



HARVARD MEDICAL SCHOOL
TEACHING HOSPITAL

Tibio-Pedal Access

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FIREMAN VASCULAR CENTER

- No Disclosures



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Outline

- Introduction
 - Advantages & Risks
 - Basic Anatomy
- Anatomy - Ultrasound Point of View
 - Potential Access Issues
 - Ultrasound How To
- Research Involving Tibio-Pedal Access

Introduction

Tibio-Pedal Access is retrograde access in either the tibial or pedal vessels that allow interventional devices (ballooning, stenting, etc) to treat segments that are unable to be accessed from an Antegrade approach (groin approach)

Advantages & Risk

Advantages

- Better Below Knee Access
- Ability to successfully cross difficult lesions
- Low Risk

5

Advantages & Risk

Risks

- Nerve Issues
- Possible Dissection
- Possible AVF Creation
- Vessel Spasm

6

Basic Anatomy

TIBIAL

- Arteries

- Posterior Tibial
- Peroneal
- Anterior Tibial

- Veins

- Posterior Tibial
- Peroneal
- Anterior Tibial

PEDAL

- Arteries

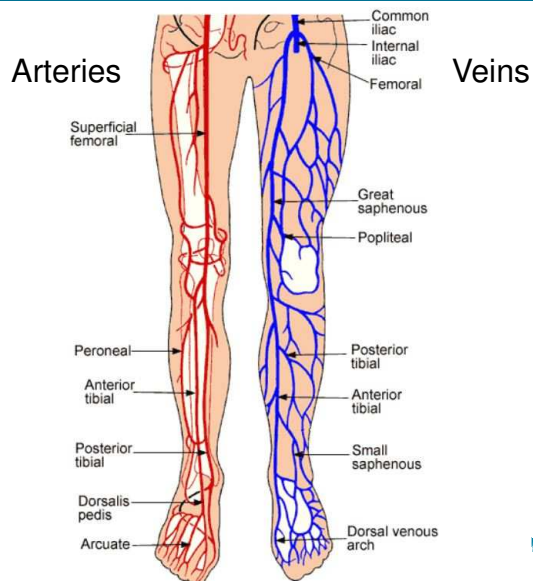
- Dorsalis Pedis

- Veins

- Median Marginal
- Lateral Plantar Vein

7

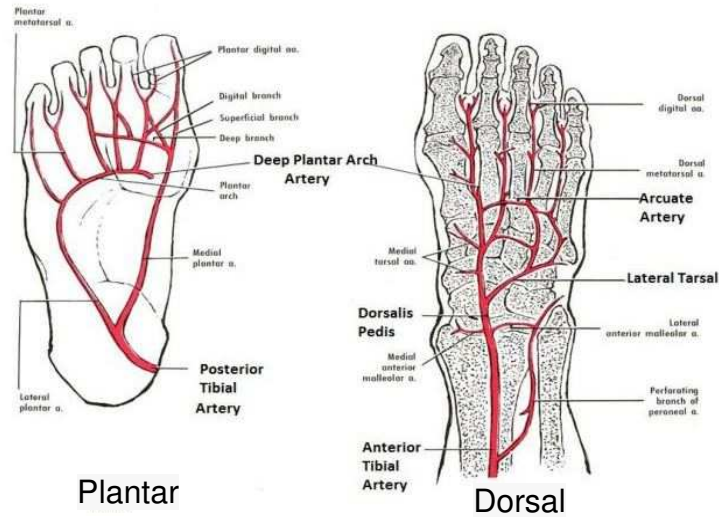
Basic Anatomy – Overall Lower Extremity



8

Basic Anatomy – Pedal Arteries

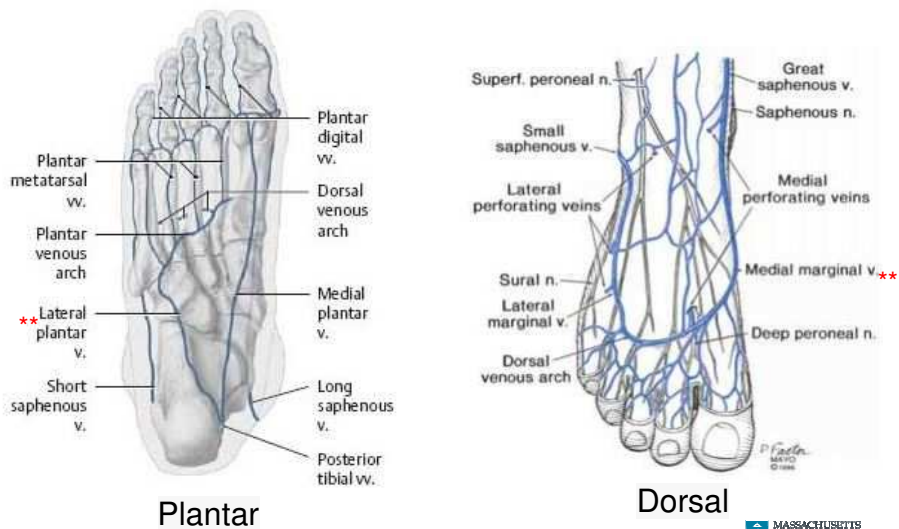
Arteries of the foot and ankle



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COLAB CENTER

9

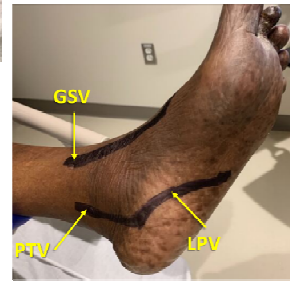
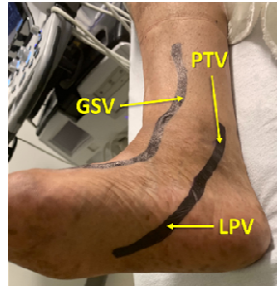
Basic Anatomy – Pedal Veins



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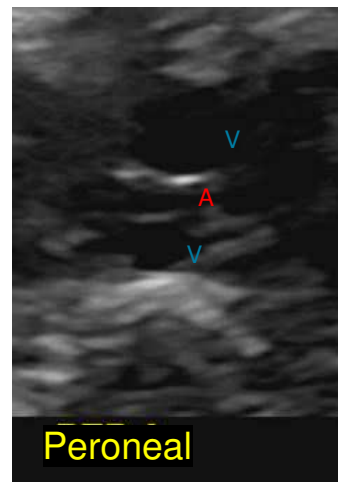
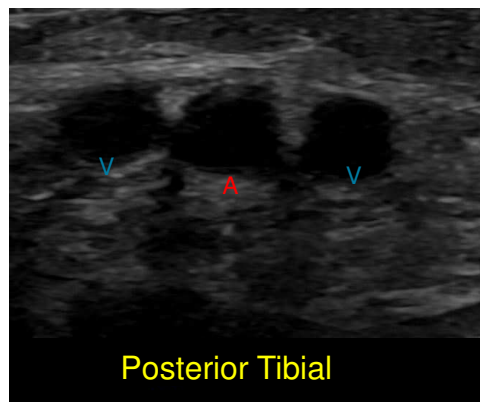
10

