Sara Mezini
ASL 2/ Ospedale San Paolo

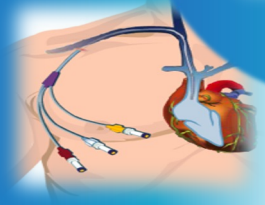
Ai sensi dell'art. 3.3 sul Conflitto di Interessi, pag. 17 del Reg. Applicativo dell'Accordo Stato-Regione del 5 novembre 2009, dichiaro che negli ultimi due anni NON ho avuto rapporti diretti di finanziamento con soggetti portatori di interessi commerciali in campo sanitario

Applicazioni di Ecografia Infermieristica

3° Edizione

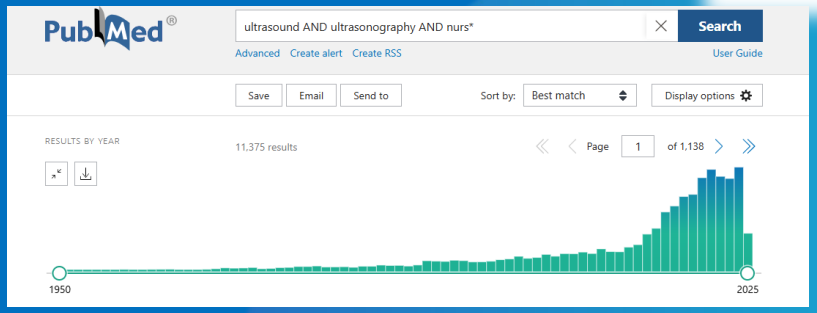
Area Critica in Medicina Interna

12 Aprile 2025



Savona
Nh Darsena Hotel

Introduction



''In recent years, ultrasounds (US) have become increasingly more useful in nursing practice since their use improves care outcomes as well as patient and nurse satisfaction''
(E. Morotti et Al., 2025)

''Thanks to technological advancements, it is now possible to integrate advanced tools to enhance clinical observation and support care decisions''
(Gimens et AL., 2024).

Nurs Rep. 2025 Feb 10;15(2):63. doi: 10.3390/nursrep15020063

Development and Implementation of an Ultrasound Wireless Technology Educational Program for Nursing Students: A Quality Improvement Project

Elena Morotti [1], Sergio Rovesti [1], Chiara Diambri [1], Davide Boni [1], Rosaria Di Lorenzo [1], Dalia Caleffi [1], Mauro Bellifemine [1], Paola Ferri [1,*]

Editor: Richard Gray[1]

Author information · Article notes · Copyright and License information
PMCID: PMC11857979 PMID: 39997799

JMIR Res Protoc. 2024 Oct 23;13:e58030. doi: 10.2196/58030

Advancing Digital Education Technologies by Empowering Nurses With Point-of-Care Ultrasound: Protocol for a Mixed Methods Study

Fernanda Raphael Escobar Gimenes [1,✉], Angelita Maria Stabile [1], Rodrigo Magri Bernardes [1], Vinicius Batista Santos [2], Mayra Gonçalves Menegueti [1], Patricia Rezende do Prado [1], Mauricio Serra Ribeiro [3], Flavia Giron Camerini [4], Soraia Assad Nasbine Rabeh [1]

Editor: Amaryllis Mavragani

Reviewed by: Francisco Meza

Author information · Article notes · Copyright and License information
PMCID: PMC11541147 PMID: 39441654

WHO?

•Trained Nurses
•Ongoing Education
•Continuous Practical Experience

WHY?

Art. 10 Code of Ethics 2025 Knowledge, Training, and Continuing Education:
"The nurse must **continuously update their competencies**, including through participation in **training initiatives**, in order to ensure the **quality and safety** of care".

HOW?

Purpose
•• See what is not visible
•• See better what is visible
•• See what you're doing and how
•• Detect early complications

Daily Practice
•• Assessment & procedures
•• Portable, easy-to-use devices

Key Requirements
•• Right probe selection
•• Patient prep & positioning
•• Real-time image reading

Advantages
•• Bedside assessment
•• Precise, guided procedures
•• Repeatable monitoring

WHEN?

Nursing ultrasound is applied in several clinical situations, including:

•Placement of difficult vascular accesses and arterial puncture

•Insertion of bladder catheters and monitoring of urine volume

•Lung assessment and examination of the inferior vena cava (IVC)

•Insertion and positioning of nasogastric tubes

Table 3. Themes and sub-themes of nursing students' experiences with US.

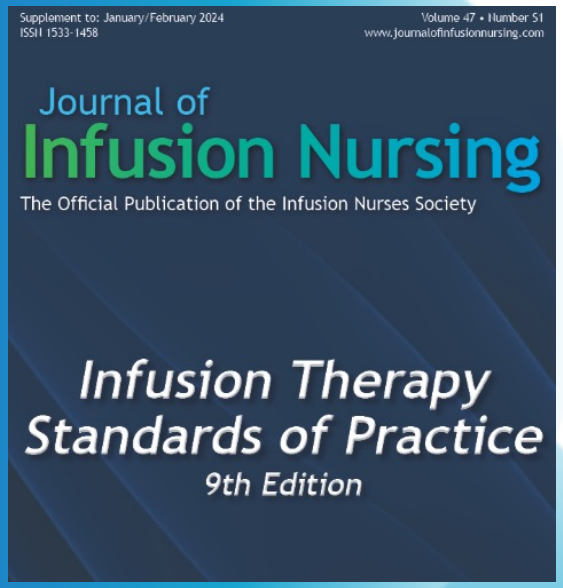
Themes	Sub-Themes
Benefits for students	• Knowledge
	• Ability
	• Self-confidence
	• Integration of theory-practice
	• Pre-training preparation
	• Clinical reasoning
	• Curiosity
Benefits for patients	• Patient's comfort
	• Better care
Benefits for the profession	• Prestige
	• Growth
	• Autonomy
	• Professional gratification
Benefits for the professional future	• Interprofessional collaboration
	• Expendability in the world of work

Table 2. Pre-test and post-test self-confidence scores on 118 nursing students.

