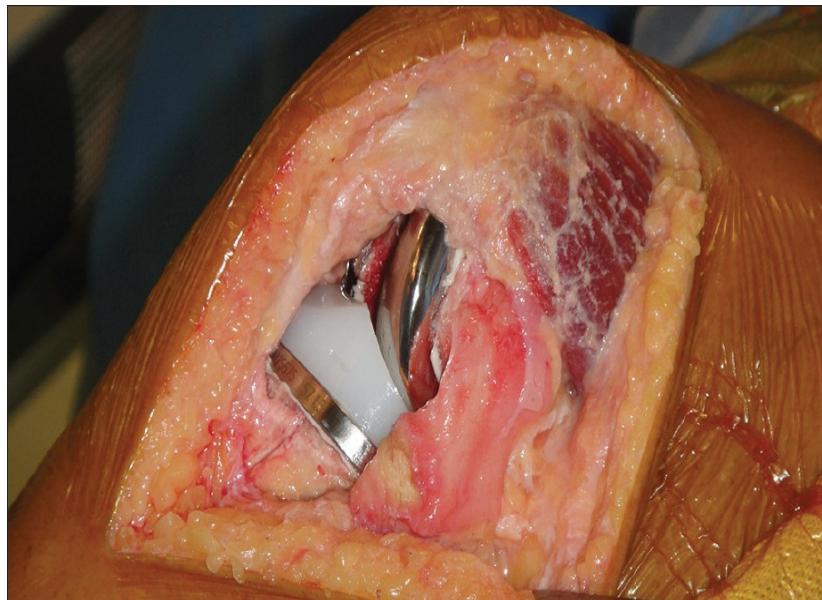




Nieuwe toegangsweg bij totale knieprothese

Dr Steven Heylen
Ortho-Clinic Lier





OVERZICHT

- Korte beschrijving totale knieprothese
- Verschillende toegangswegen
- Waarom kiezen wij voor de subvastus toegang?
- Herstel in het ziekenhuis
Herstel thuis
- Leven met een TKP

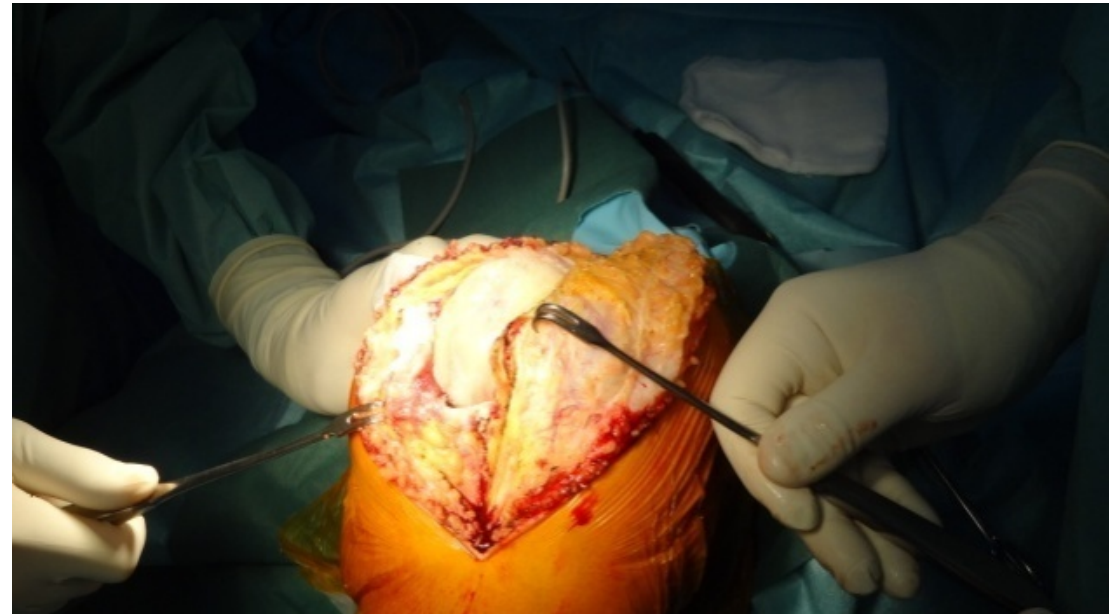
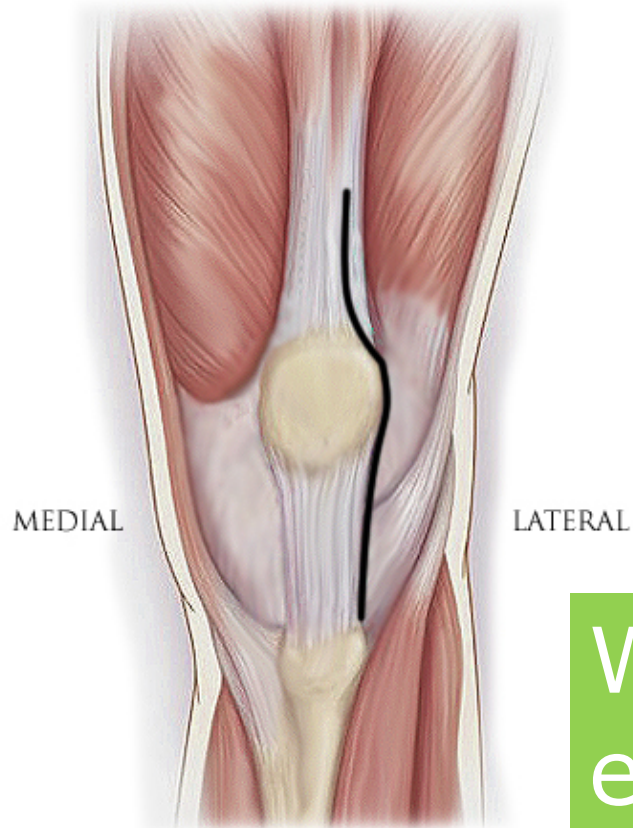


