

GAVe Ped 2025 MILANO 12-13 maggio



NOVITÀ NELL'ACCESSO VENOSO PERIFERICO NEONATALE: CANNULE PERIFERICHE CORTE VS. CANNULE PERIFERICHE LUNGHE

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ACCESSO VENOSO PERIFERICO

Definizione

Qualunque dispositivo vascolare la cui **punta** è nel sistema venoso ma **NON** in vena cava superiore o in vena cava inferiore o atrio destro (indipendentemente dalla vena incannulata)

ERPIUP consensus

Farmaci e Soluzioni compatibili con via periferica

- pH >5 e <9
- Farmaci/soluzioni con osmolarità <600 mOsm/L*#
- Farmaci non vescicanti
- Farmaci non irritanti, non flebitogeni

* Drugs in R&D

<https://doi.org/10.1007/s40268-020-00329-w>

ERPIUP consensus

The NAVIGATE project: A GloVANet–WoCoVA position statement on the nomenclature for vascular access devices

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The Journal of Vascular Access
1–8

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DOI: 10.1177/11297298241291248

journals.sagepub.com/home/jva

2024

JVA

The Journal of
Vascular Access

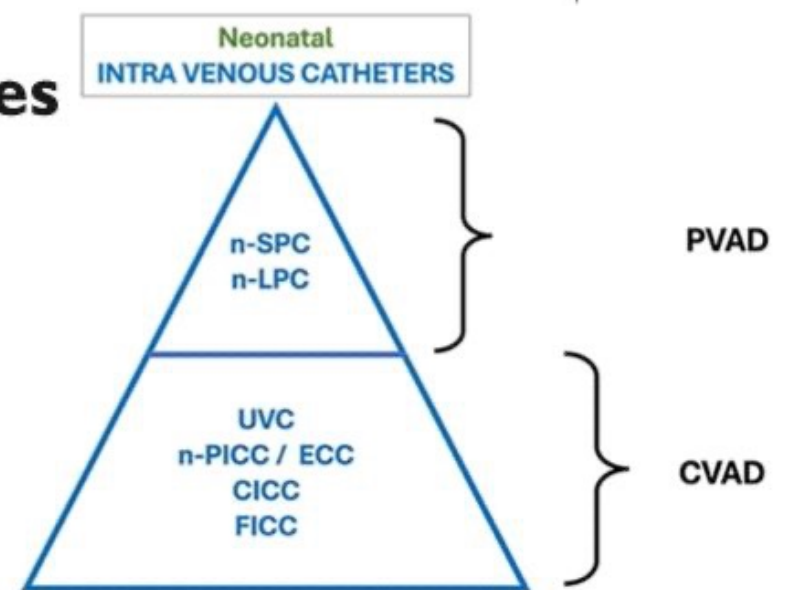


Table 4. Terminology of venous access devices in the neonatal population.

PVAD—peripheral venous access devices

n-SPC	Neonatal short peripheral catheter - catheters with a standard length of <2 cm
n-LPC	Neonatal long peripheral catheter (a.k.a. mini-midline or short midline) - catheters with a length from 2 to 6 cm - tip located in the veins of the arm or leg

CANNULA PERIFERICA
CORTA NEONATALE
(n-CPC)

CANNULA PERIFERICA
LUNGA NEONATALE
(n-LPC)



