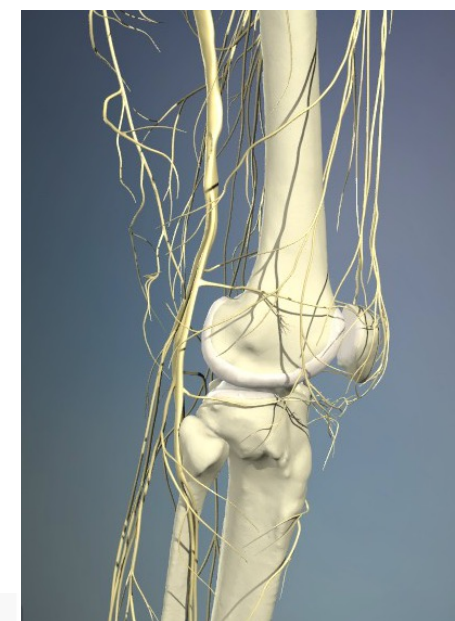
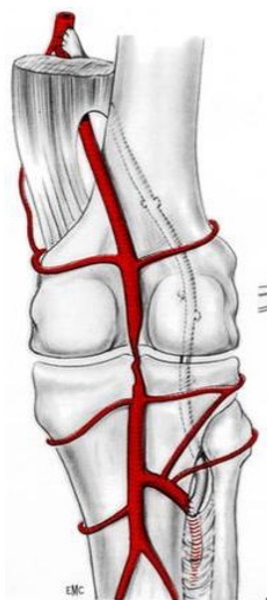