Self-confidence	Pre-Test M (SD)	Post-Test M (SD)	Paired *t*-Test *p*-Value
I am confident that my procedure for locating the vein with the aid of the ultrasound scan is correct	1.71 (1.03)	3.87 (0.83)	−23.582 <0.001
I am confident that my procedure for locating the bladder with the aid of the ultrasound scan is correct	1.79 (1.05)	4.06 (0.89)	−20.508 0.008
I am confident I am correctly identifying the probe for assessing veins	1.73 (1.07)	4.08 (0.89)	−22.925 <0.001
I am confident that my procedure for locating the artery with the aid of the duplex ultrasound scan is correct	1.92 (1.06)	4.08 (0.89)	−21.620 <0.001
I am confident that my procedure for locating the inferior vena cava with the aid of the ultrasound scan is correct	1.35 (0.77)	3.42 (1.03)	−21.050 <0.001

Placement of vascular accesses

In acute care settings, the indispensable role of peripheral intravenous catheters (PIVCs) and central vascular access devices (CVADs) cannot be overstated, as they serve as conduits for vital fluids, medications, and diagnostic treatments(Moureau et al. 2025).



Meta-Analysis › Eur J Emerg Med. 2023 Apr 1;30(2):70-77. doi: 10.1097/MEJ.0000000000000993. Epub 2023 Jan 20.

The effects of ultrasound guidance on first-attempt success for difficult peripheral intravenous catheterization: a systematic review and meta-analysis

Eva Poulsen [1], Rasmus Aagaard [2 3], Jannie Bisgaard [4 5], Heidi T Sørensen [1], Peter Juhl-Olsen [1 6]

Affiliations + expand

PMID: 36727865 DOI: 10.1097/MEJ.0000000000000993

› Heliyon. 2024 May 3;10(9):e30582. doi: 10.1016/j.heliyon.2024.e30582. eCollection 2024 May 15.

The ultrasound-guided versus standard technique for peripheral intravenous catheter placement by nurses: A systematic review and meta-analysis

Yishu Tian [1], Zixing Zhong [2], Djouhayna Dougarem [3], Litao Sun [1]

Affiliations + expand

PMID: 38765178 PMCID: PMC11098833 DOI: 10.1016/j.heliyon.2024.e30582

Moureau, Nancy PhD, RN, CRNI®, CPUI, VA-BC; Gorski, Lisa MS, RN, HHCNS-BC, CRNI®, FAAN; Flynn, Julie PhD, RN, BN, MAdvPrac, AFHEA; Johnson, Karen MSN, MBA, RN, CRNI®, CPUI, VA-BC. A Systematic Review of Needleless Connector Function and Occlusion Outcomes: Evidence Leading the Way. Journal of Infusion Nursing 48(2):p 84-105, March/April 2025. | DOI: 10.1097/NAN.0000000000000578

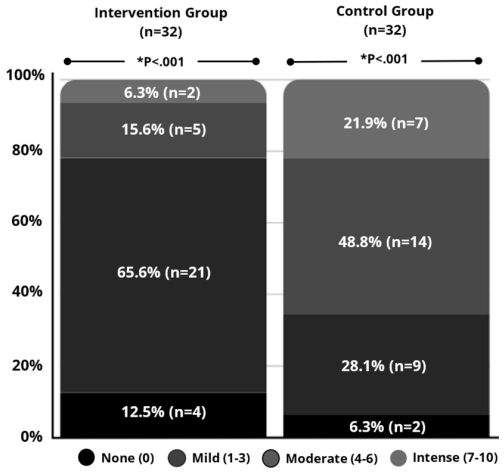
Randomized Controlled Trial > J Infus Nurs. 2024 May-Jun;47(3):190-199.
doi: 10.1097/NAN.0000000000000542. Epub 2024 May 10.

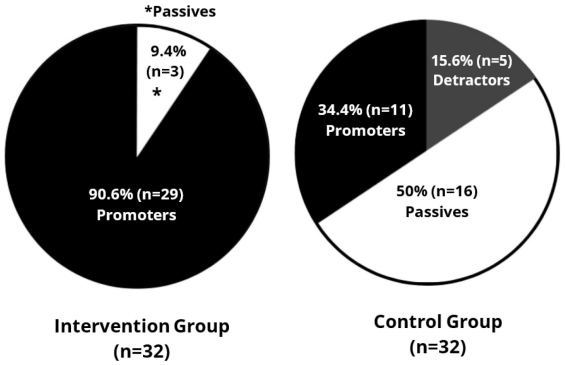
Ultrasound-Guided Peripheral Venipuncture Decreases the Procedure's Pain and Positively Impacts Patient's Experience: The PRECISE Randomized Clinical Trial

Marina Junges [1], Leandro Augusto Hansel, Marina Scherer Santos, Vânia Naomi Hirakata, Rodrigo do Nascimento Ceratti, Gabriela Petró Valli Czerwinski, Marco Aurélio Lumertz Saffi, Eduarda Bordini Ferro, Daniele Volkmer Jacobsen, Eneida Rejane Rabelo-Silva

Affiliations + expand

PMID: 38744244 DOI: 10.1097/NAN.0000000000000542





> BMJ Open. 2024 Jun 4;14(6):e078106. doi: 10.1136/bmjopen-2023-078106.

Experiences and perceptions of critical care nurses on the use of point-of-care ultrasound (POCUS) to establish peripheral venous access in patients with difficult intravenous access: a qualitative study

Øystein Myrlund Hansen [1 2], Rita Solbakken [3]

Affiliations + expand

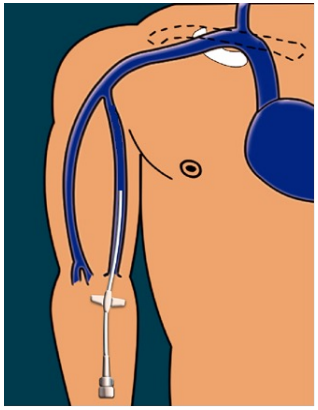
PMID: 38834329 PMCID: PMC11163595 DOI: 10.1136/bmjopen-2023-078106

- **Sharing with the patient**
- **Internal view**
- **Greater autonomy**
- **Readiness to act**
- **Role enhancement**

Drugs < 800 mOsm/l
PH between 5 and 9
Non-vesicant drugs

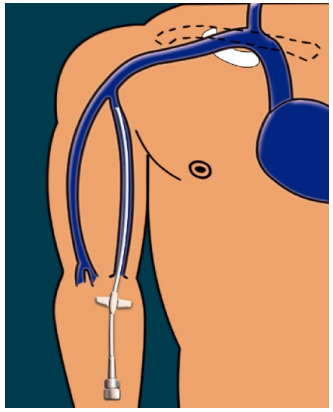
Long peripheral catheters (or *mini-midlines*)

18G or 20G gauge, 8 or 10 cm long



Midline catheters (or *midclavicular*).

