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Favorable Mid-Term Outcomes Following Unicompartmental Knee Arthroplasty with Wider Patent Selection: A Single-Center Experience

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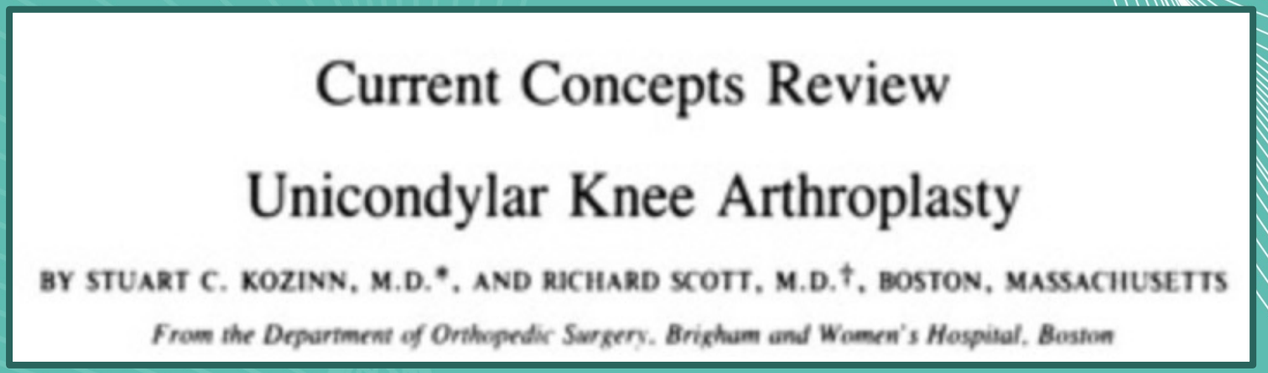
Introduction

- Traditionally narrow indications for UKA
  - >60 years old
  - <180lbs
  - Avoidance of heavy labor, minimal baseline pain
  - Angular deformity <15deg
- Emerging indications for some populations
  - Include heavier, younger, PF arthritis, ACL insufficiency


Current Concepts Review

Unicondylar Knee Arthroplasty

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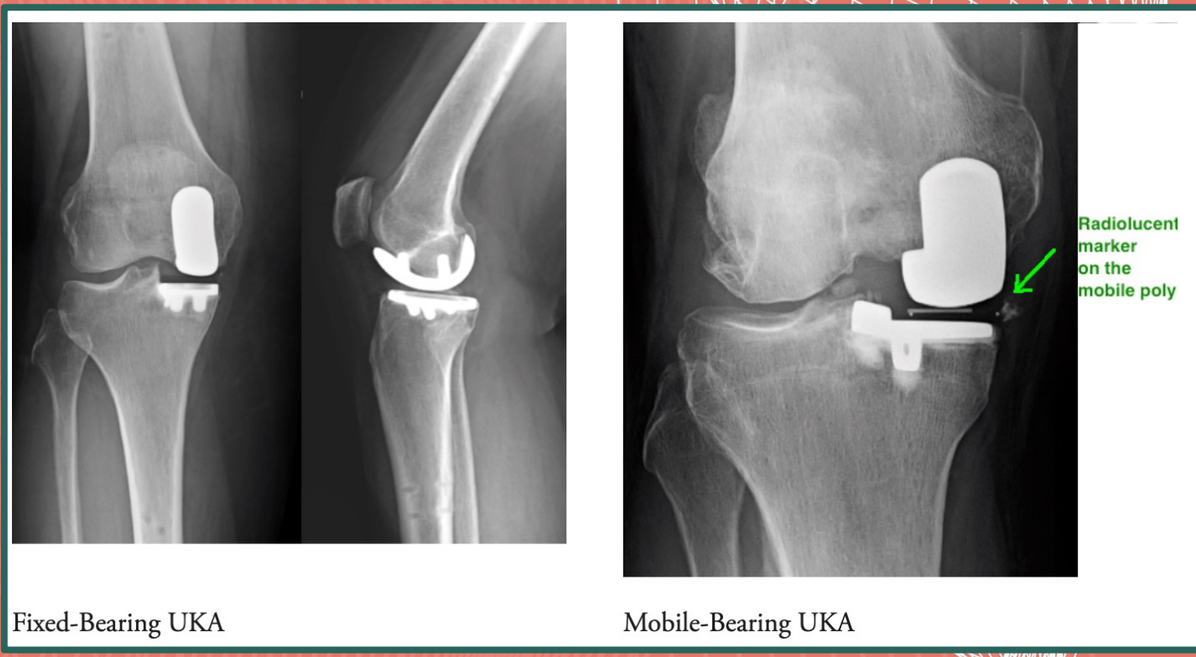
Introduction

