Ligamentaire Reconstructies, van eenvoudig naar Complex

Ralph Eijdems en Martijn Brinkman

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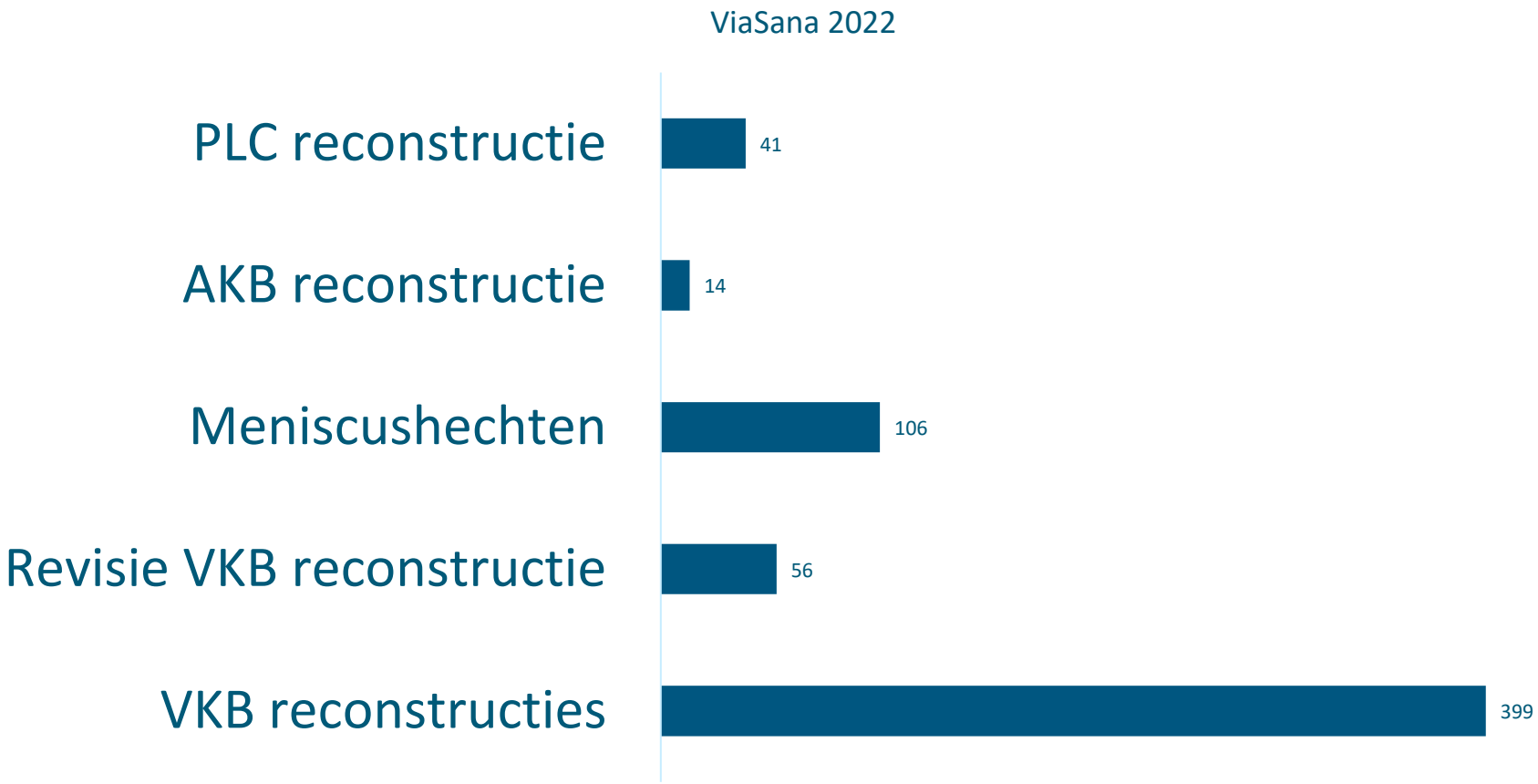
Ligamentaire reconstructies



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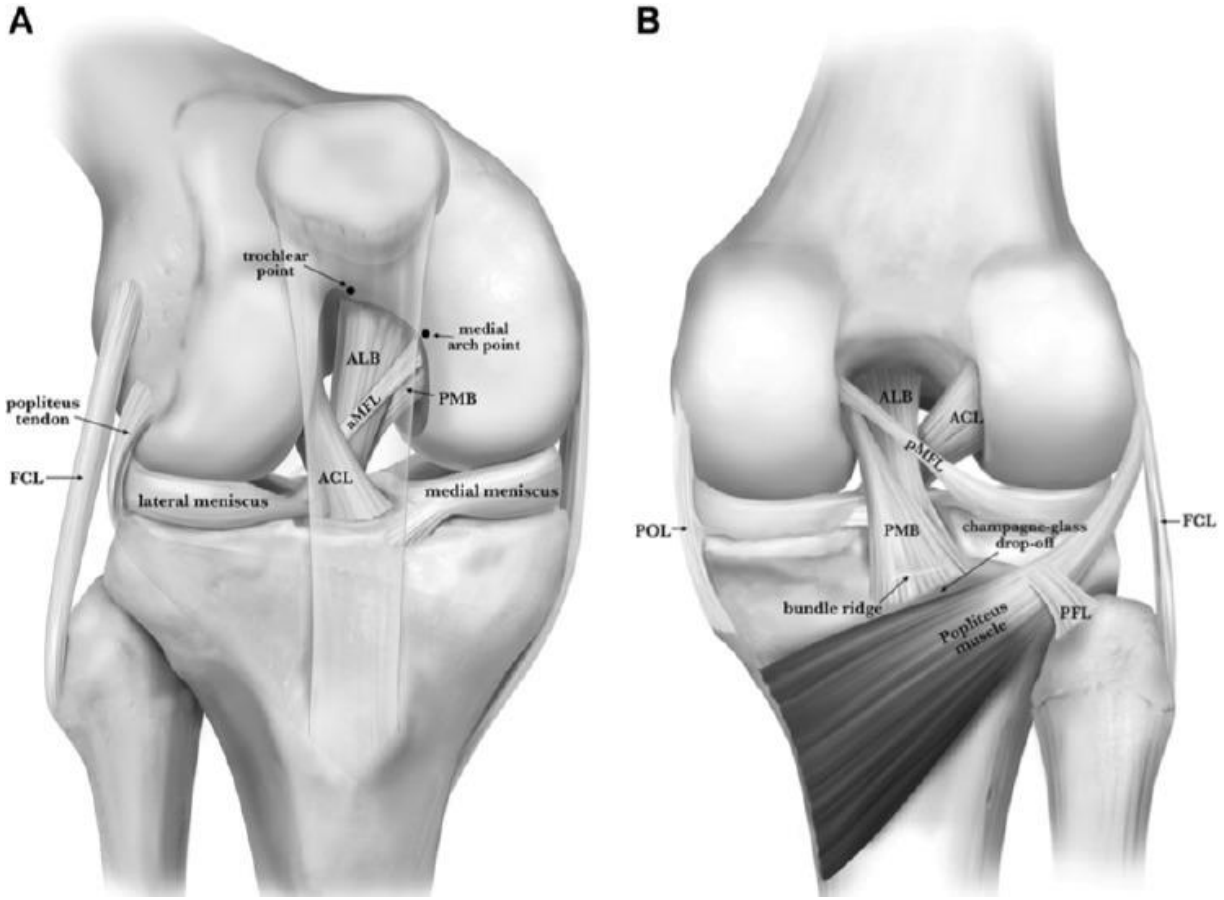
Ligamentaire reconstructies