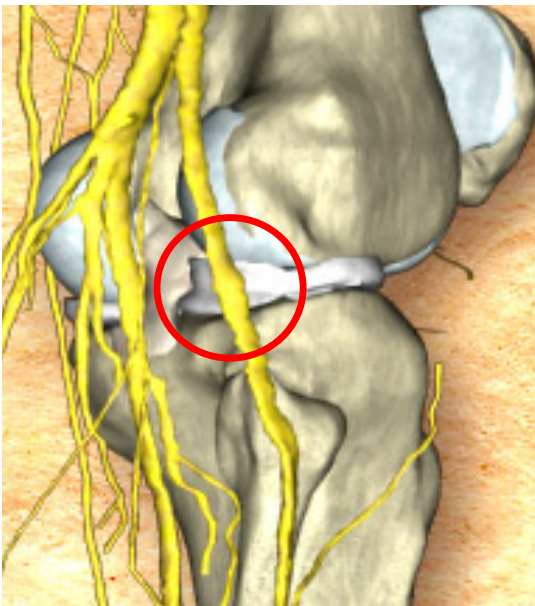
HOT TOPIC: HOW TO MANAGE NERVE OR VASCULAR OPERATIVE COMPLICATION

F-X GUNEPIN



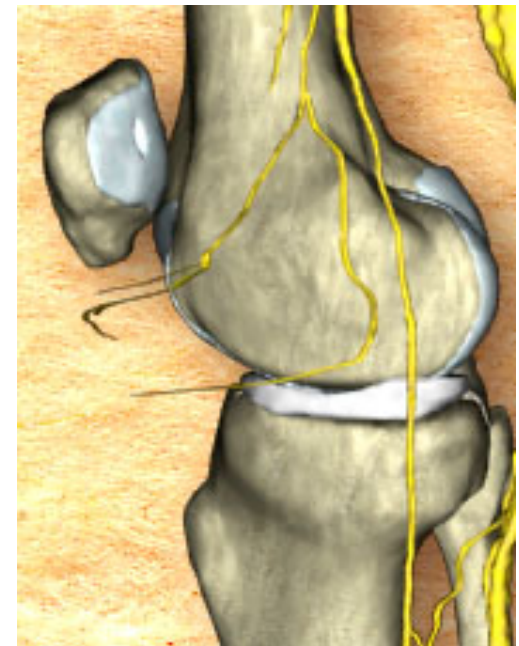
NERVES DAMAGE

Common peronea nerve
and
Posterior segment of the lateral meniscus



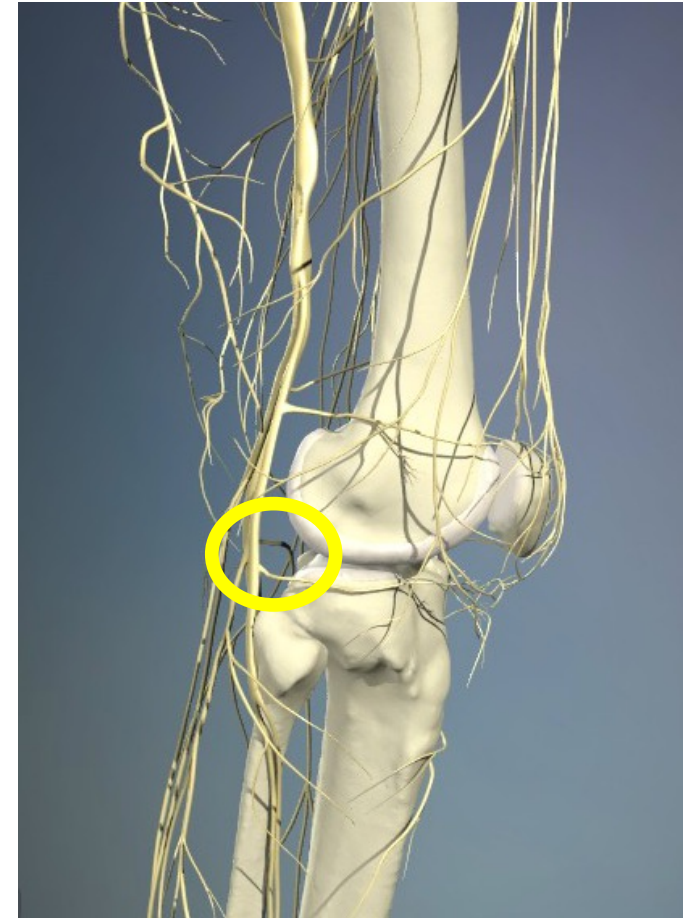
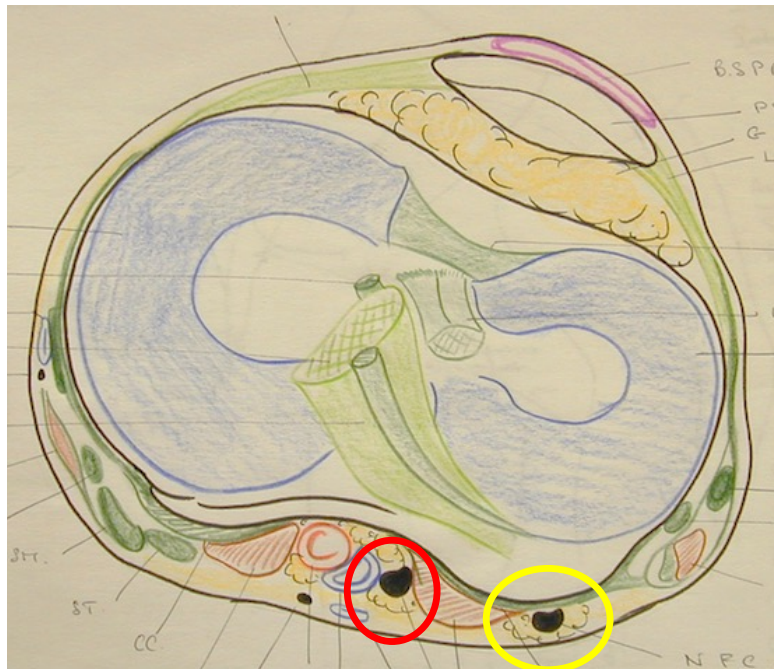
Anterior approach fot arthroscopy
And
Menisci repair

Saphenous nerve medial
and
Postero medial approach



➔ KNEE ANATOMY

- understanding of the anatomy about the knee is critical to avoid iatrogenic neurovascular Injury:
- Lateral repair
 - **peroneal nerve**
- Posterior root of the lateral meniscus, PCL reconstruction
 - **tibial nerve**



F. W Gwathmey, R Golish, D R. Diduch Clin: Complications in Brief. Meniscus Repair. Orthop Relat Res (2012) 470:2059–2066

PERONEAL NERVE PARALYSIS (DROP FOOT)



Courtesy P Boisrenoult

The most effective way to manage a common peroneal nerve injury with arthroscopic is surgical exploration and neurolysis

Arthroscopy: The Journal of Arthroscopic and Related Surgery 5(2):141-147
Published by Raven Press, Ltd. © 1989 Arthroscopy Association of North America

Peroneal Nerve Dysfunction as a Complication of Lateral Meniscus Repair: A Case Report and Anatomic Dissection

Kenneth A. Jurist, M.D., Perry W. Greene, III, M.D., and Ali Shirkhoda, M.D.

release and neurolysis even late (7 months)

Arthroscopy: The Journal of Arthroscopic and Related Surgery 5(2):141-147
Published by Raven Press, Ltd. © 1989 Arthroscopy Association of North America

Peroneal Nerve Dysfunction as a Complication of Lateral Meniscus Repair: A Case Report and Anatomic Dissection

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HISTORICAL SURGERY

[J Orthop Surg Res.](#) 2014; 9: 67.

