

Current recommendations for venous access devices in the extra-hospital setting

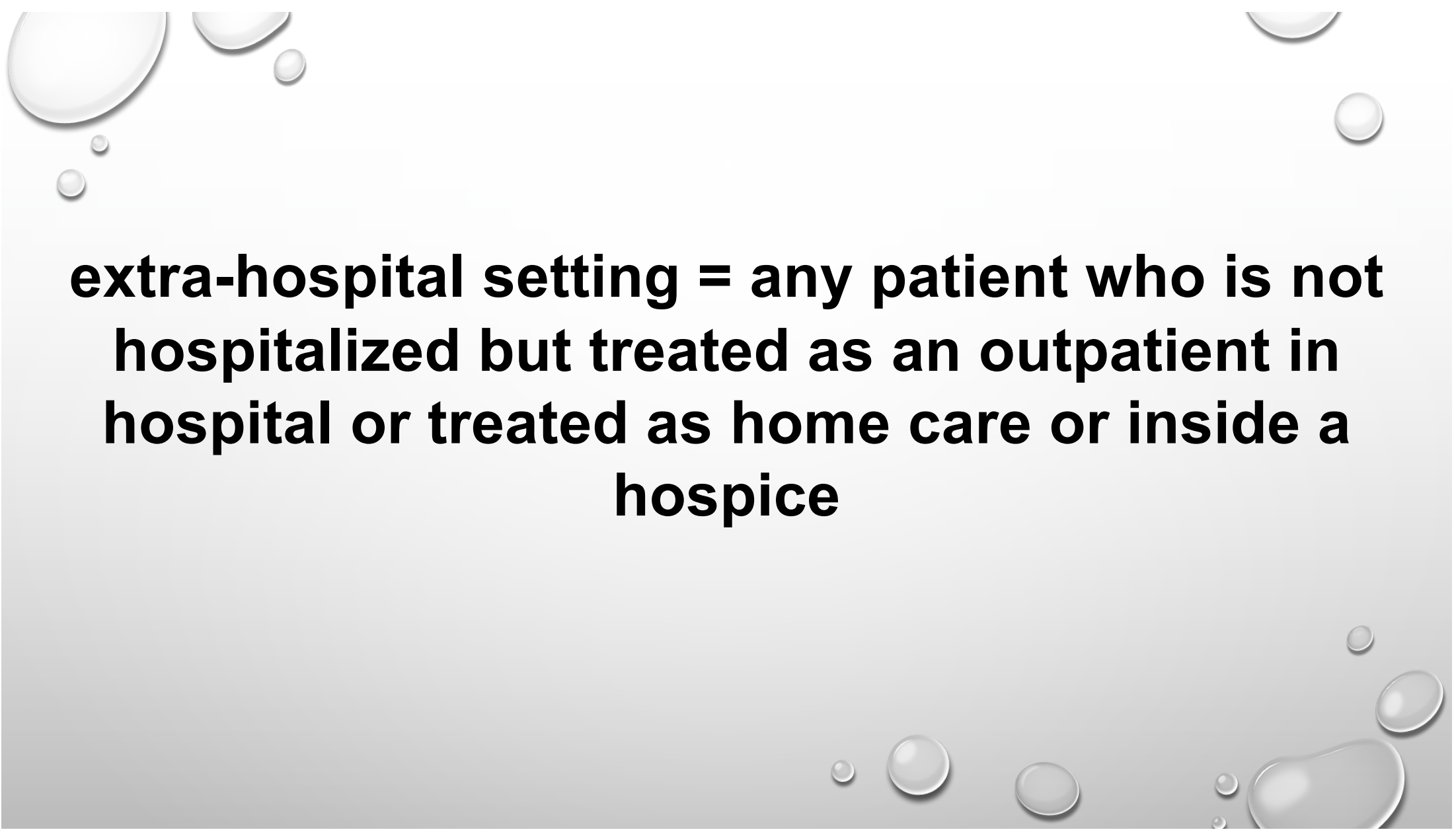
Evangelos A. Konstantinou RN, MSc, PhD

Professor of Nurse Anesthesiology and Vascular Access

National and Kapodistrian University of Athens, School of Health Sciences, Dept. of Nursing.

Head of the Vascular Access University Laboratory. Agii Anargiri Oncology Hospital and Evgenidion University Hospital

Wo.Co.VA Fully Certified PICC Instructor



**extra-hospital setting = any patient who is not
hospitalized but treated as an outpatient in
hospital or treated as home care or inside a
hospice**

The image features a light gray background with a subtle gradient. In the corners, there are several realistic water droplets of various sizes, some partially cut off by the edges. These droplets have highlights and shadows, giving them a three-dimensional appearance. The text is centered in the middle of the frame.

So, what do we have today?

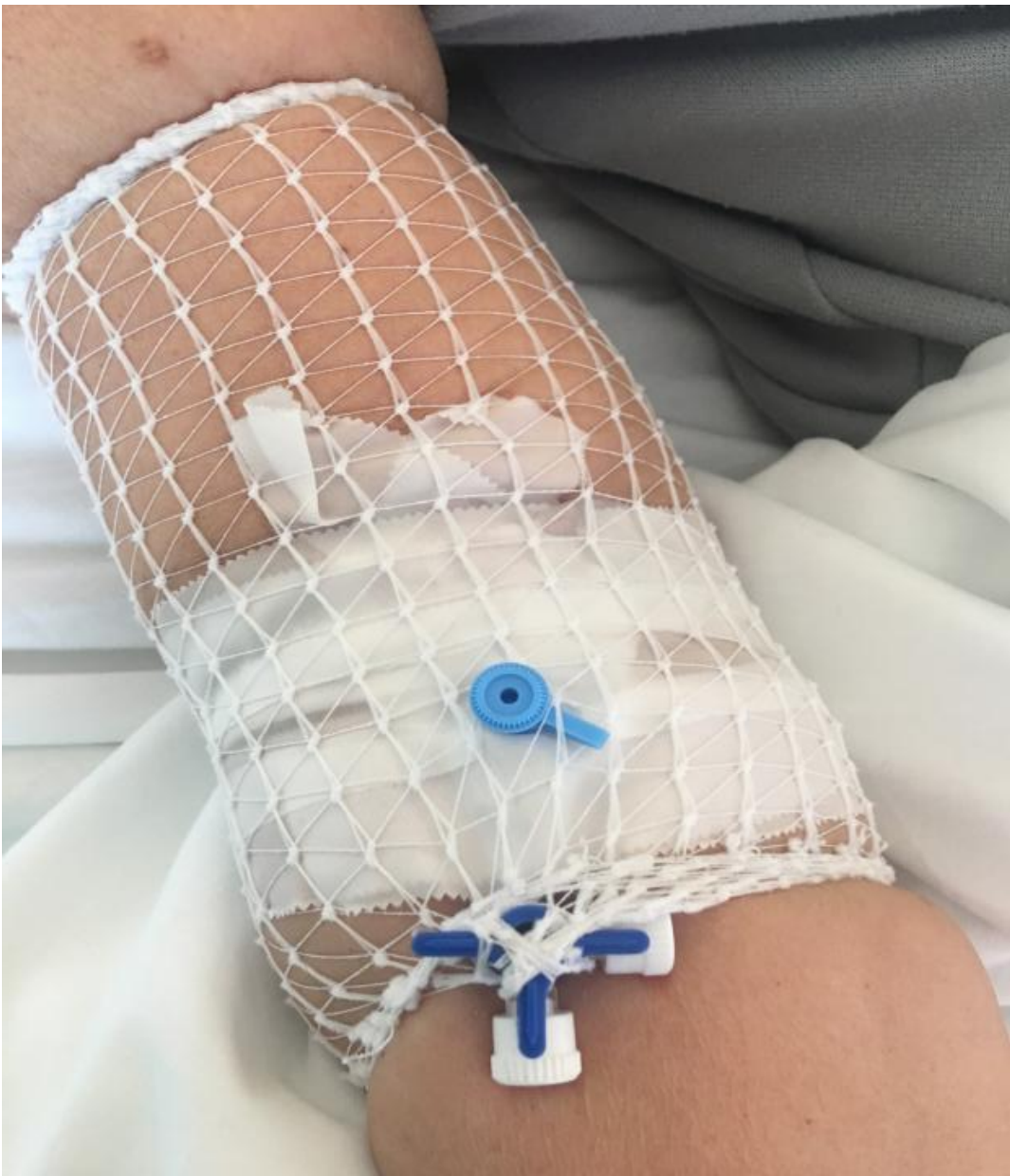
PIVs

Reducing peripherally inserted central catheters and midline catheters by training nurses in ultrasound-guided peripheral intravenous catheter placement.

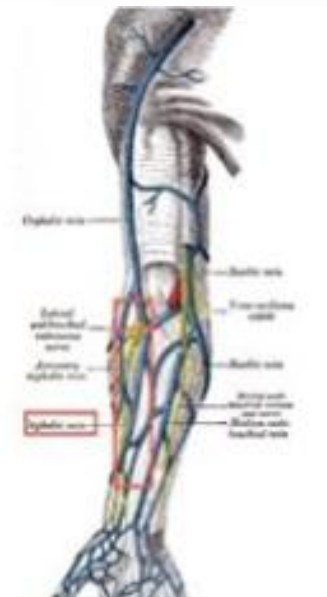
[Galen B](#)¹, [Baron S](#)², [Young S](#)³, [Hall A](#)³, [Berger-Spivack L](#)³, [Southern W](#)².

[BMJ Qual Saf.](#) 2019 Oct 3. pii: bmjqs-2019-009923. doi:
10.1136/bmjqs-2019-009923. [Epub ahead of print]





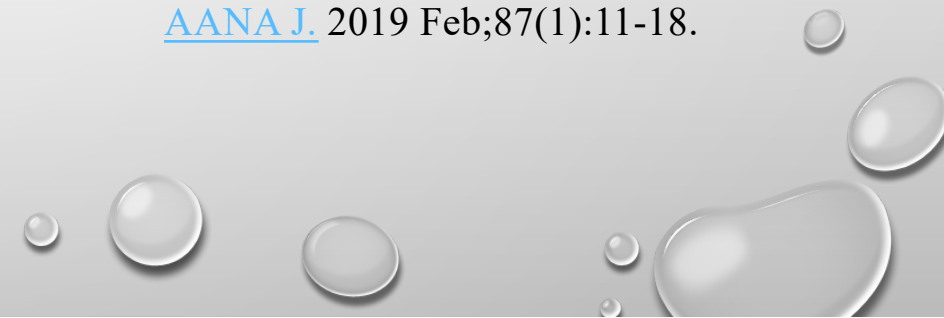
"Iatrogenic venopenia: The acquired loss of suitable peripheral veins for the purpose of delivering IV therapies as the result of myopic use and damage sustained in the healthcare setting. VEINS ARE NOT A RENEWABLE RESOURCE" ~ Darilyn Ruth



Development of a Training Program in Peripherally Inserted Central Catheter Placement for Certified Registered Nurse Anesthetists Using an N-of-1 Method.

[Ostrowski AM](#)¹, [Morrison S](#)², [O'Donnell J](#)³.

[AANA J.](#) 2019 Feb;87(1):11-18.



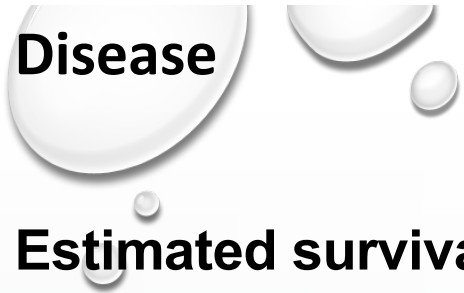


C r i t e r i a



The image features a light gray background with a subtle gradient. In the corners, there are several realistic water droplets of varying sizes, some partially cut off by the edges. These droplets have highlights and shadows, giving them a three-dimensional appearance. The word "Patient" is centered in the middle of the image.

P a t i e n t



Disease

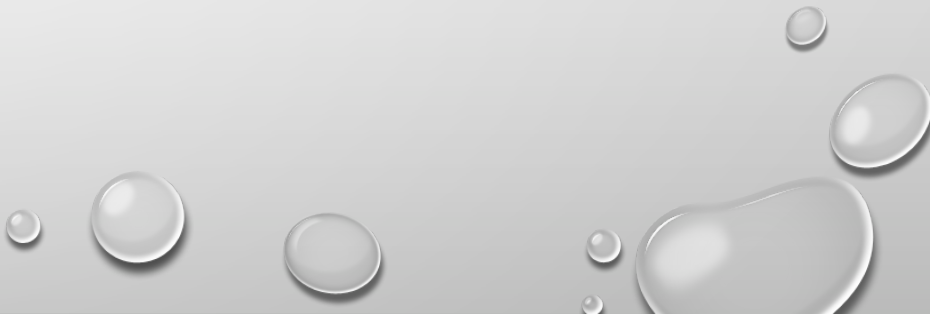
Estimated survival (short term – long term), Age, special conditions

Terminal stage patients or patients for example with short bowel syndrome

Patient's decision

Patient's environment and family support

Home care services



Patient's access to the hospital



Tristina Lin

August 7

Can I goto my local er to get
my picc line removed? I have
no transportation to my dr.
Shes pretty far.