CORTA

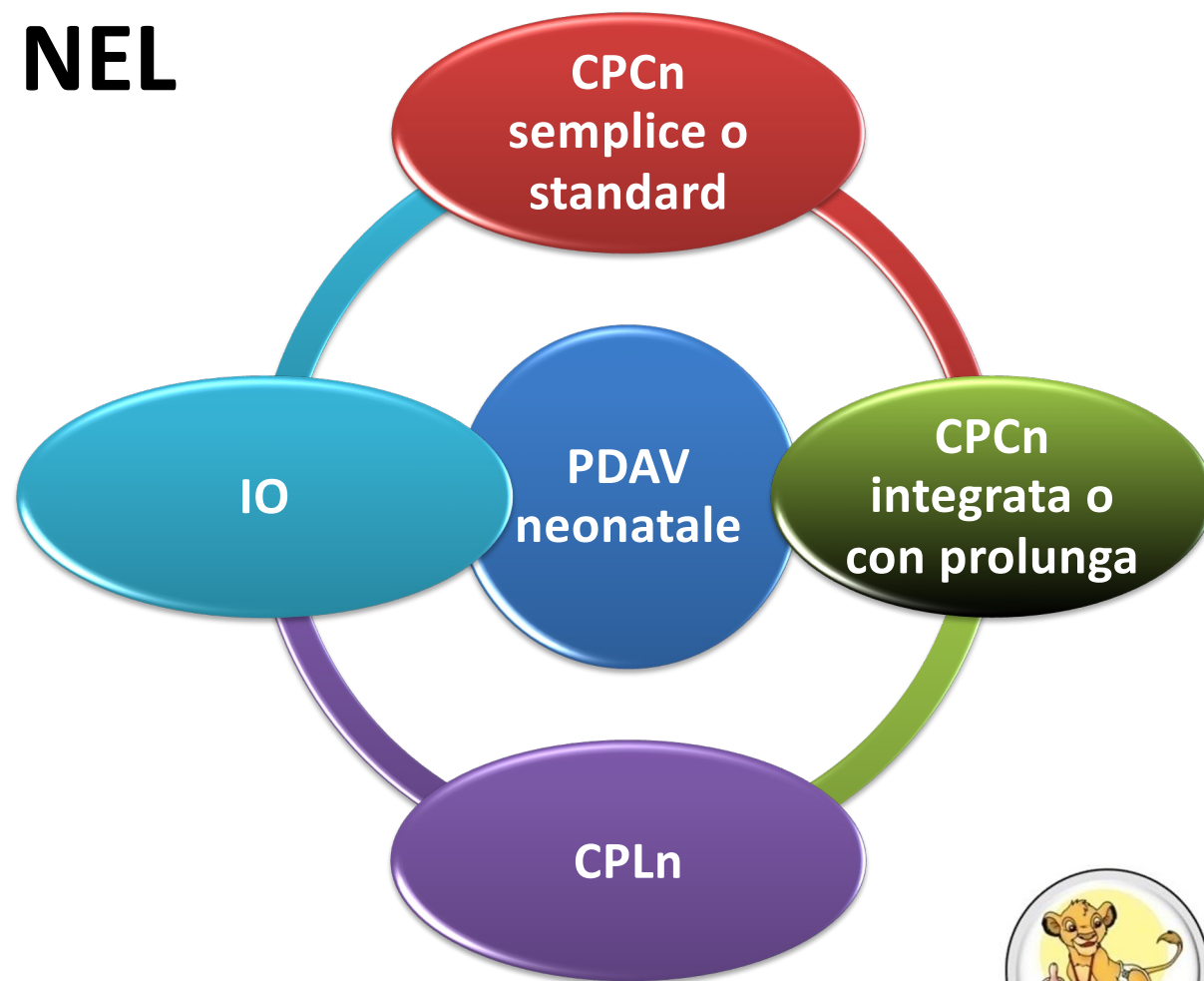
2 cm

LUNGA



DISPOSITIVI per ACCESSO VENOSO PERIFERICO NEL NEONATO (n-PVAD)

- **Cannula periferica corta** standard o semplice
- **Cannula periferica corta** integrata o con prolunga
- **Cannula periferica lunga** o mini-midline
- **Accesso Intra-osseo**



Cannula Periferica Corta standard o semplice neonatale

Materiale: Poliuretano.

