

# Living with a Central Venous Catheter: Complications and Catheter Reactions

by Theresa Paliobeis



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**F**or the past 5 years, I have lived with a peripherally inserted central catheter (PICC) for treatment of a chronic urinary tract infection (UTI) associated with a neurogenic bladder. As a child, I experienced several kidney infections before being diagnosed with vesicoureteral reflux, a condition where urine flows back into the kidney from the bladder. The vesicoureteral reflux was surgically corrected, reducing the frequency of my UTIs. Unfortunately, later in life, I began to develop frequent UTIs despite prophylactic oral antibiotics. My condition progressed over time due to multidrug-resistant organisms and episodes of bacteremia requiring hospital stays lasting from 5-52 days, and usually required that I be discharged with a PICC to complete treatment at home. Typically, having a PICC placed is a routine procedure, but for me it was far from normal. I was plagued by complications, including occluded lines, extensive clotting, and unusual skin reactions requiring the lines to be removed or exchanged. As a patient, I didn't expect that the PICC designed to help treat my illness would cause worse complications in my care.

## Unexpected Complications

In August 2010, my first PICC was placed in my right arm by the PICC team at my local hospital for pyelonephritis treatment. Within a week, I experienced a dull pain in my right armpit. My doctor directed me to the hospital's emergency department where ultrasound confirmed an upper extremity deep vein thrombosis (DVT) around the PICC. Because I still had a UTI requiring intravenous antibiotics, I was readmitted to the hospital and treatment was administered through a peripheral intravenous line. The PICC was removed, the clots were treated, and another PICC was placed. Having a complication with my first PICC was stressful and completely unexpected. I never imagined the complications that I would experience in the future!

I was consistently developing PICC-associated blood clots, requiring that I be placed on blood-thinning medication. This added stress to an already difficult situation because the medication was affected by my diet and the various antibiotics that I

was infusing. Because my antibiotics were changed frequently, the blood-thinning medication dosing required frequent testing and adjustment to ensure my blood levels were appropriate.

During 2010 alone, I had 6 PICCs placed in my arms. Each was removed due to a complication. These complications included blood clots, occluded lines, concerning skin rashes, and drainage from the PICC site, all requiring medical attention or hospitalization. Occasionally, drainage from the site kept the dressing wet, and worsened these painful skin rashes. To complicate matters, I have several drug allergies and adhesive sensitivities that caused episodes of full body hives, and worse reactions near the PICC site. Although I never had an infected PICC, I have had many bloodstream infections associated with the chronic UTI. Consequently, with a positive blood culture, each PICC would be removed for fear of line colonization. This cycle of having a PICC placed, developing a complication, then being readmitted to the hospital continued for years.

## Trial and Error

Multiple PICCs and DVTs caused extensive vein scarring, which made it increasingly difficult for the PICC team to place peripheral lines at the bedside. Future PICCs were then placed in the hospital's interventional radiology department under fluoroscopy, a slightly more stressful procedure. It was apparent that PICC access was particularly difficult for me, but without an explanation or a solution. As this cycle and the subsequent complications continued, peripheral catheters were no longer possible, even with fluoroscopy.

Due to extensive scarring in my arm veins, my radiologist recommended a tunneled catheter, an invasive procedure where the line is tunneled under the skin in the chest into a neck vein. The goal was to reduce the reactions by putting the catheter into a large vein with better blood flow. Sadly, the complications continued—as did the hospitalizations required to treat them and the serious UTIs that I was also experiencing. At 1 point, my medical team tried a port with the hope of de-accessing it to allow some freedom. This was a poor option, lasting only 2 months. A bloodstream infection



**Figure. Steve, Theresa, and Andrew Paliobeis, 2015.**

associated with pyelonephritis required removal of the port to prevent colonization.

During the past 5 years I have been admitted to the hospital more than 25 times with life-threatening illness, many of which were directly related to central catheters. Occluded lines, DVTs, and severe skin reactions were common problems, even with tunneled catheters. Occasionally, the line would become occluded due to excess fibrin buildup. Other times, the catheter would work properly, but there would be drainage from the site requiring frequent dressing changes. Changing the catheter dressing and cleaning the site was painful and usually resulted in the irritation requiring medical attention. Doctors usually could not explain the weird skin reactions, but many automatically assumed that the line was infected, and would recommend hospital admission. The cycle of removing and culturing the catheter, treating the skin irritation, waiting for the cultures to come back negative, and then placing a new line became way too familiar.

During 2013 alone I was hospitalized 8 times for multiple episodes of bacteremia and complications with my catheter. This was the worst year ever. The hospitalizations typically lasted 10-21 days, but the final hospital admission of 2013 lasted 52 days. Every aspect of my life was affected. I spent my birthday, Mother's Day, Memorial Day, my son's high school graduation, Father's Day, my husband's birthday, my wedding anniversary, Halloween, and Thanksgiving in the hospital. I have always had a positive outlook on life. I tend to accept the challenges and keep going, but this was difficult. I am just an average person who enjoys being active and spending time with my family. Living with these catheter complications made doing the things that I love to do very difficult.

In late December 2013, following a 52-day hospitalization, I was discharged with a tunneled catheter. Within days, I developed a reaction at the catheter insertion site. This reaction was severe, the site was draining, inflamed, and becoming

ulcerated. I consulted my radiologist, who monitored the situation. Despite his attention over the next few weeks, the situation worsened. It was very painful, and I feared a line infection. My infectious disease doctor cultured the site several times, but cultures were negative. It wasn't infected. My doctors suspected that my body was actually rejecting the catheter.

#### **No Other Options**

Finally, in January 2014, the catheter reaction was so concerning that doctors feared there was no other option for intravenous access. My radiologist suggested a new catheter that was not used in his hospital, but that he had researched. He explained that this new catheter did not have antibiotic or chemical coatings on the surface, but was made with Endexo technology (AngioDynamics, Latham, NY) that has been shown to reduce clot formation. We hoped that it might also help the hypersensitivity-type reactions that I was experiencing. I knew that long-term intravenous access was necessary to control the chronic UTI, so I agreed to try the new catheter, with no guarantee.

The new catheter with Endexo technology was placed in January 2014. Amazingly, as the days, weeks, and months passed, I had none of the reactions that I had been experiencing on a regular basis. My radiologist exchanged this catheter after several months and was impressed to see that the catheter was completely inert, as if my body did not recognize the material as a foreign object. In fact, he noted that there was no fibrin buildup on the line. More impressively, he confirmed with ultrasound that there was no evidence of clotting or scarring in the veins where the line had been. Clearly this new line was different. It has been more than 18 months and I've had no catheter complications. Because of this new catheter, my treatment is under control. Life is so stable that my husband and I traveled to Europe and we've gotten back to enjoying time on our boat with family (see the [Figure](#)) . . . things are looking up!

I share my story for a few reasons:

- 1) For other patients that might read this, be sure to document your complications. This helps to tell your story and show trends that can be helpful to your doctor.
- 2) For health care providers, I wanted to share what it is like to live with these complications. Help guide patients in tracking and understanding their complications over time.
- 3) For patients and health care providers, know that sometimes the solution is a product or treatment not used at your hospital. Consider new technology for those

patients who tend to experience multiple complications. My doctors did, and for that, I am extremely thankful!

*Theresa Paliobeis lives a very active life in Mentor, Ohio with her husband and son. She has a Bachelor of Science in Engineering and is very involved in her health care. She loves helping others and is always willing share a smile.*

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