GAVeCeLT
Gli Accessi Venosi Centrali a Lungo Termine

XV PICC Day

Il triplo approccio

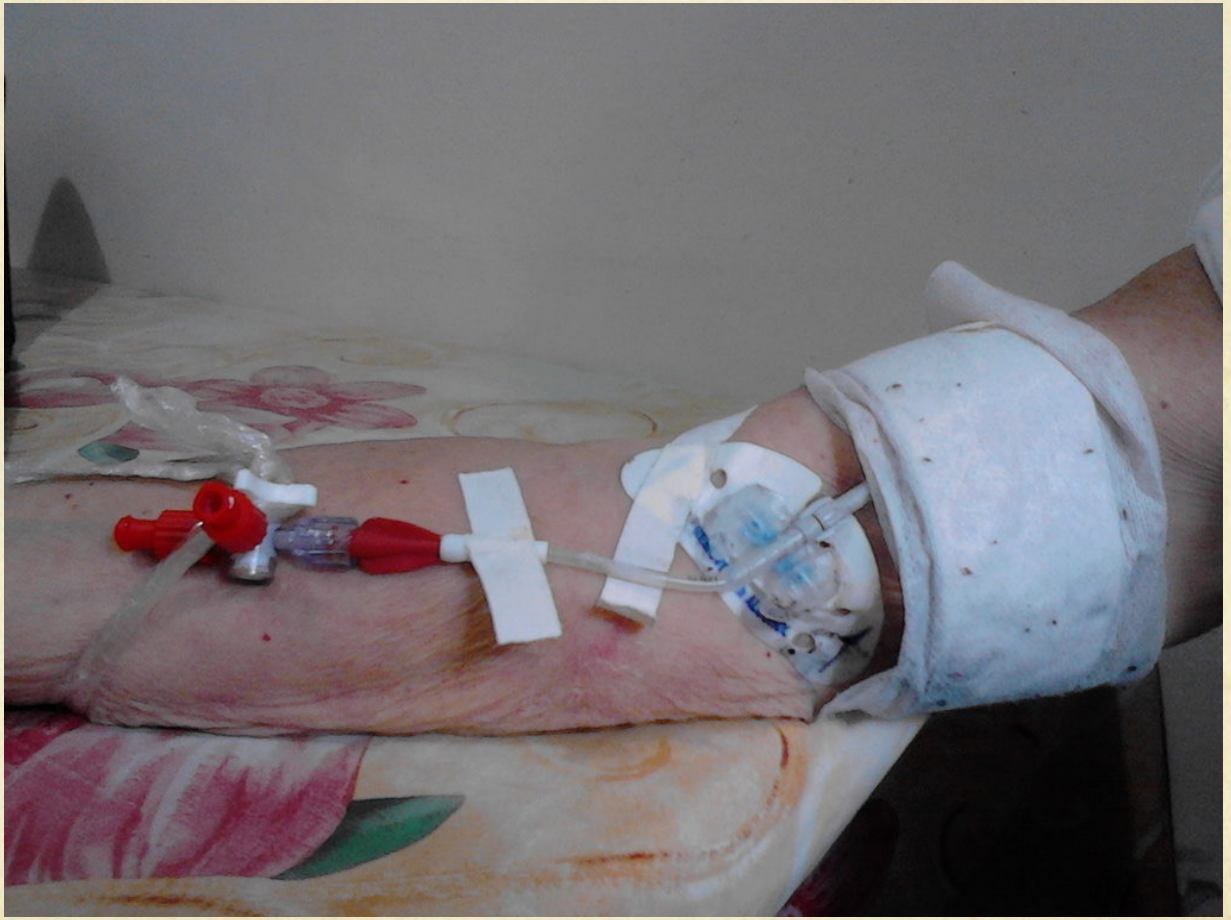
"Secure & Protect":

Cianoacrilato, Ancoraggio Sottocutaneo e

Medicazioni Trasparenti

Marco Ariotti
Cure Domiciliari
ASL Città di Torino

XV PICC Day



Ariotti M. 24/12/22

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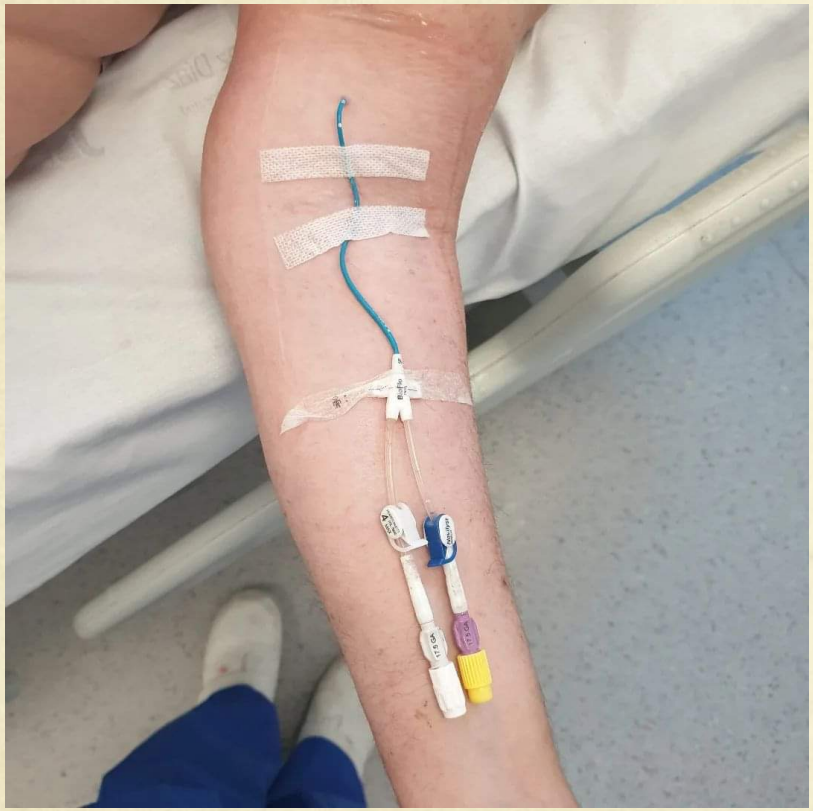

