

INTRODUZIONE: I PICC IN ITALIA OGGI

MAURO PITTIRUTI

Gemelli



Fondazione Policlinico Universitario A. Gemelli
Università Cattolica del Sacro Cuore



IL PASSATO DEI PICC



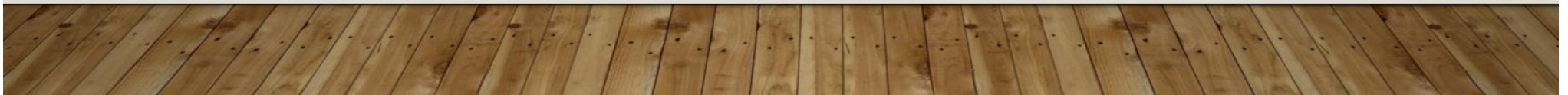
IN ITALIA: **14** ANNI DI ESPERIENZA CLINICA CON I PICC ECOGUIDATI

Dalla prima edizione (2007)...

...alla XIV edizione (2021) del PICC-Day

IN ITALIA: **14** ANNI DI ESPERIENZA CLINICA CON I PICC ECOGUIDATI

- **Diffusione dell'utilizzo dei PICC in tutti gli ambiti clinici**
 - In oncologia ed ematologia
 - In terapia intensiva
 - Nei reparti non intensivi
 - In pediatria
 - Nelle cure palliative
 - Nel paziente non ospedalizzato
 -



IN ITALIA: **14** ANNI DI ESPERIENZA CLINICA CON I PICC ECOGUIDATI

- **Effetti principali**

- Maggiore sicurezza del paziente candidato ad accesso centrale (minori complicanze)
- Maggiore costo-efficacia dell'accesso venoso centrale (maggior risparmio per le aziende ospedaliere)
- Grossa spinta verso un maggior coinvolgimento degli infermieri nel mondo degli accessi vascolari
- Grossa spinta verso la formazione di team di accessi vascolari

IN ITALIA: **14** ANNI DI ESPERIENZA CLINICA CON I PICC ECOGUIDATI

- **Effetti secondari nel mondo degli accessi venosi**
 - Diffusione della cultura della sicurezza, della efficacia e della costo-efficacia
 - Diffusione del concetto di competenza specifica e della necessità di addestramento specifico
 - Grossa spinta in favore della ecoguida e dell'ECG intracavitario, anche per tutti gli altri dispositivi venosi centrali
 - Rinnovato interesse per la definizione della corretta indicazione all'accesso venoso centrale vs. periferico
 - Creazione di un *pool* di professionisti esperti, autori di pubblicazioni scientifiche che hanno posizionato l'Italia tra le nazioni oggi più culturalmente avanzate nel campo degli accessi venosi

I NEMICI DEI PICC



I NEMICI DEI PICC

- In questi 14 anni, una serie di pubblicazioni (non sempre in buona fede) hanno attaccato l'utilizzo dei PICC, mettendo seriamente in pericolo la loro diffusione nella pratica clinica
- Purtroppo, alcuni di questi documenti sono stati presentati come basati su evidenze scientifiche o cliniche, in realtà inconsistenti.
- Ed alcuni – pur metodologicamente assai discutibili – sono stati perfino pubblicati su riviste prestigiose.

I NEMICI DEI PICC



I NEMICI DEI PICC



I NEMICI DEI PICC

2006



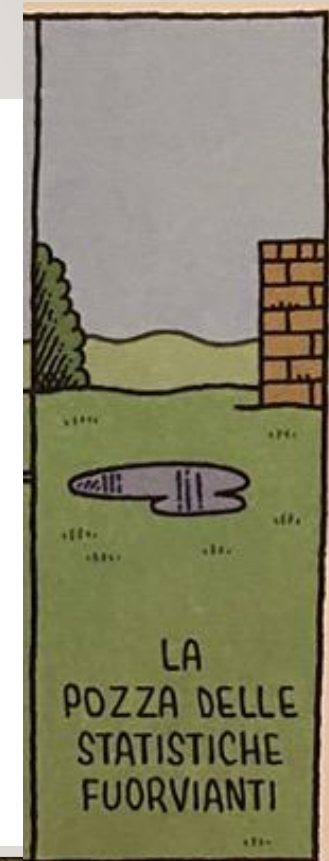
© 2006 by the Société Internationale de Chirurgie
Published Online: 21 July 2006

World J Surg (2006) 30: 1605–1619
DOI: 10.1007/s00268-005-0174-y

Peripherally Inserted Central Venous Catheters Are Not Superior to Central Venous Catheters in the Acute Care of Surgical Patients on the Ward

Simon Turcotte, MD, Serge Dubé, MD, MSc, Gilles Beauchamp, MD

Département de Chirurgie, Hôpital Maisonneuve-Rosemont, Centre affilié à l'Université de Montréal, 5415 boul de l'Assomption Montréal, Quebec H1T 2M4, Canada



I NEMICI DEI PICC

2013

Annals of Internal Medicine

SUPPLEMENT

The Michigan Appropriateness Guide for Intravenous Catheters (MAGIC): Results From a Multispecialty Panel Using the RAND/UCLA Appropriateness Method

Vineet Chopra, MD, MSc; Scott A. Flanders, MD; Sanjay Saint, MD, MPH; Scott C. Woller, MD; Naomi P. O'Grady, MD; Nasia Safdar, MD, PhD; Scott O. Trerotola, MD; Rajiv Saran, MD, PhD; Nancy Moureau, BSN, RN; Stephen Wiseman, PharmD; Mauro Pittiruti, MD; Elie A. Akl, MD, MPH, PhD; Agnes Y. Lee, MD, MSc; Anthony Courey, MD; Lakshmi Swaminathan, MD; Jack LeDonne, MD; Carol Becker, MHA; Sarah L. Krein, PhD, RN; and Steven J. Bernstein, MD, MPH

Use of peripherally inserted central catheters (PICCs) has grown substantially in recent years. Increasing use has led to the realization that PICCs are associated with important complications, including thrombosis and infection. Moreover, some PICCs may not be placed for clinically valid reasons. Defining appropriate indications for insertion, maintenance, and care of PICCs is thus important for patient safety.

