

ALL about the ACL: update over voorste kruisband letsels

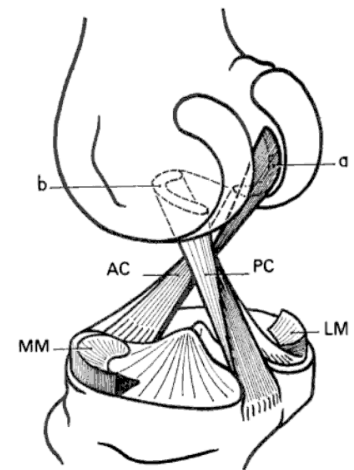
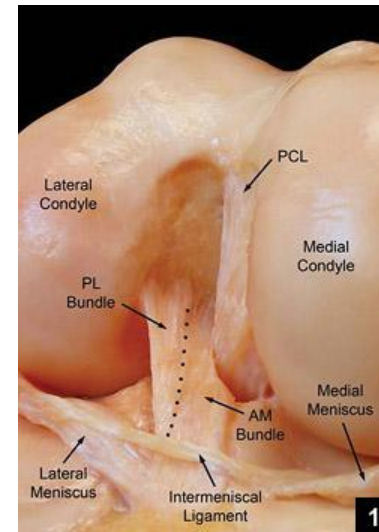
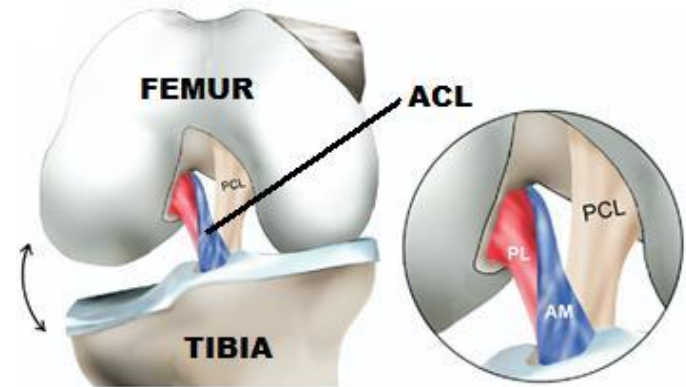
80e editie Geneeskundige Dagen van Antwerpen

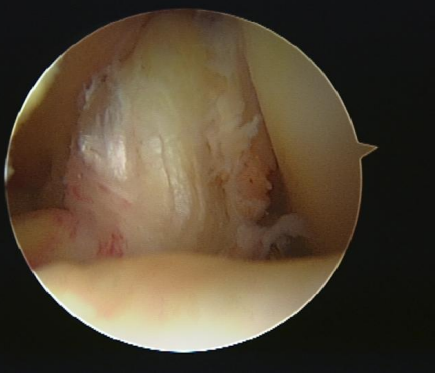
12 september 2025

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Orthopedisch chirurg UZA /UA
www.uza.be / www.drheusdens.be

Anatomie VKB

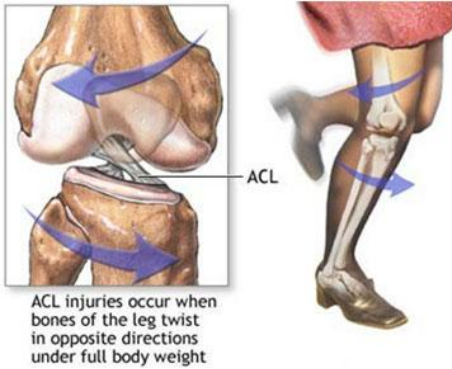
- Anteromediale-posterolaterale bundel bundle of 'ribbon theory'
- Stabilisatie vd knie
 - Anterieure translatie tibia tegengaan
 - Rotatoire stabiliteit
- Proprioceptie





