Clinical Practice Procedures: Access/Peripheral intravenous catheter insertion (external jugular)

Policy code	CPP_AC_PICE_0722
Date	July, 2022
Purpose	To ensure a consistent procedural approach to peripheral intravenous cannulation (external jugular).
Scope	Applies to Queensland Ambulance Service (QAS) clinical staff.
Health care setting	Pre-hospital assessment and treatment.
Population	Applies to all ages unless stated otherwise.
Source of funding	Internal – 100%
Author	Clinical Quality & Patient Safety Unit, QAS
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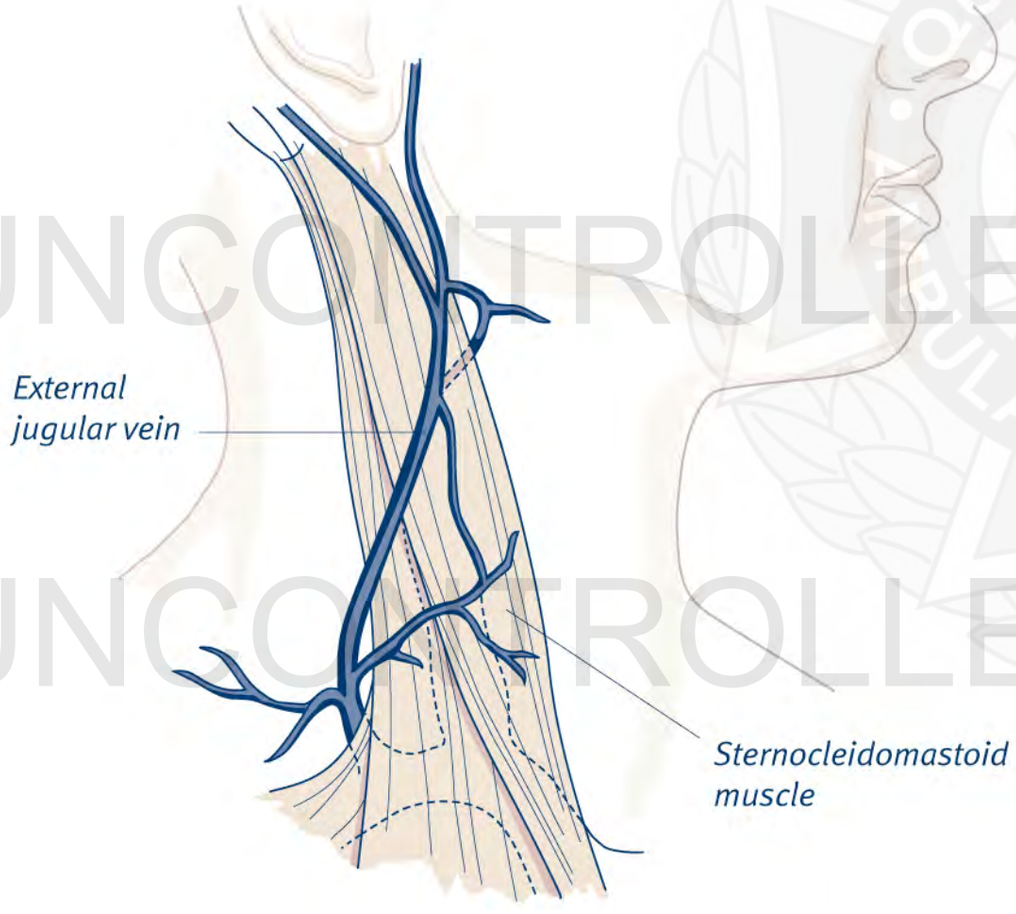
Intravenous – Peripheral intravenous catheter insertion (external jugular)

July, 2022

Peripheral intravenous cannulation (PIVC) – external jugular involves inserting a catheter into the external jugular (EJ) vein enabling the administration of medications and/or fluids.