OPERATIEVE BEHANDELING

- Eenvoudige "nieuwe bekleding"operatie??
 - NEEN
- Geen simpel hinge joint – as van de knie kan niet door 1 as worden beschreven
 - Interne – externe rotatie
 - Varus – valgus
 - Flexie – extensie
- In flexie femorale roll back
- In flexie is er interne rotatie van de tibia
- Recente gegevens
 - Verschil in biomechanica mediale en laterale compartiment
 - MFC rotates
 - LFC rolls and glides



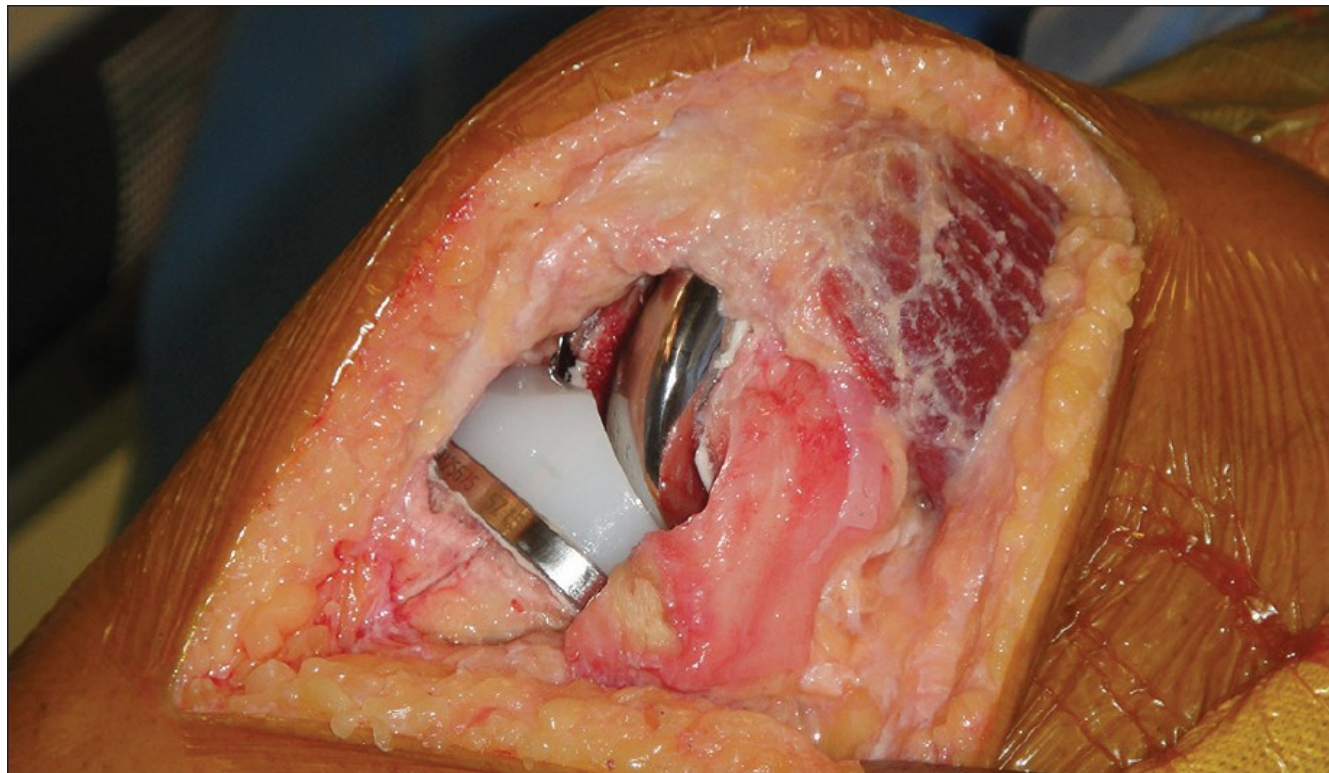
KLASSIEKE KNIETPROTHESE

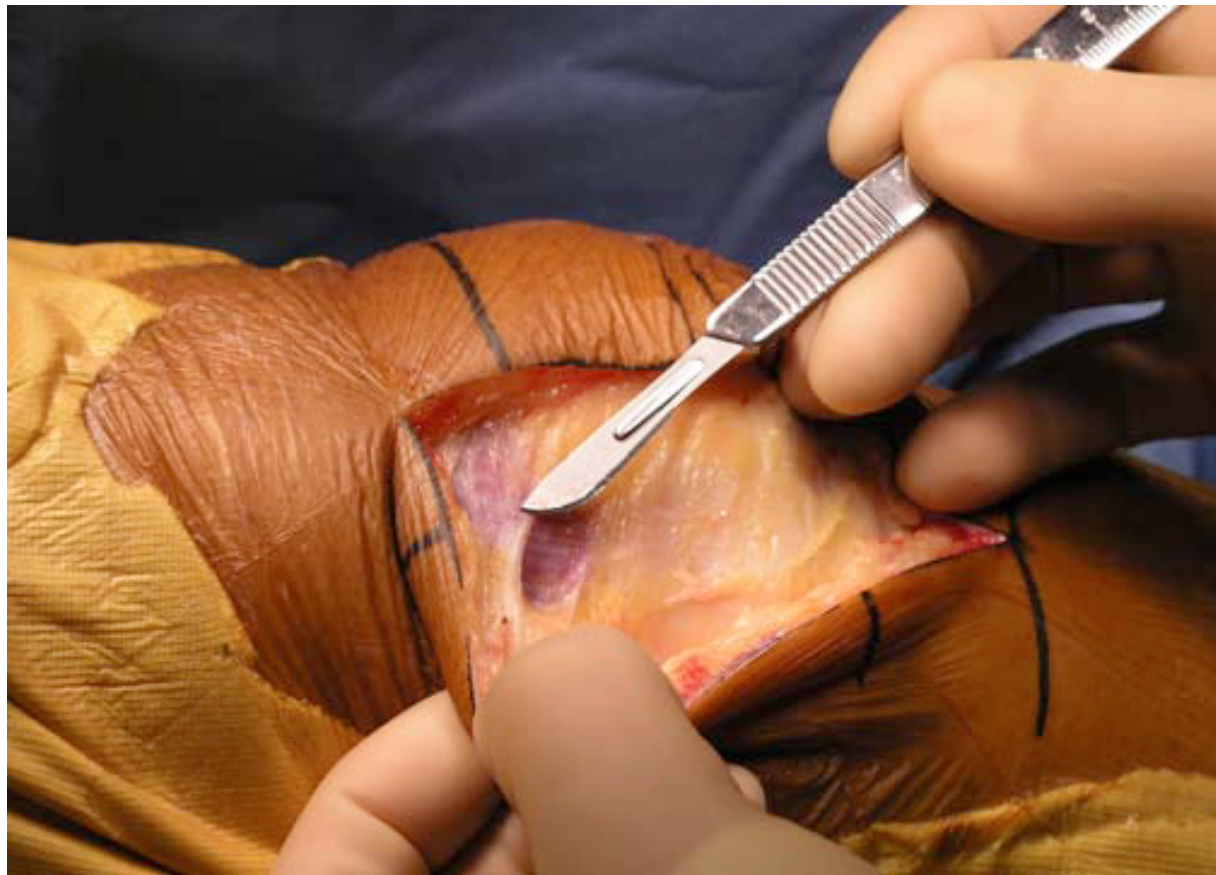


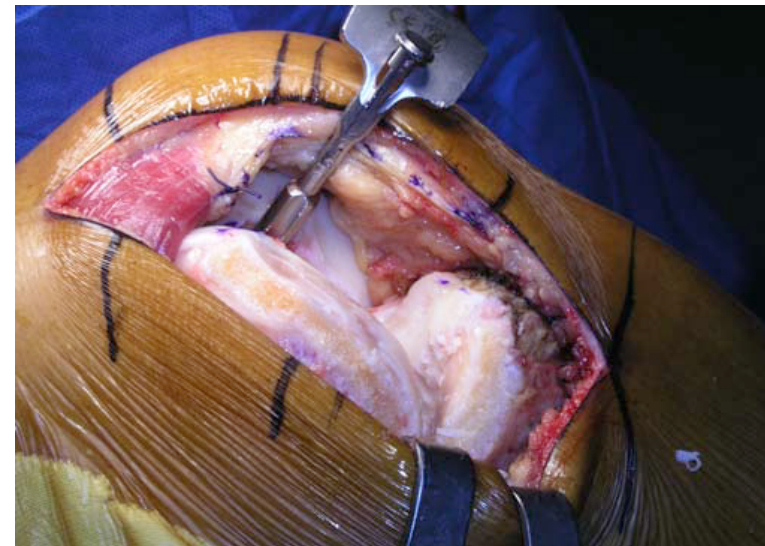
