

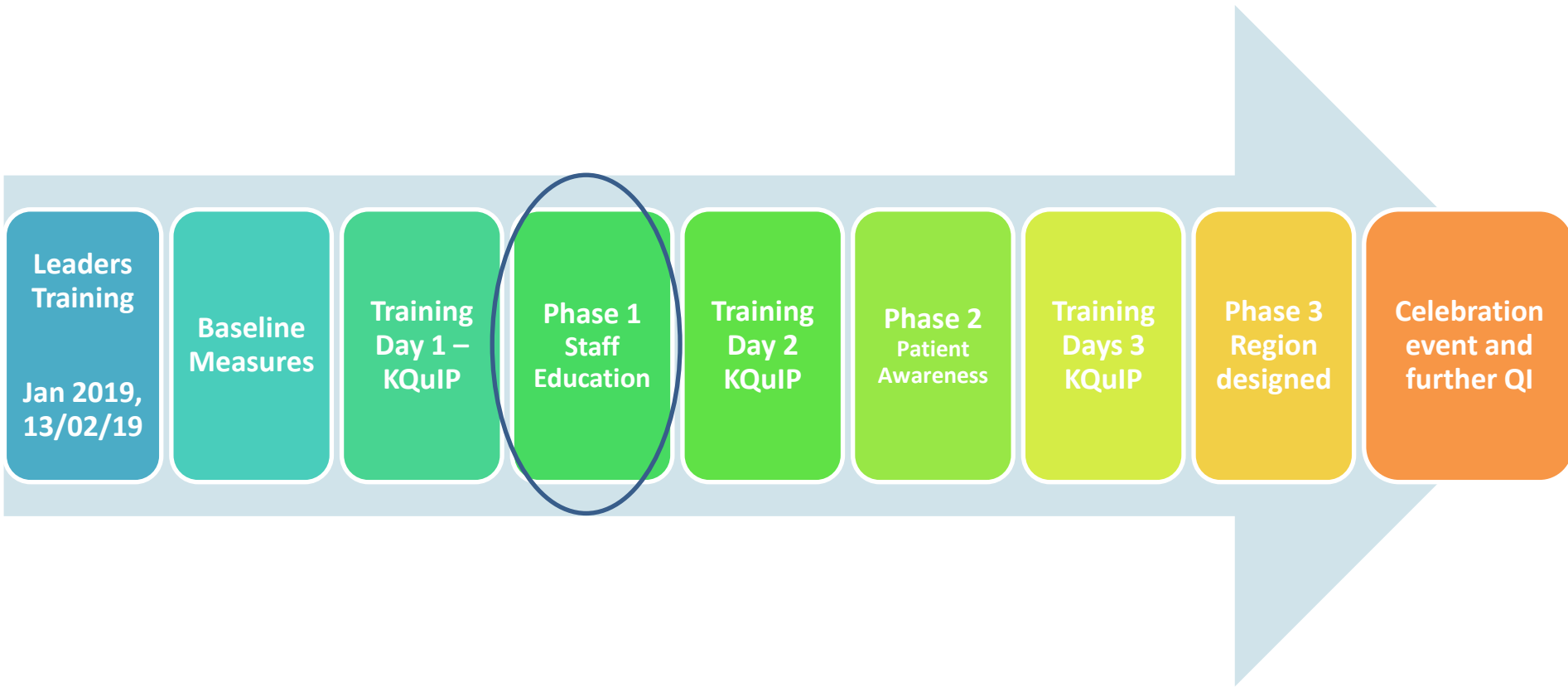
Managing Access by Generating Improvements in Cannulation