PIVC is an invasive procedure which carries a high risk of complications. Appropriate consideration must be given to its clinical requirements and if appropriate, therapy should be provided by a less invasive route.

BD Insyte™ Autogaurd™ [1] shielded IV catheters used by QAS have a unique push-button shielding mechanism that allows the clinician to retract the needle into the safety barrel reducing the risk of needle stick injury.



Indications

- Emergent access for the administration of medications and/or fluids when peripheral access is unachievable.

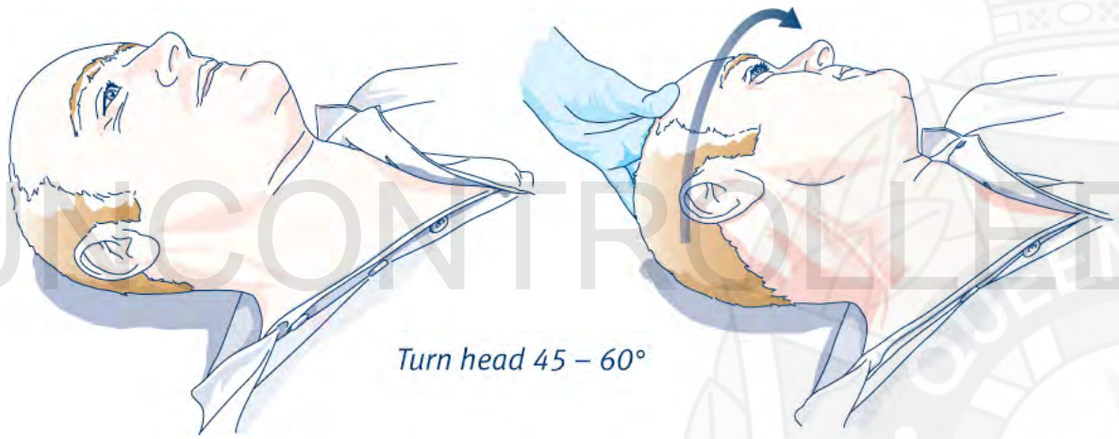
Contraindications

- Agitated and uncooperative patients
- Whenever possible avoid sites of burns, infection, trauma or significant oedema.

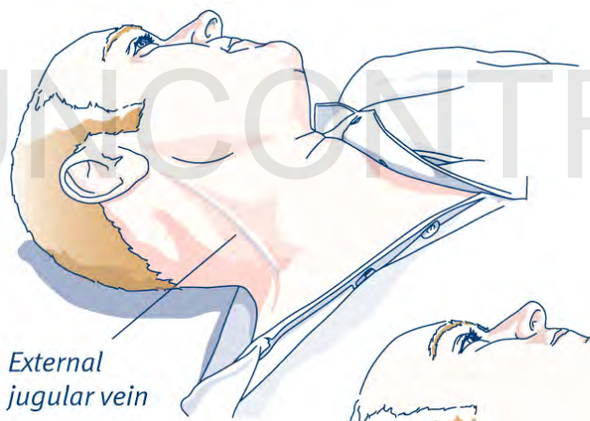
Complications

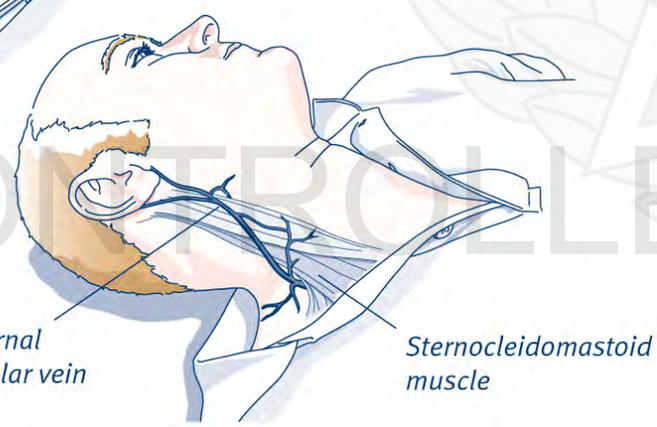
- Local or systemic infection
- Drug/fluid extravasation into superficial tissue
- Haematoma or haemorrhage
- Air embolus
- Arterial puncture

1. Apply required infection control measures (refer to the *QAS Infection Control Framework*).
2. If possible, position the patient head down (to reduce the risk of air embolus).
3. If no risk of c-spine injury exists, turn the head 45–60° to one side.

