

# LIMB RESCUE IN MAJOR TRAUMA

**KARIM BROHI, FRCS FRCA**

Professor of Trauma Sciences, Queen Mary University London  
Consultant Trauma & Vascular Surgeon, Barts Health  
Clinical Director, London Major Trauma System

**UK: ~600 traumatic amputations/yr**



**TIME CRITICAL**

**Diagnosis**

**Disposition**

**Decisions**

**Surgery**



Acc:

Acq:



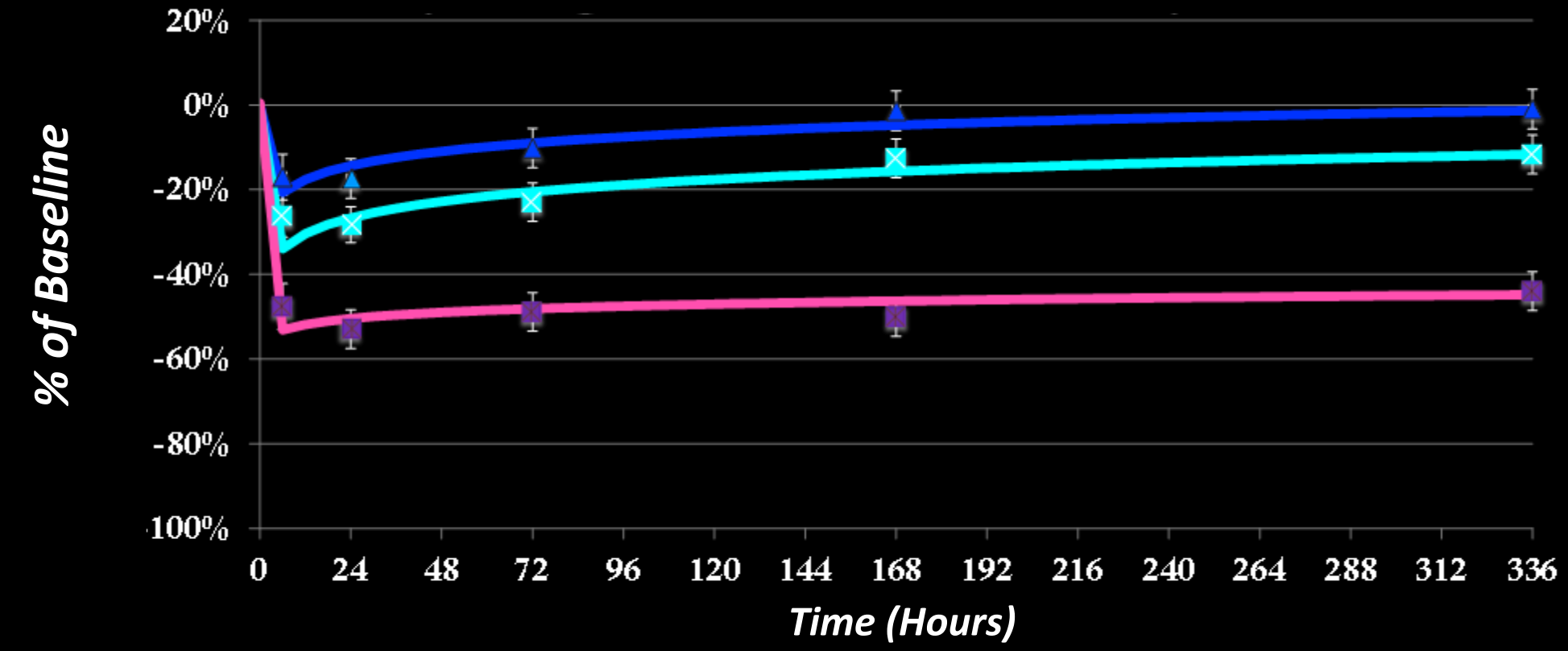
**6 hours**

???

**6 hours**

???

