



# Nuova Tecnica di venipuntura FAV



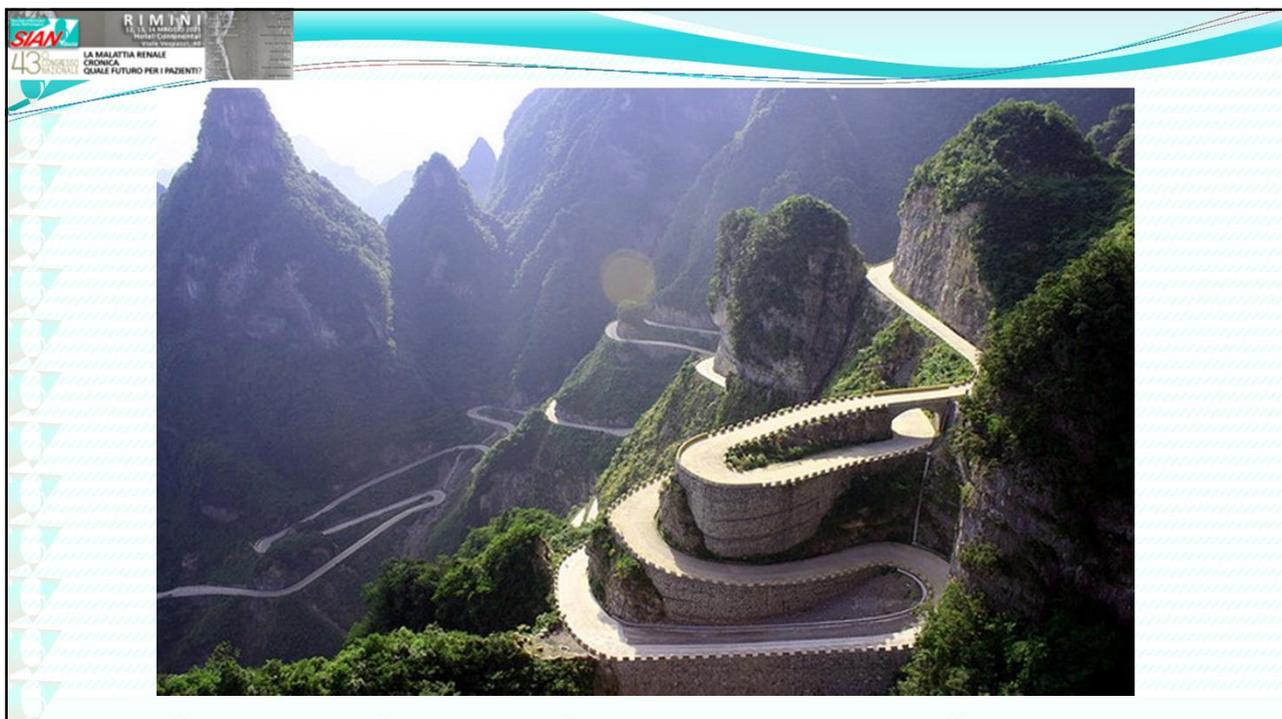
**Dott. Stefano MANGANO**

**ASST Settelaghi**  
**SC Nefrologia e Dialisi**  
**P.O. L. Galmarini - Tradate - Varese**



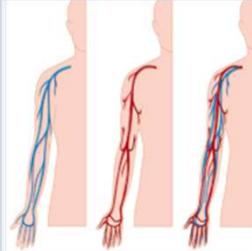
## Conflitto di interessi

- Fresenius Medical Care
- Gore-Tex



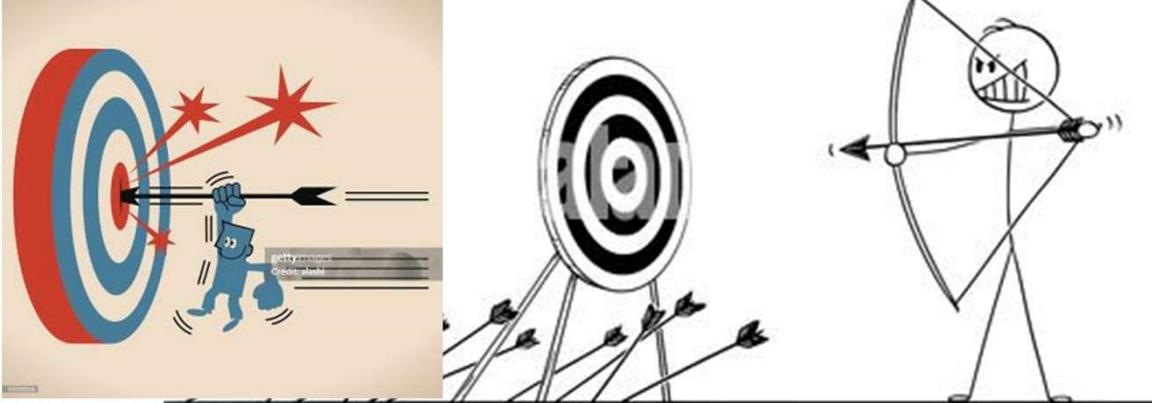
43 ANNI  
LA MALATTIA RENALE CRONICA. QUALE FUTURO PER I PAZIENTI?