Acute VKB ruptuur

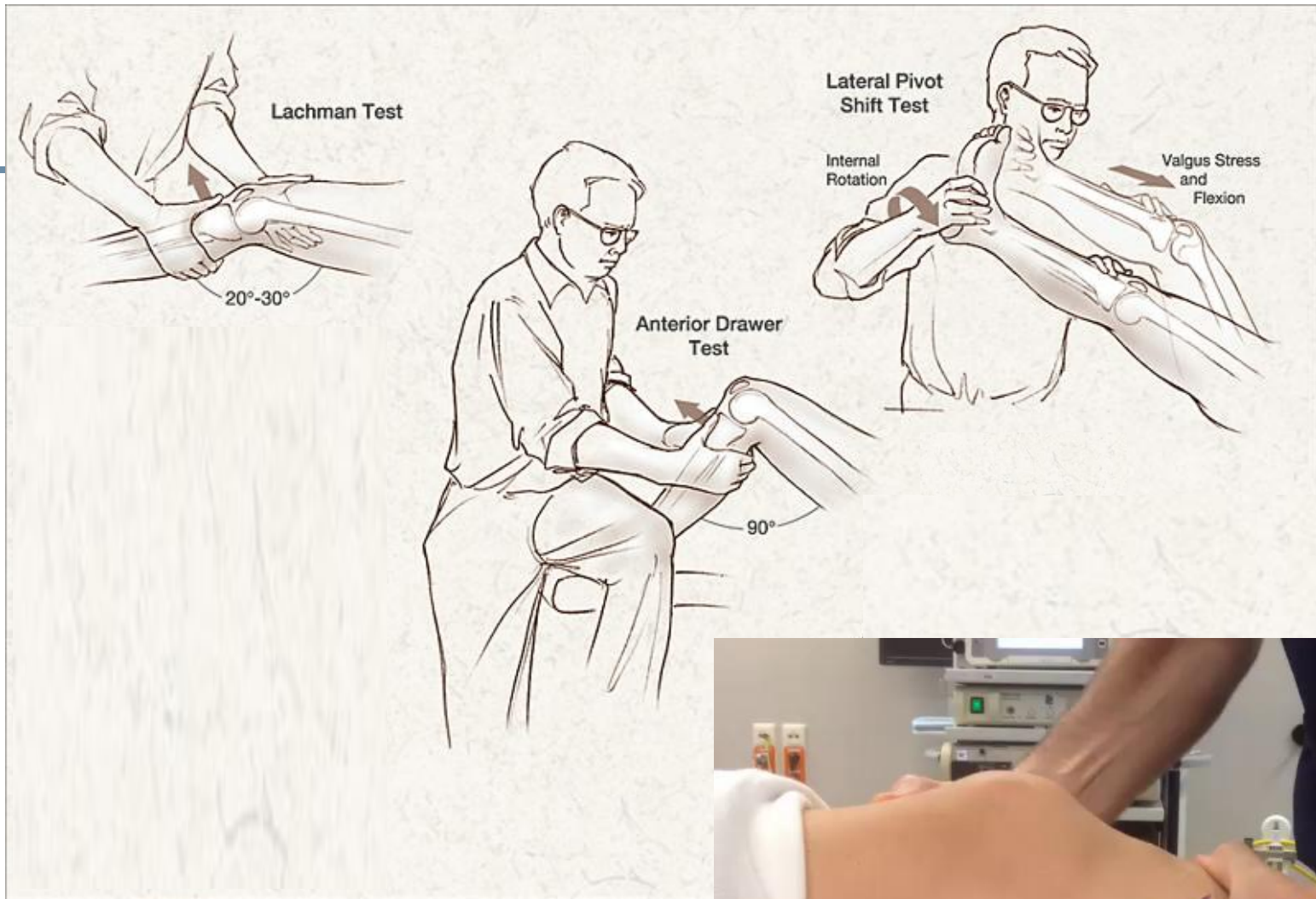
- Incidentie ca. 0.5-1.6% amateurs, tot 3.6% profs
- Gemiddelde leeftijd 35 ♀, 33 ♂
- Vrouwen 2.3 – 9.7 hoger risico (zelfde sport activiteit)
- Bijkomende letsels: meniscus 15-40%, kraakbeen 41-45%, MCL -laesie 19-38%, LCL -laesie 20-45%



ACL injuries occur when bones of the leg twist in opposite directions under full body weight