19 Comments



Like



Comment

View 10 more comments



Emma Thornton Go to the ER it's safer

Like · Reply · 14w



1



Nicole Jones Hayes To save money call around and see if an
urgent care can do it, cheaper

Like · Reply · 14w



1

Allie Dela replied · 1 Day

Patient's ability to cover any further costs if not covered by other resources



Radka Geserick

November 11 at 11:40 PM

What to do if nurse at hospital pulled my PICC line out by accident during procedure that had nothing to do with my PICC line that I had 1.5 year. Now everybody at hospital is lying that my doctor told them so. I called him and he said he never did they lie to protect themselves but doesn't know what to do. I am getting very ill no idea what to do. Just going around hospitals now



27 Comments



Like



Comment

[View 5 more comments](#)



Allie PeLe Hospital that pulled it should have to pay to replace it. This is why NO ONE touches my line without my direct permission. It is ok to be possessive of it!

Like · Reply · 5d



Allie PeLe replied · 4 Replies



Luna Raven Winchester

August 12

I am in desperate need of sterile saline flushes and CVC dressing kits. I can pay shipping ASAP

I'm in yet another battle with my insurance company and I have one flush left and one tegaderm left and I don't have these things I need for my CVC picc/power Hickman line. I'm starting to get anxiety. I can't afford to buy them outright as I'm on disability and I'm barely able to afford living as it is. If you can be of help please send me a message.

Thanks in advance.

18 Comments



Like

[View 5 more comments](#)



Mialiat S. Rejwan Guys, sterile saline is considered prescription. We can't be sending/giving it out 😞

Like · 13w



Tess Bridget replied · 7 Replies



Emily Johnson

August 7

Ugh! I'm teacher so my insurance goes from September to August. I just found out that in June I reached my maximum nurse visits!(60) I talked to insurance and they said it's a hard rule. They suggest going to the ER for dressing changes. What the heck?!? They'll pay the small fortune each week, but not the \$105 for the clinic visit. I used to do my own dressing changes. But don't anymore due to issues. So irritated right now!



1

9 Comments



Like



Comment



Jessie Long I would be careful going to the er for dressing changes. Some insurance companies won't pay for er visits unless it's life threatening. They tell you to go to a walk-in. I know that walk-ins won't change the dressing but before you go to the er go to a... [See More](#)

[Like](#) · [Reply](#) · 14w



Emily Johnson replied · 4 Replies



Jessica Billman Can you get home care and have a nurse do it at your house? Nurse visits in clinic and nurse visits at home are 2 separate things with my insurance.

[Like](#) · [Reply](#) · 14w



Emily Johnson replied · 3 Replies



Secret of success

Real time ultrasound guidance

Subcutaneous route



CHEST PORTS

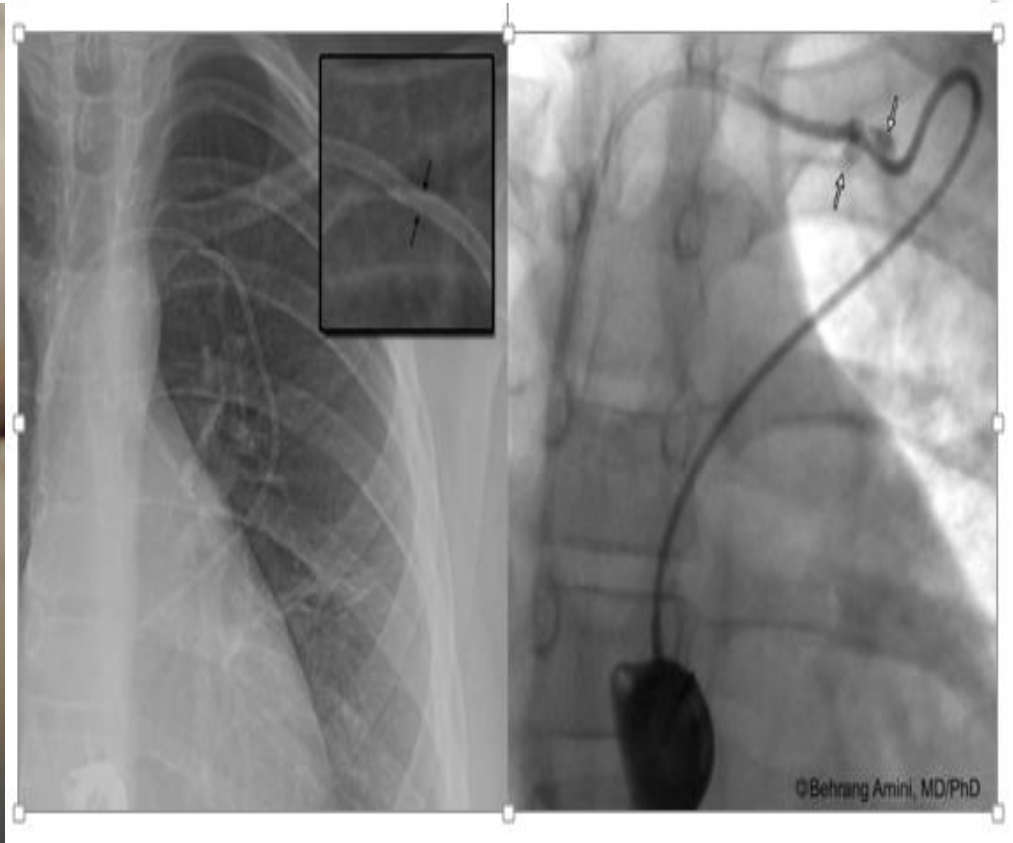
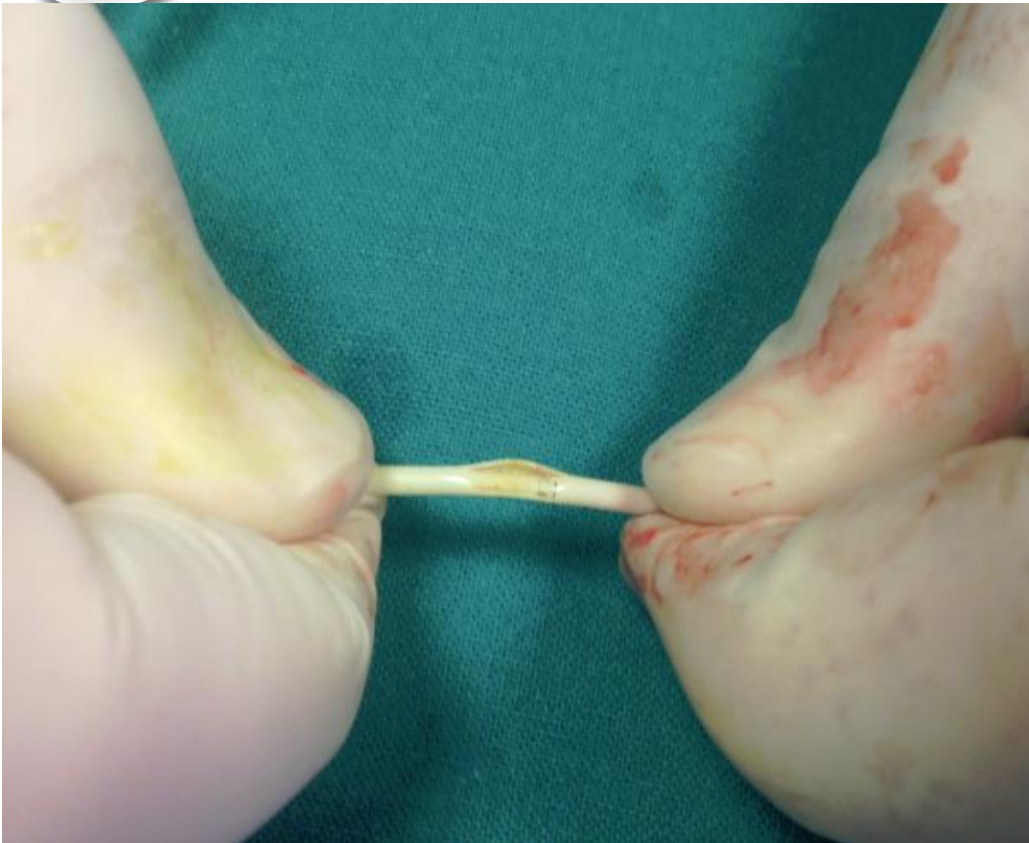
Patients can easily access
the port even alone

Risk of accidental
dislodgement and /or
subcutaneous
administration –
extravasation

Comfort

Difficult intervention can't
be performed at home





Pinch off syndrome





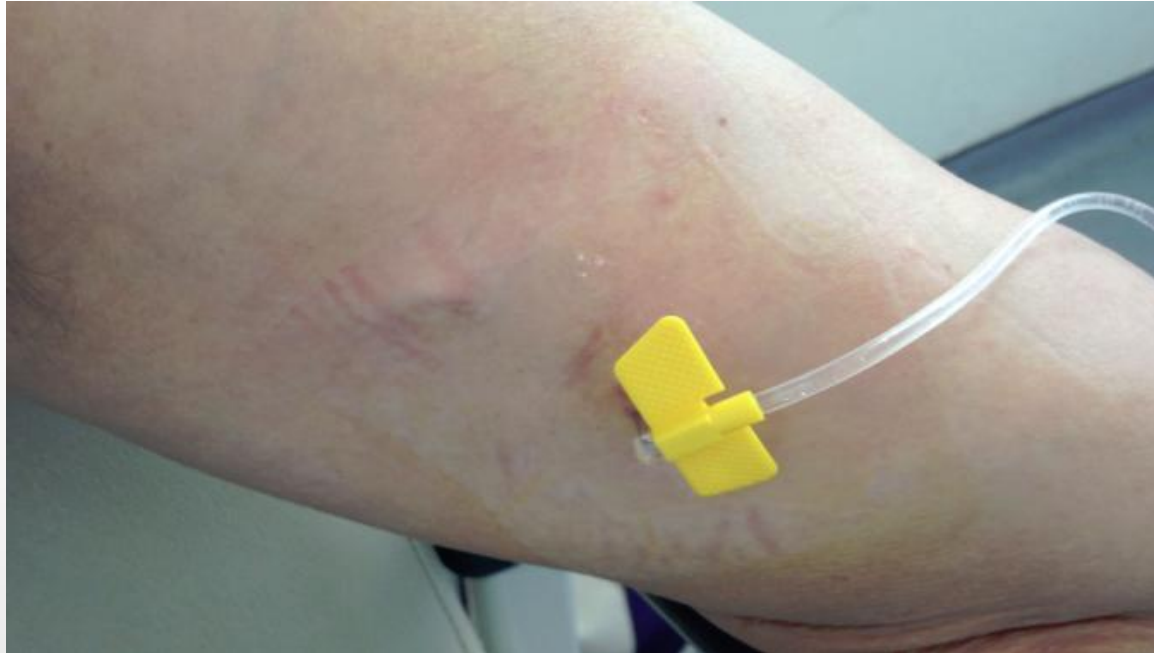
Patients can easily access the port without help

Risk of accidental dislodgement and /or subcutaneous administration – extravasation

Comfort

Difficult intervention. Can't be performed at home





PICC PORTS



Patients can't access the port without help

Risk of accidental dislodgement and /or subcutaneous administration – extravasation

Comfort

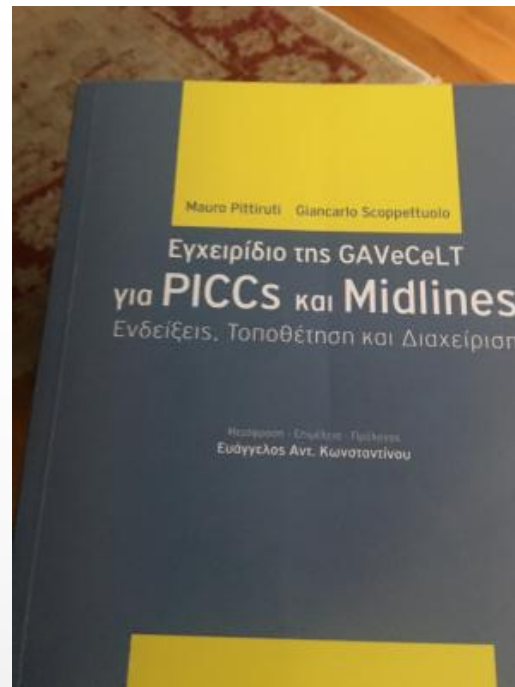
Difficult intervention. Can't be performed at home



J Infus Nurs. 2019 Nov/Dec;42(6):283-287. doi: 10.1097/NAN.0000000000000344.

A Comparison of 2 Venous Puncture Sites for Peripheral Implanted Ports.

Katsoulas T¹, Kapritsou M, Alexandrou E, Bastaki M, Giannakopoulou M, Kiekkas P, Stafylarakis E, Konstantinou EA.