PMCID: PMC4237890

Published online 2014 Aug 6. doi: [10.1186/s13018-014-0067-6](#)

PMID: [25099247](#)

Treatment of peroneal nerve injuries with simultaneous tendon transfer and nerve exploration

[Bryant Ho](#),¹ [Zubair Khan](#),² [Paul J Switaj](#),¹ [George Ochenjele](#),¹ [Daniel Fuchs](#),¹ [William Dahl](#),² [Paul Cederna](#),³
[Theodore A Kung](#),³ and [Anish R Kadakia](#)^{✉1}



Posterior tibial tendon transfer

NEW STRATEGIE

> [J Clin Neurosci.](#) 2020 Aug;78:159-163. doi: [10.1016/j.jocn.2020.04.086](#). Epub 2020 Apr 24.

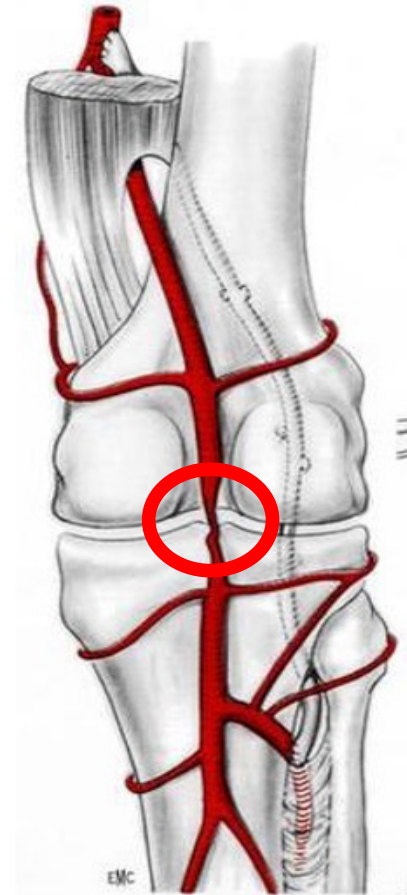
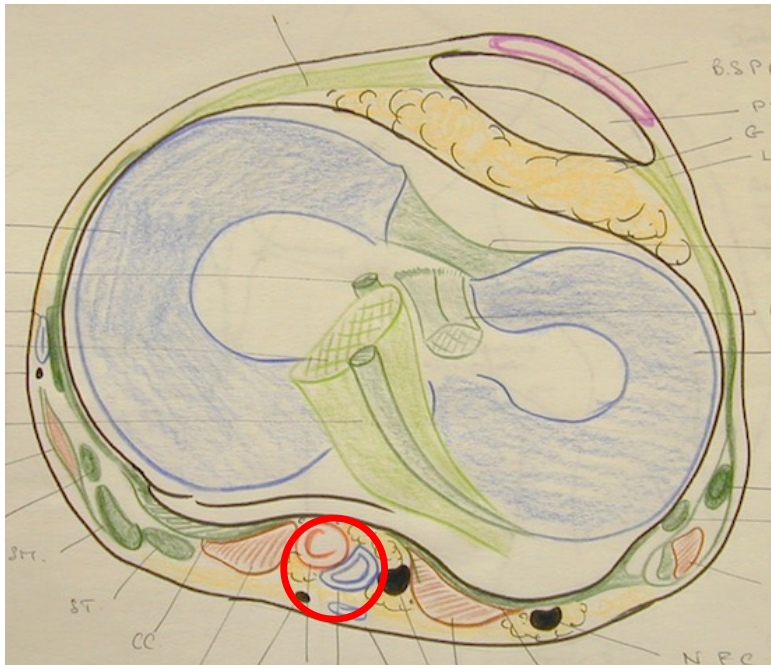
Soleus nerve transfer to deep peroneal nerve for treatment of foot drop

[Mohammadreza Emamhadi](#)¹, [Amin Naseri](#)², [Iraj Aghaei](#)³, [Morteza Ashrafi](#)²,
[Roxana Emamhadi](#)⁴, [Sasan Andalib](#)⁵



➔ KNEE ANATOMY

- understanding of the anatomy about the knee is critical to avoid iatrogenic neurovascular Injury:
- Posterior root of the lateral meniscus, PCL reconstruction
 - **popliteal vessels**



