

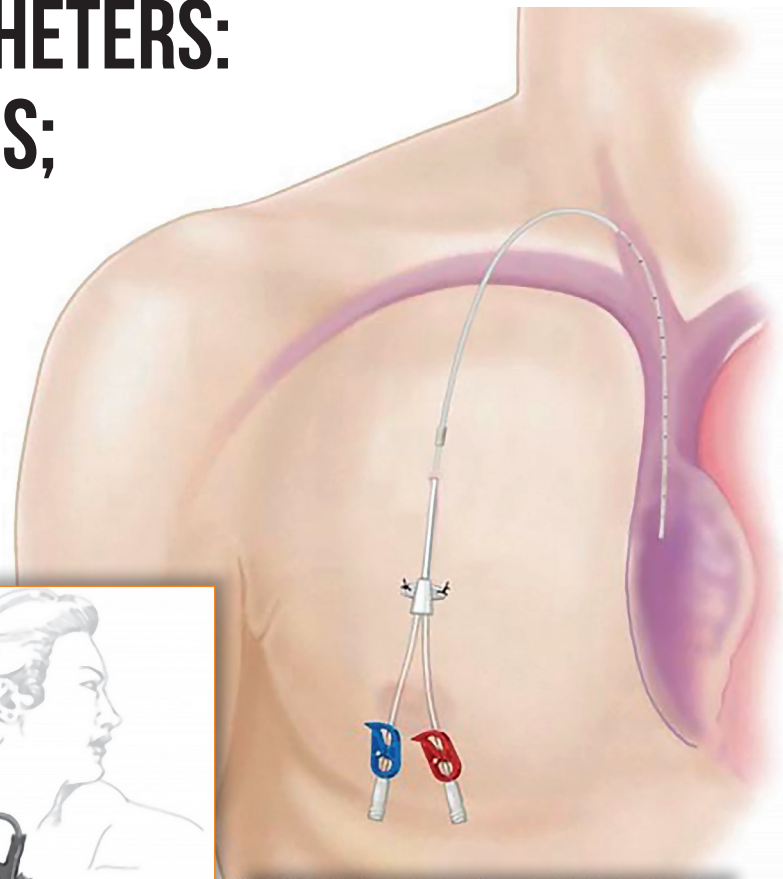
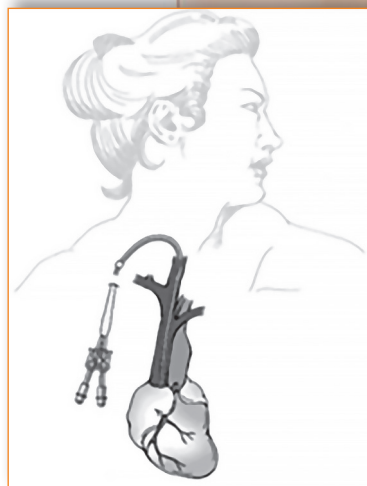
LONG TERM DIALYSIS CATHETERS: A THREAT TO YOUR ACCESS; A THREAT TO YOUR LIFE

By **Steven Curtiss, M.D., F.A.C.S.**

It is well established that the safest and most durable dialysis access is an arteriovenous (AV) fistula which is constructed by connecting a patient's artery to vein. Unfortunately, sometimes a patient's renal disease is discovered when the person is on the verge of dialysis. The progression of chronic kidney disease is unpredictable. In these situations, there may not be time for creation and maturation of an AV fistula and if the patients' preference is for hemodialysis, the patient may require a dialysis catheter. Catheters are usually tunneled under the skin of the chest wall into large veins in the neck. Dialysis catheters can provide life-saving emergency dialysis, but they also create significant short-term and long-term problems that patients should understand.

First, catheters carry a significant risk of life-threatening infection, because they provide a direct pathway for bacteria to travel from the outside world into the blood stream. In fact, one quarter of dialysis patients with a catheter as long as one year will have a life threatening infection. Since these catheters have a large diameter, they often lead to clotting or narrowing in the large veins in the neck or chest. This is significant because these veins are very important for the proper function of dialysis accesses created in the arm. So, the presence of a long term catheter may limit further dialysis options. Catheters also present a psychological barrier for patients and staff because they don't require cannulation with needles and may serve as a crutch -- discouraging the use of a recently created AV fistula.

Although temporary dialysis catheters can be lifesaving in the appropriate situation, they should be thought of as a temporary bridge to an AV fistula or graft or peritoneal dialysis catheter as appropriate. The best way for patients who prefer hemodialysis is to avoid the need for a dialysis catheter is to have an AV fistula created long before dialysis is needed. Ideally, an AV fistula can be created at least 6 months before dialysis is anticipated. This requires that the patient's veins be preserved for eventual access. All patients with any degree of renal disease (even those not even close to requiring dialysis or who prefer peritoneal dialysis or are planning a pre-emptive kidney trans-



plant), should avoid blood draws and IVs in one arm, generally the non-dominant arm or the arm opposite a pacemaker or defibrillator. This will give the access surgeon a good vein to work with. PICC lines should be avoided even in the arm that is not being saved because they often cause clotting of the veins. Furthermore, if a patient is being considered for a pacemaker, mediport or implantable defibrillator, this decision needs to be made by taking current or future dialysis access into account. The Nephrologist and Access surgeon should be part of this decision making process. Peritoneal dialysis can also be considered as a bridge until an access is mature and may be a much safer alternative or as a plan for long-term treatment for the patient.

Dialysis catheters provide a very important short term function, but patients should be aware of their high complication rates, including infections and clotting. For these reasons, catheters should not be a substitute for placement of an AV fistula or graft, better and safer forms of dialysis access. ■