- Delay in need for TKA
  - 15-year survivorship of 79%, 82% by Australian, Canada data, respectively
  - 14-year survivorship of 83.3% by New Zealand data
  - 20-year survivorship of 72% by Norwegian data
- Lower complication rate than TKA
- Decreased post-op rehabilitation due to retained proprioception



Purpose

- To retrospectively evaluate outcomes and reoperation rates in patients undergoing UKA with relaxed indications
- To evaluate patient risk factors predictive of clinical failure or failure to achieve minimal clinically important difference in outcomes

Methods

- Retrospective review of prospectively maintained data
- Single institution database of patients undergoing UKA
  - Medial or lateral UKA with stable knee
  - Before 2013, a1c <7.5; after 2015, a1c <7.0
  - Restoris MCK, Mako, Stryker Corp.
- Oxford scores pre-op, 6mo, and annually
- Radiographic data- angular deformity, joint space (mm)
- Clinical data- complex pain, comorbidities, demographics

Results

- 1,186 knees in 1,014 patients with min 4-yr follow-up
  - Mean age: 63.4±10.7 years
  - Mean follow-up: 76.4±17.4 months
  - Mean BMI: 32.3±6.5 kg/m^2
- 901 medial, 122 lateral, 69 patellofemoral
- 859 inlay, 258 onlay
- Average varus: 4.61±4.34^o
- Average valgus: 9.85±3.96^o

Predictors for conversion to TKA

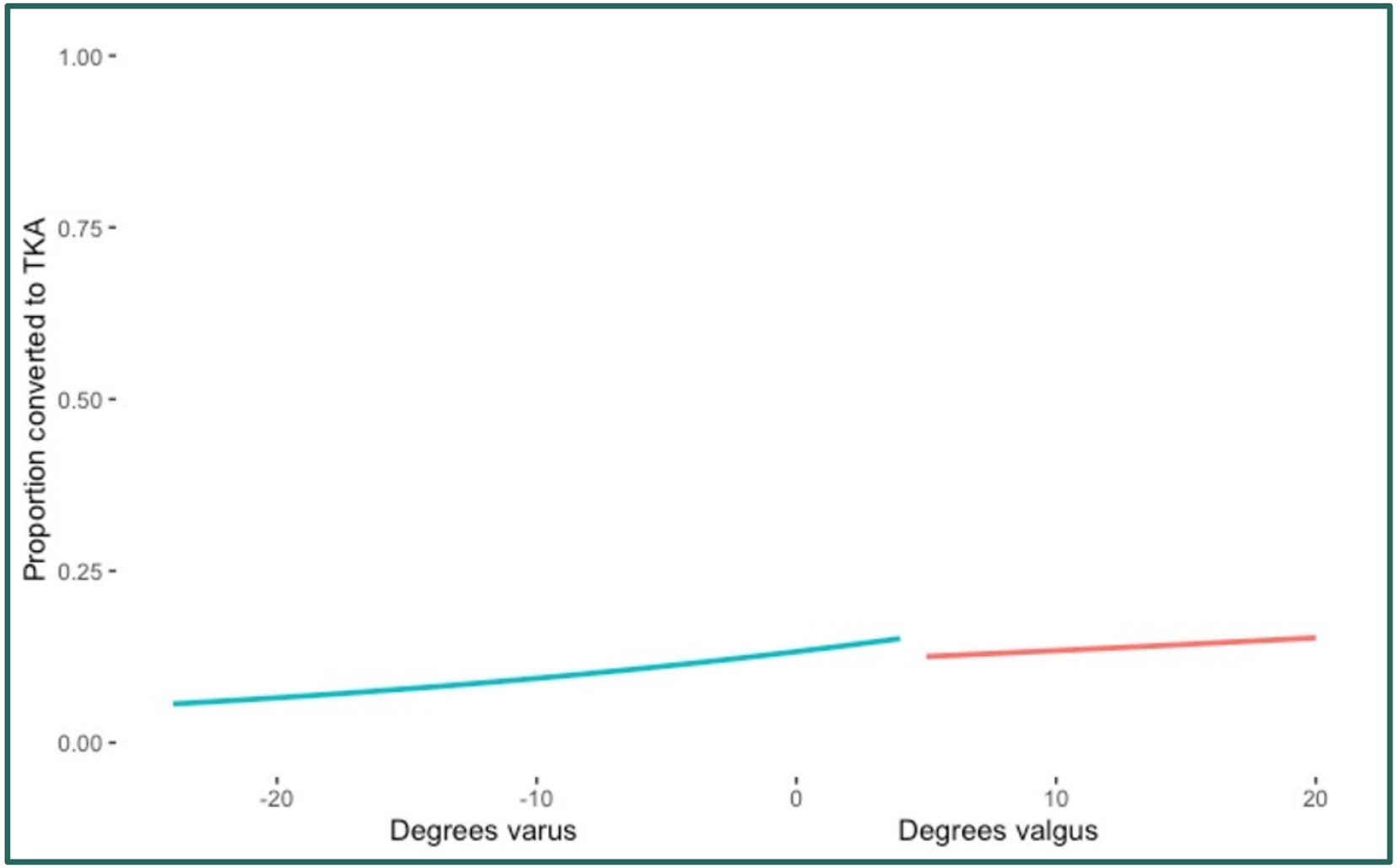
- 85 knees (7.2%) converted to TKA with 4-year follow-up