## Fattori condizionanti sviluppo FAV

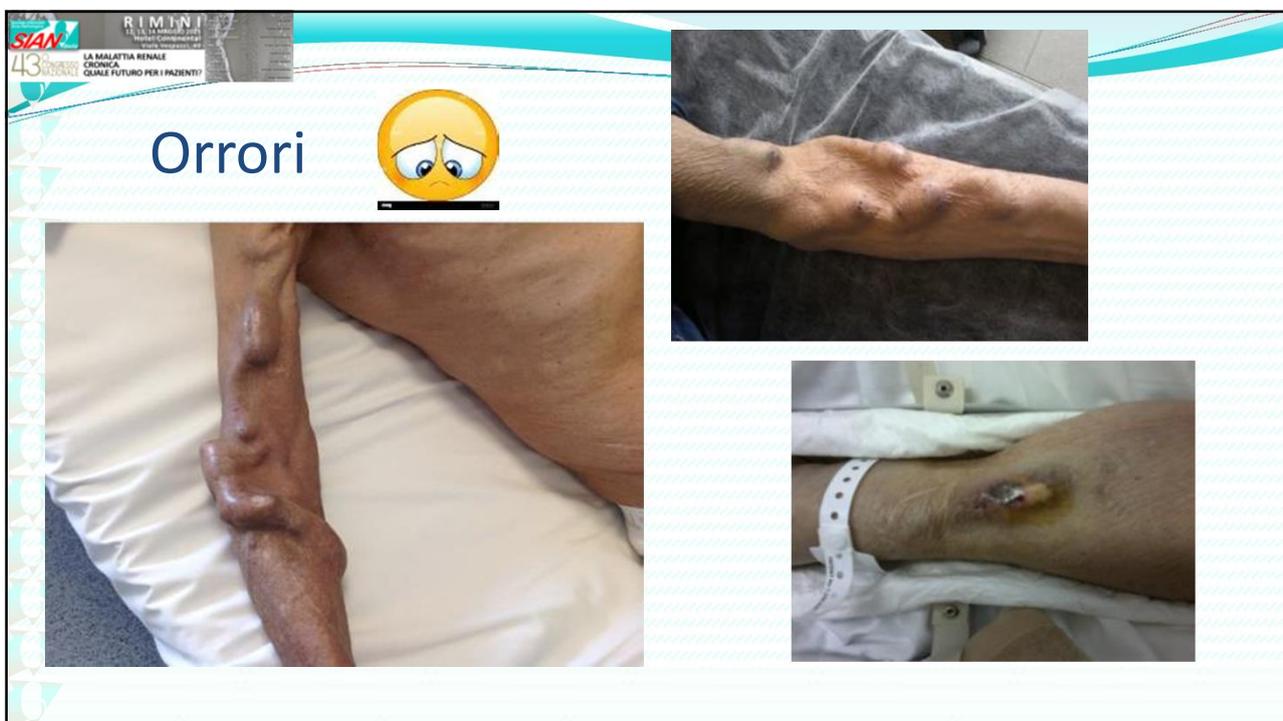
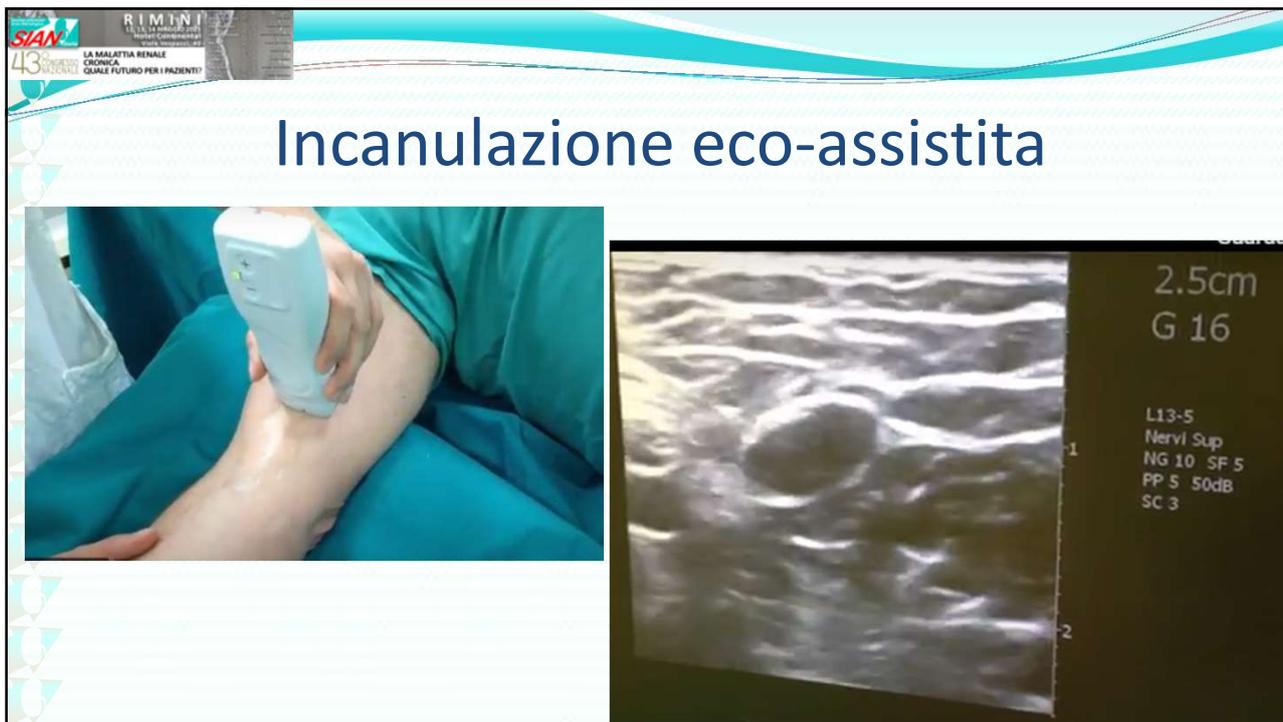
| generali  |                       | locali   |                         |
|---|-----------------------|--|-------------------------|
|  | età                   |  | sede                    |
|   | sexo                  |  | anatomia vasi           |
|   | BMI                   |  | chirurgia               |
|   | malattia di base      |  | metodi di incanalazione |
|   | co-morbilità          |  |                         |
|   | terapia farmacologica |  |                         |
|   |                       |  |                         |