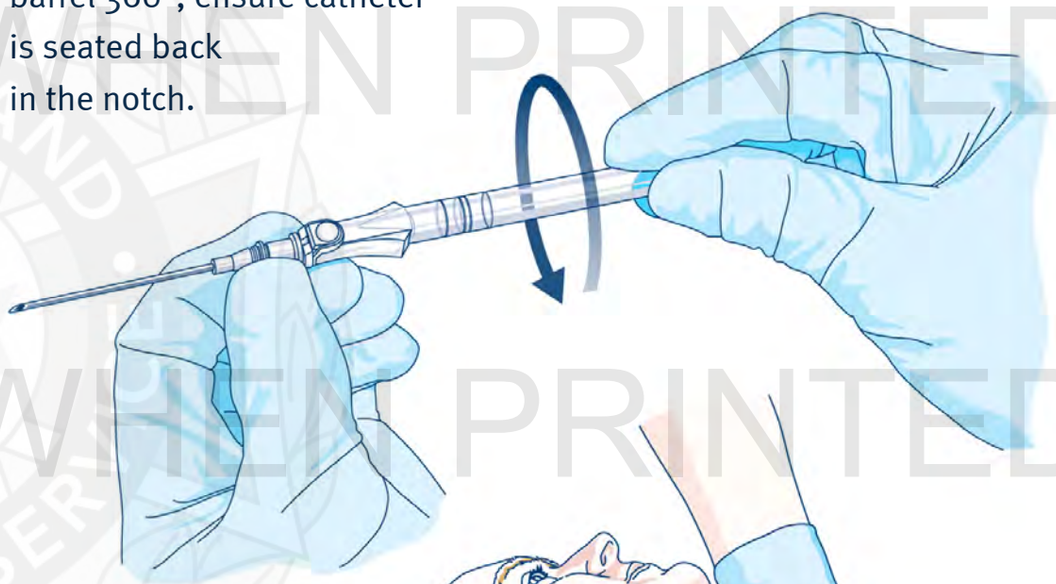


4. Locate the EJ vein running over the posterior border of the sternocleidomastoid muscle.

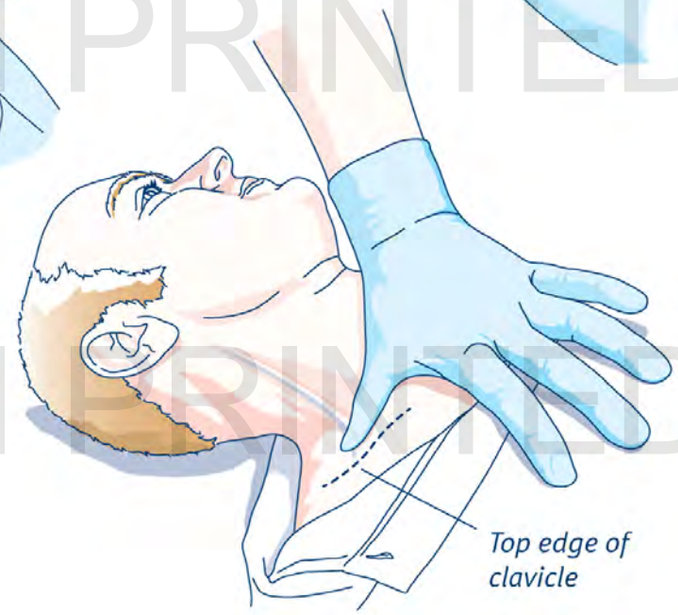




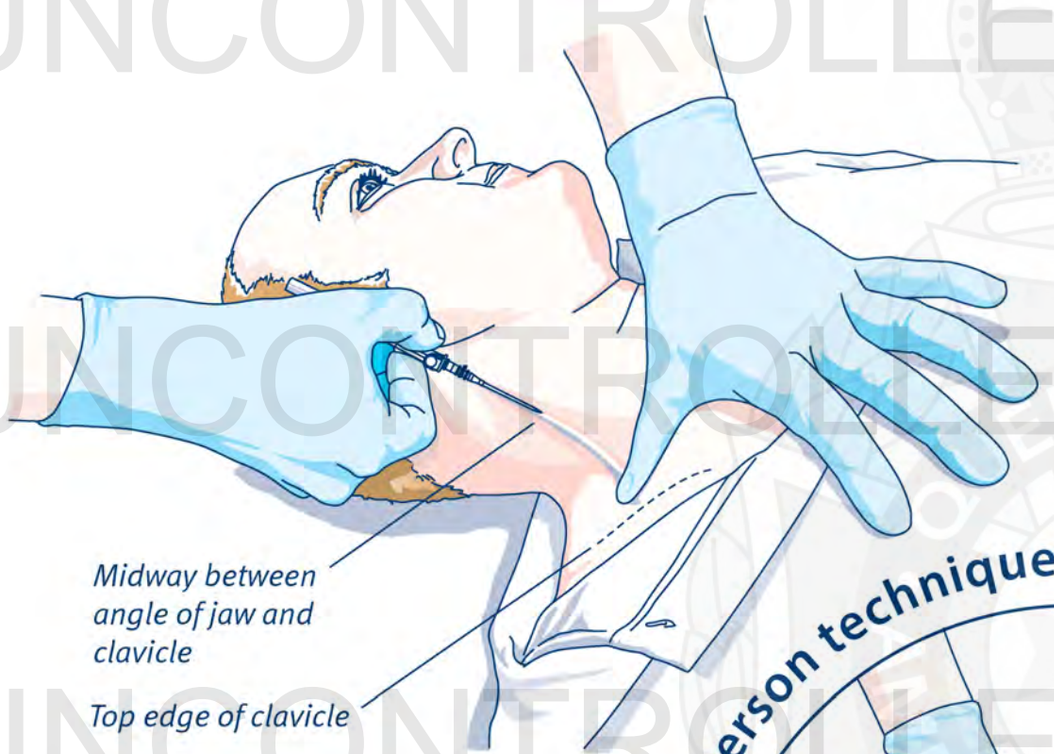
5. Identify an appropriate size cannula.
6. Clean the intended insertion site with an appropriate antimicrobial swab using a 'back and forth' motion in two different directions (cross hatch method) for 15 seconds in each direction (total 30 seconds). A risk benefit analysis in view of the patient's condition is appropriate.
7. Allow the insertion site to completely dry (where clinically appropriate).
8. Remove and discard the needle safety cap.
9. Hold the catheter hub and rotate barrel 360°, ensure catheter is seated back in the notch.