An international panel was convened that applied the RAND/UCLA Appropriateness Method to develop criteria for use of PICCs. After systematic reviews of the literature, scenarios related to PICC use, care, and maintenance were developed according to patient population (for example, general hospitalized, critically ill, cancer, kidney disease), indication for insertion (infusion of peripherally compatible infusates vs. vesicants), and duration of use (≤ 5 days, 6 to 14 days, 15 to 30 days, or ≥ 31 days). Within each scenario, appropriateness of PICC use was compared with that of other venous access devices.

After review of 665 scenarios, 253 (38%) were rated as appropriate, 124 (19%) as neutral/uncertain, and 288 (43%) as inappropriate. For peripherally compatible infusions, PICC use was rated as inappropriate when the proposed duration of use was 5 or fewer days. Midline catheters and ultrasonography-guided peripheral intravenous catheters were preferred to PICCs for use between 6 and 14 days. In critically ill patients, nontunneled central venous catheters were preferred over PICCs when 14 or fewer days of use were likely. In patients with cancer, PICCs were rated as appropriate for irritant or vesicant infusion, regardless of duration.

The panel of experts used a validated method to develop appropriate indications for PICC use across patient populations. These criteria can be used to improve care, inform quality improvement efforts, and advance the safety of medical patients.

Ann Intern Med. 2015;163:S1-S39. doi:10.7326/M15-0744 www.annals.org
For author affiliations, see end of text.



I NEMICI DEI PICC

2013

Risk of venous thromboembolism associated with peripherally inserted central catheters: a systematic review and meta-analysis



Vineet Chopra, Sarah Anand, Andy Hickner, Michael Buist, Mary A M Rogers, Sanjay Saint, Scott A Flanders

Summary

Background Peripherally inserted central catheters (PICCs) are associated with an increased risk of venous thromboembolism. However, the size of this risk relative to that associated with other central venous catheters (CVCs) is unknown. We did a systematic review and meta-analysis to compare the risk of venous thromboembolism associated with PICCs versus that associated with other CVCs.

Methods We searched several databases, including Medline, Embase, Biosis, Cochrane Central Register of Controlled Trials, Conference Papers Index, and Scopus. Additional studies were identified through hand searches of bibliographies and internet searches, and we contacted study authors to obtain unpublished data. All human studies published in full text, abstract, or poster form were eligible for inclusion. All studies were of adult patients aged at least 18 years who underwent insertion of a PICC. Studies were assessed with the Newcastle–Ottawa risk of bias scale. In studies without a comparison group, the pooled frequency of venous thromboembolism was calculated for patients receiving PICCs. In studies comparing PICCs with other CVCs, summary odds ratios (ORs) were calculated with a random effects meta-analysis.

Lancet 2013; 382: 311-25

Published Online

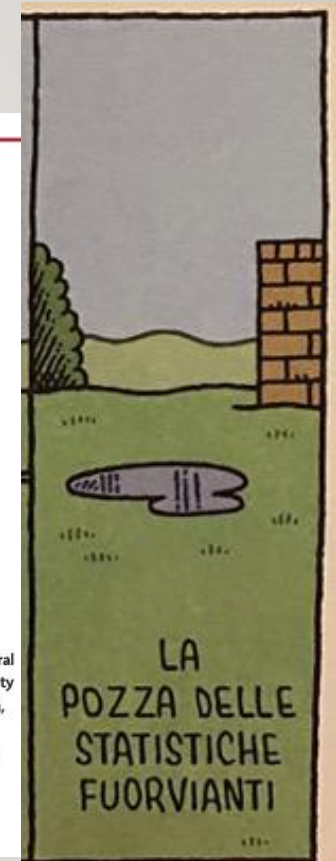
May 20, 2013

[http://dx.doi.org/10.1016/](http://dx.doi.org/10.1016/S0140-6736(13)60592-9)

[S0140-6736\(13\)60592-9](http://dx.doi.org/10.1016/S0140-6736(13)60592-9)

See [Comment](#) page 288

Department of Internal Medicine, Division of General Internal Medicine, University of Michigan Health System, Ann Arbor, MI, USA (V Chopra MD, S Anand MD, A Hickner MSI, M Buist BA, M A M Rogers PhD, Prof S Saint MD, Prof S A Flanders MD); and



JVasc Access 2014; 15 (5): 329-337

DOI: 10.5301/jva.5000239

REVIEW

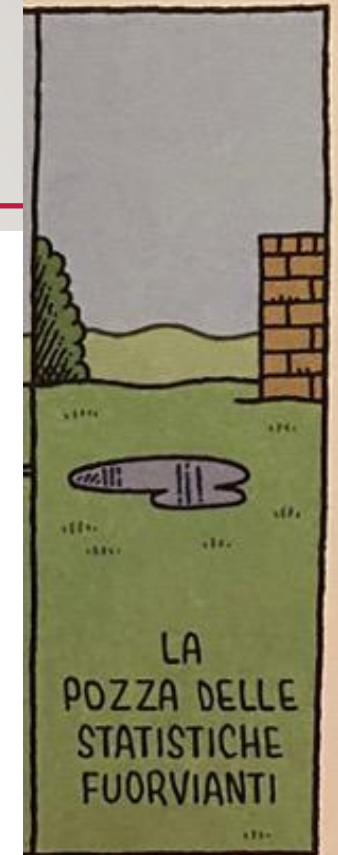
Peripherally inserted central catheter (PICC)-related thrombosis in critically ill patients