Trauma mechanisme

- acute kracht op steunbeen
 - rotatie (endorotatie tibia)
 - valgus
 - hyperextensie



Aanvullend onderzoek

- Acute knie: X-knie
- MRI: gouden standaard
- CT arthrogram
- Echo ≠
- Botscan ≠



VKB ruptuur

Pivotsporten

Verhoogde kans meniscusscheuren/
kraakbeenletsels

Verhoogde kans arthrose;
conservatief 2.4 X ↑, reconstructie 4.7 X ↑

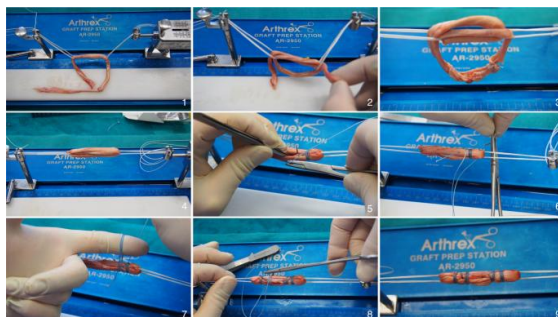
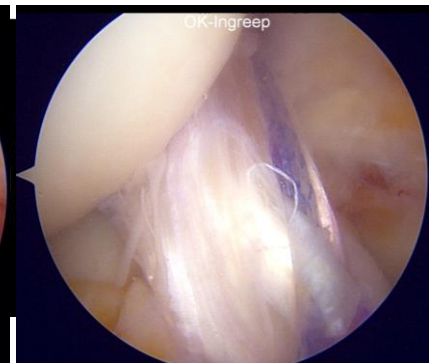
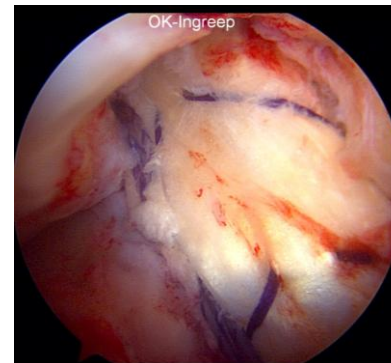
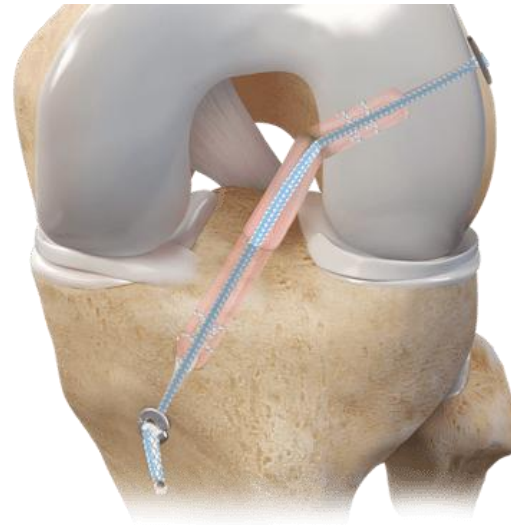
Reconstructie Graft

Hamstringpezen

Semitendinosus (gracilis)

Quadricepspees

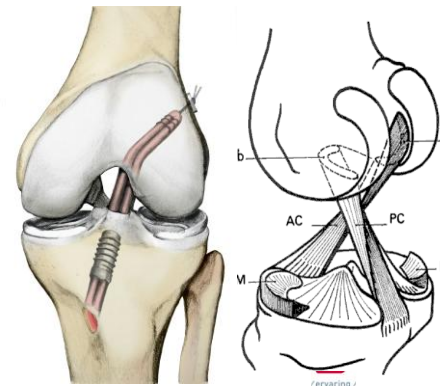
“All-inside” + Fibertape



Middelste 1/3 patellapees
Allogreffe (donorpees)
Kunststofmateriaal

Nabehandeling VKB reconstructie

- Intensieve samenwerking met kinesist!
- Hervat pivoterende sporten 9 maanden!
- Geen bewijs dat brace herstel verbeterd
- VKB reconstructie vervangt niet complexe stabiliserende functie