Midlines



Power injectable

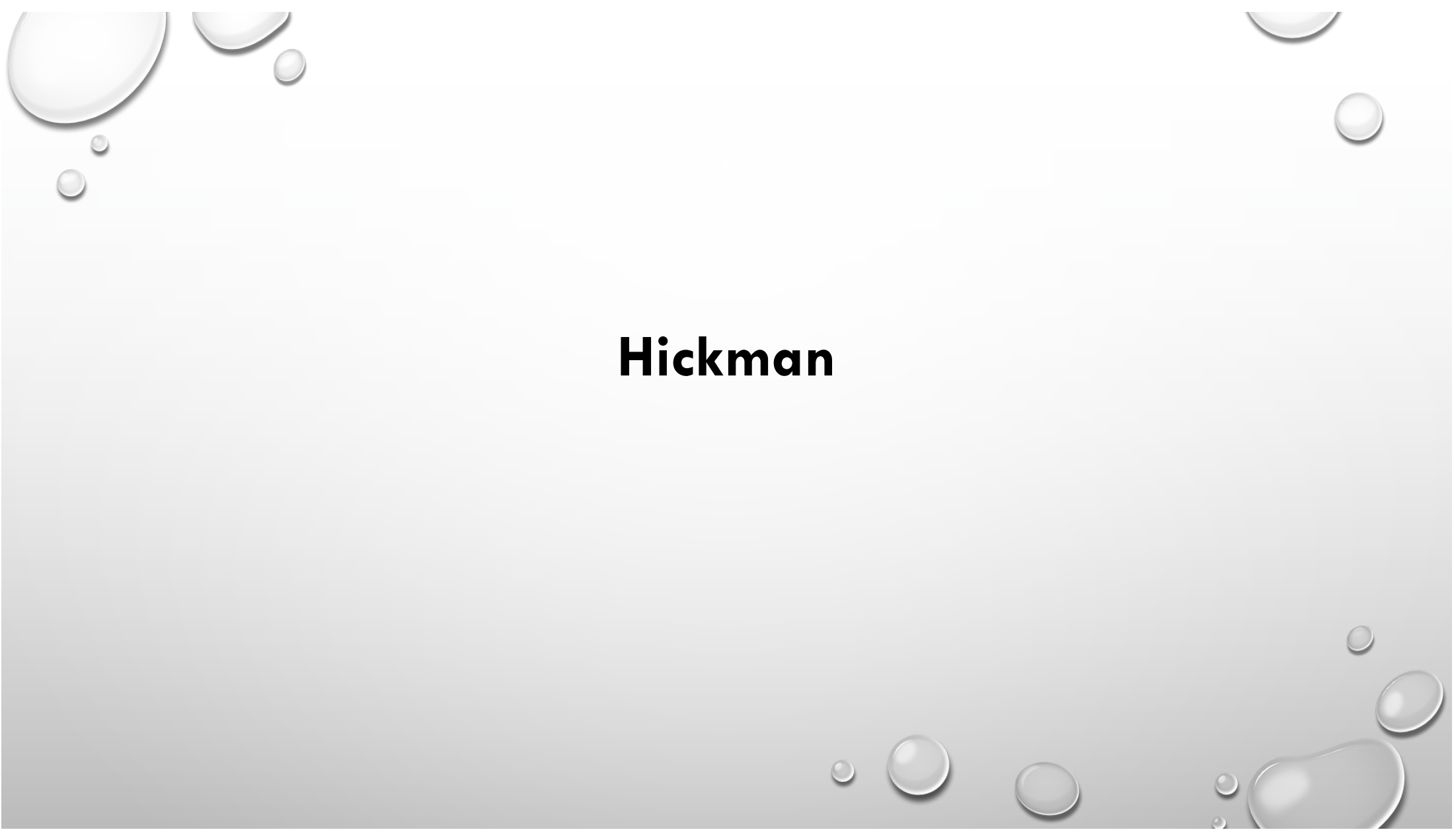
Blood samples

Durance of the IV therapy

Need for real time US guidance

Performance of the device



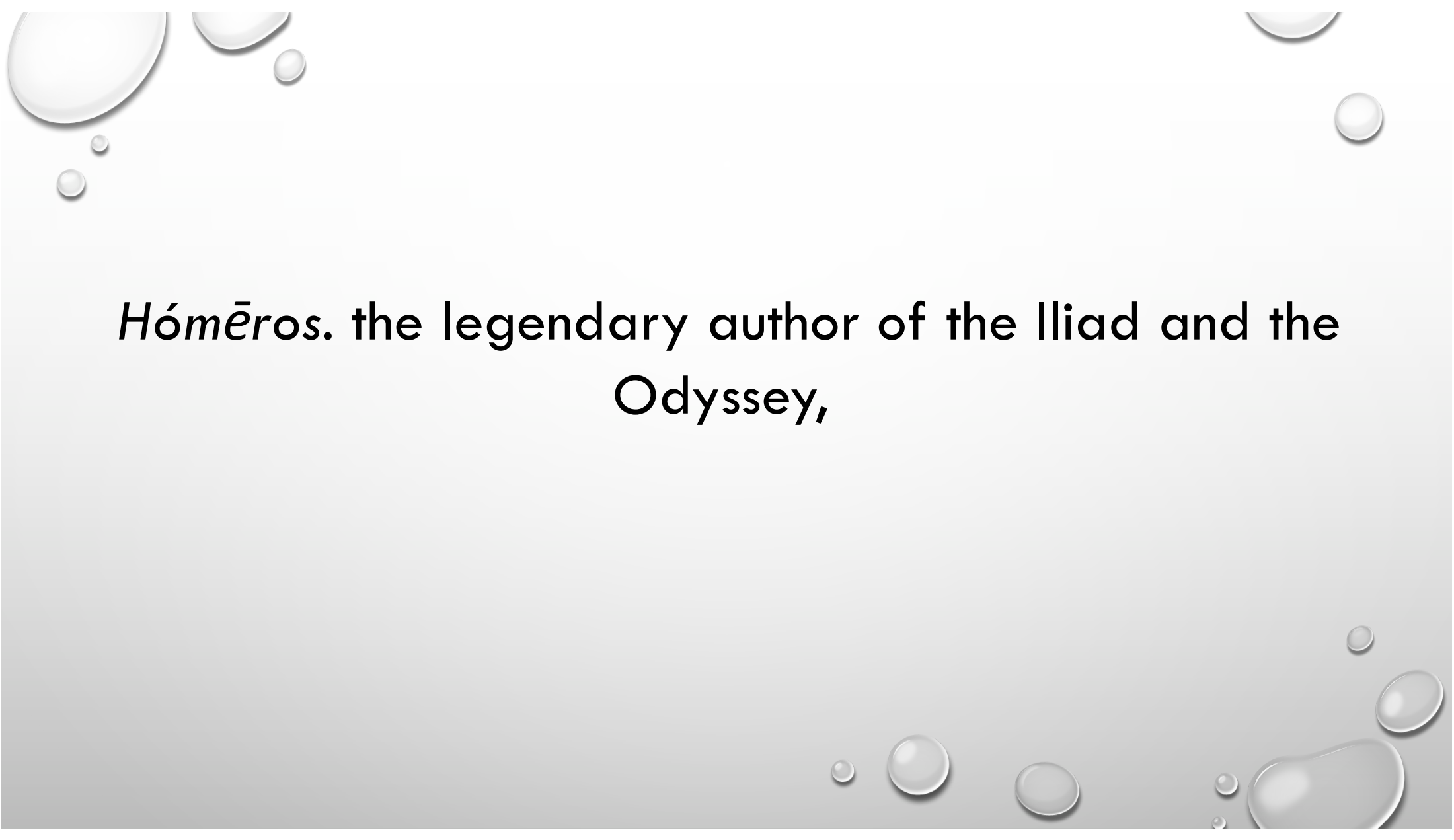
The image features a light gray background with a subtle gradient. In the top-left and bottom-right corners, there are clusters of realistic water droplets of various sizes, rendered with soft shadows and highlights to give them a three-dimensional appearance. The word "Hickman" is centered in the middle of the page.

Hickman

Clin Nutr. 2016 Aug;35(4):912-7. doi: 10.1016/j.clnu.2015.06.009. Epub 2015 Jul 28.

Comparison of complications associated with peripherally inserted central catheters and Hickman™ catheters in patients with intestinal failure receiving home parenteral nutrition. Six-year follow up study.

Christensen LD¹, Holst M², Bech LE³, Drustrup L³, Nygaard L³, Skallerup A³, Rasmussen HH², Vinter-Jensen L².

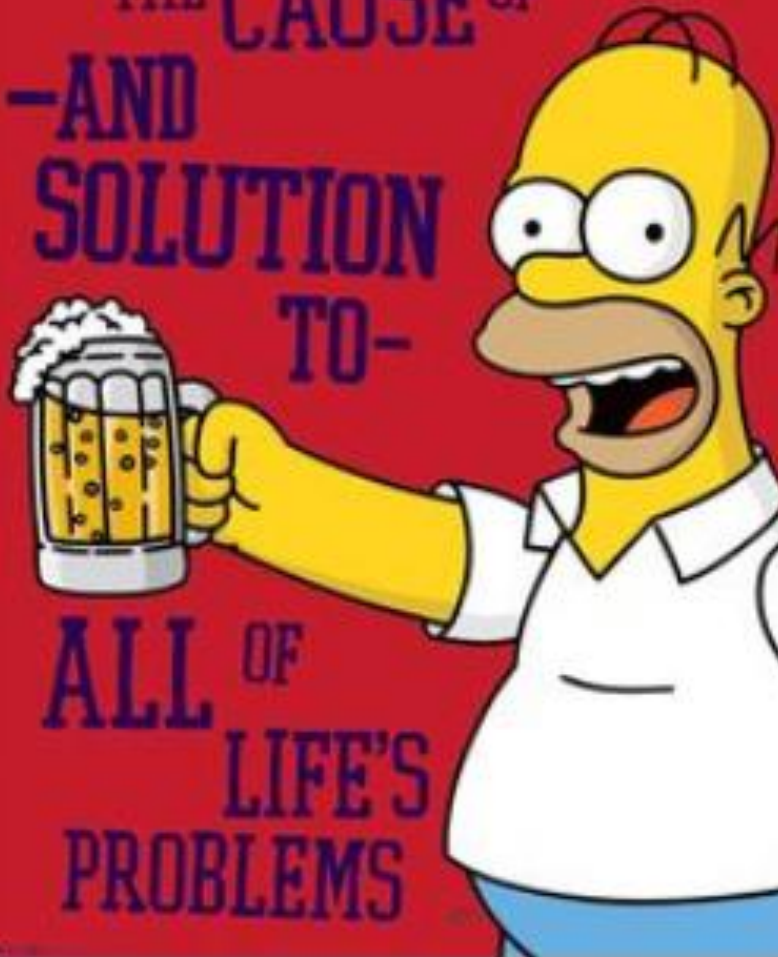
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Hómēros. the legendary author of the Iliad and the
Odyssey,

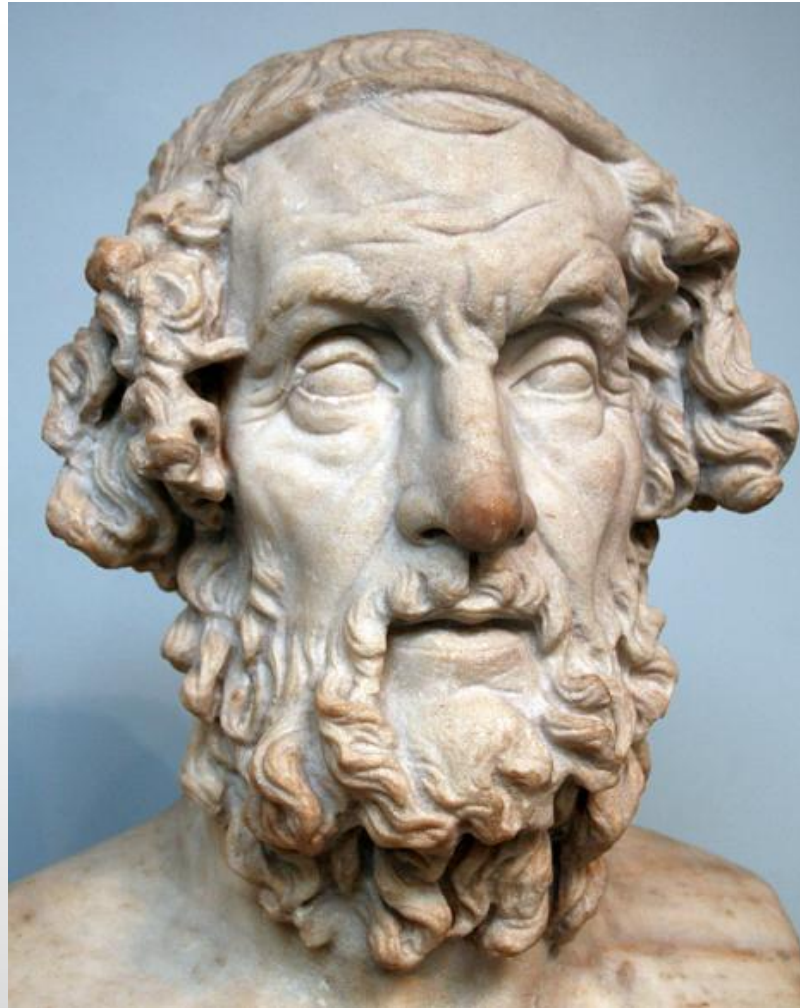
To Alcohol!

