

**GAVe
CeLT
2022
ROMA**

5-6-7 Dicembre / December 5th-6th-7th



L'Importanza del Pack Omnicomprensivo nelle procedure di impianto del Bambino e Neonato

Vito D'Andrea
Riccardo Carlino



Esempio di Bundle per inserzione CVO

1. Indicazione appropriata al CVO
2. Scelta del dispositivo più appropriato (calibro/lumi)
3. Antisepsi appropriata del moncone e della cute circostante con CHG in IPA + **MASSIME PRECAUZIONI DI BARRIERA**
4. Progressione del CVO sotto controllo ecografico (**neo-ECHOTIP**)
5. Posizionamento finale della punta alla giunzione cavo-atriale inferiore sotto controllo ecografico (**neo-ECHOTIP**)
6. Fissaggio del CVO (membrana trasparente? cianoacrilato? Nuovi dispositivi sutureless?)

RESEARCH

Open Access

International evidence-based guidelines on Point of Care Ultrasound (POCUS) for critically ill neonates and children issued by the POCUS Working Group of the European Society of Paediatric and Neonatal Intensive Care (ESPNIC)



Yogen Singh^{1,2*†} , Cecile Tissot^{3†}, María V. Fraga⁴, Nadya Yousef⁵, Rafael Gonzalez Cortes⁶, Jorge Lopez⁶, Joan Sanchez-de-Toledo⁷, Joe Brierley⁸, Juan Mayordomo Colunga⁹, Dusan Raffaj¹⁰, Eduardo Da Cruz¹¹, Philippe Durand¹², Peter Kenderessy¹³, Hans-Joerg Lang¹⁴, Akira Nishisaki¹⁵, Martin C. Kneyber¹⁶, Pierre Tissieres¹², Thomas W. Conlon¹⁵ and Daniele De Luca^{5,17}

Neo-ECHOTIP: A structured protocol for ultrasound-based tip navigation and tip location during placement of central venous access devices in neonates

**Giovanni Barone¹ , Mauro Pittiruti² , Daniele G Biasucci³,
Daniele Elisei⁴, Emanuele Iacobone⁴ , Antonio La Greca²,
Geremia Zito Marinosci⁵ and Vito D'Andrea⁶ **

The Journal of Vascular Access
1–10

© The Author(s) 2021

Article reuse guidelines:

sagepub.com/journals-permissions

DOI: 10.1177/11297298211007703

journals.sagepub.com/home/jva



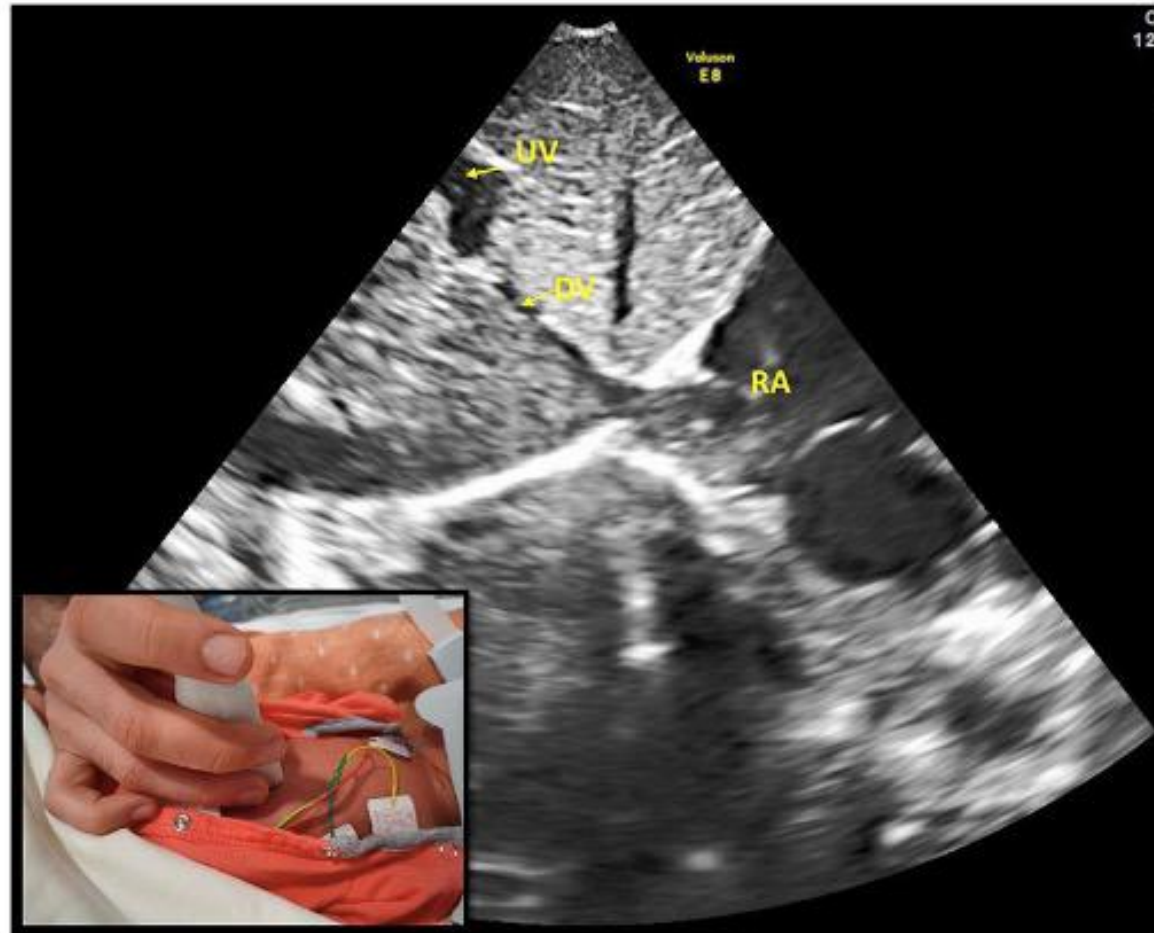


Table 1. Summary of Neo-ECHO tip.

Catheter	Protocol	Probe	Windows
UVC	Tip navigation	Small sectorial probe, 7–8MHz	Low subcostal longitudinal view
	Tip location	Small sectorial probe, 7–8MHz	Subcostal longitudinal view
ECCs inserted via veins of the scalp or of the upper limbs	Tip navigation	Linear “hockey stick” probe, 10–14MHz	Acoustic windows of RaCeVA and RaPeVA
	Tip location	Small sectorial probe, 7–8MHz	Bi-caval view; four-chamber apical view; long axis view of SVC
ECCs inserted via veins of the lower limbs	Tip navigation	Linear “hockey stick” probe, 10–14MHz	Short and long axis view of the femoral vein
	Tip location	Small sectorial probe, 7–8MHz	Subcostal longitudinal view
CICC	Tip navigation	Linear “hockey stick” probe, 10–14MHz	Acoustic windows of RaCeVA
	Tip location	Small sectorial probe, 7–8MHz	Bi-caval view; four-chamber apical view; long axis view of SVC
FICC	Tip navigation	Linear “hockey stick” probe, 10–14MHz and small sectorial probe	Short and long axis view of the femoral vein and subcostal longitudinal view
	Tip location	Small sectorial probe, 7–8MHz	Subcostal longitudinal view