- Voorste Kruisband
- Achterste Kruisband
- MCL
- Posterolaterale hoek (PLC)

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Voorste kruisband

- Opereren of conservatief behandelen?
- Welke graft gebruiken?
- Alleen voorste kruisband?
- Recidief, en dan?

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Voorste kruisband

Opereren of conservatief behandelen?

- Richtlijn gebaseerd op literatuur tot 2014

- COMPARE trail: 176 patiënten gerandomiseerd op / cons
  50 % cons groep alsnog geopereerd
  na 2 jaar operatieve groep significant beter
- Vd List, 2021: 32% cons tevreden, 86 % niet
  afh Leeftijd (40 vs 27), activiteit niveau, meniscus letsel

ROTATE Trail: inclusie afgesloten

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Voorste kruisband

Opereren of conservatief behandelen?

Rehabilitation versus surgical reconstruction for non-acute anterior cruciate ligament injury (ACL SNNAP): a pragmatic randomised controlled trial

*David J Beard, Loretta Davies, Jonathan A Cook, Jamie Stokes, Jose Leal, Heidi Fletcher, Simon Abram, Katie Chegwin, Akiko Greshon, William Jackson, Nicholas Bottomley, Matt Dodd, Henry Bourke, Beverly A Shirkey, Arsenio Paez, Sarah E Lamb, Karen Barker, Michael Phillips, Mark Brown, Vanessa Lythe, Burhan Mirza, Andrew Carr, Paul Monk, Carlos Morgado Areia, Sean O'Leary, Fares Haddad, Chris Wilson, Andrew Price, on behalf of the ACL SNNAP Study Group**

Summary

Background Anterior cruciate ligament (ACL) rupture is a common debilitating injury that can cause instability of the knee. We aimed to investigate the best management strategy between reconstructive surgery and non-surgical treatment for patients with a non-acute ACL injury and persistent symptoms of instability.

Lancet 2022; 400: 605-15
See Comment page 543

Interpretation Surgical reconstruction as a management strategy for patients with non-acute ACL injury with persistent symptoms of instability was clinically superior and more cost-effective in comparison with rehabilitation management.

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Voorste kruisband

Opereren of conservatief behandelen?

- Timing, vroeg of uitgesteld?

Relationship Between Timing of Anterior Cruciate Ligament Reconstruction and Chondral Injuries

A Systematic Review and Meta-analysis

Apostolos D. Prodromidis,*†‡ MD, MSc, Chrysoula Drosatou,§ BSc, MSc, PhD, Anastasios Mourikis,‖ MD, MSc, PhD, Paul M. Sutton,¶ MBChB, and Charalambos P. Charalambous,†# BSc, MBChB, MSc, MD
Investigation performed at University of Central Lancashire, Preston, UK

Conclusion: Our findings suggest that delaying ACL reconstruction surgery results in a higher rate of chondral injuries and the severity of these lesions worsens with time. These findings are comparable with those of our previously published study, which demonstrated a higher risk of meniscal tears associated with delayed ACL surgery. When ACL reconstruction is indicated, surgery ≤3 months after injury is associated with a lower risk of intra-articular damage.

Voorste kruisband

Opereren of conservatief behandelen?

Conclusie:

- In principe bij jonge actieve patiënt operatief, tenzij…
- Betere prognose bij vroeg operatief (< 3mnd)

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Voorste kruisband

- Welke graft gebruiken?

- Hamstring graft
- Bone-patella-bone graft
- Quadriceps pees

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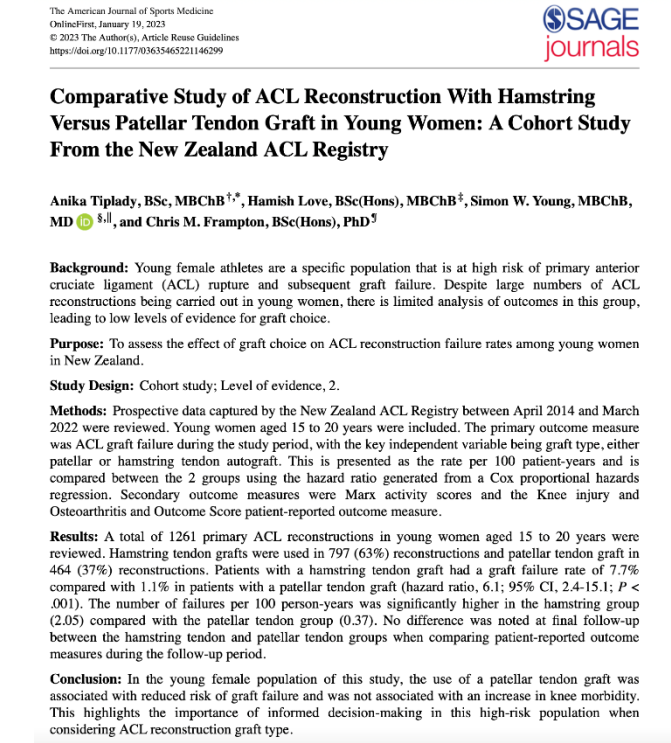
Voorste kruisband

- Welke graft gebruiken?
- Hamstring vs BTB:
  - BTB minder recidief bij jonge vrouwen
    - (1,1% vs 7,7%)
  - Aanvullende procedures niet meegenomen
  - Donor site morbidity
  - Geen appels met peren vergelijken!
    - Fixatiemethode
    - Plaatsing / tunnels
    - Additionele procedures



The American Journal of Sports Medicine
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https://doi.org/10.1177/03635465221146299

SAGE journals

Comparative Study of ACL Reconstruction With Hamstring Versus Patellar Tendon Graft in Young Women: A Cohort Study From the New Zealand ACL Registry

Anika Tiplady, BSc, MBChB[†,*], Hamish Love, BSc(Hons), MBChB[‡], Simon W. Young, MBChB, MD[§,||], and Chris M. Frampton, BSc(Hons), PhD[¶]

Background: Young female athletes are a specific population that is at high risk of primary anterior cruciate ligament (ACL) rupture and subsequent graft failure. Despite large numbers of ACL reconstructions being carried out in young women, there is limited analysis of outcomes in this group, leading to low levels of evidence for graft choice.