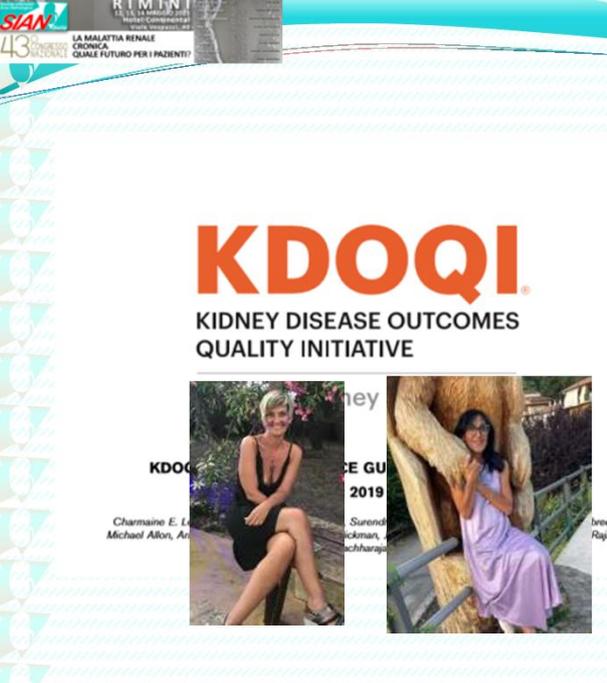
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## Obiettivo



alamy - 2A7RYE1





**KDOQI**  
KIDNEY DISEASE OUTCOMES  
QUALITY INITIATIVE

2019  
EXCELLENCE GUIDE

Charmaine E. L...  
Michael Alton, Ar...

Surend...  
Blackman,  
achharaja

Irene,  
Rajan,

**Statements: AV Access Cannulation**  
Please review Guideline Statement 11.1.

11.2 KDOQI recommends rope ladder cannulation as the preferred cannulation technique for AVFs. (Conditional Recommendation, Moderate Quality of Evidence)

11.3 KDOQI considers it reasonable to limit AV access buttonhole cannulation only to special circumstances given the associated increased risks of infection and related adverse consequences. (Expert Opinion)

11.4 KDOQI considers it reasonable to avoid buttonhole cannulation in synthetic PTFE grafts due to potential serious consequences. (Expert Opinion)

11.5 KDOQI suggests that when select buttonhole cannulation is performed, the use of buttonhole cannulation devices to facilitate cannulation should be at the discretion and expertise of the cannulator. (Conditional Recommendation, Low Quality of Evidence)

11.6 KDOQI considers it reasonable to use skilled cannulators with established high rates of cannulation success to perform initial AV access cannulations on patients to help avoid primary infiltration injury of the AV access. (Expert Opinion)

11.7 KDOQI considers it reasonable to have structured training and supervision of dialysis technicians and nurses before and during their initial cannulation attempts, and regular training updates to maintain cannulation competency. (Expert Opinion)

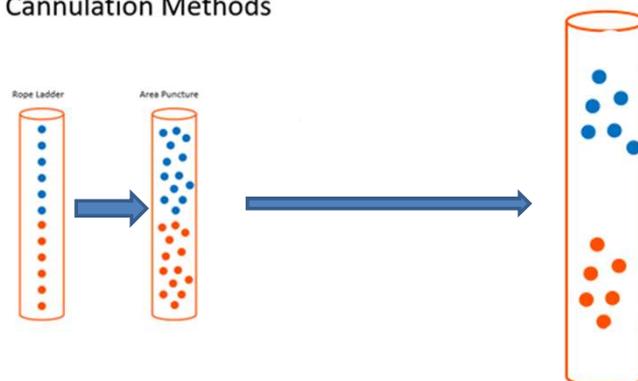
11.8 KDOQI considers it reasonable to support and educate eligible patients on self-cannulation of their AV access (AVF or AVG). (Expert Opinion)

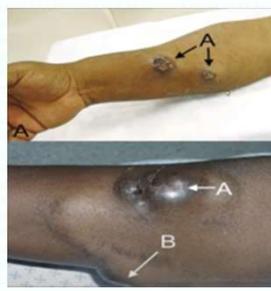
Note: To be clear, any consideration of buttonhole cannulation refers only to AVF and certain AVG materials. AVG made of PTFE should not be accessed by buttonhole cannulation, due to risks of "one-stitchitis" and its serious consequences.

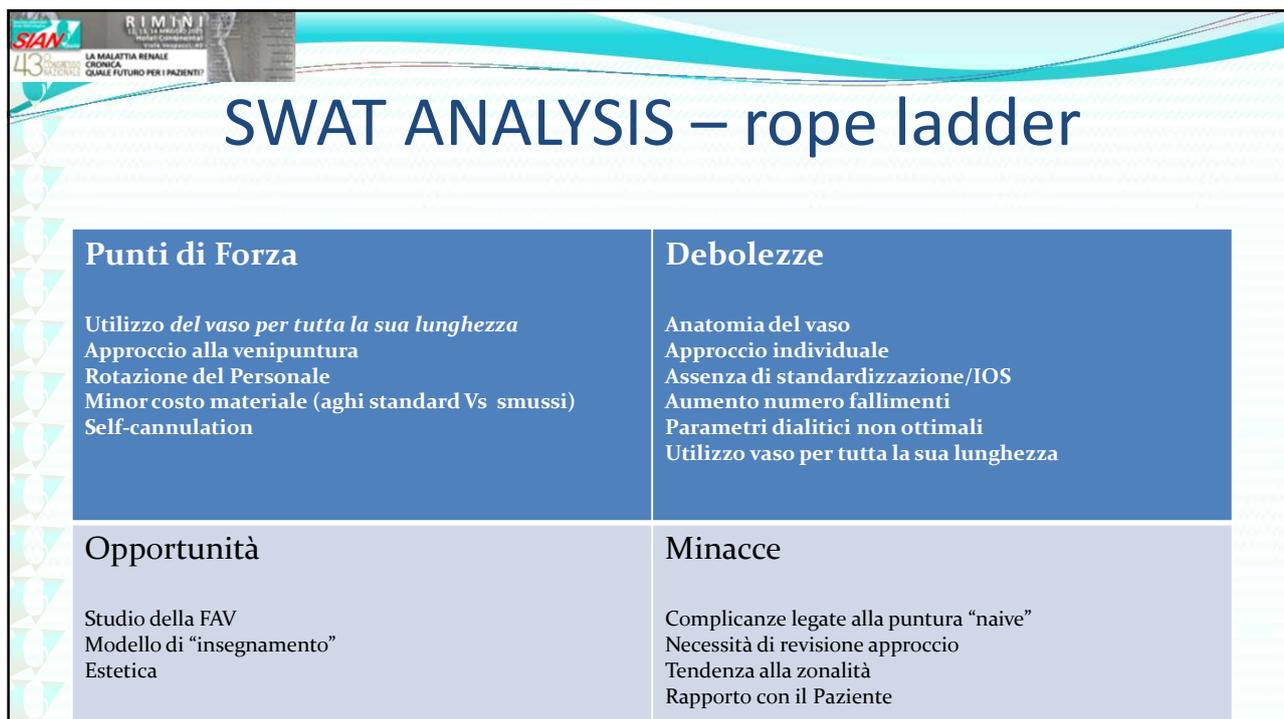
Note: See Guideline Statement 12.2 for use of ultrasound for AV access cannulation.

