Managing Access by Generating Improvements in Cannulation

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THINK KIDNEYS KQuIP

BRS VASCULAR ACCESS Special Interest Group

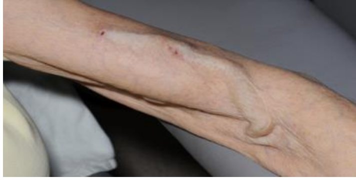
MAGIC
Managing Access by
Generating Improvements in Cannulation

@Haemodialysis VA

BRS

VASBI

Vascular Access …



Pre Dialysis Clinic
Patient chooses AVF

Vascular Surgery
Successful AVF

Ideal Vascular Access Process

Haemodialysis
Successful use of AVF

Assessment
Surveillance
Cannulation
Intervention

Longevity of AVF

Minimise complications

Effective HD Treatment

Timely VA Creation

High Primary Failure Rate of AVFs

Patient Info

Patient Empowerment
- Choice
- Care

VARIATION in OUTCOMES

Pathways

Cannulation

Complications
- Longevity
- Infection
- USAGE!!

Multi-Specialty Working

Nursing Care

Managing Access by Generating Improvement in Cannulation

- BRS VA and VASBI project, supported by KQuIP
- Quality Improvement project to improve AVF rates
  - Promote AVF use and longevity through good cannulation practice
- **Aim:** To promote good cannulation practice and improve the patient's experience of cannulation
- Implement at local unit level
  - Satellite or main

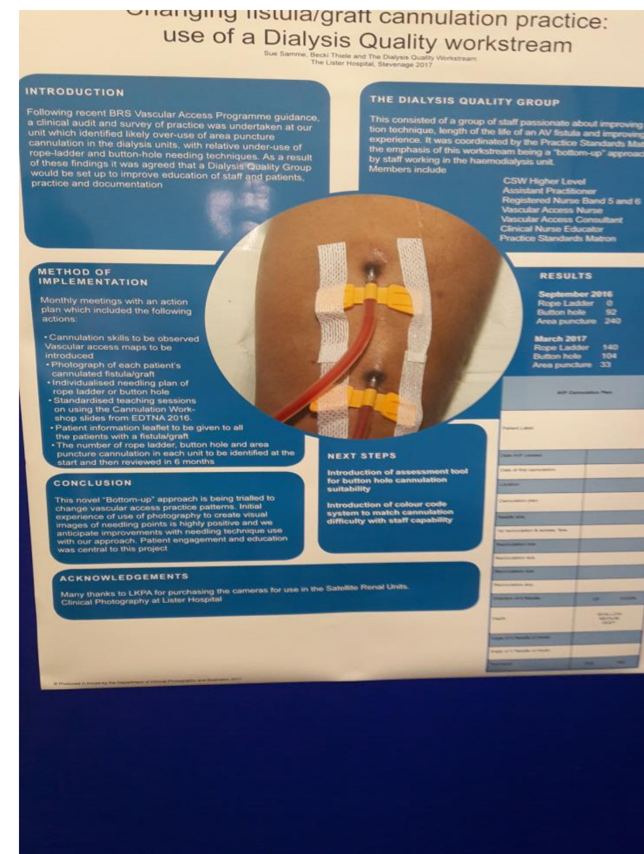
The Problem with Cannulation

- 65.8% of cannulation was area puncture

  (Parisotto, 2014)

- Buttonhole v. Rope Ladder

- Initial PREM results indicates needling is a problem



Aim

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

Primary Drivers
How to achieve the aim

Secondary Drivers
What will achieve primary drivers

Process Change
What are we going to do

- **Standardise cannulation practice**
  - Joint BRS and VASBI Cannulation Recommendations
    - Release on websites & twitter
    - Update Buttonhole Recommendations
    - Short, simple summary of recommendations
- **Promote leadership of good cannulation practice locally**
  - Local HD nurse champions for cannulation
    - Identify HD nurse champions
    - Support champions through 3 monthly webinars
- **Improve knowledge and skills of cannulation in haemodialysis nursing staff**
  - Educational materials on cannulation
    - ELearning
    - Competency document
    - Slidesets with Lesson Plans
- **Promote awareness of good cannulation practice in haemodialysis patients**
  - Awareness materials aimed at patients
    - Posters
    - Cards
- **Promote awareness of frequency of cannulation complications**
  - Run charts and data visible to staff
    - Electronic spreadsheet