Purpose: To assess the effect of graft choice on ACL reconstruction failure rates among young women in New Zealand.

Study Design: Cohort study; Level of evidence, 2.

Methods: Prospective data captured by the New Zealand ACL Registry between April 2014 and March 2022 were reviewed. Young women aged 15 to 20 years were included. The primary outcome measure was ACL graft failure during the study period, with the key independent variable being graft type, either patellar or hamstring tendon autograft. This is presented as the rate per 100 patient-years and is compared between the 2 groups using the hazard ratio generated from a Cox proportional hazards regression. Secondary outcome measures were Marx activity scores and the Knee injury and Osteoarthritis and Outcome Score patient-reported outcome measure.

Results: A total of 1261 primary ACL reconstructions in young women aged 15 to 20 years were reviewed. Hamstring tendon grafts were used in 797 (63%) reconstructions and patellar tendon graft in 464 (37%) reconstructions. Patients with a hamstring tendon graft had a graft failure rate of 7.7% compared with 1.1% in patients with a patellar tendon graft (hazard ratio, 6.1; 95% CI, 2.4-15.1; $P <$ .001). The number of failures per 100 person-years was significantly higher in the hamstring group (2.05) compared with the patellar tendon group (0.37). No difference was noted at final follow-up between the hamstring tendon and patellar tendon groups when comparing patient-reported outcome measures during the follow-up period.

Conclusion: In the young female population of this study, the use of a patellar tendon graft was associated with reduced risk of graft failure and was not associated with an increase in knee morbidity. This highlights the importance of informed decision-making in this high-risk population when considering ACL reconstruction graft type.

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Voorste kruisband

- Welke graft gebruiken?

- Wat doen wij: Primair meest Hamstring
  BTB primair bij MCL letsel / High demand
  Hamstring combineren met LET
  Quadriceps vooral bij revisie

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Voorste kruisband

Alleen voorste kruisband

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Article - Knee

Lateral Extra-articular Tenodesis Reduces Failure of Hamstring Tendon Autograft Anterior Cruciate Ligament Reconstruction: 2-Year Outcomes From the STABILITY Study Randomized Clinical Trial

Alan M.J. Getgood, MD, FRCS(Tr&Orth)*, Dianne M. Bryant, MSc, PhD, Robert Litchfield, MD, FRCSC, Mark Heard, MD, FRCSC, Robert G. McCormack, MD, FRCSC, Alex Rezansoff,

Results: A total of 618 patients (297 males; 48%) with a mean age of 18.9 years (range, 14-25 years) were randomized. A total of 436 (87.9%) patients presented preoperatively with high-grade rotatory laxity (grade 2 pivot shift or greater), and 215 (42.1%) were diagnosed as having GLL. There were 18 patients lost to follow-up and 11 who withdrew (~5%). In the ACLR group, 120/298 (40%) patients sustained the primary outcome of clinical failure, compared with 72/291 (25%) in the ACLR+LET group (relative risk reduction [RRR], 0.38; 95% CI, 0.21-0.52; $P < .0001$). A total of 45 patients experienced graft rupture, 34/298 (11%) in the ACLR group compared with 11/291 (4%) in the ACL+LET group (RRR, 0.67; 95% CI, 0.36-0.83; $P < .001$). The number needed to treat with LET to prevent 1 patient from graft rupture was 14.3 over the first 2 postoperative years. At 3 months, patients in the ACLR group had less pain as measured by the P4 ($P = .003$) and KOOS ($P = .007$), with KOOS pain persisting in favor of the ACLR group to 6 months ($P = .02$). No clinically important differences in patient-reported outcome measures were found between groups at other time points. The level of sports activity was similar between groups at 2 years after surgery, as measured by the Marx Activity Rating Scale ($P = .11$).

Conclusion: The addition of LET to a single-bundle hamstring tendon autograft ACLR in young patients at high risk of failure results in a statistically significant, clinically relevant reduction in graft rupture and persistent rotatory laxity at 2 years after surgery.

Voorste kruisband

- Alleen voorste kruisband?

- Laterale extraarticulaire Tenodese
  - Lemaire
  - Gemodificeerde Lemaire
  - ALL reconstructie
- Geen evidence voor keuze tussen technieken

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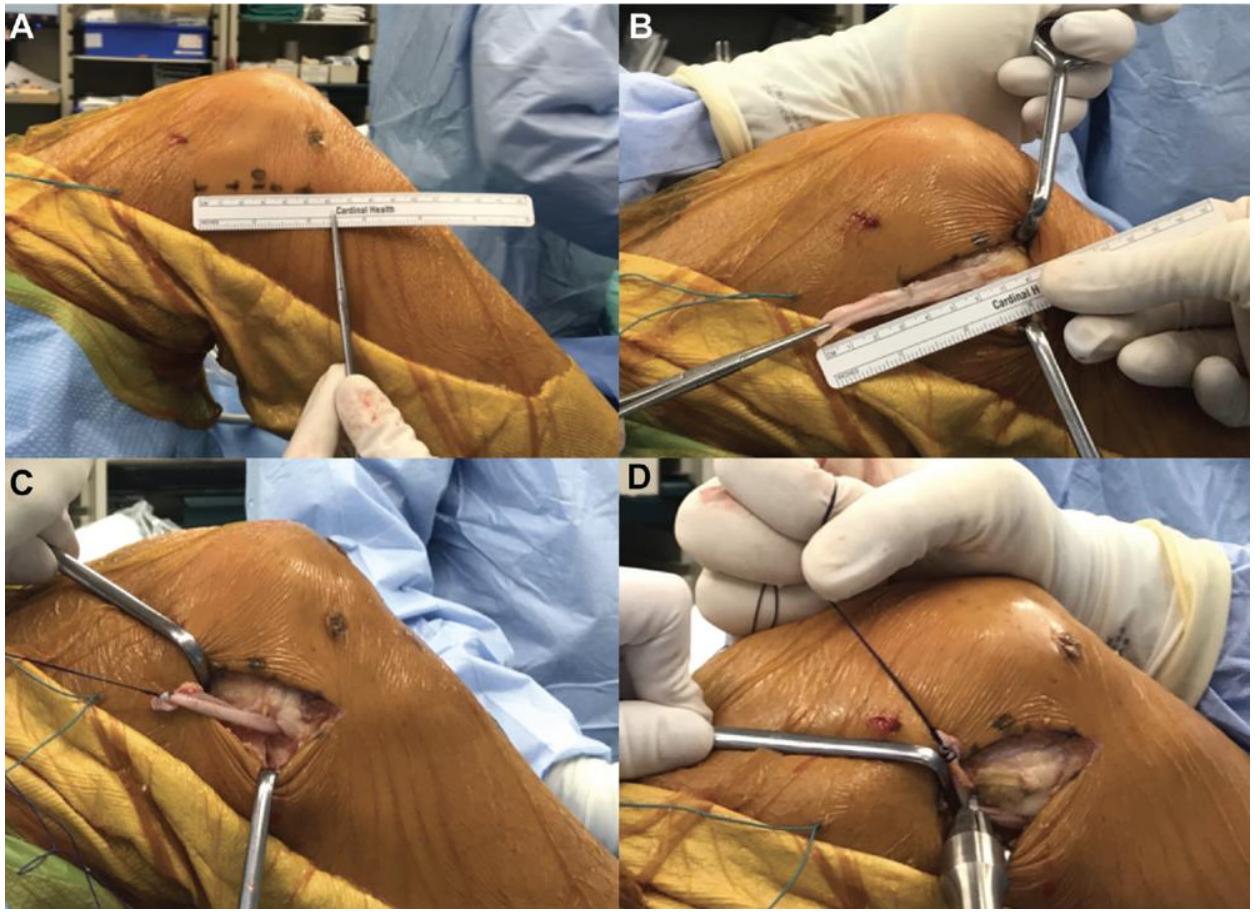
Voorste kruisband