Vasileios Zochios¹, Imraan Umar², Nicola Simpson³, Nicola Jones¹

¹ Cardiothoracic Intensive Care Unit, Critical Care Area, Papworth Hospital NHS Foundation Trust, Papworth Everard Cambridge - UK

² Department of Surgery, University Hospitals of Leicester NHS Trust, Leicester Royal Infirmary, Leicester - UK

³ Intensive Care Unit, Department of Anesthesia and Critical Care, Kettering General Hospital NHS Foundation Trust, Kettering, Northamptonshire - UK





RESEARCH ARTICLE

Clinical and Therapeutic Aspects of Candidemia: A Five Year Single Centre Study

Matteo Bassetti^{1*}, **Maria Merelli^{1*}**, **Filippo Ansaldi²**, **Daniela de Florentiis³**, **Assunta Sartor^{4*}**, **Claudio Scarparo^{4*}**, **Astrid Callegari^{1*}**, **Elda Righi^{1*}**

1 Infectious Diseases Division, Santa Maria Misericordia University Hospital, Udine, Italy, **2** IRCCS San Martino IST, Department of Health Sciences, University of Genoa; Genoa, Italy, **3** USMAF, Ministry of Health, Genova, Italy, **4** Microbiology Unit, Santa Maria Misericordia University Hospital, Udine, Italy

✉ Current address: Clinica Malattie Infettive, Azienda Ospedaliera Universitaria Santa Maria della Misericordia, Udine, Italy

* mattba@tin.it



CrossMark
click for updates



© 2018 EDIZIONI MINERVA MEDICA
Online version at <http://www.minervamedica.it>

Minerva Medica 2018 June;109(3):153-202
DOI: 10.23736/S0026-4806.18.05552-0

GUIDELINES

Adoption and application in Italy of the principal guidelines and international recommendations on venous access

Rosario SPINA ¹, Baudolino MUSSA ², Lara TOLLAPI ³,
Fabio CONTI ⁴, Enrico CORTESI ⁵, Roberto VERNA ⁶ *

¹Azienda Toscana Centro, Ospedale "San Giuseppe", Empoli, Italy; ²University of Turin, Turin, Italy; ³Pisa University Hospital, Pisa, Italy; ⁴Department of Cardiology, Tor Vergata University Hospital, Rome, Italy; ⁵Department of Radiological, Oncological, Anatomopathological Sciences, Sapienza University, Rome, Italy; ⁶Department of Experimental Medicine, Sapienza University, Rome, Italy

*Corresponding author: Roberto Verna, Department of Experimental Medicine, Sapienza University, Rome, Italy.
E-mail: roberto.verna@uniroma1.it



I NEMICI DEI PICC

2018



Prot.n. 2773/GP/cb

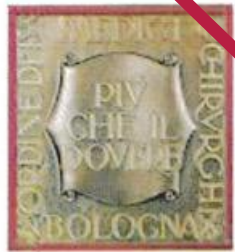
Bologna, 23 ottobre 2018

Oggetto: Atto ecografico – ambito di esclusiva competenza del Medico.

IL PRESIDENTE
Dott. Giancarlo Pizza

I NEMICI DEI PICC

2018



Prot.n. 2773/GP/cb

Bologna, 23 ottobre 2018

Oggetto: Atto ecografico – ambito di esclusiva competenza del Medico.

IL PRESIDENTE
Dott. Giancarlo Pizza

A handwritten signature in black ink, appearing to read 'G. Pizza'.

I NEMICI DEI PICC

2019



American Society of Hematology
2021 L Street NW, Suite 900,
Washington, DC 20036
Phone: 202-776-0544 | Fax: 202-776-0545
editorial@hematology.org

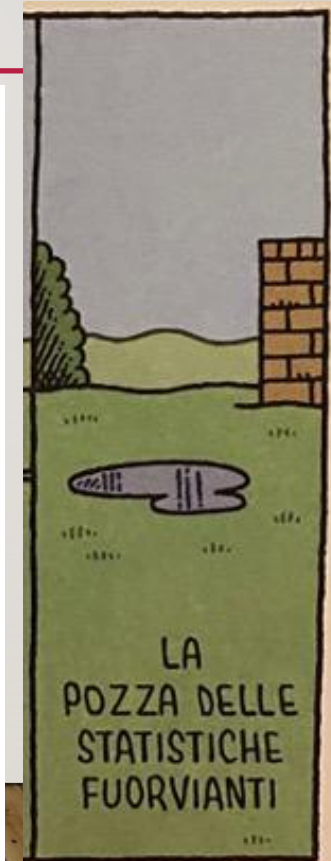
Peripherally Inserted Central Catheters Lead to a High Risk of Venous Thromboembolism in Children

Tracking no: BLD-2019-002260R1

Julie Jaffray (Children's Hospital Los Angeles, United States) Char Wilmer (The Children's Hospital of Philadelphia, United States) Sarah O'Brien (Nationwide Children's Hospital, United States) Rosa Diaz (Texas Children's Hospital, United States) Lingyun Ji (University of Southern California, Keck School of Medicine, United States) Emily Krava (Children's Hospital Los Angeles, United States) Guy Young (Children's Hospital Los Angeles, United States)

Abstract:

The incidence of venous thromboembolism (VTE) in children has seen a sharp increase in recent years with the majority of cases secondary to central venous catheters (CVCs). Among CVCs, the number of peripherally inserted central catheters (PICCs) placed in children has risen significantly. In this multi-center, prospective, observational cohort study, we enrolled patients aged 6 months to 18 years with newly placed PICCs or tunneled lines (TLs) and compared the incidence of VTE between them. We also evaluated the incidence and risk factors of CVC-related VTE, central line associated bloodstream infections (CLABSIs) and catheter malfunctions in PICCs and TLs. A total of 1967 CVCs placed in 1742 unique subjects were included in the analysis. The incidence of catheter-related VTE was $5.9 \pm 0.63\%$. The majority of the cases, 80%, were in subjects with PICCs which had a significantly higher risk of catheter-related VTE than subjects with TLs (HR=8.5, 95%CI, 3.1-23, $p < 0.001$). PICCs were also significantly more likely to have a CLABSI (HR=1.6, 95%CI: 1.2-2.2, $p = 0.002$) and CVC malfunction (HR=2.0, 95%CI: 1.6-2.4, $p < 0.001$) compared to TLs. Increased risk of CVC-related VTE was found in patients with a prior history of VTE (HR=23, 95%CI: 4-127, $p < 0.001$), multi-lumen CVC (HR=3.9, 95%CI: 1.8-8.9, $p = 0.003$) and leukemia (HR=3.5, 95%CI: 1.3-9.0, $p = 0.031$). Children with PICCs had a significantly higher incidence of catheter-related VTE, CLABSI and CVC malfunction over TLs. The results suggest that pause be taken prior to placing a CVC, especially PICCs, due to the serious complications they have been shown to cause.



> [J Vasc Surg.](#) 2020 Oct;72(4):1507-1509. doi: 10.1016/j.jvs.2020.06.052. Epub 2020 Jul 2.

A protocol for central venous access in patients with coronavirus disease 2019

Patrick T Jasinski ¹, Georgios Tzavellas ¹, Jerry A Rubano ², Daniel N Rutigliano ²,
Edvard Skripochnik ¹, Apostolos K Tassiopoulos ¹

Affiliations + expand

PMID: 32622077 PMCID: [PMC7329654](#) DOI: [10.1016/j.jvs.2020.06.052](#)

[Free PMC article](#)



The Michigan Appropriateness Guide for Intravenous Catheters in Pediatrics: miniMAGIC

Amanda J. Ullman, RN, PhD^{a,b,c} Steven J. Bernstein, MD, MPH^{d,e} Erin Brown, PhD^{f,g} Ranjit Aiyagari, MD, FACC^h Darcy Doellman, MSN, RN, CRNI, VA-BC^h E. Vincent S. Faustino, MD, MHS^{h,i} Beth Gore, PhD^j Jeffrey P. Jacobs, MD, FACS, FACC, FCCP^k Julie Jaffray, MD^l Tricia Kleidon, RN, MNursPrac^{k,m} Prashant V. Mahajan, MD, MPH, MBAⁿ Craig A. McBride, FRACS^{o,p} Kayce Morton, DO^o Stephanie Pitts, MSN, RN, CPN, VA-BC^{o,p} Elizabeth Prentice, MBBS, FANZCA^q Douglas C. Rivard, DO^{r,s} Erin Shaughnessy, MD, MSHCM^l Marc Stranz, PharmD^u Joshua Wolf, MBBS, PhD, FRACP^{v,w} David S. Cooper, MD, MPH^x Marie Cooke, RN, PhD^z Claire M. Rickard, RN, PhD^z Vineet Chopra, MD, MSc^z

OBJECTIVES: Vascular access device decision-making for pediatric patients remains a complex, highly variable process. To date, evidence-based criteria to inform these choices do not exist. The objective of the Michigan Appropriateness Guide for Intravenous Catheters in Pediatrics (miniMAGIC) was to provide guidance on device selection, device characteristics, and insertion technique for clinicians, balancing and contextualizing evidence with current practice through a multidisciplinary panel of experts.

METHODS: The RAND Corporation and University of California, Los Angeles Appropriateness Method was used to develop miniMAGIC, which included the following sequential phases: definition of scope and key terms, information synthesis and literature review, expert multidisciplinary panel selection and engagement, case scenario development, and appropriateness ratings by an expert panel via 2 rounds.

RESULTS: The appropriateness of the selection, characteristics, and insertion technique of intravenous catheters commonly used in pediatric health care across age populations (neonates, infants, children, and adolescents), settings, diagnoses, clinical indications, insertion locations, and vessel visualization devices and techniques was defined. Core concepts including vessel preservation, insertion and postinsertion harm minimization (eg, infection, thrombosis), uninterrupted treatment provision, and inclusion of patient preferences were emphasized.

CONCLUSIONS: In this study, we provide evidence-based criteria for intravenous catheter selection (from umbilical catheters to totally implanted venous devices) in pediatric patients across a range of clinical indications. miniMAGIC also highlights core vascular access practices in need of collaborative research and innovation.

abstract



Appropriateness of Replacing Fluoroscopic Guidance With ECG-Electromagnetic Guidance for PICC Insertion: A Randomized Controlled Trial

Giuseppe Gullo, MSc¹, Anaïs Colin, RT¹, Pierre Frossard, RT¹, Anne Marie Jouannic, RT¹, Jean François Knebel, PhD^{2,3}, Salah Dine Qanadli, MD, PhD¹

Interventional Radiology · Original Research

Keywords

central venous catheterization, ECG, fluoroscopy, interventional radiography, PICC placement

Submitted: Apr 9, 2020

Revision requested: May 15, 2020

Revision received: Jun 4, 2020

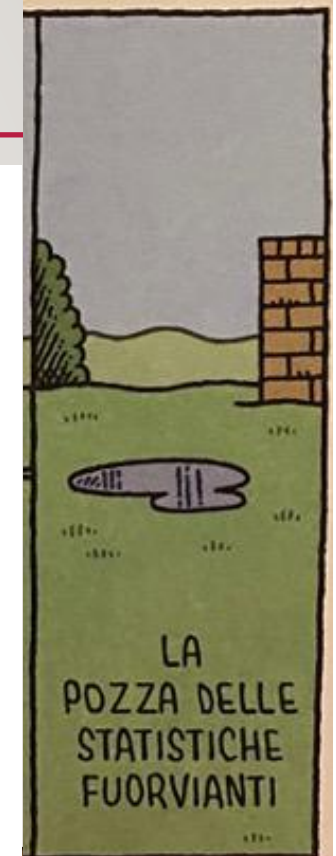
Accepted: Jun 10, 2020

First published online: Feb 17, 2021

S. D. Qanadli is a consultant for C.R. Bard, Inc. The remaining authors declare that they have no disclosures relevant to the subject matter of this article.