Esempio di Bundle per inserzione ECC

1. Indicazione appropriata all'ECC
2. Scelta del dispositivo più appropriato (calibro/lumi), ma in poliuretano
3. Scelta della vena più appropriata (protocollo RaSuVA)
4. **Antisepsi appropriata** del moncone e della cute circostante con CHG in IPA + **MASSIME PRECAUZIONI DI BARRIERA**
5. Progressione dell'ECC sotto controllo ecografico (**neo-ECHOTIP**)
6. Posizionamento finale della punta sotto controllo ecografico (**neo-ECHOTIP**)
7. Secure and protect sito di emergenza (membrana trasparente + cianoacrilato)

RESEARCH

Open Access



International evidence-based guidelines on Point of Care Ultrasound (POCUS) for critically ill neonates and children issued by the POCUS Working Group of the European Society of Paediatric and Neonatal Intensive Care (ESPNIC)

Yogen Singh^{1,2*} , Cecile Tissot^{3†}, María V. Fraga⁴, Nadya Yousef⁵, Rafael Gonzalez Cortes⁶, Jorge Lopez⁶, Joan Sanchez-de-Toledo⁷, Joe Brierley⁸, Juan Mayordomo Colunga⁹, Dusan Raffaj¹⁰, Eduardo Da Cruz¹¹, Philippe Durand¹², Peter Kenderessy¹³, Hans-Joerg Lang¹⁴, Akira Nishisaki¹⁵, Martin C. Kneyber¹⁶, Pierre Tissieres¹², Thomas W. Conlon¹⁵ and Daniele De Luca^{5,17}

Neo-ECHOTIP: A structured protocol for ultrasound-based tip navigation and tip location during placement of central venous access devices in neonates

**Giovanni Barone¹ , Mauro Pittiruti² , Daniele G Biasucci³,
Daniele Elisei⁴, Emanuele Iacobone⁴ , Antonio La Greca²,
Geremia Zito Marinosci⁵ and Vito D'Andrea⁶ **

The Journal of Vascular Access
1–10

© The Author(s) 2021

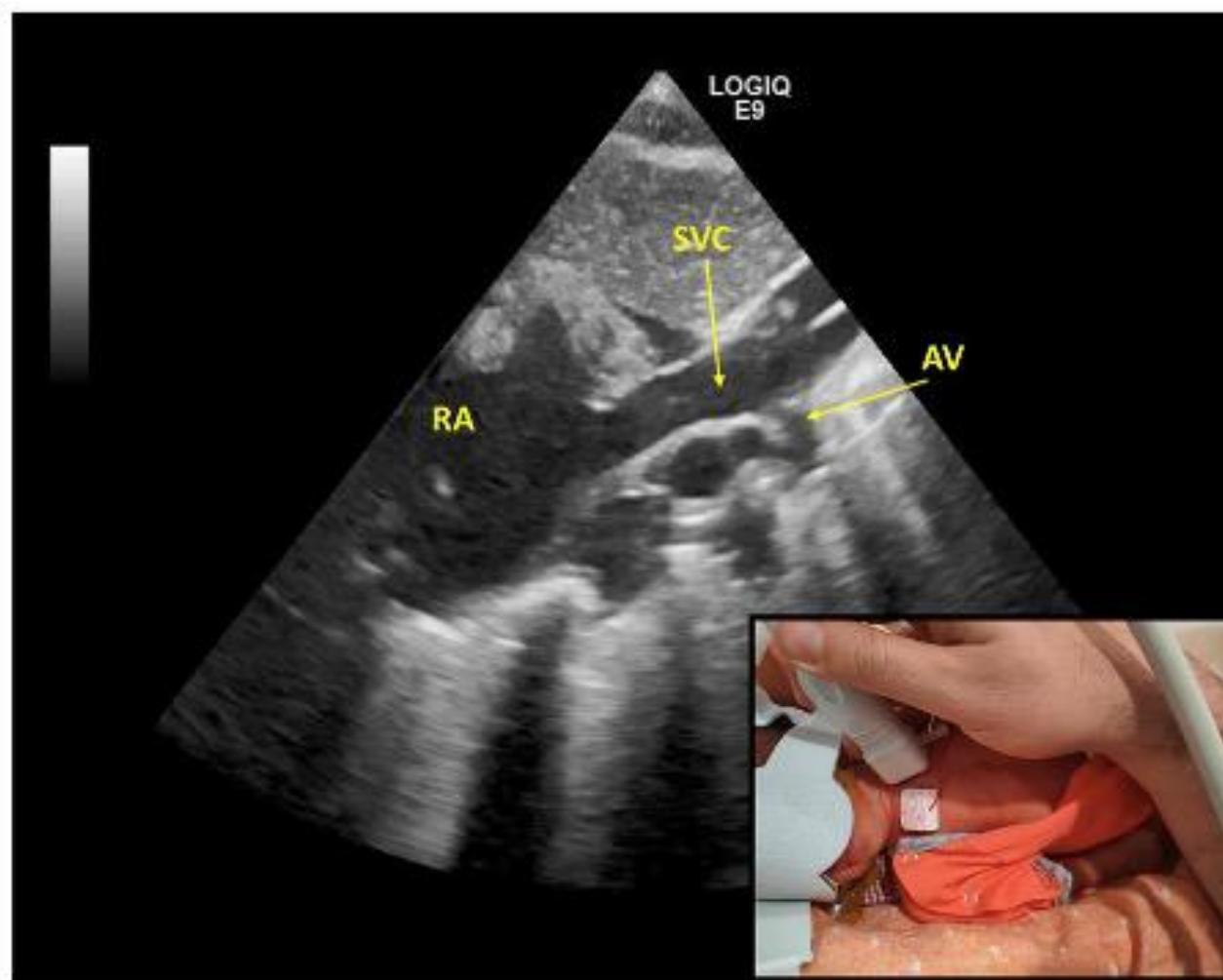
Article reuse guidelines:

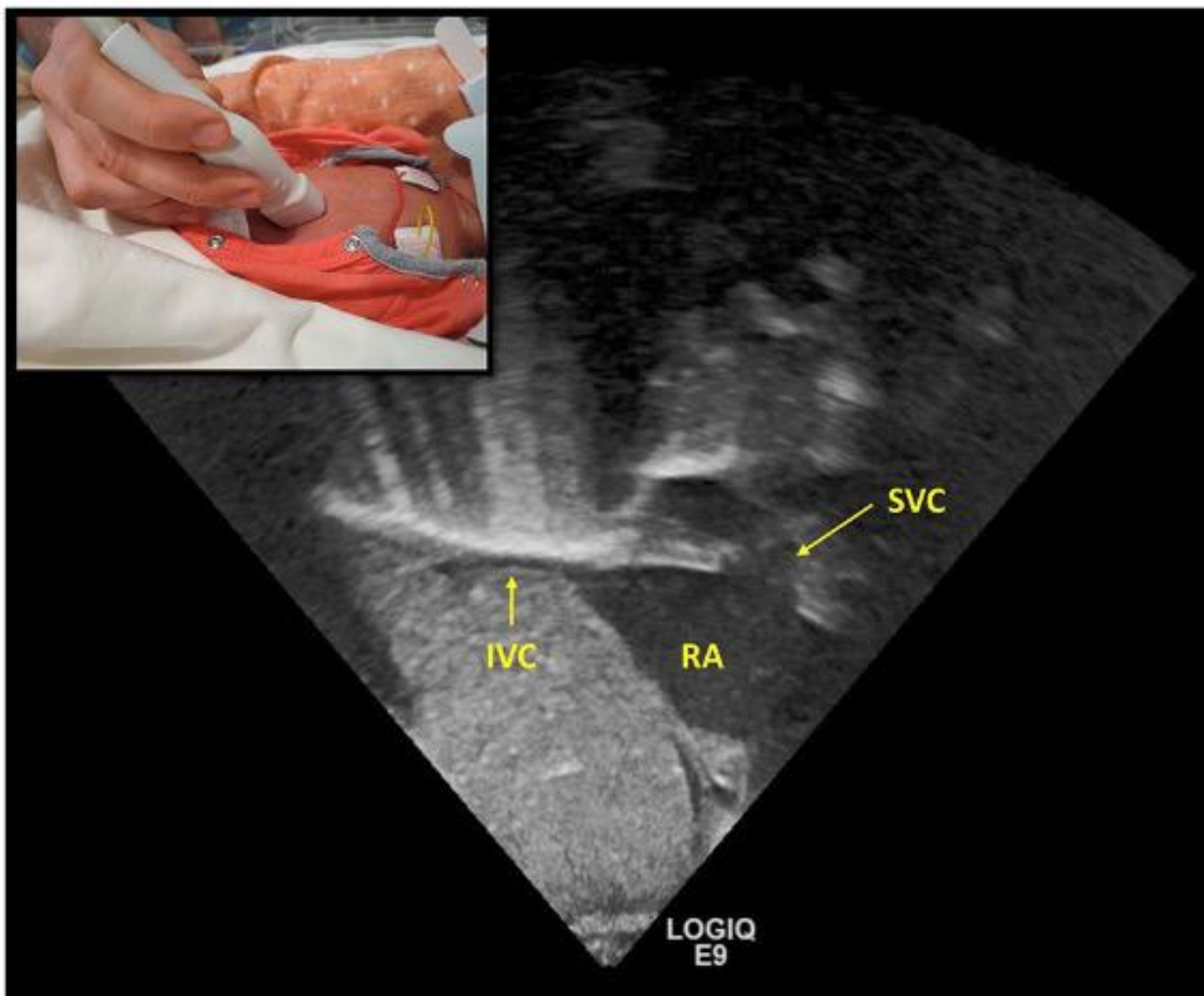
sagepub.com/journals-permissions

DOI: 10.1177/11297298211007703

journals.sagepub.com/home/jva







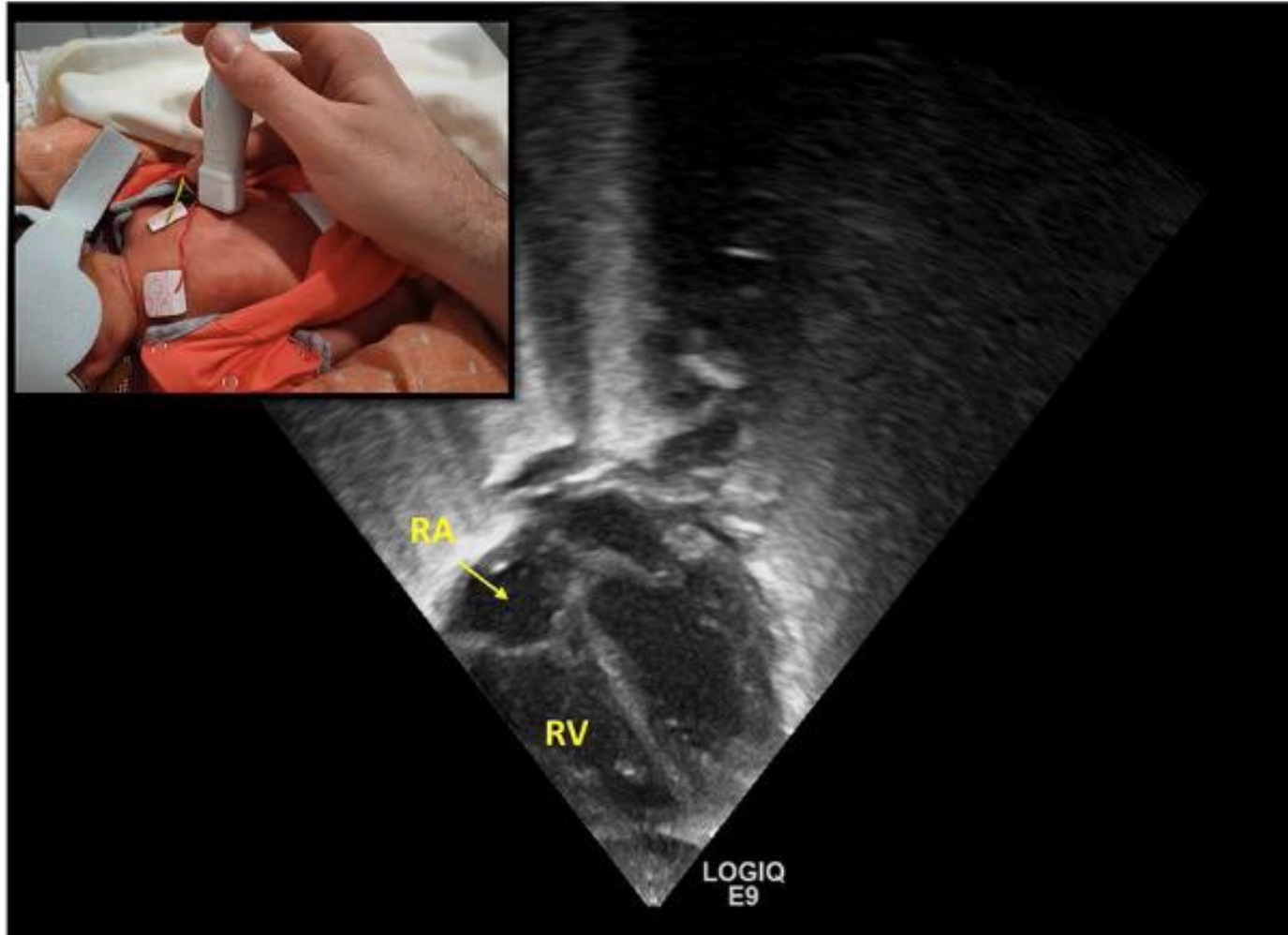


Table 1. Summary of Neo-ECHO tip.

Catheter	Protocol	Probe	Windows
UVC	Tip navigation	Small sectorial probe, 7–8MHz	Low subcostal longitudinal view
	Tip location	Small sectorial probe, 7–8MHz	Subcostal longitudinal view
ECCs inserted via veins of the scalp or of the upper limbs	Tip navigation	Linear “hockey stick” probe, 10–14MHz	Acoustic windows of RaCeVA and RaPeVA
	Tip location	Small sectorial probe, 7–8MHz	Bi-caval view; four-chamber apical view; long axis view of SVC
ECCs inserted via veins of the lower limbs	Tip navigation	Linear “hockey stick” probe, 10–14MHz	Short and long axis view of the femoral vein
	Tip location	Small sectorial probe, 7–8MHz	Subcostal longitudinal view
CICC	Tip navigation	Linear “hockey stick” probe, 10–14MHz	Acoustic windows of RaCeVA
	Tip location	Small sectorial probe, 7–8MHz	Bi-caval view; four-chamber apical view; long axis view of SVC
FICC	Tip navigation	Linear “hockey stick” probe, 10–14MHz and small sectorial probe	Short and long axis view of the femoral vein and subcostal longitudinal view
	Tip location	Small sectorial probe, 7–8MHz	Subcostal longitudinal view

The intracavitary electrocardiography method for positioning the tip of epicutaneous cava catheter in neonates: Pilot study