Calibro: 24 e 26 G (<1000g)

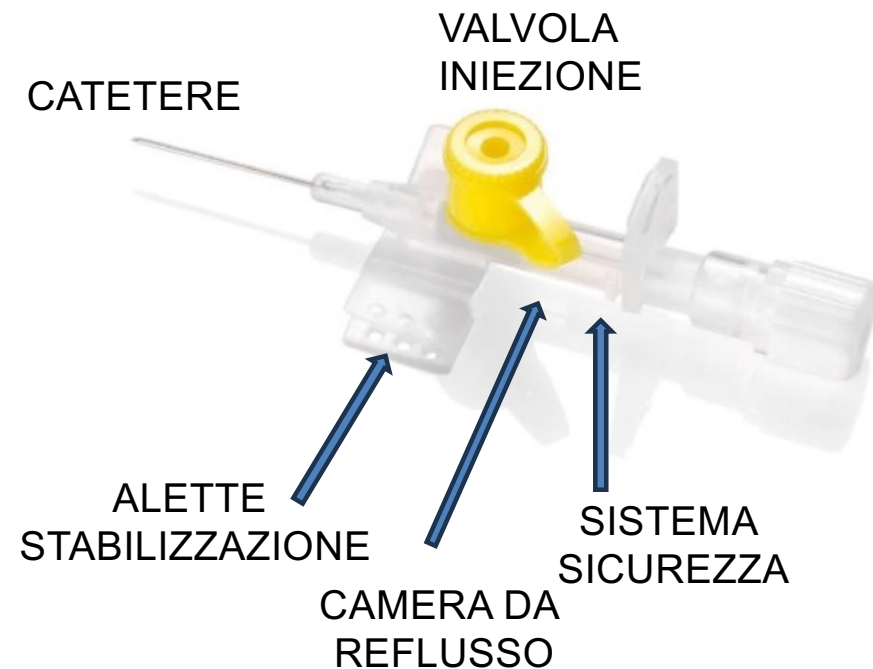
Lunghezza: 1,9 cm

Indicazioni:

1. **Uso spot** (es. trasfusione, terapia in monosomministrazione,...)
2. **Urgenza/emergenza** (22-24G)

Attenzione al design: diversi modelli; difficile stabilizzazione, rischio di decubito.

Alette di stabilizzazione!

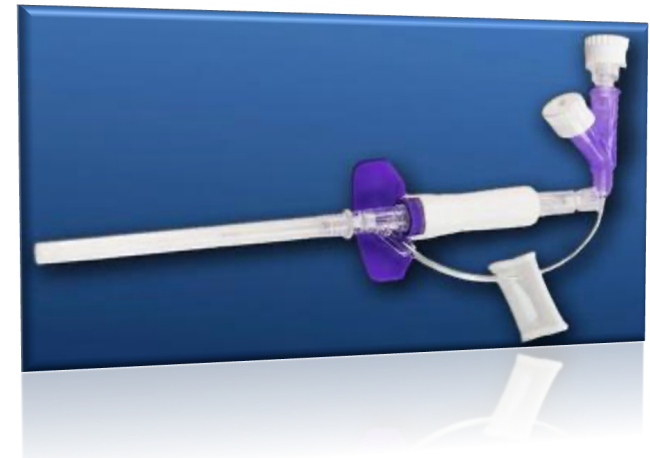


Accesso vascolare più usato in Neonatologia.



Cannula periferica corta **integrata** neonatale

- **Materiale:** Poliuretano.
- **Calibro:** 24 e 26 G (giallo, viola)
- **Lunghezza:** 1,9 cm
- **Indicazioni:** infusioni/terapia via periferica di durata inferiore a 48-72h.
- Non sostituire se in sede e non complicate.
- Più stabili per **alette di stabilizzazione** e gestione tramite **prolunga**



CANNULA PERIFERICA LUNGA NEL NEONATO

- **Materiale:** Poliuretano, possibile power-injectable
- **Calibro:** 2Fr
- **Lunghezza:** 4-6 cm
- **Posizionamento:** tecnica di Seldinger
- **Indicazioni:**
 - 1) terapie/infusioni, almeno 3 gg, compatibili con la via periferica;
 - 2) 2° DAV con CVAD 1L