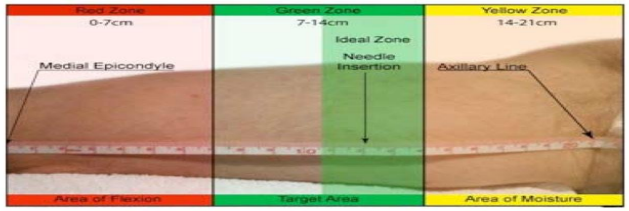
4Fr or 5Fr gauge, 20 to 25 cm long



https://gavecelt.it/nuovo/sites/default/files/uploads/raccomandazioni-gavecelt-2024.pdf

- Ultrasound selection of a vein (**Basilic, brachial, cephalic**) ≥ 3x the catheter diameter (preferably outside flexion zones).
- Maximum aseptic technique: sterile gloves and gown, mask, skin antisepsis, probe cover.
- Seldinger technique with local anesthesia.
- Catheter flushing and closure with neutral pressure needle-free connector (NFC).
- Secure with sterile dressing and cyanoacrylate glue.

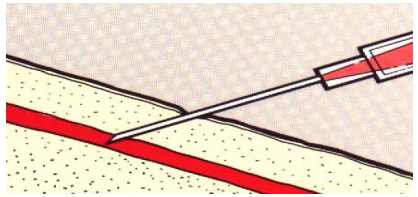
ZONE INSERTION METHOD (ZIM)



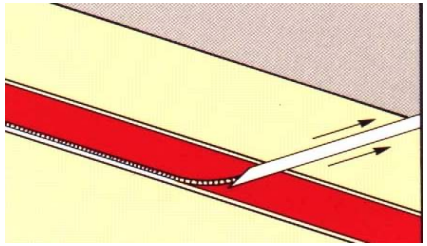
Dawson RB. PICC Zone insertion Method TM (ZIMTM): A systematic approach to determine the ideal insertion site for PICCs in the upper arm. JAVA 2011;16(3):156-156

Seldinger technique

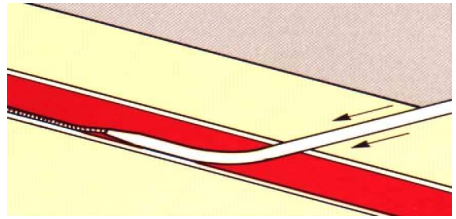
Puncture with a metal needle until blood return is visualized



Insertion of the guidewire through the needle and removal of the needle



Catheter advancement over the guidewire



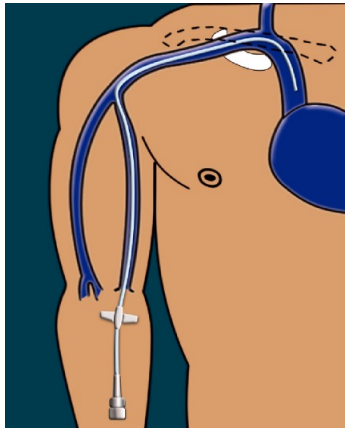
- **Systematic ultrasound exploration** of arm veins, including subclavian and supraclavicular areas.
- **Strict aseptic technique**: hand hygiene, 2% chlorhexidine in alcohol solution, full barrier precautions.
- **Vein selection** based on depth and diameter (catheter/vein ratio 1:3), following the ZIM system.
- **Ultrasound identification** of brachial artery and median nerve.
- **Ultrasound-guided venipuncture** (short-axis, out-of-plane) using a micro-introduction kit.
- **Catheter navigation** using ultrasound of the supraclavicular region.
- **Tip confirmation** with intracavitary ECG, including modified technique for atrial fibrillation, and optionally ECHOTIP.
- **Securement** with cyanoacrylate glue + sutureless device + transparent dressing with high MVTR (Moisture Vapor Transmission Rate).

https://gavecelt.it/nuovo/sites/default/files/uploads/raccomandazioni-gavecelt-2024.pdf

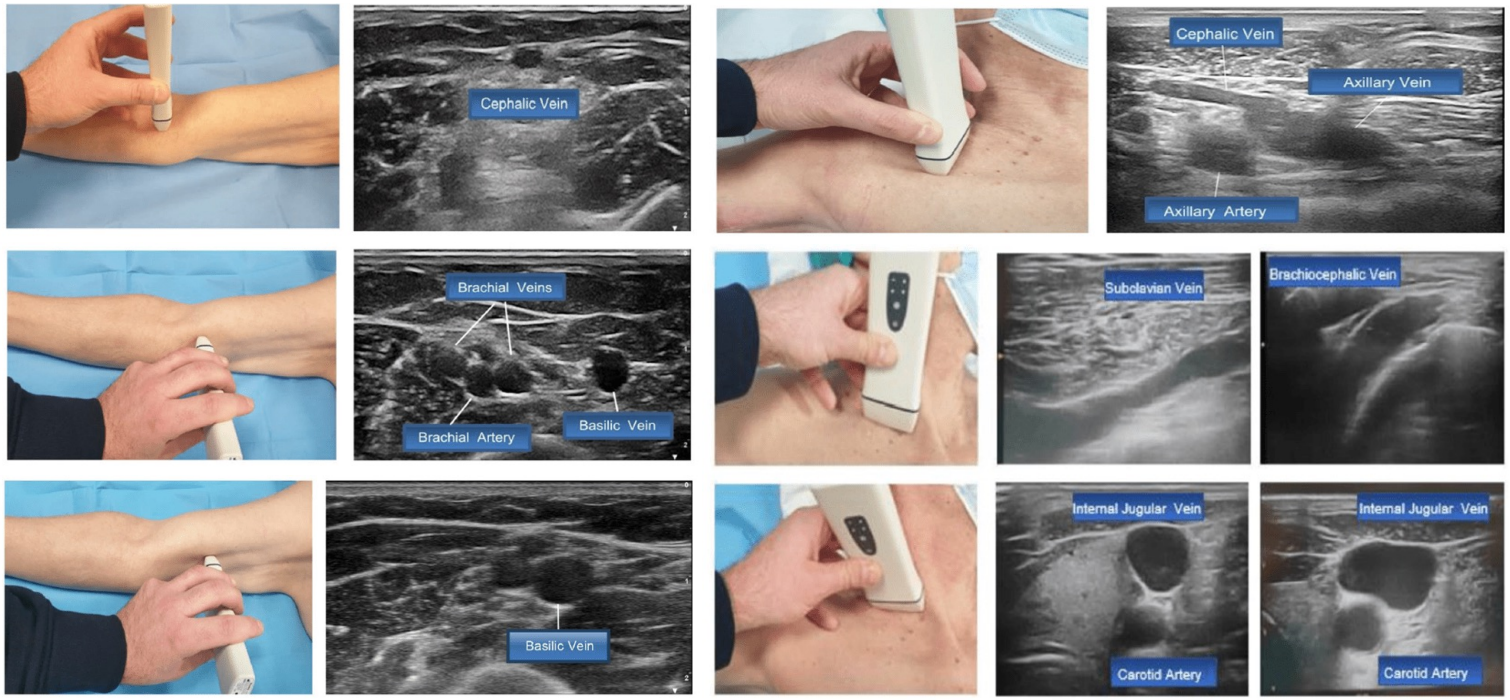
Drugs > 800 mOsm/l
PH <5 and >9
•Vesicant and irritant drugs
•Need for hemodynamic monitoring
•Need for repeated and frequent blood sampling