Ariotti M. 24/12/22

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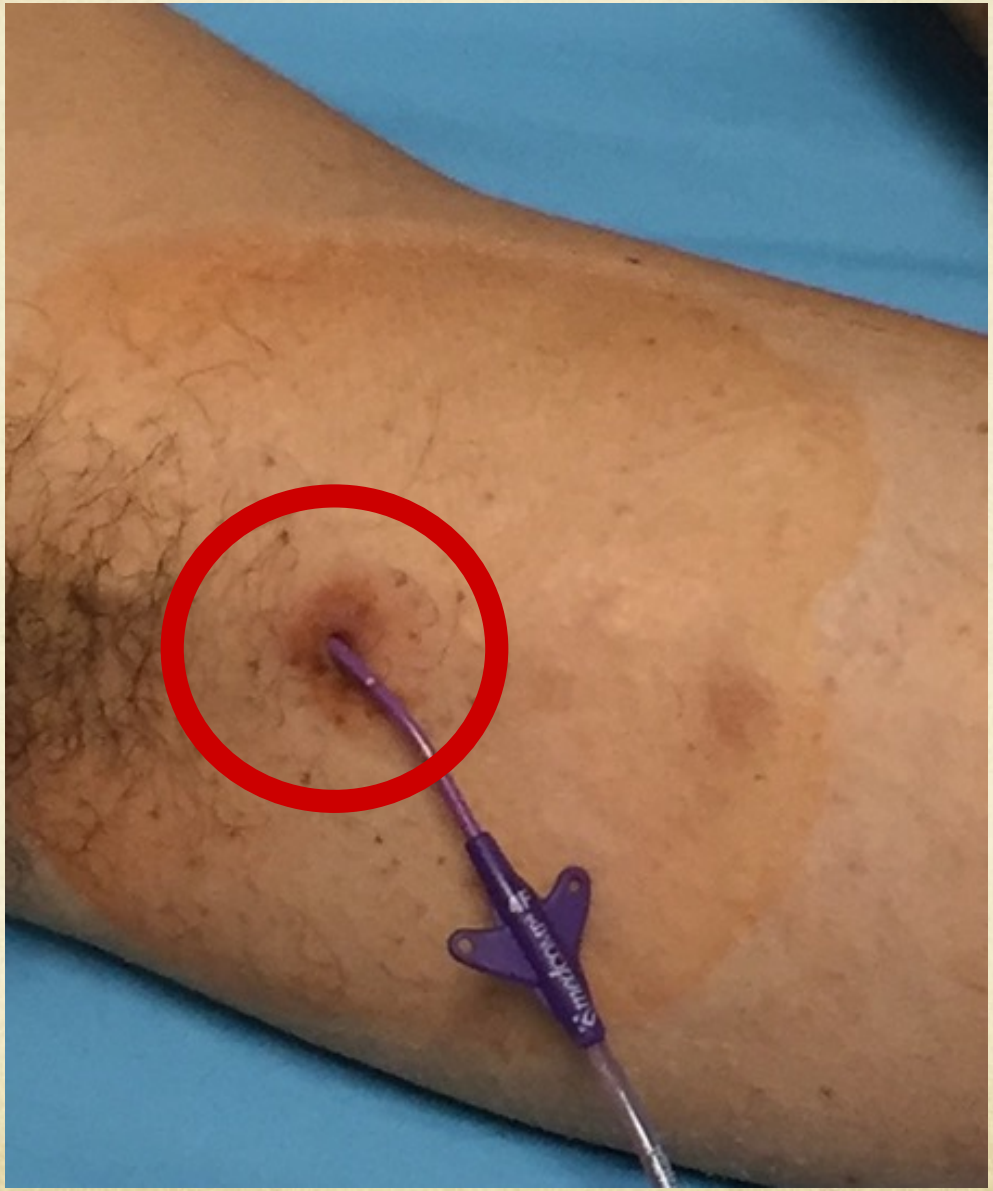

Ariotti M. 24/12/22

Il triplo approccio per un sito di inserzione “Secure e Protect” prevede:

- Cianoacrilato
- Fissaggio Sutureless
- MST

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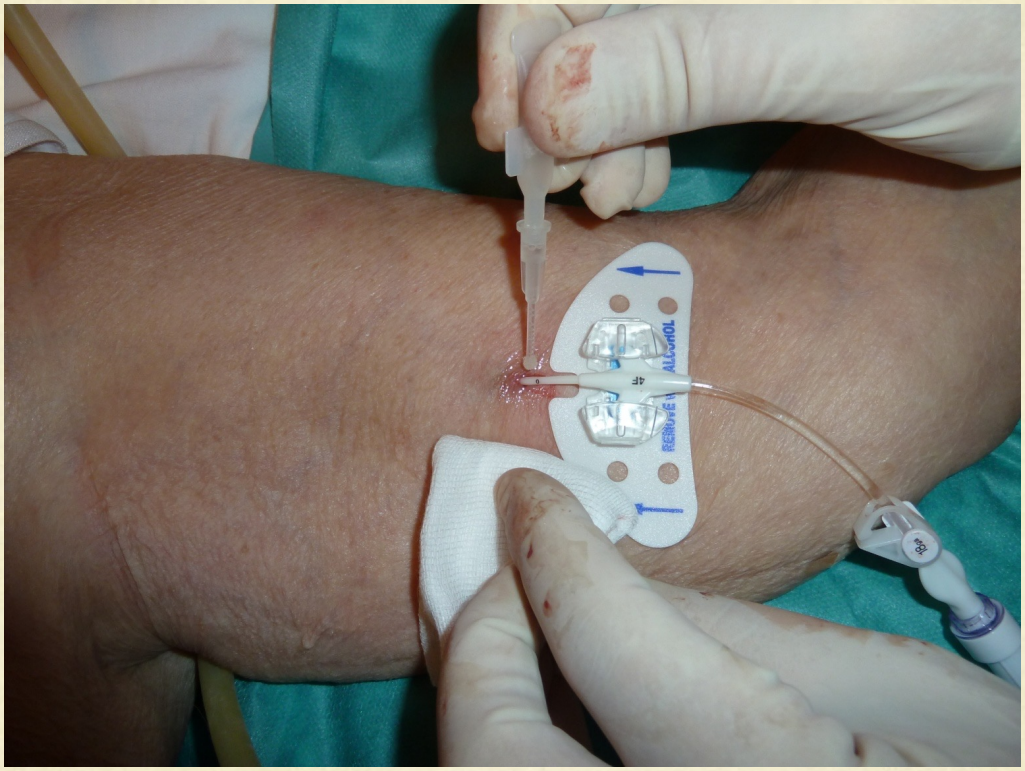
CIANOACRILATO



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Prevenzione sanguinamento

Critical Care 2013, Volume 17 Suppl 2
http://ccforum.com/supplements/17/S2

CRITICAL CARE

MEETING ABSTRACTS

33rd International Symposium on Intensive Care and Emergency Medicine

Cyanoacrylate glue prevents early bleeding of the exit site after CVC or PICC placement

G Scoppettuolo, MG Annetta, C Marano, E Tanzarella, M Pittiruti
Catholic University, Rome, Italy

Critical Care 2013, **17(Suppl 2)**:P174 (doi: 10.1186/cc12112)

Conclusion Glue is an inexpensive and highly effective tool for avoiding the risk of early bleeding of the exit site after catheter placement. We also suggest that in the next future the glue might prove to have beneficial collateral effects on the risk of extraluminal contamination (by reducing the entrance of bacteria in the space between the catheter and the skin), as well as on the risk of dislocation (by increasing the stability of the catheter inside the skin breach).

Risparmio economico

JVA
Volume 17 Number 4 July-August 2016
The Journal of Vascular Access

FIRST PICC/MIDLINE DRESSING AFTER INSERTION: FROM 24 HOURS UP TO 7 DAYS WITH CYANOACRYLATE GLUE

M. Ariotti
ASL Torino 1, Torino, Italy

Discussion and conclusions: The use of cyanoacrylate glue on catheter insertion site during implantation has proved to be a valid method to procrastinate the need of the first dressing after insertion, from the traditional 24 hours up to 7 days; and with considerable economics savings (both in material and in working time) and a reduction in discomfort for patients (particularly when patients are scheduled to return for the first dressing to the medical surgery the next day after implantation).

Prevenzione contaminazione batterica

NBCA(n-butyl-2-cianoacrilato) + OCA(2-octil-cianoacrilato)

BCA 80% + OCA 20% = attivo su Gram+

OCA 100% / OCA 80% + BCA 20% = attivo su Gram+ e Gram-

Prince, D., et al., Antibacterial effect and proposed method of action of a topical surgical adhesive. AJIC. 2017.

Prince, D., et al., Immobilization and Death of Bacteria by Flora Seal® Microbial Sealant. Int J Pharma Sci Invent, 2017. 6: p. 45-49.