TECNICA IMPIANTO nLPC

AGO in VENA



GUIDA in AGO



CATETERE su GUIDA

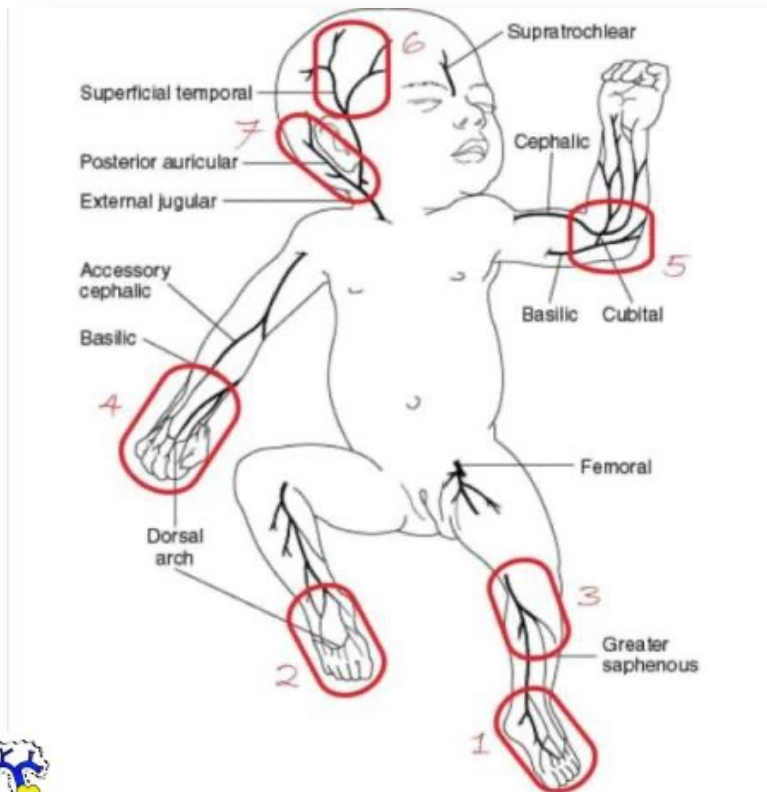




SCELTA VENA

STIMA ANTROPOMETRICA POSIZIONE PUNTA

SCELTA DISPOSITIVO



EVITARE PUNTA nLPC a livello di:

- Articolazioni/flessione
- Vene del tronco



Long peripheral catheters in neonates: filling the gap between short peripheral catheters and epicutaneous-caval catheters?

Maria Grazia Romitti^{ID}, Carmen Rodriguez Perez^{ID}, Elena Pezzotti, Mario Motta^{ID} and Francesco Maria Risso

JVA The Journal of Vascular Access

Durata media 5,21 gg

2021



ORIGINAL RESEARCH

Effective Use of Extended Dwell Peripheral Intravenous Catheters in Neonatal Intensive Care Patients

2023

Marchetti, Jessica M. MSN, RNC, VA-BC; Blaine, Tricia BS, RNC, VA-BC; ^{ID} Shelly, Colleen E. MPH; Cherkerzian, Sara ScD; Hanley, Nina BSN, RNC, VA-BC; Murphy, Lindsey BSN, RNC, VA-BC; Gregory, Katherine E. PhD, RN, FANN

Advances in Neonatal Care 23(1):p 93-101, February 2023. | DOI: 10.1097/ANC.0000000000000989

Midline Catheter Use in the Neonatal Intensive Care Unit

Critical Care Nursing Clinics of North America

2024

Stephanie Sykes, DNP, APRN-CNP, NNP-BC^{*},
Jodi Ulloa, DNP, APRN-CNP, NNP-BC, Deborah Steward, PhD, RN



ORIGINAL ARTICLE

Pediatr Int. 2023;65:e15611.

2023

Comparison of dwell time and complications between peripheral venous catheters and midline catheters in infants weighing ≥ 1500 g at birth

<https://doi.org/10.1111/ped.15611>

Kinuyo Tsunozaki, Hideyo Suenaga, Mikihiro Aoki, Yo Hamaguchi ✉

Evaluation of vascular accesses in the neonatal intensive care unit. Is the midline catheter a useful long-term alternative?

