




Universität Rostock  Institut für Innere Medizin 



Discoid Meniscus – How I do

T. Tischer

5th Advanced Course on Knee Surgery, Val d'Isere, 2.-7.2.2014

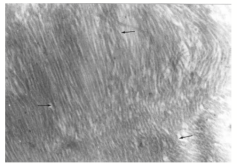
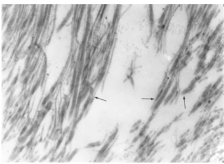
Some facts ! 2

- First described by Young in 1889
- Congenital development
- 0.4 – 16.6 %
- Slightly higher in asian population
- Lateral >> medial
- Bilateral about 20%
- “Snapping knee syndrom” in children

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Ultrastructure 3

Organized collagen arrangement is lost:
disorganized and decreased number of collagen fibers

Normal meniscus	Discoid meniscus
	

Electron micrograph x20.000

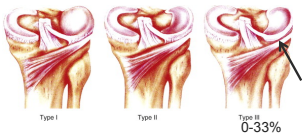
Atay et al. Am J Sports Med 2007
Papadopoulos et al. Arthroscopy 2009

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Classification 4

Watanabe classification

- I: complete type
- II: incomplete type
- III: Wrisberg ligament type



Type II 0-33%

Jordan classification

- Peripheral Stability (stable/unstable)
- Type of discoid meniscus (complete/incomplete/Wrisberg)
- Presence of meniscal tear
- Clinical symptoms (symptomatic/asymptomatic)


Jordan et al. J Am Acad Orthop Surg 1996

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MRI diagnosis 5

Three or more 5mm thick sagittal sections demonstrate continuity between anterior and posterior parts

Information about intrasubstance tears or degeneration
-> surgical planning



Samoto et al. Magnetic Resonance Imaging 2002

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Treatment: how I do 6

- Conservative treatment if asymptomatic
- Partial meniscectomy
- Partial meniscectomy with repair
- (Subtotal/total meniscectomy)

Resection vs. Repair ?

- + Tissue is inherently abnormal
- Late degenerative changes

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Surgical Technique 7

Arthroscopic portals:
 3 portals, don't struggle with 2
 probe with spinal needle

Probe for peripheral rim instability!

Partial meniscectomy: "saucerization" (bitters and shavers)

Kim et al. Arthroscopy 2005
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Surgical Technique 8

Leave rim of about 8mm width

Ahn et al. Arthroscopy 2008
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Surgical Technique 9

Difficult to resect with peripheral tear
 -> Temporary reposition using sutures

Ahn et al. Arthroscopy 2008
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Surgical Technique 10

Additional suture with instability or peripheral tear (about 30%):
 Standard repair: healing stimulation and inside-out, outside-in, all-inside depending on tear localization

All inside using suture hook through posterolateral portal

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Surgical Technique 11

Cave: all-inside using suture anchors in children

- size of implants
- proximity of neurovascular structures

F, 8yrs
 distance <4mm

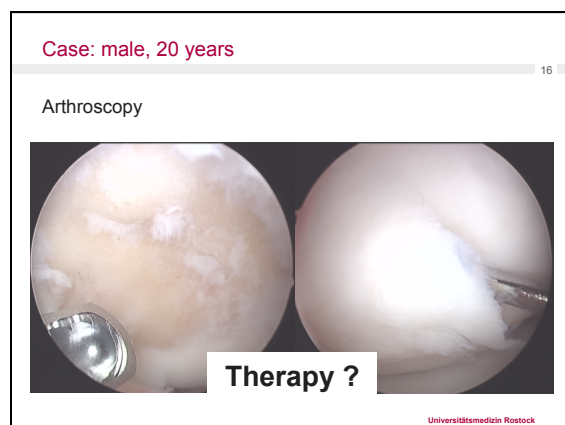
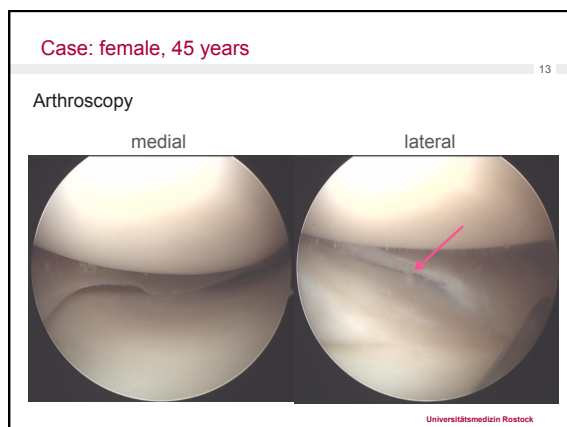
Pitfalls:
 Visualisation (small size of knee, limited space through thickened meniscus)
 -> sometimes 2.7 scope

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Case: female, 45 years 12

Lateral sided pain
 Positive meniscus signs

ck



Outcome 17

Results after (sub-)total meniscectomy worse than partial in patients aged 9.5 years and follow-up of 4.3 years
Lee et al. Arthroscopy 2009

Partial meniscectomy combined with peripheral repair:
no reoperation in 28 knees (mean age 9.0 years) after mean follow-up of 51 months
Ahn et al. Arthroscopy 2008


Middle-aged (>40y) patients with discoid meniscus have more varus alignment and higher prevalence of osteoarthritis
?Preventive resection at younger age?
Kim et al. J Bone Joint Surg Am 2013


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Take Home 18

- Careful diagnostics
- Classification (stable/unstable/complete/incomplete/tears/symptoms)
- Individualize treatment
- Arthroscopic treatment
- Most likely favor repair over complete resection

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