New technologies for dressing and securement of venous access devices: a changing landscape

New adhesive sutureless devices for venous access

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Adhesive Sutureless Securement Devices (ASSD)
are efficient against needlestick injuries and infections (A. J. Yamamoto et al. J Vasc Interv Radiol. 2002)

But nurses find that changing the ASSD dressing is often **risky** (C. Dupont et al WOCOVA 2014)

WHY ?

1/ Not all nurses have the opportunity to practice this skill daily

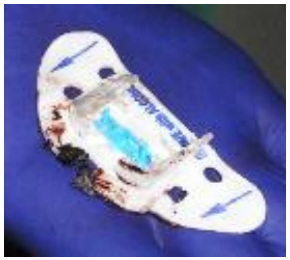
2/ At one stage of the ASSD change, the PICC is not secured
and can be accidentally displaced

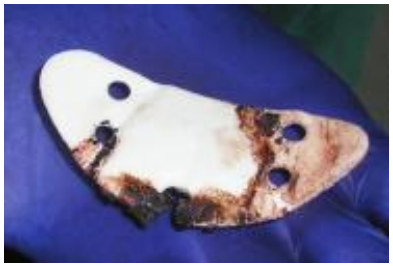
3/ ASSD use can increase the risk of accidental displacement and infection

Evaluation, education and device improvement are key

Physician ignorance

Nurse ignorance or fear





Results: lack of luck for patients

Evaluation, education and device improvement are key

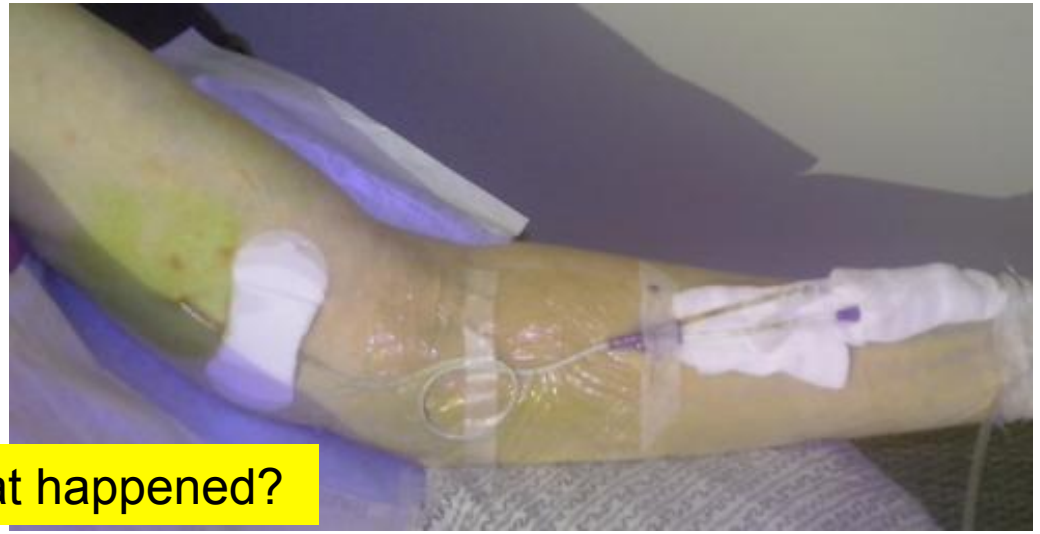
A FEW EXPLANATIONS

1/ PICC displacement consequences

2/ Is reading the ASSD user guide enough ?

3/ « Experiment, experiment, experiment…. » Cole Porter

1/ PICC DISPLACEMENT CONSEQUENCES



What happened?

1/ The I.V. line got caught

2/ The Picc was accidentally displaced when it wasn't secured

3/ The Picc was displaced when the ASSD was placed /removed

Consequences: DVT, infection and extravasation injury risks

This is the reason why it is important to choose a « good » ASSD

WHAT DO WE ASK OF ASSDs?

Period	criteria
Understanding	Intuitive
Cost	Not too expensive
During placement	Decreased range of PICC manipulation during securement device placement Ease of opening and closing the device Decreased range of PICC manipulation during device fixation to the skin
Once in place	Hub efficiently secured Fixation on the skin efficient (max 7 days) Pistonning effect reduced Puncture site visualisation Skin integrity maintained ATS patch insertion possible
During removal	Decreased range of PICC manipulation during device removal Ease of opening the device Adhesive dressing reduces PICC manipulation

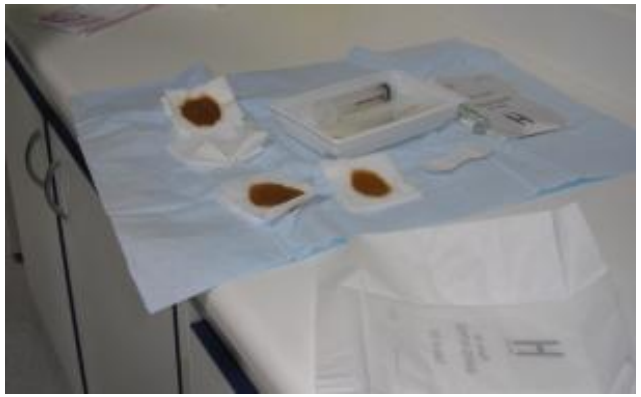
Don’t forget:
Patient positioning is 50% of the job

2/ IS READING THE ASSD USER GUIDE ENOUGH ?

- Is there an explanation on how to use the device on the packaging?
  Not systematic

Same for Statlok®, SorbaView®, Askina ® PICC Universal

- Is there a packaging? Not systematic when included in a kit



- Are the explanations good enough to understand how to perform the device change?

- Are training sessions always possible before using the device (homecare)?

The more the device is intuitive, the more it will be safely used.

2/ IS READING THE ASSD USER GUIDE ENOUGH ?

Is there an explanation on how to use the device on the packaging?