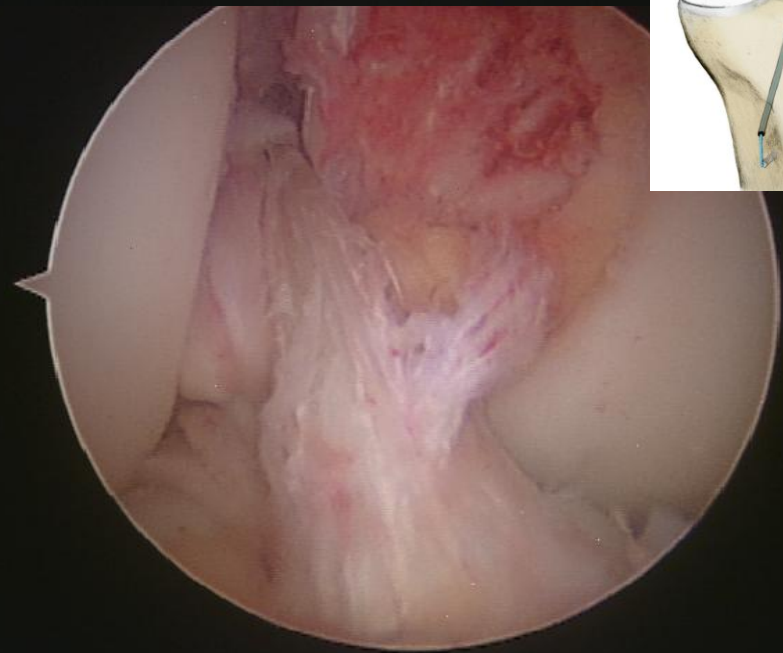
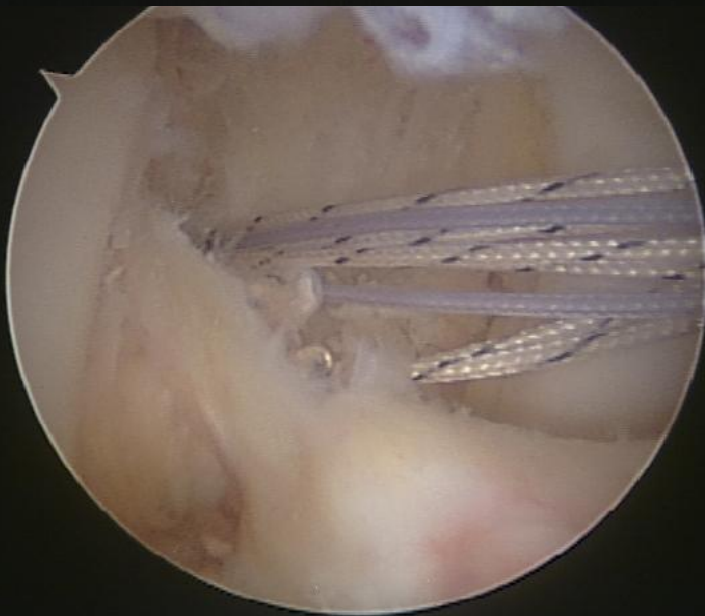
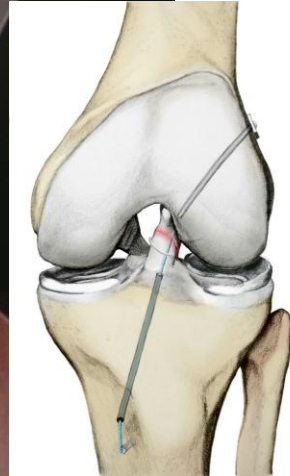
