University Hospitals of Derby and Burton
NHS Foundation Trust

Removal of Femoral Vascular Access Devices - Full Clinical Guideline- Queens Hospital Burton Only

Reference no: CG-ICU/2024/040

1. Introduction

The removal of femoral vascular devices has been associated with a high risk of haematoma or bleeding. This guideline serves to advise practitioners on best practice to remove these devices.

2. Aim and Purpose

Suggest best practice to avoid complications after removing these devices.

3. Definitions, Keywords

4. Main body of Guidelines

A **femoral** vascular access device is any invasive line placed in either the femoral artery or vein to enable the delivery of therapy. These devices are commonly central venous cannulas (CVC), arterial lines including PiCCO lines and vas caths used for renal replacement therapies.

On removal of these devices there is a potential for haematoma development if incorrect technique is used or if the site re-bleeds and this is not treated promptly due to lack of observation. Large haematoma development can cause disruption of blood flow to the leg leading to permanent harm or disability. The following guidelines are therefore indicated to reduce the risk of haematoma development following the removal of femoral devices.

These guidelines are to be used alongside the practice described in the Royal Marsden clinical guidelines for the removal of central venous access devices (available on the Intranet), which describes aseptic technique and states the equipment required when the line is to be removed. These additional guidelines are indicated for femoral lines only, although the principles of observing the removal site may equally be applied to removal of lines from other sites on the patient's body.

Action	Rationale
Prior to removing the invasive line check the patient's coagulation status. If outside of normal range check with on call clinician prior to removal of the device	Abnormal coagulation increases the risk of haematoma. development when the line is removed and may require correction before device can be taken out
Where possible a plan to remove the device should be made within daytime activity. Ideally before 1700hrs	If a problem evolves specialist senior advice is more readily available.
Consider whether heparin needs to be omitted at 18.00, if unsure refer to doctors on call	Heparin will increase the risk of bleeding and haematoma
Pressure needs to be applied to the vessel which the device is in rather than at the visible puncture site to ensure that Haemostasis occurs.	The puncture site may not be directly over the vessel therefore applying pressure at the puncture site may not result in compression of the vessel and bleeding will still occur
Pressure to the site needs to be applied for at least 10 minutes for line removal and the pressure needs to be enough to cause compression of the punctured vessel	Large cannula will leave a large puncture hole and will take longer for effective haemostasis to occur. Lines removed from arteries may take longer to achieve haemostasis due to being influenced by patients' blood pressure
The patient's leg where the line is removed from should be kept flat and free from flexion while the line is removed and for 1 hour after the line has been taken out. Movement of the leg after the line has been taken out should be kept to a minimum for an hour	Movement particularly flexion of the leg can disrupt the vessel and cause bleeding to re-occur. Minimum disruption to the site will encourage effect haemostasis to occur.
Assess the site for bleeding every 5 **minutes** for the first **30 minutes** post line removal leaving the dressing intact but observing for blood	To ensure that haemostasis has taken place
Assess the site for bleeding every hour for three hours post device removal	Once the patient starts moving leg bleeding may restart and need additional compression to be applied to the area
If bleeding is noted apply additional compression to the area without removing existing dressing and consider compression dressing if bleeding persists, Refer to doctor on call	Disruption of clot and subsequent bleeding can occur at any time, removing the dressing may disturb any potential clots that are forming in the area.

The dressing needs to be inspected daily to ensure additional bleeding has not occurred to assess whether the dressing needs changing or removing	Monitoring the area will detect any potential complications that may occur such as haematoma development or infection at the line insertion site

Line tips should be sent for culture after removal therefore asepsis should be observed when removing the line. The site will need to be cleaned prior to application of a dry dressing but care must be taken to avoid causing disruption to the site which may lead to further bleeding.

5. References (including any links to NICE Guidance etc.)

https://www.nice.orguk/ dance/mt_ 34/resources/go cy-for-the-insertion-and-care-of-central-venous-access-devices-cvad-in-hospital-royal-marsden-nhs-ft-pdf-4481503169

6. Documentation Controls

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