DELEE J.C. — Complications of arthroscopy and arthroscopic surgery : results of a national survey. *Arthroscopy* , 1985, 1 , 214-220

DELEE J.C. —
Complications of
arthroscopy and
arthroscopic
surgery : results
of a national
survey. *Arthroscopy*, 1985, 1, 214-
220

120 000 arthroscopy 930
complications

9 vascular

6 popliteal artery

4 amputations

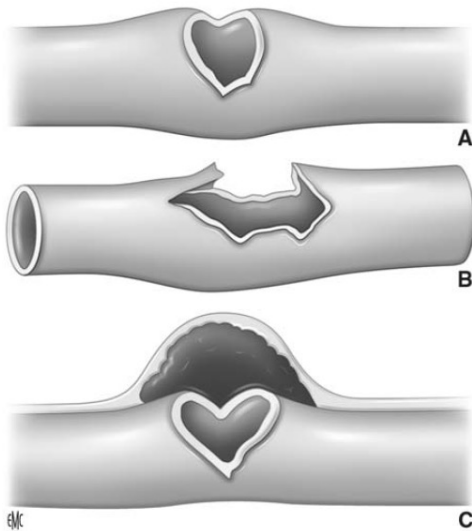


Figure 1.
A. Plaie artérielle latérale nette.
B. Plaie latérale irrégulière à bords contus.
C. Plaie latérale associée à un faux anévrisme.

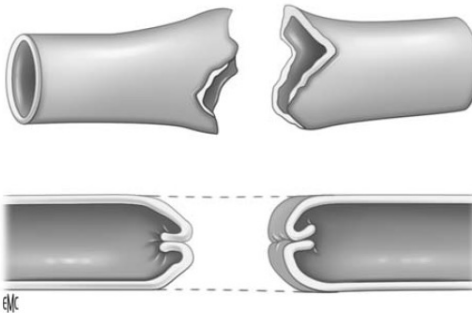


Figure 2. Rupture artérielle complète à bords contus et rupture artérielle « sèche » par rétraction des berges.

THE DIFFERENT TYPES OF VASCULAR LESIONS FOR POPLITEAL ARTERY...

EMC

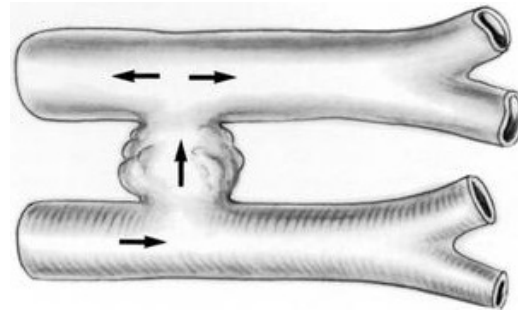
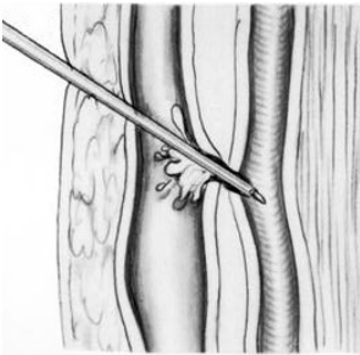
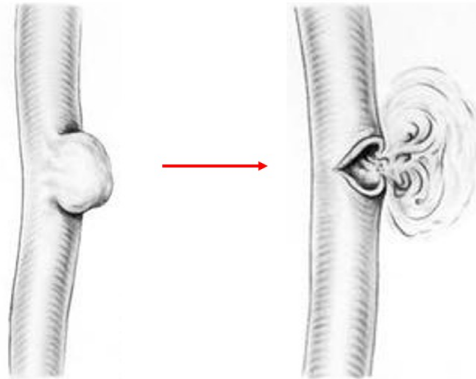
14-031-D-10