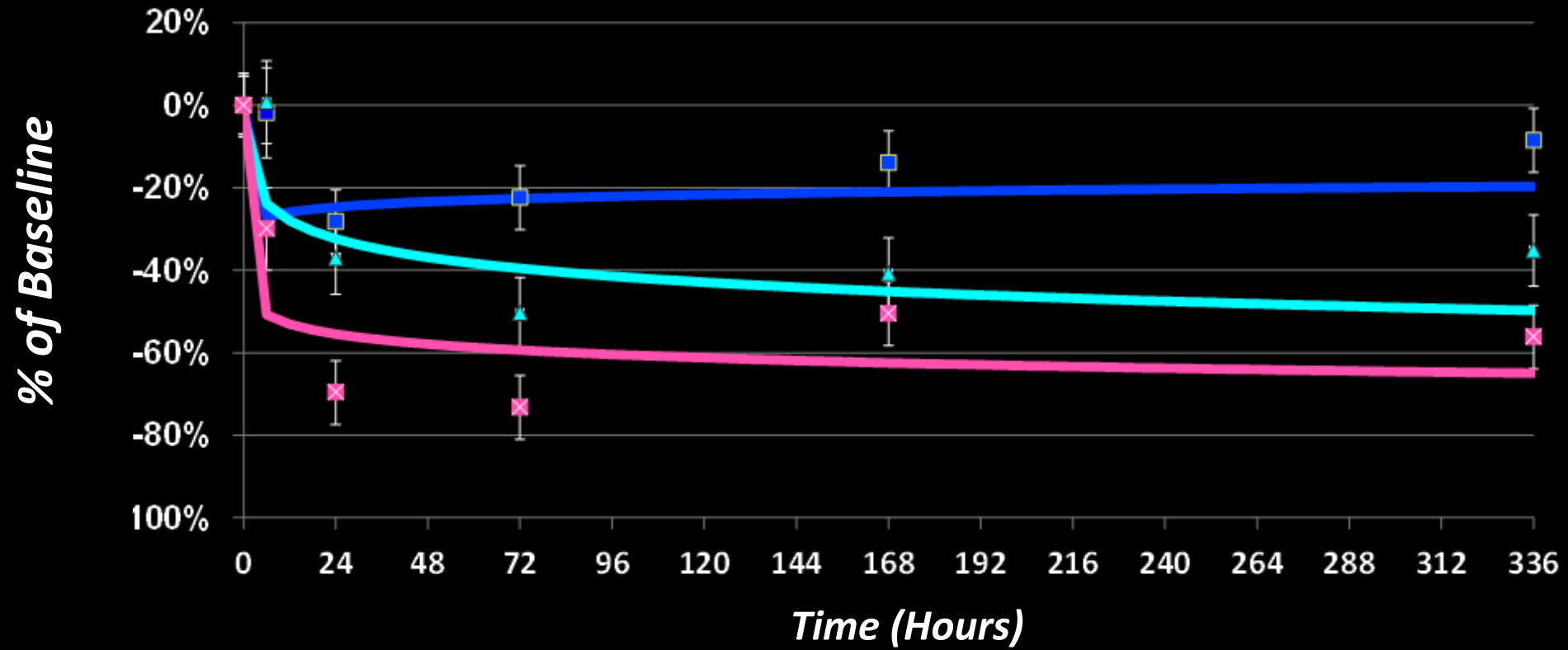
# Physiologic Measure of Recovery (PMR)