MAGIC

Managing Access by Generating Improvements in Cannulation

Cannulation Recommendations

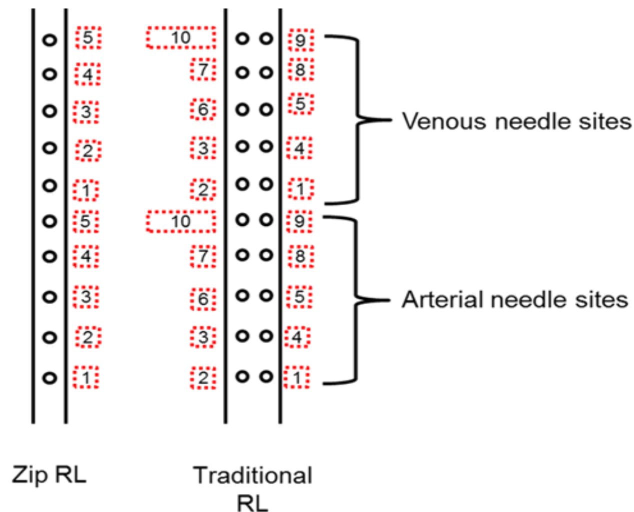
- Currently in draft format
  - Preparing for consultation
  - Combination of evidence and consensus opinion
  - 16 nurses from 14 units across the UK
- 1st part released
  - Definitions of Cannulation Techniques
  - Available on BRS website

http://britishrenal.org/wp-content/uploads/2016/10/Definitions-of-Cannulation-Techniques-used-for-Arteriovenous-Fistulae-and-Grafts-for-Haemodialysis.pdf

- Comprehensive
  - Buttonhole
  - Rope Ladder
  - Area Puncture
- Good cannulation technique
  - Managing cannulation well
- Adult and paediatric cannulation
- Pragmatic and specific
  - Created by cannulators

What is Rope Ladder?

- Move up vein in systematic manner
  - Each site 0.5-1cm above previous
- Use as much of vein as possible
  - 2 sites over at least 8cm segment
  - 5cm per cannulation site
- Once reach the top, move to the bottom again
  - Up and down degrades into area puncture
- 2 types
  - Zip / Central
  - Traditional / Side to side



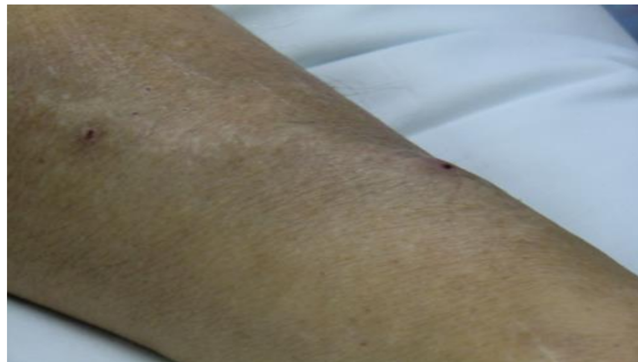
What is Buttonhole?

Cannulate each **site** in:

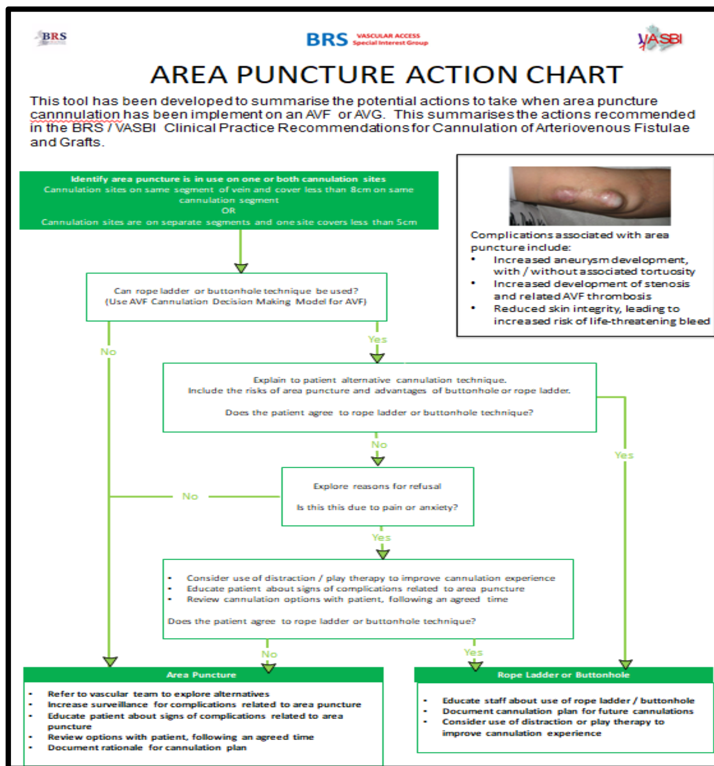
- Same hole in skin
- Same place in vein
- At same angle, depth and direction

- Can include 3-4 cannulation sites on each vein

- Developed by Twardowski (1979)