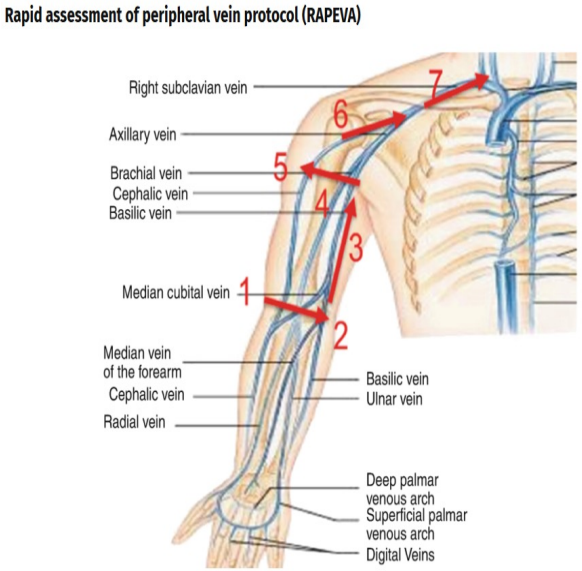
PICC

3Fr, 4Fr, or 5Fr single-lumen; 4Fr or 5Fr double-lumen; 5Fr or 6Fr triple-lumen



RAPEVA PROTOCOL (RAPID PERIPHERAL VEIN ASSESSMENT)





Moureau N (2019). Vessel Health and Preservation: The Right Approach for Vascular Access. Springer. Pg 16

Step1	Lateral aspect of antecubital fossa	Cephalic vein
Step2	Medial aspect of antecubital fossa	Median cubital vein, Basilic vein
Step3	****Mid upper arm**	**Basilic vein, ulnar nerve, brachial bundle (median nerve, brachial artery and vein)**
Step4	Mid upper arm	Brachial vein joins Basilic vein
Step5	Lateral aspect of upper arm (below acromion process)	Cephalic vein joins Axillary vein
Step6	Pectoral groove	Axillary vein
Step7	Behind clavicle	Subclavian vein, External jugular vein

Brescia, F., Pittiruti, M., Spencer, T. R., & Dawson, R. B. (2024). The SIP protocol update: Eight strategies, incorporating Rapid Peripheral Vein Assessment (RaPeVA), to minimize complications associated with peripherally inserted central catheter insertion. *The journal of vascular access*, *25*(1), 5–13. https://doi.org/10.1177/11297298221099838

Artery Puncture

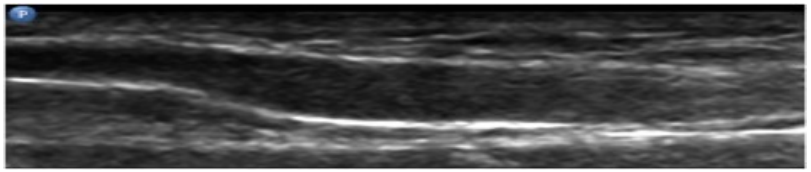


Figure Ultrasound view of the radial artery.

Randomized Controlled Trial > J Emerg Nurs. 2024 May;50(3):373-380.
doi: 10.1016/j.jen.2024.01.001. Epub 2024 Mar 26.

Ultrasound–Guided Radial Artery Puncture by Nurses in Emergency Department: A Randomized Controlled Study

Birdal Güllüpınar, Caner Sağlam, Arif Karagöz, Serhat Koran, Erden Erol Ünlüer

PMID: 38530698 DOI: 10.1016/j.jen.2024.01.001

A study compared ultrasound-guided RAP to the traditional palpation method, performed by six emergency nurses with no prior ultrasound experience.

- **First-attempt success rate:** Higher with ultrasound (86.1%) vs palpation (58.3%)
- **Overall success rate:** 100% (ultrasound) vs 91.7% (palpation)
- **Procedure time:** Significantly shorter with ultrasound
- **Needle attempts & manipulations:** Fewer in the ultrasound group
- **Complications (hematomas):** More common with palpation; none with ultrasound

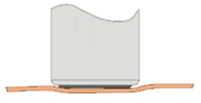
Comparative Study > Aust Crit Care. 2025 Mar;38(2):101135. doi: 10.1016/j.aucc.2024.101135.
Epub 2024 Nov 19.

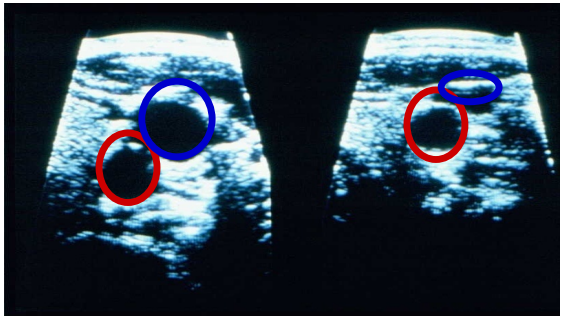
Comparing arterial catheterisation by palpation or ultrasound guidance by novice nurses in an adult intensive care unit: A prospective cohort study

Manuela León [1], Daniel N Marco [1], Marta Cubedo [2], Cristina González [1], Ana Guirao [1], María Del Carmen Cañueto [1], Laura Salvador [1], Àlvar Farré [1], Javier Pérez [1], Inmaculada Carmona [1], Pamela-Inés Doti [1], Sara Fernández [3], Adrián Téllez [3], Juan Carlos López-Delgado [3], Eric Mayor-Vázquez [3], Laura Almorín [1], Josep M Nicolás [4], Pedro Castro [5]

Affiliations + expand

PMID: 39547834 DOI: 10.1016/j.aucc.2024.101135





- **First-attempt success rate:**
- Ultrasound (US): **58%**
- Palpation (PP): **50.6%**
- → *No significant difference (p = 0.39)*
- **Procedure time:**
- US: 350 sec
- PP: 284 sec
- → *No significant difference (p = 0.44)*
- **Failed attempts:**
- US: **14%**
- PP: **21.3%**
- → *Not statistically significant (p = 0.28)*
- **Cannulation site:**
- Radial artery most used in both groups
- Femoral and brachial arteries **used more often in US group**
- **Operator experience:**
- US group had more procedures by **less experienced operators**
- → *No difference in failure rates based on experience*

Bladder Ultrasound

''The physical examination of the bladder plays an important role, both through palpation and percussion. However, it also has limitations, as these are subjective and independent assessments that depend on the examiner's experience. For this reason, urinary volumes at the time of bladder catheterization may be overestimated or underestimated.''