**ISCHAEMIA TIME:**      **1 Hour**                      **3 Hours**                      **6 Hours**



## Physiologic Measure of Recovery (PMR)



**ISCHAEMIA TIME:**

**1 Hour**

**3 Hours**

**6 Hours**

**YOU HAVE <3 HOURS**

**YOU HAVE <3 HOURS**

***THIS IS THE WAY***

**TIME CRITICAL**  
**Diagnosis**





**HARD SIGN:**  
**ABSENT PALPABLE PULSE**

**YOU MUST RULE OUT**





**CTA**

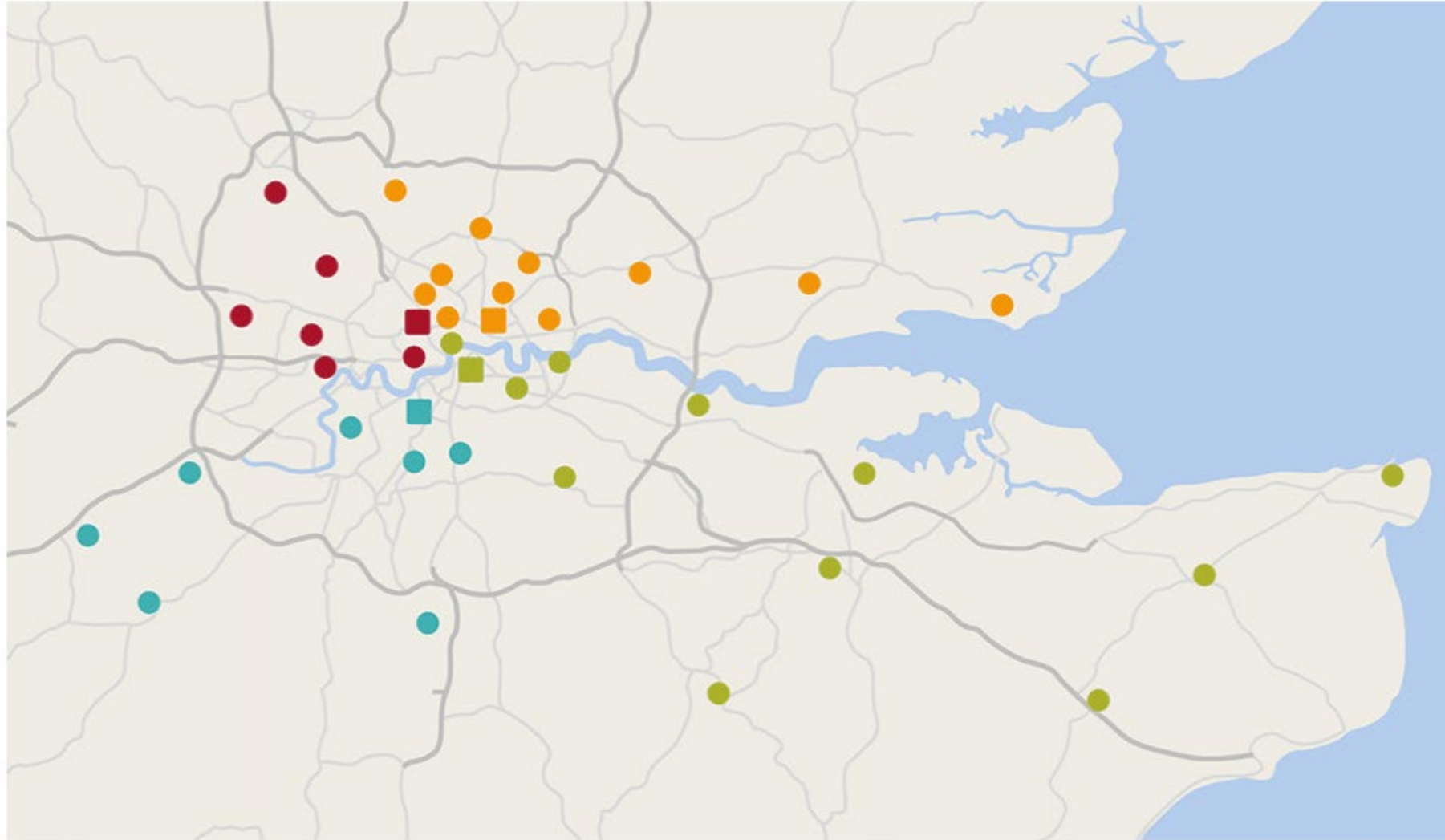