## METODI DI CANNULAZIONE

Cannulation Methods

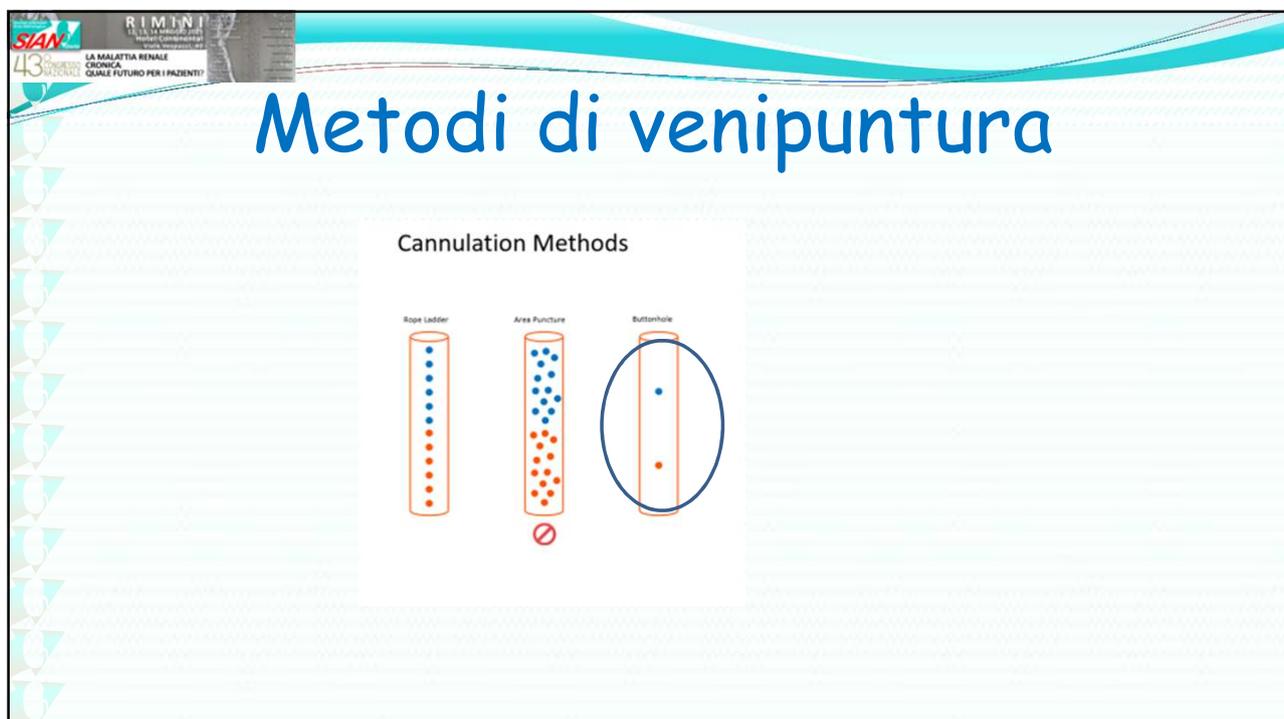






**SWAT ANALYSIS – rope ladder**

|  |   |
|--|---|
| <b>Punti di Forza</b><br><br>Utilizzo <i>del vaso per tutta la sua lunghezza</i><br>Approccio alla venipuntura<br>Rotazione del Personale<br>Minor costo materiale (aghi standard Vs smussi)<br>Self-cannulation | <b>Debolezze</b><br><br>Anatomia del vaso<br>Approccio individuale<br>Assenza di standardizzazione/IOS<br>Aumento numero fallimenti<br>Parametri dialitici non ottimali<br>Utilizzo vaso per tutta la sua lunghezza |
| <b>Opportunità</b><br><br>Studio della FAV<br>Modello di “insegnamento”<br>Estetica  | <b>Minacce</b><br><br>Complicanze legate alla puntura “naive”<br>Necessità di revisione approccio<br>Tendenza alla zonalità<br>Rapporto con il Paziente   |



