

## Answers To Questions asked during the WOCOVA: Meet the Experts session of January 19, 2021

Answers by Dr. Pittiruti

### **Is the catheter to vein ratio only for PICC or also for peripheral intravenous lines?**

The catheter to vein ratio is important for any central or peripheral venous access device.

### **Cuáles es el paquete ideal para realizar el seguimiento de los catéteres y prevenir las infecciones??**

La respuesta sería demasiado larga. Puede consultar el Manual GaVeCeLT de PICCs y Midline editado por Pittiruti y Scoppettuolo (también disponible en español).

### **What is your experience with anti-thrombogenic PICC lines and outcomes to reduce thrombosis?**

We have never used anti-thrombogenic PICC. Using our GAVeCeLT bundle for prevention of catheter-related thrombosis, our rate of PICC-related symptomatic thrombosis is <2%. I do not think that anti-thrombogenic PICCs can get better than this; and if they should, considering they are very expensive, I wonder whether they would be cost-effective.

### **In our pediatric hospital, we implant polyurethane CVCs since 01-2019, before we used silicone. Since then, it seems like the Alteplase administration rate to treat malfunction is going up. Is this a known problem with PU CVC's?**

We had the opposite experience: since we use exclusively power-injectable PU catheters, the incidence of lumen occlusions went down. We practically have no irreversible occlusion. Please consider that the great advantage of power injectable PU catheters is that you can attempt dis-obstruction with small bore syringes (2ml), which exert a pressure of approximately 200 PSI. With a 10 ml syringe, the pressure is approximately 50 PSI. This means that you have 4 times more chances to solve the occlusion by hydraulic means. We use Alteplase or urokinase very rarely (only in some occlusions of totally implantable devices).

### **I notice the use of an adhesive securement device + Subcutaneous anchor. Please explain the use of both.**

We sometimes add the adhesive securement device in pediatric patients to avoid torsion or other mechanical trauma to the catheters (in children we often use 3Fr) and avoid traction of the SecurAcath on the skin.

### **My question is specific to bundle of PPE for peripheral/central line. Is there any additional change of PPE related to PIVC or central access during C19 pandemic? eg. reduce risk C19 spreading**

Long answer. Please check the paper by Scoppettuolo et al. (Journal of Vascular Access 2020, open access) and the paper by Pittiruti, Pinelli et al. (Critical Care 2020, open access).

### **What is your opinion about CHG gel pad dressings (not the CHG sponge).**

We do not use it. We had a lot of severe skin lesions associated with CHG gel pad dressings, particularly in patients with perspiration. This is no surprise, since there cannot be any transpiration of the skin area covered by the gel pad. As a matter of fact, even if the rest of the transparent membrane is semipermeable, the gel pad is completely impermeable. We prefer to use transparent membranes of very high transportability, associated with sponge dressing (which very high capacity of fluid absorption).

### **What is advantage of inserting PICC via cephalic vein instead of basilic or brachial vein?**

No advantage. We do it only in exceptional occasions, usually in very obese patients.

**Can we avoid the gauze pad between the skin and subcutaneous securement sutureless devices?**

Yes, of course. We have started to use it neonates, since we were concerned about the potential pressure damage of the device over the skin. But I do not see it as necessary.

**Have you had any failures of the SecurAcath, that is any accidental removal of the catheter?**

Yes of course. Out of thousands of patients with SecurAcath, we have some accidental dislodgments, almost exclusively in non-collaborative, aged patients with cognitive disorders. In these patients, you should consider associating SecurAcath with a 'smart' choice of the exit site (on the back, as my friend Matt Ostroff does, or at mid-thigh, as we frequently do).

**Has any of the experts used or currently using KiteLock in PICCs?**

Not yet. Though, the results of the two clinical trials recently published on JPEN and JVA look very promising.

**I am seeing gauze under the transparent dressing at the insertion site on many of your central line pictures. With the gauze present, is the dressing being changed in 48 hours? Or is the dressing left in place for 7 days?**

As long as the gauze does not obstruct the visualization of the exit site, we change the dressing every 7 days.