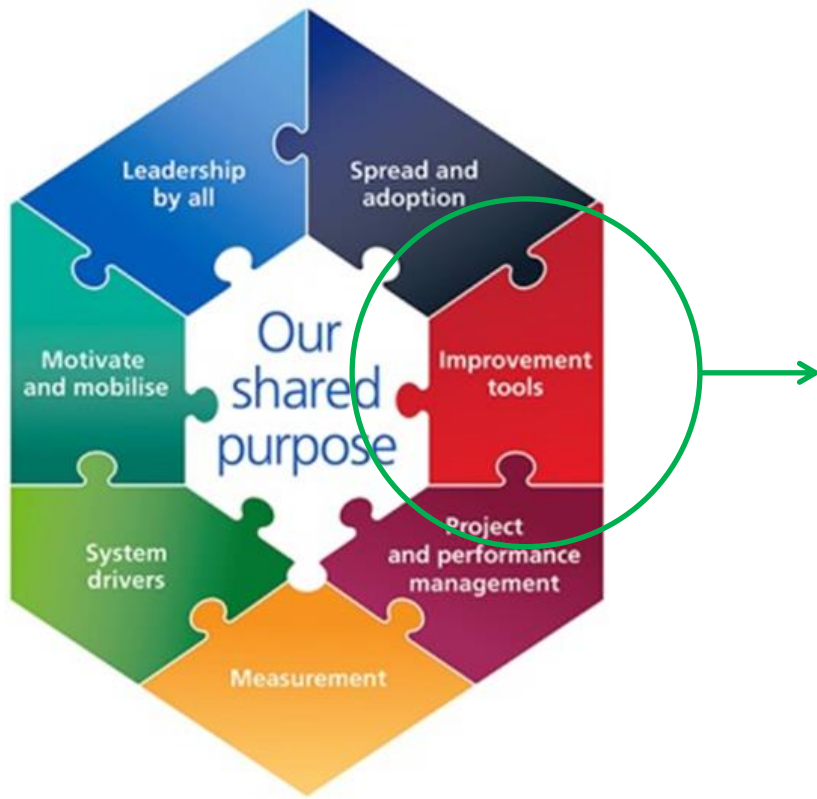
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MAGIC Lead

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Trainee Advanced Clinical Practitioner
University Hospitals of Derby and Burton NHS Foundation Trust

Implementing MAGIC

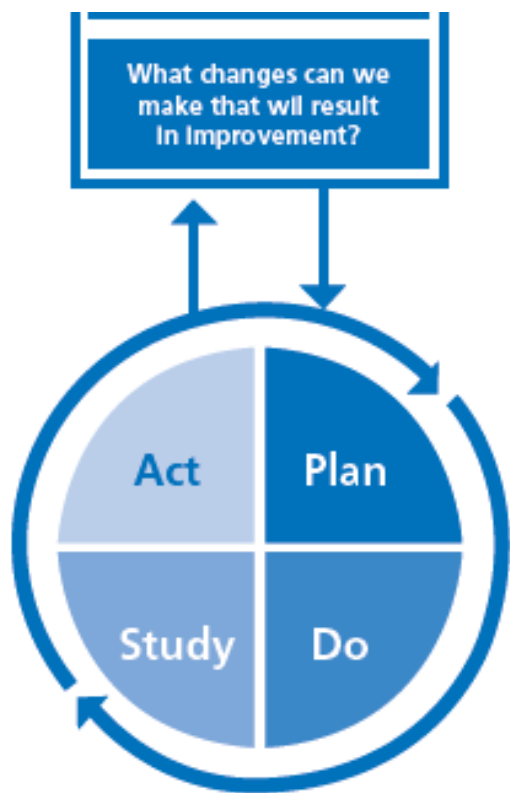




NHS Model for Improvement

IMPROVEMENT TOOLS

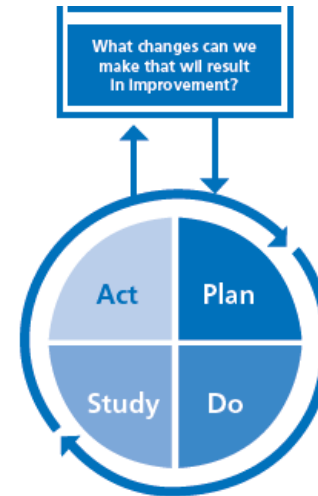
What are we going to change?



- Staff knowledge about good cannulation practice
 - Knowledge
 - Content of recommendations
 - Theory-practice divide
 - How to apply to practice
 - Lack of awareness of what they are / are not doing
- Patient awareness of good cannulation practice
 - Allow good practice to happen
 - Drive the right practice
 - Make informed choices

PDSA Cycle

- Evaluates the change
- Respond to success and challenges
- Intrinsically linked with question 3



The four stages of the PDSA cycle are:

Plan – the change to be tested or implemented

Do – carry out the test or change

Study – based on the measurable outcomes agreed before starting out, collect data before and after the change and reflect on the impact of the change and what was learned

Act – plan the next change cycle or full implementation.