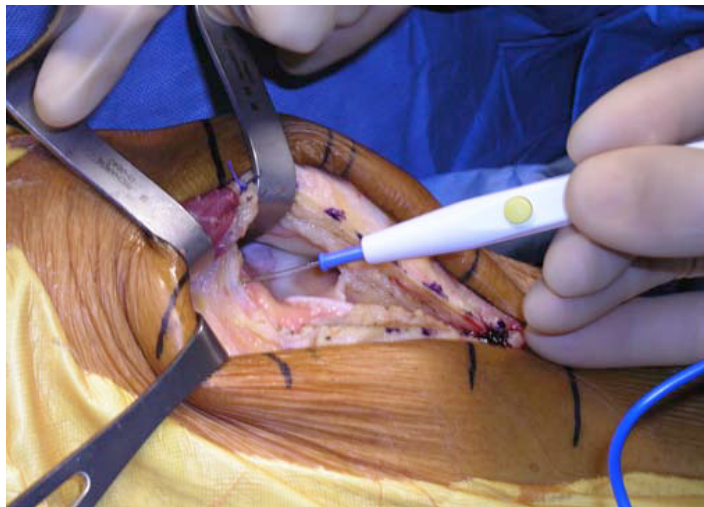
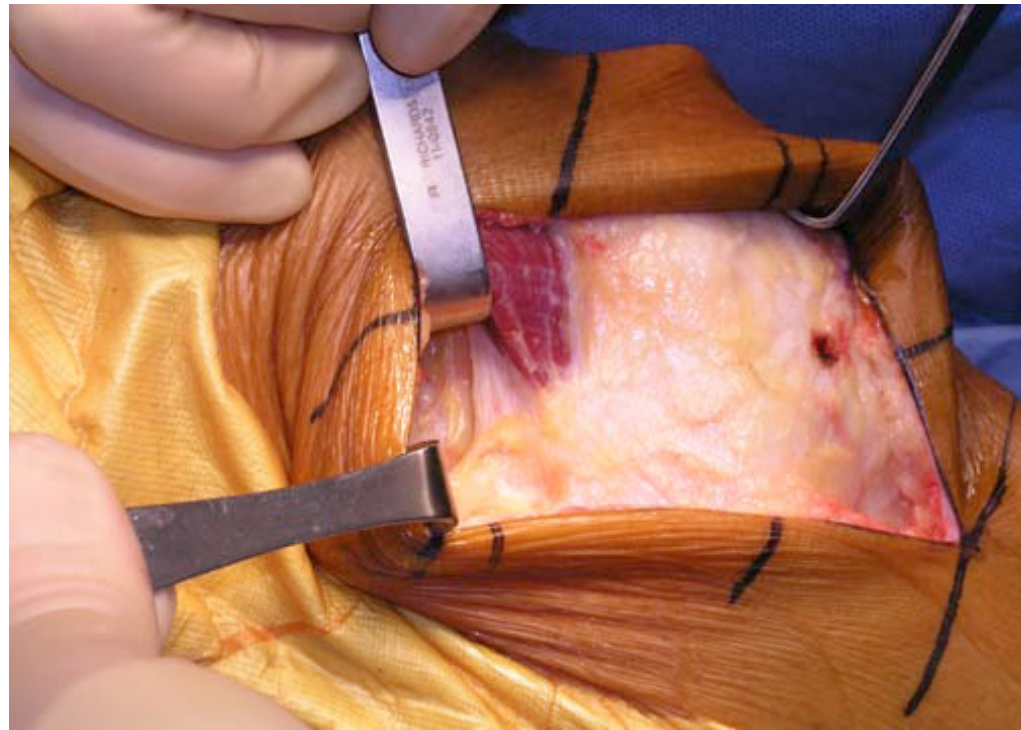
Wij zijn overtuigd van
een minimaal invasieve
toegang voor totale
knieprothese



Techniek minimaal invasieve subvastus toegang









Eerste vermelding

Clin Orthop Relat Res. 1991 Aug;(269):70-7.

Subvastus (Southern) approach for primary total knee arthroplasty.

Hofmann AA¹, Plaster RL, Murdock LE.

⊕ Author information

Abstract

The subvastus or Southern approach to the knee had been described as early as 1929 but is not found in standard modern orthopedic textbooks. This approach for primary total knee arthroplasty (TKA) preserves the integrity of the extensor mechanism and maintains the vascular supply to the patella. To appreciate the potential benefits of this approach, a complete understanding of the surgical anatomy is essential. The benefits of the subvastus approach make it a valuable technique for primary TKA.



Eerste vergelijking

[J Arthroplast.](#) 1993 Oct;8(5):511-6.

Comparison of the subvastus and paramedian surgical approaches in bilateral knee arthroplasty.

[Fauré BT](#)¹, [Benjamin JB](#), [Lindsey B](#), [Volz RG](#), [Schutte D](#).