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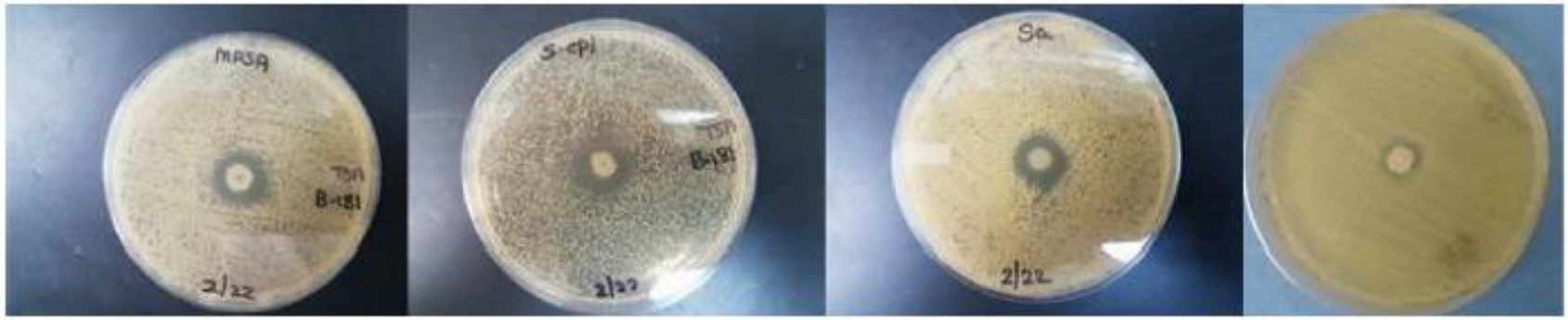
Contents lists available at ScienceDirect

American Journal of Infection Control

journal homepage: www.ajicjournal.org

Antibacterial effect and proposed mechanism of action of a topical surgical adhesive

Daniel Prince PhD *, Zankhna Solanki MS, Remy Varughese BS, Jozef Mastej BS, Derek Prince MS



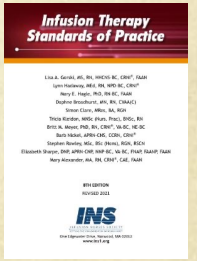
CONCLUSIONS

In addition to being a surgical adhesive used to close approximated wounds, 2-octyl cyanoacrylate rapidly kills bacteria known to cause nosocomial infection. The antibacterial effect is explained by the fact that by diffusion cells lose water essential for life.

Prevenzione dislocazioni

- *INS 2021 38. E*

  Evaluate the use of securement options such as **TA** in addition to a primary dressing or an ISD for **enhanced catheter stabilization** for short PIVCs. Although sample sizes are small, both have demonstrated reduced rates of failure in adults and pediatric patients and in some studies prolonged the PIVC dwell time. *(II)*



Kleidon TM, Rickard CM, Gibson V, et al. SMILE - Secure My Intravenous Line Effectively: a pilot randomised controlled trial of peripheral intravenous catheter securement in paediatrics. J Tissue Viability. 2020

Bugden S, Shean K, Scott M, et al. Skin glue reduces the failure rate of emergency department-inserted peripheral intravenous catheters: a randomized controlled trial. Ann Emerg Med. 2016

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Ten years of clinical experience with cyanoacrylate glue for venous access in a 1300-bed university hospital

Mauro Pittiruti, Maria Giuseppina Annetta, Bruno Marche, Vito D'Andrea and Giancarlo Scoppettuolo

British Journal of Nursing, 2022, Vol 31, No 8 (IV and Vascular Access Supplement)

Conclusion

In summary, there is now enough evidence on CG in several areas.

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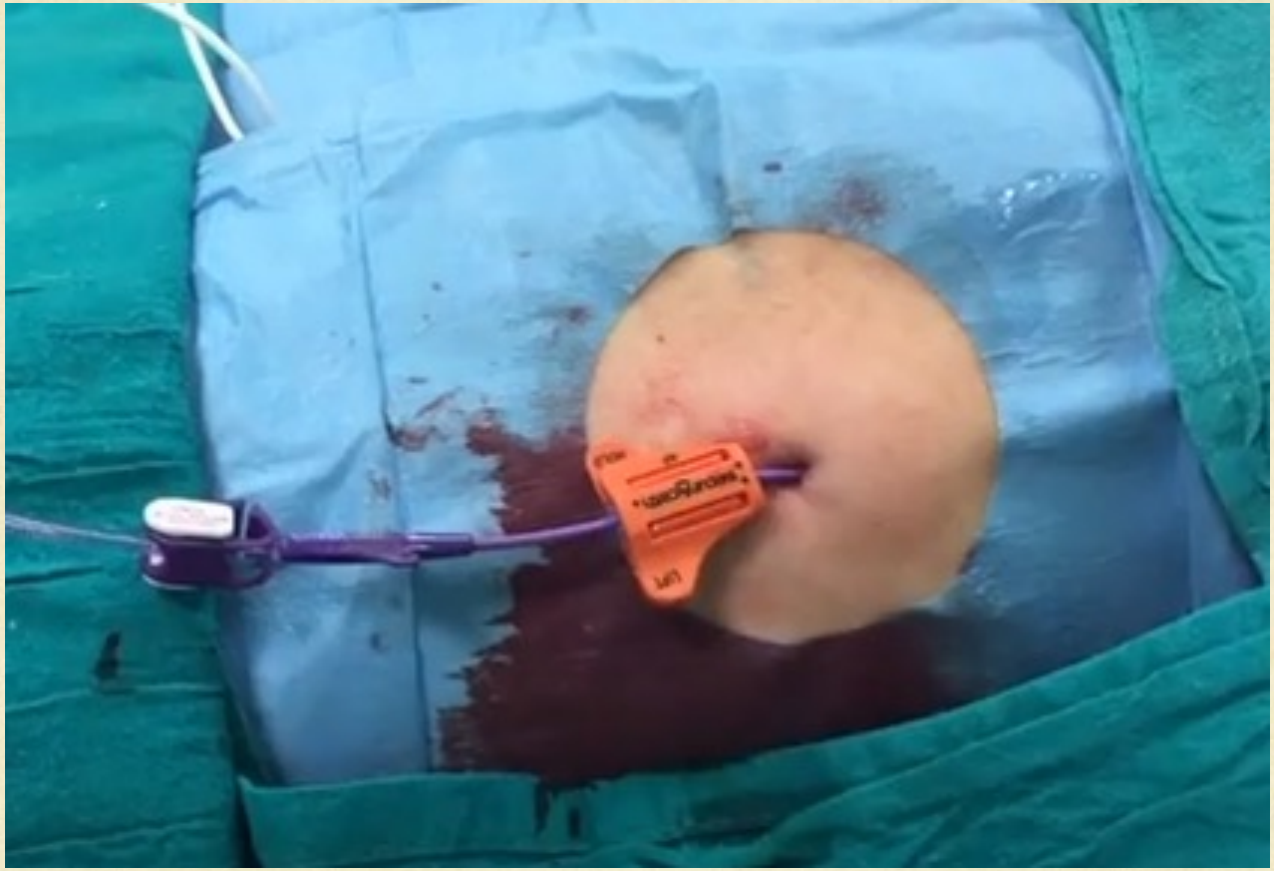
FISSAGGIO



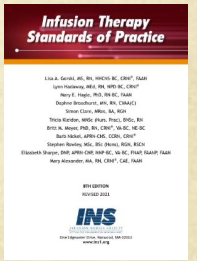
Guidelines for the Prevention of Intravascular Catheter-Related Infections, 2011

Catheter Securement Devices

Use a sutureless securement device to reduce the risk of infection for intravascular catheters [105]. Category II

- *INS 38. C*

Avoid use of sutures as they are not effective alternatives to a securement method; sutures are associated with needlestick injury, support the growth of biofilm, and increase the risk of CABSI. (II)



Ullman AJ, Cooke ML, Mitchell M, et al. Dressing and securement for central venous access devices (CVADs): a Cochrane systematic review. Int J Nurs Stud. 2016;

Mitchell ML, Ullman AJ, et al. CVAD securement and dressing effectiveness: the CASCADE pilot randomised controlled trial in the adult intensive care. Aust Crit Care. 2020