Complications vasculaires en orthopédie et traumatologie

A. Bahnini, E. Kieffer

AND THE DIFFERENT TYPES OF CLINICAL PRESENTATIONS

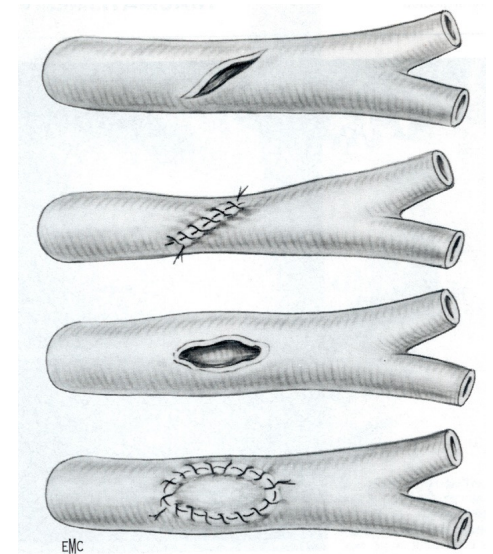
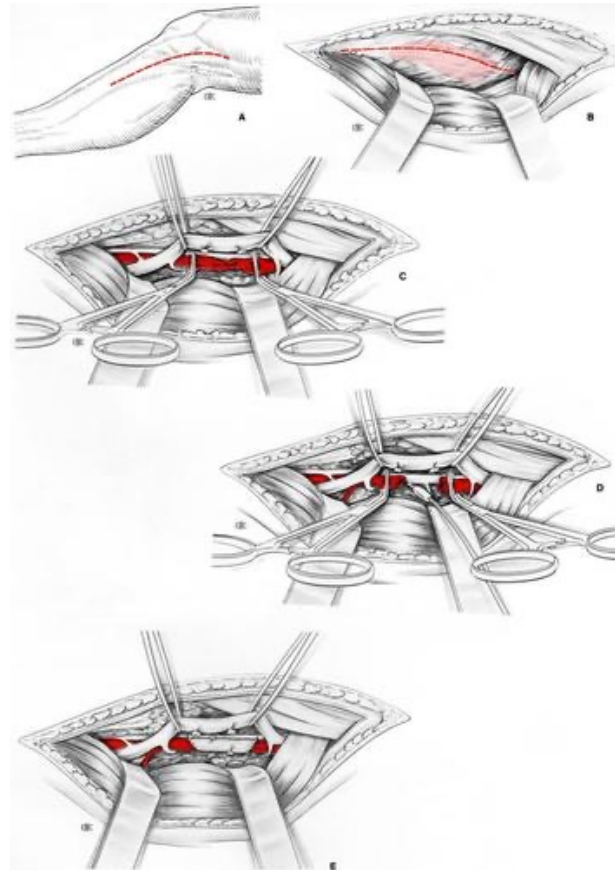
- Ischemia
 - Acute
 - Subacute
- Hematoma
- Massive bleeding
- False anevrysm

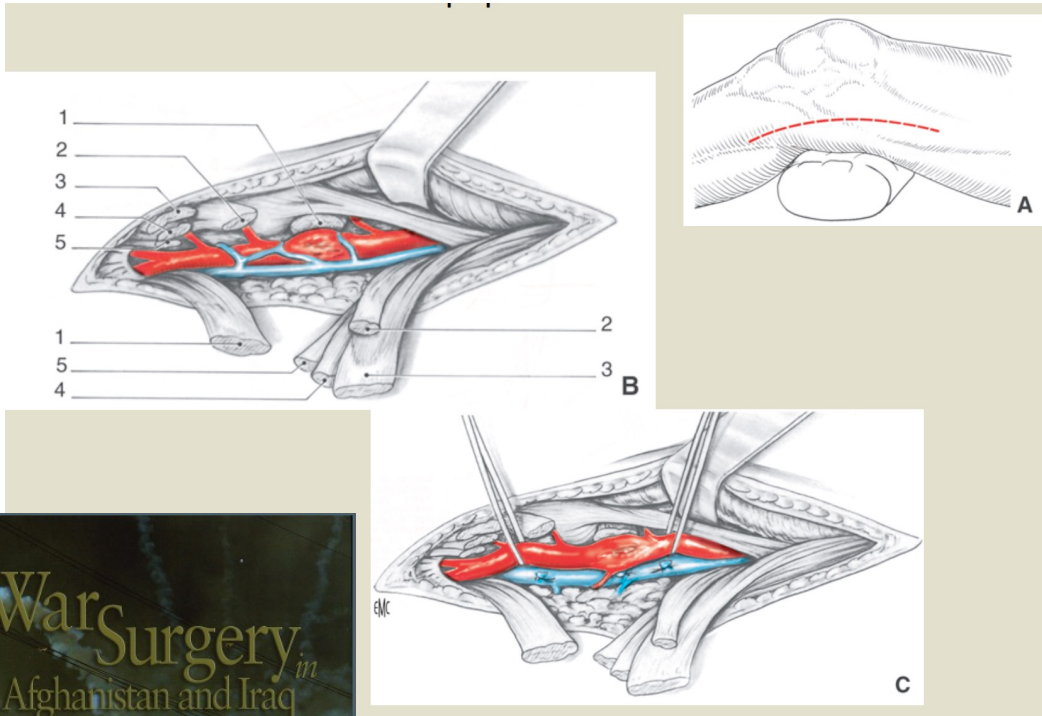


Diagnosis delayed due to tourniquet

MASSIVE BLEEDING

- Use a surgical tourniquet = ischemia
 - ➔ 6 hours rules
- Emergency vascular surgeon opinion
 - ➔ Exploration
 - ➔ Repair