⊕ Author information

Abstract

A prospective randomized study was performed on 20 patients undergoing one-stage bilateral knee arthroplasty. One knee was exposed using a standard median parapatellar arthrotomy and the other knee with a subvastus arthrotomy. All patients underwent quantitative strength testing before surgery and at 1 week, 1 month, and 3 months after surgery. The knees were also evaluated for range of motion, and patients, who were blinded as to the approach used, completed questionnaires at each evaluation period as to their preference, if any, regarding knee pain and level of function. There was no difference in the range of motion between knees exposed with the paramedian or subvastus arthrotomy at any time period. The subvastus knees demonstrated significantly greater strength at the 1-week and 1-month intervals, but there was no strength difference at the 3-month interval. There were more lateral releases performed in the paramedian knees, and three minor complications were related to the subvastus approach. Patients who expressed a preference chose the subvastus knee 4:1 over the paramedian knee. The subvastus approach offers a reasonable alternative to the paramedian arthrotomy and preserves greater quadriceps strength in the early postoperative period.

Patients who expressed a preference **chose the subvastus knee 4:1** over the paramedian knee. The subvastus approach offers a reasonable alternative to the paramedian arthrotomy and preserves greater quadriceps strength in the early postoperative period.



BMC Musculoskelet Disord. 2015 Oct 31;16:327. doi: 10.1186/s12891-015-0783-z.

Comparison of the quadriceps-sparing and subvastus approaches versus the standard parapatellar approach in total knee arthroplasty: a meta-analysis of randomized controlled trials.

Peng X¹, Zhang X², Cheng T³, Cheng M⁴, Wang J⁵.

The quadriceps-sparing approach was associated with better outcomes in KSS and VAS but required a longer operative time, and the subvastus approach was associated with **better outcomes in VAS, ROM, straight leg raise and lateral retinacular release.**



[J Bone Joint Surg Am.](#) 2014 Jun 4;96(11):907-915. Epub 2014 Jun 4.

Early Patient Outcomes After Primary Total Knee Arthroplasty with Quadriceps-Sparing Subvastus and Medial Parapatellar Approach: A Randomized, Double-Blind Clinical Trial.

Tomek IM¹, Kantor , Morgan TS¹, Swarup I¹, Moschetti WE¹, Spratt KF¹.

© Author information

When primary total knee arthroplasty was performed with contemporary minimally invasive surgery principles and standardized implants, anesthesia, and postoperative pathways, the QS technique yielded **lower mean pain scores at rest on postoperative day one and during activity on day three.**



J Arthroplasty. 2014 Dec;29(12):2298-304. doi: 10.1016/j.arth.2013.10.023. Epub 2013 Oct 28.

Surgical approaches in total knee arthroplasty: a meta-analysis comparing the midvastus and subvastus to the medial peripatellar approach.

Liu HW¹, Gu WD², Xu NW², Sun JY¹.

The meta-analysis suggested that, when compared with the medial parapatellar approach, the midvastus approach showed **better outcomes in pain and knee range of motion** at postoperative 1-2weeks but also was associated with longer operative time; the subvastus approach showed better outcomes in knee range of motion at postoperative 1week, **straight leg raise and lateral retinacular release**.



J Arthroplasty. 2014 Jan;29(1):33-6. doi: 10.1016/j.arth.2013.03.021. Epub 2013 Apr 29.

Postoperative pain and contracture following total knee arthroplasty comparing parapatellar and subvastus approaches.

Curtin B¹, Yakkanti M, Malkani A.

Total of 23 (4%) manipulations under anesthesia for contracture in Group A compared to 6 (2%) in Group B ($p > 0.05$). Postoperative pain scores at 6 weeks was greater in Group A, $p < 0.05$. We feel that a subvastus approach minimizes trauma to the extensor mechanism, and therefore **decreases the incidence of postoperative pain** following TKA



Orthopedics. 2012 Dec;35(12):e1722-31. doi: 10.3928/01477447-20121120-16.