Basic Anatomy Cont'd

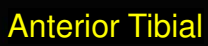


- * Peroneal Artery
- ** Posterior Tibial Artery
- *** Anterior Tibial Artery

Tibial Arteries/Veins – Ultrasound POV



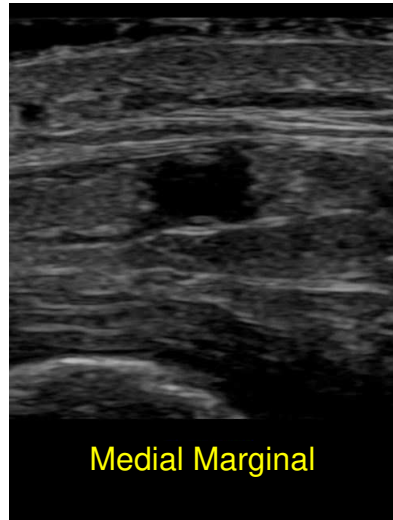
Tibial Arteries/Veins – Ultrasound POV



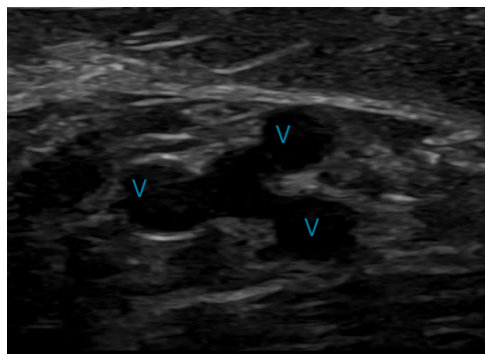
Pedal Arteries/Veins – Ultrasound POV



Pedal Arteries/Veins – Ultrasound POV



Tibial/Pedal Vessel Variants – Ultrasound POV



Potential Access Issues



17

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Potential Access Issues



18

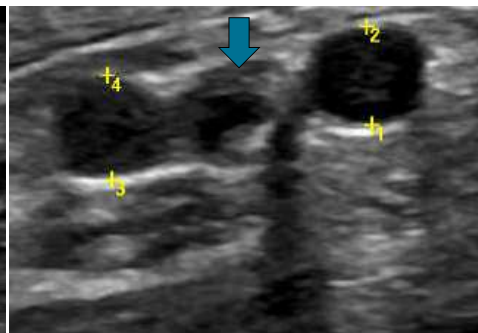
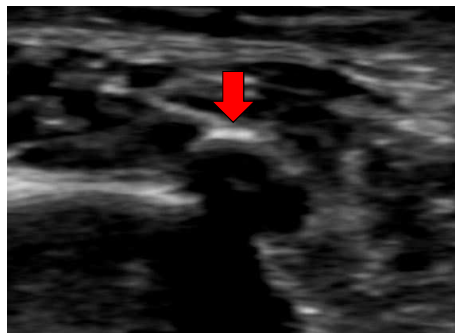
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Potential Access Issues



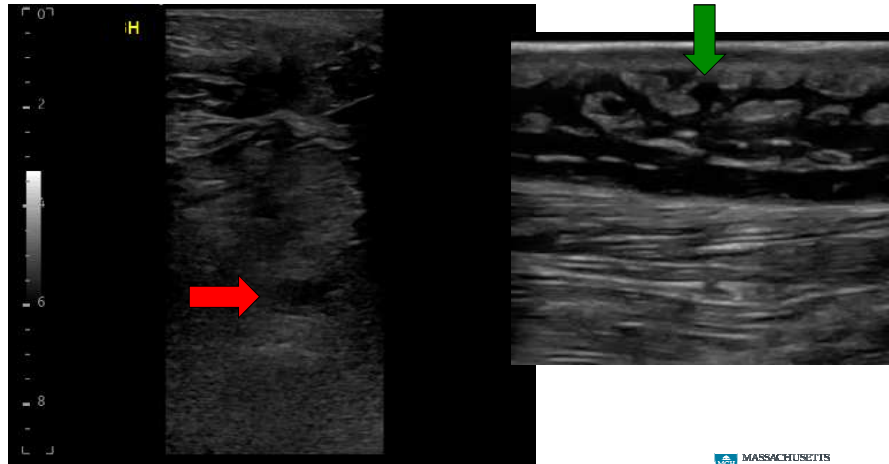
Potential Access Issues

Ultrasound POV



Potential Access Issues

Ultrasound POV



21

How To – The Sonographer's Point of View



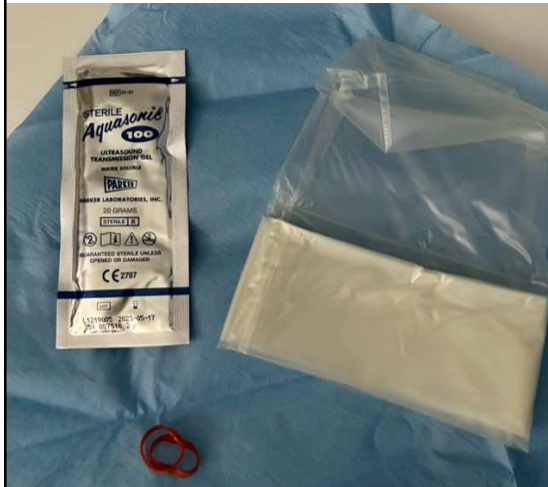
(Linear 7-9 MHz)



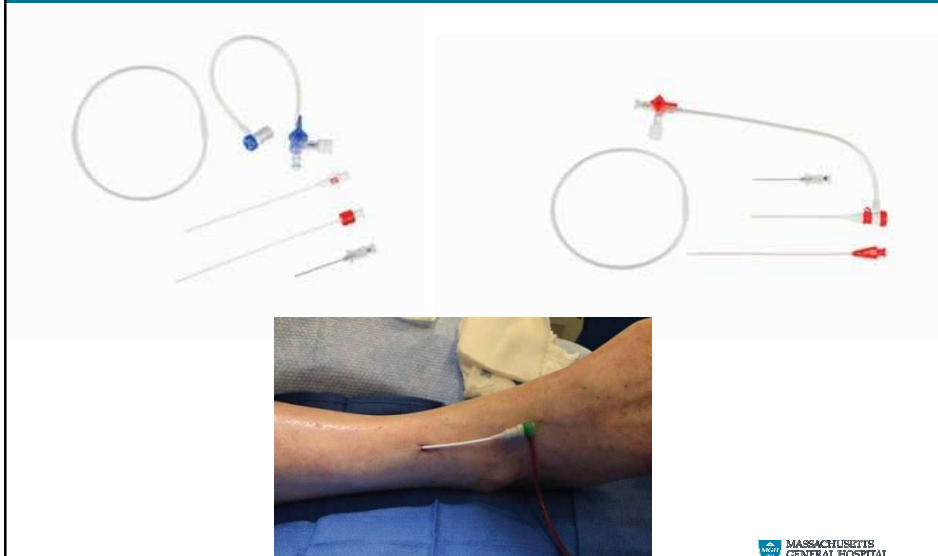
(Linear 8-18i MHz)

