

## Recommendations for Managing Life-Threatening Haemorrhages from AV Fistulae / Grafts

Due to several reported incidents of life-threatening haemorrhages (LTH) from arteriovenous fistulae (AVF) and grafts (AVG), the British Renal Society Vascular Access Special Interest Group has compiled the following recommendations.

This work is related to LTH that do not resolve with 'normal' pressure applied to the bleeding site. These recommendations are not related to minor bleeds from cannulation sites or venous needle dislodgement. LTH can develop from cannulation sites or other areas on the AVF / AVG and can become rapidly life threatening due to the volume of blood lost. It is a traumatic incident for patients, their family, friends and renal unit staff alike.

**The main aims are to prevent LTH and manage it effectively** when it occurs, so that it does not result in catastrophic harm to patients.

### Prevention

Prevention of LTH from AVFs / AVGs is of the utmost importance.

- Avoid area puncture cannulation of AVFs / AVGs.
- **Be aware of warning signs of an increased risk of a LTH from an AVF / AVG:**

Any non-healing scab / wound over the AVF / AVG	Prolonged bleeding post haemodialysis or bleeding in between dialysis sessions
Aneurysms that are increasing in size, either at cannulation sites or elsewhere	Shiny, thin skin over the AVF / AVG, particularly over aneurysms
Signs of infection – redness, swelling, pain, discharge or pus	Other skin integrity issues in the vicinity of the AVF / AVG

- Ensure you have clear and rapid referral pathways for patients with any warning signs of a potential LTH from their AVF / AVG.
- Patients, carers and haemodialysis staff should be aware of the warning signs of LTH, so that changes to an AVF or AVG are detected and addressed promptly.
- All haemodialysis staff, patients and carers should be aware of the need to report these warning signs as a matter of urgency.
- Photographs can be used to monitor changes.

### Management

- Patients, carers, transport staff and emergency care staff should be educated about the action to take in the event of a LTH from an AVF / AVG.
- **Patients should dial 999 immediately**, for any bleeding which soaks through a dressing despite direct pressure.
  - The priority for patients in this situation is to get help
  - This should **not** be delayed whilst trying to stop the bleeding, as loss of consciousness can occur quickly in a LTH
  - The priority is to stop the bleeding, not preserve AVF or AVG function.
- Once help from the emergency services has been initiated, patients should apply direct pressure to the bleed.

## Do's and Don'ts

- If easily available, **a small, flat, rigid object (e.g. inverted large bottle top) can be used to apply pressure** over the bleeding site. This ensures pressure is localised to the area of the bleed.
- Patients should be advised **not to use a large absorbent item**, such as a towel, as this disperses pressure reducing its effectiveness.
- **We do not recommend** the supply of tourniquets to patients to manage LTH.

We recommend units locally record / audit the following:

- The number of incidents of mortality related to LTH from AVF / AVG
- The number of LTH from AVF / AVG that do not result in mortality
- The number of AVF / AVG that display warning signs of LTH and are referred due to these signs for further assessment.

This data should be reviewed locally and can help units identify trends in occurrence, aiding detection of potential LTH of AVF / AVG earlier.

Patient advice leaflets, AVF / AVG assessment documents and staff education tools are in development to support renal units. For any queries, please contact Suzi Glover, VA Haemorrhage Workstream lead ([suzanne.glover@uhl-tr.nhs.uk](mailto:suzanne.glover@uhl-tr.nhs.uk)) or Katie Fielding, Chair ([katie.fielding@nhs.net](mailto:katie.fielding@nhs.net)).