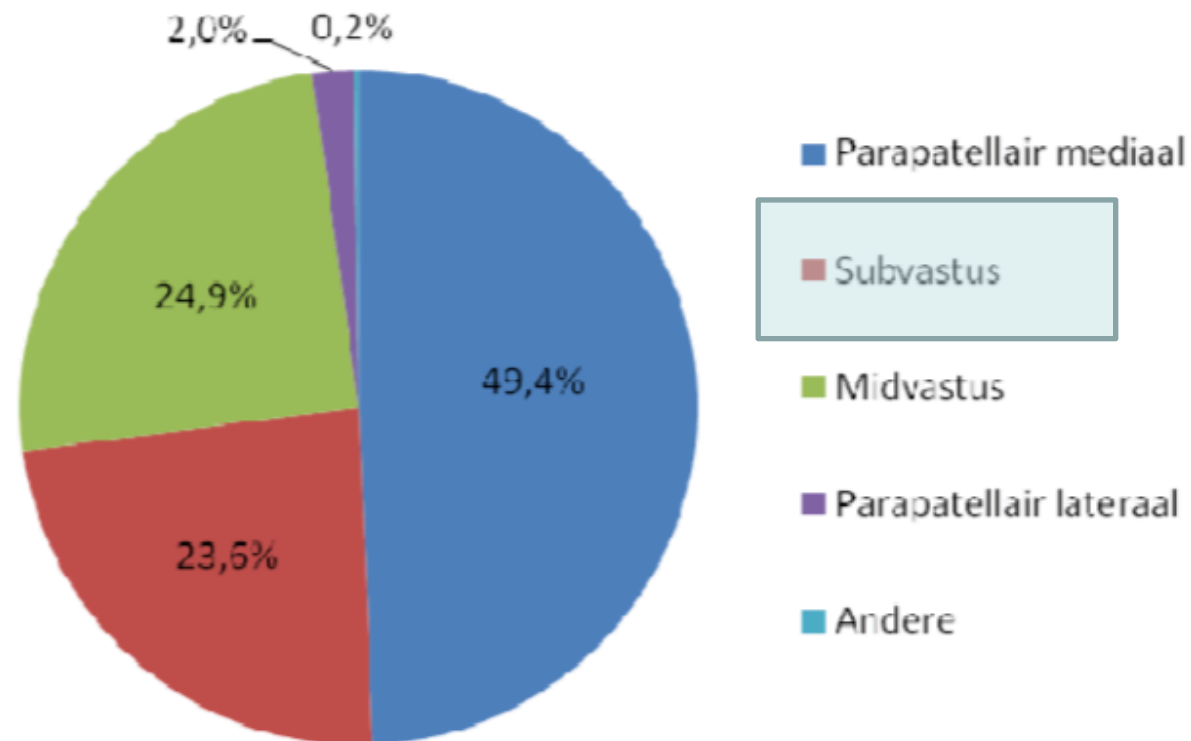
Subvastus versus medial parapatellar approach in total knee arthroplasty: meta-analysis.

Teng Y¹, Du W, Jiang J, Gao X, Pan S, Wang J, An L, Ma J, Xia Y.

Meta-analysis revealed significant differences favoring the subvastus group in Knee Society Score in **terms of function** at 4 to 6 weeks (weighted mean difference [WMD]=5.09; 95% confidence interval [CI], 3.08 to 7.09; $P < .01$) and **knee score at 12 months** (WMD=2.17; 95% CI, 0.01 to 4.34; $P = .05$) and lateral retinacular release (odds ratio=0.34; 95% CI, 0.14 to 0.79; $P = .01$) when compared with the medial parapatellar approach.



ORTHOPRIDE GEGEVENS 2013





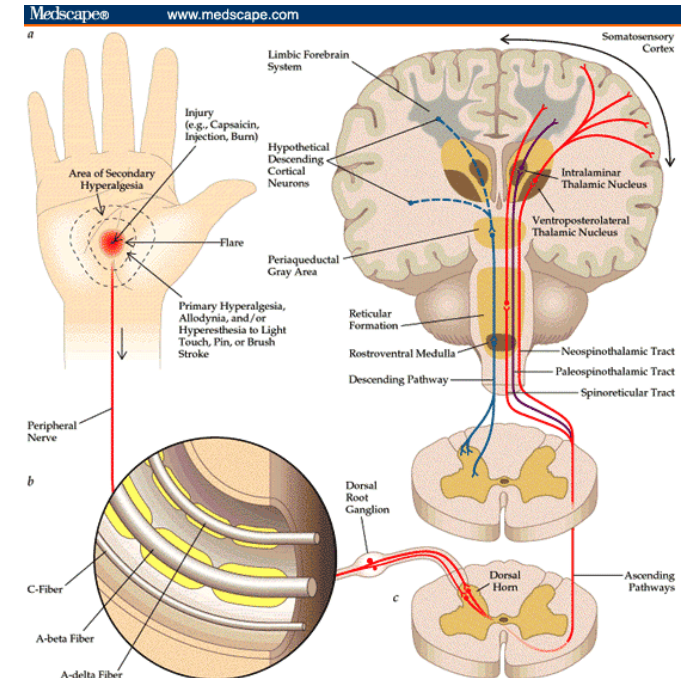
WAAROM KIEZEN WIJ VOOR DE SUBVASTUS TOEGANG

- Sneller herstel, minder initiële postoperatieve pijn, meer behoud spierkracht, sneller van krukken vanaf, betere patella tracking