**YOU MUST RULE OUT  
& CTA**

***THIS IS THE WAY***

**TIME CRITICAL**  
**Disposition**

# THE LONDON MAJOR TRAUMA SYSTEM

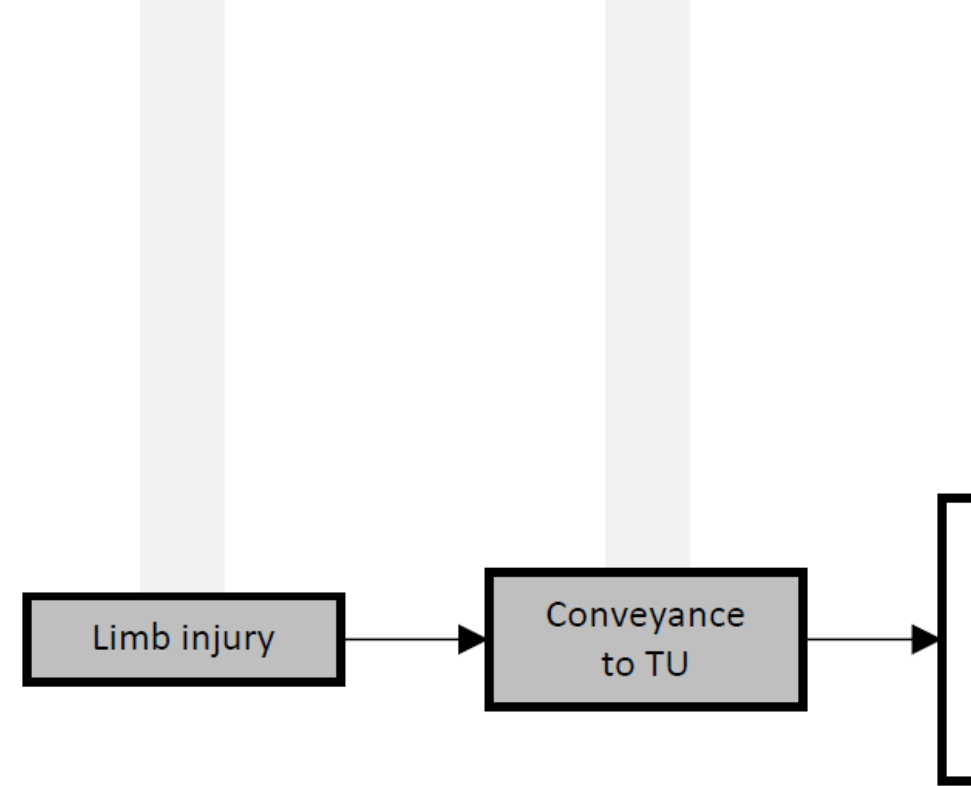


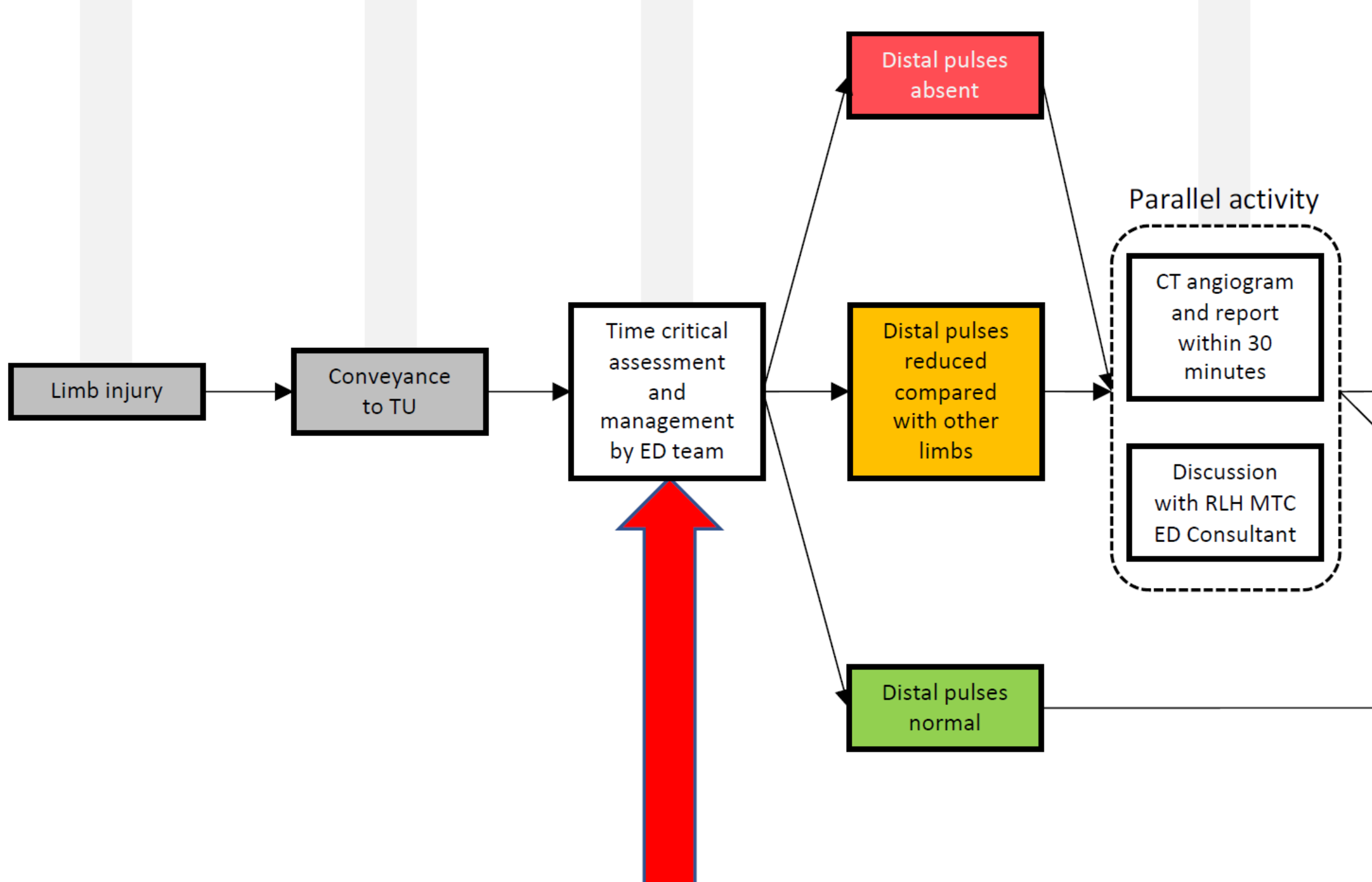
- North East London and Essex Trauma Network
- South East London, Kent, and Medway Network
- South West London and Surrey Trauma Network
- North West London Trauma Network
- MTC (Major Trauma Centre)
- Trauma Unit