The Journal of Vascular Access
2018, Vol. 19(6) 542–547
© The Author(s) 2018
Article reuse guidelines:
sagepub.com/journals-permissions
DOI: 10.1177/1129729818761292
journals.sagepub.com/home/jva



**Antonella Capasso¹, Rossella Mastroianni¹, Annalisa Passariello^{2,3},
Marta Palma², Francesco Messina⁴, Antonella Ansalone¹,
Italo Bernardo¹, Daniela Brescia¹, Francesco Crispino¹,
Carolina Grassia¹, Attilio Romano¹ and Gaetano Ausanio¹**

Esempio di Bundle per inserzione CICC/FICC

1. Indicazione appropriata al dispositivo
2. Cateteri in poliuretano *power injectable*, 3Fr SL oppure 4FR SL o DL
3. Scelta della vena più appropriata (RaCeVA e RaFeVA)
4. Utilizzo di kit di micropuntura
5. **Antisepsi appropriata** del moncone e della cute circostante con CHG in IPA + **MASSIME PRECAUZIONI DI BARRIERA**
6. Progressione del catetere sotto controllo ecografico (**neo-ECHOTIP**)
7. TIP location mediante ECG intracavitario(**neo-ECHOTIP**)
8. Tunnellizzazione per ottenere il sito di emergenza ideale
9. Fissaggio del catetere mediante ancoraggio sottocutaneo
10. Protezione del sito di emergenza (membrana trasparente + cianoacrilato)

Centrally inserted central catheters in preterm neonates with weight below 1500 g by ultrasound-guided access to the brachio-cephalic vein

Giovanni Barone¹ , Mauro Pittiruti² , Gina Ancora¹,
Giovanni Vento³, Francesca Tota⁴ and Vito D'Andrea³ 

The Journal of Vascular Access
1–9

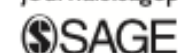
© The Author(s) 2020

Article reuse guidelines:

sagepub.com/journals-permissions

DOI: 10.1177/1129729820940174

journals.sagepub.com/home/jva



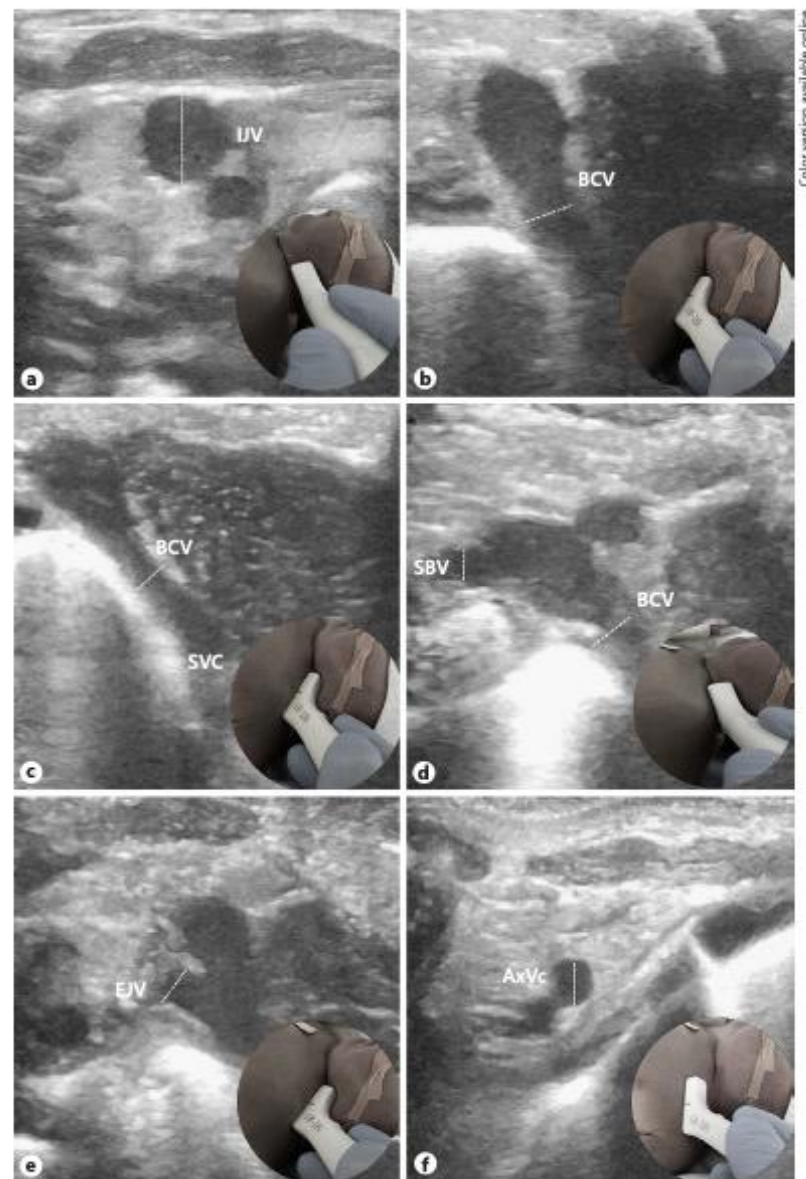


Fig. 1. a–f Rapid central vascular assessment (RaCeVA). IJV, internal jugular vein; BCV, brachiocephalic vein; SVC, superior vena cava; SBV, subclavian vein; EJV, external jugular vein; AxVc, axillary vein at the chest.

Intracavitary electrocardiography for tip location during central venous catheterization: A narrative review of 70 years of clinical studies

Mauro Pittiruti¹ , Filippo Pelagatti² and Fulvio Pinelli³ 

The Journal of Vascular Access

1–8

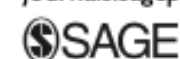
© The Author(s) 2020

Article reuse guidelines:

sagepub.com/journals-permissions

DOI: 10.1177/1129729820929835

journals.sagepub.com/home/jva



Original research article

JVA | The Journal of
Vascular Access

The intracavitary electrocardiography method for tip location of jugular internal vein access device in infants of less than 5 kg: A pilot study

Rossella Mastroianni, Antonella Capasso and Gaetano Ausanio

The Journal of Vascular Access
1–5

© The Author(s) 2018

Reprints and permissions:

sagepub.co.uk/journalsPermissions.nav

DOI: 10.1177/1129729818769028

journals.sagepub.com/home/jva

 **SAGE**

Neo-ECHOTIP: A structured protocol for ultrasound-based tip navigation and tip location during placement of central venous access devices in neonates

**Giovanni Barone¹ , Mauro Pittiruti² , Daniele G Biasucci³,
Daniele Elisei⁴, Emanuele Iacobone⁴ , Antonio La Greca²,
Geremia Zito Marinosci⁵ and Vito D'Andrea⁶ **

The Journal of Vascular Access
1–10

© The Author(s) 2021

Article reuse guidelines:

sagepub.com/journals-permissions

DOI: 10.1177/11297298211007703

journals.sagepub.com/home/jva



Table 1. Summary of Neo-ECHO tip.

