



PROCEDURE CHECKLIST

Pericardiocentesis

Ultrasound-guided needle aspiration and drainage of a pericardial effusion to relieve cardiac tamponade.



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Patient reference	Date	Time	Completed by
Equipment ready			
☐ Sterile gown, gloves, mask and drape; 2% chlorhexidine in 70% alcohol			
☐ Ultrasound machine with phased-array (cardiac) or curvilinear probe, sterile cover and gel			
☐ Pericardiocentesis kit: 18 G long (about 15–20 cm) needle or sheathed needle, J-wire, dilator and pigtail drainage catheter			
☐ Lidocaine 1%, syringes and needles			
☐ 20–60 mL syringes, three-way tap and drainage bag			
☐ Agitated saline (two 10 mL syringes and a three-way tap) to confirm needle position			
☐ Full monitoring including continuous ECG, and a defibrillator			
☐ Specimen pots and blood culture bottles			
☐ Sutures and dressing			
Before · Confirm the need			
☐ Confirm a pericardial effusion on ultrasound and look for signs of tamponade: right atrial systolic collapse, right ventricular diastolic collapse and a plethoric inferior vena cava.			
☐ Correlate with the clinical picture: hypotension, raised jugular venous pressure, tachycardia, pulsus paradoxus.			
☐ Look for aortic dissection (dilated aortic root, intimal flap) and a history of trauma or recent myocardial infarction before proceeding.			
☐ Call cardiology and cardiothoracic surgery early; in trauma, call the trauma team and surgeon.			
Before · Stabilise and prepare			
☐ Give oxygen, obtain large-bore access and give a cautious fluid bolus to support preload while preparing.			
☐ Avoid intubation and positive-pressure ventilation before drainage if at all possible. Induction and positive pressure can cause cardiovascular collapse in tamponade; if unavoidable, have the needle ready.			
☐ Explain the procedure and obtain consent where possible; document best-interests decision in the peri-arrest patient.			
☐ Position the patient semi-recumbent at 30–45° to bring the effusion anteriorly and inferiorly.			
☐ Scan to choose the approach with the largest fluid collection closest to the skin and no structure in the path: subxiphoid, left parasternal or apical.			
☐ Prepare the skin and drape widely; infiltrate local anaesthetic in the awake patient.			
During · Approach			
☐ Subxiphoid: insert the needle between the xiphisternum and the left costal margin at 30–45° to the skin, aiming towards the left shoulder.			
☐ Parasternal: insert at the fifth (or fourth) intercostal space just lateral to the sternal edge, passing over the upper border of the rib.			
☐ Apical: insert at the apex in the fifth or sixth intercostal space, aiming towards the right shoulder.			
During · Needle advance			
☐ Advance the needle under real-time ultrasound, in plane where possible, aspirating continuously.			
☐ Stop advancing as soon as fluid is aspirated.			
☐ If ST elevation, ectopic beats or arrhythmia appear on the monitor, withdraw the needle slightly. This indicates contact with the myocardium.			
☐ Confirm the needle tip is in the pericardial space by injecting a few millilitres of agitated saline and seeing bubbles in the pericardial space, not in the ventricle.			
☐ Aspirate fluid: removing even a small volume (tens of millilitres) often improves blood pressure markedly.			
During · Drain placement			
☐ Pass the J-wire through the needle into the pericardial space and remove the needle, holding the wire.			
☐ Never force the guidewire and never let go of it. Remove wire and needle together if resistance is felt.			
☐ Make a small skin nick, dilate the track, and pass the pigtail catheter over the wire into the pericardial space.			
☐ Remove the wire, confirm its removal with the assistant, and attach the three-way tap and drainage bag.			
☐ Aspirate to relieve tamponade and confirm catheter position on ultrasound.			
☐ Send fluid for microscopy, culture, cytology, biochemistry and haematocrit as indicated.			
After · Securing and monitoring			
☐ Suture the catheter and apply a sterile dressing.			
☐ Reassess haemodynamics and repeat the echocardiogram to confirm reduction of the effusion.			
☐ Obtain a chest radiograph to exclude pneumothorax.			
☐ Continue continuous ECG and blood pressure monitoring; admit to a critical care or cardiac unit.			
After · Drain care and documentation			
☐ Record drainage volumes; flush and aspirate the drain according to cardiology protocol.			
☐ Seek urgent surgical review if bleeding continues or tamponade reaccumulates. Ongoing haemorrhagic drainage needs definitive surgical control.			
☐ Document the indication, approach, ultrasound findings, volume and appearance of fluid, samples sent and complications.			



A drafted procedure checklist, awaiting senior review. Perform procedures only within your training, competence and local policy. It does not replace your clinical judgement.

EM Orbit · Emergency medicine, in one orbit · proc-pericardiocentesis · red rows are the steps that must not be missed