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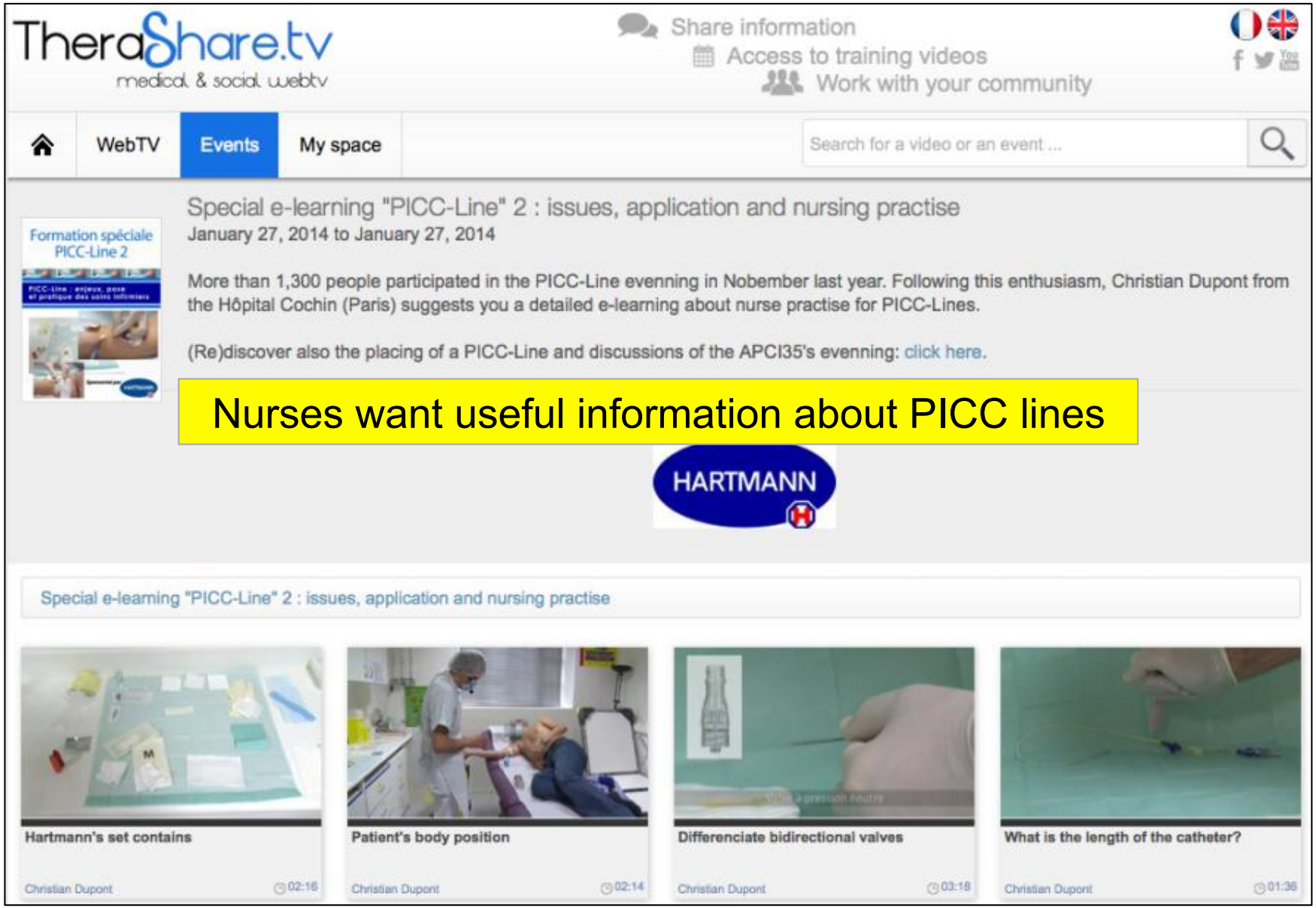


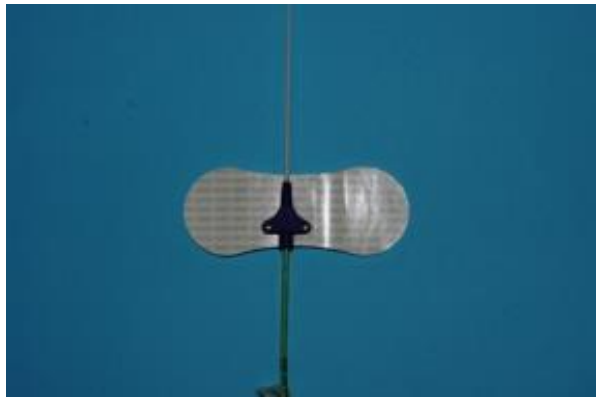
2/ IS READING THE ASSD USER GUIDE ENOUGH ?

Is this real life?

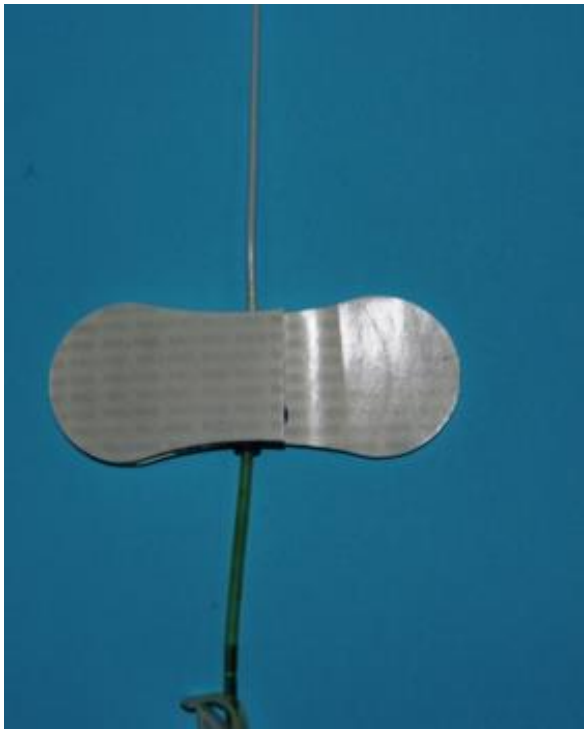
3/ « EXPERIMENT, EXPERIMENT …. »: Grip-Lok®