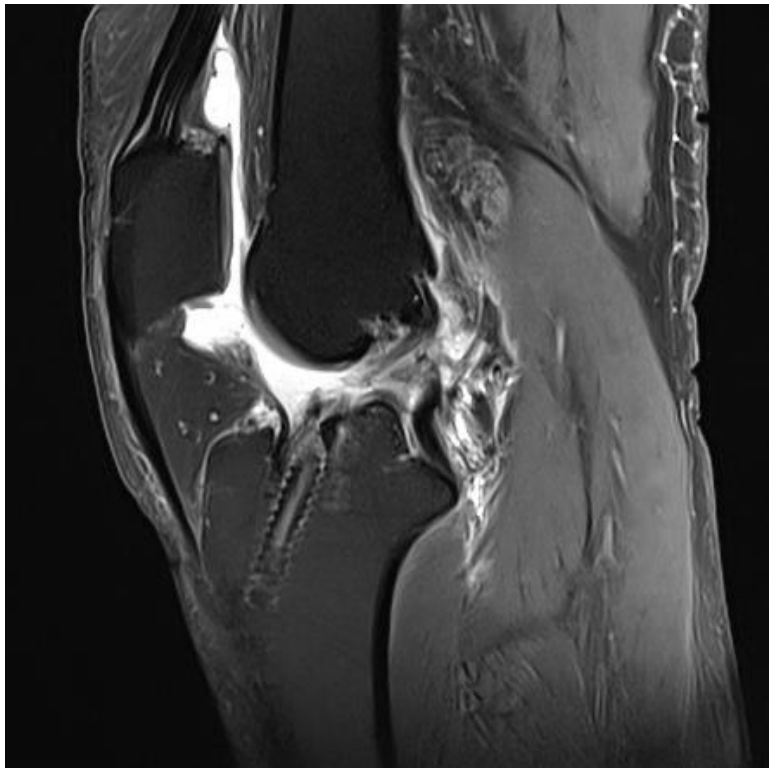
- Alleen voorste kruisband?



Voorste Kruisband

- Recidief, en dan?

- Oorzaken: Malpositie Tunnels
  Verhoogde post tibial Slope
  Rotatie afwijkingen
  niet onderkende andere letsels
  Pech…



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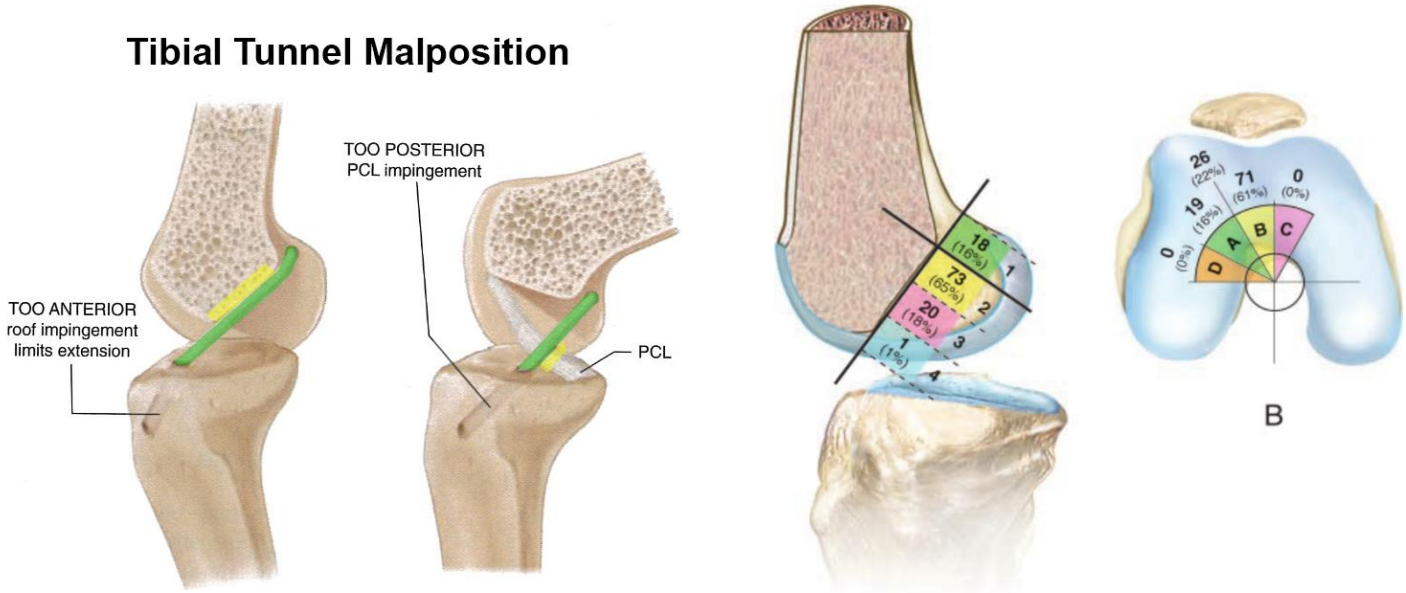
Voorste Kruisband