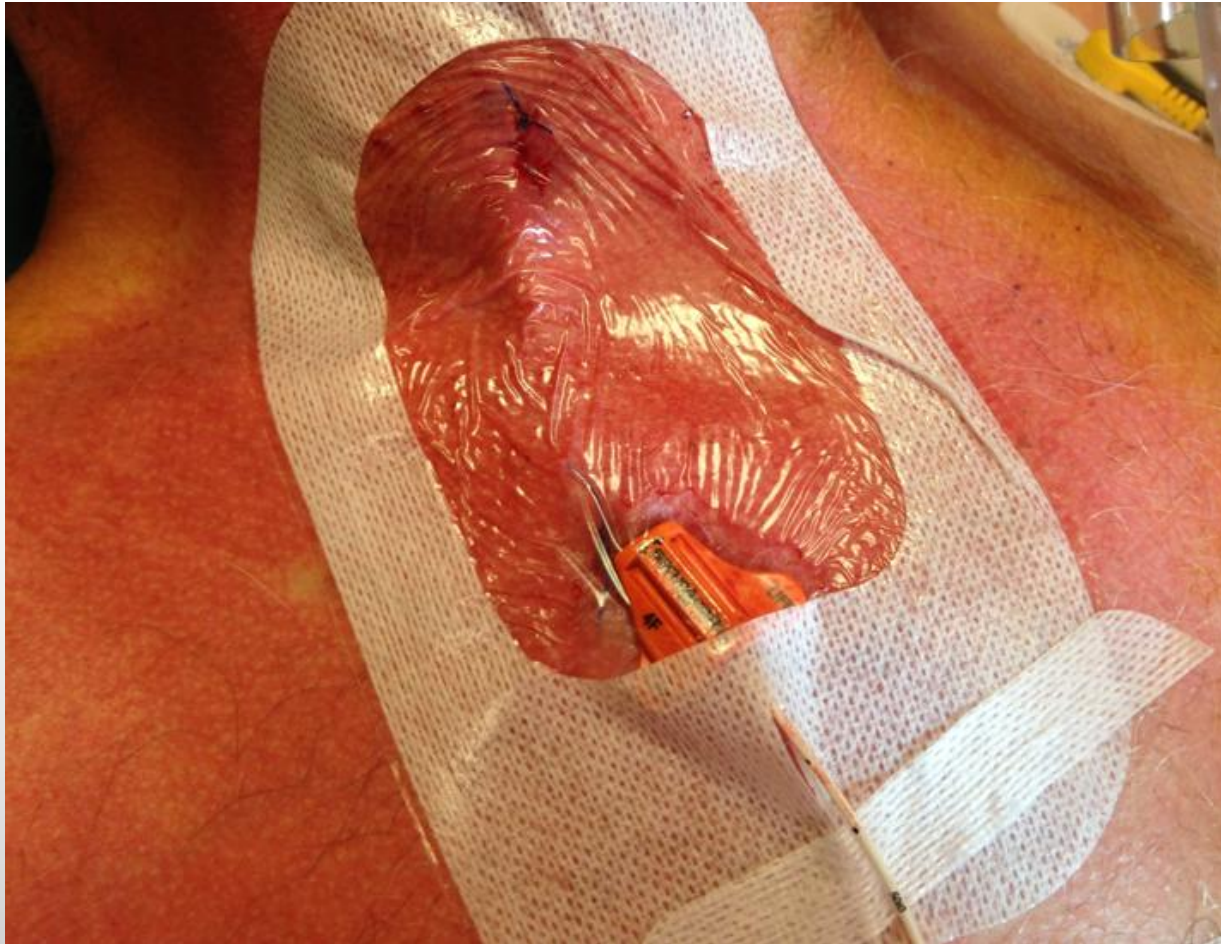
THE CAUSE OF
-AND
SOLUTION
TO-

ALL OF
LIFE'S
PROBLEMS



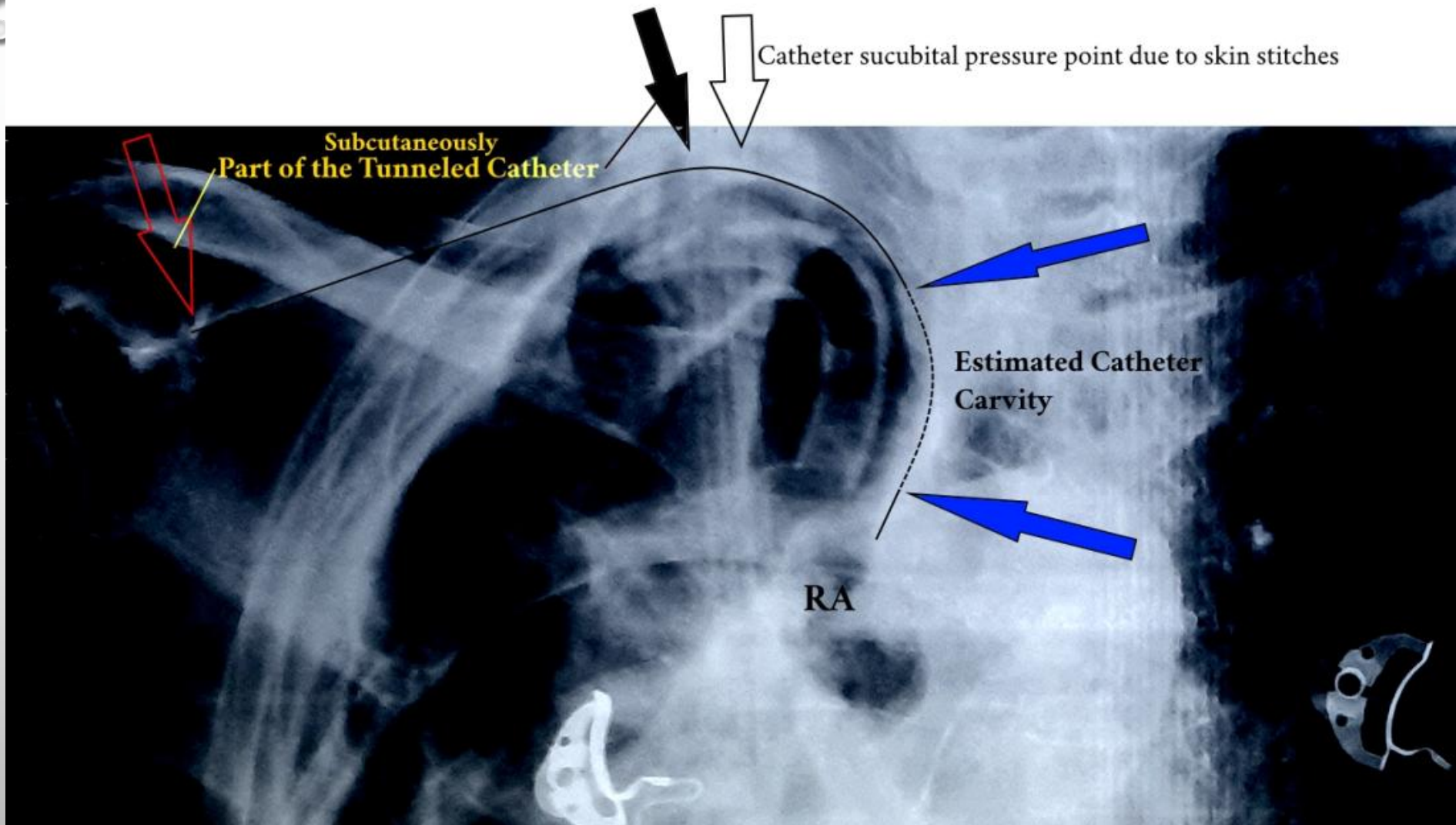
Foreshadowing ...