Variable	p-value	Odd's Ratio	95% CI
Age	0.153	0.98	0.96, 1.00
Pre-operative BMI	0.110	0.97	0.93, 1.01
Onlay	0.042	0.64	0.41, 0.98
Previous Surgery	0.014	1.93	1.15, 3.26
Pain syndrome	0.013	1.90	1.15, 3.16
Opioid User	0.111	1.57	0.90, 2.72
Degree valgus	0.011	1.08	1.02, 1.14
Operative Joint space	0.043	1.19	1.01, 1.42
Compartment	0.061	0.35	0.12, 1.05

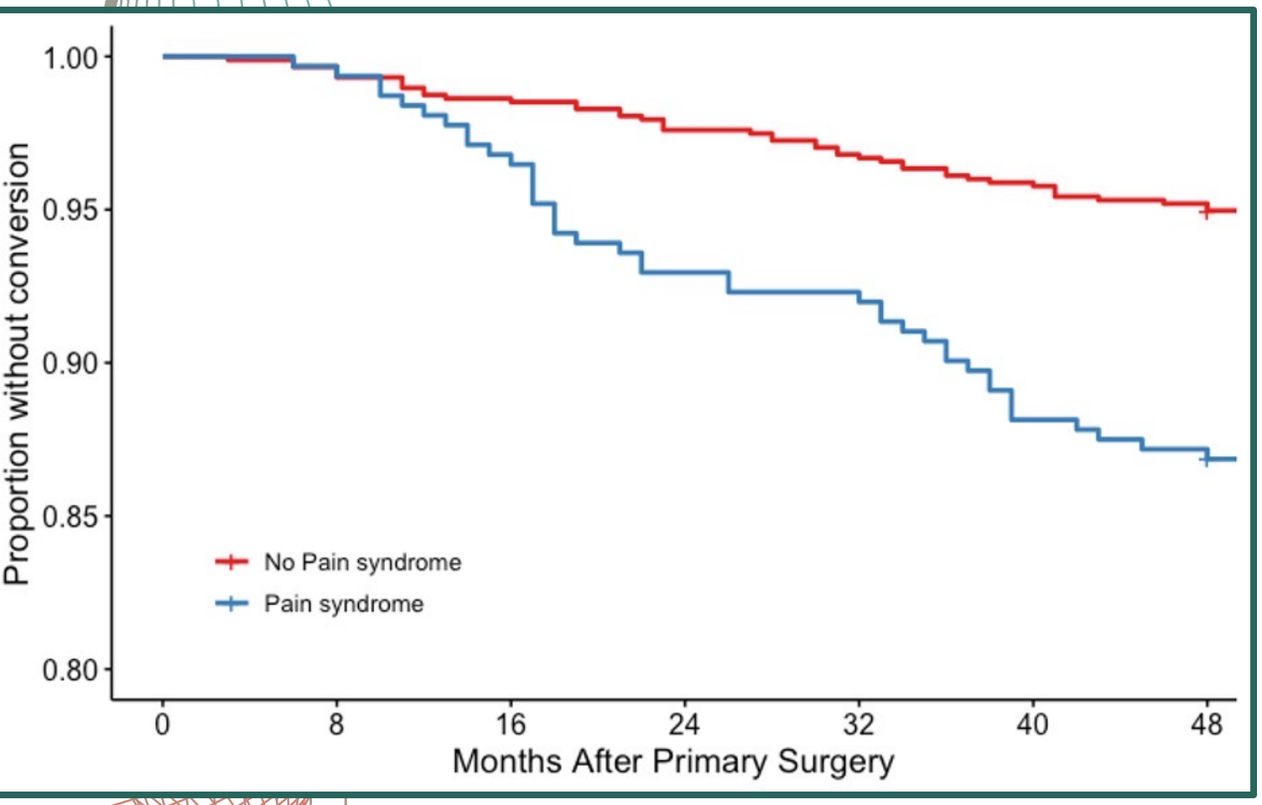
Influence of preoperative coronal alignment