Catheter	Protocol	Probe	Windows
UVC	Tip navigation	Small sectorial probe, 7–8MHz	Low subcostal longitudinal view
	Tip location	Small sectorial probe, 7–8MHz	Subcostal longitudinal view
ECCs inserted via veins of the scalp or of the upper limbs	Tip navigation	Linear “hockey stick” probe, 10–14MHz	Acoustic windows of RaCeVA and RaPeVA
	Tip location	Small sectorial probe, 7–8MHz	Bi-caval view; four-chamber apical view; long axis view of SVC
ECCs inserted via veins of the lower limbs	Tip navigation	Linear “hockey stick” probe, 10–14MHz	Short and long axis view of the femoral vein
	Tip location	Small sectorial probe, 7–8MHz	Subcostal longitudinal view
CICC	Tip navigation	Linear “hockey stick” probe, 10–14MHz	Acoustic windows of RaCeVA
	Tip location	Small sectorial probe, 7–8MHz	Bi-caval view; four-chamber apical view; long axis view of SVC
FICC	Tip navigation	Linear “hockey stick” probe, 10–14MHz and small sectorial probe	Short and long axis view of the femoral vein and subcostal longitudinal view
	Tip location	Small sectorial probe, 7–8MHz	Subcostal longitudinal view

SHEA/IDSA/APIC Practice Recommendation

Strategies to prevent central line-associated bloodstream infections in acute-care hospitals: 2022 Update

Niccolò Buetti MD, MSc, PhD^{1,2,a} , Jonas Marschall MD, MSc^{3,4,a} , Marci Drees MD, MS^{5,6} ,
Mohamad G. Fakih MD, MPH⁷ , Lynn Hadaway MEd, RN, NPD-BC, CRNI⁸, Lisa L. Maragakis MD, MPH⁹,
Elizabeth Monsees PhD, MBA, RN, CIC^{10,11} , Shannon Novosad MD MPH¹², Naomi P. O'Grady MD¹³,
Mark E. Rupp MD¹⁴ , Joshua Wolf MBBS, PhD, FRACP^{15,16} , Deborah Yokoe MD, MPH¹⁷ and
Leonard A. Mermel DO, ScM^{18,19} 

Essential Practices

Before insertion

1. Provide easy access to an evidence-based list of indications for CVC use to minimize unnecessary CVC placement (Quality of Evidence: LOW)
2. Require education and competency assessment of HCP involved in insertion, care, and maintenance of CVCs about CLABSI prevention (Quality of Evidence: MODERATE)^{74–78}
3. Bathe ICU patients aged >2 months with a chlorhexidine preparation on a daily basis (Quality of Evidence: HIGH)^{86–90}

At insertion

1. In ICU and non-ICU settings, a facility should have a process in place, such as a checklist, to ensure adherence to infection prevention practices at the time of CVC insertion (Quality of Evidence: MODERATE)¹⁰¹
2. Perform hand hygiene prior to catheter insertion or manipulation (Quality of Evidence: MODERATE)^{102–107}
3. The subclavian site is preferred to reduce infectious complications when the catheter is placed in the ICU setting (Quality of Evidence: HIGH)^{33,37,108–110}
4. **Use an all-inclusive catheter cart or kit (Quality of Evidence: MODERATE)¹¹⁸**
5. Use ultrasound guidance for catheter insertion (Quality of Evidence: HIGH)^{119,120}
6. Use maximum sterile barrier precautions during CVC insertion (Quality of Evidence: MODERATE)^{123–128}
7. Use an alcoholic chlorhexidine antiseptic for skin preparation (Quality of Evidence: HIGH)^{42,129–134}

After insertion

1. Ensure appropriate nurse-to-patient ratio and limit use of float nurses in ICUs (Quality of Evidence: HIGH)^{34,35}
2. Use chlorhexidine-containing dressings for CVCs in patients over 2 months of age (Quality of Evidence: HIGH)^{45,135–142}
3. For non-tunneled CVCs in adults and children, change transparent dressings and perform site care with a chlorhexidine-based antiseptic at least every 7 days or immediately if the dressing is soiled, loose, or damp. Change gauze dressings every 2 days or earlier if the dressing is soiled, loose, or damp (Quality of Evidence: MODERATE)^{145–148}
4. Disinfect catheter hubs, needleless connectors, and injection ports before accessing the catheter (Quality of Evidence: MODERATE)^{150–154}
5. Remove nonessential catheters (Quality of Evidence: MODERATE)
6. Routine replacement of administration sets not used for blood, blood products, or lipid formulations can be performed at intervals up to 7 days (Quality of Evidence: HIGH)¹⁶⁴
7. Perform surveillance for CLABSI in ICU and non-ICU settings (Quality of Evidence: HIGH)^{13,165,166}

33. VASCULAR ACCESS SITE PREPARATION AND DEVICE PLACEMENT

hand hygiene; skin antisepsis using >0.5% chlorhexidine in alcohol solution; maximal sterile barrier precautions; and avoidance of the femoral vein in obese adult patients during placement under planned and controlled conditions.^{3,15,16,33} (I)

Ensure adherence to proper technique through use of and completion of a standardized checklist completed by an educated health care clinician and empower the clinician to stop the procedure for any breaches in aseptic technique. Completion of a checklist should be done by someone other than the CVAD inserter.^{15,34}

Use a standardized supply cart or kit that contains all necessary components for the insertion of a CVAD.¹⁵ (IV)

III. Central Vascular Access Device (CVAD)

A. Implement the central line bundle when placing CVADs, which includes the following interventions:

SCHEDA TECNICA



Codice prodotto 80199.695

Nome commerciale Kit per il posizionamento di cateteri ombelicali

DESCRIZIONE DEL PRODOTTO

Set di base contenente i componenti essenziali per eseguire l'impianto di cateteri ombelicali:

- 1 telo finestrato trasparente 50 x 50cm "Easy-Peel"
- 2 teli 45x70 cm senza adesivi
- 1 telo di chiusura
- 1 bisturi standard
- 2 pinza Emostatica curva
- 1 paio di forbici per suture
- 1 pinza Emostatica dritta
- 1 pinza Iris semi-curva
- 1 pinza Iris retta
- 1 pinza Iris "full curved"
- 1 pinza Iris retta dentata
- 1 porta aghi
- 1 laccio ombelicale
- 10 garze 10x10cm, 8 pieghe
- 6 garze 5x5cm, 8 pieghe
- 2 ciotole 60ml
- 2 siringhe (5 ml)
- 1 siringa (1ml)
- 2 siringa (3ml)
- 1 metro graduato
- 2 unità di strisce adesive di fissaggio
- 1 dilatatore
- 1 filo sutura in seta 3.0 con ago curvo
- 1 ago ipodermico di sicurezza 18G
- 1 ago ipodermico di sicurezza 20G
- 2 salviette assorbenti 33x38 cm



SCHEDA TECNICA

Codice prodotto 80199.519

Nome commerciale Kit per il posizionamento di PICC neonatali



COMPOSIZIONE SET

- 1 busta di Steri-Strip piccole 6 x 38 mm (6 pezzi)
- 1 telo finestrato trasparente *easy-peel* 50 x 50 cm
- 2 teli 45x75 cm (lato assorbente/ lato impermeabile)
- 2 salviette assorbenti
- 2 metri graduati
- 2 medicazioni Tegaderm (4x4 cm)
- 1 laccio emostatico neonatale
- 1 paio di forbici neonatali Reynolds 9 cm
- 1 paio di pinze neonatali Iris dritte 10 cm
- 1 paio di pinze neonatali Iris curve 10 cm
- 1 paio di pinze porta tamponi
- 1 siringa 10 ml Luer slip
- 2 ciotole 60 ml
- 5 compresse di garza 7.5 x 7.5cm (4 strati)
- 4 batuffoli di garza
- 1 telo di apertura 75 x 90 cm

