



Commercialisation



Market
Research



Intellectual
Property

Arterial Fixation Device

Current methods of managing arterial cannulae in Intensive Care Units have the potential to cause many serious complications such as haemorrhage, necrosis and infection. It has therefore been recognised that careful management of these devices is a crucial part of the care of critically ill patients. Indeed, arterial cannulae (AC) pose such high risks that patients are often delayed from returning to normal wards, as the cannulae are considered too complex and hazardous to monitor on this type of ward. In 2009, the National Patient Safety Agency (NPSA) issued a Rapid Response Report which outlined strict guidelines regarding the management of arterial infusion lines.



Careful management of the arterial cannula is crucial to facilitating the care of critically ill patients. In the NHS, procedures (including daily visual inspections) govern the management of venous cannulation; however, similar strict management of the more critical arterial cannula is not carried out.

Challenge

An arterial cannula dressing allowing clinical risks to be easily managed to a similarly high standard as a venous cannula, and which addresses the following problems in one product:

- **Arterial line identification.** Accidental injection of medications into the AC can be disastrous and may result in necrosis. Complications with the AC are more likely to occur when inexperienced practitioners are involved. To reduce these risks, more intuitive dressings are required which clearly identify the line as arterial.
- **Accidental removal.** Profuse bleeding can occur if the arterial line is accidentally removed by a non-conformant patient or simply knocked out of place by accident. Currently, adhesive tape is used to improve the security of the dressing, but this is time consuming and awkward to apply.
- **Infection control.** It is essential that the insertion site is fully visible to allow the wound to be monitored daily for early signs of infection. This is not possible with existing dressings as extra tape and bandages are used to secure the dressing, thereby masking the insertion site.

Opportunity

The Arterial Fixation Device (AFD), designed by ITU nurses Barbara Jameson and Pat Hogg and licensed to AMDEL Medical, addresses these unmet needs in a single product. As a result:

- Monitoring arterial lines is more intuitive and the insertion site can be easily monitored, reducing the clinical risk.
- Adhesion is improved, reducing the likelihood of the line being accidentally removed.
- More intuitive management of the AC is enabled
- a line is clearly identified as arterial, to indicate the potential risks.

Action

NHS Innovations North, in conjunction with the Academic Health Science Network for the North East and North Cumbria, provided support with the following:

- Market research.
- Concept and product development.
- Intellectual property protection.
- Identification of a commercial partner.
- Licence negotiation.