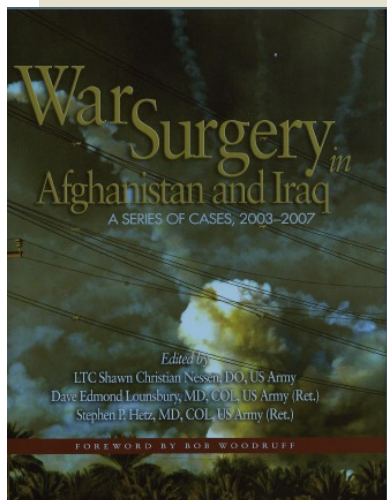




advanced course of surgery in foreign mission

- French Military Course:
 - Orthopaedics surgeons learn vascular approach and repair
 - Vascular surgeons learn to use an external fixator

➔ advanced course of surgery in foreign mission the US version



SHUNT OR VASCULAR REPAIR

Salvage shunt

Shunt temporaire

Utilisation à connaître pour chirurgien militaire

Première intubation artérielle en 1914 par tube en verre.

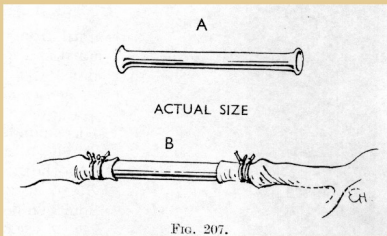
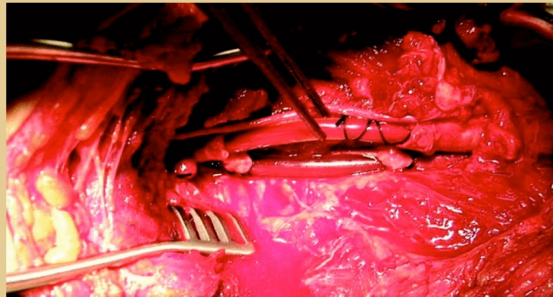
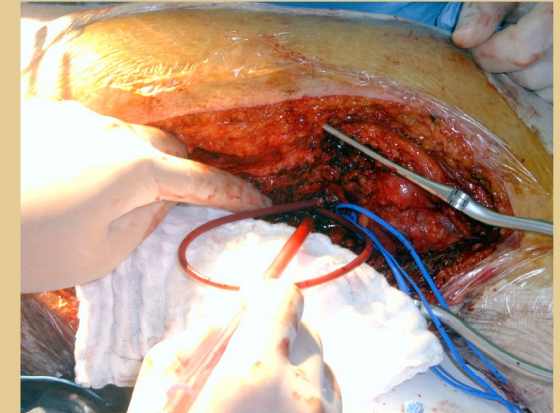
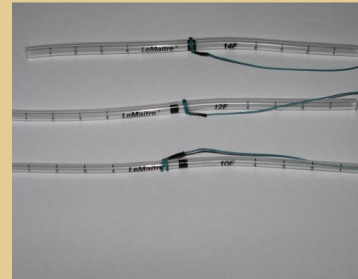
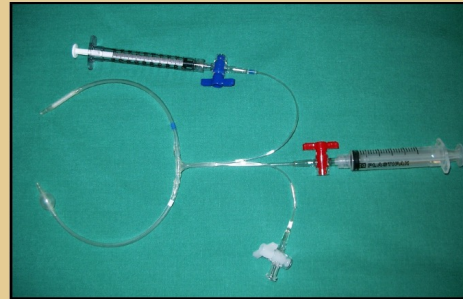


FIG. 207.