- Recidief, en dan?
- Oorzaken: Malpositie Tunnels



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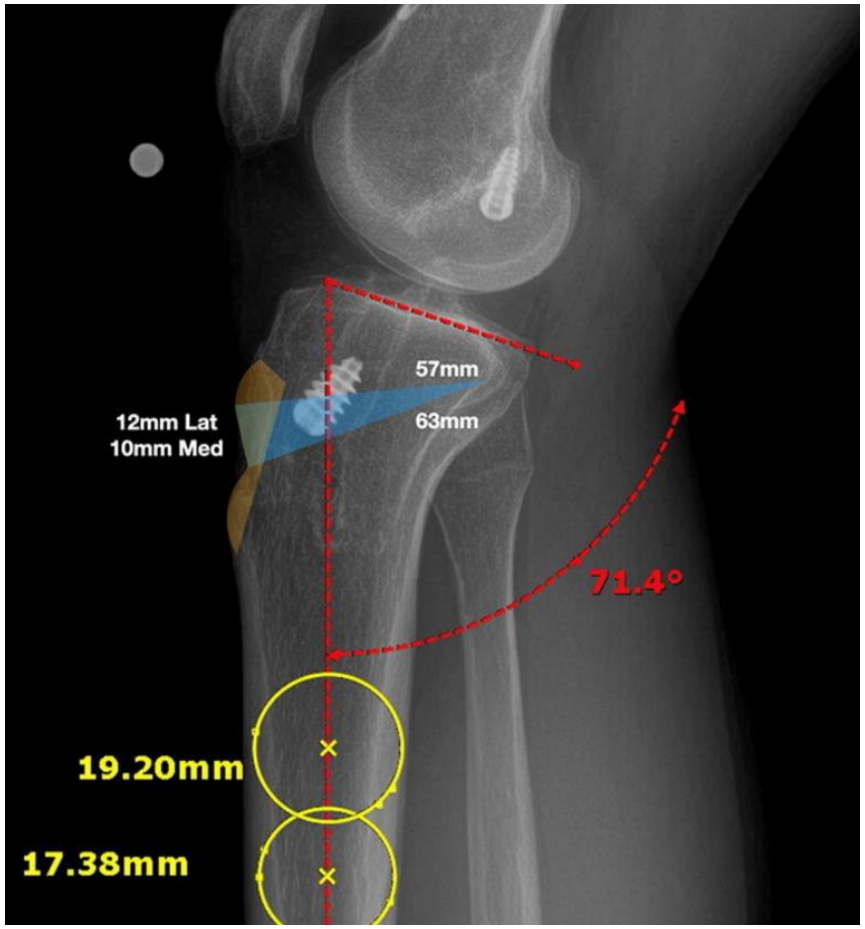
Voorste Kruisband

- Recidief, en dan?
- Oorzaken:
  - Verhoogde post tibial Slope



Voorste Kruisband

- Recidief, en dan?

- Oorzaken: niet onderkende andere letsels
  - Meniscus laesie (mn lat Root, 13,5 %)
  - Posterolat hoek letsel (15%)
  - MCL letsel

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Voorste Kruisband

- Recidief, en dan?

- Bij revisie ook andere letsel / deformiteiten meenemen
- Graft keuze afhankelijk van mogelijkheden en patiënt
- Single stage of 2 stage
- Combineren met LET
- Verwachtingsmanagement (RTP < 75 % bij elite athlete)

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Fysiotherapie na ligamentreconstructie

Standaardbeleid

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VKB

- Krukken gebruiken op geleide van de pijn, zwelling en het looppatroon.
- Fietsen is onbeperkt toegestaan en aanbevolen.
- Eerste 6 maanden geen rotatie (om de as)
- Pivoterende sport na 9 maanden.

- Revalidatie volgens criteria return to play KNGF ES: VKB-R

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Achterste Kruisband

- 3-9 % van alle kniebandletsels
- Zelden geïsoleerd (5%)
- Indien conservatief, dan < 2 weken start behandeling (gips/brace), snel doorverwijzen!
- Operatie indien acuut letsel met forse AP instabiliteit of indien gecombineerd met andere ligamentaire letsels (of men laesie)
- Bij operatie ook begeleidend letsel zoeken en behandelen!
- RTP conservatief 70% vs operatief 87%
- Artrose na 14 jaar bij 41%

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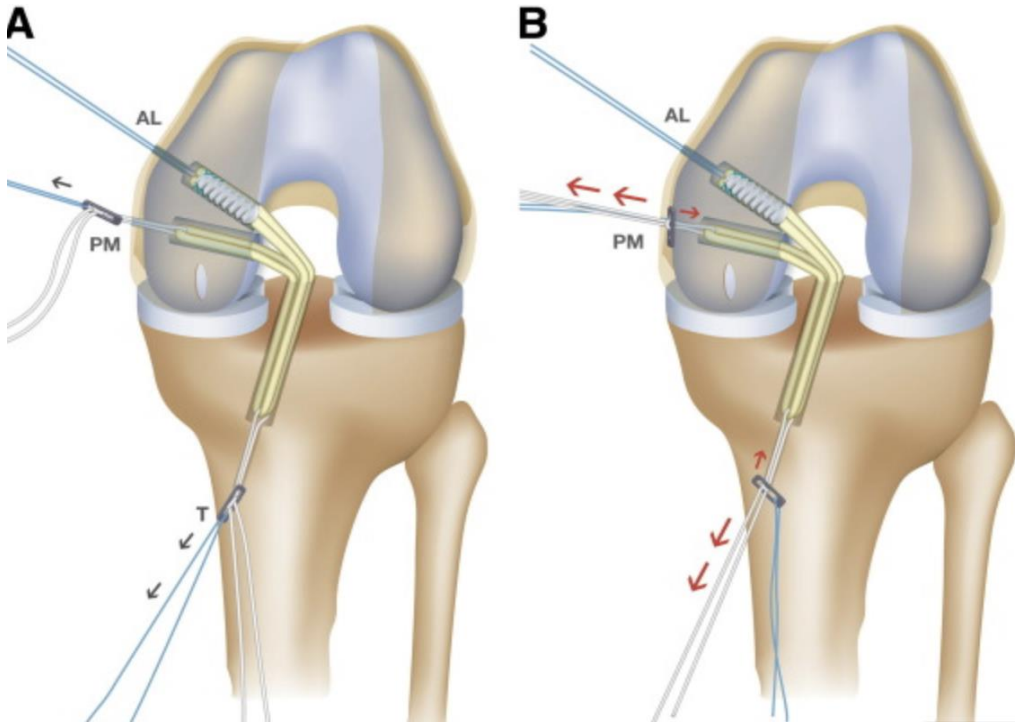
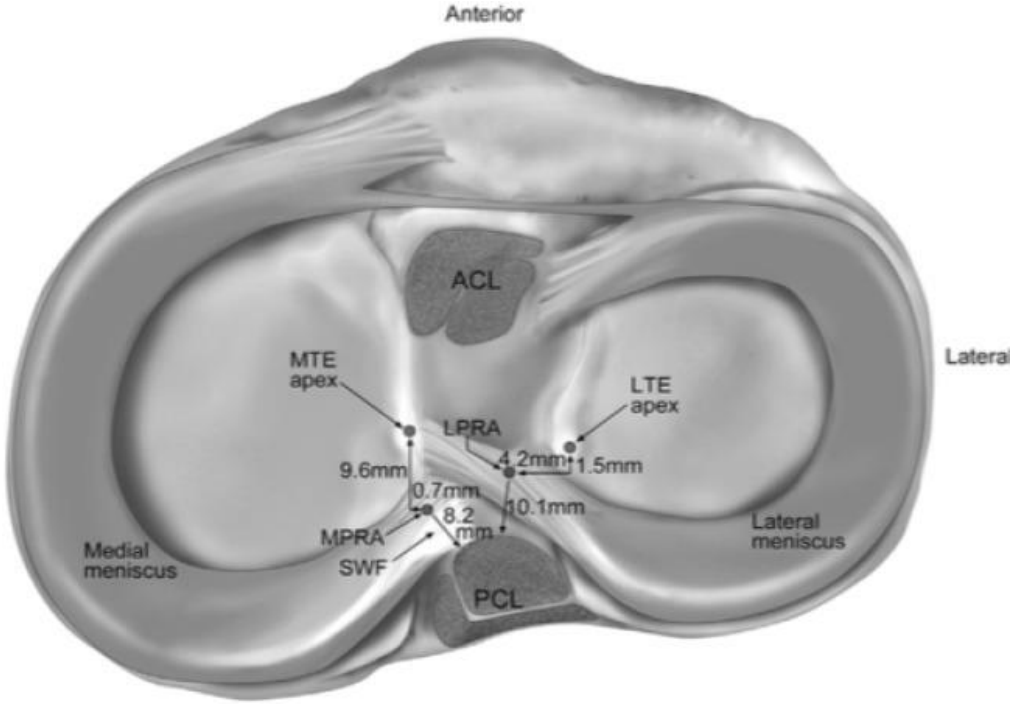
Achterste Kruisband