Application to MAGIC

- What are we going to change – Staff Education
- Plan – Today
- Do – Take and implement the plan in your units
- Study – how have you baseline measures changed
- Act – Patient Awareness on 14/08/19

Summary of MAGIC

- What are we trying to accomplish – Aims and objectives
 - How we will know we've created an improvement – 7 outcome measures
 - What are we going to change – S patient awareness, then region design
- Driver Diagrams**
Process Maps
- Plan – Today
 - Do – Take and implement the plan in your units
 - Study – how have you baseline measures changed
 - Act – Patient Awareness PDSA starts on 14/08/19
 -
 - Act – Region designed phase – 12/12/19

Aim

Primary Drivers

How to achieve the aim

Secondary Drivers

What will achieve primary drivers

Process Change

What are we going to do

To promote good cannulation practice and improve the patient experience of cannulation

Standardise cannulation practice

Joint BRS and VASBI Cannulation Recommendations

- Release on websites & twitter
- Update Buttonhole Recommendations
- Short, simple summary of recommendations

1

Leadership of good cannulation practice locally

Local HD nurse champions for cannulation

- Identify HD nurse champions
- Vascular access lead support
- Support champions through 3 monthly meetings

2

Improved nursing knowledge and skills of cannulation

Educational materials on cannulation

- Elearning
- Competency document
- Slidesets with Lesson Plans

4

Patient awareness of good cannulation practice

Awareness materials aimed at patients

- Posters
- Cards

5

Staff awareness of frequency of cannulation complications

Run charts and data visible to staff

Electronic database


3

Definition of Best Practice

BRS & VASBI RECOMMENDATIONS



Managing Access by
Generating Improvements in Cannulation

 @Haemodialysis VA



BRS VA and VASBI Cannulation Recommendations

Released 25/09/18

- Available on BRS website (News and BRS VA section)

Incorporates:

- AV grafts and fistulae
- Adults and paediatrics
- Buttonhole, rope ladder and area puncture cannulation
- Existing BH recommendations

BRS / VASBI Needling Recommendations

By Gemma Bell

© September 27, 2018

On behalf of the BRS Vascular Access Special Interest Group and Vascular Access Society of Britain & Ireland (VASBI) we are pleased to announce the launch of the Clinical Practice Recommendations for Needling of Arterio venous Fistulae and Grafts for Haemodialysis.

The authors are to be congratulated on creating an in depth guide which includes theory, practical skills and tools that can be used in the workplace to improve clinical practice and ultimately patient experience.

This initiative demonstrates the value of collaborative working across multi-professional groups to share their expert knowledge.

The recommendations can be accessed and downloaded below:

Clinical Practice Recommendations for Needling of Arteriovenous Fistulae and Grafts for Haemodialysis

AVF Cannulation Decision Making Model

Area Puncture Action Chart

Pre Needling Assessment

<https://britishrenal.org/news/brs-vasbi-needling-recommendations/>

Sections of the Recommendations

- A) Principles of a Good Needling Technique
- B) Technical Principles to aid Dec **Define Good Cannulation (3)**
- C) Procedural Principles for Good Needle Insertion
- D) Assessment of AV Access Prior **Assessment Pre-Cannulation (1)**
- E) Definitions of Needling Techniques
- F) Choosing the Needling Technique and Planning Needling
- G) Rope Ladder Needling Technic **Needling Techniques (5)**
- H) Buttonhole Needling Technique
- I) Area Puncture Needling Technique
- J) Needling of New AV Access **Needling new Access & US (2)**
- K) Use of Nurse-Led Ultrasound to Assist with Needling
- L) Managing Anxiety during Need **Managing Anxiety (1)**
- M) Involving Patients in Care of th **Involving Patients (2)**
- N) Teaching Patient how to Self-N
- O) Staff Training to Perform Need **Staff Training (1)**

Tools within the Recommendations

- Pre-Cannulation Assessment
- Cannulation decision making model
- Avoiding area puncture

Section D: Pre-Cannulation Assessment

Assessment ...