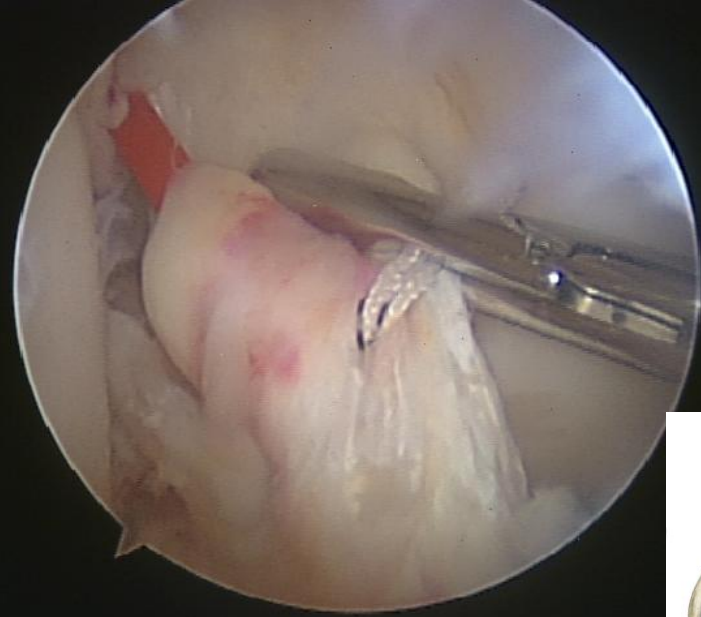
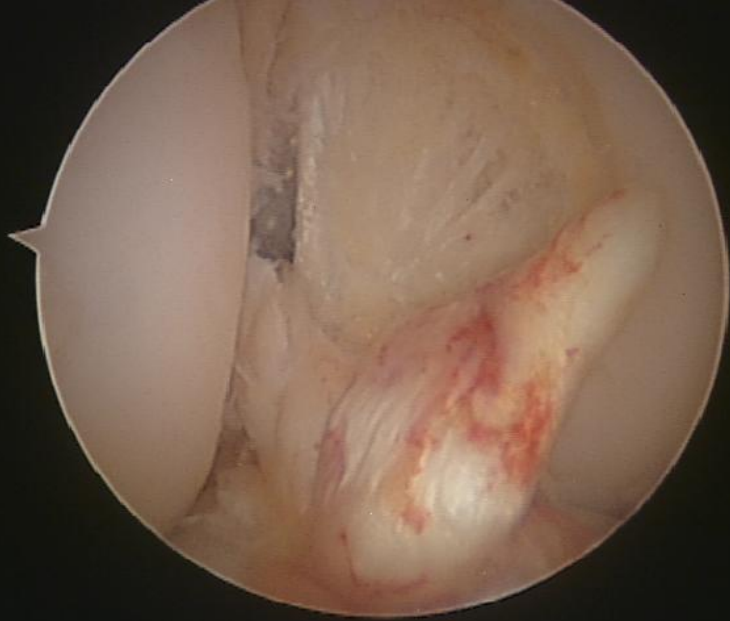
VKB reconstructie

