Transitioning to the new plastic cannula for dialysis cannulation of new arteriovenous fistulas: A training perspective

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BACKGROUND:
Plastic dialysis cannulas (Figure 1) were used as an alternative to metal needles (Figure 2) on all new arteriovenous fistulas (AVFs) for a period of 2 weeks. Plastic cannulas have been shown to increase patient’s ability to move during dialysis, enable the cannulator to gain access to the cubital fossa area and tortuous sections of the AVF and provide a safer needle free option for the patient while reducing the risk of infiltration and trauma to the vein. Haemodialysis staff from Barwon Health’s in-centre and satellite units underwent plastic cannula training initiated by the Vascular Health Nurse (VHN).

METHOD:
• Staff wishing to learn to cannulate with plastic cannulas were required to:
  - Attend in-service by Covidien representative or have a one-on-one training session with VHN.
  - Attempt at least 10 practice cannulations on the practice arm (Figure 3).
  - Undergo 3 supervised cannulations on mature fistulas. Once completed staff member was deemed competent to attempt cannulation on new AVFs (Figure 4 and 5).
• Continue to use plastic cannulas on mature fistulas at least weekly until feeling more competent.
• Staff training
  - Lack of experience by VHN with plastic needle cannulation.
  - Initially, not enough staff trained to cover all shifts which lead to inconsistency with plastic cannulation and intermittent use of metal needles and tunnelled lines.
  - Miscannulation occurred frequently due to inexperience by nursing staff.
  - Resistance from some staff to learn new technique.
• Technique
  - New insertion technique for staff to learn (Figure 6)
  - Less control – cannulas held further back than metal needles
  - Metal stylet removed prior to inserting cannula far enough into the vessel requiring the attempt to be aborted and a new cannula to be inserted.
  - Unable to manipulate cannula once sharp is removed.
  - Miscannulation occurred frequently but trauma to fistula was observed to be less significant than with metal needles.

CONCLUSION:
Although as a unit, we have encountered barriers initiating the transition to plastic cannulas on all new fistulas we have learnt that:
• Plastic cannulation is a different technique that requires practice
• Cannulation of 3 mature fistulas is not enough to become proficient with technique.
• Staff have embraced their use and have persisted with training to remain proficient in plastic needle cannulation to access the benefits of this technology.
• Once competent, continue to use plastic cannulas on a weekly basis to ensure skill level is maintained.
• Resistance to change was overcome by education and one-on-one sessions with VHN.
• There is a place within our haemodialysis unit for the Argyle Fistula Cannula.

RESULTS:
Plastic cannula training was evaluated by the VHN under the headings of staff training and technique. The following barriers were identified:

REFERENCES:
Argyle Fistula Cannula Product Information

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