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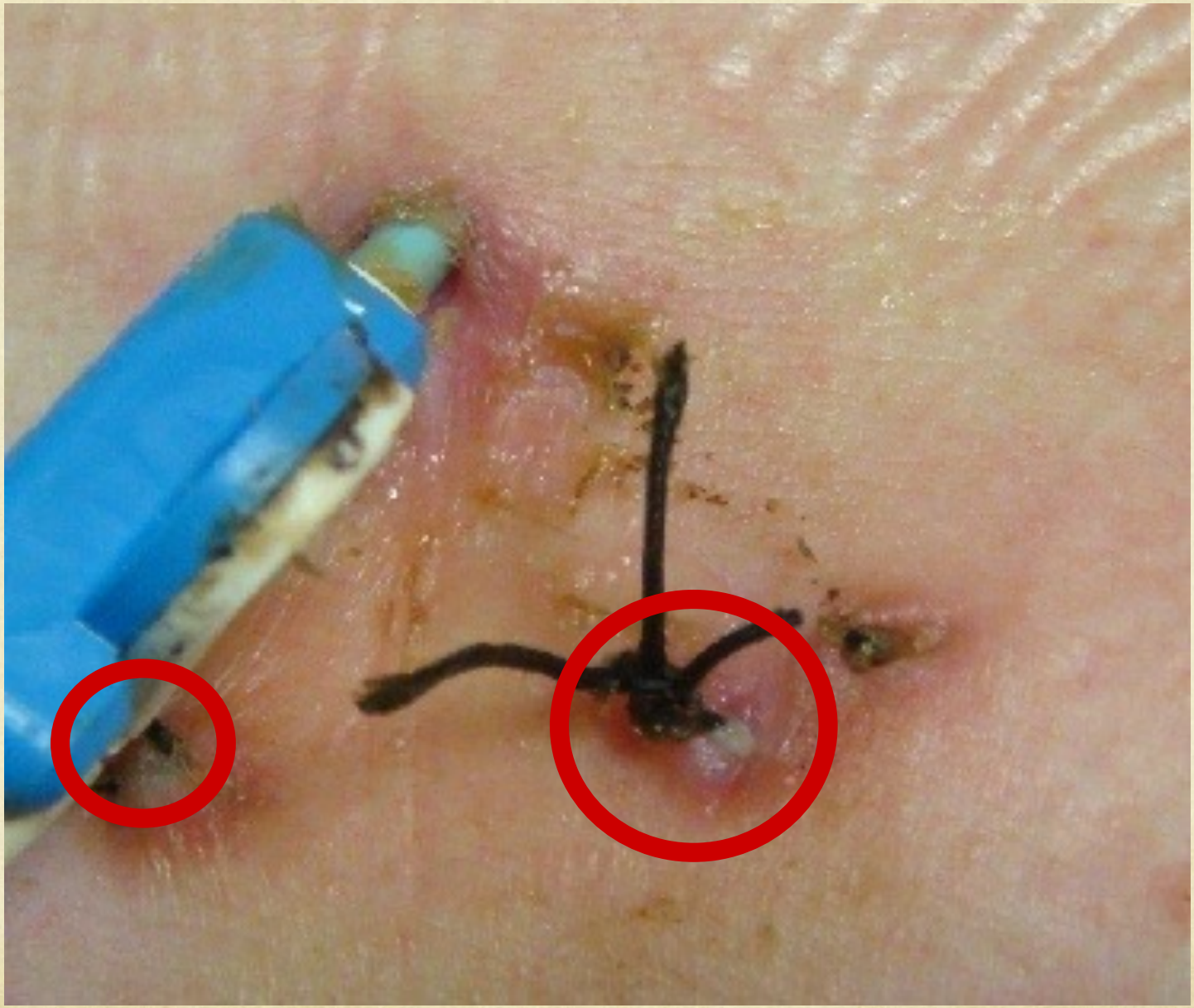


Ariotti M. 24/12/22

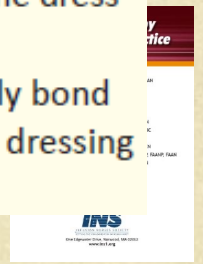
INS 2021 38. VASCULAR ACCESS DEVICE SECUREMENT

Adhesive securement device (ASD): an adhesive-backed device that adheres to the skin with a mechanism to hold the VAD in place; a separate dressing is placed over the ASD. Both the dressing and ASD must be removed and replaced at specific intervals during the VAD dwell time.

Integrated securement device (ISD): a device that combines a dressing with securement functions; includes transparent, semipermeable window and a bordered fabric collar with built-in securement technology.

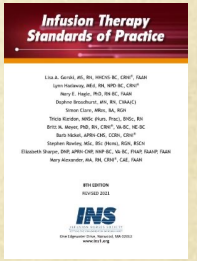
Subcutaneous anchor securement system (SASS): a securement device that anchors the VAD in place via flexible feet/posts that are placed just beneath the skin; these act to stabilize the catheter right at the point of insertion. A separate dressing is placed over the SASS. The SASS does not need to be changed at regular intervals when the dressing is changed; it can remain in place if there are no associated complications.

Tissue adhesive (TA): a medical-grade cyanoacrylate glue that can seal the insertion site and temporarily bond the catheter to the skin at the point of insertion and under the catheter hub. TA should be reapplied at each dressing change.



- *INS 2021 38. F*

  Use a **SASS, ISD, TA,** or **ASD** for peripherally inserted central catheters (PICCs) as an **alternative to sutures**; they are considered to be **safer than sutures** and **reduce risk of complications**, including **infection and dislodgement.** (I)



Kleidon TM, Ullman AJ, Gibson V, et al. A pilot randomized controlled trial of novel dressing and securement techniques in 101 pediatric patients. J Vasc Interv Radiol. 2017

Ralph Webber JL, Maningo-Salinas MJ. "Sticking it to them"— reducing migration of peripherally inserted central catheters. J Assoc Vasc Access

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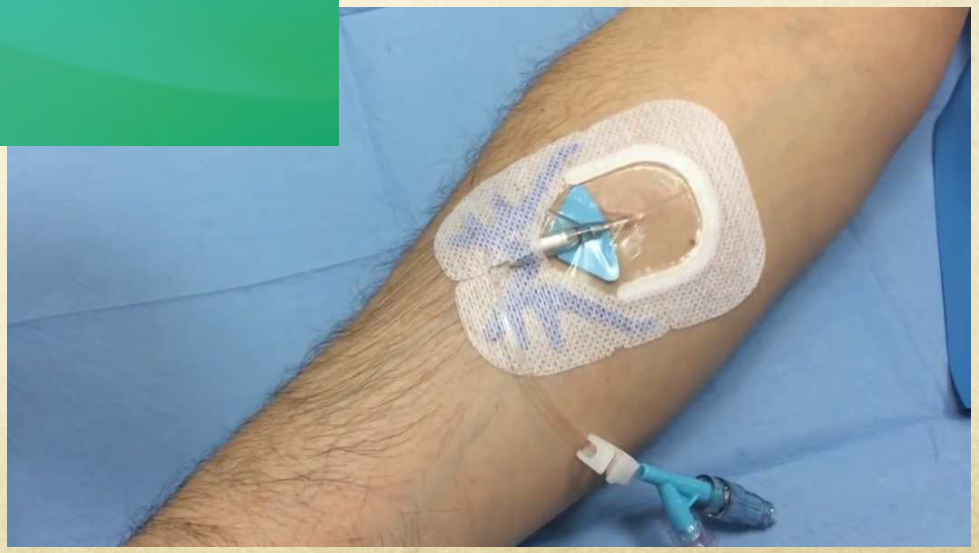
Adhesive Securement Device - ASD

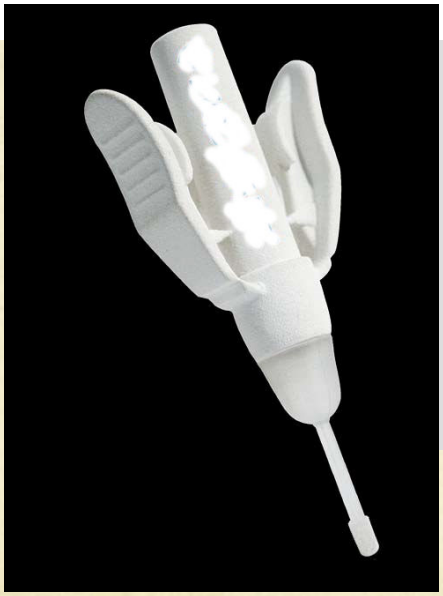
- **Adhesive securement device (ASD)**: an adhesive-backed device that **adheres to the skin** with a mechanism to hold the VAD in place; a **separate dressing is placed over** the ASD. Both the dressing and ASD must be **removed and replaced at specific intervals** during the VAD dwell time.