- 60 % behaalt zijn pre-ruptuur sportniveau
- Anterieure knie pijn 13-22 %
- Hamstrings zwakte 10%
- Positieve Pivot shift 19-24 %
- Extensie beperking 6-9 %
- Heroperaties 24%
- 10 jaar follow up: 6-10% falen (tot 40%)

VKB hechten

- Internal Bracing (Arthrex)
 - Binnen 12 weken opereren
 - Terugbetaald
-
- VKB, AKB, MCL, LCL, PLC, ALL, MPFL, elleboog, schouder, enkel







Voordelen

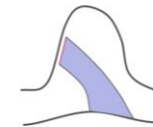
- Snellere revalidatie: 6 ipv 9 maanden
- Behoud van eigen anatomie en proprioceptie
- Verminderde kans op gonartrose?
- Per-op switchen naar klassieke VKB reconstructie indien nodig
- “No bridges are burned”

Nadeel

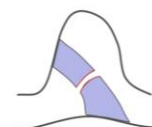
- Niet elke VKB ruptuur kan gehecht worden
- Arthrofibrosis?
- Verhoogde kans op re-ruptuur bij hoog niveau sporters < 25 jaar?
- Lange termijn resultaten?

Classification of acute ACL tears

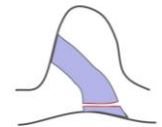
Location



Ax.x – proximal 1/3

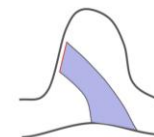


Bx.x – middle 1/3

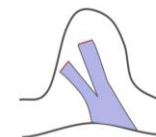


Cx.x – distal 1/3

Rupture Pattern



A1.x – 1 bundle



A2.x – 2 bundles

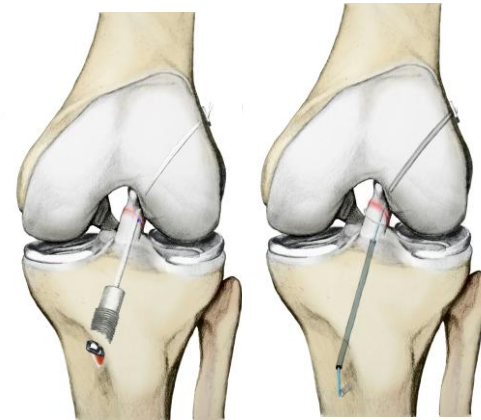


A3.x – 3+ bundles

LIBRE studie

- RCT Ligamys, Internal Bracing, Reconstructie
- Conclusie: geen van 2 herstel technieken superieur tov de andere

	Ligamys	Internal Bracing	p-value
Failures	2/21 (9.5%)	2/26 (7.7%)	p=1.00
Non-ACL revision surgeries	7/21 (33.3%)	4/26 (15.4%)	p=0.181

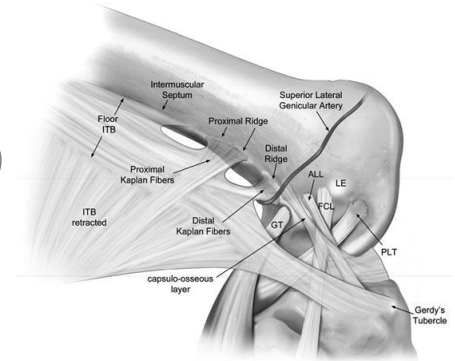


Median return to sports

- Ligamys: 172 dagen, Internal Bracing: 170 dagen

Anterolaterale complex

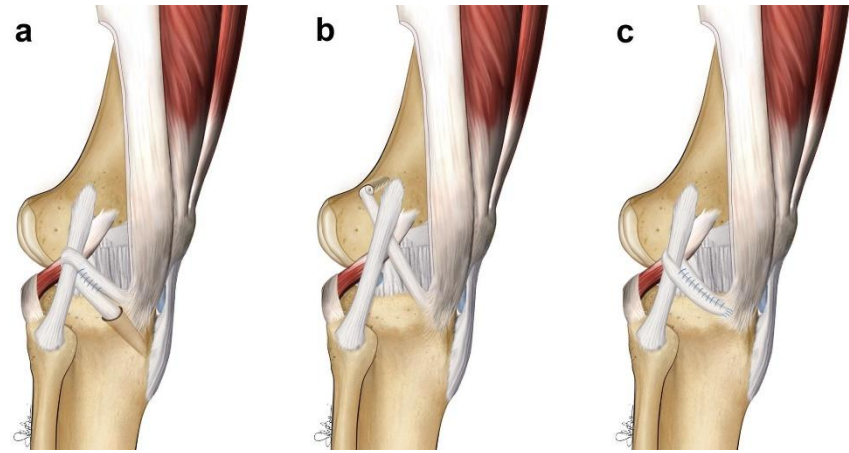
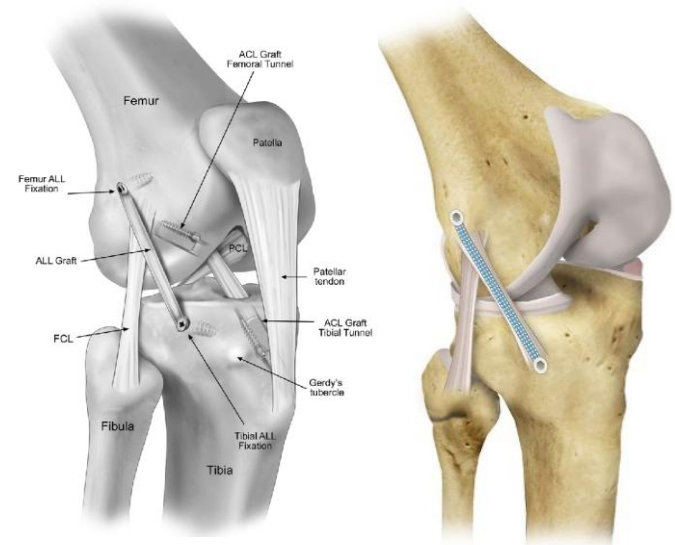
- Verbeterde rotationele stabiliteit
- Anterolaterale extra-articulaire procedure
- Gecombineerd met VKB reconstructie / herstel
- Reductie VKB re-ruptuur risico