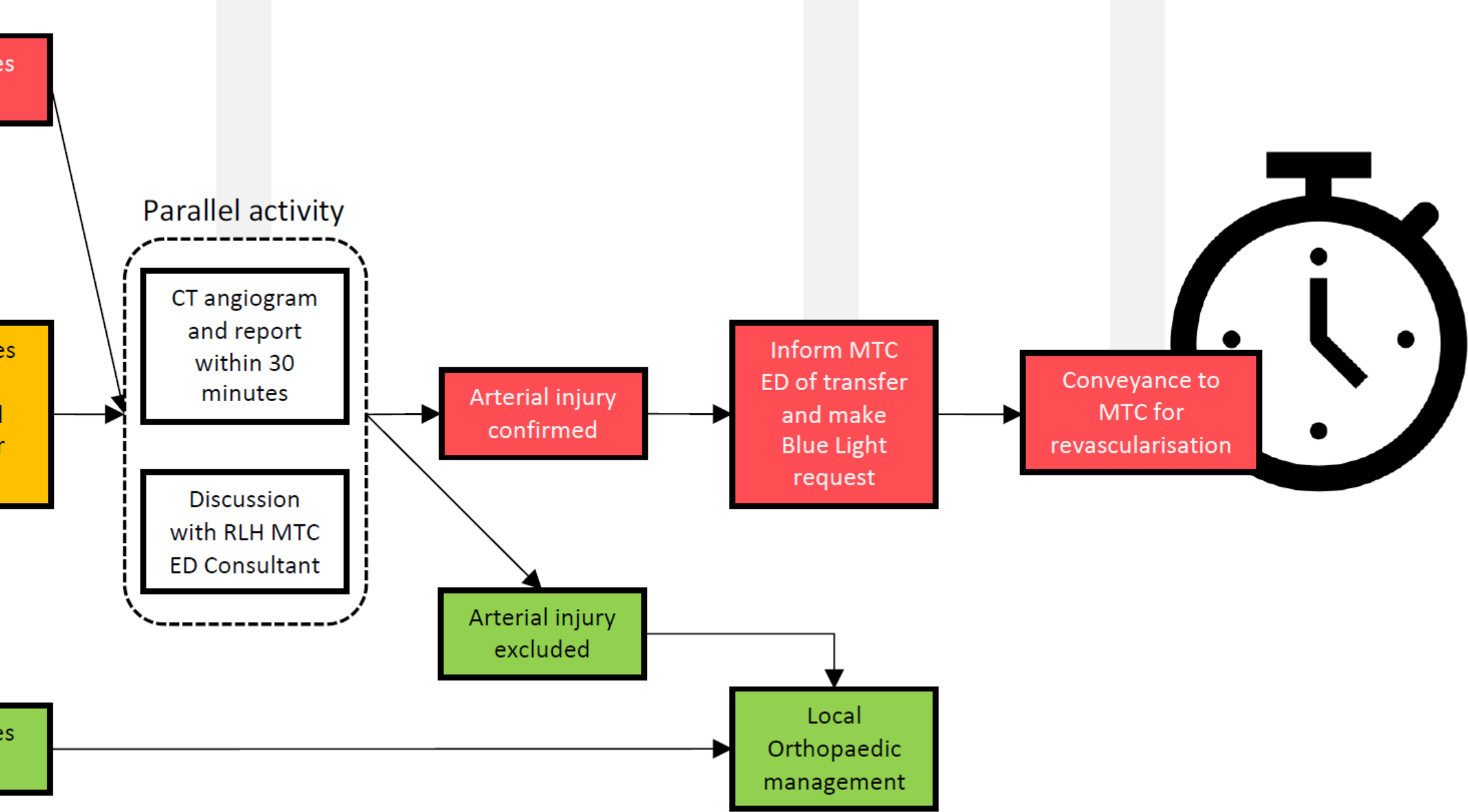
***LONDON MAJOR TRAUMA SYSTEM***

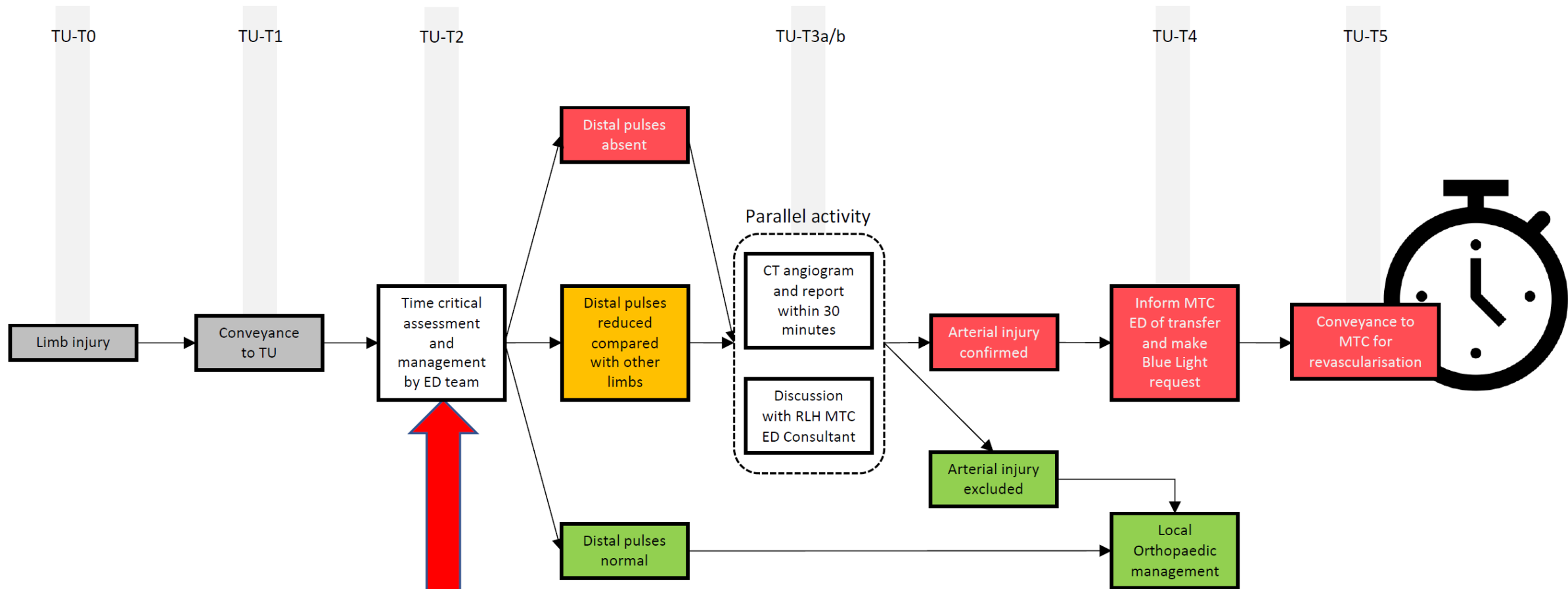
***THINK ISCHAEMIA - THINK TIME***

***TRAUMA UNIT PATHWAY***