Integrated Securement Device - ISD



- **Integrated securement device (ISD)**: a device that **combines** a **dressing with securement functions**; includes transparent, semipermeable window and a bordered fabric collar with built-in securement technology.

Tissue Adhesive – TA



- **Tissue adhesive (TA)**: a medical-grade cyanoacrylate glue that can seal the insertion site and **temporarily bond the catheter to the skin** at the point of insertion and under the catheter hub. TA should be reapplied at each dressing change.

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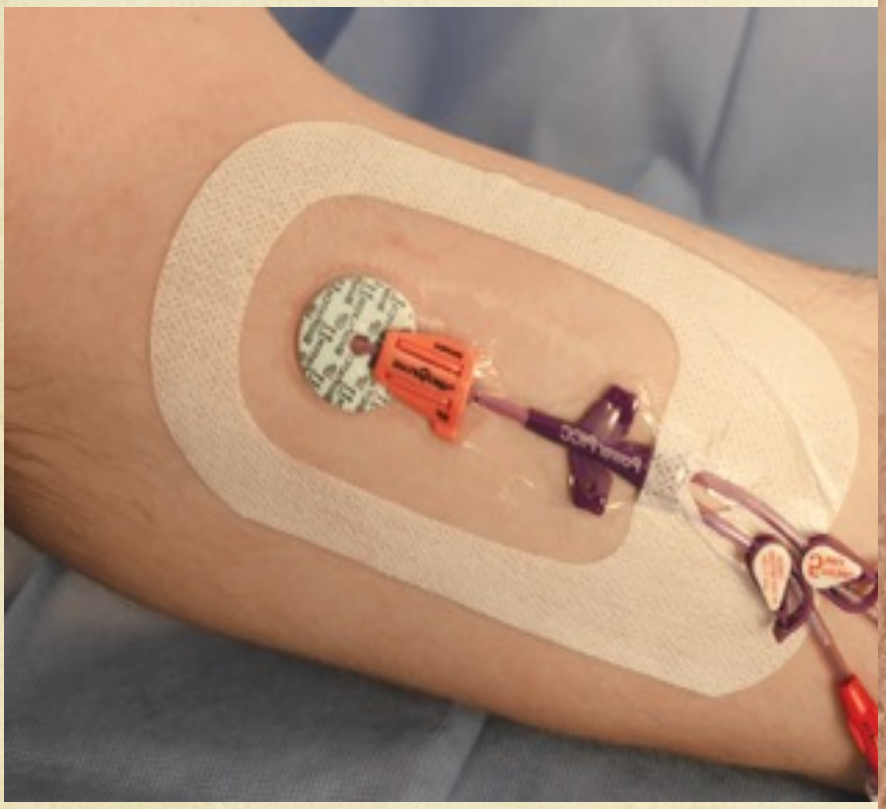
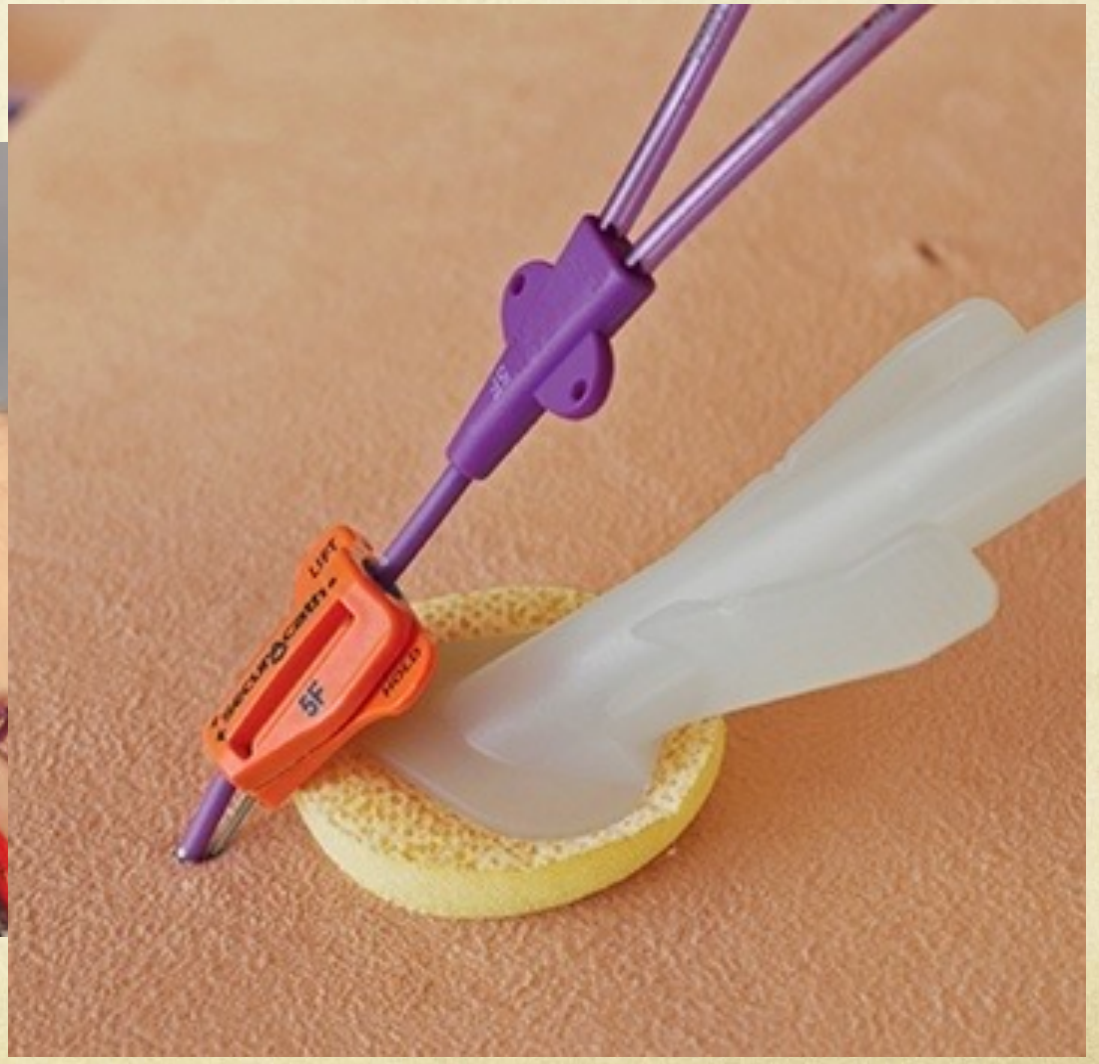
Subcutaneous anchor securement system (SASS)





- **Subcutaneous anchor securement system (SASS)**: a securement device that anchors the VAD in place via flexible feet/posts that are placed just beneath the skin; these act to stabilize the catheter right at the point of insertion. A separate **dressing is placed over** the SASS. The SASS **does not need to be changed** at regular intervals when the dressing is changed; it can remain in place if there are no associated complications.