Vascular shunt



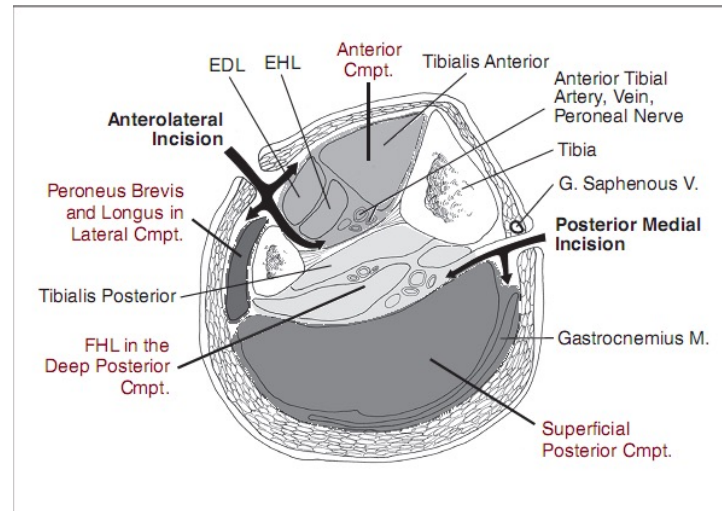
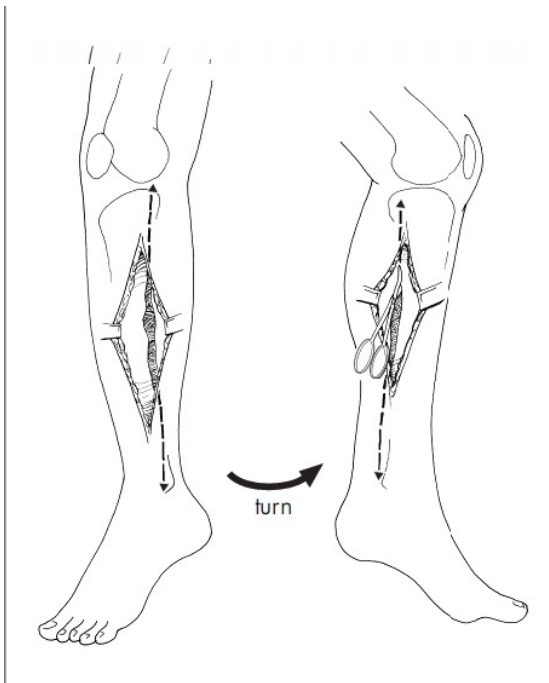
The Journal of TRAUMA® Injury, Infection, and Critical Care

The Use of Temporary Vascular Shunts as a Damage Control Adjunct in the Management of Wartime Vascular Injury

Todd E. Rasmussen, MD, LtCol, USAF MC, W. Darrin Clouse, MD, LtCol, USAF MC,
Donald H. Jenkins, MD, LtCol, USAF MC, Michael A. Peck, MD, Maj USAF MC,
Jonathan L. Eliason, MD, Maj USAF, and David L. Smith, MD, LtCol, USAF MC

AFTER 6 HOURS

DON'T FORGET FASCIOTOMY



OTHER SITUATION : ISCHEMIA

- **Acute:**

- **4P** Griffith
- Pallor
- Pain
- no pulse

- **Subacute:**

- cold member
- Moderate pain
- Partial neurological deficit

Of course manual pulse monitoring

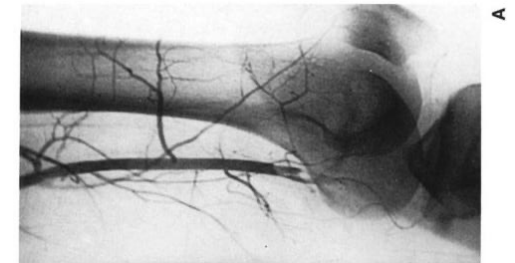
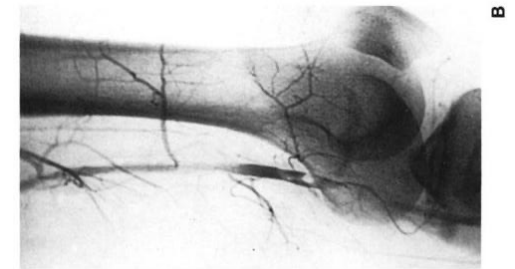
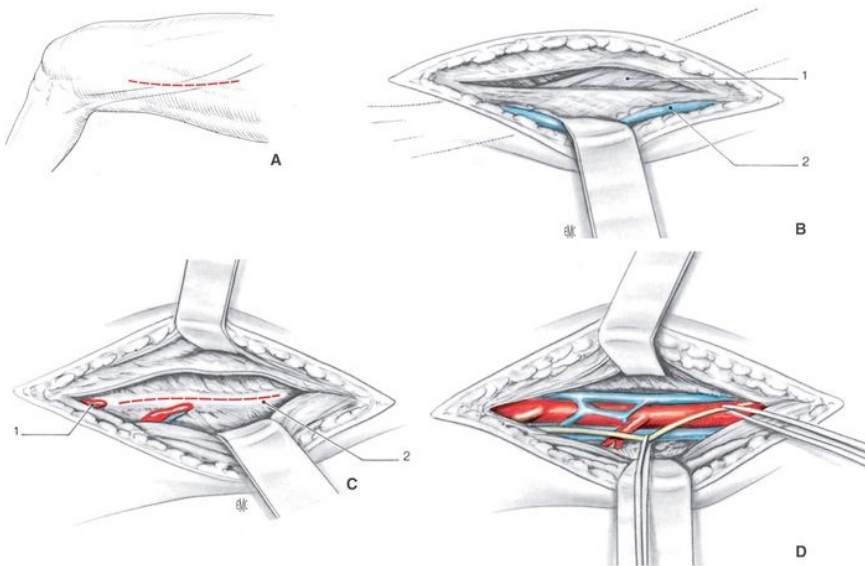
Available in the operating room