Getgood, A.; Brown, C.; Lording, T.; Amis, A.; Claes, S.; Geeslin, A.; Musahl, V. The anterolateral complex of the knee: Results from the International ALC Consensus Group Meeting. Knee Surg. Sports Traumatol. Arthrosc. 2019,

Anterolaterale extra-articulaire procedures

- ALL reconstructie met greffe of tape
- ITB rerouting





Take home message

- VKB ernstig letsel: langdurige revalidatie
- Acute VKB ruptuur: herstel techniek ipv reconstructie (OK binnen 12 weken)
- ALL/ LET: extra rotatoire stabilisatie

www.kruisbandherstel.be



Vragen?

www.uza.be / www.drheusdens.be

UNIVERSITAIR ZIEKENHUIS ANTWERPEN



VKB ruptuur kinderen: opereren?

- Kraakbeen / meniscus herstel
- Na adequate! training > instabiliteit
- Indien niet terug op gewenst niveau
- 2% groeiplaat stoornissen
- pivoterende sport pas na 12 maanden

2018 International Olympic Committee consensus statement on prevention, diagnosis and management of paediatric anterior cruciate ligament (ACL) injuries. Knee Surg Sports Traumatol Arthrosc. 2018 Apr;26(4):989-1010. doi: 10.1007/s00167-018-4865-y. Epub 2018 Feb 17. PMID: 29455243; PMCID: PMC5876259.

Cave knieluxatie!



- Gecombineerd letsel van drie belangrijke knieligamenten is knieluxatie-equivalent
 - > Spoed!
- Arterie poplitea letsel 40 % AP luxatie
- 25 % n peroneus letsel
- Indien enkel arm index > 0.9 afwachten

Anterolaterale Ligament (ALL)