''Pelvic nursing ultrasound is a non-invasive method for assessing bladder volume, its contents, the intravesical prominence of the prostatic-trigonal region, and the real-time verification of urinary catheter placement. It is not intended for diagnostic purposes, but rather to support clinical procedures.''

Rev Bras Enferm. 2024 Dec 16;77(6):e20230183. doi: 10.1590/0034-7167-2023-0183

Show available content in: English | Spanish

View full-text in Portuguese

Bladder ultrasound: evidence of content validity of a checklist for training nurses

Filipe Utuari de Andrade Coelho [I], Sabrina Martins Reigota [II], Flávia Manfredi Cavalcanti [II], Dejanira Aparecida Regagnin [II], Beatriz Murata Murakami [III], Vinícius Batista Santos [IV]

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PMCID: PMC11654563 PMID: 39699351

Enferm Clin (Engl Ed). 2025 Mar 1:502163. doi: 10.1016/j.enfcle.2025.502163. Online ahead of print.

Application of bladder ultrasound to reduce urinary catheterization in patients suspected of acute urinary retention: A systematic review

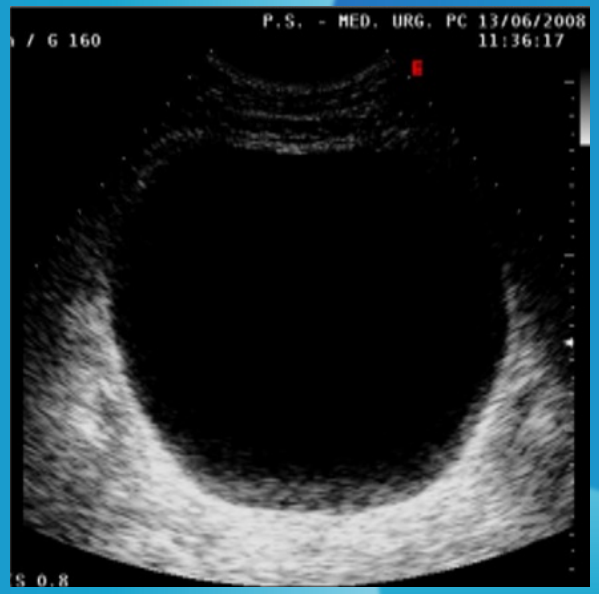
Iván Fernández-Prada [1], Sendoa Ballesteros-Peña [2]

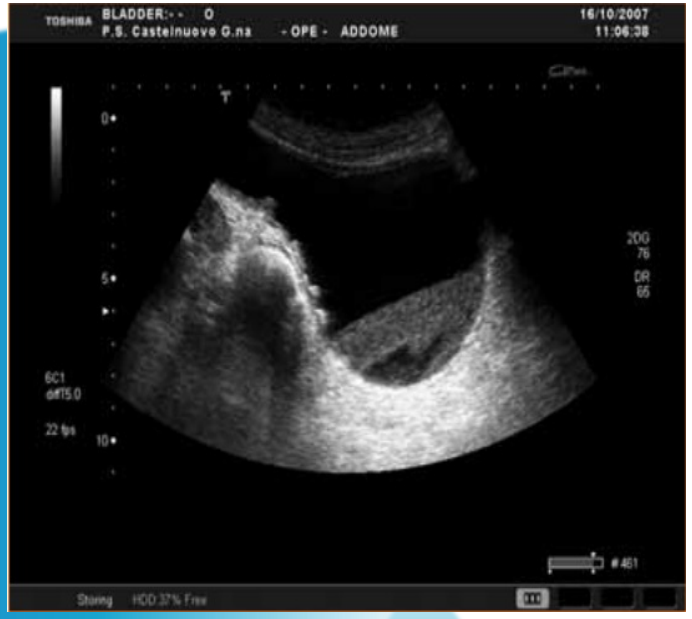
Affiliations + expand

PMID: 40032047 DOI: 10.1016/j.enfcle.2025.502163

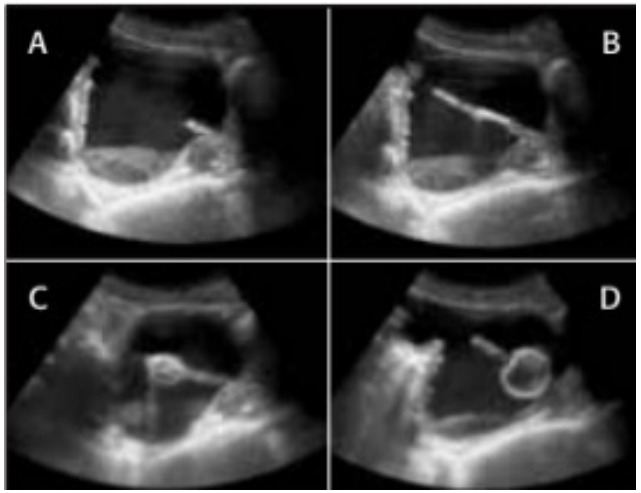
The nurse assesses:

- Bladder volume (quantitative estimation)
- Post-void residual (quantitative)
- Bladder content (qualitative assessment)
- Real-time catheter passage (qualitative assessment)





Romei, L., Sabatini, A., & Biagioni, C. (2007). Nursing ultrasound examination in catheterization. *Emergency Care Journal*, *3*(6), 30-34.



