

Cannulation of the Arteriovenous Fistula (AVF)

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Overview

- ***Cannulation of the Arteriovenous Fistula is designed to help you:***
 - Increase understanding of AV fistulas
 - Increase knowledge of assessment, cannulation, and protection of new and mature fistulas
 - Troubleshoot problems during cannulation and dialysis
 - Communicate effectively with care team members
 - Encourage your healthcare team to develop a “New AVF Cannulation Protocol”

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Overview (cont'd)

- Assessment of the New AVF for Maturity
- Protocol for New AVF Cannulation
- Cannulation Site Selection and Preparation
- Cannulation Techniques
- Self-Cannulation
- Complications

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Fact

- When Fistula First was initiated in early 2003, it was reported that 80% of prevalent hemodialysis patients in Europe and only 30% of prevalent hemodialysis patients in the United States used an AVF.

Fistula First, National Vascular Access Improvement Initiative. Available at: www.fistulafirst.org/professionals/tools.php. Accessed January 11, 2007.

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Risks Associated with Poor Cannulation & Improper Care of Fistula

- Loss of the fistula
- Further hospitalization
- Creation of temporary access measures
- Inconvenience
- Disruption of regular treatment regimen
- Higher treatment costs

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Mature Arteriovenous Fistula



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Photo courtesy of J. Rowland

Arteriovenous Graft



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Photo courtesy of J. Rowland

Catheter Used for Dialysis



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Photo courtesy of J. Rowland

Benefits of Arteriovenous Fistula (AVF)

- Benefits of Arteriovenous Fistula (AVF)
 - Lowest rate of failures and complications
 - Longevity
 - Lowest costs

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Merrill D, et al. *Dial Transplant*. 2005;34:200-208.

Cannulating a Fistula

- The formal description of the process of inserting needles into a vascular access



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Graphic courtesy of Medisystems HemoDYNAMIC Devices™

Program Overview

- The *new* AV fistula:
 - How to assess for:
 - Maturity
 - Complications
 - Cannulation sites
 - Correct way to cannulate it
- The *mature* AV fistula:
 - How to assess
 - How to select cannulation site
 - How to prepare cannulation site
 - How to cannulate site using site rotation and the buttonhole technique

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AV Fistula Cannulation Resources for Staff		fistulofirst.org	
Material Title	Description	Media Type	To Obtain Information
"Buttonhole Method of Needle Insertion into AV Fistula"	Illustration of a patient self-cannulating using buttonhole technique	Video	Buttonhole Video Division of Nephrology, LIA 438, DR 6-43 University of Missouri Hospital Center Columbia, MO 65212 (or 314) 487-1000 Email: buttonhole@missouri.edu
"Buttonhole Access Kit"	Contains the buttonhole training materials, including a 4-page quick guide, 1-page checklist and a 1-page procedure card	Various written materials	711 Run 001 Fistula Care Kit Fistula Care Kit Fistula Care Kit
"Cannulation Guide: Basic Needle Cannulation Training for Dialysis Unit"	A review of basic skills needed and a step-by-step process to cannulate an AV fistula	Article	Division of Nephrology University of Missouri Hospital Center Columbia, MO 65212 (or 314) 487-1000 Email: buttonhole@missouri.edu
"Cannulation Guide: Training Program for Staff"	Review of basic cannulation skills for AV fistula	Video, Lecture & Workshop	711 Run 001 Fistula Care Kit Fistula Care Kit
"Correct Site (Buttonhole Method of Needle Insertion for Hemodialysis)"	A description of the origin of the buttonhole method, advantages and early results	Article	Division of Nephrology University of Missouri Hospital Center Columbia, MO 65212 (or 314) 487-1000 Email: buttonhole@missouri.edu
"Determining Maturity of Arteriovenous Fistula"	A description of clinical techniques used to determine AVF maturity	Article	Division of Nephrology University of Missouri Hospital Center Columbia, MO 65212 (or 314) 487-1000 Email: buttonhole@missouri.edu
"Fistula Cannulation: The Buttonhole Technique"	A brief description of the buttonhole technique	Article	Division of Nephrology University of Missouri Hospital Center Columbia, MO 65212 (or 314) 487-1000 Email: buttonhole@missouri.edu
"Flipping or Rotating Fistula Needles"	A discussion of fistula needle rotation during cannulation	Article	Division of Nephrology University of Missouri Hospital Center Columbia, MO 65212 (or 314) 487-1000 Email: buttonhole@missouri.edu
"Improving Arteriovenous Fistula Cannulation Skills"	An overview guide on AVF cannulation assessment and techniques	Article	Division of Nephrology University of Missouri Hospital Center Columbia, MO 65212 (or 314) 487-1000 Email: buttonhole@missouri.edu
"Introduction to Cannulation Site to Optimal Cannulation"	An 11-minute video that addresses basic concepts and proper cannulation	Video	711 Run 001 Fistula Care Kit Fistula Care Kit
"The Buttonhole Technique for Cannulation"	A 68-minute video and guide to buttonhole cannulation	Article	Division of Nephrology University of Missouri Hospital Center Columbia, MO 65212 (or 314) 487-1000 Email: buttonhole@missouri.edu