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JVA
ISSN 1129-7298

J Vasc Access 2017; 00 (00): 000-000
DOI: 10.5301/jva.5000655

ORIGINAL RESEARCH ARTICLE

Evaluating safety, efficacy, and cost-effectiveness of PICC securement by subcutaneously anchored stabilization device

Pietro Antonio Zerla[1], Antonio Canelli[1], Lidia Cerne[1], Giuseppe Caravella[2], Alessandra Gilardini[2], Giuseppe De Luca[3], Ana Maria Aricisteanu[4], Raffaele Venezia[4]

Conclusion

The SAS, in our experience, has demonstrated a viable alternative to traditional devices for securing PICCs.

With regard to safety, the SAS has contributed to reduction of mechanical complications showing a greater ability to prevent the extraluminal dislodgement, with consequent reduction of the number of PICC replacements and a net reduction of the risk of therapy interruption and cost savings.

The SAS, although used in the most difficult conditions, (i.e., oncology patients) and for long dwell times, has demonstrated a clear superiority in stabilizing PICCs.

The introduction of SAS in the PICC procedure gave our institution not only economic but also professional benefits.

NICE National Institute for Health and Care Excellence

1.3 Cost modelling shows that SecurAcath is cost saving compared with adhesive securement devices if the PICC remains in place for 15 days or longer. Estimated cost savings range from £9 to £95 per patient for dwell times of 25 days and 120 days, respectively. Cost savings result from shorter maintenance times and less need for device replacement with SecurAcath. Annual savings across the NHS in England from using SecurAcath are estimated to be a minimum of £4.2 million.

Ariotti M. 24/12/22

CONSENSUS WoCoVA on SAS

- SAS is **effective in reducing the risk of dislodgment** when used for securing PICCs and other types of central VADs in **adult** patients as well as in **children** and **neonates.**

Pinelli F. et al. GAVeCeLT-WoCoVA Consensus on subcutaneously anchored securement devices for the securement of venous catheters: Current evidence and recommendations for future research - The Journal of Vascular Access , 2020

Raccomandazioni GAVeCeLT 2021 v. 2.0

L'apposizione del sistema di ancoraggio sottocutaneo (SAS) è raccomandata:

- In tutti i pazienti ad alto rischio di dislocazione (*pazienti in terapia intensiva sottoposti a frequenti mobilizzazioni; pazienti con deterioramento cognitivo o non collaboranti o agitati; etc.)*
- Nei pazienti in cui il fissaggio con sistemi sutureless ad adesività cutanea può essere inaffidabile (rischio di MARSI; previsione di sudorazioni profuse, etc.)
- Per criteri di costo-efficacia, è anche raccomandato utilizzare l'ancoraggio sottocutaneo per tutti i cateteri a medio termine (PICC, CICC tunnellizzati, FICC tunnellizzati) destinati a rimanere in situ per almeno 5 settimane

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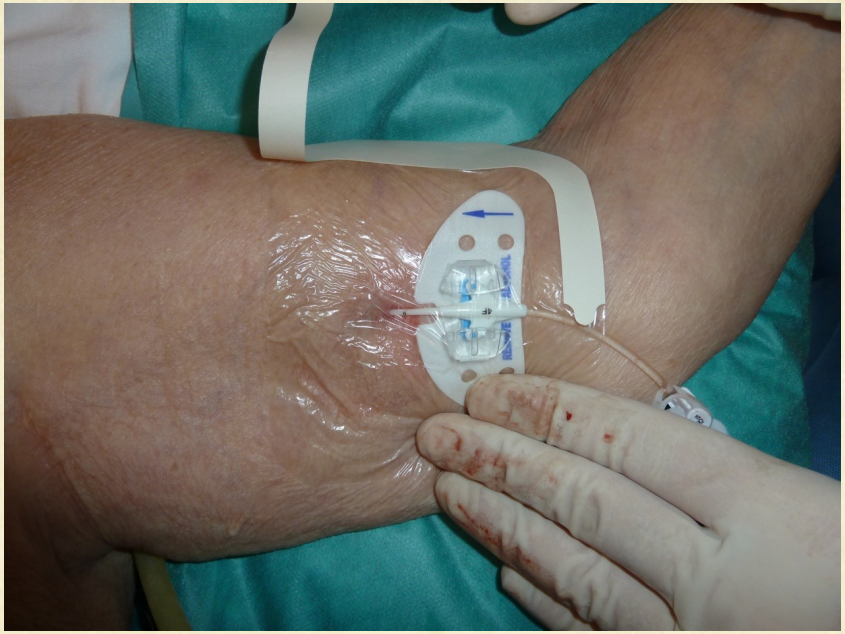
MEDICAZIONI TRASPARENTI



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Garza vs. Membrana Semipermeabile Trasparente

Catheter Site Dressing Regimens

1. Use either sterile gauze or sterile, transparent, semipermeable dressing to cover the catheter site [84–87]. Category IA
2. If the patient is diaphoretic or if the site is bleeding or oozing, use a gauze dressing until this is resolved [84–87]. Category II
3. Replace catheter site dressing if the dressing becomes damp, loosened, or visibly soiled [84, 85]. Category IB

Catheter and catheter site care

IVAD17 Use a sterile, transparent, semi-permeable polyurethane dressing to cover the intravascular insertion site.
Class D/GPP

IVAD19 Use a sterile gauze dressing if a patient has profuse perspiration or if the insertion site is bleeding or leaking, and change when inspection of the insertion site is necessary or when the dressing becomes damp, loosened or soiled. Replace with a transparent semi-permeable dressing as soon as possible.
Class D/GPP

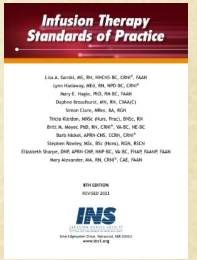
Available online at www.sciencedirect.com
Journal of Hospital Infection
journal homepage: www.elsevierhealth.com/journals/jhin
ELSEVIER

epic3: National Evidence-Based Guidelines for Preventing Healthcare-Associated Infections in NHS Hospitals in England

H.P. Loveday[a]*, J.A. Wilson[a], R.J. Pratt[a], M. Golsorkhi[a], A. Tingle[a], A. Bak[a], J. Browne[a], J. Prieto[b], M. Wilcox[c]

- ***INS 42. F***

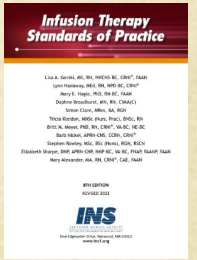
  Change **transparent semipermeable membrane** (TSM) dressings at least every **7 days** (except neonatal patients) or immediately if dressing integrity is disrupted (eg, lifted/detached on any border edge or within transparent portion of dressing; visibly soiled; presence of moisture, drainage, or blood) or compromised skin integrity is present under the dressing. *(III)*