2024

A.T. Sánchez García^{a,*}, J. Lozano González^a, F.J. Canals Candela^{b,c}

Medicina Intensiva 48 (2024) e23–e29



European Journal of Pediatrics
<https://doi.org/10.1007/s00431-023-04984-4>



.....Consensus Neonatal DAV Expert

In 2023.....

REVIEW



The neonatal DAV-expert algorithm: a GAVeCeLT/GAVePed consensus for the choice of the most appropriate venous access in newborns

Giovanni Barone¹ · Vito D'Andrea² · Gina Ancora¹ · Francesco Cresi³ · Luca Maggio⁴ · Antonella Capasso⁵ · Rossella Mastroianni⁶ · Nicola Pozzi⁷ · Carmen Rodriguez-Perez⁸ · Maria Grazia Romitti⁹ · Francesca Tota¹⁰ · Ferdinando Spagnuolo¹¹ · Francesco Raimondi⁵ · Mauro Pittiruti¹²

Received: 13 February 2023 / Revised: 11 April 2023 / Accepted: 15 April 2023

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DOPO 1° GG

NASCITA

Need of venous access at birth

No indication to UVC

Peripheral cannula

Indication to UVC

UVC (up to 7 days)

Stable infant

Unstable infant

Expected duration of IV infusion

<7 days

7-14 days

>14 days

ECC

CICC/FICC

Need of venous access after the first day of life

Stable term infant

Expected duration of IV infusion

<7 days

>7 days

Peripheral cannula

ECC

Stable preterm infant

Expected duration of IV infusion

<7 days

7-14 days

>14 days

Peripheral cannula

ECC

Unstable infant

CICC/FICC

Fig. 2 Algorithm for the choice of the vascular access device at birth after the first day of life

Fig. 1 Algorithm for the choice of the vascular access device at birth

Raccomandazioni Consensus GAVePed 2023: PIV

European Journal of Pediatrics

Table 1 Summary of the panel recommendations

Which are the appropriate indications for the use of a short peripheral cannula (SPC)?

1. Indications for SPCs include (a) stable preterm newborns with less than 7 days of the expected duration of PN; (b) stable newborns with venous access required for less than 7 days. LPCs may be considered when more than 3 days of IV infusions are expected.
2. SPCs should be made of polyurethane; the caliber should be 24 G–26 G (depending on the size of the vein).

**Long peripheral catheters in neonates:
filling the gap between short peripheral
catheters and epicutaneous-caval
catheters? 2021**

**Maria Grazia Romitti*^{ID}, Carmen Rodriguez Perez*^{ID},
Elena Pezzotti, Mario Motta^{ID} and Francesco Maria Risso**

JVA | The Journal of
Vascular Access



VISUALIZZAZIONE DELLA VENA del NEONATO per ACCESSO VENOSO PERIFERICO

21. VASCULAR VISUALIZATION

Standard

21.1 Vascular visualization technology is used to increase insertion success of the most appropriate, least invasive vascular access device (VAD), minimizing the need to escalate to an unnecessary, more invasive device and to reduce insertion-related complications.

C. Consider the use of visible light devices that provide transillumination of the peripheral veins.

1. Visible light devices aid in locating superficial veins in neonates; however, their usefulness in infants, older children, and adults is limited due to the thickness of subcutaneous tissue and size of the arm circumference.^{3,8} (II)

Visione 'diretta'

- Cateteri in vene superficiali (visibili e palpabili)

Ottimizzatori visualizzazione (tecn NIR/transilluminatori)

- Vene superficiali dei neonati

D. Use near infrared (nIR) light technology to aid in locating viable superficial peripheral venous sites and decreasing procedure time for peripheral intravenous catheter (PIVC) insertion.

