



# Two cannulation techniques in a single arteriovenous fistula. Why not?

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# Presentation outline

**1** Introduction

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# Introduction (1/5)

- The vascular access (VA) is of major importance in dialysis treatment and AVF (arteriovenous fistulae) is the elective VA. It is the gold standard for vascular access in haemodialysis (HD), due to better survival rates and fewer complications as compared to the others.
- The proper choice of the cannulation technique is fundamental for vascular access (VA) survival.
- In our clinic, we currently use the buttonhole technique in patients who have short and/or tortuous cannulation areas.
- The Multi Single Puncture Technique (MuST) gained more acceptance in our clinics, apparently reducing infection rates and complications as compared to other cannulation techniques.

# Introduction (2/5)

## Buttonhole

- The buttonhole technique consists of cannulating the AVF at exactly the same place, the same angle and depth.
- If the same location is always used, a tunnel or fibrous tissue path will be created.
- It is strongly recommended to have the procedure performed by the same nurse until the tunnel is formed.
- Using a sharp needle requires about 6-12 cannulations to create a path.
- After creation of a tunnel or path of fibrous tissue a blunt needle can be used.

# Introduction (3/5)

## MuST

- In the MuST technique, the cannulation is performed exactly in the same place corresponding to the day of the week (1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup>).
- 6 points are chosen and the distance between each cannulation point should be symmetrical and larger than 1cm.
- Arterial and venous cannulation should be performed in such a manner that the needle tips are at least 6 cm apart.

## Buttonhole

### Advantages

- ✓ Cannulation is less painful
- ✓ Allows for a successful cannulation where standard techniques fail
- ✓ Cannulation is quicker and easier especially in AVFs deep and with small cannulation area
- ✓ Less needle trauma: infiltrations, aneurysm formation
- ✓ Well suited for patients on self-dialysis
- ✓ Reduction of haemostasis time

### Disadvantages

- ✓ Technique is only suitable for AVF
- ✓ Increased risk of infection
- ✓ The same cannulator must be used during the creation of the tunnel

## MuST

### Advantages

- ✓ Low infection rate
- ✓ Cannulation is quicker and easier
- ✓ Less infiltrations
- ✓ Cannulation is less painful
- ✓ Very well accepted by patient & nurses

### Disadvantages

- ✓ Identification of the points in some cases
- ✓ Large vein extension required

In  
our  
experience

# Objectives

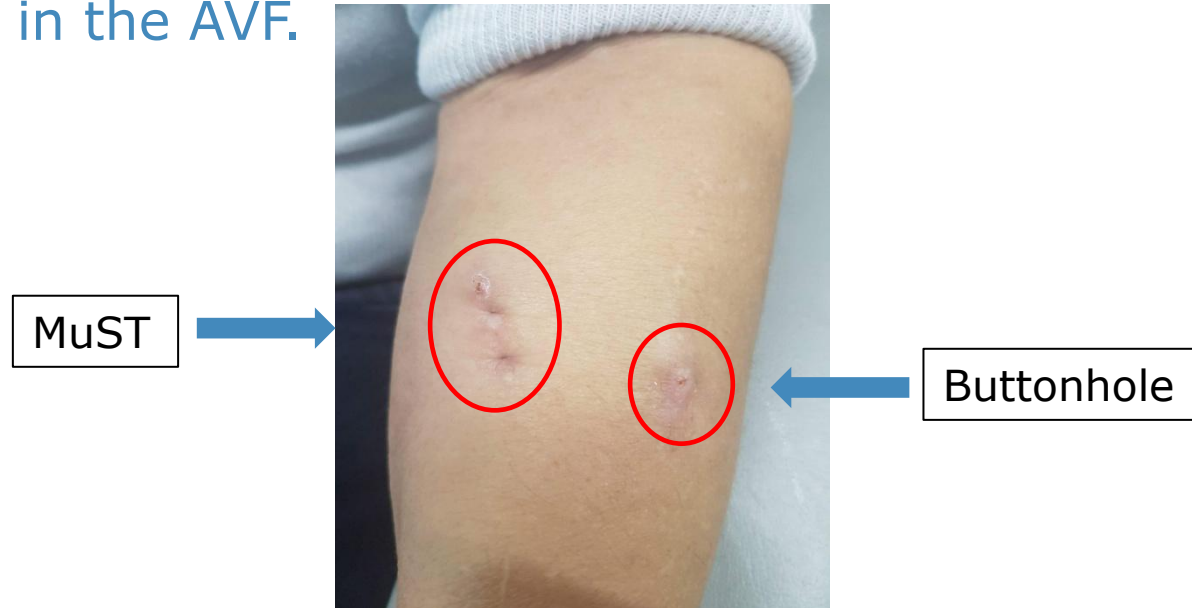
To demonstrate the possibility of using two different cannulation techniques in patients with arteriovenous fistula (AVF).



- This is a case study of a 60 years old woman with a HD history of 3 years and a radio-cephalic AVF which was created 3 years ago. At first, she was cannulated using the MuST technique.
- Data were collected from clinic databases.

# Results (1/2)

- Due to a poor development of the cannulation area, we decided to use the buttonhole technique on the venous side, and MuST on the arterial side.
- We have not yet experienced any difficulties in cannulation and the simultaneous use of both techniques for 2 years without requiring intervention in the AVF.



# Results (2/2)

- The patient is very satisfied and comfortable with her AVF:

"Ever since they decided on this technique I never had any problems, such as haematomas."

"I've never been anxious because I know exactly where I'm going to be cannulated."

"When I was hospitalised dialysis professionals were amazed by the "cannulation technique" and I was the one who directed them where to cannulate depending on the day of the week."

"I am very pleased with the chosen technique."

# Conclusions (1/2)

- The cannulation technique should be selected in accordance with the characteristics of the VA.
- In this case, the option of using two different cannulation techniques has proven to be effective.
- As in all areas of nursing care, procedures should be tailored to the individual patient, especially the use and preservation of VA for haemodialysis.

# Conclusions (2/2)

- In our opinion, it is extremely important to involve the patient, in the decision making process of the cannulation technique(s) to be used in a new AVF.
- If the patient is able to understand, we explain which techniques can be used in his VA, as well as the advantages and disadvantages of each technique.
- Our goal is to make the patient feel involved in his treatment and also responsible for his VA.

**Thank You Very Much  
for Your Attention!**

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