Explain to patient alternative needling techniques. Include the risks of area puncture and advantages of buttonhole or rope ladder.

Does the patient agree to rope ladder or buttonhole technique?

---

**Identify area puncture is in use on one or both cannulation sites**

Needling sites on same segment of vein and cover less than 8cm on same needling segment **OR**

Needling sites are on separate segments and one site covers less than 5cm

**Can rope ladder or buttonhole technique be used?**

(Use AVF Needling Decision Making Model for AVF)

---

**Area Puncture**

- Refer to vascular team to explore alternatives
- Increase surveillance for complications related to area puncture
- Educate patient about signs of complications related to area puncture
- Review options with patient, following an agreed time
- Document risk assessment and rationale for use of area puncture

**Rope Ladder or Buttonhole**

- Educate staff about use of rope ladder / buttonhole
- Document cannulation plan for future cannulations
- Consider use of distraction or play therapy to improve cannulation experience

---

**Complications associated with area puncture include:**

- Increased aneurysm development, with / without associated tortuosity
- Increased development of stenosis and related AVF thrombosis
- Reduced skin integrity, leading to increased risk of life-threatening bleed

---

Explore reasons for refusal

Is this due to pain or anxiety?

- Consider use of distraction / play therapy to improve needling experience
- Educate patient about signs of complications related to area puncture
- Review needling options with patient, following an agreed time

Does the patient agree to rope ladder or buttonhole technique?