OBJECTIVE. Coupled ECG-electromagnetic (EM) guidance shows promise for use in placement of peripherally inserted central catheters (PICCs) when compared with the classic blind technique. However, ECG-EM guidance has not been appropriately compared with the reference standard of fluoroscopy (FX) guidance. Here, we aimed to compare ECG-EM guidance with FX guidance with regard to the final tip position of PICCs.

SUBJECTS AND METHODS. A total of 120 patients (age range, 19–94 years) referred for PICC placement were randomized to the ECG-EM or FX group. All interventions were performed by PICC team members who had the same standardized training and experience. Final tip position was assessed using chest radiography and was classified as optimal, suboptimal, or inadequate requiring repositioning on the basis of the distance from the PICC tip to the cavoatrial junction (CAJ). Statistical analyses were performed using the Mann-Whitney *U* test for final catheter tip position (mean distance from CAJ) and Fisher and chi-square tests for proportions.



Central venous access devices for the delivery of systemic anticancer therapy (CAVA): a randomised controlled trial



Jonathan G Moss*, Olivia Wu*, Andrew R Bodenham, Roshan Agarwal, Tobias F Menne, Brian L Jones, Robert Heggie, Steve Hill, Judith Dixon-Hughes, Eileen Soulis, Evi Germeni, Susan Dillon, Elaine McCartney, on behalf of the CAVA trial group†

Summary

Background Hickman-type tunnelled catheters (Hickman), peripherally inserted central catheters (PICCs), and totally implanted ports (PORTs) are used to deliver systemic anticancer treatment (SACT) via a central vein. We aimed to compare complication rates and costs of the three devices to establish acceptability, clinical effectiveness, and cost-effectiveness of the devices for patients receiving SACT.

Methods We did an open-label, multicentre, randomised controlled trial (Cancer and Venous Access [CAVA]) of three central venous access devices: PICCs versus Hickman (non-inferiority; 10% margin); PORTs versus Hickman (superiority; 15% margin); and PORTs versus PICCs (superiority; 15% margin). Adults (aged ≥ 18 years) receiving SACT (≥ 12 weeks) for solid or haematological malignancy from 18 oncology units in the UK were included. Four randomisation options were available: Hickman versus PICCs versus PORTs (2:2:1), PICCs versus Hickman (1:1), PORTs versus Hickman (1:1), and PORTs versus PICCs (1:1). Randomisation was done using a minimisation algorithm stratifying by centre, body-mass index, type of cancer, device history, and treatment mode. The primary outcome was complication rate (composite of infection, venous thrombosis, pulmonary embolus, inability to aspirate blood, mechanical failure, and other) assessed until device removal, withdrawal from study, or 1-year follow-up. This study is registered with ISRCTN, ISRCTN44504648.

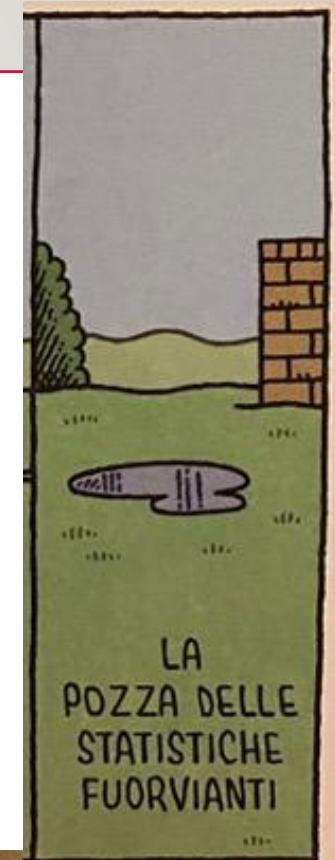
Published Online
July 20, 2021
[https://doi.org/10.1016/S0140-6736\(21\)00766-2](https://doi.org/10.1016/S0140-6736(21)00766-2)

See Online/Comment
[https://doi.org/10.1016/S0140-6736\(21\)00920-X](https://doi.org/10.1016/S0140-6736(21)00920-X)

*Contributed equally

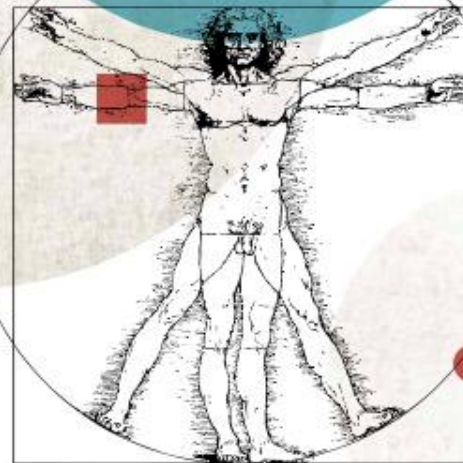
†Investigators are listed in the appendix (p 1)

Institute of Cardiovascular and Medical Sciences (Prof J G Moss FRCR), Health Economics and Health Technology Assessment, Institute of Health and Wellbeing (Prof O Wu PhD, R Heggie MSc, E Germeni PhD),



I NEMICI DEI PICC

Optimum Use of
*Peripherally Inserted
Central Catheters*
(PICC Lines)
in Oncology
and Hematology