1. Available technology includes hands-free devices that capture an image of the veins and reflect it back to the skin's surface or to a screen.
2. Use nIR light technology to assess peripheral venous sites and facilitate more informed decisions about vein selection (ie, bifurcating veins, tortuosity of veins, palpable but nonvisible veins, location of venous valves). The use of nIR technology has been associated with enhanced first-time insertion success and decreased procedural time compared to traditional visual assessment and palpation in some populations, such as neonates.¹²⁻¹⁴ (II)

ACCESSI VENOSI PERIFERICI NEONATALI



	CPC STANDARD	CPC INTEGRATA	CPL NEONATALE
Lunghezza	1,9 cm	1,9 cm	4-6 cm
Materiale	PUR	PUR	PUR
Uso intermittente	SI	SI	SI
Setting	Pronto Soccorso Reparto Radiologia	Pronto Soccorso Reparto	Reparto
NFC neutro	Si	Si	Si
Tecnica inserimento	Diretta	Diretta	Seldinger
Massime precauzioni barriera	No <i>Standard-ANTT</i>	No <i>Standard-ANTT</i>	Si <i>Surgical-ANTT</i>
Antisepsi cutanea	CHG 2% in IPA 70%	CHG 2% in IPA 70%	CHG 2% in IPA 70%
Stabilizzazione	COLLA + Membrana Trasparente	COLLA +Membrana Trasparente	COLLA +Stabilizz adesivo cutaneo +Membrana Trasparente
Protezione exit site	COLLA + Membrana Trasparente	COLLA +Membrana Trasparente	COLLA +Membrana Trasparente
Durata	Spot-24/48h	3gg (max 5gg)	Fino a 12 gg



ACCESSI VENOSI PERIFERICI NEONATALI



	CPC STANDARD	CPC INTEGRATA	CPL NEONATALE
Lunghezza	1,9 cm	1,9 cm	4-6 cm
Materiale	PUR	PUR	PUR
Uso intermittente	SI	SI	SI
Setting	Pronto Soccorso Reparto Radiologia	Pronto Soccorso Reparto	Reparto
NFC neutro	Si	Si	Si
Tecnica inserimento	Diretta	Diretta	Seldinger
Massime precauzioni barriera	No <i>Standard-ANTT</i>	No <i>Standard-ANTT</i>	Si <i>Surgical-ANTT</i>
Antisepsi cutanea	CHG 2% in IPA 70%	CHG 2% in IPA 70%	CHG 2% in IPA 70%
Stabilizzazione	COLLA + Membrana Trasparente	COLLA +Membrana Trasparente	COLLA +Stabilizz adesivo cutaneo +Membrana Trasparente
Protezione exit site	COLLA + Membrana Trasparente	COLLA +Membrana Trasparente	COLLA +Membrana Trasparente
Durata	Spot-24/48h	3gg (max 5gg)	Fino a 12 gg



COLLA IN CIANOACRILATO E PVAD

Infusion Therapy Standards of Practice

38. VASCULAR ACCESS DEVICE SECUREMENT

3. Cyanoacrylate TA for securement has been studied in vitro, in animals, in pilot PIVC and arterial RCTs, and in 1 large superiority PIVC RCT. Conflicting results have been reported. Reduced failure and increased dwell time have been reported when TA is applied in addition to a transparent dressing with or without a border in PIVC pilot RCTs and observational studies in various patient populations; however, 1 superiority PIVC secure-
6. Adding tissue adhesive to the insertion site at the time of insertion may be associated with decreased dressing changes and increased survivability for peripheral as well as central lines secondary to the hemostatic effect of the product (see Standard 36, *Vascular Access Device Securement*).²¹⁻²⁵ (II)

CONSENSUS ERPIUP

All PVADs should have the exit site covered and protected with semipermeable transparent dressings.⁹ Cyanoacrylate glue, if applied in minimal quantity (0.2ml) around the exit site, may reduce the risk of local bleeding and of bacterial contamination by the extra-luminal route, by sealing the breach. Cyanoacrylate is especially indicated



GESTIONE PVAD

CPC STANDARD

CPC INTEGRATA

CPL NEONATALE



Lavaggio

SF sterile

SF sterile

SF sterile

Volume minimo Flush

Doppio v. interno

Doppio v. interno

Doppio v. interno

Tecnica Flush

Start/stop

Start/stop

Start/stop

Timing Flush:

- Prima e dopo farmaco/soluzione
- Sostituzione vie infusionali
- Prima del lock
- Riapertura/riutilizzo catetere
- PVAD chiuso da 24 ore