| SWAT ANALYSIS – bottonHole  |  |
|---|--|
| <p><b>Punti di Forza</b></p> <ul style="list-style-type: none"> <li>Standardizzazione punti di incanalazione (minor tempo necessario per l'attacco -&gt; non necessaria la ricerca del sito di puntura)</li> <li>Riduzione errori incanalazione</li> <li>Risparmio patrimonio vasale</li> <li>Riduzione complicanze (aneurismi ...)</li> <li>Parametri dialitici ottimali</li> <li>Riduzione dolore incanalazione (sopportabilità del paziente e minore ansia del Paziente e del Personale)</li> <li>Riduzione del tempo necessario per l'emostasi</li> </ul> | <p><b>Debolezze</b></p> <ul style="list-style-type: none"> <li>Infezioni</li> <li>Programma disinfezione (cute e lavaggio arto)</li> <li>Creazione tunnel/manutenzione</li> <li>Addestramento</li> <li>Tutor</li> <li>Costante <i>supervisione</i></li> <li><i>Materiale dedicato (aghi smussi)</i></li> </ul> |
| <p><b>Opportunità</b></p> <ul style="list-style-type: none"> <li>Ampliamento possibilità tecniche di venipuntura (autoincanalamento)</li> <li>Fistole <i>complesse</i></li> <li>IOS/procedura -&gt; esportazione</li> </ul>   | <p><b>Minacce</b></p> <ul style="list-style-type: none"> <li>Resistenza cambiamento</li> <li>Mancata aderenza protocolli</li> <li>Addestramento Personale</li> </ul>   |