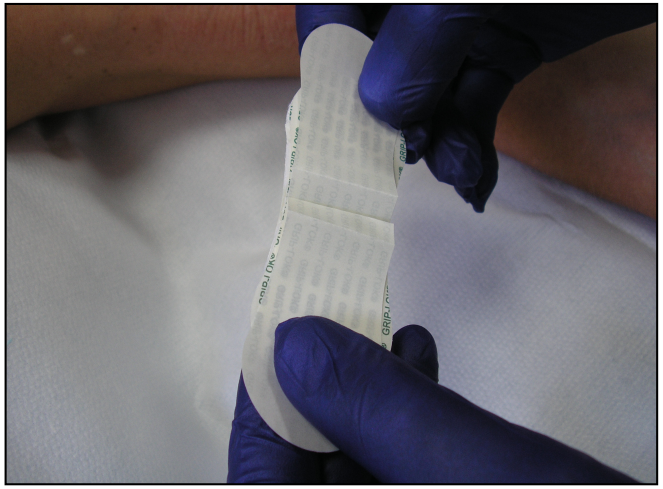
- Efficiently secures the PICC for 8 days (up to 15 days)
- Place the PICC in the device BEFORE attaching the device to the skin.
- Puncture site visualization
- Good skin tolerance

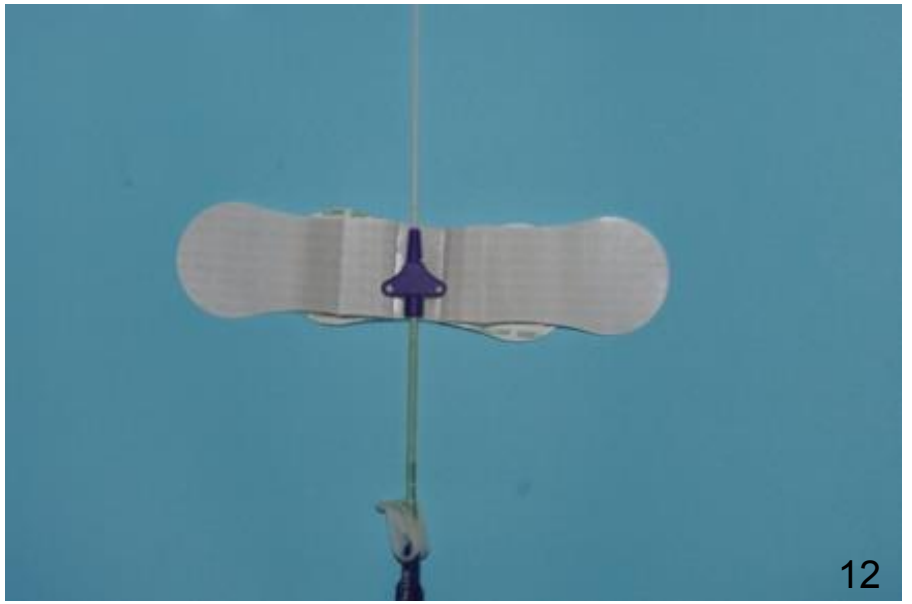
- But …



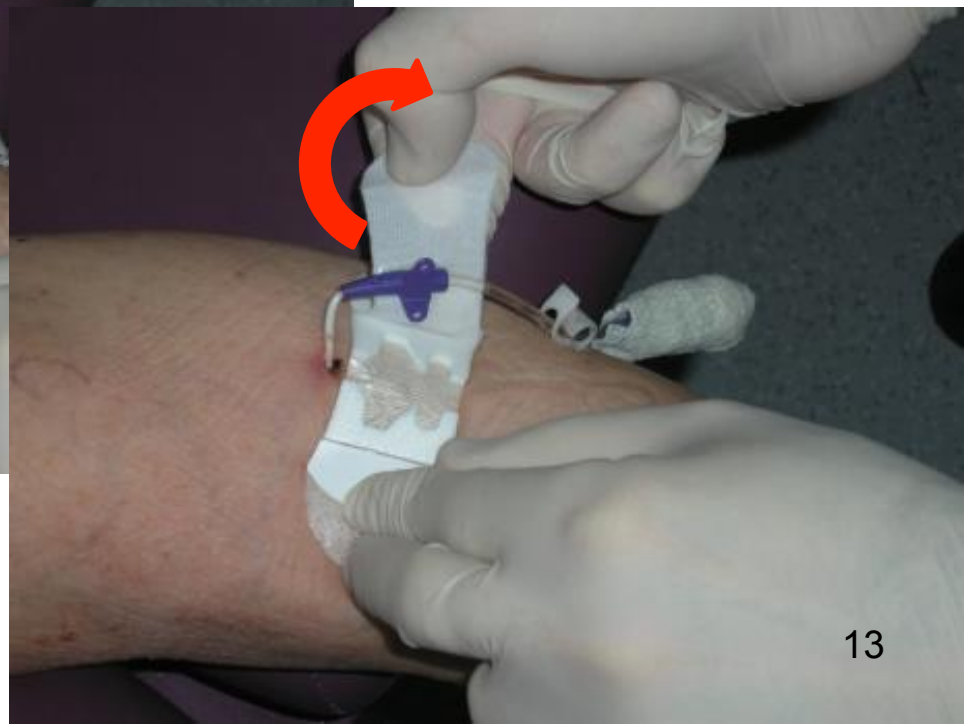
Reason for that problem:



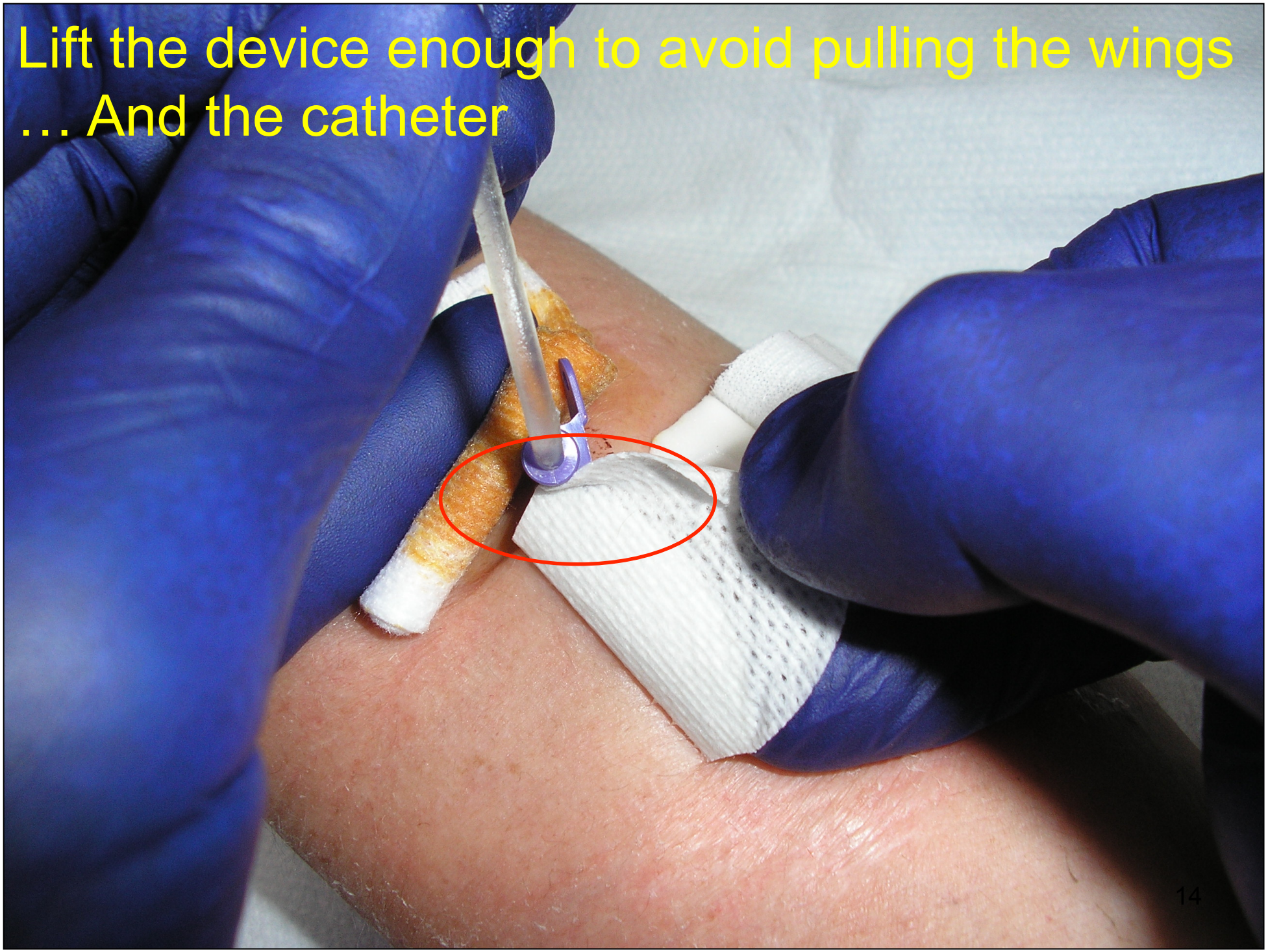


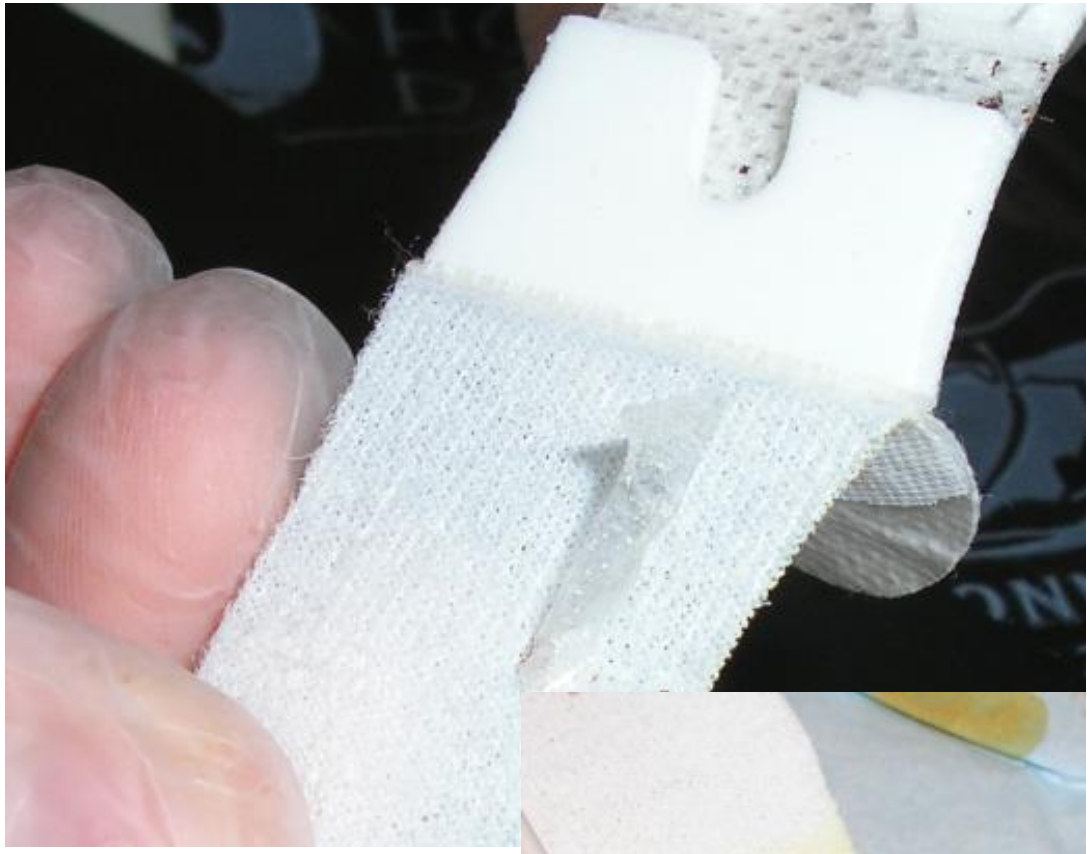


Mind the stickiness of the cover



Lift the device enough to avoid pulling the wings … And the catheter





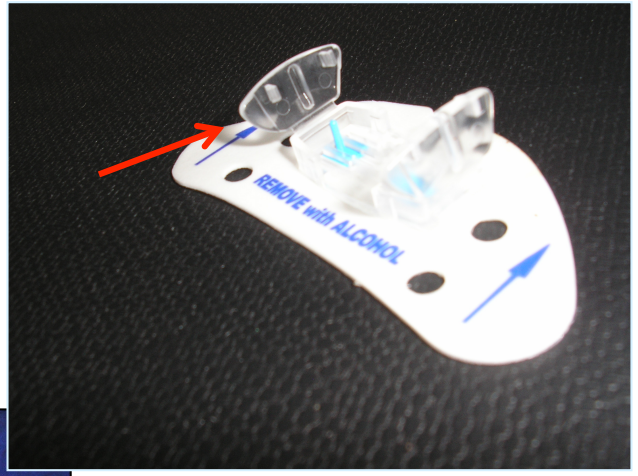
Trapped in a glue sandwich

« EXPERIMENT, EXPERIMENT, …. »: Statlok ®

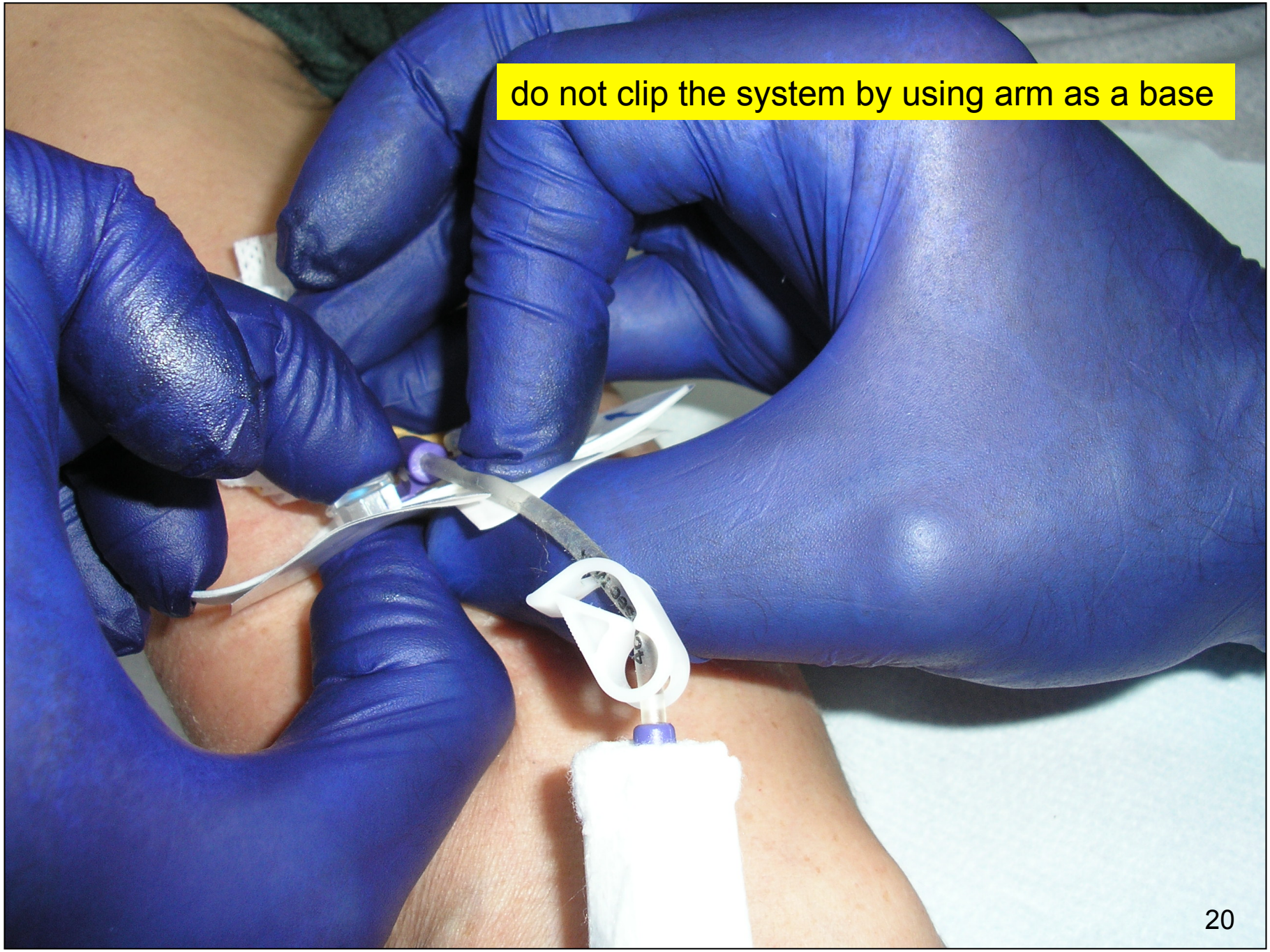
- Efficiently secures the PICC for 8 days (up to 15 days)
- Place the PICC in the device BEFORE attaching the device to the skin.
- Relatively rigid and discreet, easily placed under the PICC
- Universal shape, the wings can move (… don’t get nervous; it’s frustrating)
- Puncture site visualization
- Good skin tolerance

- But …

Reason for that problem:




REMOVE

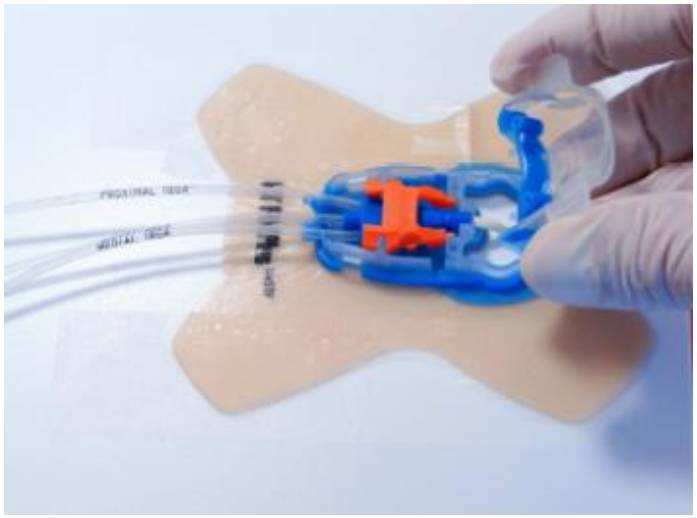

do not clip the system by using arm as a base

Even when the dressing is stretched during removal,
It can be problematic

« Experiment, experiment, …. »: Ktfix Plus ®

Not tested

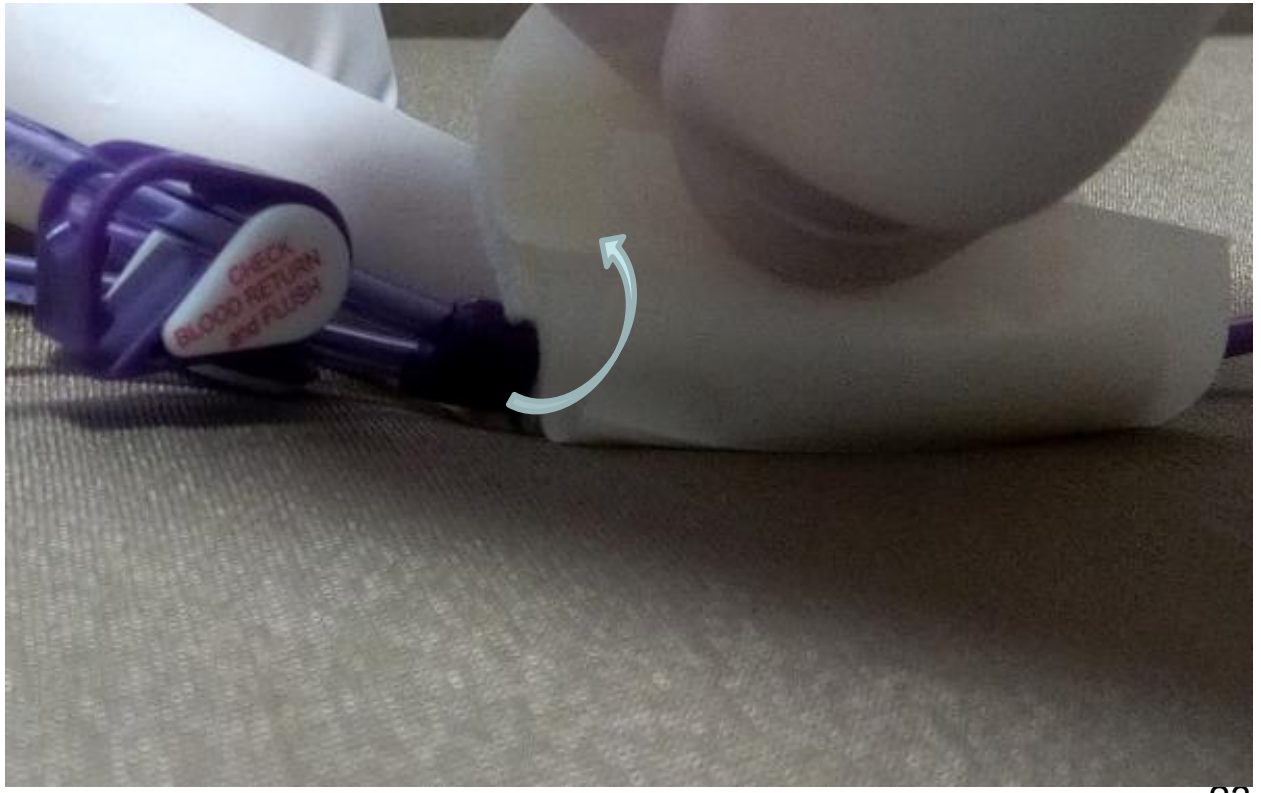
- Efficiently secures the PICC for 8 days (up to 15 days)
- Good skin tolerance
- Securement system specific for each PICC design
- But training necessary++++



« EXPERIMENT, EXPERIMENT, …. »: Askina® PICC Universal

Not tested

- Efficiently secures the PICC for 8 days?
- Place the PICC in the device BEFORE attaching the device to the skin.
- Need to lift the PICC
- Relatively rigid and discreet, easily placed under the PICC
- Puncture site visualization
- Skin tolerance?