SI

SI

SI



Uso intermittente

SI

SI

SI



Lock

SF sterile

SF sterile

SF sterile

Volume Lock

Volume interno + 10%

Volume interno + 10%

Volume interno + 10%

Freq. Lock se PVAD chiuso

Ogni 24 ore

Ogni 24 ore

Ogni 24 ore

NFC neutro

SI

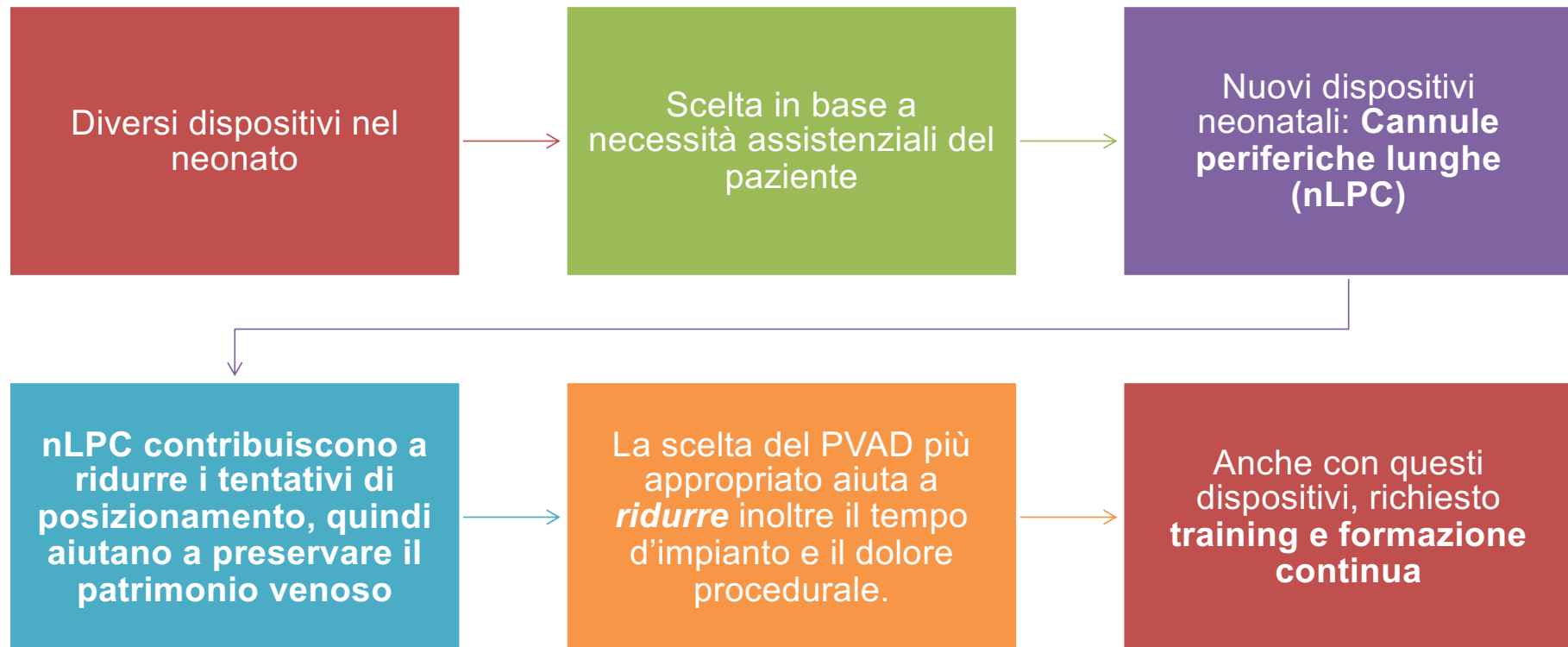
SI

SI



DAV per accesso venoso periferico neonatali

Conclusioni



GRAZIE!



Sistema Socio Sanitario



Presidio Ospedale
dei Bambini



Regione
Lombardia

ASST Spedali Civili