ILLUSTRAZIONE





SCHEDA TECNICA

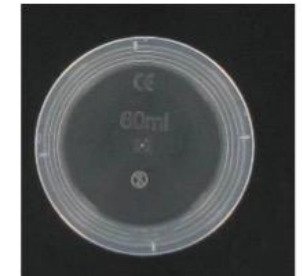
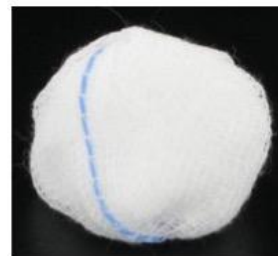
Codice prodotto	A80199.013
Nome commerciale	Basic set TIN RM01 DMD



DESCRIZIONE DEL PRODOTTO

Kit procedurale per neonatologia contenente i seguenti componenti:

- 4 Batuffoli di garze 20 x 20mm piccole ORX
- 10 compresse di garze 7.5 x 7.5 cm 4 strati
- 1 Ciotola tonda di vetro 60ml
- 2 Tegaderm Diamond 6 x 7 cm R1684 (confezionati a parte)
- 1 Grip-lok dispositivo di fissaggio per cateteri vascolari neonatali e pediatrici Vygon
- 2 Steri-strips 75x6 mm confez. da 3 pezzi (ref. r1541)



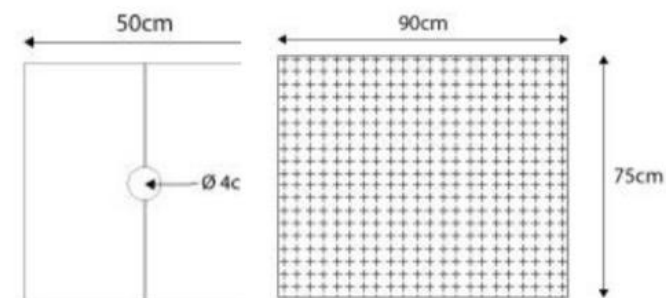
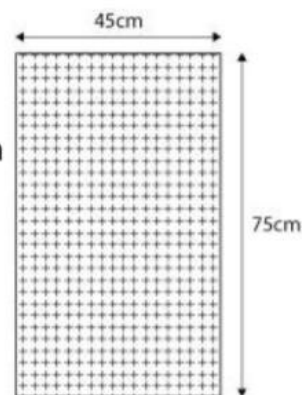
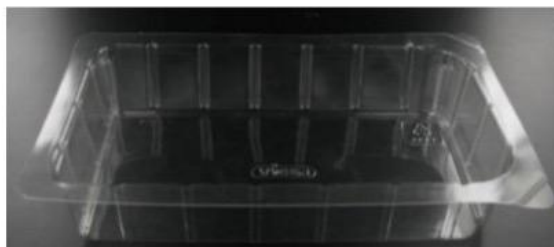
- 1 Laccio emostatico silicone pediatrico
- 1 Metro graduati di carta
- 2 Siringhe 2.5 ml Luer Slip



- 1 Forbici Reynolds dritte 9 cm
- 1 Pinza emostatica blu 12 cm in plastica
- 1 Pinza Iris 10 cm curva
- 1 Pinza Iris 10 cm dritta
- 1 Pinza Adson dentata 12 cm
- 1 Specillo 14 cm asimmetrico
- 1 Porta aghi mayo hegar 14 cm



- 2 Teli impermeabili/assorbenti 45 x 75 cm
- 1 Telo apribile trasparente 50 x 50 cm con foro Ø 4 cm
- 1 Telo di chiusura 75 x 90 cm
- 1 Vassoio 20 x 15 x 4 cm trasparente



+ Coprisonda sterile



"Instruction for use.."



“Instruction for use..”



“Instruction for use..”



“Instruction for use..”



SCHEDA TECNICA

Codice prodotto 80199.1582

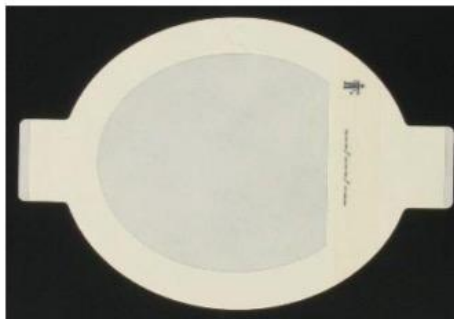


Value Life

Nome commerciale Kit introduzione PICC RM01

Q.tà	Descrizione	Illustrazione
1	Telo assorbente 160 x 200 cm in polietilene/polipropilene	
1	Ago ipodermico Ø 25 G 16 mm con cono Luer (arancione)	
10	Compresse non tessuto 7.5 x 7.5cm, 4 strati, non tessuto	
1	Telo 75 x 75 cm assorbente con finestra adesiva 8 cm	

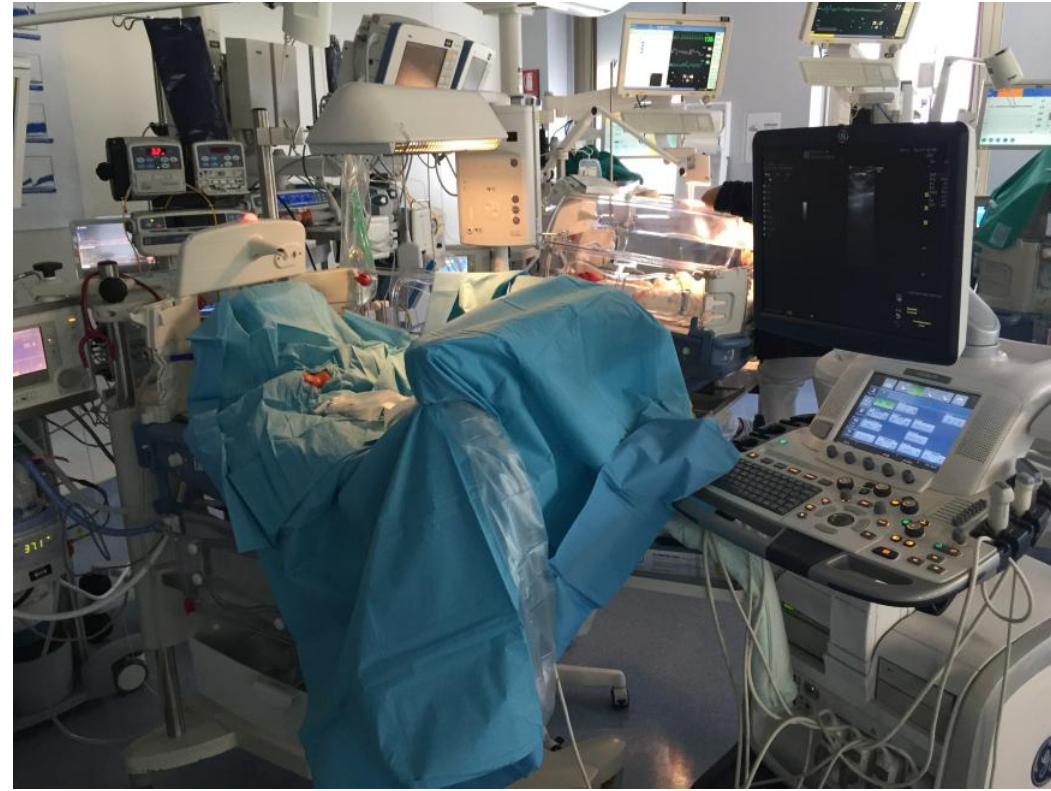
1	Siringa 2.5 ml Luer-slip con gradazione ogni 0,1 ml e ago ipodermico L. 30 mm Ø 22 G	
1	Siringa 5 ml Luer-lock con gradazione 0,2 ml	
1	Siringa 10 ml Luer-lock con gradazione 0,2 ml	
1	Camice standard taglia XL	
1	Vygocard sistema di derivazione ECG con raccordo a Y (Luer lock maschio e Luer femmina) in PC e acciaio e cavo conduttore di rame rivestito in PVC	

