



Patient Safety Notification

Peripheral Intravenous Cannula - Getting It Right



302

The number of incidents relating to peripheral intravenous cannula (PIVC) management reported on NIMS in a three month period in 2019



Examples of PIVC related incidents:

- Infiltration
- Extravasation
- Phlebitis
- Haematoma
- Cannulae not removed prior to discharge

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This patient safety notification was prepared in consultation with the HSE Antimicrobial Resistance and Infection Control Team

Advice for enhancing care and management of PIVCs

The complications associated with PIVC management can have a significant effect on service users' health and quality of life, and increase the cost of healthcare through the need for prolonged hospital stays and treatment. For example, mismanagement of PIVCs can result in blood stream infections, which may require prolonged courses of intravenous antibiotics. This in turn can drive anti-microbial resistance. The [Clinical Risk Unit](#) in the [State Claims Agency](#) has noted a significant number of incidents involving PIVC and has prepared the following advice.

Risk Considerations

Possible complications of PIVC management:

- Infection
 - Bacteria may enter through the insertion site, resulting in local infection or blood stream infection
- Extravasation (infiltration of the injected fluid into the surrounding tissue)
 - Paying particular attention during administration of contrast media
- Phlebitis (vein irritation, more common in older service users)
 - Due to the presence of the catheter, irritation from the fluids injected or infection
- Haemorrhage / haematoma formation at puncture site
 - Increased risk in patient who has been anticoagulated

Complications are more common in people with long-term illness requiring recurrent placement of cannulae.

References:

1. *Guiding Framework for the Education, Training and Competence Validation in Venepuncture and Peripheral Intravenous Cannulation for Nurses and Midwives 2017, Office of the Nursing and Midwifery Services Director, HSE.*
2. *WHO Guidelines on Drawing Blood: Best Practice in Phlebotomy 2010*
3. *NHS Patient Safety Alert – Confirming removal or flushing of lines and cannulae after procedures 2017*

Advice for Safe Practice

- Institute a **care bundle** / SOP for the **care and management of PIVCs** if not already in place
- Consistently apply **aseptic technique** for all aspects of PIVC care to minimise PIVC-related infections
- Assess if the PIVC is still required once every shift and it should generally be removed if it has not been used in the previous 24 hours
- Assess the IV site using a **visual phlebitis** score to assess for signs of tenderness, swelling, inflammation or thrombosis on every shift
- **Clean and flush** the cannula at every access. If **pressure** is felt during flushing, force should not be applied, and PIVC should be **removed**. **Only resite** if still required
- **Remove** PIVC if any signs of **tenderness, inflammation or phlebitis and only resite** if still required
- Implementation and documentation of care bundles supports minimising PIVC-related incidents:
 - Complete insertion care bundle including insertion **date and time**, site and size of cannula, number of attempts
 - Review **PIVC maintenance bundle once every shift**
 - Document the date, time and reason for IV cannula removal; once removed **check cannula integrity** to ensure the device is complete
- **Include** the presence of PIVC / IV lines in the **shift handover** process
- Incorporate the PIVC care record into the **discharge process / checklist** to ensure all IV lines / cannulae have been **removed prior to discharge** and documented in the patient healthcare record
- Establish an ongoing system **of audit to ensure compliance** with best practice in relation to PIVC