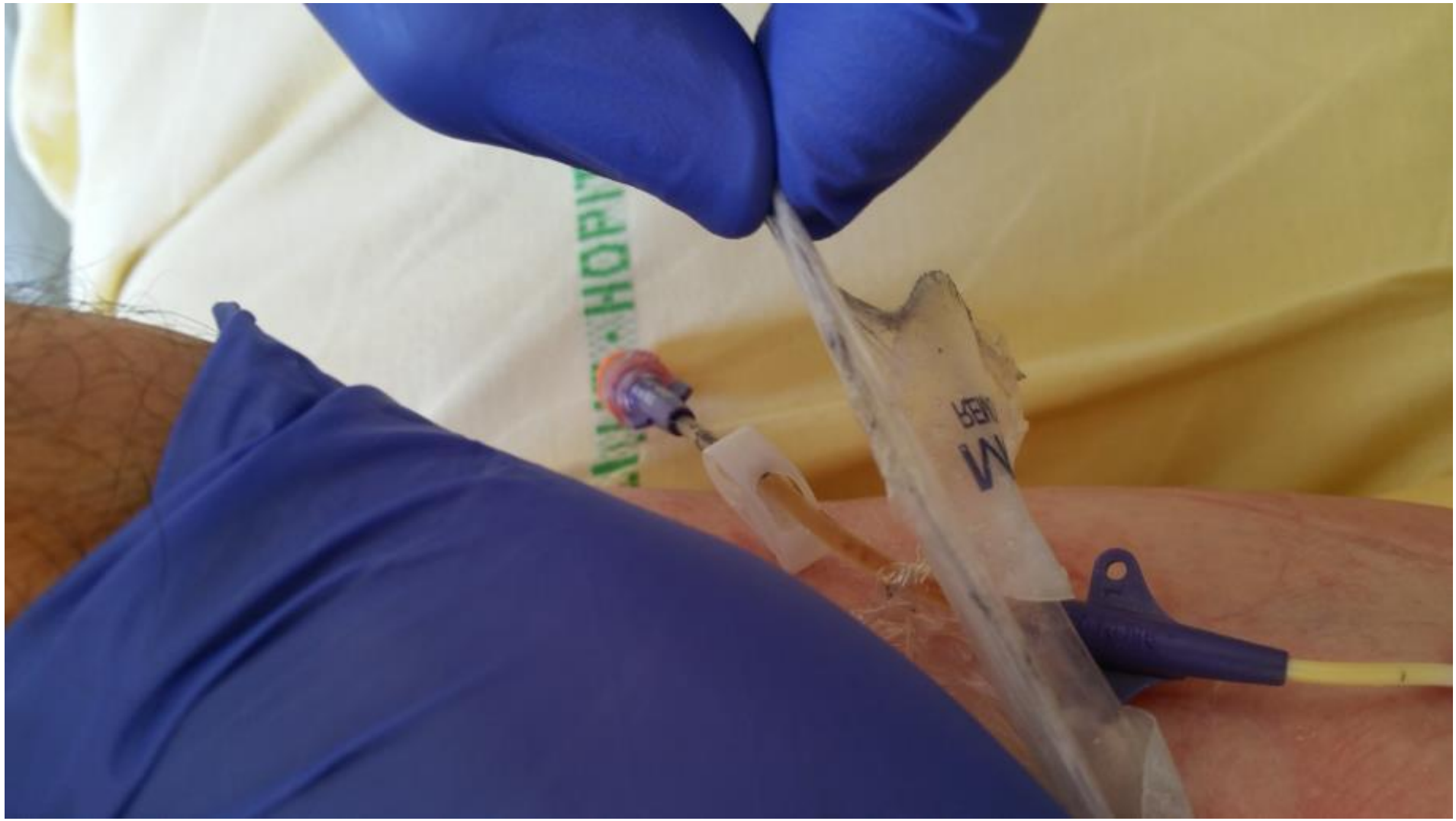
« EXPERIMENT, EXPERIMENT, …. »: Modulare ®

- No need to manipulate PICC during placement and removal
- Good skin tolerance
- Puncture site visualisation

But …

Day 3

D2: The hub is dislodged



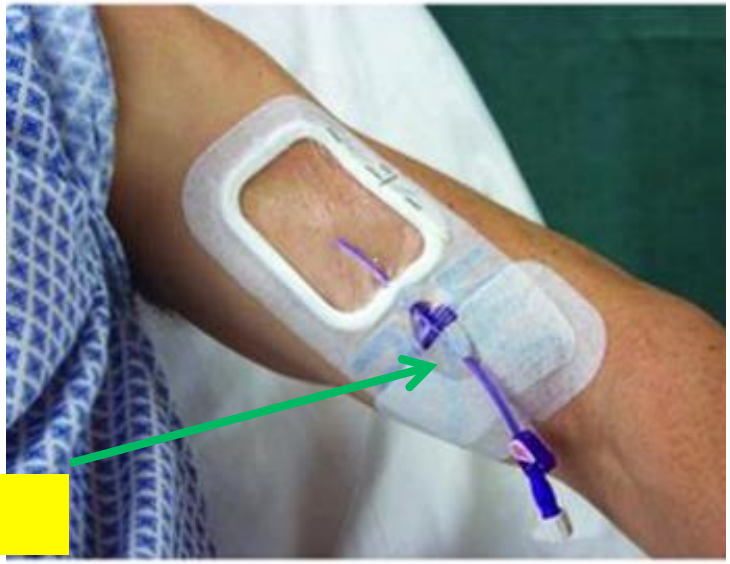
It does not adhere well to the skin

It sticks to the transparent dressing but not to the skin

Is it dressing dependant?
(Tegaderm® 3M and Opsite IV 3000® tested)

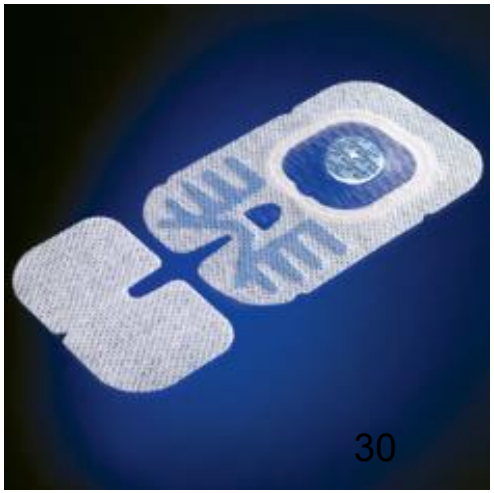
« EXPERIMENT, EXPERIMENT, …. »: SorbaView ®