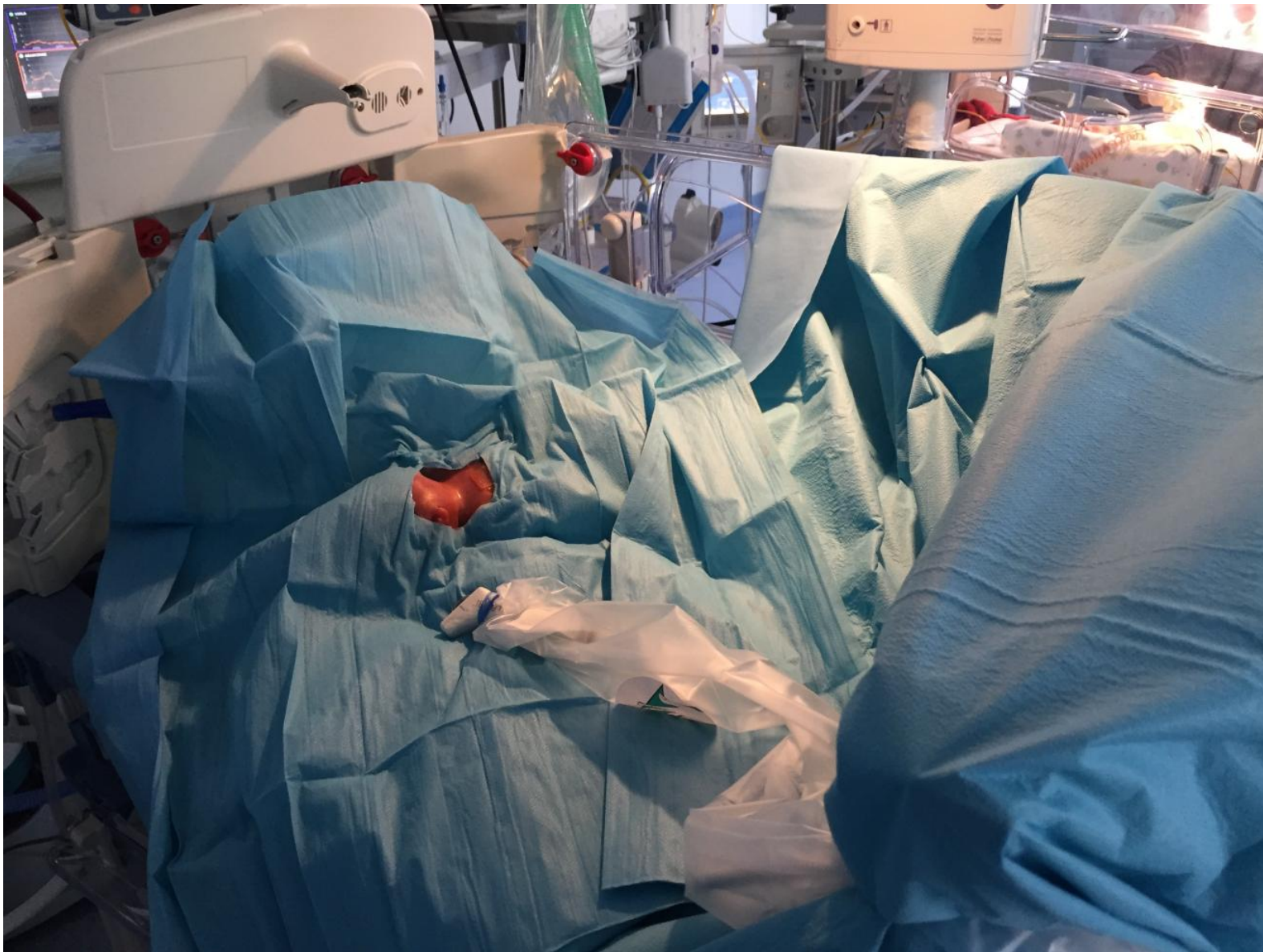
1	Medicazione Tegaderm 10 x 11,5 cm	
1	Copri-sonda ecografica in PE trasparente 120x15cm con elastico di fissaggio e gel sterile Vygel bustina 20 gr	
1	Cuffia	
1	Mascherina	

Ambiente











VENIPUNTURA

33. VASCULAR ACCESS SITE PREPARATION AND DEVICE PLACEMENT

- F. Use the safest available insertion technique, including the Seldinger, modified Seldinger technique (MST), or new techniques that eliminate multiple steps (eg, alterations to the Seldinger technique) for CVAD placement to reduce the risk for insertion-related complications such as air embolism, guide-wire loss, or embolism, inadvertent arterial cannulation, and bleeding.^{30,36-39} (V)

Modified Seldinger technique for neonatal epicutaneo-caval catheter insertion: A non-randomised retrospective study

The Journal of Vascular Access
1–6
© The Author(s) 2021
Article reuse guidelines:
sagepub.com/journals-permissions
DOI: 10.1177/11297298211054637
journals.sagepub.com/home/jva
SAGE

Jack JC Gibb^{1*} , Rachael MacLeod^{2*}, Liam Mahoney²
and Ziju Elanjikal²

Abstract

Background: Epicutaneo-Caval Catheters (ECCs) are critical for good neonatal care. No previous studies have evaluated which insertion method provides the highest likelihood of success.

Methods: This study aimed to compare the success rates and cost of modified Seldinger technique (MST) and split needle technique (SNT). MST was introduced to St Michael's Neonatal Unit, SNT was already in use. Routinely documented data on ECC insertion was retrospectively collected from the clinical notes. Practitioners were able to use their preferred insertion method. A sub-group analysis of success rates in patients born at ≥ 35 -weeks GA was performed.

Results: There was a significantly higher first pass (53% vs 26%; $p=0.014$) and overall (72% vs 40%; $p=0.0046$) successful ECC insertion rate with fewer venipunctures per successful ECC with MST (2.5 vs 6.5; $p=0.002$). Logrank test demonstrated a significantly higher successful ECC insertion with MST for patients of all GA ($p=0.003$) and for neonates born at ≥ 35 weeks ($p=0.015$). The cost per successful MST ECC was £156.41 versus £152.51 for SNT.

Conclusion: In this uncontrolled retrospective study, there was a higher chance of successful ECC insertion with MST, with a reduced number of venipunctures and similar costs per successful ECC. Further work in randomised studies is needed to verify this finding and should focus on other clinical outcomes, including rates in central line associated blood stream infections.