- Operatief: single vs double bundle





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Fysiotherapie na ligamentreconstructie

Standaardbeleid

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AKB: standaardbeleid =

- Week 0-6:

24/7 PCL-Jackbrace, 10 kg belasten met voetafwikkeling, maximaal 90 graden flexie, hometrainer is onbeperkt toegestaan

Week 7-24:

Overdag PCL-Jackbrace, 100% belasten, full ROM

Krukken gebruiken op geleide van de pijn, zwelling en het looppatroon

1e 12 weken geen hamstring oefeningen

Na 12 weken: zie advies en revalidatie ES: VKB-R

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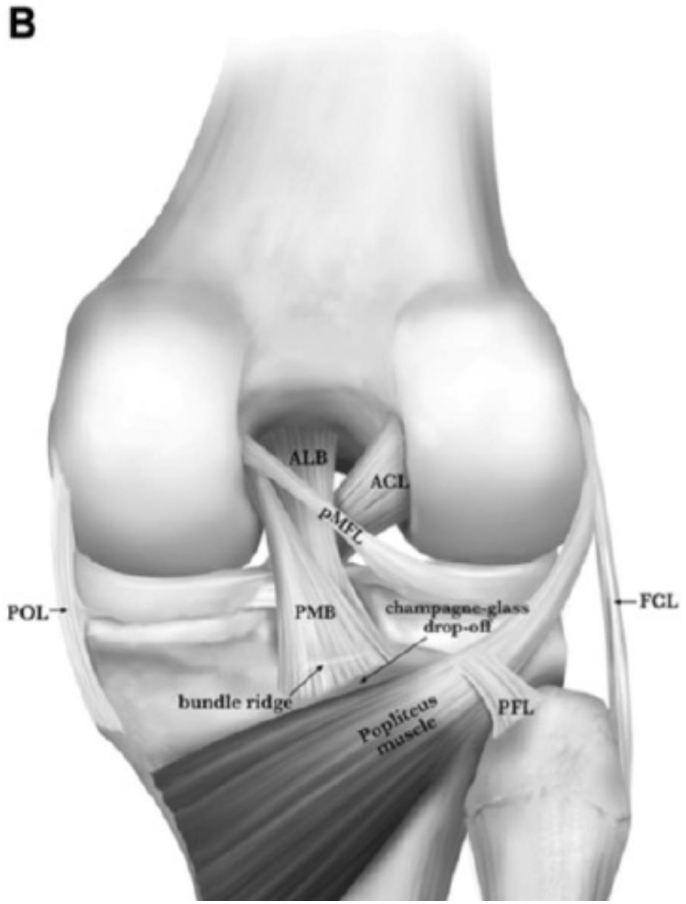
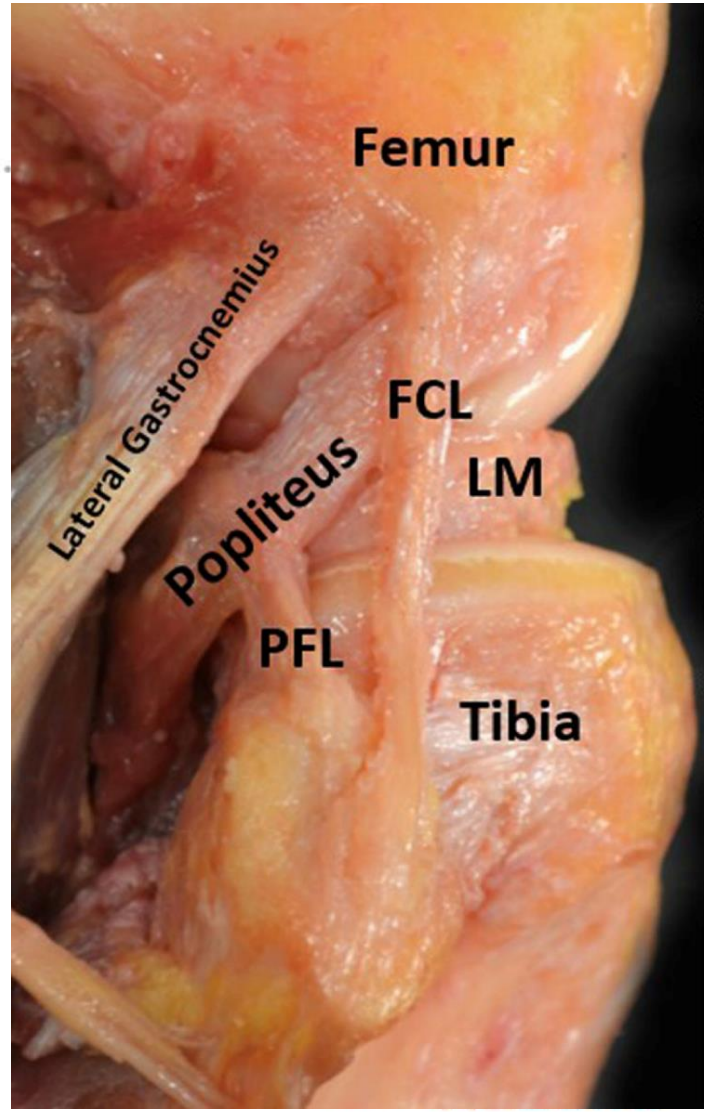
Posterolaterale hoek letsels (PLC)

