The One Thing Clear About Buttonholes, is that Nothing is Clear About Buttonholes

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As a dialysis patient for past twenty-five years, I have often been encouraged to consider using buttonholes for fistula cannulation. Reduced pain, less risk to my fistula, and greater involvement in my dialysis care have all been highlighted as potential advantages. As a patient, I am well aware that many studies report positive outcomes with the buttonhole technique, whereas others warn about an increased risk of infection and questionable benefits to patients.

Although I have not personally experienced buttonhole cannulation, my position is not definitively positive or negative on this practice. Rather, my goal is to illustrate the multiple challenges that patients face in adopting buttonhole cannulation. I am going to approach this topic from my personal perspective after more than two decades in a dialysis chair.

Getting patients to understand why they need dialysis and the types of dialysis modality choices frequently monopolizes the initial conversations. Rarely is the cannulation technique presented as a priority to newly diagnosed ESRD patients. To the patient going through the stages of grief of losing their kidney function, terms such as “rope ladder” and “buttonhole” have very little meaning. As such, the term “buttonhole” enters into the patient care plan usually well after hemodialysis has been started. Thus, even though the buttonhole technique dates back to the 1970’s, many patients see it as a new idea when it is presented to them. Assuming that we have a motivated patient and an enthusiastic nephrologist/dialysis staff to promote buttonhole technique, there are still many hurdles to overcome.

Having had the opportunity of being a dialysis patient in a clinic three days a week, every week, I can say with little doubt that getting your buttonholes established is a lot easier said than done. The lack of qualified staff is a good place to start. Most clinics turn to a defined “expert cannulator” to establish a patient’s buttonhole. Having the same person with knowledge of the underlining terrain of a patient’s fistula and a consistent angle of insertion is paramount when establishing effective buttonhole sites. Unfortunately, as clinic staff varies and changes often, the availability of the same “expert” is not always a reality for the consecutive consistent needle sticks needed to establish a good buttonhole. Frequently, new staff members are not trained for buttonhole cannulation, since most patients use sharp cannulation, and the focus of training new technicians is to be independent in the area where they are most useful. My observations indicate that, since buttonhole accesses are the minority, staff members are not directed to be become “experts” at learning how to best establish buttonholes. Also, as staff turnover
is very prevalent in the dialysis industry, clinics do not have the properly 
trained staff needed to utilize this cannulation technique consistently. As a 
consequence, many clinics do not even offer buttonhole cannulation for 
treatment, let alone the ability to establish new sites.

Further complicating this issue is the ever-increasing patient-to-staff ratios, 
such that the nurses and dialysis technician have less time to give to each 
patient. This simply means that the patients wanting to start this cannulation 
technique may, at worst, not even have this option available to them, or at 
best, have to wait many months before it can be initiated.

Let us move ahead and consider the patient who is in a clinic that offers the 
technique and has dialysis staff to support it. As Forrest Gump said, “Life is 
like a box of chocolates. You never know what you’re gonna get”. Well, this is 
very true for buttonholes. As no two patients’ fistulas are the same, neither 
are their buttonholes. Blood flow, fluid status, inflammation, and metabolic 
changes are just a few of the factors that can change the nature of a fistula 
and correspondingly, their buttonholes. As such, access sites change, and 
therefore, the risk of tissue damage is always possible even with a dull 
needle. Patients believe that since the staff is not using a sharp needle, 
infiltration is not possible. This is simply not true. More often, what happens is 
far more subtle, but more adverse to the buttonhole: multiple new tracks are 
created at the same site, especially when there are different cannulators. This 
increases the risk for an aneurysm to form, jeopardizing the entire access. My 
point is that just because it may not say “sharp” on the package, it can still 
cut.

As we move ahead, we should consider patients who wish to self-cannulate 
for in-center treatments or in preparation of starting home hemodialysis. By 
my observation, most clinics require that buttonholes be utilized whenever 
possible for safety reasons for self-cannulation. As CMS looks to get 50% of 
dialysis treatments (PD and HHD) conducted outside the in-center clinics 
within the coming decade, the need to get clinics standardized on this 
technique is becoming ever more important. Unfortunately, I continue to be 
informed of the opposite being the norm. I have personally observed and 
have corresponded with many self-care patients who commonly have to work 
through a minefield of policies that change continuously, or the same policy 
that is simply interpreted differently from one administrator to the next. Many 
times, it can simply be a supply issue, where clinics may not carry multiple 
gauges of buttonhole needles or, as I have seen, run out of them altogether. 
This is difficult enough within their home clinic, but becomes often 
insurmountable when a patient wants to travel or change home clinics.
Finally, patients get a plethora of information from those who they count on most: the practitioners. I have personally observed a nephrologist and a surgeon get into a heated exchange on the use of buttonholes in front of the patient. I can only imagine, if they are willing to express their conflicting opinions in front of each other, just think what they are saying to the patient when alone.

Again, my point is not to promote or discourage the use of buttonholes, but to illustrate that the dialysis industry is not necessarily on the same page, and that many practical problems exist for patients looking to make the very best of our kidney failure.