- Determines how you are going to insert the needle
- Detects complications

Includes

- History
- Look, listen, feel assessment
- Look
 - Visual inspection
- Listen
 - Auscultate bruit with stethoscope
- Feel
 - Vessel
 - Thrill

<http://vo2k0qci4747qecahf07gktt-wpengine.netdna-ssl.com/wp-content/uploads/2018/09/Pre-Needling-Assessment.pdf>

BRS VASCULAR ACCESS Special Interest Group IASBI British Renal Society Prevalence Panel (UK)

Arteriovenous Fistula/Graft (AVF/AVG) Pre-Needle Insertion Assessment Tool

Signs and symptoms	Score	Actions
<ul style="list-style-type: none"> ◊ No scabs larger than the needle sites ◊ No pain or new swelling ◊ No necrosed areas ◊ No aneurysms ◊ No erythema ◊ Normal bruit / thrill ◊ No hardness over AVF/AVG 	0	<p>No action required</p> <p>Safe to needle</p>
<ul style="list-style-type: none"> ◊ No scabs larger than the needle sites ◊ No pain or new swelling ◊ No necrosed areas ◊ No erythema ◊ Normal bruit / thrill ◊ No hardness over AVF/AVG ◊ Aneurysms present and stable <ul style="list-style-type: none"> - Not increasing in size - Skin not shiny or thin over aneurysms 	1	<p>Monitor</p> <p>Consider photograph AVF/AVG for reference</p> <p>Document aneurysm size, by measuring arm diameter at aneurysm and position</p> <p>Safe to needle</p>
<ul style="list-style-type: none"> • No necrosed areas • No scabs larger than needle sites anywhere on AVF/AVG <p>Any of the following</p> <ul style="list-style-type: none"> ◊ Pain or discomfort to any area on the AVF/AVG ◊ Aneurysms increasing in size or pulsating ◊ New aneurysms ◊ Thin and shiny skin around AVF ◊ Whistling bruit on auscultation ◊ Non cannulation segments hard on palpation ◊ Bleeding around needle site during dialysis ◊ Extended post dialysis bleeding >20minutes ◊ Erythema >3mm anywhere on the AVF/AVG 	2	<p>Refer to Vascular Access Team</p> <p>Previous actions add</p> <p>Patient information given on actions and escalation if AVF/AVG bleeds at home</p> <p>Review individual's antiplatelet and anticoagulation prescription</p> <p>Consider swabbing erythema</p> <p>Lift arm above head, to assess whether aneurysms drain</p>
<p>Any of previous signs and any of the following:</p> <ul style="list-style-type: none"> ◊ Pain / swelling on AVF/AVG ◊ Necrosed area on AVF/AVG ◊ Patient reports sites bleed at home ◊ Scabs at needle sites or elsewhere >2mm ◊ Absent or changed thrill on palpation ◊ Absent bruit on auscultation ◊ Cannulation segments hard on palpation ◊ Oozing (pus) from red/inflamed areas ◊ Erythema increased in size 	3	<p>Do not needle</p> <p>Urgently refer to Renal / Vascular Team</p> <p>Keep patient in department</p> <p>Previous actions add</p> <p>Swab pus / erythema</p> <p>Take blood cultures if erythema or pus present</p> <p>Take USS's</p>

BRS VASCULAR ACCESS Special Interest Group IASBI British Renal Society Prevalence Panel (UK)

Please complete before each cannulation. Document any abnormal findings with action taken, in detail in the normal nursing documentation.