- LCL
- Popliteus
- Popliteofibulaire ligament



Posterolaterale hoek letsels (PLC)

- 16 % van alle kniebandletsels
- 28 % geisoleerd PLC letsel
- 13-16 % begeleidend letsel N. Peroneus
- Vaak gemist bij onderzoek
- Varusstress / dail test
- ”beschermt” VKB voor rotatie/varus
- Nauwelijks plaats voor cons behandeling



Posterolaterale hoek letsels (PLC)

- Acuut vs chronisch
- Acuut: repair mbv ankers / hechten
- Chronisch: reconstructie
- Verschillende technieken
- Arciero vs Laprade

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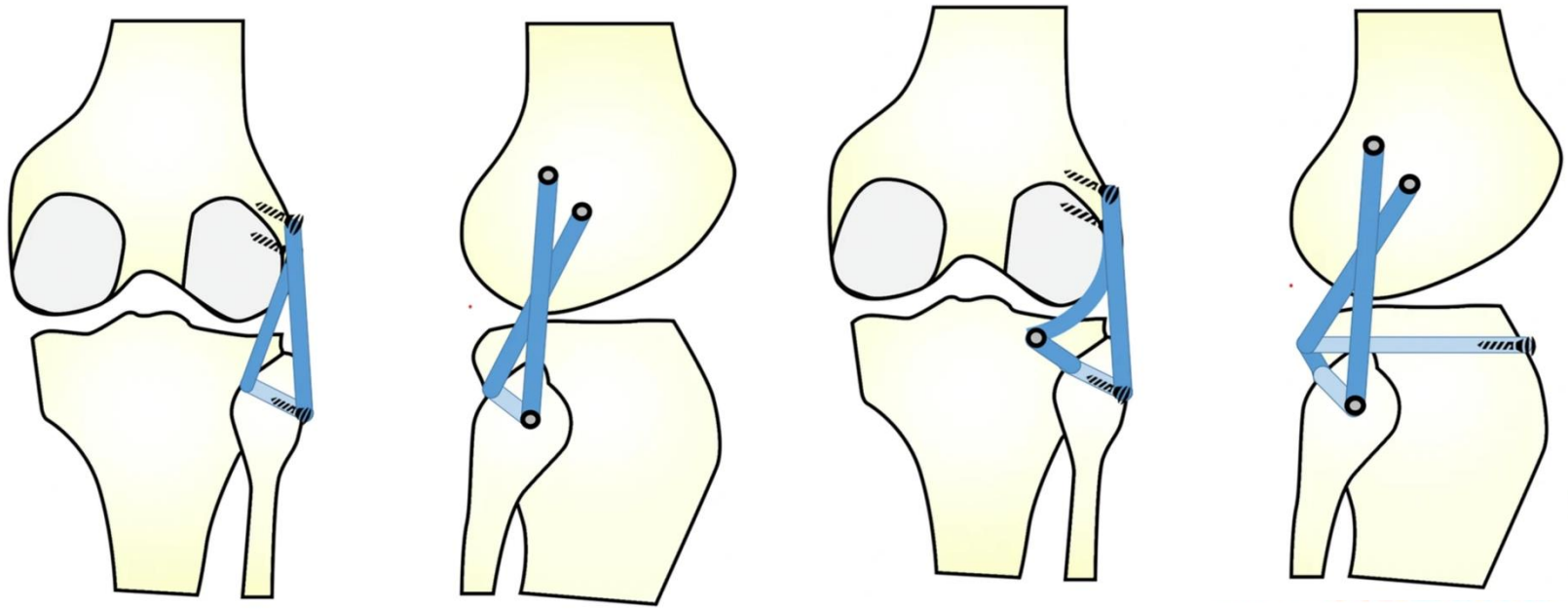
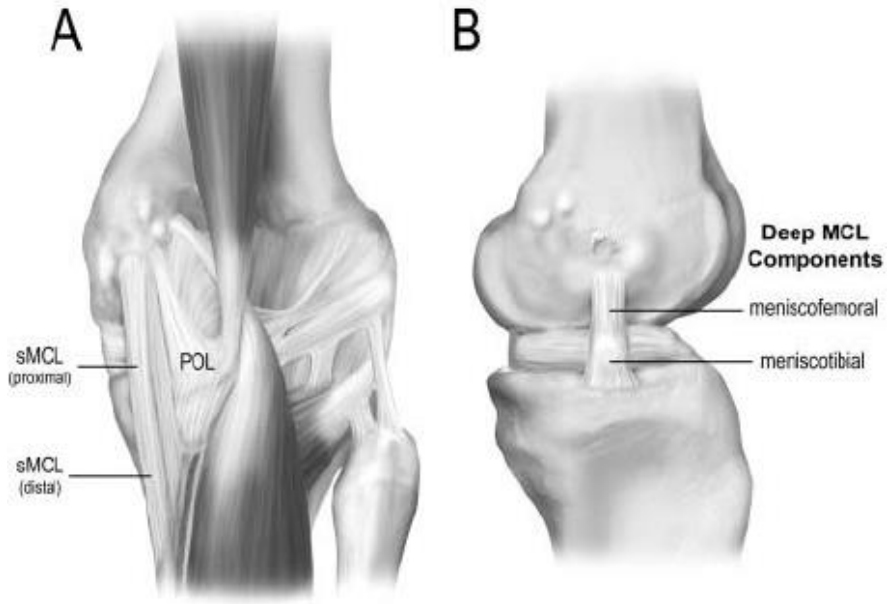
Posterolaterale hoek letsels (PLC)

- Arciero vs Laprade
- Geen evidence welke beter



Mediaal collateraal ligament(MCL)

- Gr 1-2 conservatief , 92% goed resultaat. (tibiale avulsie prognostisch slechter)
- Gr 3 evt conservatief (acuut) , bij chronisch / multiligamentair eerder operatief
- Brace bij gr 3, niet nodig bij gr 1 en 2
- Zelden geïsoleerd letsel
- Bij multiligamentair letsel : reconstructie



Fysiotherapie na ligamentreconstructie

Standaardbeleid

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PLC/MCL/LCL standaardbeleid:

- Week 0-2:

Strekspalk 24/7, 10kg belasten met voetafwikkeling, max 90graden flexie

Week 3-8:

Scharnierbrace 24/7, 10kg belasten met voetafwikkeling, max 90 graden flexie, hometrainer is onbeperkt toegestaan

- Week 9-14:

Scharnierbrace overdag, 100% belasten, full ROM

Na 14 weken: zie advies en revalidatie ES: VKB-R

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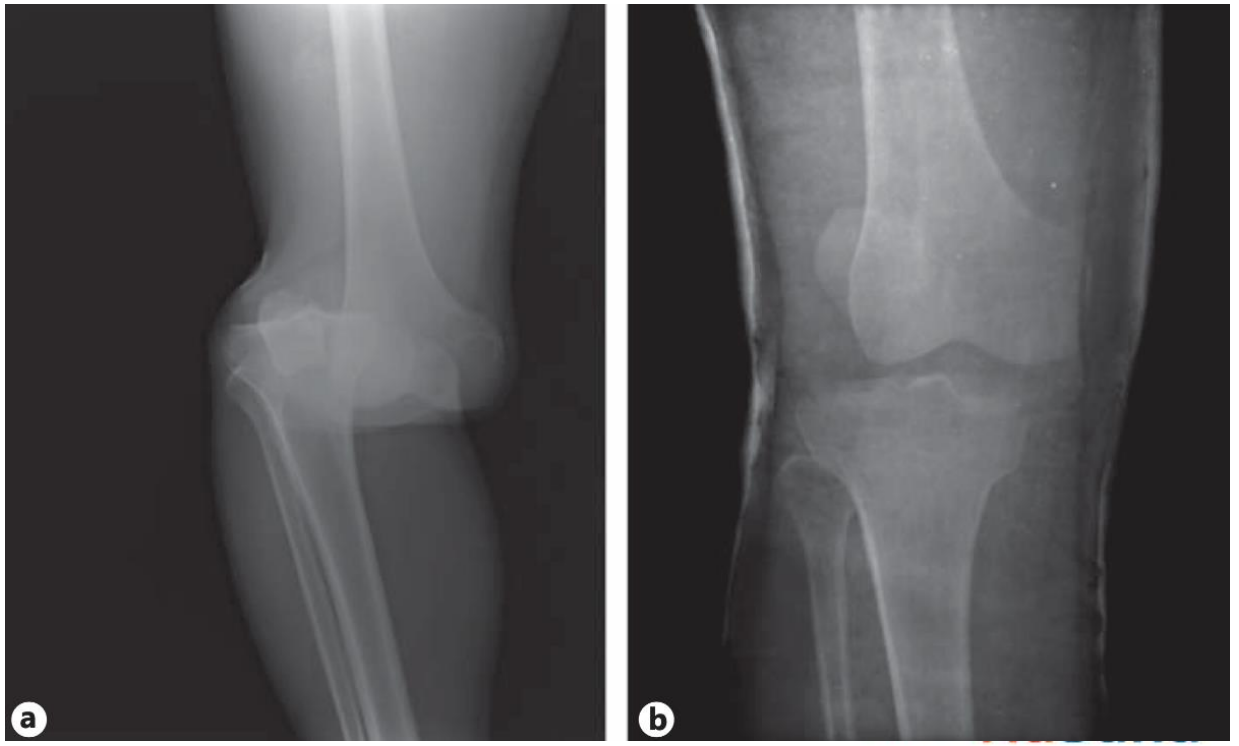
Multiligamentair

- Alle mogelijke combinaties
- Cave begeleidend vasculair / neurologisch letsel
- Streef naar one-stage reconstructie
- Revalidatie gedicteerd door “ zwakste schakel”



Multiligamentair

- Alle mogelijke combinaties
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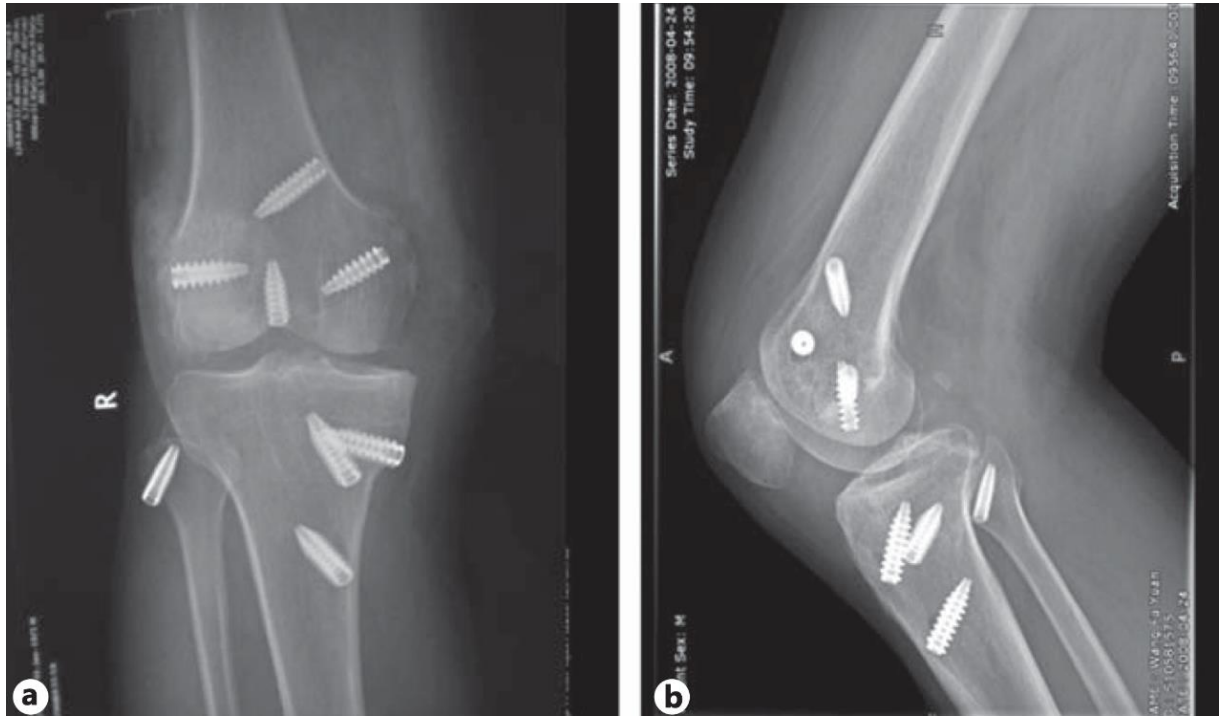

Communicatie

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Communicatie

Bij onduidelijkheden/vragen over het beleid: neem contact op!

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