. He is able to examine the patients’ veins and arteries to make sure they are suitable for a fistula and to identify any kind of abnormalities that may exist preoperatively that might otherwise have resulted in postoperative failure.

“I’m looking for scarred veins, veins that are too small or areas of the vein that won’t dilate,” he said.

Gardner says he draws pictures to “map” his operation out, so he knows what he is doing for a particular patient. Fistula failures have occurred because surgeons did not do vein-mapping or use ultrasound to determine vein integrity. Nationally, the failure rate of fistulas has decreased.

Many of his patients have been told by other physicians that they have exhausted all options for vascular access. However, there have been very few patients he has had to turn away because of a lack of viable choices.

“Having preoperative studies and ultrasounds has raised my rate of success tremendously,” he said. “The fact that I’m doing it myself is so much more valuable.”

## The Challenging Part

What could prove even more valuable to the success of an AVF is identifying patients in the early stages of CKD.

Many of his patients have been referred beyond the time needed to appropriately allow for fistula placement because many of these patients were not aware that their kidneys were failing prior to their need for dialysis.

However, the trend is changing thanks to the Fistula First Initiative and the Kidney Disease Outcomes Quality Initiative

(KDOQI) Guidelines. The Guidelines direct physicians on providing appropriate care for all stages of CKD, related complications and dialysis. Gardner said he is now seeing more patients earlier with Stage 3 and Stage 4 CKD instead of receiving them at the final stage (Stage 5).

Early detection and prevention is the key to a patient’s care, especially if the patients are on a path to eventually see him.

“I mostly get referrals from nephrologists,” he said. “But I would like to see PCPs (primary care physicians) refer patients as well.”

According to Gardner, one main reason PCPs aren’t making referrals is that they may not know what to look for in terms of renal function. When a CKD patient’s creatinine clearance is 15 to 30 percent, the patient needs to be referred to a surgeon as this signifies that patients have entered Stage 3 and Stage 4 of the disease.

Gardner encourages physicians to take preventative steps by monitoring the conditions that can lead to CKD — such as diabetes and hypertension. Patient education is necessary in the early stages.

## Not About Money

While a fistula may be the “gold standard” for dialysis access, it hasn’t been a gold mine for physicians.

Historically, those surgeons who have placed fistulas have made less, because Medicare paid less for them even though they are harder to perform and work better, Gardner said.

Reimbursement for fistulas is not as much as a graft or a catheter. The downside is that complications resulting from grafts and catheters can lead to more procedures to correct new problems.

However, Medicare has recently increased reimbursement of fistula placement by 30 percent which may result in an increase of surgeons who perform the procedure.

“I’m much happier doing the right thing for the patient and not compromising my beliefs that fistulas are the right thing to do,” he said. “It’s not the glamorous surgery, but my workday is done by 3 p.m., I spend more time with my family *and* I have healthy and happy patients.”

## Videoblog: Nephrologists Discuss CKD

What are nephrologists discussing in terms of CKD, dialysis and fistula placement?

Jeffrey Burns, MD, of UPenn School of Medicine produces a weekly Videoblog for Medscape Nephrology focusing on CKD and invites discussion between physicians, surgeons and nephrologists.

### AVF Access & Fistula First

This video blog looks at new clinical practice guidelines on AVF placement and maintenance.



<http://www.medscape.com/viewarticle/586615>

### Do CKD & ESRD Patients Understand Their Disease?

In this video blog Dr. Burns discusses news that most longtime patients don’t understand their disease and nephrologist play a key role.



<http://www.medscape.com/viewarticle/589268>