With the endorsement of



2021



IL PRESENTE DEI PICC



IL PRESENTE DEI PICC

- **PICC = prima scelta come accesso venoso centrale nel paziente ospedalizzato, purché:**
 - PICC in poliuretano di ultima generazione, *power injectable*, non valvolati
 - Inseriti mediante puntura ecoguidata e kit di microintroduzione (Seldinger indiretto)
 - Utilizzando l'ECG intracavitario ovunque applicabile
 - Utilizzando l'ecografo per la tip navigation (e anche per la tip location se l'ECG non è applicabile)
 - Inseriti seguendo un bundle di inserzione ben definito (mai improvvisare)
 - Inseriti da personale sanitario (medici o infermieri) appropriatamente e specificamente addestrati

IL PRESENTE DEI PICC

- **PICC = prima scelta anche come accesso venoso centrale nel paziente non ospedalizzato, come accesso venoso a medio o lungo termine**

MEDIO TERMINE

- PICC non tunnellizzati
- PICC tunnellizzati

LUNGO TERMINE

- PICC tunnellizzati fissati con ancoraggio sottocutaneo
- PICC tunnellizzati-cuffiati
- PICC-port

IL PRESENTE DEI PICC

mercoledì 1 dicembre | 9.00 - 13.00 || 15.00 - 18.00

XIV PICC DAY

*Un panorama delle novità degli ultimi due anni nel mondo dei PICC;
l'attuale stato dell'arte quanto a indicazioni, controindicazioni, tecnica
di posizionamento e complicità, con speciale attenzione agli aspetti
organizzativi ed economici.*

Coordinamento scientifico: Mauro Pittiruti e Giancarlo Scoppettuolo

**Segreteria scientifica: Pietro Dormio, Domenica Monica Garofalo,
Domenico Merlicco, Marco Soldani e Mario Vigneri**



IL PRESENTE DEI PICC

- **Un posizionamento chiaro dei PICC nell'algoritmo di scelta dell'accesso venoso**

XIV PICC DAY

Le indicazioni all'utilizzo dei PICC, midline e mini-midline secondo il protocollo DAV-Expert (F. Pinelli)




Review

Assessment of the MAGIC recommendations in context of evolving evidence based on the use of PICC in ICU

Fulvio Pinelli¹ , Andrew Little², Kathy Kokotis³, Kim Alsbrooks³  and Mauro Pittiruti⁴ 

JVA | The Journal of Vascular Access

The Journal of Vascular Access
1-12
© The Author(s) 2021
Article reuse guidelines:
sagepub.com/journals-permissions
DOI: 10.1177/11297298211048019
journals.sagepub.com/home/jva


IL PRESENTE DEI PICC

- **Un ruolo importante nel paziente pediatrico**

XIV PICC DAY


I PICC come accesso venoso di prima scelta nel paziente pediatrico
(A. Crocoli)

Editorial

In defense of the use of peripherally inserted central catheters in pediatric patients

**Alessandro Crocoli¹ , Simone Cesaro² , Monica Cellini³,
Francesca Rossetti⁴, Luca Sidro⁵, Fulvio Pinelli⁶
and Mauro Pittiruti⁷ **

JVA | The Journal of
Vascular Access

The Journal of Vascular Access
1–4
© The Author(s) 2020
Article reuse guidelines:
sagepub.com/journals-permissions
DOI: 10.1177/1129729820936411
journals.sagepub.com/home/jva


IL PRESENTE DEI PICC

- **Un ruolo importante nel paziente COVID**

XIV PICC DAY

Tavola rotonda Indicazioni ai PICC durante e dopo la pandemia COVID (conduce G. Scoppettuolo)


Editorial

Vascular access in COVID-19 patients: Smart decisions for maximal safety

**Giancarlo Scoppettuolo¹, Daniele Guerino Biasucci²
and Mauro Pittiruti³** 

JVA | The Journal of
Vascular Access

The Journal of Vascular Access
1-3
© The Author(s) 2020
Article reuse guidelines:
sagepub.com/journals-permissions
DOI: 10.1177/1129729820923935
journals.sagepub.com/home/jva

 SAGE

IL PRESENTE DEI PICC

- **Una grande innovazione: la colla in cianoacrilato**

XIV PICC DAY


Le grandi innovazioni tecniche degli ultimi anni: la colla in cianoacrilato (B. Marche)

Original research article

JVA | The Journal of
Vascular Access

Reduction of bacterial colonization at the exit site of peripherally inserted central catheters: A comparison between chlorhexidine-releasing sponge dressings and cyano-acrylate

Emanuele Gilardi¹ , Alfonso Piano¹, Pietro Chellini¹, Barbara Fiori², Laura Dolcetti³, Mauro Pittiruti⁴ , and Giancarlo Scoppettuolo³

The Journal of Vascular Access
1–5
© The Author(s) 2020
Article reuse guidelines:
sagepub.com/journals-permissions
DOI: 10.1177/1129729820954743
journals.sagepub.com/home/jva


IL PRESENTE DEI PICC

- **Una grande innovazione: la tunnellizzazione**

XIV PICC DAY


Le grandi innovazioni tecniche degli ultimi anni: la tunnellizzazione
(D. Giustivi)

Techniques in vascular access

JVA | The Journal of
Vascular Access

Tunneling technique of PICCs and Midline catheters

**Daide Giustivi¹ , Antonio Gidaro² , Monica Baroni¹
and Stefano Paglia¹**

The Journal of Vascular Access
1-5
© The Author(s) 2021
Article reuse guidelines:
sagepub.com/journals-permissions
DOI: 10.1177/11297298211002579
journals.sagepub.com/home/jva
 SAGE

IL PRESENTE DEI PICC

- **Una grande innovazione: l'ancoraggio sottocutaneo**

XIV PICC DAY


Le grandi innovazioni tecniche degli ultimi anni: l'ancoraggio sottocutaneo (F. Brescia)

Original Research Article

JVA | The Journal of
Vascular Access

Subcutaneously anchored securement for peripherally inserted central catheters: Immediate, early, and late complications