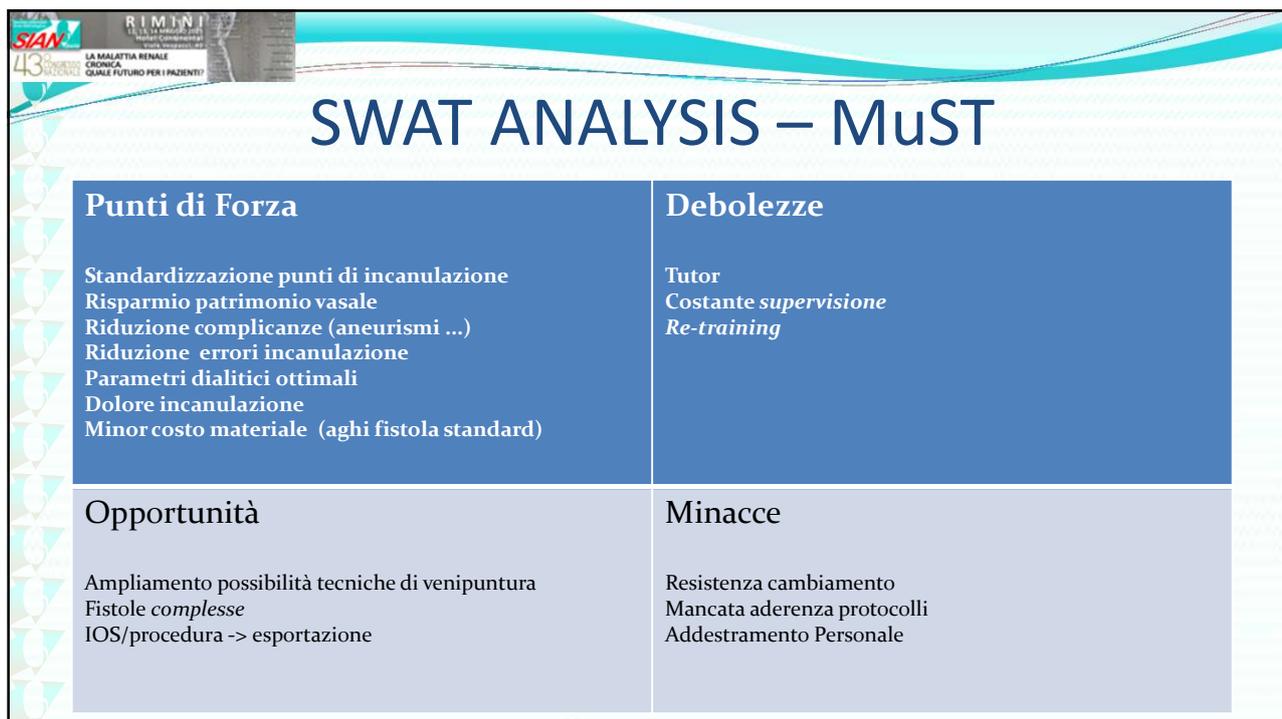
## Metodi di venipuntura

Cannulation Methods

Cannulation Methods

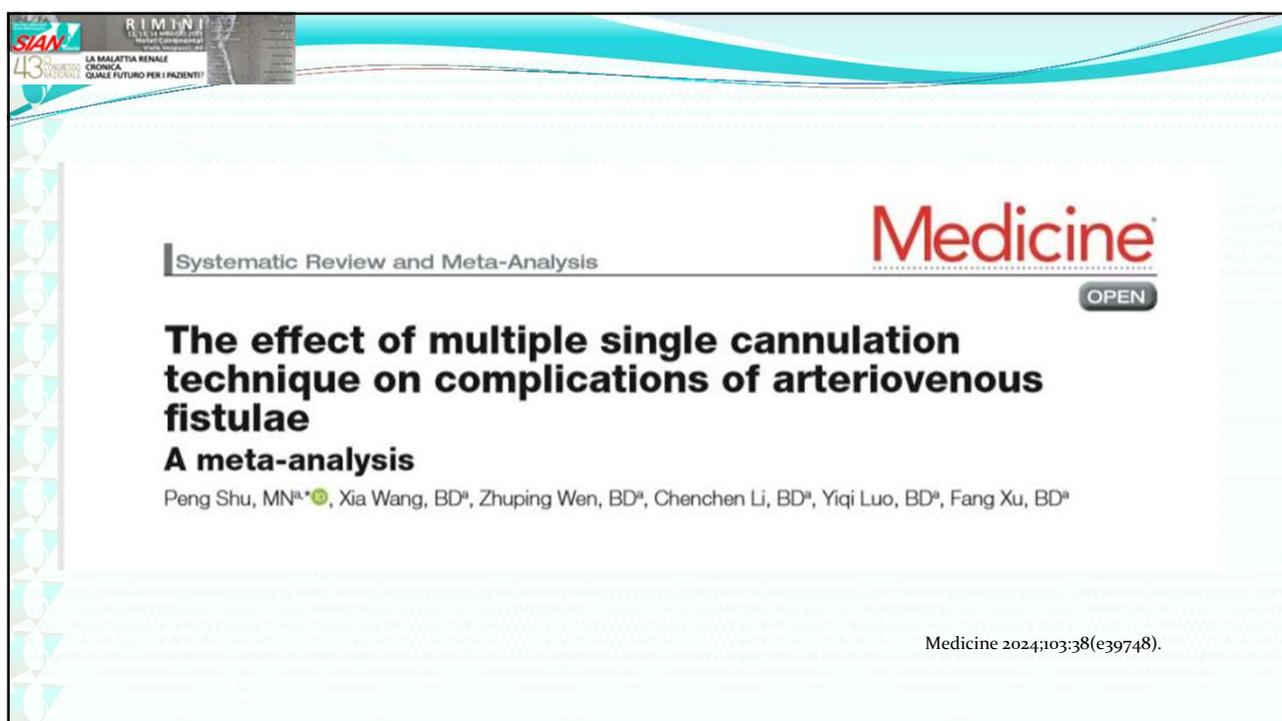
Cannulation Methods

**Multiple single cannulation technique**



The diagram is a 2x2 matrix titled "SWAT ANALYSIS – MuST". The top-left quadrant is dark blue and labeled "Punti di Forza". The top-right quadrant is dark blue and labeled "Debolezze". The bottom-left quadrant is light blue and labeled "Opportunità". The bottom-right quadrant is light blue and labeled "Minacce".

| Punti di Forza  | Debolezze  |
|---|--|
| Standardizzazione punti di incanalazione<br>Risparmio patrimonio vasale<br>Riduzione complicanze (aneurismi ...)<br>Riduzione errori incanalazione<br>Parametri dialitici ottimali<br>Dolore incanalazione<br>Minor costo materiale (aghi fistola standard) | Tutor<br>Costante <i>supervisione</i><br><i>Re-training</i>                      |
| Opportunità   | Minacce  |
| Ampliamento possibilità tecniche di venipuntura<br>Fistole <i>complesse</i><br>IOS/procedura -> esportazione  | Resistenza cambiamento<br>Mancata aderenza protocolli<br>Addestramento Personale |



The image shows the cover of a journal article from the journal "Medicine". The title is "The effect of multiple single cannulation technique on complications of arteriovenous fistulae: A meta-analysis". The authors are Peng Shu, Xia Wang, Zhuping Wen, Chenchen Li, Yiqi Luo, and Fang Xu. The journal name "Medicine" is prominently displayed in red. There is an "OPEN" badge in the top right corner. The journal's logo and a small graphic with the text "LA MALATTIA RENALE CRONICA. QUALE FUTURO PER I PAZIENTI?" are visible in the top left corner.

Systematic Review and Meta-Analysis

**Medicine**

OPEN

**The effect of multiple single cannulation technique on complications of arteriovenous fistulae**

**A meta-analysis**

Peng Shu, MN<sup>1a</sup>, Xia Wang, BD<sup>1a</sup>, Zhuping Wen, BD<sup>1a</sup>, Chenchen Li, BD<sup>1a</sup>, Yiqi Luo, BD<sup>1a</sup>, Fang Xu, BD<sup>1a</sup>

Medicine 2024;103:38(e39748).

Systematic Review and Meta-Analysis **Medicine**

### The effect of multiple single cannulation technique on complications of arteriovenous fistulae

A meta-analysis  
Feng Shu, MH<sup>1</sup>, Xia Wang, BD<sup>1</sup>, Zhiping Wen, BD<sup>1</sup>, Chenchen Li, BD<sup>1</sup>, Yiqi Luo, BD<sup>1</sup>, Fang Xu, BD<sup>1</sup>

**Table 1**  
Basic characteristics of the included literature

| Year                | Author | country | n (studies) | Sex (male) |
|---------------------|--------|---------|-------------|------------|
| <b>1241 P</b>       |        |         |             |            |
| <b>646 gruppo s</b> |        |         |             |            |
| <b>595 gruppo</b>   |        |         |             |            |

Note: a: stenosis, b: hemangioma c: success rate of 1 cannulation, d: thrombus, e: insufficient distal AVF = arteriovenous fistula.

