



**5th Advanced Course in Knee surgery**  
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Val d'Isère - France

## The influence of different surgical approaches

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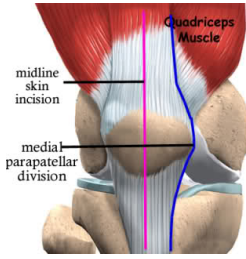

## Numerous approaches described TKR

- Medial Para-patellar
- Mid-vastus
- Sub-vastus
- Lateral (Keblish)



## Medial para-patellar approach

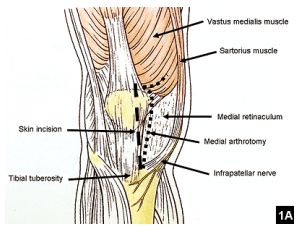
- Standard incision
- Familiar
- Easy
- Good access
- Reliable function
- Standard against which other techniques compared



## Compared using what?

<ul style="list-style-type: none"> <li>• Operating time?</li> <li>• Shorter hospital stay?</li> <li>• Patient subjective outcome</li> <li>• Functional score: RRR</li> <li>• Incision length</li> <li>• Early function                             <ul style="list-style-type: none"> <li>– ROM</li> <li>– SLR</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Extra case</li> <li>• Keeps managers happy</li> <li>• RCT</li> <li>• ? Important                             <ul style="list-style-type: none"> <li>– Wound breakdown</li> <li>– Infection rates</li> <li>– Bruising</li> </ul> </li> </ul>
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## Mid-vastus approach



### Mid-vastus vs. Medial Para-patellar

- Guy Knee 2012
- PRCT
- MI Mid-vastus vs. Medial para-patellar
- No difference
  - Length stay 3.75 days
  - Oxford/Knee Society Score
  - Blood loss & incision length favoring MI
- Concluded- no difference
- Alcelik Knee 2012
- Meta-analysis short term outcomes
- Cochrane guidelines
- 18 studies 1040 patients
- 1<sup>st</sup> week post op improved VAS & flexion  $P < 0.01$

### Sub-Vastus Approach

- Jain Indian J Ortho 2013
- RPCT Sub-vastus vs. Medial PP
- VAS lower
- 2 days shorter hospital stay
- Better commode use stair climbing
- TT 108.5 vs. 94.4 mins



### Sub-vastus vs. Medial Parapatellar

- Liu J Int Med Res 2011
- Sub-vastus mini-invasive vs. Medial PP
- SLR & MV
- Improved ROM
- No difference at 1 year
- Bourke J Arthroplasty 2012
- Sub-vastus vs. Medial PP
- Compared Patella vascularity
- Bone nuclide scanning, anterior knee pain
- No difference

### Wegrzyn Clin Orthop Relat Res 2013

- John Insall Award-no benefit in minimally invasive TKA on gait or strength outcomes a randomized controlled study
- Mini Sub-vastus vs Medial Para-patellar
- 2 months post op
- Functional scores KSS, F12, KOOS & UCLA
- Knee kinematics and kinetic gait parameters
- Marginally higher speed stair ascent

### Sub-vastus & Medial Para-patellar: Meta-analysis

- Teng Orthopedics 2012
- Sub-vastus vs. Medial PP
- Meta-analysis
- Knee Society Score
- Same ROM & Operation time, blood loss and hospital stay
- Hu KSSTA 2013
- Sub-vastus vs. Medial PP
- Meta-analysis
- 10 studies 976 knees
- Less lateral release
- Earlier SLR
- Superior knee flexion
- No increase duration surgery

Knee Surg Sports Traumatol Arthrosc (2012) 20:2006–2011  
DOI 10.1007/s00137-011-1813-5

KNEE

Effects of four different surgical approaches on intra-operative joint gap in posterior-stabilized total knee arthroplasty

Yasuo Niki · Yuki Takada · Hiroya Kanagawa · Wataru Iwamoto · Hideto Matsumoto · Hiroyuki Kanamoto · Yoshitaki Toyama · Yasuo Suda

- 80 knees undergoing PS
- Varus 20
  - Para-patellar
  - Mid-vastus
  - Sub-vastus
- Valgus
  - Lateral sub-vastus
- Flexion gap reduced when patella displaced laterally vastus medialis preserving approaches
- Otherwise no difference

### Mid-vastus vs. Sub-vastus vs. Medial PP (Quad Sparing)

- PRCS 59 patients 3 groups
- Early improvement in quads sparing
- No difference by week 6
- No difference post op complications or radiographic outcome

### Summary

- What do our patients want?
  - Pain free mobilisation
  - Adequate function for needs (ADL) ROM
  - Sports function decreased prosthetic implant & wear
  - Competitive function
- Most 60-70s
  - Ability to revise?
- Those 50s
  - Ability to revise?
- What do our managers want?
  - Short stay
  - Low re-admission rates
  - Fast operations increasing through put, extra case?

### Thoughts?

- Surgical fashion?
- UK patients information Daily Mail not Pudmed
- Compare their performance to their neighbours and friends
- Must follow up our patients and stand by our results for the future
- Long term follow up

