

# KNEE DISLOCATION AND SEVERE OBESITY: CASE DISCUSSION

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# Clinical Case

- 19Y
- Man
  
- BMI 45
  
- Fall from stairs
  
- Knee dislocation



# Clinical Case

- Closed reduction / general anesthesia.
- Vascular injury?
- Need to assess?
- How to assess?



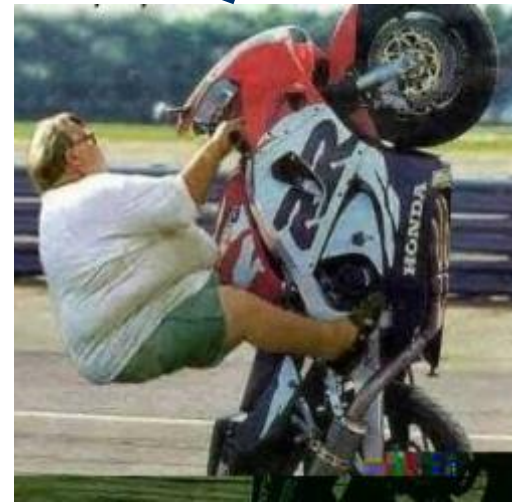
# Question 1

- Assessment vascular injury (?)
  - No need
  - Doppler
  - MR Angiogram
  - CT Angiogram
  - Angiogram



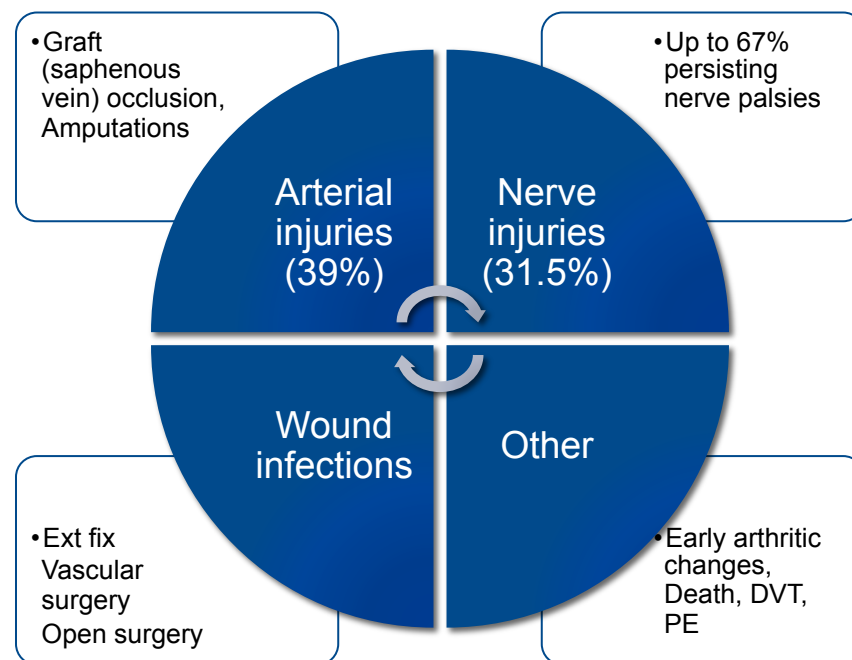
# Mechanism

- Ultra low velocity
  - Simple slip & fall !
  - Simple walk !
- 
- Different lesions from classic high-energy injuries



# Associated injuries/ Complications

- Vascular injuries
- Neurologic injuries
- Extensor mechanism
- Meniscus injuries
- Cartilage injuries
- Often mono trauma
- Rarely open dislocations++



# Vascular injury

- Difficult to diagnose, high incidence +++
- Additional vascular imaging is needed preoperatively
- (MR/CT/angiogram)++



Journal of Vascular Medicine & Surgery

Veger, et al., J Vasc Med Surg 2015, 3:3  
<http://dx.doi.org/10.4172/2329-6925.1000200>