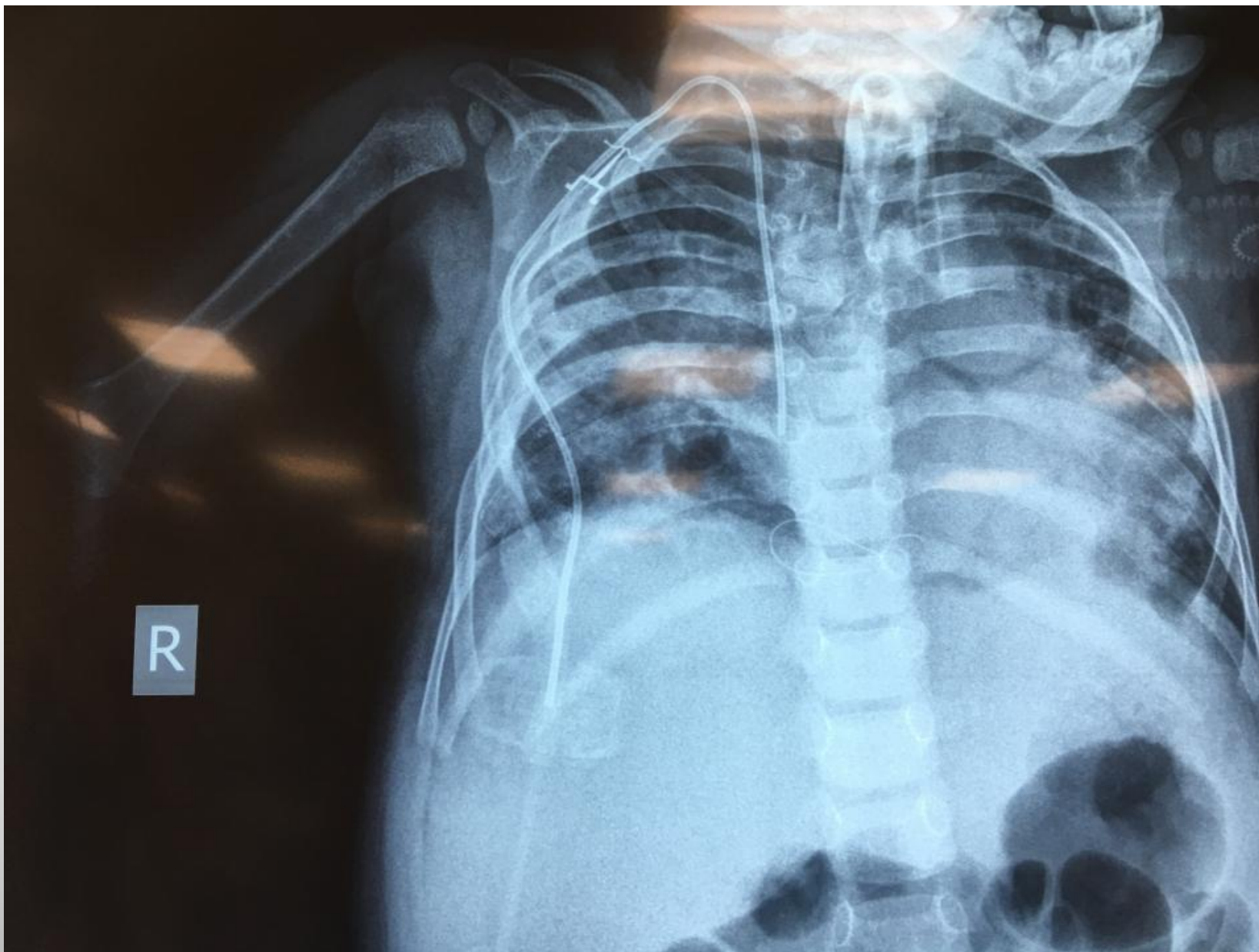


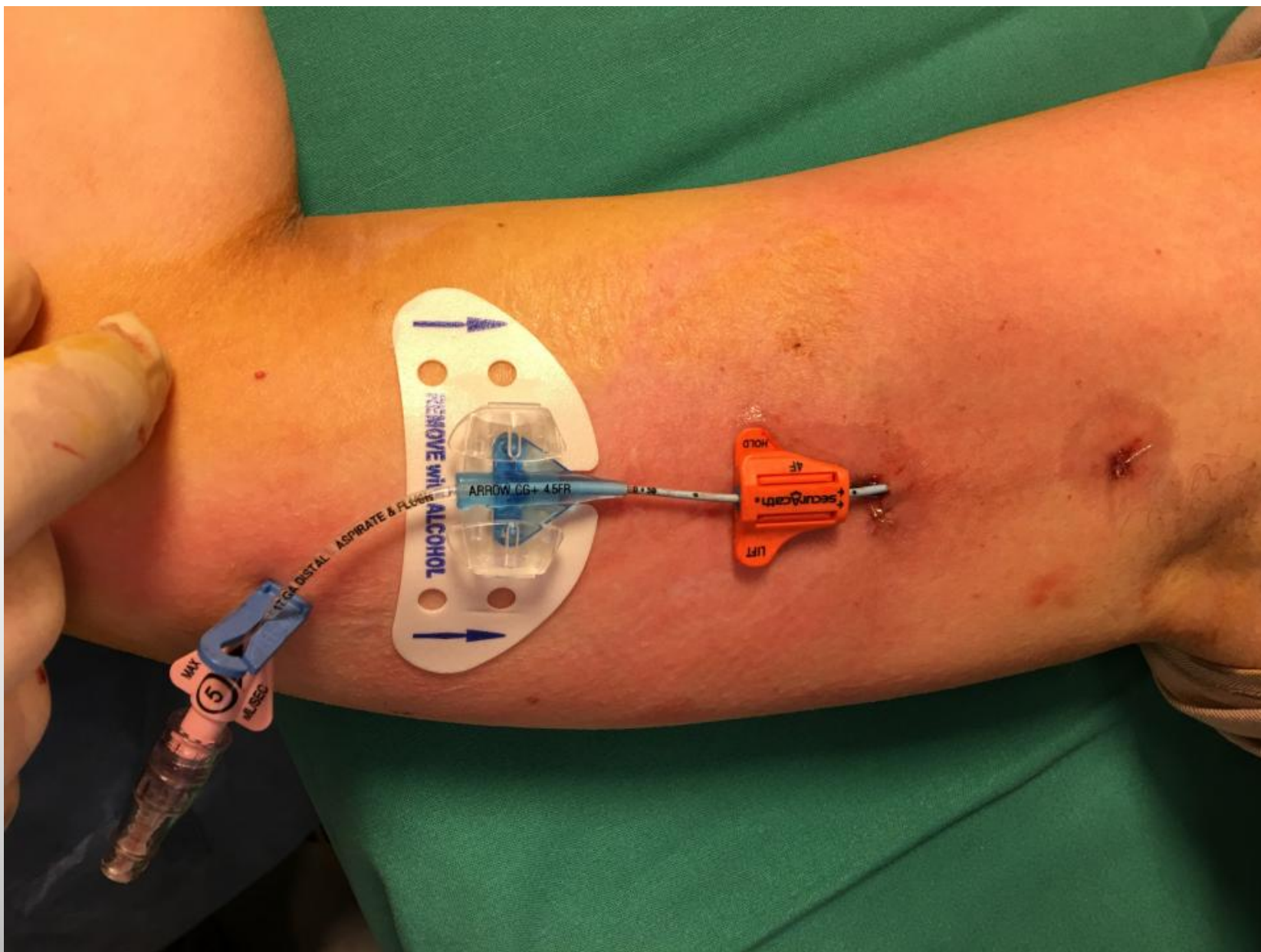
Off-Label PICC Line insertion in the Right Internal Jugular Vein with Hickman Tunnel

30-04-2019







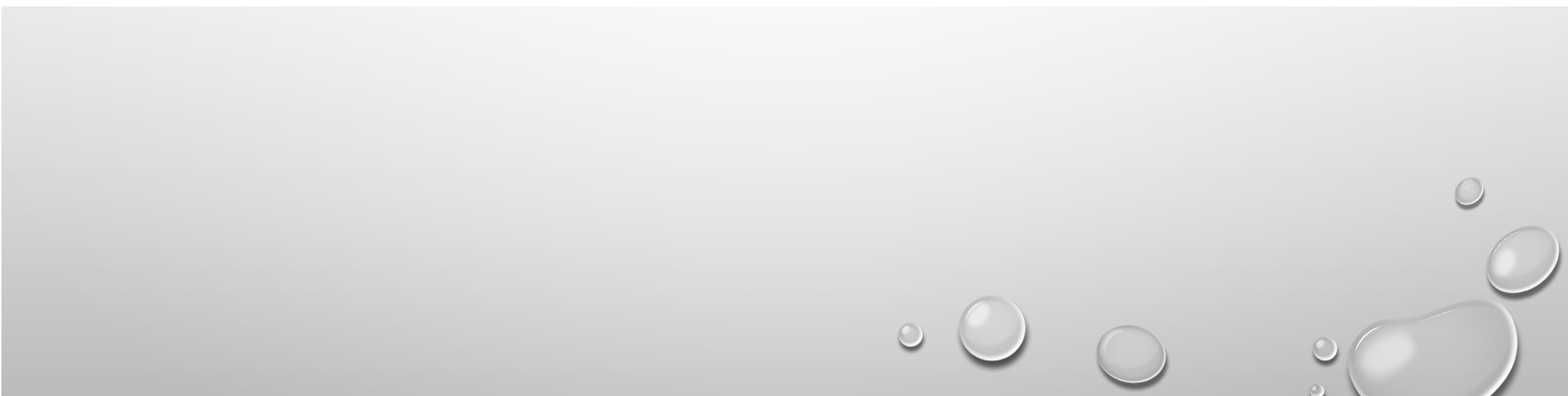




Support Care Cancer. 2015 Feb;23(2):403-9. doi: 10.1007/s00520-014-2387-9. Epub 2014 Aug 14.

Peripherally inserted central catheters in non-hospitalized cancer patients: 5-year results of a prospective study.

Cotogni P¹, Barbero C, Garrino C, Degiorgis C, Mussa B, De Francesco A, Pittiruti M.



Gan To Kagaku Ryoho. 2019 May;46(Suppl 1):135-137.

[Usefulness of Peripherally Inserted Central Venous Catheters for Cancer Patients in Palliative Care Settings].

[Article in Japanese]

Ikeda H¹, Morita S, Nakaniwa T, Matsusaki K, Yoshizawa A.

22.5% complications !!!

We offer three kinds of service:

GOOD - CHEAP - FAST

You can pick any two

GOOD service **CHEAP** won't be **FAST**

GOOD service **FAST** won't be **CHEAP**

FAST service **CHEAP** won't be **GOOD**

© 2004 M. J. M. J.



Easy procedure (to learn, to do, to teach)

Power injectable

Blood samples

Durance of the IV therapy (max)

Easy access

No risk for dislodgment

No risk of extravasation





Cost effective

Easy to remove in any case

All drugs can be easily administered by the VAD

Easy management of the VAD

Easy to train the family and the patient

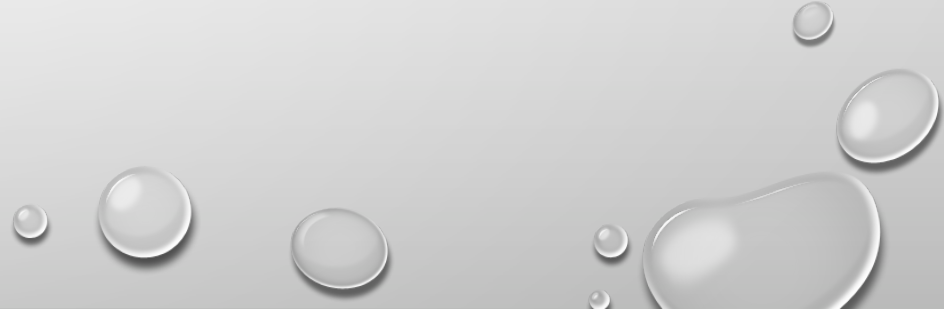
Comfort? (picc sleeves)





Long subcutaneous route from the puncture point to the green zone

Catheter/vein ratio must be minimized (Don't be afraid of the axilla)



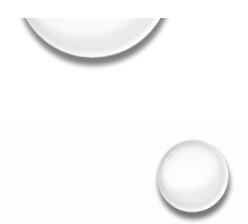


Nutrients. 2019 Sep 4;11(9). pii: E2083. doi: 10.3390/nu11092083.

Infectious Complications in Home Parenteral Nutrition: A Systematic Review and Meta-Analysis Comparing Peripherally-Inserted Central Catheters with Other Central Catheters.

Mateo-Lobo R¹, Riveiro J¹, Vega-Piñero B¹, Botella-Carretero JI^{2,3}.





JPEN J Parenter Enteral Nutr. 2019 Jan;43(1):41-53. doi: 10.1002/jpen.1421. Epub 2018 Jul 23.

Rate of Catheter-Related Bloodstream Infections Between Tunneled Central Venous Catheters Versus Peripherally Inserted Central Catheters in Adult Home Parenteral Nutrition: A Meta-analysis.

Hon K¹, Bihari S^{1,2}, Holt A^{1,2,3}, Bersten A^{1,2}, Kulkarni H⁴.





J Clin Pharm Ther. 2017 Feb;42(1):39-43. doi: 10.1111/jcpt.12465. Epub 2016 Oct 16.

Safety and efficacy of outpatient parenteral antibiotic therapy in an academic infectious disease clinic.

Suleyman G¹, Kenney R², Zervos MJ¹, Weinmann A¹.

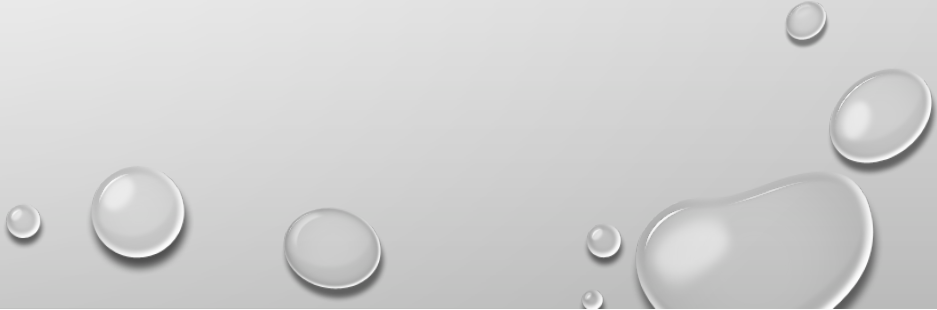




[Expert Rev Med Devices](#). 2019 Jan;16(1):25-33. doi: 10.1080/17434440.2019.1555466. Epub 2018 Dec 6.

Antithrombogenic peripherally inserted central catheters: overview of efficacy and safety.

[Ullman AJ](#)^{1,2,3,4}, [Bulmer AC](#)^{1,5}, [Dargaville TR](#)^{1,6}, [Rickard CM](#)^{1,2,3,4}, [Chopra V](#)^{1,7}.



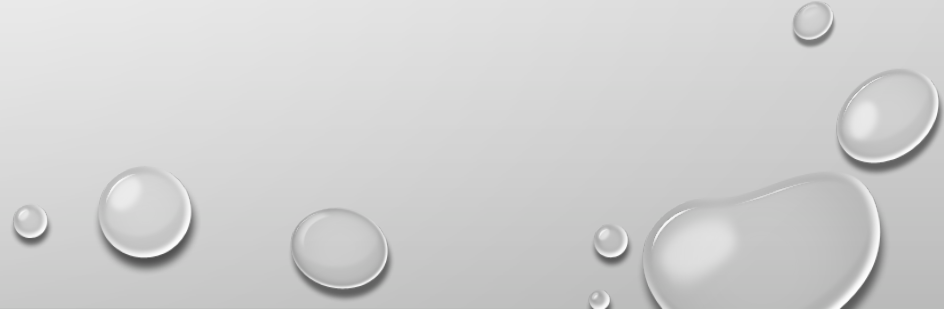


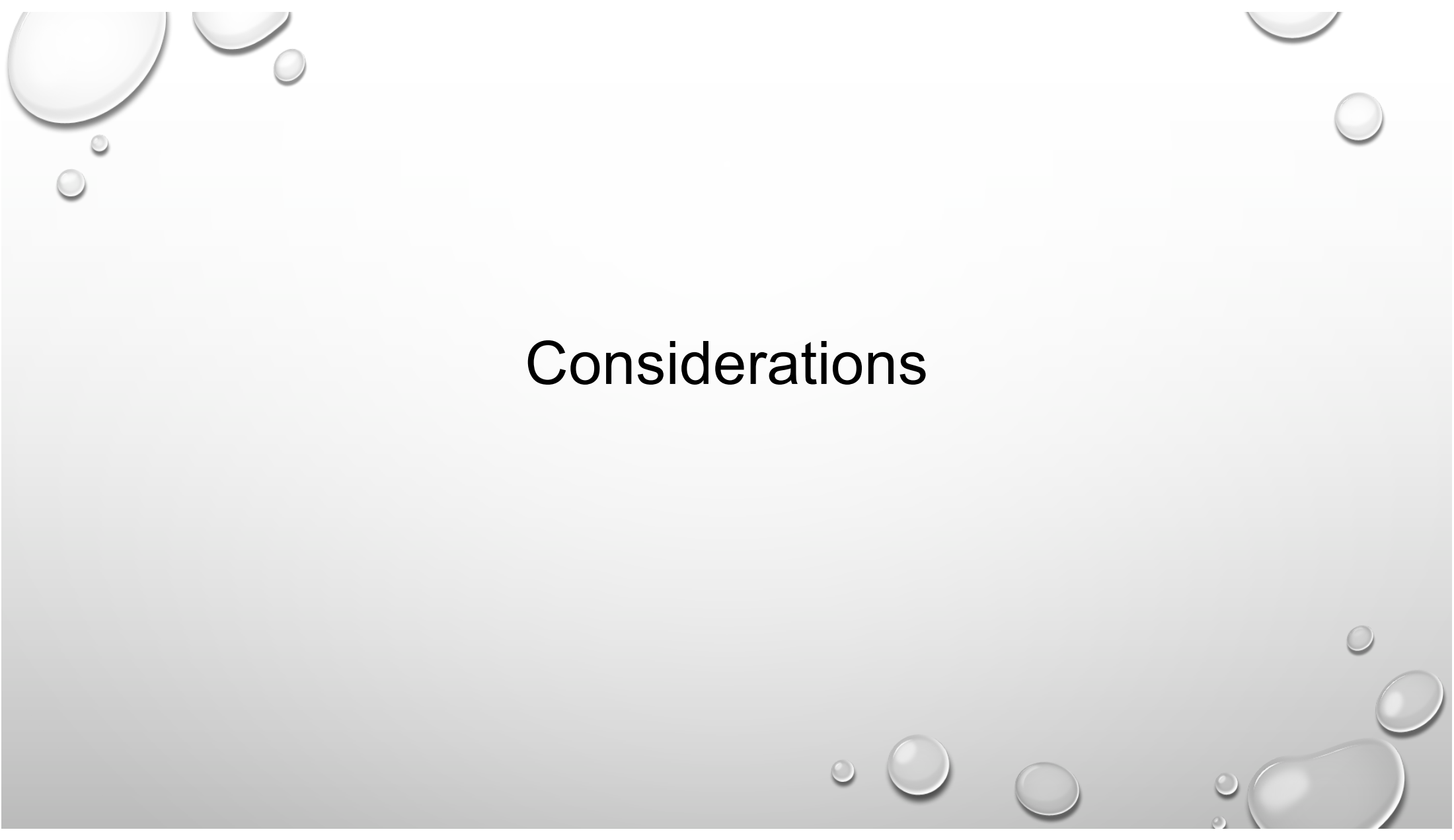
**Securement of the catheter with adhesive systems must be avoided
(anchored systems are more than effective)**