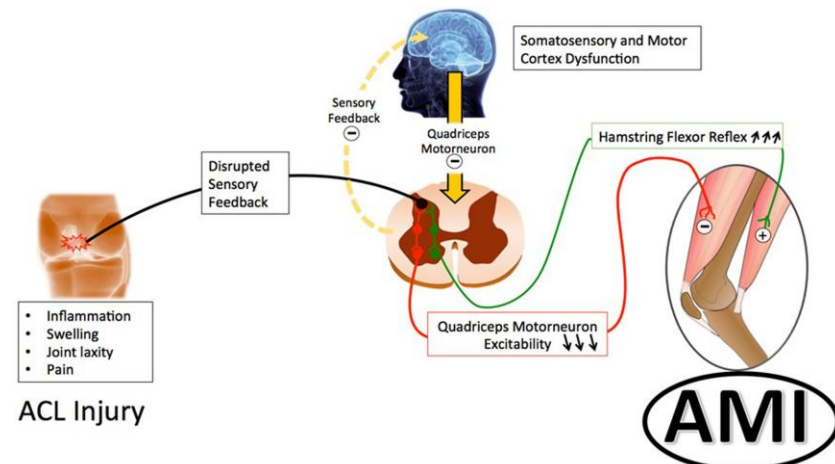


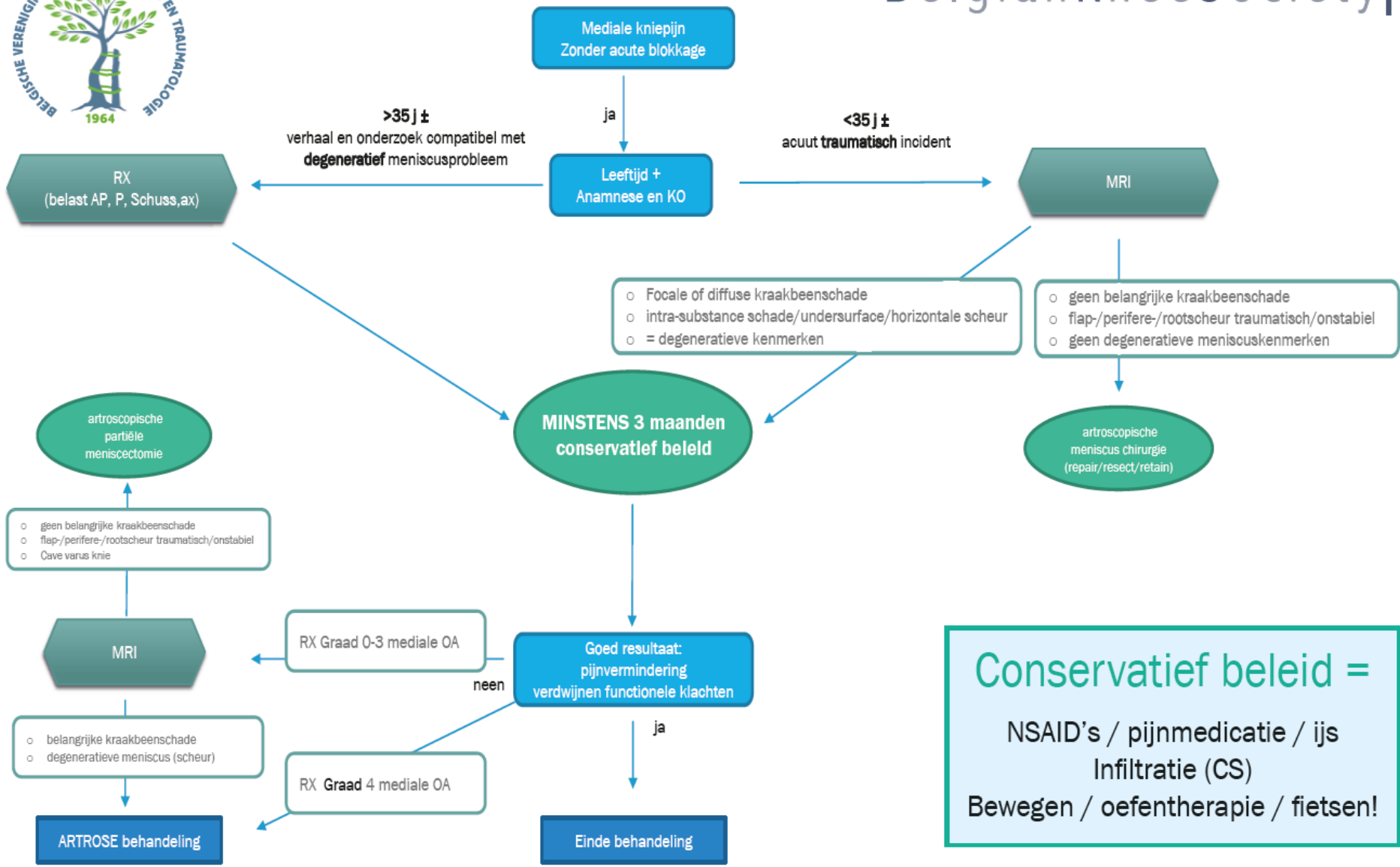
Arthrogenic Muscle Inhibition (AMI)

- active knee extension deficit
- central impairment of Vastus Medialis Obliquus contraction
- + spinal reflex hamstring contracture. This explains the post-traumatic flexion contracture that is common after knee sprain.

Prevention of knee stiffness following ligament reconstruction: Understanding the role of AMI
[Bertrand Sonnery-Cottet¹](#)

- Check Video!





Conservatief beleid =
 NSAID's / pijnmedicatie / ijs
 Infiltratie (CS)
 Bewegen / oefentherapie / fietsen!

Intacte VKB



Gescheurde VKB