I materiali contano: Raccomandazione per gli ECC

Usare:

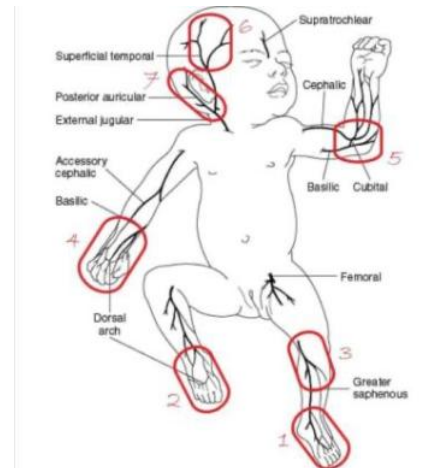
- migliore tecnica: **NIR nei pazienti difficili**
- migliori materiali : **poliuretano 1 o 2 Fr**
- **set da microintroduzione per i cateteri 2 Fr:**

aghi 24 G

guide 'straight tip': più facile posizionamento

minor trauma tissutale e danno endoteliale (riducendo il rischio di trombosi)

Migliore vena a disposizione: RaSuVa



I materiali contano: Raccomandazione per gli ECC

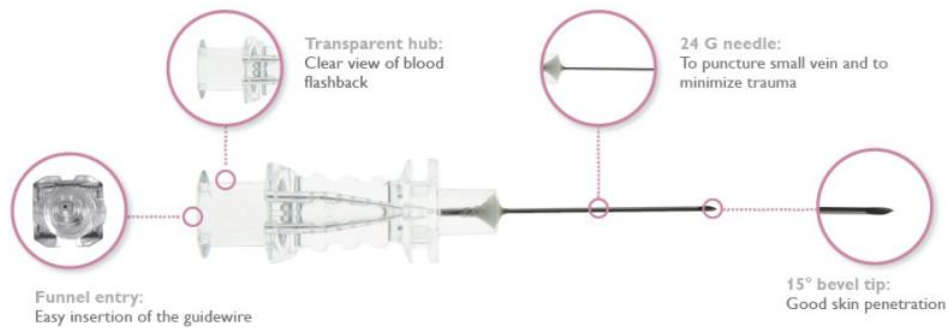


NOVITA' PER I CATETERI ECC

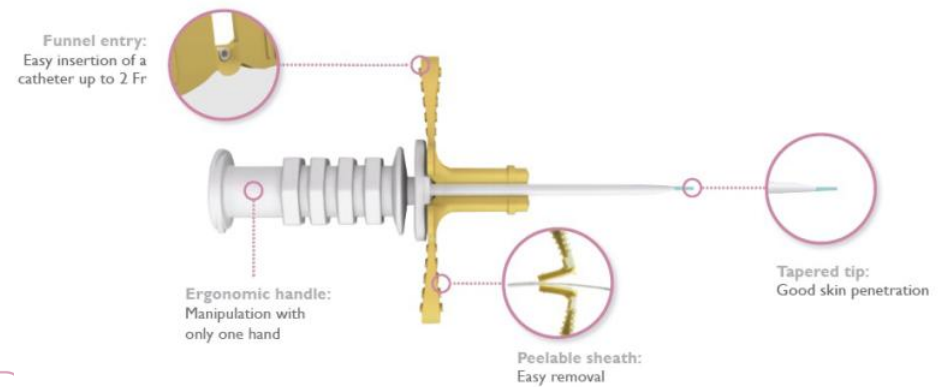
- RaSuVA per la scelta razionale della vena
- Uso globale dell'ecografo per la tip location e la prevenzione e gestione delle complicanze catetere correlate
- **Uso del seldinger indiretto per il posizionamento degli ECC 2 Fr**
- Uso del cianoacrilato come metodo di fissaggio

Seldinger

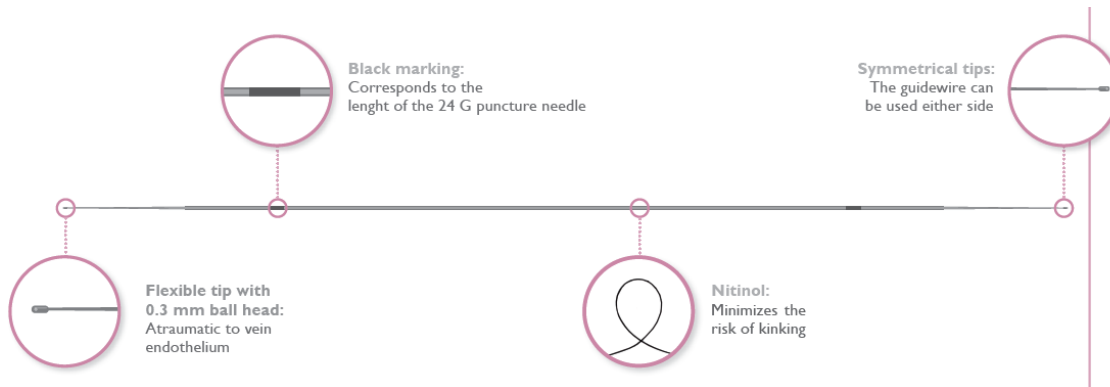
Puncture needle - 19 mm / 24 G



Sheath dilator for 1 Fr & 2 Fr catheters - 18 mm / 20 G



● Symmetrical Nitinol guidewire - 20 cm



Procedure

Essential Practices

Before insertion

1. Provide easy access to an evidence-based list of indications for CVC use to minimize unnecessary CVC placement (Quality of Evidence: LOW)
2. Require education and competency assessment of HCP involved in insertion, care, and maintenance of CVCs about CLABSI prevention (Quality of Evidence: MODERATE)⁷⁴⁻⁷⁸
3. Bathe ICU patients aged >2 months with a chlorhexidine preparation on a daily basis (Quality of Evidence: HIGH)⁸⁶⁻⁹⁰

At insertion

1. In ICU and non-ICU settings, a facility should have a process in place, such as a checklist, to ensure adherence to infection prevention practices at the time of CVC insertion (Quality of Evidence: MODERATE)¹⁰¹
2. Perform hand hygiene prior to catheter insertion or manipulation (Quality of Evidence: MODERATE)¹⁰²⁻¹⁰⁷
3. The subclavian site is preferred to reduce infectious complications when the catheter is placed in the ICU setting (Quality of Evidence: HIGH)^{33,37,108-110}
4. **Use an all-inclusive catheter cart or kit** (Quality of Evidence: MODERATE)¹¹⁸
5. **Use ultrasound guidance for catheter insertion** (Quality of Evidence: HIGH)^{119,120}
6. **Use maximum sterile barrier precautions during CVC insertion** (Quality of Evidence: MODERATE)¹²³⁻¹²⁸
7. **Use an alcoholic chlorhexidine antiseptic for skin preparation** (Quality of Evidence: HIGH)^{42,129-134}

After insertion

1. Ensure appropriate nurse-to-patient ratio and limit use of float nurses in ICUs (Quality of Evidence: HIGH)^{34,35}
2. Use chlorhexidine-containing dressings for CVCs in patients over 2 months of age (Quality of Evidence: HIGH)^{45,135-142}
3. For non-tunneled CVCs in adults and children, change transparent dressings and perform site care with a chlorhexidine-based antiseptic at least every 7 days or immediately if the dressing is soiled, loose, or damp. Change gauze dressings every 2 days or earlier if the dressing is soiled, loose, or damp (Quality of Evidence: MODERATE)¹⁴⁵⁻¹⁴⁸
4. Disinfect catheter hubs, needleless connectors, and injection ports before accessing the catheter (Quality of Evidence: MODERATE)¹⁵⁰⁻¹⁵⁴
5. Remove nonessential catheters (Quality of Evidence: MODERATE)
6. Routine replacement of administration sets not used for blood, blood products, or lipid formulations can be performed at intervals up to 7 days (Quality of Evidence: HIGH)¹⁶⁴
7. Perform surveillance for CLABSI in ICU and non-ICU settings (Quality of Evidence: HIGH)^{13,165,166}



RICCARDO CARLINO
riccardocarlino1993@gmail.com