**Full package systems must be used in case of implantation at home
environment**

**Wireless US systems connected with mobile phones or tablets are
more than effective**

**Lidocaine – prilocaine ointment 45 minutes prior to the intervention is
a must**



The slide features a light gray gradient background. In the top-left corner, there are several water droplets of varying sizes, some partially cut off by the edge. In the top-right corner, there is one large droplet and one smaller one. In the bottom-right corner, there is a cluster of droplets, including a large one and several smaller ones. In the bottom-center area, there are a few more small droplets.

Considerations



[Nutrition](#). 2019 Feb;58:89-93. doi: 10.1016/j.nut.2018.06.016. Epub 2018 Jul 11.

Infectious complications in home parenteral nutrition: A long-term study with peripherally inserted central catheters, tunneled catheters, and ports.

[Santacruz E](#)¹, [Mateo-Lobo R](#)¹, [Riveiro J](#)¹, [Nattero L](#)¹, [Vega-Piñero B](#)¹, [Lomba G](#)¹, [Sabido R](#)¹, [Carabaña F](#)¹, [Arrieta FJ](#)²,
[Botella-Carretero JI](#)³.



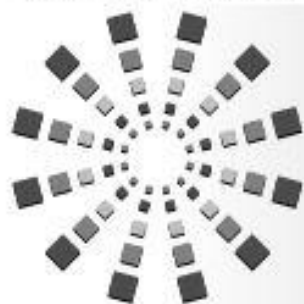


[PLoS One](#). 2018 Aug 28;13(8):e0202326. doi: 10.1371/journal.pone.0202326.
eCollection 2018.

Self-management of peripherally inserted central catheters after patient discharge via the WeChat smartphone application: A systematic review and meta-analysis.

[Ma D](#)¹, [Cheng K](#)², [Ding P](#)³, [Li H](#)⁴, [Wang P](#)³.





Mengting Pan, RN

Aifeng Meng, RN

Rong Yin, PhD

Xiaoxu Zhi, RN

Shizheng Du, RN

Ruchu Shi, RN

Ping Zhu, RN

Fang Cheng, RN

Mengqing Sun, RN

Cheng Li, RN

Hong Fang, RN

Nursing Interventions to Reduce Peripherally Inserted Central Catheter Occlusion for Cancer Patients