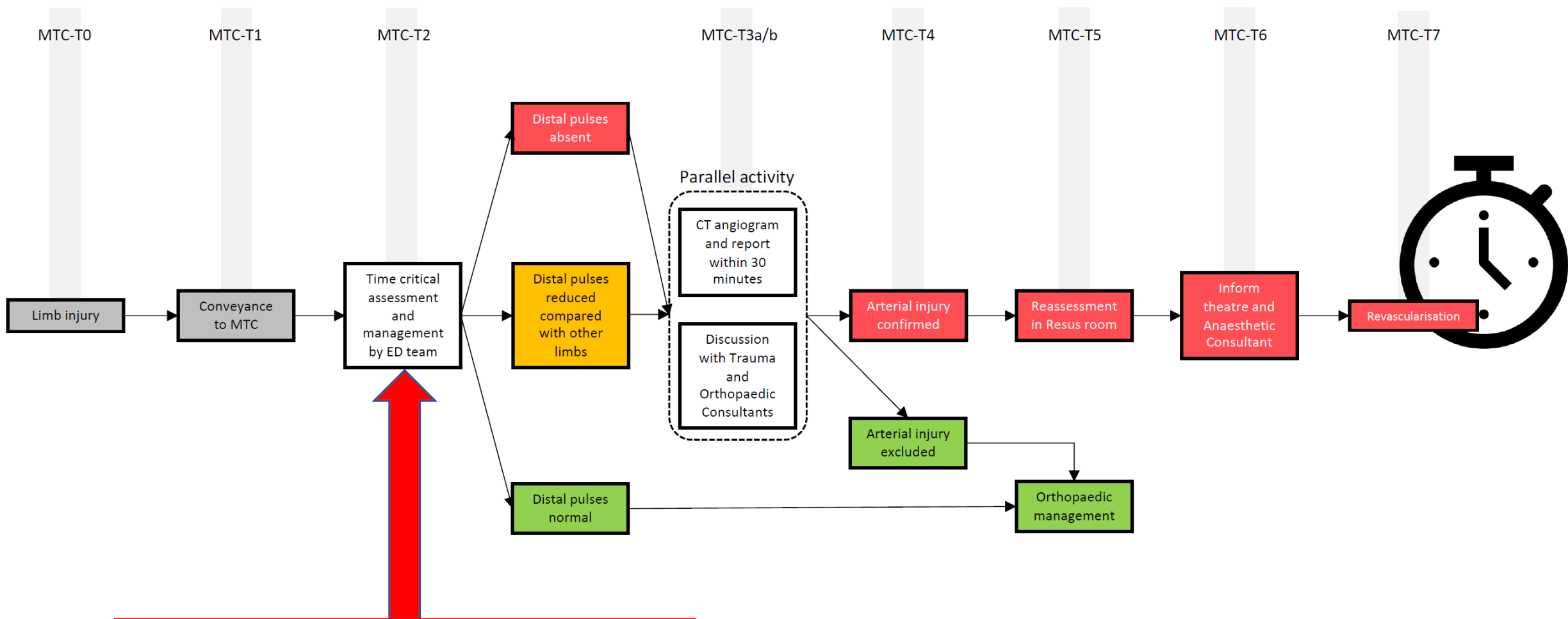






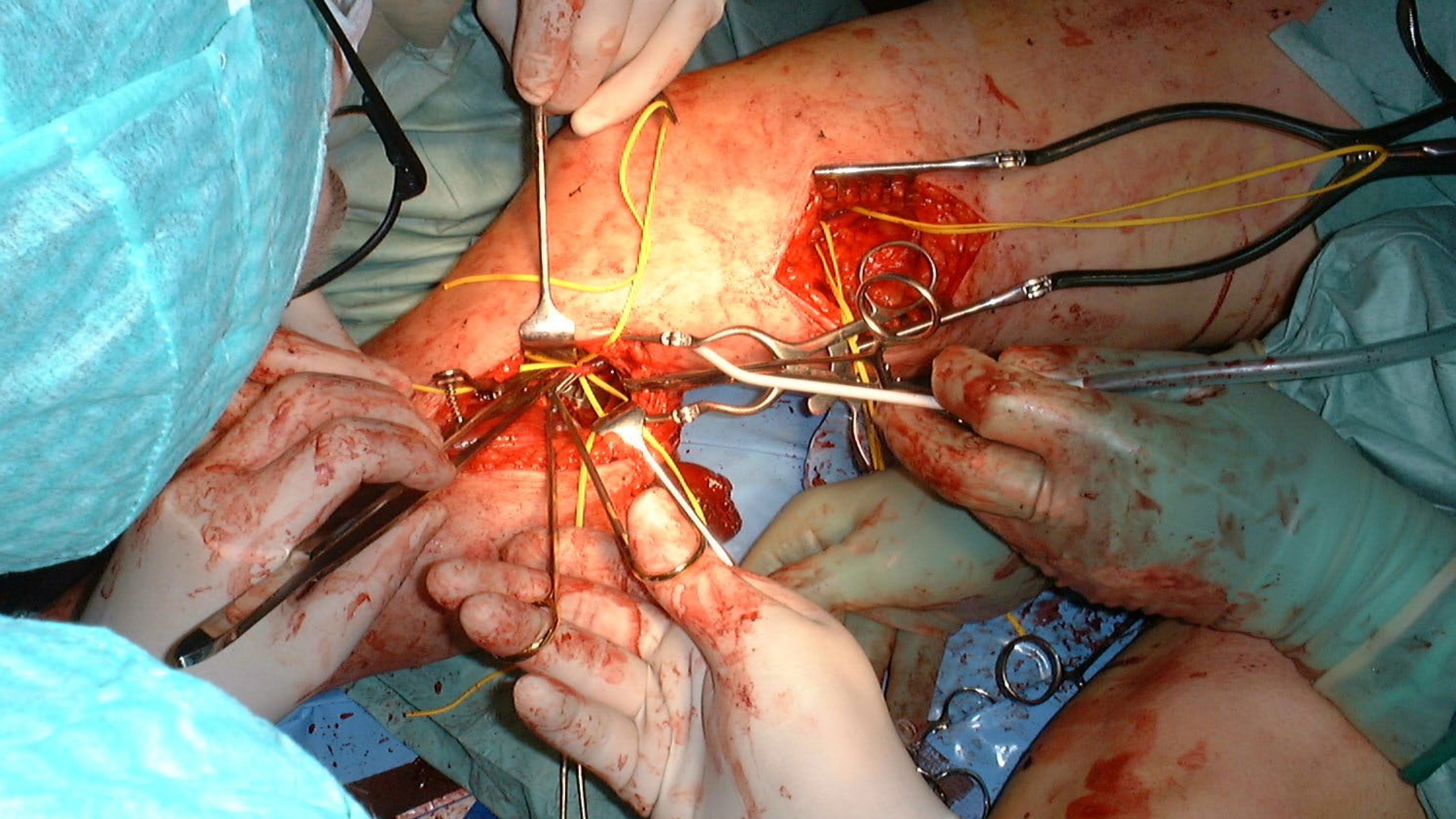
*Think Ischaemia* targeted arterial assessment after a single attempt at reduction of any anatomical deformity