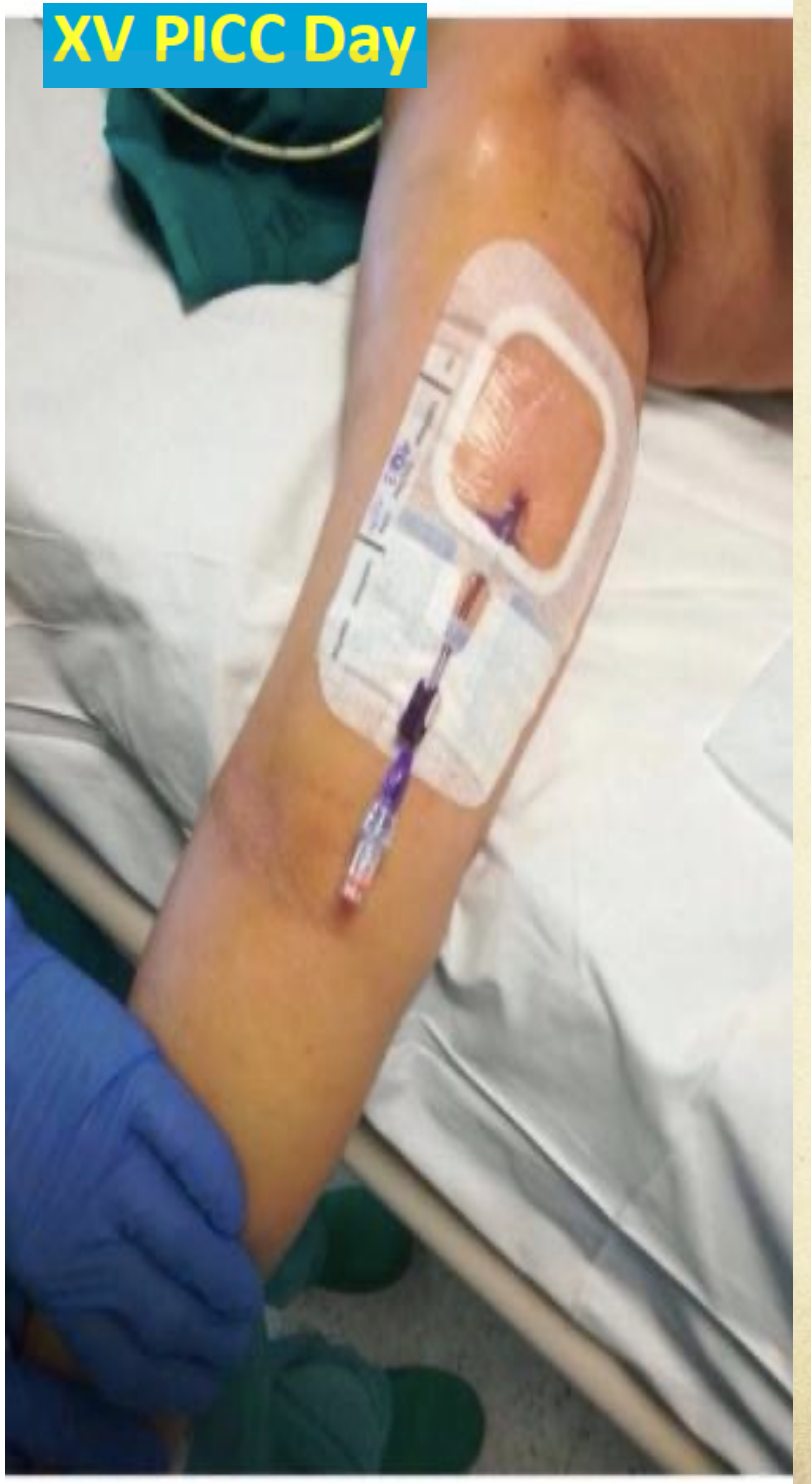
Moureau NL, Carr PJ. Vessel health and preservation: a model and clinical pathway for using vascular access devices. Br J Nurs. 2018

- ***INS 42. G***

  Change **sterile gauze** at least every **2 days** when inspection of the insertion site is necessary or if dressing integrity disrupted (eg, if damp, loosened, or visibly soiled); note that a gauze dressing underneath a TSM dressing is considered a gauze dressing, unless the site is not obscured… *(V)*



Loveday HP, Wilson JA, Pratt RJ, et al. epic3: National evidence-based guidelines for preventing healthcare-associated infections in NHS hospitals in England. *J Hosp Infect. 2014*



MST: vantaggi

- Visibilità dell'exit-site e della cute circostante
- Stabilizzazione (prevenzione dei piccoli movimenti in-out del device)
- Protezione (secrezioni, umidità , fluidi)
- Cambi meno frequenti

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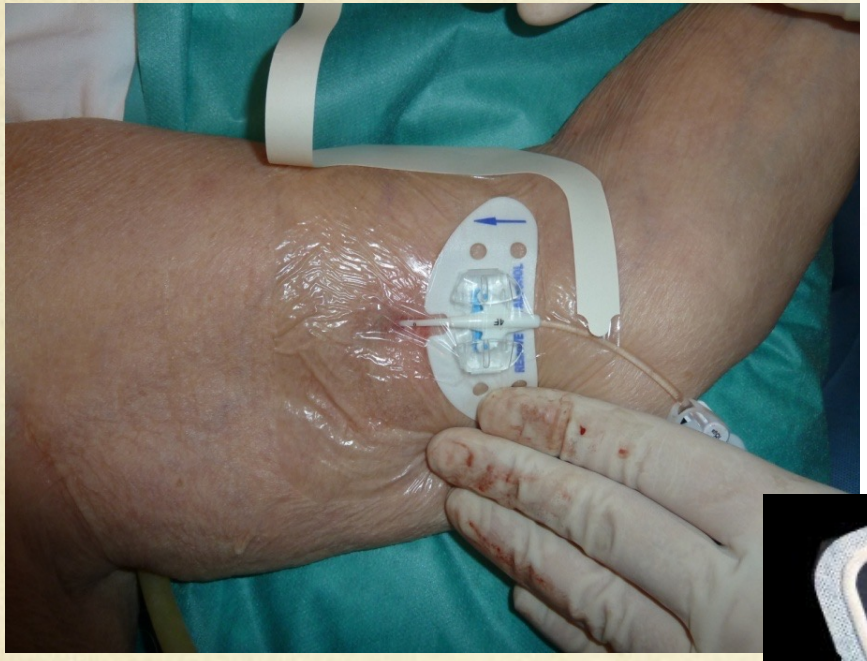
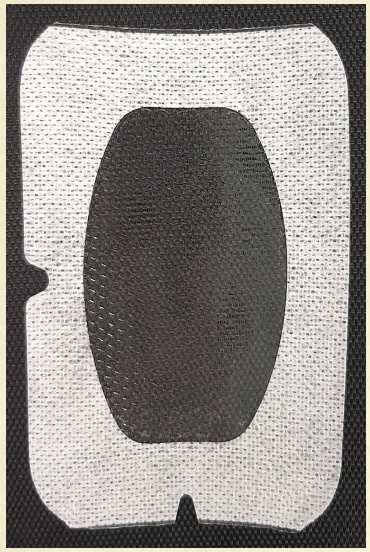
Medicazioni trasparenti