A Systematic Review of Literature



Tips and Tricks for PICCs with optimum performance in extra-hospital setting

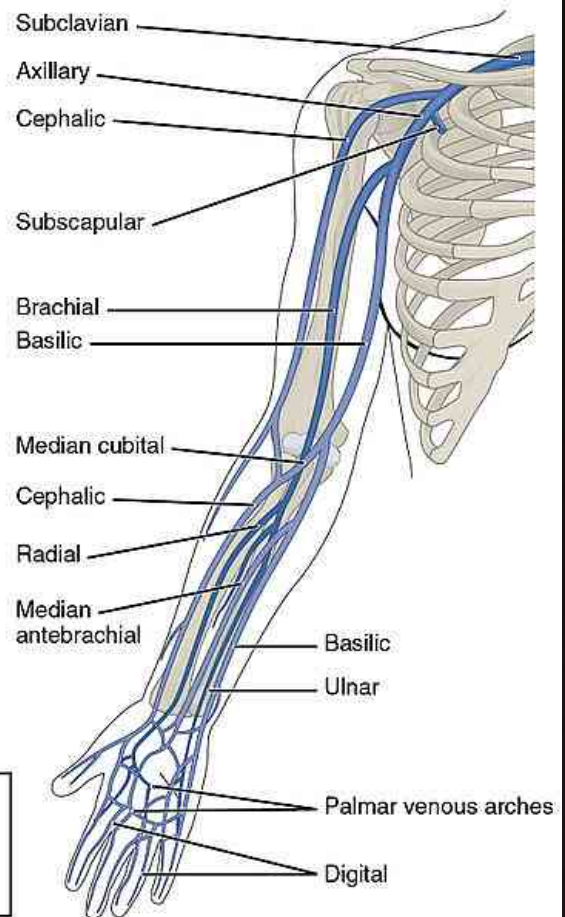














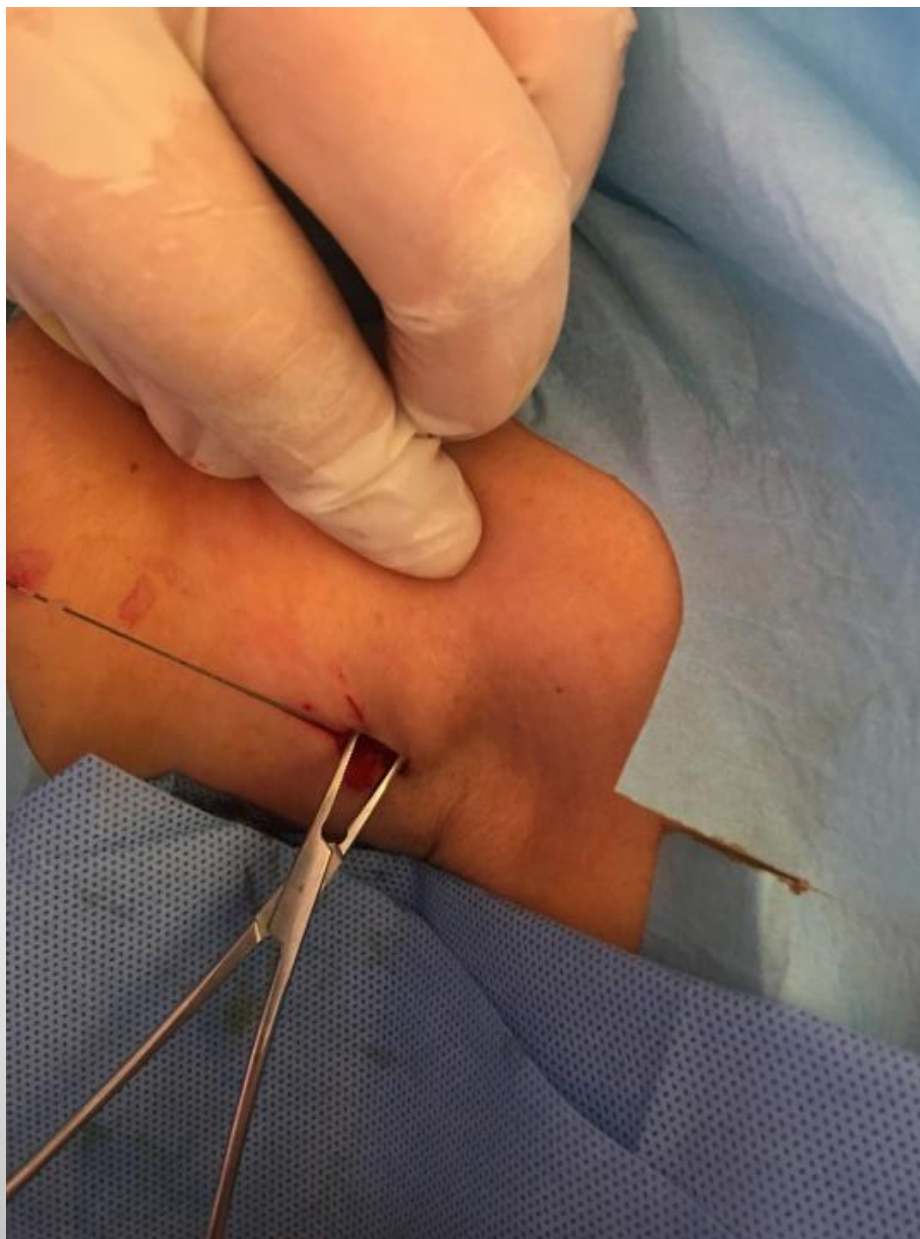


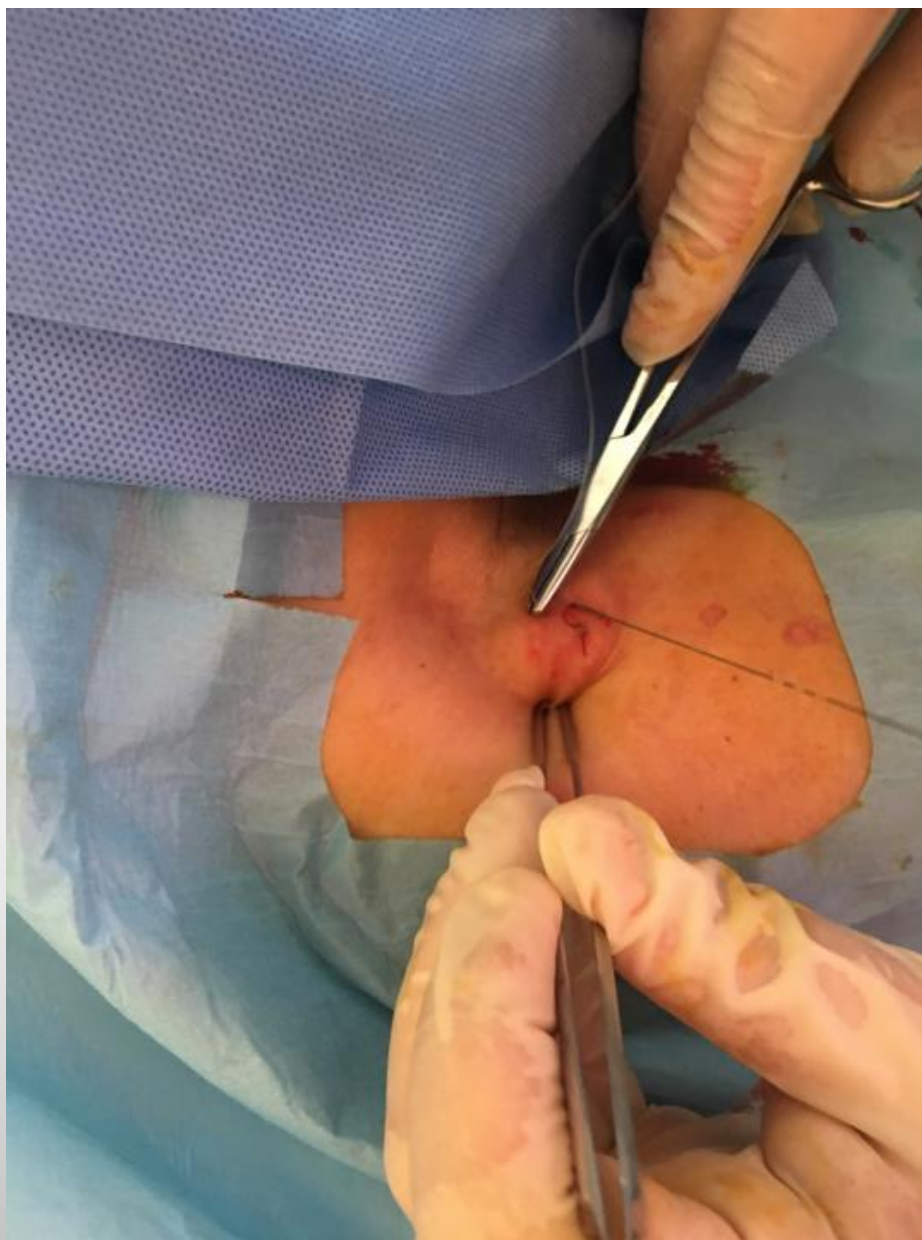


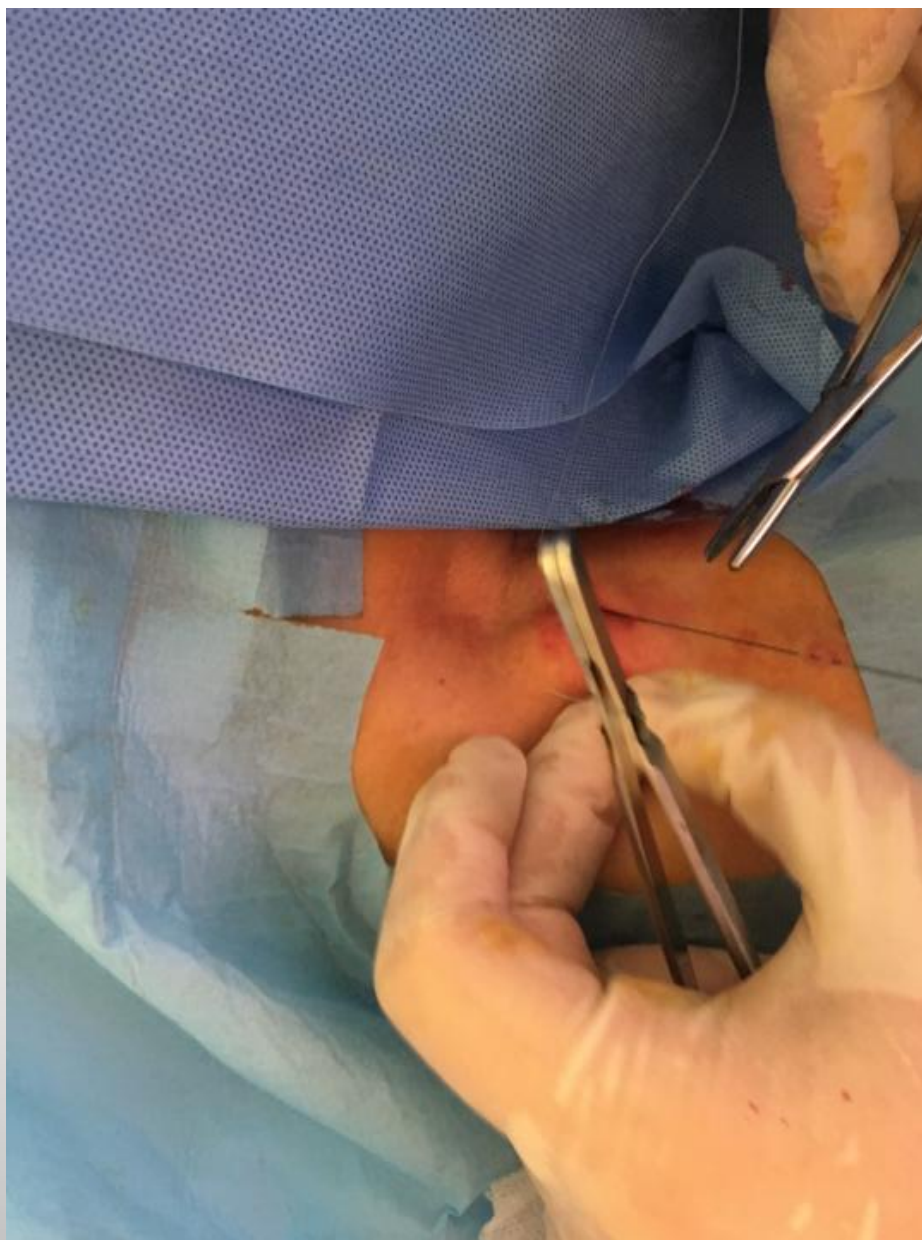


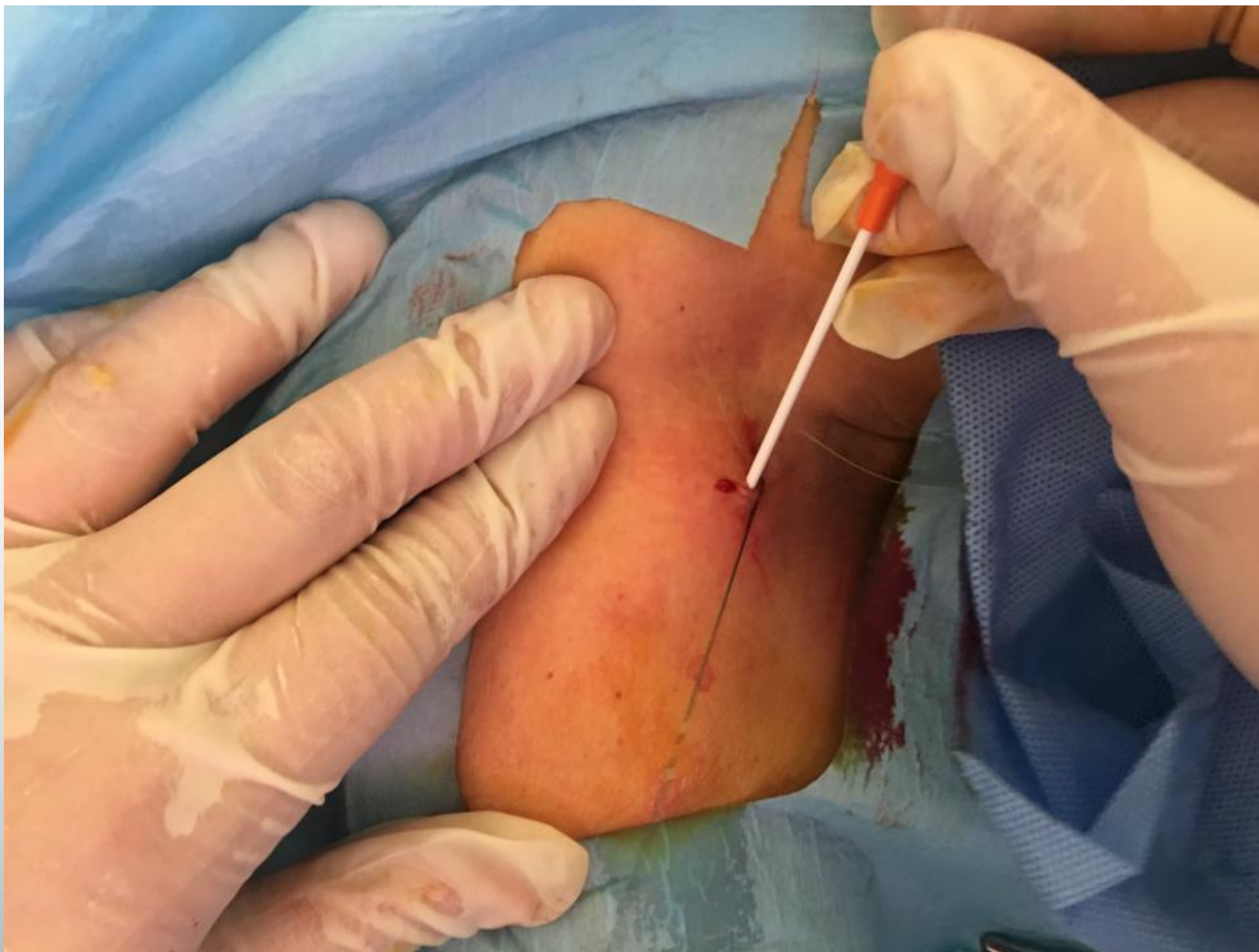


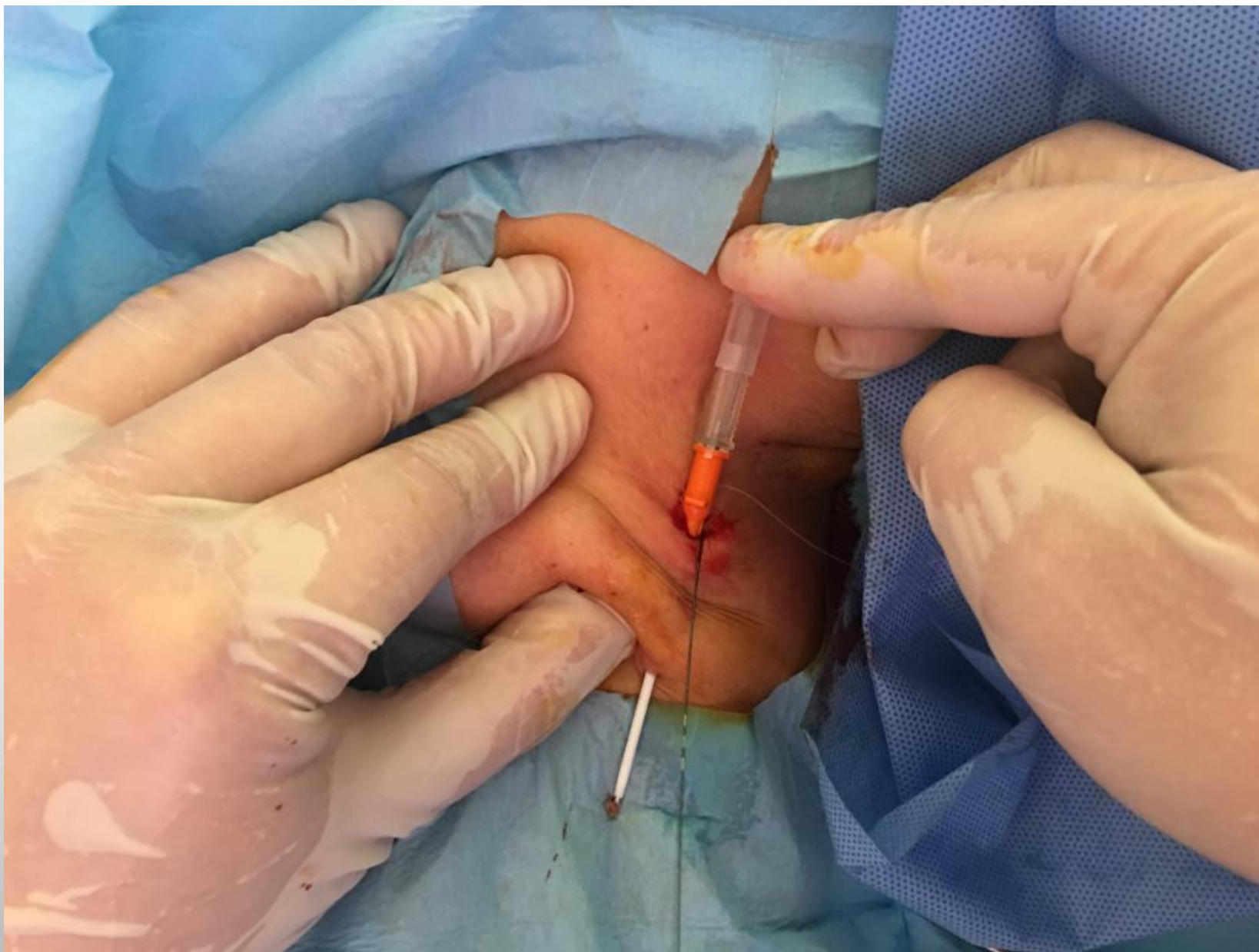