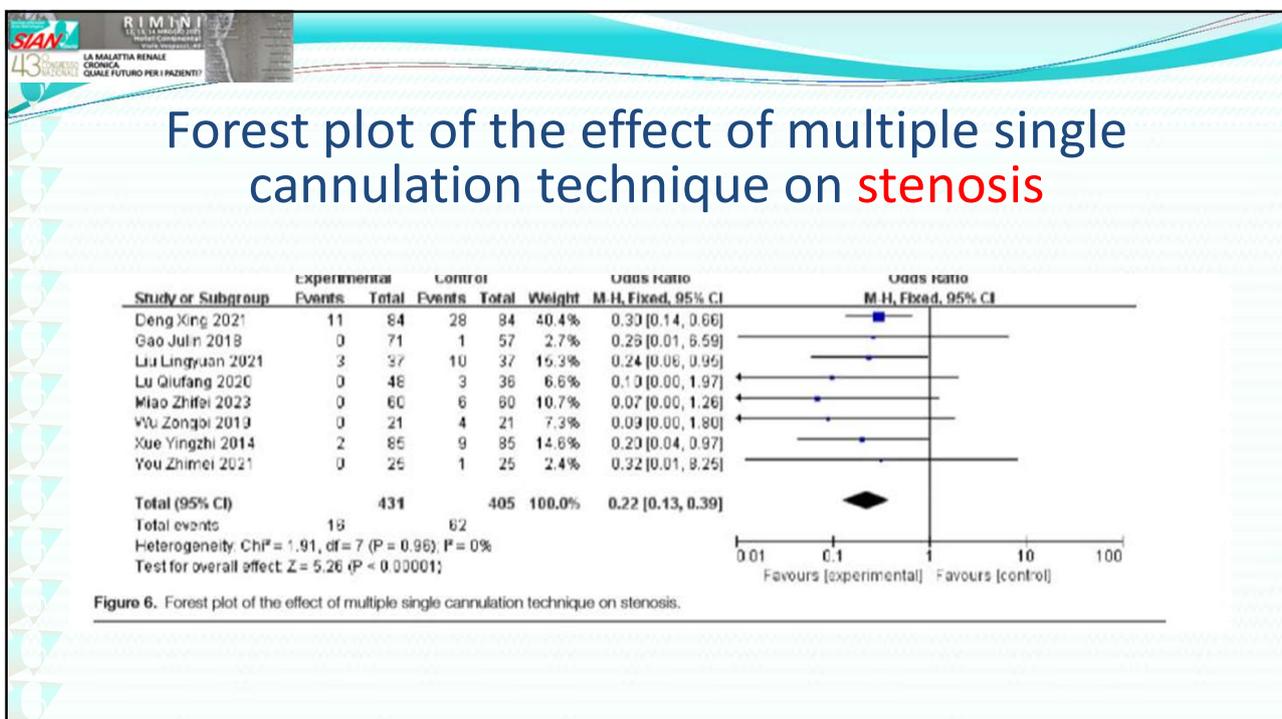
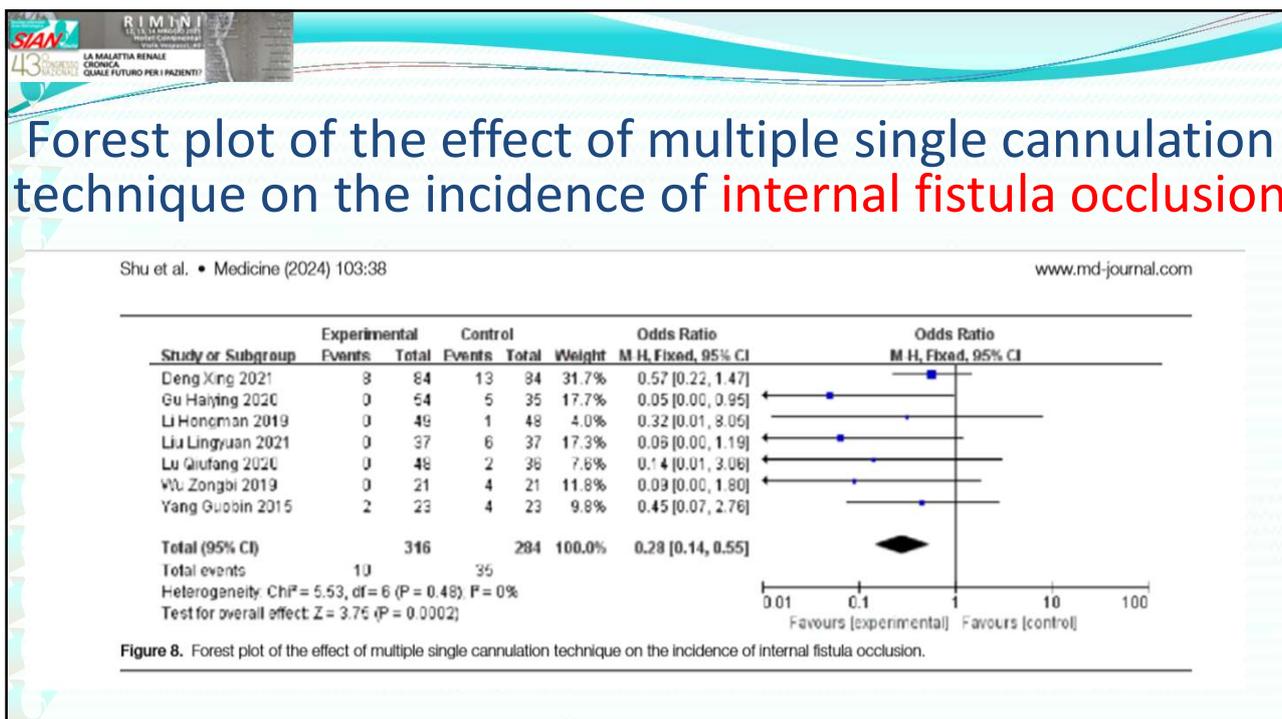
Figure 2. Literature publication bias risk map.