Fabrizio Brescia¹ , Mauro Pittiruti² , Laura Roveredo¹, Chiara Zanier¹, Antonietta Morabito¹, Elisabetta Santarossa¹, Valentina Da Ros³, Marcella Montico⁴ and Fabio Fabiani¹

The Journal of Vascular Access
1-5
© The Author(s) 2021
Article reuse guidelines:
sagepub.com/journals-permissions
DOI: 10.1177/11297298211025430
journals.sagepub.com/home/jva


IL PRESENTE DEI PICC

- **Una necessità: utilizzare protocolli di inserzione ben definiti**

XIV PICC DAY

I protocolli da conoscere: ISP-2, RaPeVA, RAVESTO (M.G.Annetta)

ASSIST INFERM RIC 2014; 33: 82-89

Alessandro Emoli,¹ Serena Cappuccio,¹ Bruno Marche,¹ Andrea Musarò,² Giancarlo Scoppettuolo,³ Mauro Pittiruti²

¹Day Hospital di Oncologia Medica

²Dipartimento Scienze Chirurgiche

³Istituto di Malattie Infettive

Politclinico Universitario A. Gemelli, Roma

Per corrispondenza: Serena Cappuccio, sxcappuccio@gmail.com

Il protocollo 'ISP' (Inserzione Sicura dei PICC): un "bundle" di otto raccomandazioni per minimizzare le complicanze legate all'impianto dei cateteri centrali ad inserimento periferico (PICC)

Techniques in vascular access

JVA | The Journal of Vascular Access

Rapid Assessment of Vascular Exit Site and Tunneling Options (RAVESTO): A new decision tool in the management of the complex vascular access patients

The Journal of Vascular Access

1-7


© The Author(s) 2021

Article reuse guidelines:

sagepub.com/journals-permissions

DOI: 10.1177/11297298211034306

journals.sagepub.com/home/jva

 SAGE

Matthew D Ostroff¹ , Nancy Moureau² and Mauro Pittiruti³ 

IL PRESENTE DEI PICC

- **Una necessità: abbandonare la radiologia in favore di metodiche più sicure, più accurate e meno costose**

XIV PICC DAY

Utilizzo dell'ecografo per la tip navigation e la tip location dei PICC (E. Iacobone)

XIV PICC DAY

Abbandonare la radiologia: la tip location dei PICC oggi, tra ECG intracavitario ed ecocardioscopia (A. La Greca)

Original research article

JVA | The Journal of Vascular Access

Transthoracic echocardiography as bedside technique to verify tip location of central venous catheters in patients with atrial arrhythmia

The Journal of Vascular Access
2020, Vol. 21 (6) 861-867
© The Author(s) 2020
Article reuse guidelines:
sagepub.com/journals-permissions
DOI: 10.1177/1129729820905200
journals.sagepub.com/home/jva



Emanuele Iacobone¹, Daniele Elisei¹, Diego Gattari¹, Luigi Carbone¹ and Giuseppe Capozzoli²

Editorial

JVA | The Journal of Vascular Access

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

The Journal of Vascular Access
1-10
© The Author(s) 2021
Article reuse guidelines:
sagepub.com/journals-permissions
DOI: 10.1177/11297298211044325
journals.sagepub.com/home/jva



Antonio La Greca¹, Emanuele Iacobone², Daniele Elisei², Daniele Guerino Biasucci³, Vito D'Andrea⁴, Giovanni Barone⁵, Geremia Zito Marinosci⁶ and Mauro Pittiruti¹

Review

JVA | The Journal of Vascular Access

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

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



Mauro Pittiruti¹, Filippo Pelagatti² and Fulvio Pinelli³

IL PRESENTE DEI PICC

- **Maggior chiarezza sul reale rischio di trombosi**

XIV PICC DAY

La trombosi da PICC nel 2021: epidemiologia, diagnosi e trattamento (G. Passaro)

Review

JVA | The Journal of
Vascular Access

The fibroblastic sleeve, the neglected complication of venous access devices: A narrative review

The Journal of Vascular Access
1–13
© The Author(s) 2020
Article reuse guidelines:
sagepub.com/journals-permissions
DOI: 10.1177/1129729820951035
journals.sagepub.com/home/jva
SAGE

Giovanna Passaro , Mauro Pittiruti  and Antonio La Greca

Original research article

JVA | The Journal of
Vascular Access

Peripherally inserted central catheter-related thrombosis rate in modern vascular access era—when insertion technique matters: A systematic review and meta-analysis

The Journal of Vascular Access
1–10
© The Author(s) 2019
Article reuse guidelines:
sagepub.com/journals-permissions
DOI: 10.1177/1129729819852203
journals.sagepub.com/home/jva
SAGE

Paolo Balsorano¹, Gianni Virgili², Gianluca Villa³, Mauro Pittiruti⁴, Stefano Romagnoli¹, Angelo Raffaele De Gaudio³ and Fulvio Pinelli¹

IL PRESENTE DEI PICC

- **Maggior chiarezza sul reale rischio di infezione**

XIV PICC DAY

La infezione PICC-correlata nel 2021:
epidemiologia, diagnosi e trattamento
(G. Scoppettuolo)



**RACCOMANDAZIONI GAVeCeLT 2021
PER LA INDICAZIONE, L'IMPIANTO E LA GESTIONE
DEI DISPOSITIVI PER ACCESSO VENOSO**

a cura di Mauro Pittiruti e Giancarlo Scoppettuolo

Med Intensiva. 2018;42(1):5-36



ELSEVIER

medicina *intensiva*

www.elsevier.es/medintensiva



CONSENSUS STATEMENT

Diagnosis and treatment of catheter-related bloodstream infection: Clinical guidelines of the Spanish Society of Infectious Diseases and Clinical Microbiology and (SEIMC) and the Spanish Society of Intensive and Critical Care Medicine and Coronary Units (SEMICYUC)[☆]



