

Internal catheter length estimation of neonatal PICCs: a scoping review of methods, definitions, and clinical practice

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Introduction	Methods	Results	
• Accurate estimation of internal catheter length in neonatal peripherally inserted central catheters (n-PICCs) is crucial • Various estimation approaches, including surface landmark measurements and formula-based methods, have been described. • Clinical practices vary widely, clear evidence-based or consensus-driven recommendations are lacking. • This scoping review aims to map reported methods for internal length estimation for n-PICCs and to identify gaps relevant to future consensus development.	Identification of studies via databases and registers Identification Records identified from*: Pubmed (n = 104) Web of Science (n=142) Scopus (76) Embase (209) Records removed <i>before screening</i>: Duplicate records removed (n =104) Screening Records screened (n =427) Records excluded** (n =381) Reports sought for retrieval (n =46) Reports not retrieved (n =2) Reports assessed for eligibility (n = 44) Reports excluded: Insufficient data reported (n = 10) Irrelevant (n =5) Included Studies included in review (n =29)	Optimal catheter position definition	
		<u>Upper Extremity</u>	
		Unknown/Not applicable	5 articles
		Superior Vena Cava (SVC)	10 articles
		SVC/right atrium (RA)	14 articles
		<u>Lower Extremity</u>	
		Unknown/Not applicable	4 articles
		Inferior vena cava (IVC)	6 articles
		Between IVC and RA	19 articles
Insertion practices			
Blind insertion	28 articles		
Ultrasound guided insertion	1 article		
Tip location practices			
Radiography	13 articles		
Radiography/POCUS	12 articles		
Radiography/Intracavitary ECG	4 articles		
Length estimation practices			
Unknown/not adequately reported	14 articles		
Surface landmarks	7 articles		
Formula based	8 articles		
Participate in our global survey regarding PICC-insertion practices: Wouter.pieteraerens@uzbrussel.be			