Draft Content



A Good Cannulation Technique

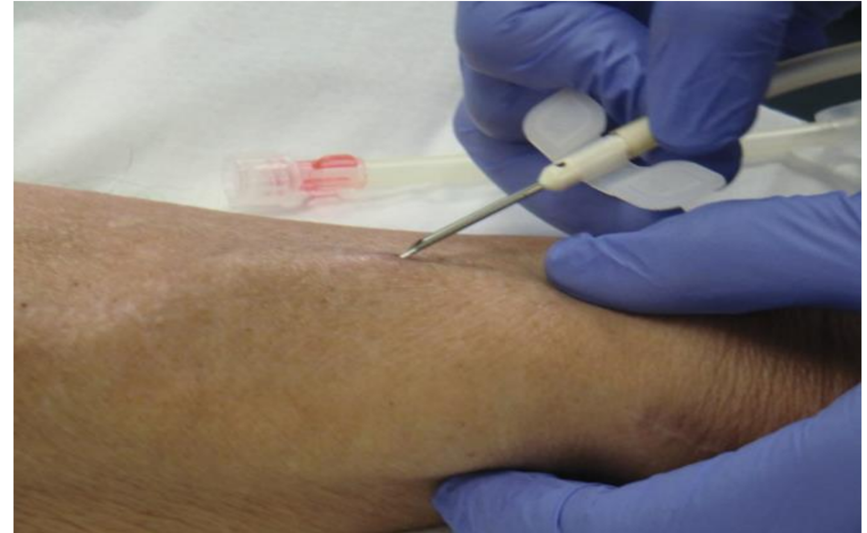
Clinical Practice Recommendations

1) Registered nurses and non-registered staff who cannulate AV fistulae and grafts should constantly aspire to develop a good cannulation technique. This is on-going development of a skill that is never complete. Skill development can progress through regular cannulation practice, observation of experienced, skilled cannulators and guidance from experienced and skilled cannulators.
2) A good cannulation technique will:
   a. Minimise damage to the AV fistula / graft during cannulation
   b. Minimise complications from cannulation
   c. Minimise pain and anxiety related to cannulation
3) A good cannulation technique should result in either a successful cannulation or failed attempt at cannulation of the AV fistula / graft; with the minimum amount of damage to the AV fistula vein or graft and surrounding tissue, whilst minimising pain and inspiring confidence in the patient.
4) Prior to needle insertion, documentation of previous cannulations should be reviewed along with a documented cannulation plan. If available, the patient's report of previous cannulations should be explored and applied.
5) Prior to needle insertion, a good assessment of the vessel should provide a clear idea of the depth and direction of the needle insertion which will result in the correct position of the needle. Needle insertion should not continue without this clear idea of depth and direction.
6) Once entering the skin, the needle insertion route should take the most direct route to the vein and not follow a tortuous route to the vein.
7) The needle insertion movement should be accurate, considered, gentle and continuous, minimising pain and discomfort for the patient.
8) Needle insertion is a balance between prompt insertion of the needle and a gentle technique, so whilst insertion should not be rapid, it also should not be unnecessarily prolonged.
9) The needle insertion should aim to finish with the tip of the needle in the centre of the AV fistula vein / graft.

Cannulation Champions

- Cannulates regularly
  - Haemodialysis nurse(s)
  - Vascular access nurse(s)

- Local implementation of MAGIC
- 3 monthly webinar / call
  - Webinar v. Conference call
  - MAGIC Network
- Point of contact



Measurement Strategy

- Outcome measures
  - AVF / AVG cannulation technique
  - Missed cannulation
  - Patient experience measures
    - Pain PREM qu
  - Infection
  - AVF rates
  - AVF loss
- Process Measures
  - Feedback on package

- Platform to measure regularly and view results
- Monthly on whole unit v. weekly per shift
- Feedback results to MAGIC after each phase
- Ready Jan 2018

Educational Materials

- ELearning package
- Slidesets and lesson plans
  - Need to do 1 but not both
  - Choice
- Competency package
  - Nationally recommended package

- In development
- Based on cannulation recommendations
- Feedback once implemented

Awareness Materials

- Aimed at patients
  - Increase awareness of good practice
  - Promote engagement
- What is an AVF
- What is rope ladder and buttonhole
- What are signs of problems

- Posters, cards, information
  - In development
- Feedback once implemented

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VASBI

Locally identified HD nurse champion(s) to liaise with and run MAGIC locally

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Phase 1

Baseline Measurement

Implement weekly / monthly measurement strategy

Phase 2

Educational package, including process measures & educational evaluation

All HD nurses to access ELearning / Slide sets

Copy of recommendations available

Phase 3

Competency package

All HD nurses to access competency package

Educational evaluation of competency

Phase 4

Awareness materials

Awareness materials given to patients and displayed on HD unit

Evaluation of awareness materials - Patient survey at end

Phase 5

Review of MAGIC and use of data to progress local QI

Signpost to KQuIP resources

MAGIC withdraws support – locally led

MAGIC Data Collection Points and Review with Champion(s)

Measurement strategy continues – data reviewed locally

Draft Objectives

MAGIC Objectives

1. To maximise the use of rope ladder and buttonhole cannulation and minimise the use of area puncture cannulation

2. To reduce the number of 'missed cannulation' (more than 1 attempt to insert a needle at one cannulation site)

3. To minimise the level of pain related to cannulation

4. To minimise infection in AVF & AVGs

5. To evaluate the impact and content of MAGIC project materials

Local Long Term Objectives

1. To increase the prevalent rate of AVF and AVG use to consistently above the Renal Association Standards of 80%

2. To reduce the rate of AVF and AVG loss of use

KQuIP/UKRR Regional Day
East Midlands

15:00- 16:00 - Breakout Sessions

Consider the following questions, write on flipchart and agree who is feeding back :-

1. What does the data and national project mean for?

- Our unit
- Our region

2. Why the East Midlands region should take on one of the KQuIP projects as a region?

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