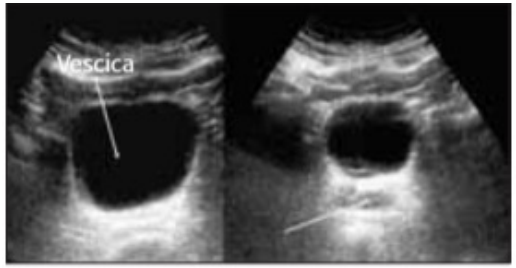
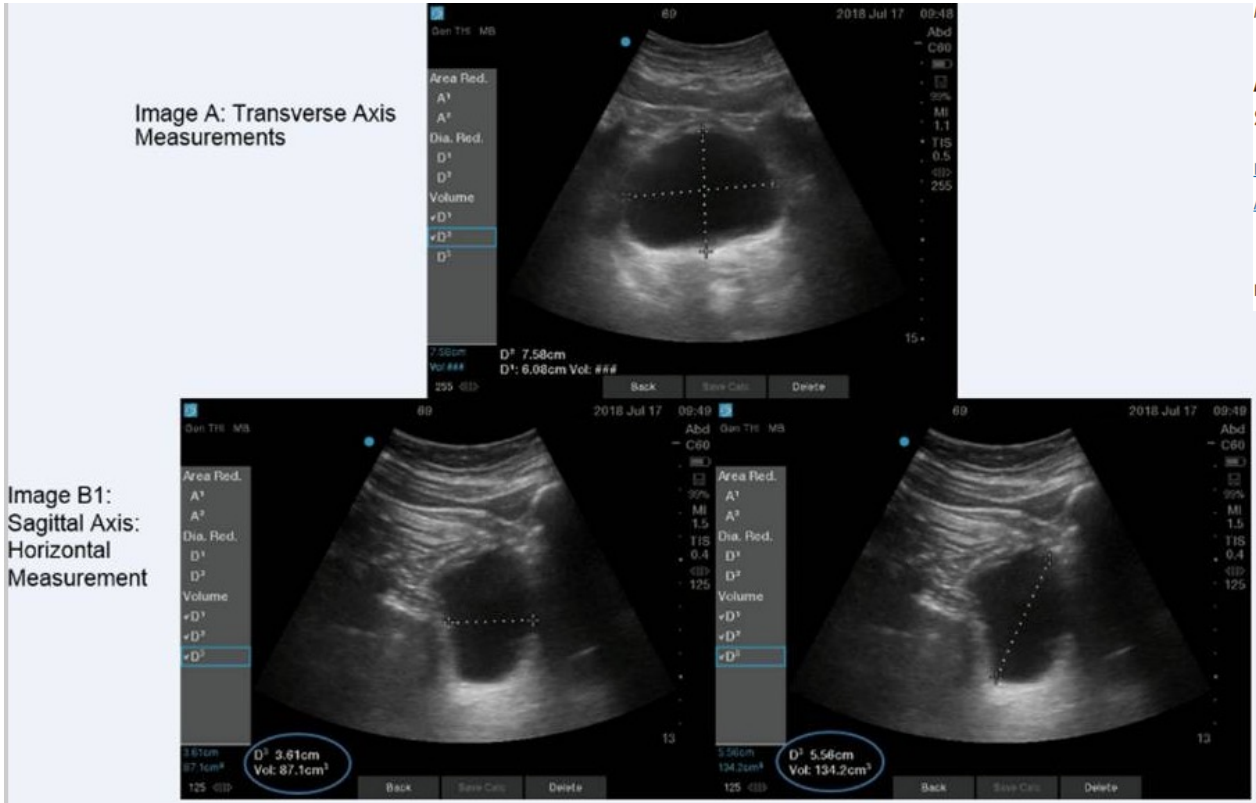


Fig. 102 A sinistra scansione trasversale orizzontale di vescica maschile, non è visualizzata la prostata. A destra una scansione inclinata in basso mostra la prostata in proiezione trasversale.

Fig. 103 Scansione sagittale di vescica (patologica) maschile. È visibile una prostata ingrandita che solleva il pavimento vescicale e che è attraversata dalla punta del catetere.

Tiemann catheter: semi-rigid, with a conical tip and a 30° angle, indicated in cases of male urethral stricture.

VOLUME:D1X D2 X D3 X 0,52



▸ Am J Crit Care. Author manuscript; available in PMC: 2021 Nov 1.

Published in final edited form as: Am J Crit Care. 2020 Nov 1;29(6):458–467. doi: 10.4037/ajcc2020741

Accuracy of Measuring Bladder Volumes with Ultrasound and Bladder Scanning in the ICU

Marilyn Schallom [1], Donna Prentice [1], Carrie Sona [2], Kara Vyers [1], Cassandra Arroyo [1], Brian Wessman [3], Enyo Ablordeppey [3]

▸ Author information ▸ Article notes ▸ Copyright and License information

PMCID: PMC8141281 NIHMSID: NIHMS1697716 PMID: 33130866

Observational Study ▸ Assist Inferm Ric. 2023 Jul-Sep;42(3):131-136. doi: 10.1702/4095.40917.

[Assessing the impact of bladder ultrasound on catheter-associated urinary tract infections and health-care costs: an observational pre-post study]

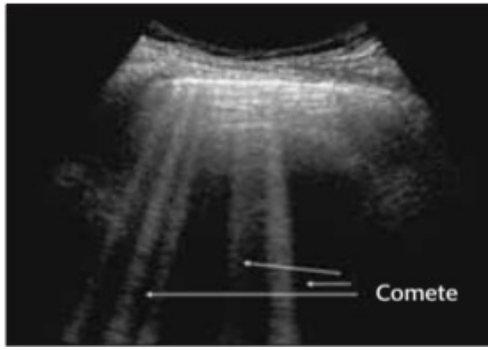
[Article in Italian]

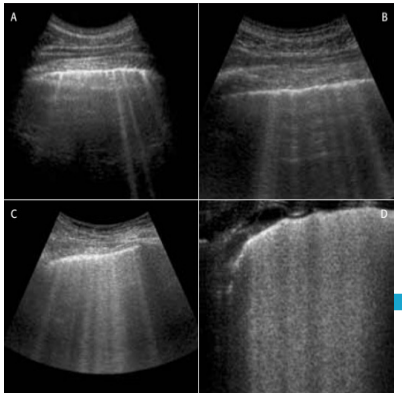
Roberta Di Matteo [1], Irene Caccamo [2], Simona Arcidiacono [3], Giovanna Bertin [2], Elena Chiamosa [2], Francesca Valenti [2], Sara Mugone [2], Alessia De Piaggia [2], Assunta Daniele [2], Miriana Clara [2], Denise Gatti [1], Tatiana Bolgeo [1], Antonio Maconi [4]

Affiliations + expand

PMID: 37721338 DOI: 10.1702/4095.40917

Lung assessment and examination of the inferior vena cava (IVC)