FAST TRACK TOTALE KNIJPROTHESE

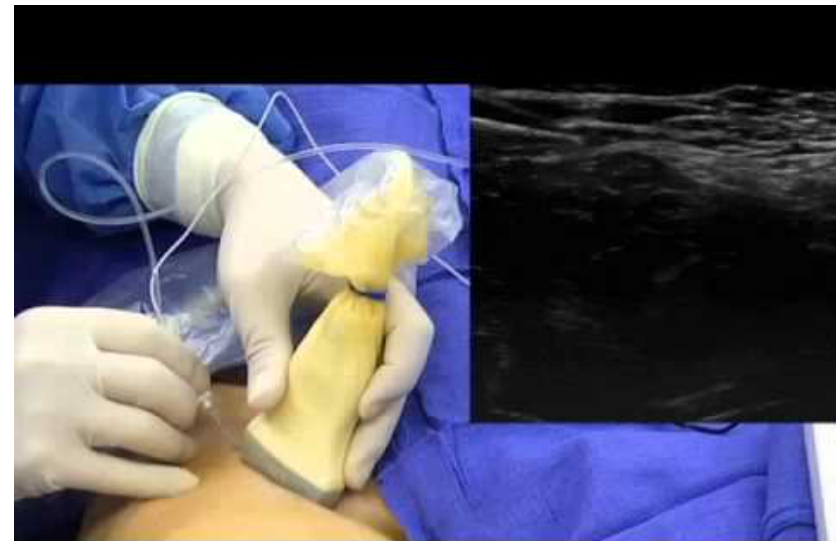
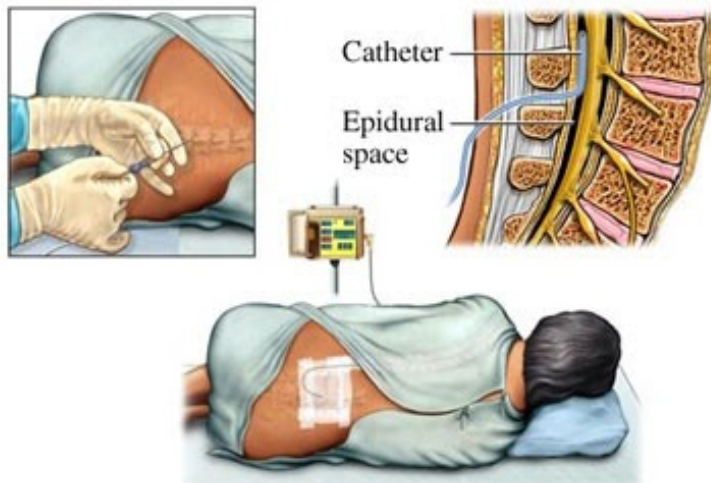
- LIA= Local infiltration analgesia
- Vroege postoperatieve pijn triggert cascade
 - Is geassocieerd met persisterende pijn





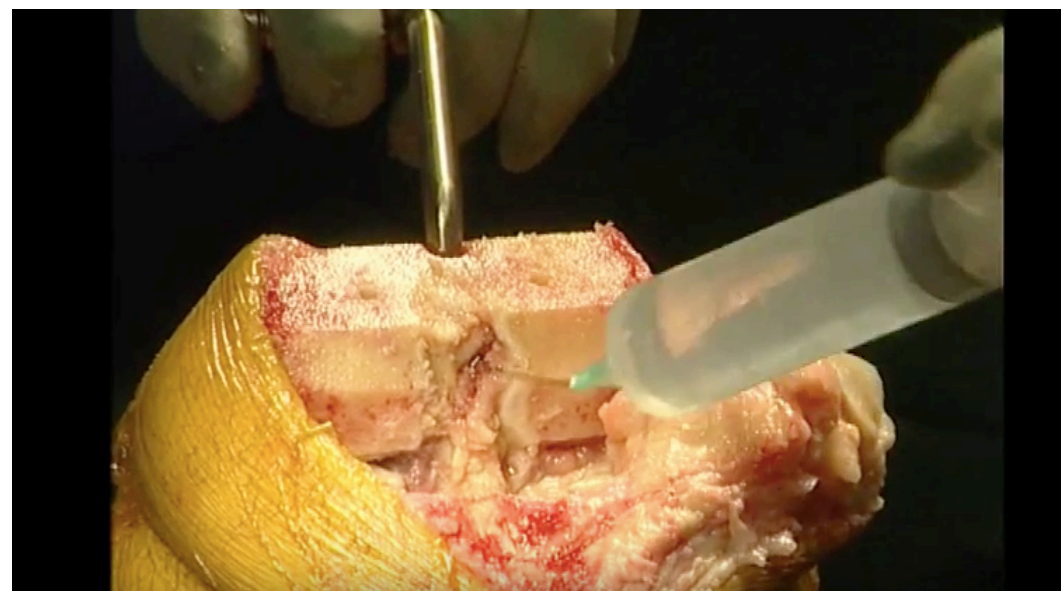
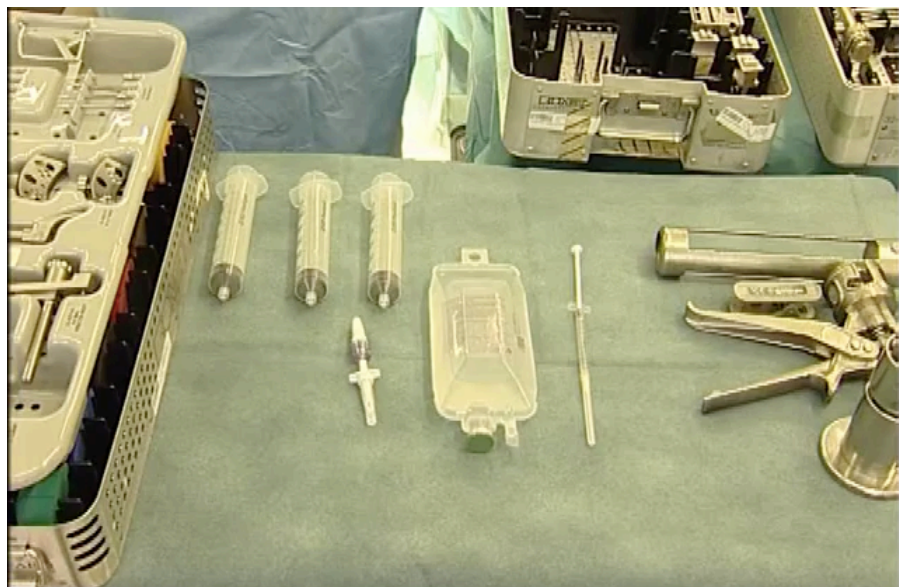
VROEGER PIJNBELEID NA TOTALE KNIETPROTHESE