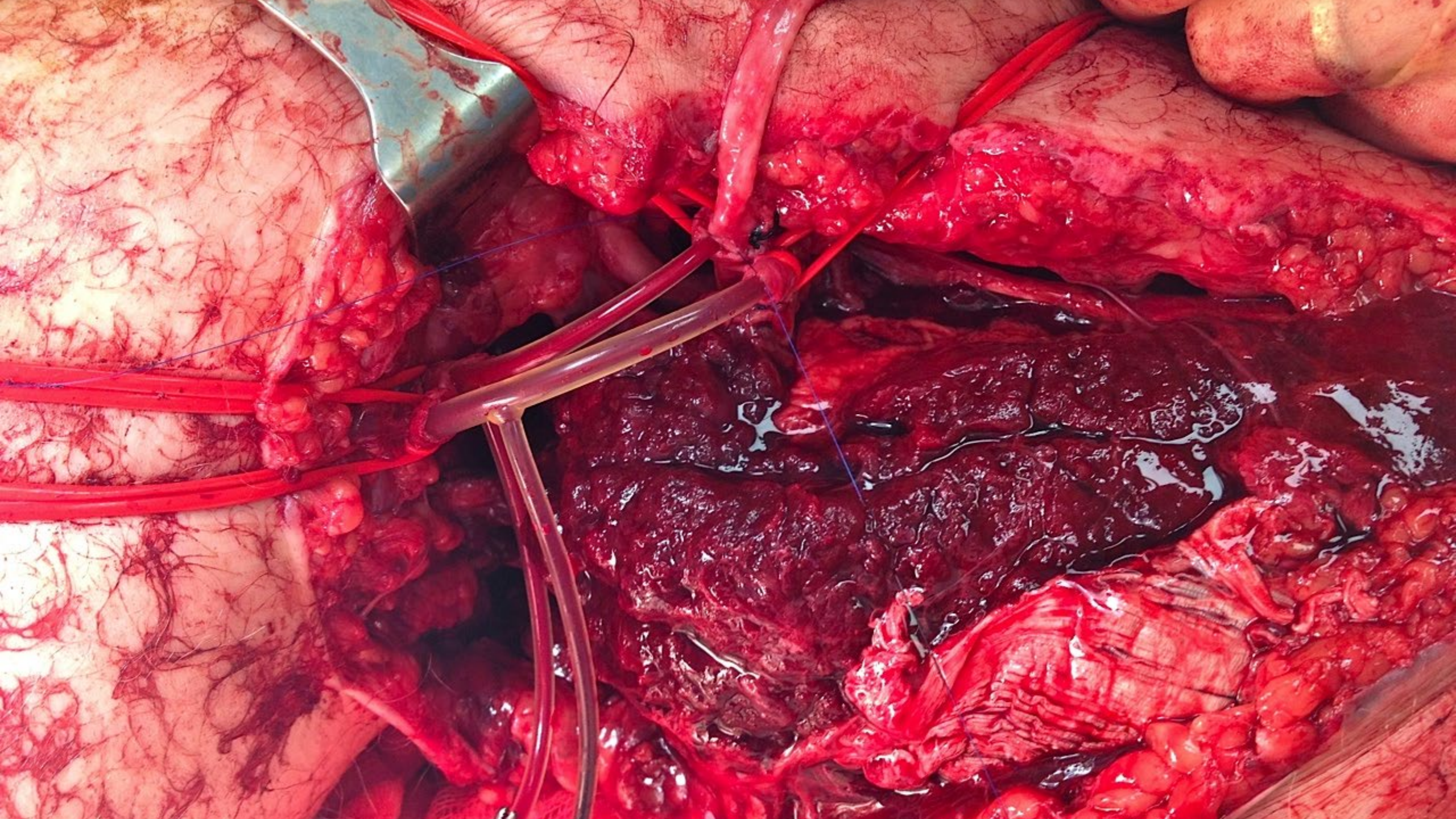


*Think Ischaemia* targeted arterial assessment after a single attempt at reduction of any anatomical deformity