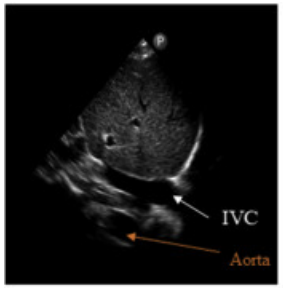


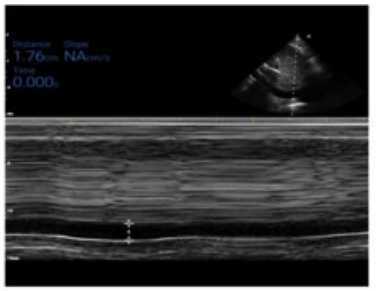


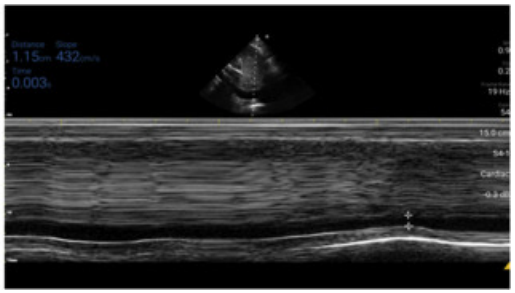
Monitoring patients with acute dyspnea with serial point-of-care ultrasound of the inferior vena cava (IVC) and the lungs (LUS): a systematic review

Michael Dan Arvig[1,2,3] · Christian B. Laursen[3,4] · Niels Jacobsen[3,4,5] · Peter Haulund Gæde[3,6] · Annmarie Touborg Lassen[3,7]

Received: 6 July 2021 / Accepted: 30 August 2021 / Published online: 18 January 2022





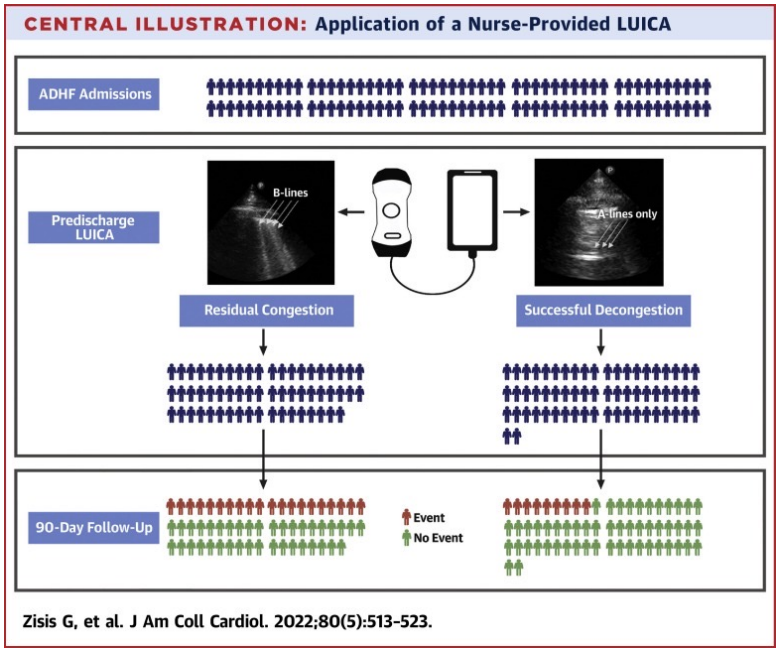


Journal of the American College of Cardiology
Volume 80, Issue 5, 2 August 2022, Pages 513-523

Original Investigation

Nurse-Provided Lung and Inferior Vena Cava Assessment in Patients With HeartFailure

Georgios Zisis RN, MSc [a b c d], Yang Yang MD [c e f], Quan Huynh MB, PHD [a b], Kristyn Whitmore RN, BSc [g], Maria Lay RN, BSc [a], Leah Wright PHD [a c], Melinda J. Carrington PHD [a b], Thomas H. Marwick MBBS, PHD, MPH [a b c d e g]



Cureus. 2023 Jun 16;15(6):e40519. doi: 10.7759/cureus.40519

Evaluating the Effect of Nursing-Performed Point-of-Care Ultrasound on Septic Emergency Department Patients

Sharmin Kalam [1], Nicholas Selden [2], Korbin Haycock [3], Tammy Lowe [4], Heather Skaggs [4], Vi Am Dinh [1,5]

Editors: Alexander Muacevic, John R Adler

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PMCID: PMC10350309 PMID: 37461778

Figure 1. Pre- and post-ultrasound assessment surveys for physicians .

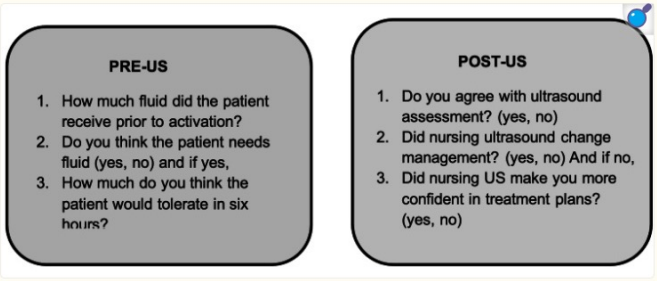
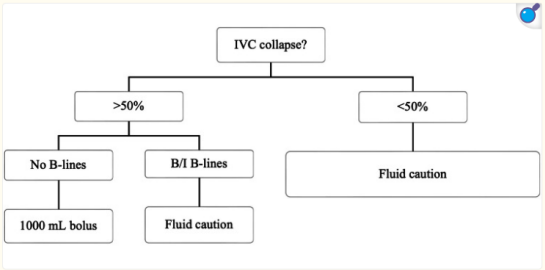
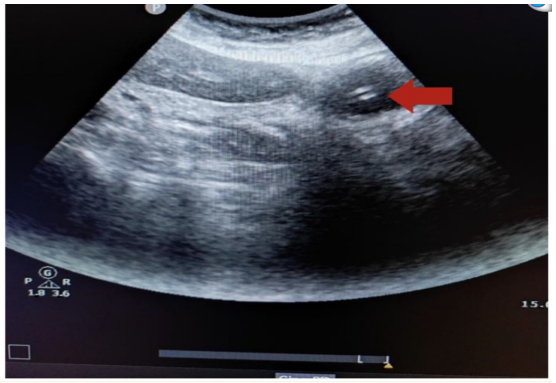


Figure 2. Algorithm for fluid administration in hypotensive patients based on nursing-performed ultrasound.