- Morfine +++
- Epidurale analgesie en femoralis nerve blok superieur aan opioïden alleen
- Nadeel:
 - Krachtverlies
 - Past niet in fast track concept





FAST TRACK TOTALE KNIETPROTHESE





Acta Orthop. 2008 Apr;79(2):174-83.

Local infiltration analgesia: a technique for the control of acute postoperative pain following knee and hip surgery: a case study of 325 patients.

Kerr DR, Kohan L.

Joint Orthopaedic Centre, New South Wales, Australia. drkerr@bigpond.net.au

Abstract

BACKGROUND: We have developed a multimodal technique for the control of pain following knee and hip surgery, called "local infiltration analgesia" (LIA). It is based on systematic infiltration of a mixture of ropiva-caine, ketorolac, and adrenaline into the tissues around the surgical field to achieve satisfactory pain control with little physiological disturbance. The technique allows virtually immediate mobilization and earlier discharge from hospital.

PATIENTS AND METHODS: In this open, nonrandomized case series, we used LIA to manage postoperative pain in all 325 patients presenting to our service from Jan 1, 2005 to Dec 31, 2006 for elective hip resurfacing (HRA), primary total hip replacement (THR), or primary total knee replacement arthroplasty (TKR). We recorded pain scores, mobilization times, and morphine usage for the entire group.

RESULTS: Pain control was generally satisfactory (numerical rating scale pain score range 0-3). No morphine was required for postoperative pain control in two-thirds of the patients. Most patients were able to walk with assistance between 5 and 6 h after surgery and independent mobility was achieved 13-22 h after surgery. Orthostatic hypotension, nausea, and vomiting were occasionally associated with standing for the first time, but other side effects were unremarkable. 230 (71%) of the 325 patients were discharged directly home after a single overnight stay in hospital.

INTERPRETATION: Local infiltration analgesia is simple, practical, safe, and effective for pain management after knee and hip surgery.



HERSTEL IN HET ZIEKENHUIS

- D0: opzitten zo mogelijk, stappen met krukken/rollator zo mogelijk (indien Fast Track)
- D1: start gangrevalidatie, kinetec
- D3-D5: verder gangrevalidatie, ontslag??





ONTSLAGCRITERIA NA TKP

- Wonde droog
 - 0-90° ROM
 - Zelfstandig kunnen stappen met 2 krukken of rollator
 - Pijn onder controle met per os medicatie
 - (Trappen kunnen doen)
-
- Ontslag met 60 beurten kine en kinetec
 - Doel verdere kine: aanmoedigen flexie en extensie, proprioceptie, afbouwen krukken eerst binnenhuis dan buitenhuis (op 2-6 weken?)
 - Autorijden? Remstop, proprioceptie





WEEK 3

- Staples worden verwijderd
- Liefst $> 90^\circ$ flexie en goede evolutie
- Verder oefenen met kinetec en kinesis
- Nachtelijke pijn NSAID's
- Krukken afbouwen (afhankelijk van leeftijd)

WEEK 6

- Verder evolutie inschatten
- Graag krukken weg (afh van leeftijd)
- Stop fraxiparine
- Nachtelijke pijn nog normaal





ACTIVITEITEN NA TKP

Recommended	Recommended With Experience	Not Recommended
Low-impact aerobics	Cycling	Racquetball/squash
Bowling	Hiking	Contact sports (football, hockey, soccer)
Golf	Rowing	Rock climbing
Dancing	Cross-country skiing	Jogging/running
Walking	Stationary skiing	Singles tennis
Swimming	Speed walking	Waterskiing
	Doubles tennis	Baseball/softball
	Ice skating	Handball
		Martial arts