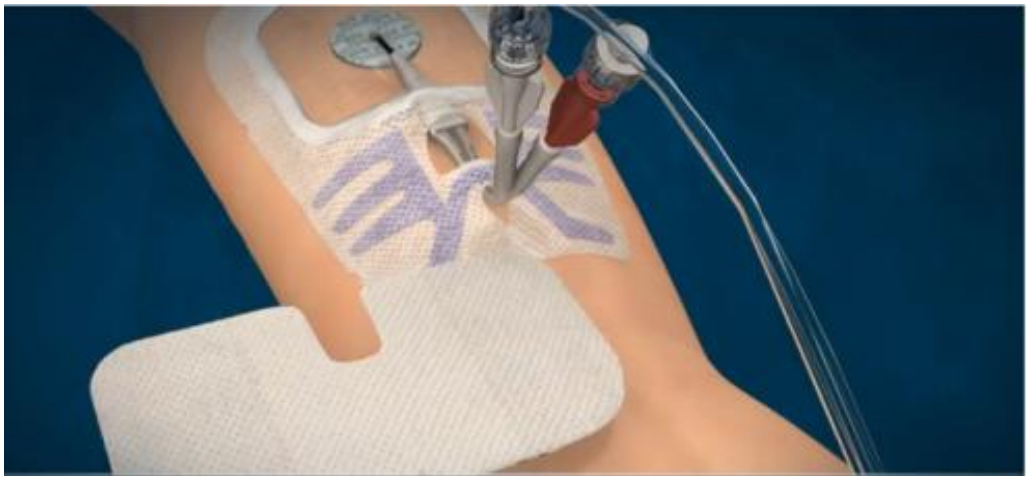
Sub category: Securement device and dressing

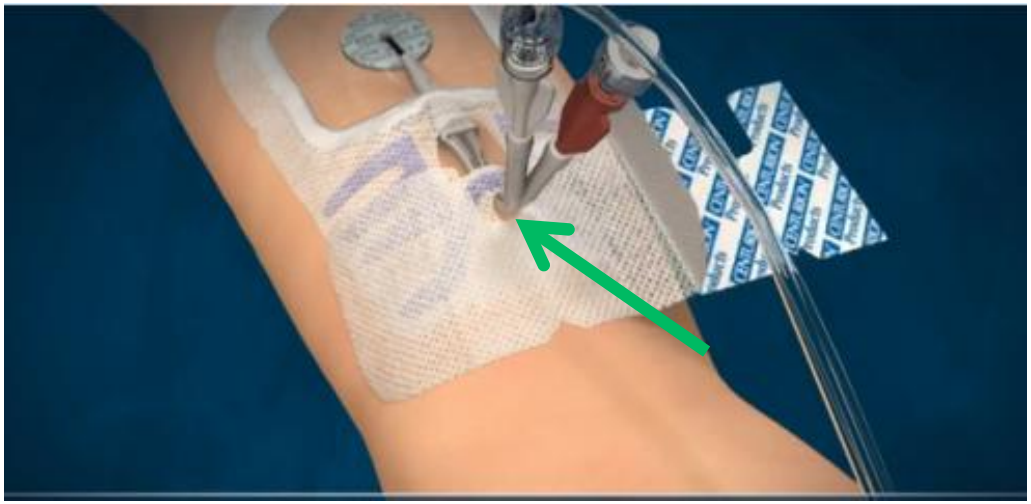


Reinforcement

- Efficiently secures the PICC for 8 days
- No need to lift the PICC
- Puncture site visualization
- Good skin tolerance
- Requires training to avoid PICC displacement during device removal
- The dressing cannot be stretched







Day 7

Day 7

Day 7

Common problem of dressings with no border

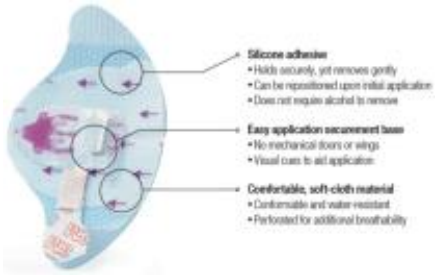
But what happens if the puncture site is hemorragic…?
Can it be used in the theatre, just after insertion?

What about less adhesive devices with a silicone base

« EXPERIMENT, EXPERIMENT, … »

3M PICC/CVC Securement ® securement device and dressing

Placement and removal tested only once.



- Efficiently secures the PICC for 8 days
- Rigid and discreet, the securement device is easily placed under the PICC
- The PICC is manipulated distally from the puncture site
- Puncture site visualization
- Good skin tolerance

-Safe removal thanks to….

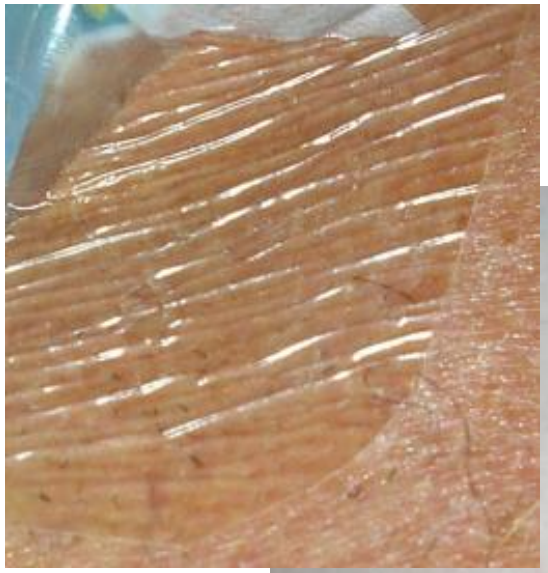
… the first applied dressing maintains the PICC at stage of securement device removal

But if the PICC is placed too high, the dressing covers the clamp

Last but not least:
this is why evaluating skin integrity and tolerance to the device is important

Problem of impaired skin integrity

Future problem for skin integrity?



Common problem when transparent dressing
Is stretched during placement

Problem of skin intolerance

conclusion

- Need for education on ASSD change, risks, consequences and what to do

- Workshop with experienced users, not on a manequin

- Evaluation (general benefit)

- R &D is necessary

Evaluation, education and device improvement are KEY

conclusion

It’s about time to bring up the anchor …