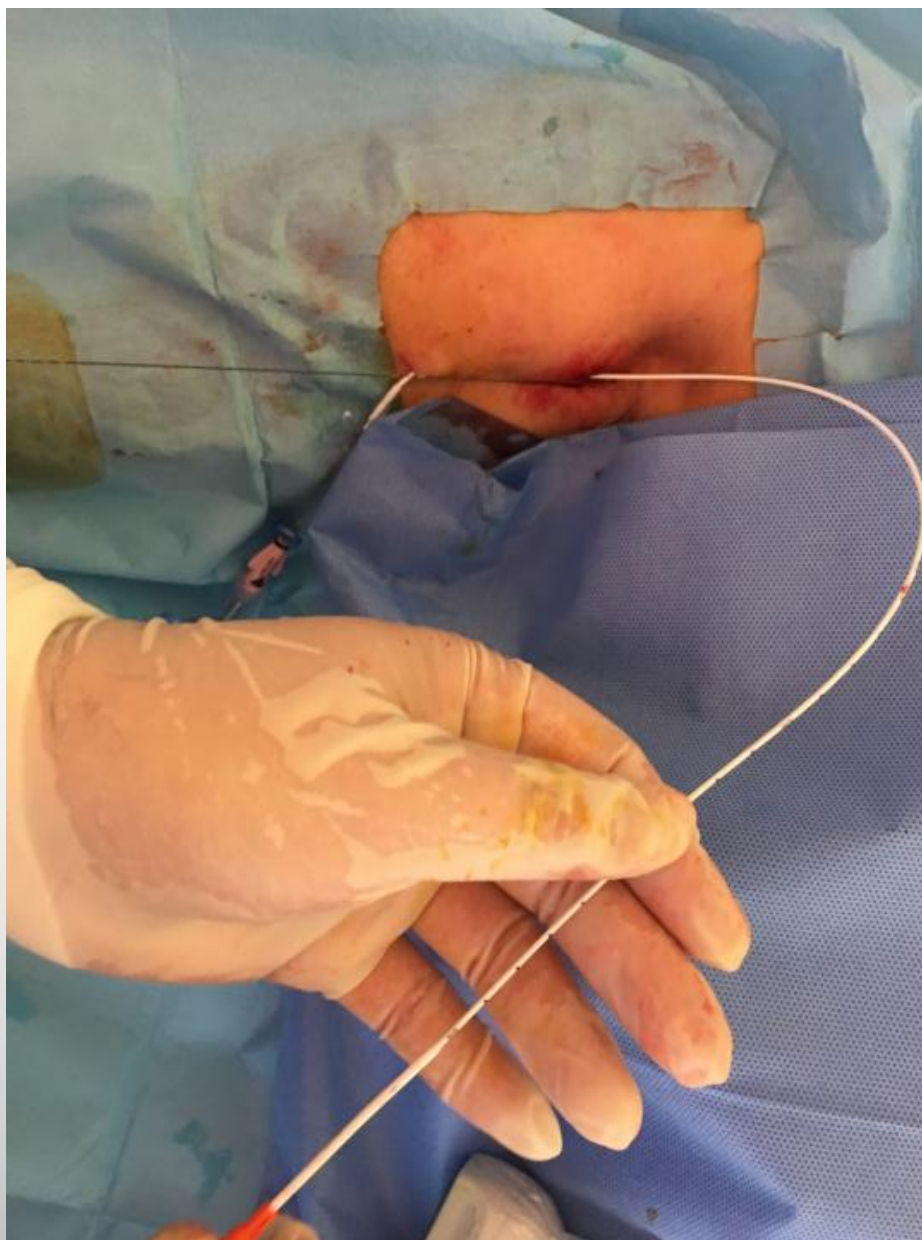




















PED NO 1 ADU 01-01-2000 00:29:17

REAL CLOCK NEED SET

II x1 MONITOR



I x2



PLETH



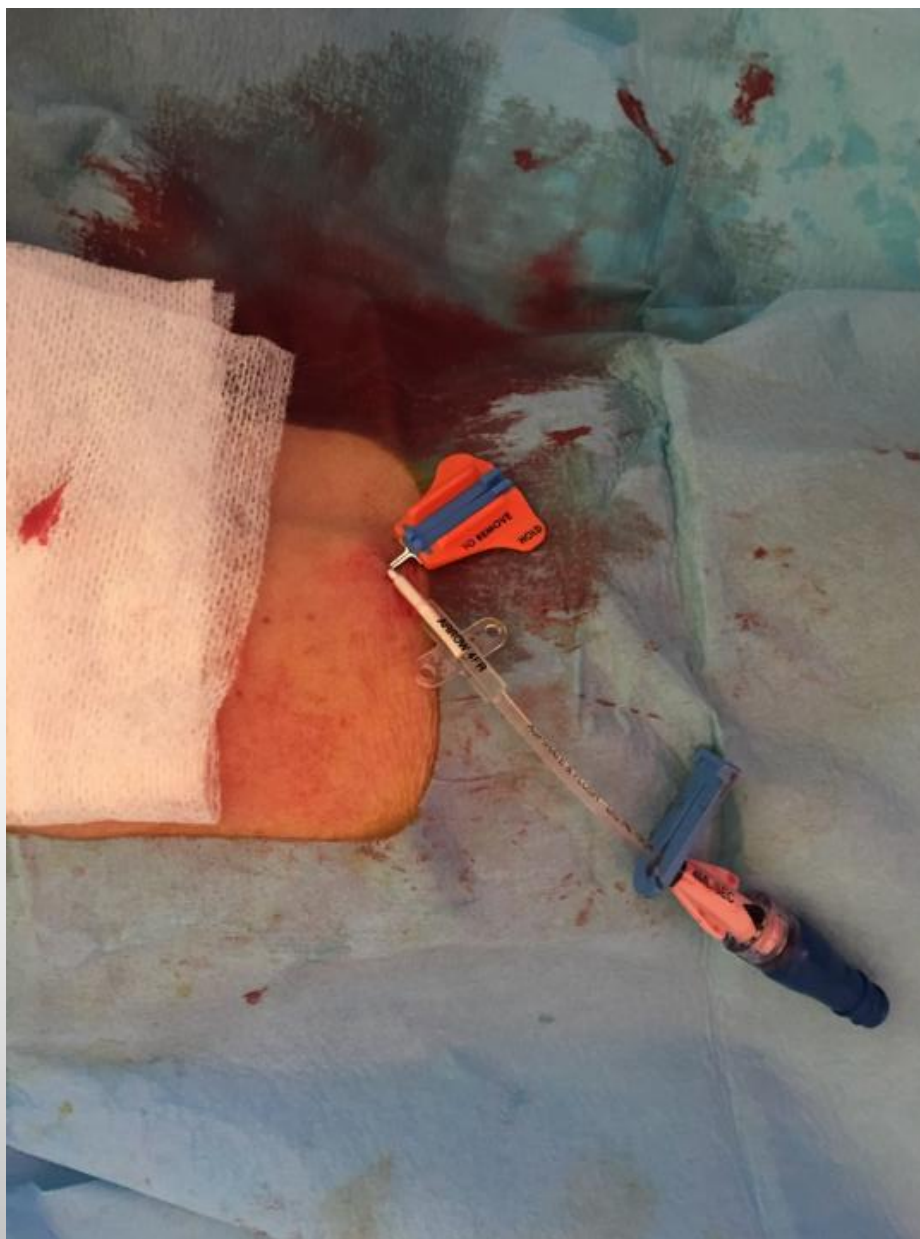
TEMP

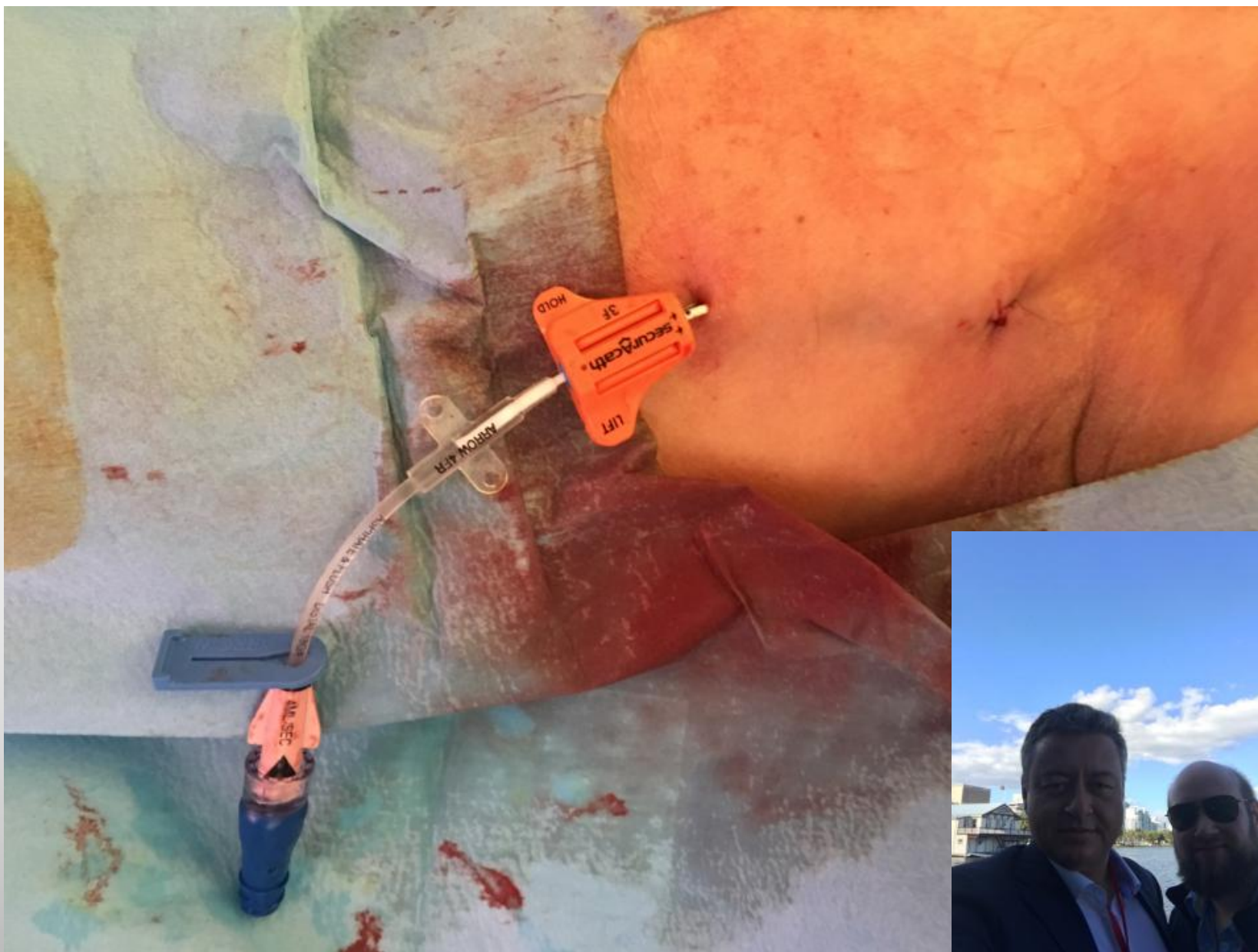
T1

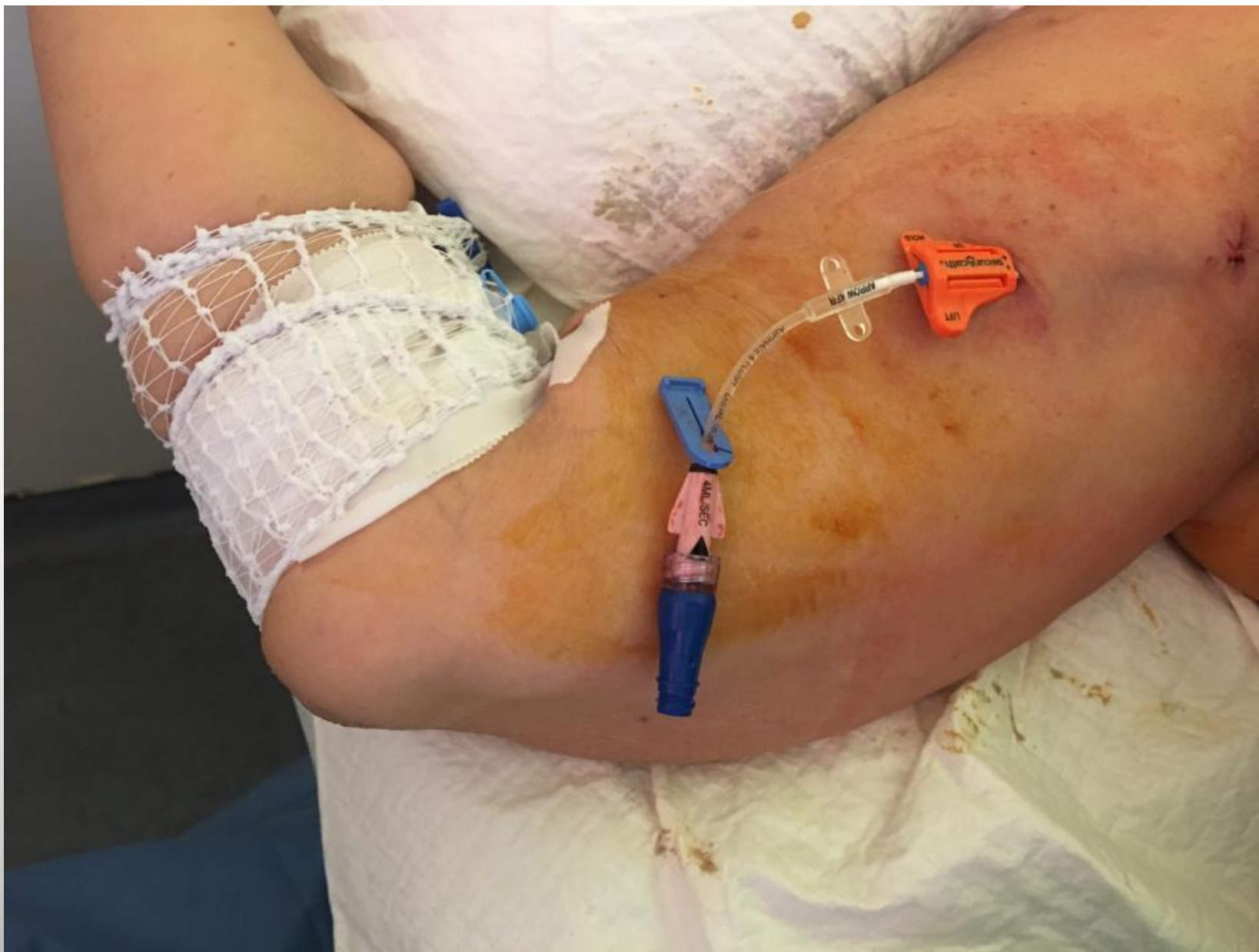
T2











**Very Long Term VAD
for
extra-hospital
treatment**

