TKA STIFFNES

PLACE of
Mobilisation Under Anesthesia

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CUSTOMS DECLARATION
NOTHING TO DECLARE

DRAFT

- Definition
- Incidence
- Risk Factors
- Causes
- Treatment
- Conclusions

DEFINITION

- **Limited ROM** +/- pain
  - Flexion > 2[illegible]
  - Ext[illegible]

Not well defined

[illegible] 2004

[illegible]ercan 2004

[illegible] 2001

[illegible] Christensen 2002

[illegible]exion < 90º Ghandi 2006

"When a pacient is not satisfied with the ROM"

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DEFINITION

Flexion requeriments for ADL ???

- Lifting objects from the fl
- Climbing stairs➔ 8
- Siting➔ 90°
- Tie the l

Between 80º and 105º ?

...nations may vary depending on:

- Height, hip mobility, etc.

...e shorter the patient the higher the flexion required

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INCIDENCE

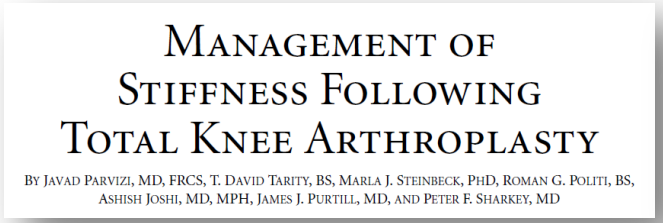
The Journal of Arthroplasty Vol. 25 No. 6 2010

Stiffness After Revision Total Knee Arthroplasty

Gregory K. Kim, BA, S.M. Javad Mortazavi, MD, James J. Purtill, MD,
Peter F. Sharkey, MD, William J. Hozack, MD, and Javad Parvizi, MD, FRCS

- 1,3% – 11%

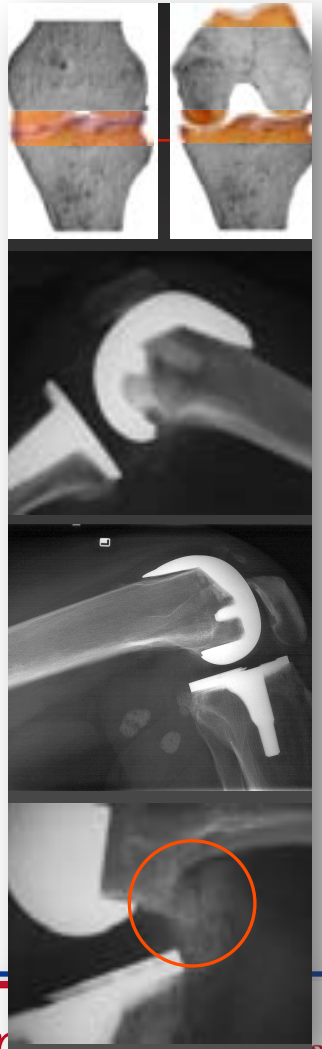
RISCK FACTORS



- ↓ ROM preop
- Age ➔ YOUNGERS
  - Higher expectations // traumatic ethiology
- Immobilization post-TKR
  - Fracture // soft tissue healing
- Infection (subclinical)
- *Patella infera*

ASSOCIATED CAUSES

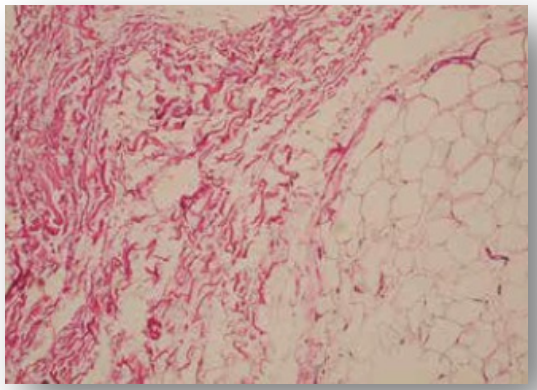
- *Overstuffing* (patellofemoral)
- Excessive constraint (GAP flex & ext)
- PCL preservation
- Malposition of TKR components (malrotation)
- Arthrofibrosis (intraarticular adhesions, scars, etc)



ETHIOLOGY

Some patients develops stiffness despite a correctly-sized & implanted prosthesis