F. Chaves^a, J. Garnacho-Montero^{b,*}, J.L. del Pozo (Coordinators)^c,
Authors: E. Bouza^d, J.A. Capdevila^e, M. de Cueto^f, M.Á. Domínguez^g,
J. Esteban^h, N. Fernández-Hidalgoⁱ, M. Fernández Sampedro^j, J. Fortún^k,
M. Guembe^l, L. Lorente^m, J.R. Pañoⁿ, P. Ramírez^o, M. Salavert^p,
M. Sánchez^q, J. Vallés^r

IL PRESENTE DEI PICC

- **Protocolli di gestione adeguati: la medicazione**

XIV PICC DAY

La medicazione dei PICC: stato dell'arte (C.Trezza)



**RACCOMANDAZIONI GAVeCeLT 2021
PER LA INDICAZIONE, L'IMPIANTO E LA GESTIONE
DEI DISPOSITIVI PER ACCESSO VENOSO**

a cura di Mauro Pittiruti e Giancarlo Scoppettuolo

Infusion Therapy Standards of Practice

Lisa A. Gorski, MS, RN, HHCNS-BC, CRNI®, FAAN

Lynn Hadaway, MEd, RN, NPD-BC, CRNI®

Mary E. Hagle, PhD, RN-BC, FAAN

Daphne Broadhurst, MN, RN, CVAA(C)

Simon Clare, MRes, BA, RGN

Tricia Kleidon, MNSc (Nurs. Prac), BNSc, RN

Britt M. Meyer, PhD, RN, CRNI®, VA-BC, NE-BC

Barb Nickel, APRN-CNS, CCRN, CRNI®

Stephen Rowley, MSc, BSc (Hons), RGN, RSCN

Elizabeth Sharpe, DNP, APRN-CNP, NNP-BC, VA-BC, FNAP, FAANP, FAAN

Mary Alexander, MA, RN, CRNI®, CAE, FAAN

8TH EDITION

REVISED 2021



INFUSION NURSES SOCIETY
SETTING THE STANDARD FOR INFUSION CARE®

One Edgewater Drive, Norwood, MA 02062

www.ins1.org

IL PRESENTE DEI PICC

- **Protocolli di gestione adeguati: la prevenzione della occlusione**

XIV PICC DAY

La prevenzione della occlusione: stato dell'arte (S. Elli)



**RACCOMANDAZIONI GAVeCeLT 2021
PER LA INDICAZIONE, L'IMPIANTO E LA GESTIONE
DEI DISPOSITIVI PER ACCESSO VENOSO**

a cura di Mauro Pittiruti e Giancarlo Scoppettuolo

JVA
ISSN 1129-7298

J Vasc Access 2016; 17 (5): 429-434
DOI: 10.5301/jva.5000583

ORIGINAL RESEARCH ARTICLE

In vitro evaluation of fluid reflux after flushing different types of needleless connectors

Stefano Elli, Chiara Abbruzzese, Luigi Cannizzo, Alberto Lucchini

Emergency Department and Intensive Care, San Gerardo Hospital, University of Milan-Bicocca, Monza (MB) - Italy

IL PRESENTE DEI PICC

- **La necessità di organizzarsi in un team accessi vascolari**

XIV PICC DAY

Tavola rotonda La esperienza dei PICC-team e dei team di accessi vascolari (conduce P. Dormio)



Hospital Practice

Taylor & Francis
Taylor & Francis Group

ISSN: (Print) (Online) Journal homepage: <https://www.tandfonline.com/loi/hop20>

Qualitative interviews and supporting evidence to identify the positive impacts of multidisciplinary vascular access teams

Baudolino Mussa, Didier Lepelletier, Fredericus Henricus Johannes van Loon, Jennifer Caguioa, Fulvio Pinelli, Gema Munoz Mozas, Noemí Cortés Rey & Ulf Teichgräber

IL FUTURO DEI PICC

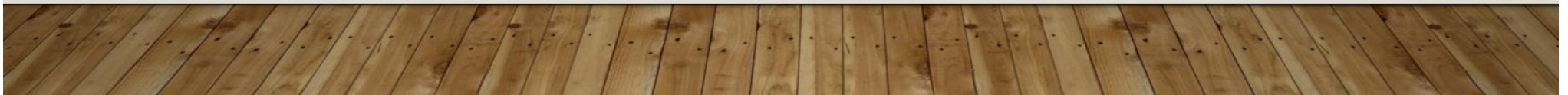


IL FUTURO DEI PICC

- Diffusione nella pratica clinica dello specialista in accessi vascolari (medico o infermiere), inserito in un team multiprofessionale e multidisciplinare, in grado di gestire autonomamente tutte le situazioni:
 - Competenza nell'impianto di qualunque accesso centrale o periferico di lunga durata
 - Competenza nella gestione dell'accesso venoso di qualunque tipo
 - Competenza nella diagnosi e trattamento di qualunque complicanza, incluse le infezioni degli accessi venosi e le trombosi venose catetere-correlate

IL FUTURO DEI PICC

- Abbandonare la distinzione tra PICC, CICC e FICC: il futuro è la opportunità di accessi venosi centrali (esterni) multifunzione:
 - *Power injectable*, in poliuretano, non valvolati (performance ottimale)
 - Da inserire mediante tecnica di Seldinger modificata (e quindi tunnellizzabili se indicato)
 - Di diametro 3-4-5-6 Fr (a seconda del calibro della vena scelta)
 - Con 1-2-3 lumi (secondo le necessità cliniche)
 - Lunghi 50-60 cm e quindi adattabili a qualsiasi sede, con o senza tunnellizzazione
 - Trasformabili in accessi di lunga durata mediante tunnellizzazione + ancoraggio sottocutaneo



Grazie dell'attenzione

mauropittiruti@me.com

www.gavecelt.it

Gemelli



Fondazione Policlinico Universitario A. Gemelli
Università Cattolica del Sacro Cuore