Case Report

Open Access

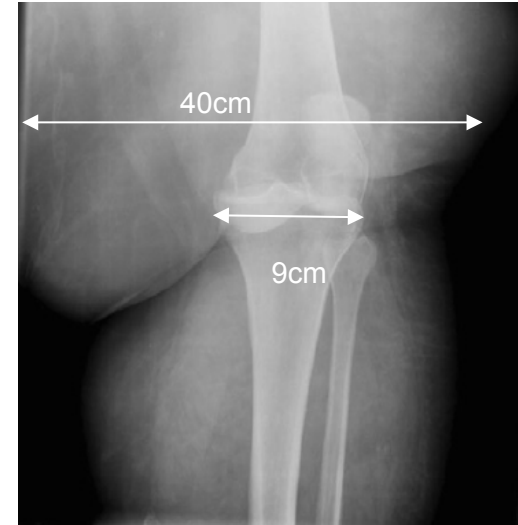
Popliteal Artery Injury after Low-Energy Knee Dislocation in the Obese

Veger HTC, Borger van de Burg B, Vleser MJT and Joosten Hedeman



# Treatment options (After closed reduction)?

- Testing
- Pb = skin
- Brace
- Surgical approach, even under arthroscopy
- Knee flexion
- Tourniquet...





# Your treatment?

## Question 2

- Closed reduction: Cast
- Percutaneous pinning
- Ext fix
- Arthroscopy: ligt reconstruction
- Open: ligt reconstruction
  
- +/- secondary Ext fix



# Literature Results

## Low-Velocity Knee Dislocations in Obese and Morbidly Obese Patients





Rahul Vaidya,<sup>\*†</sup> MD, Matthew Roth,<sup>‡</sup> BSc, Dhiren Nanavati,<sup>§</sup> MD, Matthew Prince,<sup>†</sup> DO, and Anil Sethi,<sup>†</sup> MD

The Orthopaedic Journal of Sports Medicine, 3(4), 2325967115575719

DOI: 10.1177/2325967115575719

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- N=19




n	Treatment	Mobility (mean)	Stability	
5	Cast	50	No	
5	External fixator	40	No	
9	Open Lig Reconstruction and Ext fix	90	Yes	 + 

# Literature Results

## Ultra-Low-Velocity Knee Dislocations

Frederick M. Azar, Jason C. Brandt, Robert H. Miller III and Barry B. Phillips  
*Am J Sports Med* 2011 39: 2170 originally published online July 14, 2011  
DOI: 10.1177/0363546511414855

- N=11

n	Treatment	Lysholm (mean)	
2	Cast/brace	60	
3	Percutaneous cross pinning	22	
6	Open Ligament Reconstruction	77	



# Results

- Our series: arthroscopic treatment n=39
  - 1 patient BMI >40
  - 5 >35
  - 41 months
  - IKDC 66
  - Lysholm 74
- 
- Our poorest results, but better than orthopedic treatment by cast

Knee Surg Sports Traumatol Arthrosc  
DOI 10.1007/s00167-016-4067-4 2016



KNEE

**Clinical outcomes after multiligament injured knees: medial versus lateral reconstructions**

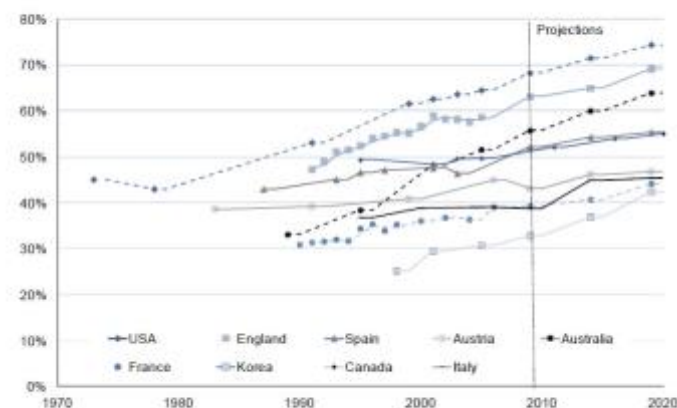
N. Tardy<sup>1</sup> · P. Boisrenoult<sup>1</sup> · P. Teissier<sup>1</sup> · C. Steltzlen<sup>1</sup> · P. Beaufils<sup>1</sup> · N. Pujol<sup>1</sup>



# Conclusions:

- Incidence increasing++
- Few series
- Treatment: Recommendation: Reconstruction +/- Ext fix
- Arthroscopy ?
- Only LCL/MCL and PCL?
- ACLR as a second stage procedure?

Prevalence of obese & overweight  
Population of obese and overweight %



Source: OECD Obesity 2010, Lancet 2011 - Obesity 2: Health and economic burden of the projected obesity trends in the USA and UK.



# Conclusions:

- Expectations:
- 0-90
- Tegner Score 2 to 3
  
- ... Able To walk