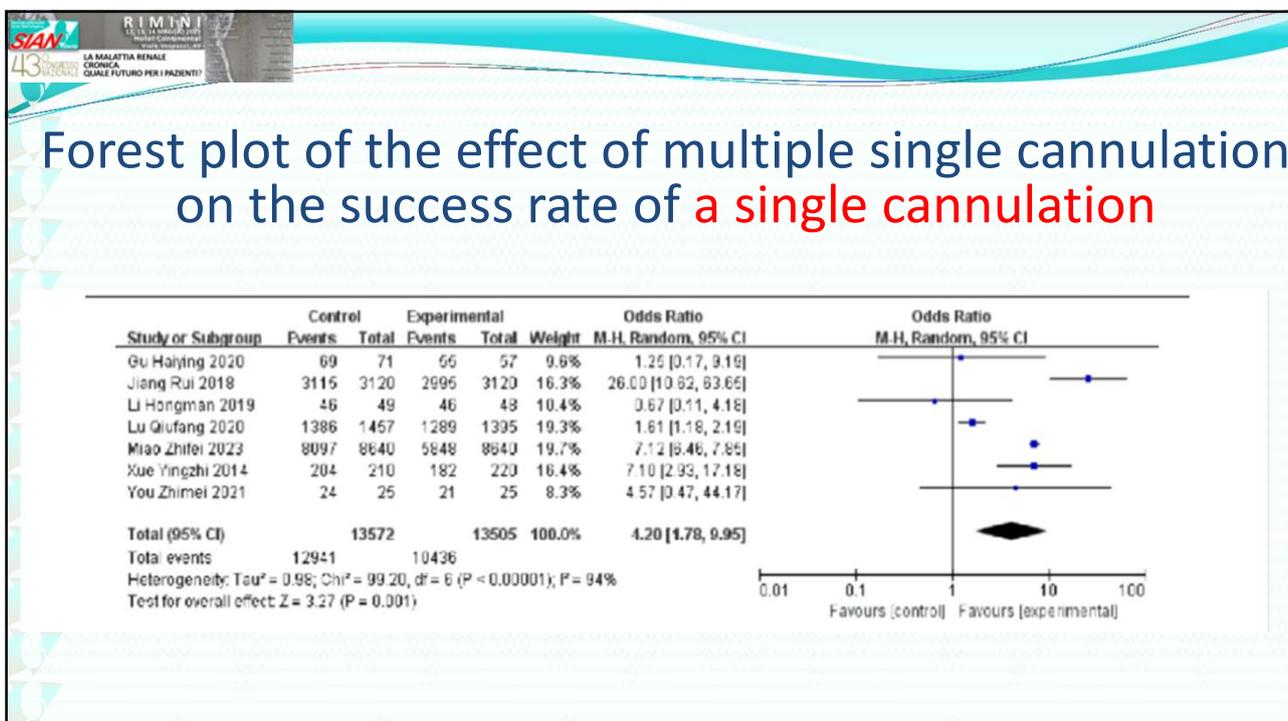
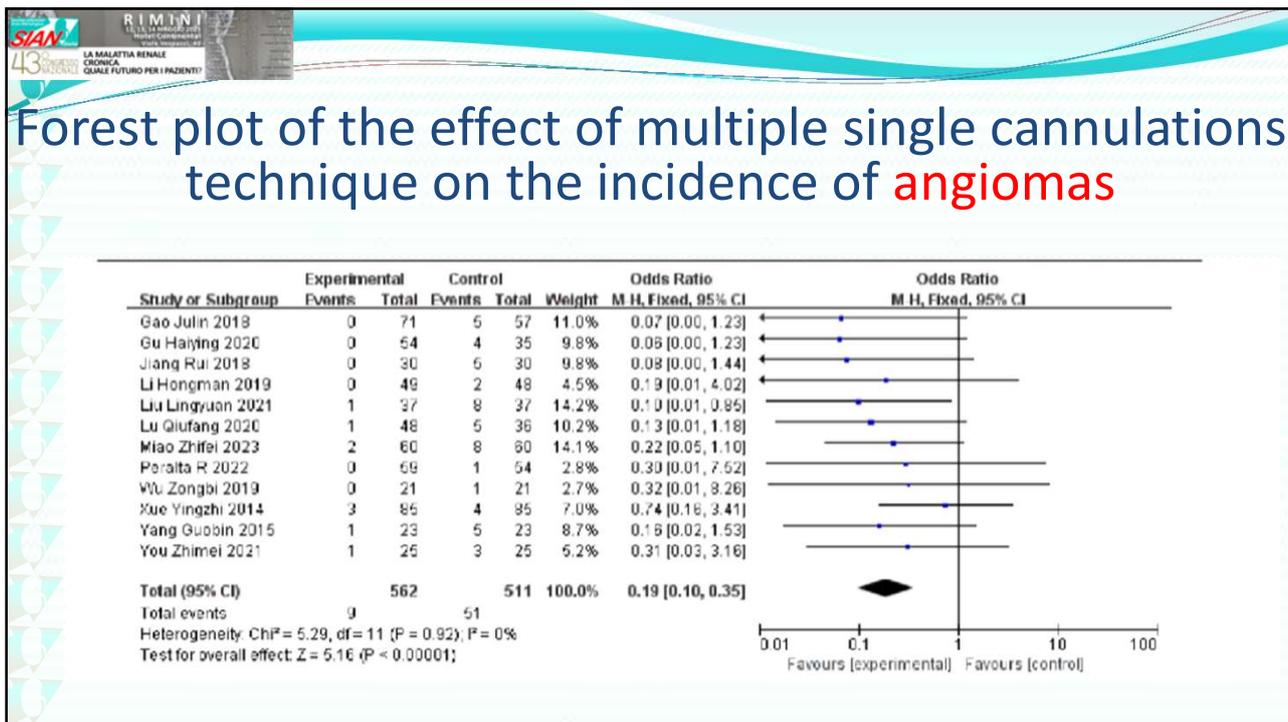
Figure 3. Literature publication bias graph.

## Forest plot

rappresentazione grafica dei risultati di una meta-analisi, che mostra la dimensione dell'effetto e gli intervalli di confidenza dei singoli studi insieme a una stima dell'effetto complessivo

aiuta a visualizzare l'effetto complessivo di un intervento o di un risultato in più studi





**multiple single cannulation technique can effectively reduce in arteriovenous fistulae**

- the incidence of angiomas
- thrombosis
- blood leakage
- stenosis
- complications associated with arteriovenous fistulae
- increase the success rate of nurses' single cannulation
- prolong the use of arteriovenous fistulae

**Take Home message**  
**Quale tecnica di incanalazione usare ?**



**MODALS**

**could**  
*I could bring my friends if you like.*

**should**  
*I should probably leave tomorrow.*

**would**  
*I would come but I have to work.*

**may**  
*I may go with you. I'll decide soon.*

**might**  
*I might have time. I'm not sure yet.*

**will**  
*I will definitely be there later today.*

**must**  
*I must remember to call them.*

MIN MAX





**SAN SEBASTIANO**  
**Andrea MANTEGNA 1475**  
tempera a colla su tela  
[Museo del Louvre, Parigi](#)

grazie per  
l'attenzione