22

How To – The Sonographer's Point of View

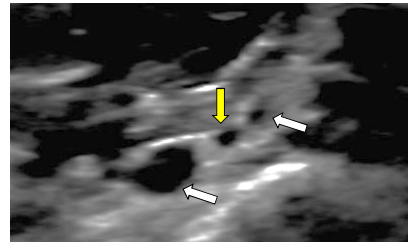
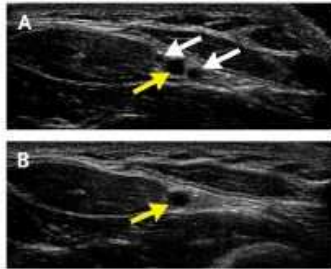


How To – The Sonographer's Point of View



How To – The Sonographer's Point of View

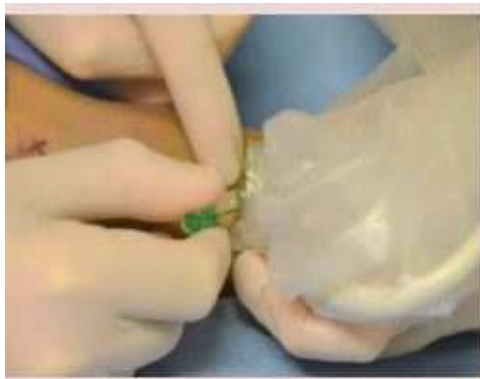
Locate & Utilize
Largest Vessel



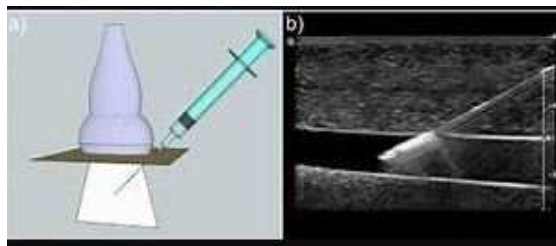
The Use of Compression to Differentiate
Artery from Vein.

*Yellow Arrow – Artery
*White Arrow - Veins

How To – The Sonographer's Point of View



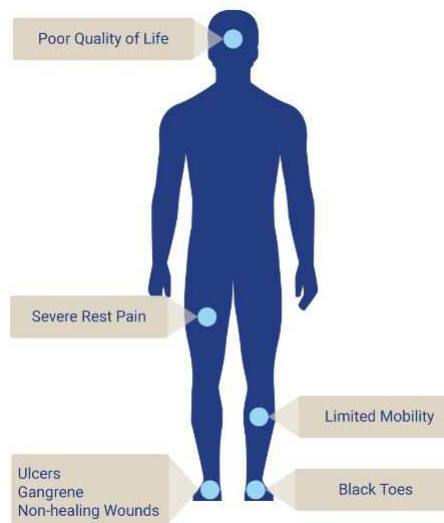
How To – The Sonographer's Point of View



27

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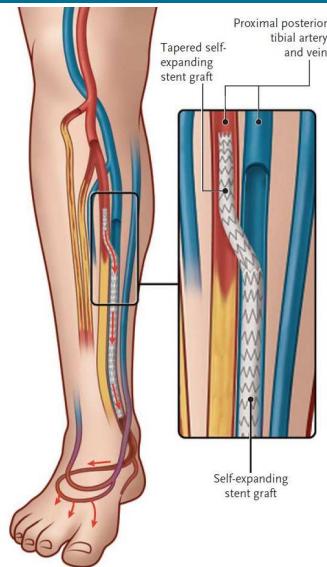
Research



28

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Research



29

Research



30

Research



Summary

- Overall Reduces Complications
 - Opening of Vessels
- Angle of Probe vs. Angle of Needle
 - Spasm of Vessels
 - Communication!!