

A 53 year old male came complaining of foot pain.

Q1. Take a focused history.

Q2. After taking a focused history, you suspected acute lower limb ischemia. Mention physical examination findings that would support your provisional diagnosis.

Q3. What are the cardinal signs of complete acute ischemia?

Q4. What signs on physical examination will you look at to rule out DVT?

Q5. What are the causes of acute limb ischemia?

Q6. What are the components of Rutherford classification for Acute Limb Ischemia (ALI)

Q7. What are the imaging modalities used in acute limb ischemia (ALI)

Q8. What imaging modality can distinguish the cause of ALI?

Q9. Assuming the patient was confirmed to have ALI, How will you manage this patient?

Q10. Indications for intra-arterial thrombolysis

Q1.

Analyze the leg pain.

Site —> Distal leg? Foot? Toe?.. ask if Unilateral/Bilateral.

Onset —> acute? (embolic) Subacute? (Thrombotic)

Character —> Severe, sharp, Agonizing (embolic) .. vague, progressive (thrombotic).

Radiation

Associated symptoms

- **Paraesthesia?**
- **Muscle weakness?** (paralysis)
- **Discoloration?** Pallor? Cyanosis?
- **Back pain?**
- **Trauma?**
- **Swelling?**
- **Redness?**

Timing: Constant? Progressive?

Exacerbating & relieving factors: increases with walking/elevation of limb?

Severity: 100/10.

Ask about risk factors:

- **History of stroke / Transient Ischemic Attack.**
- **History of Coronary Artery Disease.**
- **Diabetes**
- **Hypertension**
- **Atrial fibrillation**
- **Peripheral Artery Disease**
- **Hypercholesterolaemia**
- **Smoking**
- **Pre-existing peripheral vascular disease**
- **Abdominal aortic aneurysm or popliteal aneurysm**
- **Vasoactive drugs (Norepinephrine)**

Q2.

1. Pulselessness (could be in PAD)
2. Pallor (could be in PAD)
3. Poikilothermia (unreliable)
4. Paresthesias (unique)
5. Paralysis (unique)
6. Calf pain on squeezing (unique) —> indicates **muscle infarction & irreversible ischemia.**

Q3.

- Paralysis (can't move his toes/foot)
- Paresthesias (doesn't feel them)
- Muscle tenderness (calf)

Q4.

Swelling
Redness
Intact pulses

Q5.

- Acute thrombotic occlusion on top of a stenotic arterial segment (60%)
- Thromboembolic (30%)
- Trauma (blunt/penetrating)
- Iatrogenic (cath)

Q6.

- viable I
- Marginally threatened IIa
- Immediately threatened IIb
- Non-viable III

	Viable (I)*	Marginally threatened (IIa)*	Immediately threatened (IIb)*	Nonviable (III)*
Pain	Mild	Moderate	Severe	Variable
Capillary refill	Intact	Delayed	Delayed	Absent
Motor deficit	None	None	Partial	Complete, paralysis (rigor)
Sensory deficit	None	None or minimal (toes)	More than toes	Complete, anesthetic
Arterial Doppler	Audible	Inaudible	Inaudible	Inaudible
Venous Doppler	Audible	Audible	Audible	Inaudible
Treatment	Urgent evaluation	Urgent revascularization	Emergency revascularization	Amputation

Q7.

- Duplex U/S
- CT Angio
- CE-MRA
- DSA

Q8.

- **Conventional Arteriography**
 - emboli: sharp cutoff with reverse meniscus sign & no collaterals. Normal vessel
 - Thrombosis: tapered cutoff with well developed collaterals. Diffuse Atherosclerosis.

Q9.

- Cardiac evaluation: ECG/ECHO/troponin
- **IV fluids**
- **IV heparin** (prevents propagation of thrombus/emboli)
- Treatment depends on **tissue viability**
 - **within 6 hours...** CTA ⇒ embolectomy (local anesthesia) ⇒ operative angiography = post embolectomy to check for arterial patency
 - **Non-threatened limb** ⇒ angiogram ⇒ intra-arterial thrombolysis.
 - Intact sensation & movement
 - Calf tenderness is absent
 - **threatened limb** ⇒ fasciotomy ⇒ prevent compartment syndrome (diuretics and alkalization of Urine to prevent ATN)
 - loss of sensation /active movements
 - Pain on passive movement/ calf squeezing
 - 6 hrs
 - **non viable limb** ⇒ **amputation**
 - Fixed staining of tissue
 - Lack of blanching on pressure
 - Anesthesia with rigid muscles - rigor mortis
 - Apparent clear line of demarcation

Q10.

1. Acute Thrombotic arterial occlusion (not embolic)
2. Clot in Thrombosed bypass grafts