Extravasation: a patient safety priority

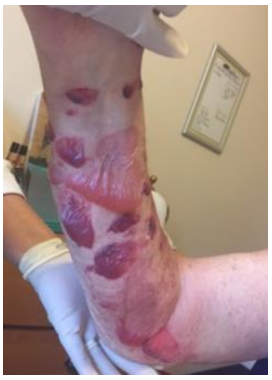
What is extravasation?

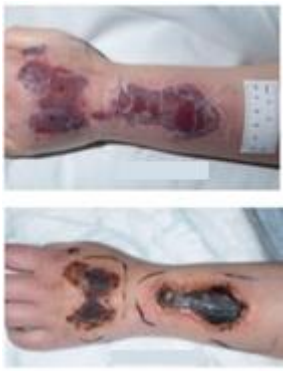
Extravasation injuries occur when some intravenous drugs leak outside the vein into the surrounding tissue causing trauma. These particular drugs, toxic to tissues, are called “vesicants”. Not all drugs are vesicants, and those are less likely to cause injury. If a non-vesicant drug leaks into tissue this is called “infiltration”. Extravasation from a vesicant drug can lead to unintended serious harm to patients.

Although there is greater awareness of the risks of extravasation within cancer treatment areas than other areas of healthcare, extravasation is known to be underreported in the NHS, partly because there is no national standard on prevention, recognition, treatment, and reporting.

There are many reasons why extravasation may occur. This can include:

- Dislodgement (movement of the intravenous catheter from the vein),
- Inappropriate or incorrect choice of vascular catheter for the type of drug therapy required.
- Damage to the vein caused by the vesicant medication.





Extravasation causes serious complications and unfortunately is not always identified or even apparent when it has occurred. The common theme in the images above is that extravasation was not identified as the route cause for hours, days or weeks in some cases. Some of these life changing injuries required surgical intervention, adding additional pain, stress, and longer treatment regimens for patients. Longer term consequences can include included lifelong disfigurement, pain and permanent disability.

Why are patients at risk?

All patients receiving vesicant drugs intravenously are at risk of extravasation.

The risk increases if the intravenous drug is delivered through a peripheral intravenous catheter (PIVC). Patients receiving some cancer treatments, CT (scanner) contrast, some intravenous antibiotics and drugs used in critical care areas are at higher risk.

The extent of the problem in the NHS

In 2022 NHS Resolution published 10-year data about Extravasation claims in NHS England from April 2010 -December 2021. Of the 467 claims received relating to extravasation injuries, 214 have been settled with a cost to the NHS of £16million. The NHS Resolution Did You Know document details contributary factors to the extravasation claims.

These injuries can occur in all healthcare settings, whether a patient is in hospital, in a nursing home, social care setting or being treated at home. Extravasation can affect all patients, young and old.

What is being done to reduce the risk of avoidable harm?

The National Infusion and Vascular Access service (NIVAS) is working collaboratively with NHS Resolution, Patient Safety Learning and Becton Dickinson to raise awareness of extravasation injuries to help prevent future avoidable harm to patients. More action is needed to prevent, recognise, treat, and report extravasation so that patient safety and patient experience is improved in every healthcare setting**.**

NIVAS is currently working in partnership with the UK Chemotherapy Council, Cancer Alliances, United Kingdom Oncology Nursing Society (UKONS), and other medical, nursing and pharmacist experts to produce **national standardised guidelines** for extravasations in chemotherapy and non-chemotherapy IV therapy practice. It is hoped that these best practice guidelines will be adopted nationally and applied consistently across all health care settings.

What action is needed?

Action to **prevent, recognise, treat, and report** extravasation is urgently needed with national leadership for local organisations to standardise practice.

- Health Care Practitioners should be educated about risk factors and prevention strategies to facilitate informed discussions with patients in advance of treatment
- Patients should be included in decisions about choice of vascular catheter and should have access to the most appropriate vascular catheter for their treatment
- Patients and their relatives need to be empowered and educated to report any concerns about their vascular catheter to their healthcare team to take swift corrective action

All suspected extravasation injuries should be reported and investigated with reviews undertaken to learn and take action to prevent harm to future patients. Local adoption of the forthcoming guidance is key with patient safety leads, directors of nursing, medical directors and chief of services needing to urgently prioritise extravasation and implement the new standards.

What you can do:

- **Download the NHS Resolution 'Did you know' document here and summarised in Appendix 1**

- **Sign up to the NIVAS Extravasation Campaign (NEC) here www.nivas.org.uk. With resources and contacts to help prevent future avoidable harm to patients**

Appendix 1

Reference material (NHS Resolution Did You Know - here)

Factors contributing to these extravasation injury claims included:

- Incorrect medication infusion pump pressures
- Bandaging the cannula in infants. This prevented lack of access and observations by staff and families
- Wrong route of administration
- Failure to act on patient complaints of pain or discomfort
- Delay in identifying extravasation injury
- Staff not following manufacturers or local guidance on administration of intravenous drugs
- Cannula being placed in one department and uses in another department