**Is it necessary to reinsert cyanoacrylate glue after a week, for example?**

It is possible, not necessary. We do not do it. We always apply cyanoacrylate at the time of insertion, and at the first dressing change after 7 days we apply a CHG releasing sponge dressing (if the catheter is not tunneled).

**Dr. Pittiruti, what do you think about dressing change procedural kit?**

They should be adopted always and everywhere.

**Do the presence of reverse tapering might be responsible for possible sub optimal securement of the PICC to the device?**

Not in our experience.

**How do you manage those who develop hypersensitivity to the metal feet of the SecurAcath?**

The metal of SecurAcath is nitinol (a metal alloy of titanium + nickel). There is no known case of allergy to nitinol, and no known case of cross-allergy between nitinol and nickel. SecurAcath can be used safely also in patients with nickel allergy. The American Association of Cardiology has approved the use of nitinol coronary stents in patients with nickel allergy!

**When using glue how do you ensure removing? clinicians know glue has been used and what precautions are required when removing the PICC when glue has been used**

We do not remove the glue. The glue falls off after 7-10 days. Also, glue gives no problem during removal of the catheter.

**But sponge dressing will block the site and prevent visibility???**

Yes, but the benefit of the sponge dressing in preventing infection is so certain and so relevant that while the sponge dressing is in place it is reasonable to monitor the conditions of the exit site by palpation only, and not by palpation + visualization.

**Do you believe that nowadays there is an indication for cuffed catheters?**

I really do not know. In our hospital, 99% of cuffed catheters have been replaced by non-cuffed, tunneled catheters secured with SecurAcath.

**Do you insert totally implantable catheters in neutropenic patients (<500)?**

No. This is a well-known contraindication to placement of totally implanted venous access devices.

**Do you have experience using SecurAcath with a silicone tunneled catheter?**

No experience. We have abandoned silicone tunneled catheters in our hospital since at least a decade. They are antiquate and must be replaced by power injectable polyurethane catheters.

**Why not SASS and glue on all patients as the best starting point? Securement plus sealant.**

I agree. This is the future, I think.

**Glue is not available in our country, is there any other option?**

From your name, I suspect you are either from Brazil or from Portugal. In both these Countries (and in every Country I know, as long as there is a minimal surgical activity), glue is certainly available. In fact, the glue we use for venous access is exactly the same glue used in surgery (typically in the emergency department) for closure of small wounds.

**Regarding education is there any recommendation in terms of number of supervised catheter insertion to be considered "competent" to do the catheter insertion?**

It is not a matter of quantity; it is a matter of quality. Competency is achieved when you are able to do the maneuver following closely all the steps of the checklist. Please check the WoCoVA consensus on this subject (Moureau et al, British Journal of Anesthesia 2013).

**What's better: to nick or pre-dilate the insertion place?**

In the pre-glue era, I would have answered 'to pre-dilate'. In the current 'glue era', both options are ok, as long as you apply glue on the exit site.

**When you talked about glue, do you use the Dermabond to close the incision or the TA?**

When I talk about glue for venous access, I talk about cyanoacrylate. You can use (a) butyl-cyanoacrylate, (b) octyl-cyanoacrylate, or (c) butyl-octyl-cyanoacrylate. Dermabond is octyl-cyanoacrylate and is ok, but it is not the best, since it requires more time to dry up.

**We use cuffed tunneled CVC's + StatLock. What would be the advantage of subcutaneously anchored securement devices compared to StatLock? Some pediatric patients have CVC's for >2 years, can the anchorage securement device stay in situ for so long?**

If you use cuffed catheters, the securement device should be left in place only temporarily (for the three months); in this regard, SecurAcath is more cost effective than utilizing 10-12 Statlock in a row. The real question today is if we can avoid cuffed catheters and replace them with non-cuffed tunneled catheters secured with SecurAcath. Our experience suggests that this is possible. We had non-cuffed tunneled catheters secured with SecurAcath that stayed in situ (in pediatric patients) for more than 18 months.