

# POCUS in Anaesthesia: A Practical Perioperative Guide

Audience: Anaesthetists, perioperative physicians, theatre teams | Educational resource for focused bedside ultrasound practice

A concise guide to perioperative POCUS applications with emphasis on vascular access, gastric scanning, lung ultrasound and focused cardiac assessment.

**Important:** These guides are educational summaries. Clinical use should follow local scope of practice, credentialing, infection-control policies, image archiving rules and escalation pathways.

## Why it matters

- Whole-body perioperative POCUS can influence preoperative risk assessment, intraoperative troubleshooting and postoperative review when used as a focused bedside extension of the clinical examination.
- In anaesthesia, the most mature applications remain ultrasound-guided procedures, but broader perioperative use is expanding for gastric, lung and focused cardiac assessment.

## Core applications

- Vascular access - identify anatomy, vessel patency and real-time needle entry for central, peripheral and arterial cannulation.
- Gastric ultrasound - estimate aspiration risk when fasting status is uncertain or delayed emptying is suspected.
- Lung ultrasound - assess pneumothorax, interstitial syndrome, consolidation, pleural effusion and perioperative respiratory deterioration.
- Focused cardiac ultrasound - answer targeted haemodynamic questions such as gross ventricular function, pericardial effusion or major volume status concerns.

## A practical perioperative workflow

- Before induction: define the question first. Use gastric POCUS selectively in patients with uncertain fasting, diabetes, CKD, obesity, opioid use, bowel obstruction or urgent surgery.
- During instability: combine cardiac and lung views. Ask whether the pattern suggests pump failure, hypovolaemia, obstructive pathology or significant pulmonary oedema.
- After procedures: use lung ultrasound to look for pleural sliding, effusions or dependent atelectasis when oxygenation changes unexpectedly.

## Safety and governance points

- POCUS is intended to answer focused bedside questions; it does not replace comprehensive diagnostic echocardiography or formal radiology when those are required.
- Image saving, documentation, operator training, local credentialing and quality assurance should be built into the service from the start.

## Suggested probe and target combinations

Clinical task	Preferred probe	What to document
Vascular access	Linear	Site, vessel patency, real-time guidance, complications if any
Gastric antrum	Curvilinear	Patient position, antral appearance, qualitative grade
Lung POCUS	Linear or curvilinear	Views obtained, pleural sliding, B-lines, effusion or consolidation
FoCUS	Phased array	Views obtained and focused findings only

## Selected references

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