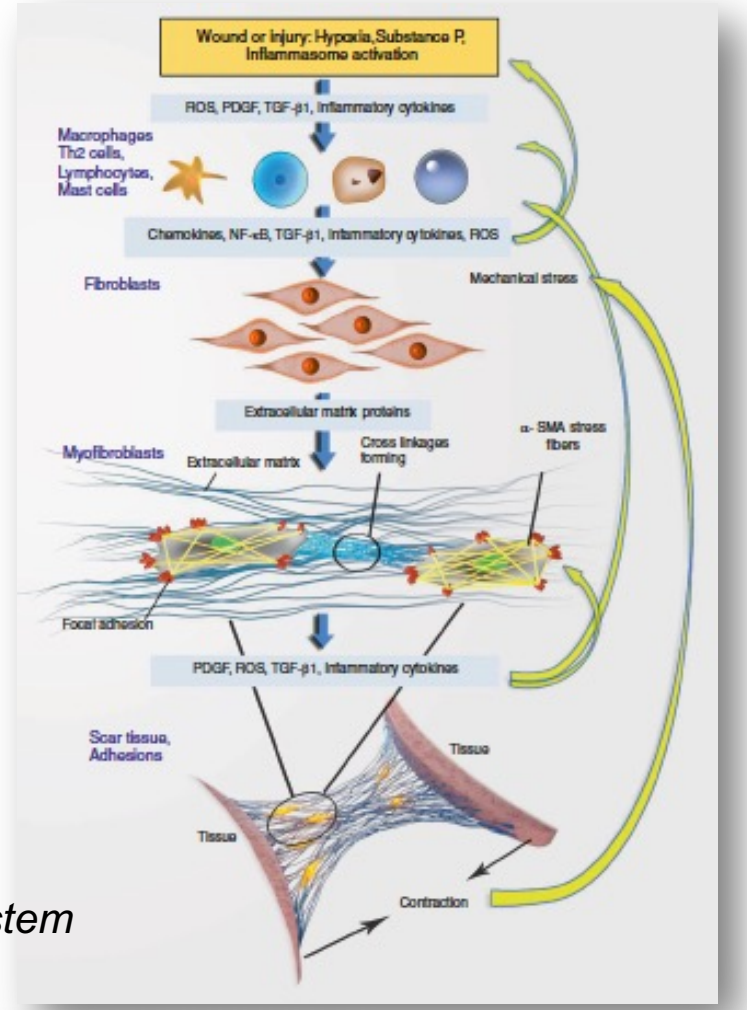
- **Fibrotic joint disorder**
  - Dysregulation of the immune system
    - Intraarticular adhesions or scarring
    - Heterotopic calcifications



ETHIOLOGY

ARTHROFIBROSIS

- Surgery causes **HYPOXIA**
- Activation of cells **inflammasomes***
- Production of **reactive O_2 species**
- Platelet-derived growth factor (**PDGF**)
- Transforming growth factor beta (**TGF-β**)
- Inflammatory **cytokines / mediators**



*cytosolic multiprotein oligomers of the innate immune system responsible for the activation of inflammatory responses

Liu. Bone Res. 2010

ETHIOLOGY 2

International Orthopaedics
https://doi.org/10.1007/s00264-023-05990-9

ORIGINAL PAPER

Unexpected positive cultures in patients with arthrofibrosis following total hip and total knee arthroplasty

Yuri Lara-Taranchenko[1,2] · Tiago Moreira[2,3] · N. Amir Sandiford[4] · Ernesto Guerra-Farfán[1] · Thorsten Gehrke[2] · Mustafa Citak[2]

Brückner et al. Patient Safety in Surgery (2019) 13:1
https://doi.org/10.1186/s13037-018-0181-1

Patient Safety in Surgery

RESEARCH Open Access

Low-grade infections as a possible cause of arthrofibrosis after total knee arthroplasty

C. Brückner[1], E. Straube[2], I. Petersen[3,4], S. Sachse[2], P. Keller[2,5], F. Layher[1], G. Matziolis[1], U. Spiegl[6], D. Zajonz[6], M. Edel[7] and A. Roth[1,6,8*]

TREATMENT

- RHB
- MUA
  - < 12 weeks
- Arthrolysis➔ arthroscopically / open
  - > 12 weeks
- Revision TKR
  - Components Malposition
  - Extensor Mechanism

TREATMENT

Mobilization Under Anaesthesia

TREATMENT

Mobilization Under Anaesthesia

- > 12 weeks
- Carefully (Fx, wound dehiscence's, ossifications, etc.)
- RHB early & continuous

TREATMENT

Mobilization Under Anaesthesia

POSTOP MANAGEMENT

- CPM set (to the maximum flex / ext obtained) / 6 to 8h a day
- Pain control (epidural catheter in place for 24–48 h)

MUA - OUTCOMES

Fitzsimmons 2010

hani 2012

ex / 5.7º ext)

e rate 6.7%

>12 weeks

Vanlommel 2016

w flexion before TKA

tween TKA and MUA

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In Summary

- Arthrofibrosis (sterile) is a fibrotic disease
- BUT, be aware of low grade infections
- MUA (early), remain the primary treatment
  - Open arthrolysis ➔ component malposition
  - CPM➔ to minimise joint contractions
- Early intervention (to prevent fibrosis) is likely to be important

Future Research

- Therapeutic agents to halt or reverse fibrosis
- Anti-fibrotic coatings on surgical implants
- Low-dose Aspirin + omega 3 fatty acids (may be effective modulating inflammasomes)

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