Date	AVF Score (0-2)	Aneurysm Present - Y/N	Bruit Normal (N) / Abnormal (A) / Absent (BL)	Thrill Normal (N) / Abnormal (A) / Absent (BL)	Feel Soft (S) / Hard (H)	Safe to Use Y / N	Initials



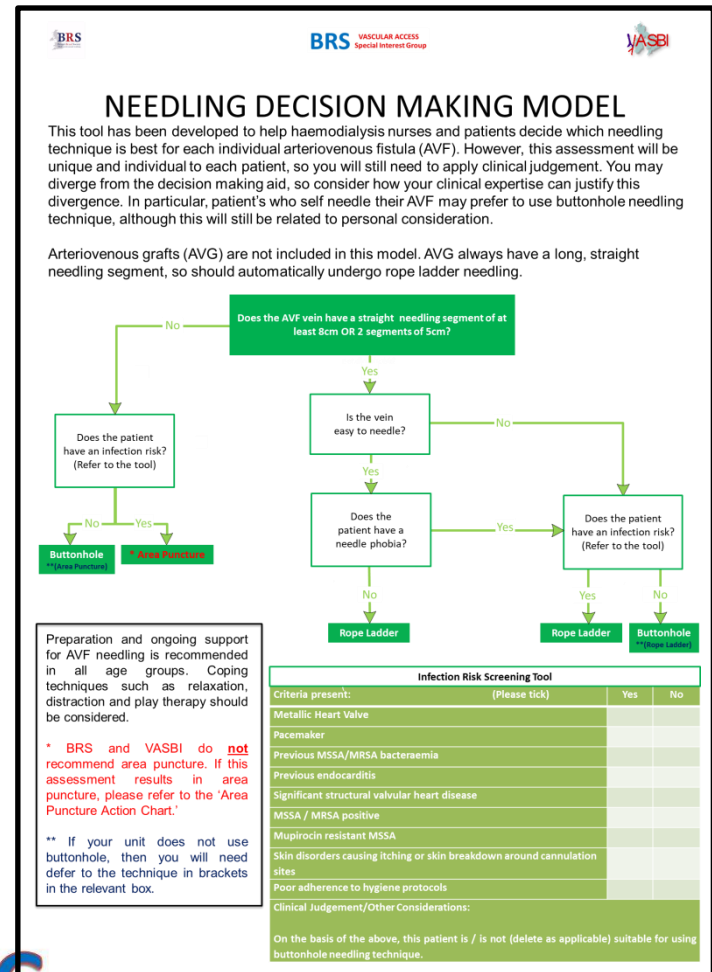
@Haemodialysis VA



Section F: Choosing your Cannulation Techniques

- With patients
- Length of cannulation segment
- Infection risk
 - Screening tool (Swain et al, 2017)
- Needle phobia
- Ease of cannulation

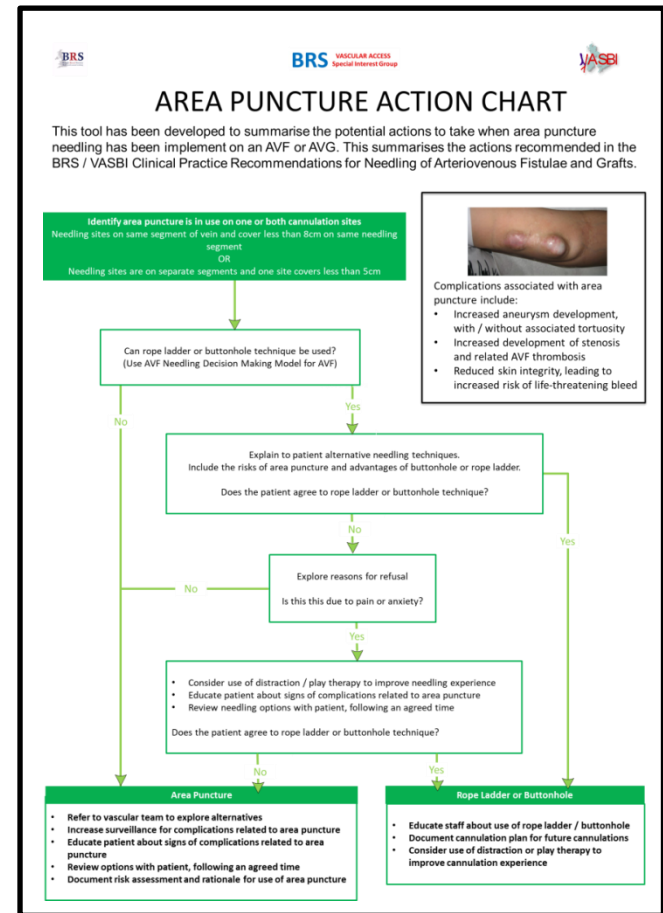
<http://vo2k0qci4747qecahf07gktt-wpengine.netdna-ssl.com/wp-content/uploads/2018/09/AVF-Cannulation-Decision-Making-Model.pdf>