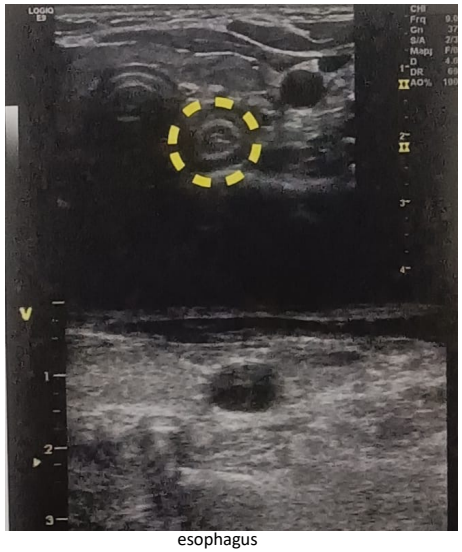


Nasogastric Tube (NGT) Placement



Open in a new tab

Ultrasound image of a 14-French gauge nasogastric tube placed in the stomach (the red arrow indicates two hyperechogenic parallel lines).



esophagus

Cochrane Database of Systematic reviews | Review - Diagnostic

New search

Ultrasonography for confirmation of gastric tube placement

Yasushi Tsujimoto, Yuki Kataoka, Masahiro Banno, Keisuke Anan, Akihiro Shiroshita, Satoshi Jujo

Authors' declarations of interest

Version published: 25 July 2024 Version history

https://doi.org/10.1002/14651858.CD012083.pub3

- The NGT is often placed without radiographic confirmation → increased risk of complications.
- **Ultrasound** is emerging as a valid alternative, especially where **X-ray is not immediately available**.
- Studies in intensive care, emergency departments, and prehospital settings confirm the effectiveness of ultrasound (neck + epigastric scans).
- Supported by: **saline injection, color-Doppler, pH test, and auscultation**.

Advantages:

✓ Sensitivity ranging from 86.4% to 100%
✓ Fast and real-time visualization
✓ Safe and non-invasive
✓ Can be used bedside or in the field

Home › Contributi › L'ecografia come strumento per il corretto posizionamento del sondino naso gastrico: attualità...

Contributi

L'ECOGRAFIA COME STRUMENTO PER IL CORRETTO POSIZIONAMENTO DEL SONDINO NASO GASTRICO: ATTUALITÀ E PROSPETTIVE FUTURE

Rivista L'Infermiere N° 1 – 2023

Limitations:

✗ Abdominal air may hinder visualization
✗ Complex neck anatomy can make scanning difficult
✗ Limited evidence available

Promising technique, but **larger studies** are needed to define it as a clinical standard.

Healthcare (Basel). 2024 Aug 14;12(16):1618. doi: 10.3390/healthcare12161618

Verification of Nasogastric Tube Positioning Using Ultrasound by an Intensive Care Nurse: A Pilot Study

María Robles-González [1], Oscar Arrogante [2,3,*], Juan Antonio Sánchez Giralt [1], Ismael Ortuño-Soriano [2,4], Ignacio Zaragoza-García [2,5]

Editor: Miriam Theilla

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PMCID: PMC11353583 PMID: 39201176

Ultrasound Sensitivity

- Direct visualization of NGT: 35%
- Indirect visualization (dynamic fogging): 85%

Nurse-physician agreement (Cohen's Kappa):
0.88 → Excellent agreement

Meta-Analysis · Eur Rev Med Pharmacol Sci. 2022 Sep;26(17):6328-6339.
doi: 10.26355/eurrev_202209_29657.

Diagnostic accuracy of ultrasonography for detecting gastric tube placement: an updated meta-analysis

J Peng [1], M Tang, L-L Liu, W-T Chen, Q-H Ye

Affiliations + expand

PMID: 36111934 DOI: 10.26355/eurrev_202209_29657

- Sensitivity: 96% (95% CI: 94–97)
- Specificity: 91% (95% CI: 85–96)
- Visualization methods: Neck, epigastric, combined
- Good diagnostic performance
- Limited data on tube misplacement and pediatric population
- Ultrasound = safe, non-invasive, radiation-free alternative

Intensive Crit Care Nurs. 2022 Apr:69:103183. doi: 10.1016/j.iccn.2021.103183. Epub 2021 Dec 16.

Nurse-performed ultrasound assessment of gastric residual volume and enteral nasogastric tube placement in the general intensive care unit

Evgeni Brotfain [1], Alexander Erblat [2], Peter Luft [2], Adina Elir [2], Benjamin F Gruenbaum [3], Ilana Livshiz-Riven [4], Anna Koyfman [5], Danielle Fridrich [6], Leonid Koyfman [2], Michael Friger [7], Ana Grivnev [2], Alexander Zlotnik [7], Moti Klein [7]

Affiliations + expand

PMID: 34924254 DOI: 10.1016/j.iccn.2021.103183

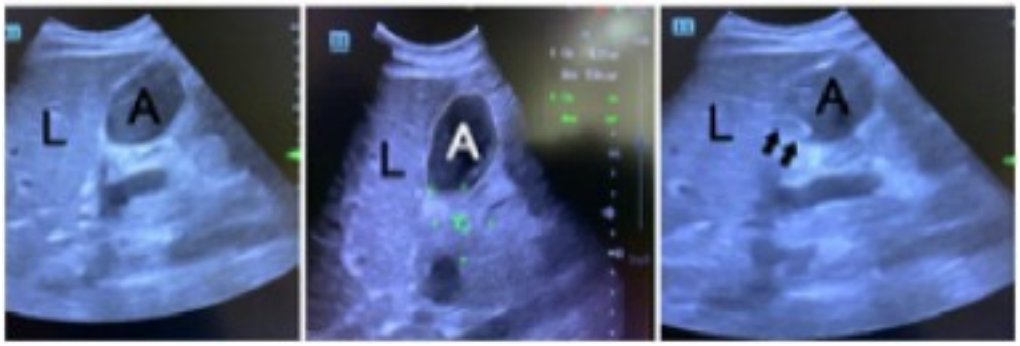
Nurs Crit Care. 2025 May;30(3):e70023. doi: 10.1111/nicc.70023.

Developing an ultrasound-guided enteral nutrition protocol for critically ill patients based on the Delphi method

Zeyu Li [1 2], Wei He [3], Dun Tian [4], Yang Sun [4], Qing Yang [4], Lan Cao [2 4]

Affiliations + expand

PMID: 40188845 DOI: 10.1111/nicc.70023



Take Home Messages:

- L'ecografia eseguita dall'infermiere consente interventi più mirati, tempestivi e meno invasivi.
- Integrare l'ecografia nella pratica infermieristica significa migliorare la qualità dell'assistenza, ridurre i rischi e aumentare la sicurezza del paziente.
- L'infermiere che utilizza l'ecografia non sostituisce, ma integra: arricchisce il processo decisionale e rafforza l'autonomia professionale.
- L'ecografia infermieristica è uno strumento trasversale, pratico e potente.
- È fondamentale che la formazione includa l'integrazione della pratica ecografica sia durante il percorso universitario che nella formazione post-laurea, al fine di sviluppare competenze solide e aggiornate.