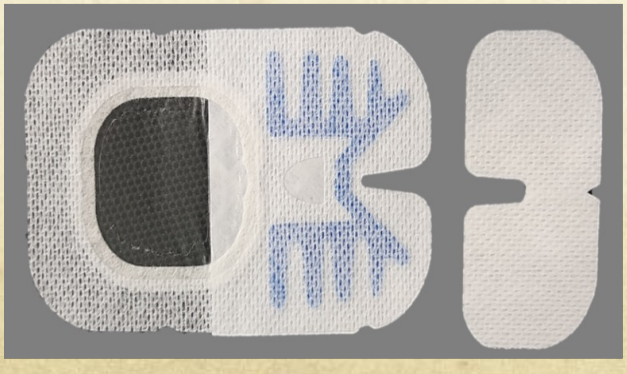


MEDICAZIONI semipermeabili trasparenti: design

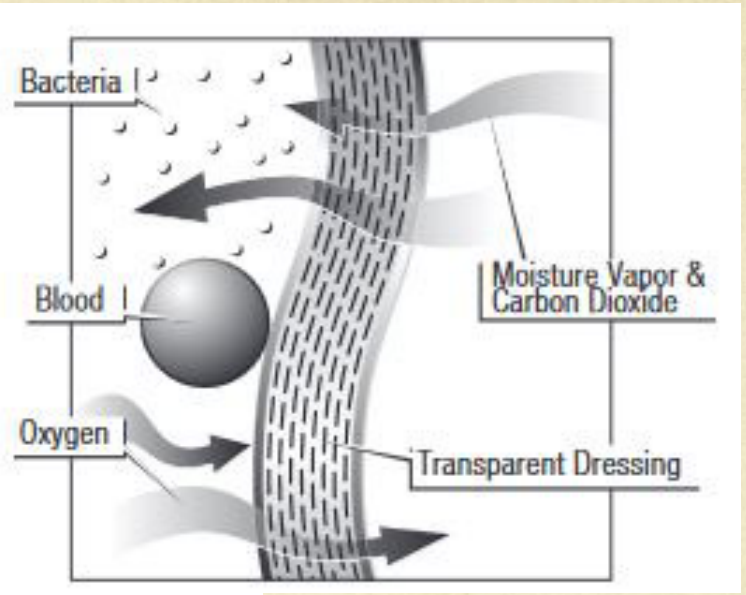


Bordate = > stabilizzazione

Non Bordate



Con sistema di fissaggio integrato



5.5 Moisture vapour transmission rate of dressings

This concept was introduced in the literature review. The MTVR is a measure of the rate of how much water vapour will pass through a given area of material in a specific time and is determined by the difference in partial pressure of water vapour across a membrane (Thomas, Barry, Fram, & Phillips, 2011, p.484). It is calculated by

> MVTR = > traspirabilità

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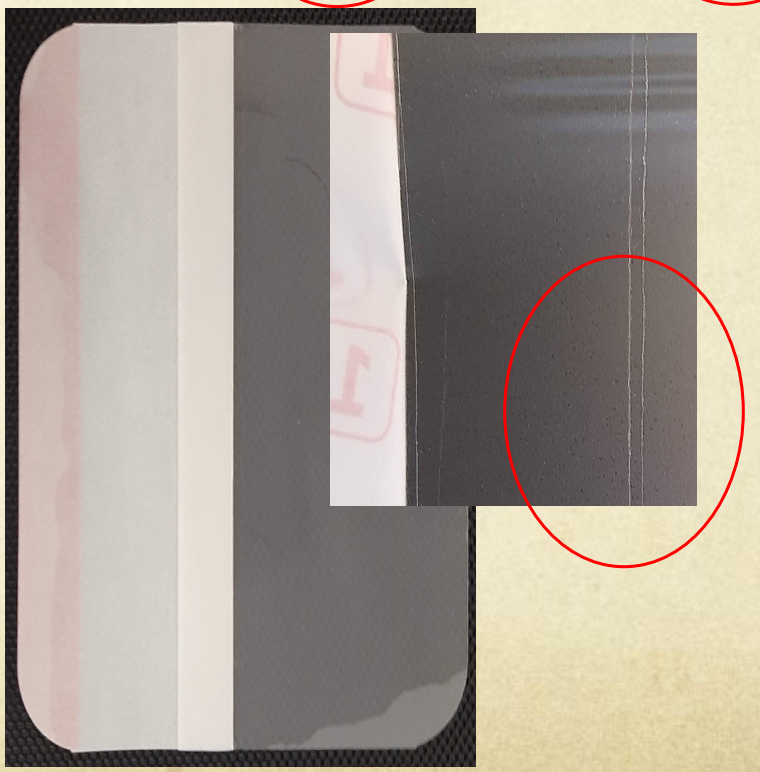
DISTRIBUZIONE IN CELLE

MAGGIORE TRASPIRABILITÀ
MAGGIORE FACILITÀ ALLA RIMOZIONE
MINOR RISCHIO DI MARSI

Acrilati

DISTRIBUZIONE UNIFORME

MINORE TRASPIRABILITA'
MAGGIORE RISCHIO DI MARSI



MARSI Medical Adhesive Related Skin Injury
danno cutaneo correlato all'adesivo medicale
eritemi e/o altre manifestazioni cutanee anormali (vesciche, erosioni, lacerazioni, etc.) che persistono più di 30 minuti dopo la rimozione di una medicazione

In definitiva, per un approccio "Secure & Protect"....

VAD	ASD	TA	SAS	ISD	MST
SPC					
SPC+P					
LPC					
ML					
PICC					
SHORT CICC/FICC					
TUNNELIZZATI					

In **NERO** al momento dell'impianto

In **ROSSO** al cambio medicazione

Cannule periferiche corte

VAD	ASD	TA	SAS	ISD	MST
SPC		?			yes

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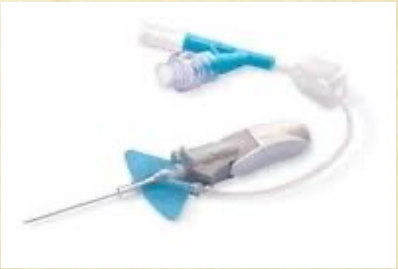
Cannule periferiche corte con prolunga integrata

VAD	ASD	TA	SAS	ISD	MST
SPC+P					yes
				yes	
		yes			yes
		yes		yes	
					yes
				yes	
					yes
				yes	



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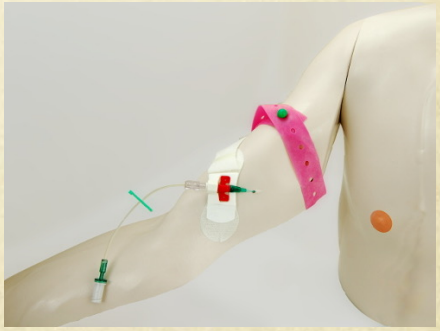
Cannule periferiche lunghe

VAD	ASD	TA	SAS	ISD	MST
LPC	yes				yes
	yes	yes			yes
		yes		yes	
				yes	
	yes				yes
				yes	



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Midline

VAD	ASD	TA	SAS	ISD	MST
ML	yes				yes
	yes	yes			yes
		yes		yes	
				yes	
	yes				yes
				yes	

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CVC breve permanenza

VAD	ASD	TA	SAS	ISD	MST
SHORT	yes				yes
CICC /	yes	yes			yes
FICC		yes		yes	
	yes				yes
	yes				yes
				yes	

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PICC

VAD	ASD	TA	SAS	ISD	MST
PICC	yes				yes
	yes	yes			yes
	yes	yes	yes		yes
		yes		yes	
	yes				yes
	yes				yes
				yes	
			x		yes

x = già in situ

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Tunnellizzati cuffiati

VAD	ASD	TA	SAS	ISD	MST
TUNNELLIZZATI	yes	yes			yes
CUFFIATI		yes		yes	
					yes

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Tunnellizzati non cuffiati

VAD	ASD	TA	SAS	ISD	MST
TUNNELLIZZATI	yes	yes			yes
NON CUFFIATI		yes		yes	
		yes	yes		yes
			x		yes
				yes	
	yes				yes

x = già in situ

- **CIANOACRILATO**: praticamente SEMPRE presente al momento dell'impianto (*da valutare per SPC*)

- **Medicazioni Semipermeabili Trasparenti**: SEMPRE presenti (singolarmente o con sistema di fissaggio integrato)

- **SISTEMI DI ANCORAGGIO**: SEMPRE presenti (*tranne Cannule Venose Periferiche corte senza prolunga integrata e, da valutare, per le CVP con prolunga integrata*), e SEMPRE **DISPOSITIVI AD ANCORAGGIO SOTTOCUTANEO** per i VAD a media/lunga permanenza non cuffiati e in tutti i casi in cui un sistema di fissaggio adesivo non è indicato

XV PICC Day

Grazie per l'attenzione!

Infermiere "Master I° liv. Nursing Accessi Venosi"

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