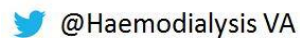
Section I: How to Avoid Area Puncture

- Avoid if possible
- May be a necessary evil
- Educate patients
- Educate staff
- Needling plan
- If necessary, monitor for complications

<http://vo2k0qci4747qecahf07gktt-wpengine.netdna-ssl.com/wp-content/uploads/2018/09/Area-Puncture-Action-Chart.pdf>



MAGIC ELEARNING



MAGIC ELearning

- Based on the Needling Recommendations
- Application of the recommendations
- Content created by BRS VA and VASBI nurses group
- Learning points promote reflection
 - Further reading
- Includes videos and links to external resources
- Renal Association platform
 - Log ins
 - Saves progress
 - Certificate of completion

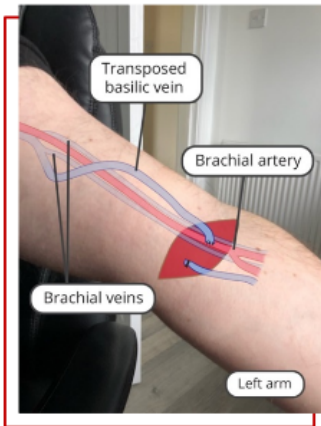
5 sections

- 1) Vascular Access for Haemodialysis
- 2) Assessment of Matured AV Access – Look, Listen, Feel and Drain
- 3) Cannulation of AV Access
- 4) Complications associated with AV Access
- 5) Quiz
 - Before and after

Vascular Access for Haemodialysis

Brachio-Basilic Fistula

Section 1: Vascular Access for Haemodialysis



The brachio-basilic fistula is normally explored if the brachio-basilic fistula is not possible or fails.

This involves joining the brachial artery to the basilic vein at the elbow.

The basilic vein is large vein that often provides a good vessel for a fistula. However the basilic vein often runs deeply on the inside (proximal side) of the arm.

Sometimes the basilic vein will be raised nearer to the surface (superficialisation) to allow needles to be inserted for haemodialysis. Sometimes without superficialisation the basilic vein is too deep to use for haemodialysis.



Resources

Learning Point

Section 1: Vascular Access for Haemodialysis



The Renal Association Guidelines provide guidelines on vascular access management for haemodialysis for the UK. These can be accessed by following this link:

[View](#)

Please read these guidelines and then reflect on your practice by answering the following questions

Assessment of Matured AV Access

BRS / VASBI Pre-Needle Insertion SCORING TOOL

Section 2: Assessment of Matured AV Access – Look, Feel, Listen and Drain

BRS and VASBI have created a scoring tool to allow healthcare workers to document their look, listen and feel assessment prior to needle insertions. (NB. This is only for arteriovenous access that is to have needles inserted for haemodialysis.)

Score	Look	Listen
0	No signs of infection. No swelling. No bruising. No redness. No tenderness. No pain. No heat. No drainage. No fistula. No aneurysm. No stenosis. No stenosis. No stenosis. No stenosis.	No sounds. No sounds. No sounds. No sounds. No sounds. No sounds. No sounds. No sounds. No sounds. No sounds.
1	Localised pain. Localised tenderness. Localised redness. Localised swelling. Localised heat. Localised drainage. Localised fistula. Localised aneurysm. Localised stenosis. Localised stenosis. Localised stenosis. Localised stenosis.	Localised sounds. Localised sounds. Localised sounds. Localised sounds. Localised sounds. Localised sounds. Localised sounds. Localised sounds. Localised sounds. Localised sounds.
2	Diffuse pain. Diffuse tenderness. Diffuse redness. Diffuse swelling. Diffuse heat. Diffuse drainage. Diffuse fistula. Diffuse aneurysm. Diffuse stenosis. Diffuse stenosis. Diffuse stenosis. Diffuse stenosis.	Diffuse sounds. Diffuse sounds. Diffuse sounds. Diffuse sounds. Diffuse sounds. Diffuse sounds. Diffuse sounds. Diffuse sounds. Diffuse sounds. Diffuse sounds.
3	Systemic pain. Systemic tenderness. Systemic redness. Systemic swelling. Systemic heat. Systemic drainage. Systemic fistula. Systemic aneurysm. Systemic stenosis. Systemic stenosis. Systemic stenosis. Systemic stenosis.	Systemic sounds. Systemic sounds. Systemic sounds. Systemic sounds. Systemic sounds. Systemic sounds. Systemic sounds. Systemic sounds. Systemic sounds. Systemic sounds.