**TIME CRITICAL**  
**Revascularisation**









**ARTERY FIRST. ALWAYS.**

**ARTERY FIRST. ALWAYS.**

***THIS IS THE WAY***



# **TIME CRITICAL**

## **Decisions**

**Can the limb be saved?**  
**Should the limb be saved?**



***PALE PULSELESS\* LIMB & KNOWN SITE OF INJURY: OPERATION***

***PULSELESS\* / REDUCED\*\* / NOT SURE: CT ANGIOGRAM***

***\*PULSELESS: not PALPABLE***

***\*\*REDUCED PULSE: Compared to the other limb***

# LONDON MAJOR TRAUMA SYSTEM GUIDANCE

## EXTREMITY INJURY WITH POTENTIAL ARTERIAL COMPROMISE

Suspect arterial injury in all limb injuries and especially in fractures or dislocations around the knee.

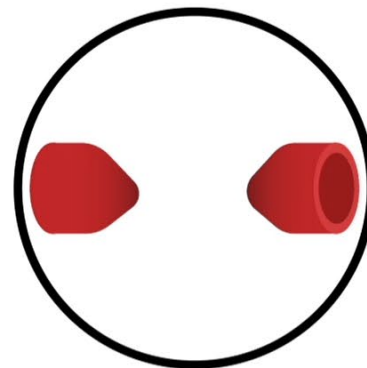
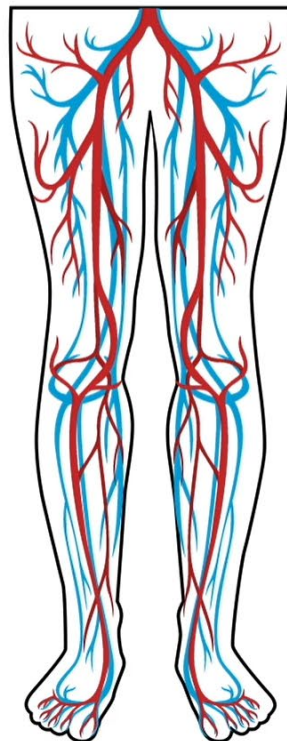
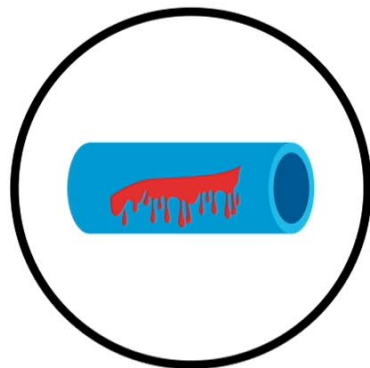
If an easily **PALPABLE** pulse is not present an arterial injury should be assumed to be present ***until ruled out***.

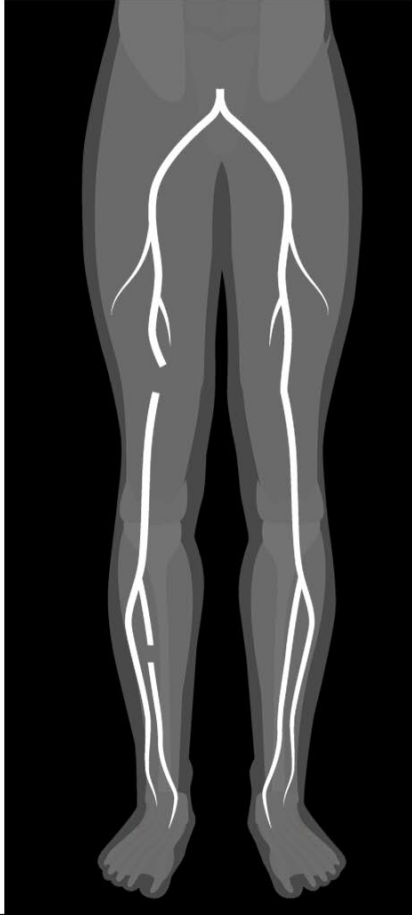
The only definitive rule out is a CT Angiogram.

If arterial injury is suspected a CT Angiogram should be performed and a provisional report produced within 30 minutes

If a CT Angiogram cannot be performed within this timeframe the patient should be discussed with the Major Trauma Centre for immediate transfer.

# Vascular injuries





02:43



**< 3 HOURS**

**NO PALPABLE PULSE?**

**CTA**

**ARTERY FIRST. ALWAYS.**



**< 3 HOURS**

**NO PALPABLE PULSE?**

**CTA**

**ARTERY FIRST. ALWAYS.**

***THIS IS THE WAY***