- Digital satsurometer (comparative)
- Doppler



ACUTE

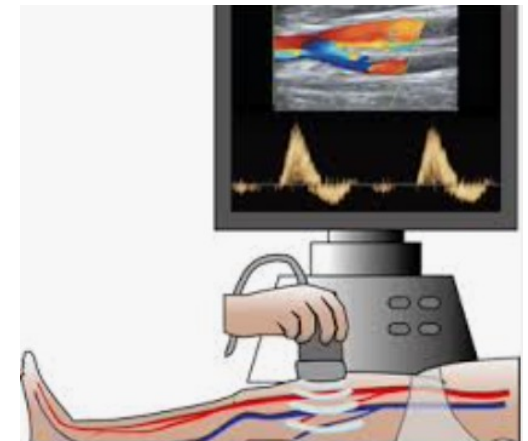
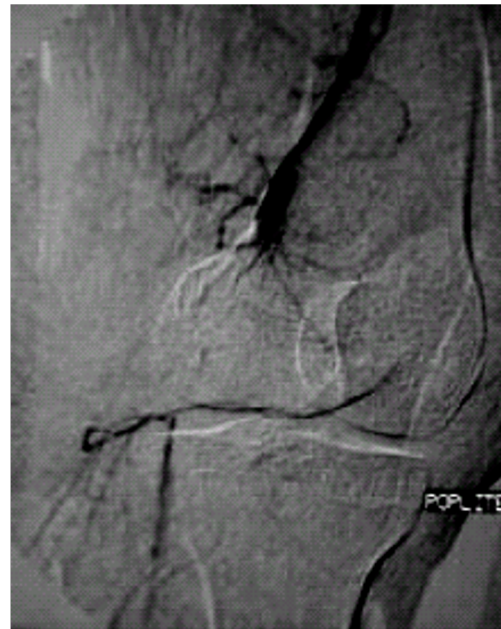
- Keep the patient in the theater
- Emergency vascular advice
- On-table arteriography
 - Scarpa approach
 - X Ray



➔ Then surgery

SUBACUTE

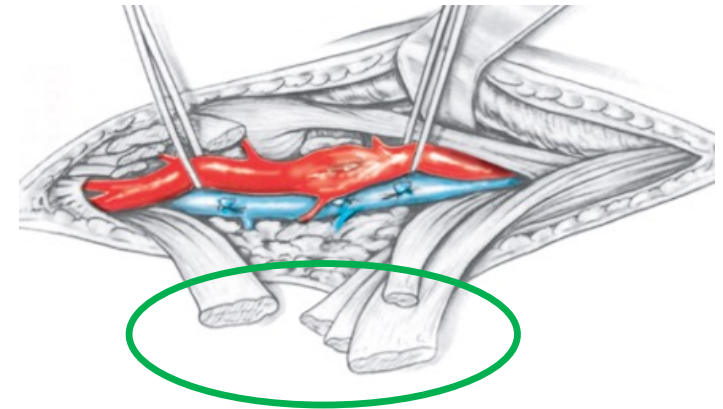
- Vascular advice
- Ask for investigations
 - ➔Angio CT
 - ➔Arterial doppler
 - ➔Arteriography



Take home message

Rare but serious

- For Nerve → early exploration
- For the artery: emergency vascular advice
 - Hemorrhage
 - tourniquet and delay of 6 hours
 - Acute ischemia
 - make the diagnosis in the operating theater
 - Subacute ischemia
 - additional examination



and please go to the operating theater:

- help the vascular surgeon
- save the hamstrings