Resources

Look, Listen, Feel Assessment

Section 2: Assessment of Matured AV Access – Look, Feel, Listen and Drain

This video shows a nurse performing a look, listen, feel assessment prior to inserting the needles into the vascular access.



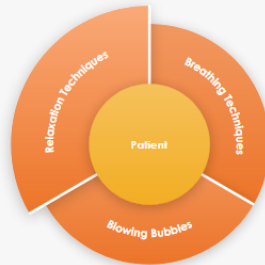
Please click the video to start



Distraction Techniques

Relaxation Techniques

These are helpful for children, young people or adults who are particularly worried or anxious about having their AV fistula accessed. These should be started before the procedure begins to allow the patient to engage and begin to relax.



Cannulation

Rope Ladder Cannulation

Non-needling hand stabilises the vessel

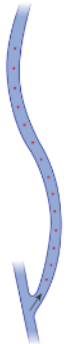


- 1
- 2
- 3
- 4
- 5
- 6

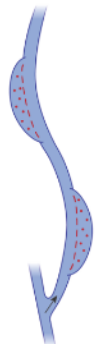
The three cannulation methods

Section 3: Cannulation of AV Access

To learn more about the three cannulation methods, please click on the images



Rope ladder



Area puncture

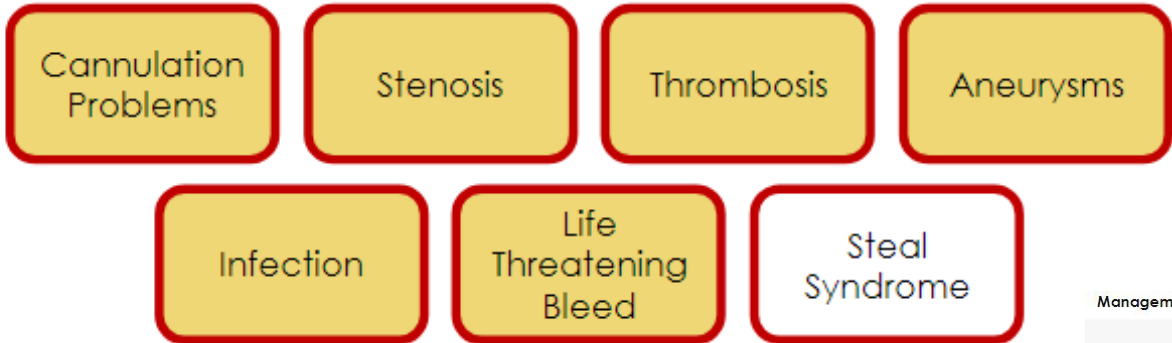


Buttonhole

Importance of Vascular Access

Section 4: Complications associated with AV Access

Some of the complications associated with AV access for use for haemodialysis include:



Management of LTB



Once help from the emergency services has been initiated, patients should apply direct pressure to the bleed.



Complications

Quiz

- Bank of 53 MCQ questions
- Asked to complete 15 questions randomly
- 80% pass rate to complete
- Certificate of completion
 - Include text from learning outcomes

Measuring Impact

Outcomes

- Make a note of the date you started
- Do these change?
- See trend change in run chart
- Statistical process control
 - Life QI

Process

- How many completed ELearning
- Evaluation of ELearning
- Pre and post test scores
- Use of tools
- Evaluation of tools

Balancing

- What has got worse?
 - Missed cannulation?
 - Patient experience?

What you need to think about next

- What will you need to do to implement the ELearning package with staff?
- Do you want to add anything else?
 - If so, what?
 - Intervention?
 - Measures?
- How will you co-ordinate with the region?