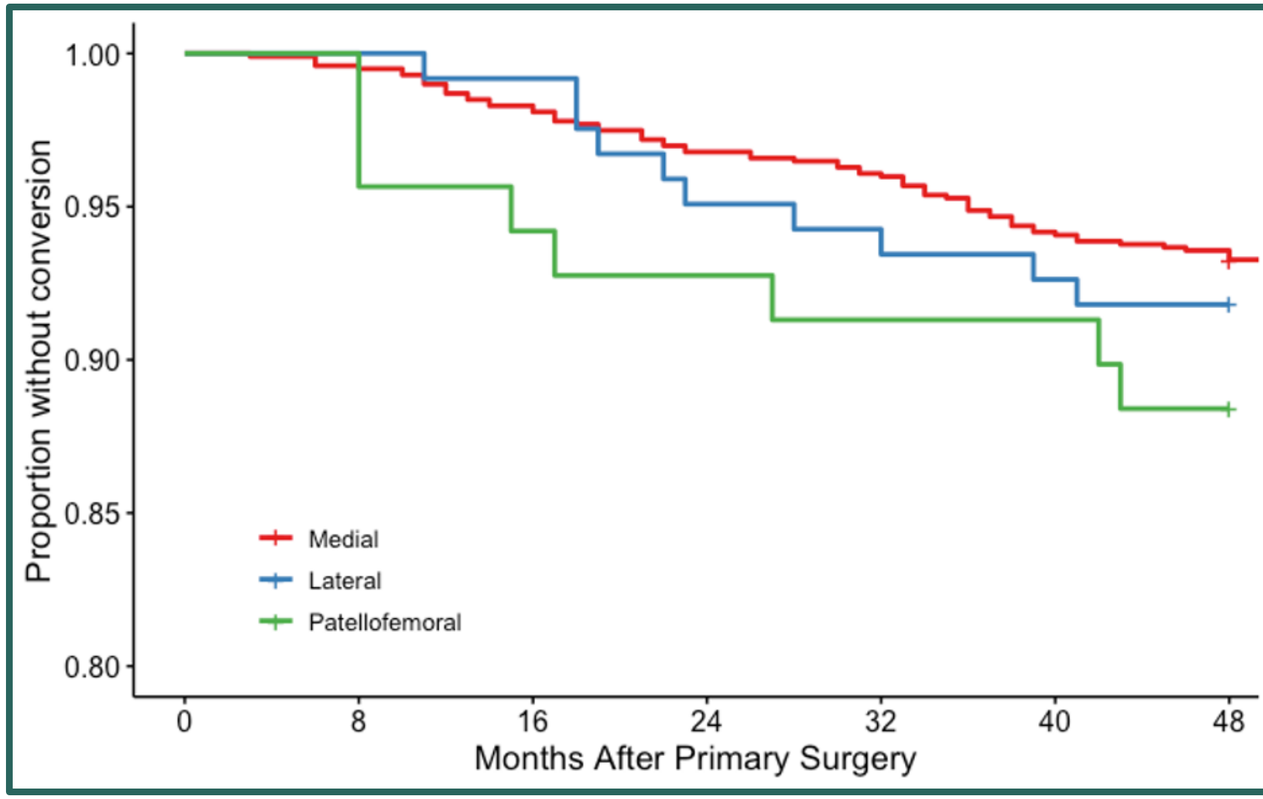
For the medial compartment >Varus= better results

For the lateral compartment <Valgus = better results



Factors associated with survivorship after UKA





Conclusions

- Favorable survival (92% at 4-years) and clinical outcomes with relaxed patient selection criteria
- Greater coronal malalignment may still tolerate UKA
- Failures may be related to complex pain, unrelated to arthritis; further research required to screen these patients for possible referral to pain management
- Beware if the operative joint space is greater than 2 mm on the lateral xray

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