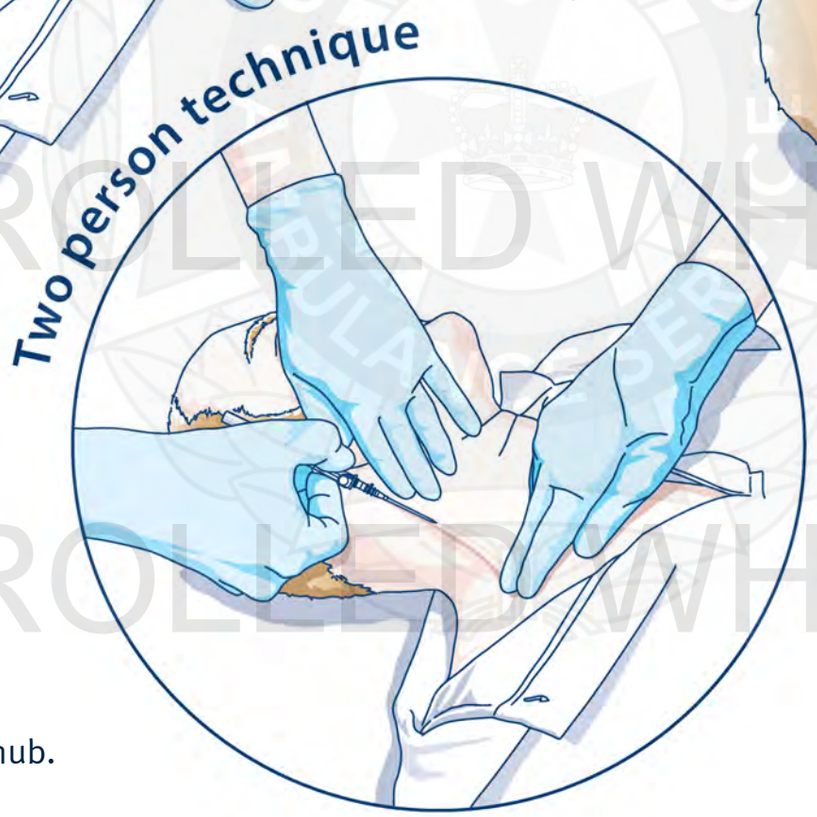
10. Stabilise the vein and facilitate venous filling by placing the side of the thumb above the clavicle.



11. While maintaining skin traction, insert the needle bevel up, midway between the angle of the jaw and clavicle; observe flashback along the catheter (20, 22, 24 gauge) or in the flash chamber (16 and 18 gauge).



12. Upon visualising a flashback, lower the catheter and slightly advance the needle assembly.
13. While maintaining skin traction and ensuring the needle assembly remains stationary, gently thread the catheter into the vein.
14. Apply gentle pressure to the distal catheter tip and stabilise the catheter hub.



15. Depress the white button to retract the needle and dispose of the shielded needle immediately into a sharps container.
16. Attach a SmartSite® Needle-free valve – delays of more that 10 seconds may lead to blood leakage from the hub.
17. Secure the catheter by applying a Tegaderm™ (Emergency) IV dressing (avoid circumferential application).

18. Flush the cannula with sodium chloride 0.9% to ensure patency.
19. Administer medications and/or fluids as necessary.
20. Frequently monitor the insertion site for extravasation.

Additional information

- The use of medical gloves is not a substitute for hand hygeine. Hand hygiene should be performed before donning and after doffing medical gloves and immediately before and after any procedure.[4]
- Eye protection must be worn by all clinicians. The potential of blood and body fluid exposure (especially in the face and eyes) during this procedure is **HIGH**.
- The EJ vein is anatomically superficial when compared to other veins in the body.
- The QAS supplies six sizes of BD Insyte™ Autogaurd™ shielded IV catheters.

SPECIFICATIONS				
Gauge	**Length (mm)**	**Flow rate (mL/min)**	**Colour**	**Common uses**
14	45	N/A	Orange	CHEST DECOMPRESSION ONLY
16	30	220	Grey	Chest decompression AND/OR volume replacement
18	30	105	Green	General medication AND/OR fluid administration
20	30	60	Pink	General medication AND/OR fluid administration
22	25	35	Blue	Difficult access AND/OR paediatric patients
24	19	20	Yellow	Difficult access AND/OR paediatric patients

NUMBER OF ATTEMPTS

- This procedure is limited to **one** attempt in each EJ vein.

Removal instructions

1. Remove adhesive dressing.
2. Place sterile gauze over the penetration site.
3. In one continuous motion, gently pull the cannula until completely removed.
4. Inspect removed cannula for completeness (including tapered tip).
5. Apply firm pressure to puncture site for 60 seconds and confirm nil active bleeding.
6. Apply adhesive tape over gauze.