

Hallux Rigidus

What's old and what's new

Dr John Negrine
Foot and Ankle Surgeon



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Hallux rigidus

“Stiff big toe”

- Arthritis of first MTP joint
- Can occur in adolescence
- May be primary or post-traumatic
- Men > Women



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Hallux rigidus symptoms

- Swelling, stiffness and pain
- Bone proliferation around the metatarsal head
- Dorsal impingement – difficulty in running



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Hallux rigidus clinical



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Mike Coughlin

- Giant in the field
- One of my heroes
- Lovely chap



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Coughlin Classification

- Grade 0: Stiffness with normal x-ray
- Grade 1: Mild pain at extremes – normal joint space mild dorsal osteophyte
- Grade 2: Moderate pain with ROM – osteophyte with < 50% joint space narrowing
- Grade 3: Significant stiffness, pain at extremes no mid range pain –Severe osteophyte >50% joint space narrowing
- Grade 4: Significant stiffness, pain at extremes and mid-range, xray changes same as Grade 3



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Hallux rigidus non-operative treatment

- Deeper shoes
- Stretch shoes
- Anti-inflammatories
- Glucosamine/chondroitin sulphate
- Insole in shoe
- Rocker sole/steel shank



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Cheilectomy

- Good option early in the disease
- Remove the dorsal osteophyte and 1/3 of the joint
- Doesn't burn any bridges
- Day surgery
- Quick convalescence
- 80% good results

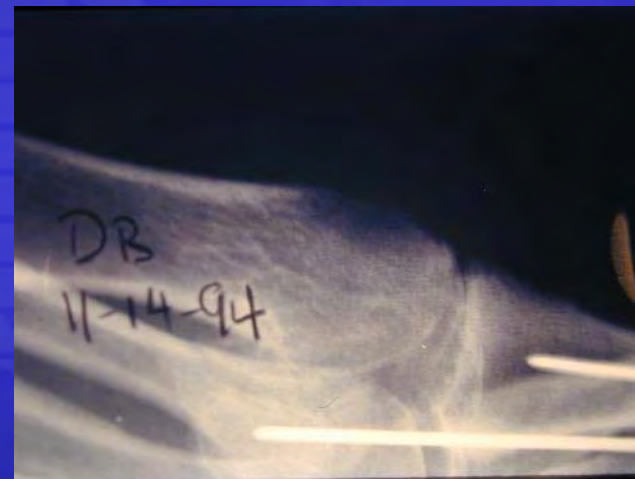


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Cheilectomy



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Cheilectomy results

- Feltham et. al. 67 patients 65 month follow-up 91% satisfaction
- Easley et. al. 68 patients 5 year follow-up 90% satisfaction
- Coughlin 93 patients 9.6 years follow-up 97% satisfaction

Midrange pain a poor prognosticator,
osteophyte recurring did not correlate with
failure or recurrence of symptoms



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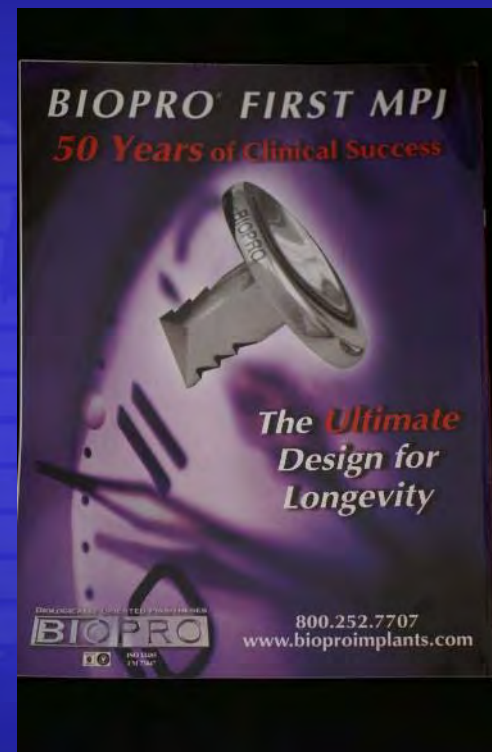
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Joint replacement



1982



2006



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Joint replacement

- Silastic will fail in most cases and in my opinion should not be used
- Metal hemi-arthroplasty results variable
- My own experience not entirely happy
- 2 papers at AOFAS in July 2006 poor results both authors have stopped using the implant



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Do we need an alternative to fusion?

- What if the patient has interphalangeal arthritis?
- What if a young female wishes to wear high heeled shoes?
- What if the patient is athletic?



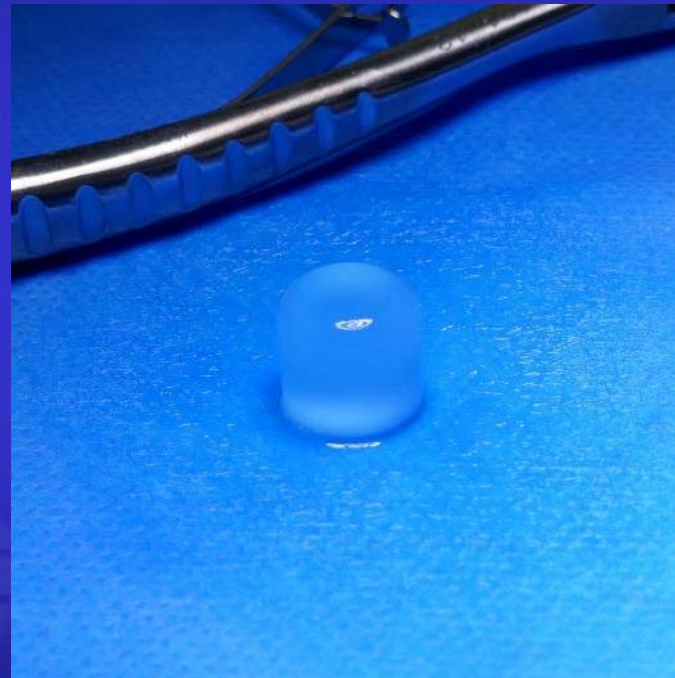
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Cartiva

- Organic polymer 40% polyvinyl alcohol and 0.9% saline
- 8 and 10mm size



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Cartiva technique



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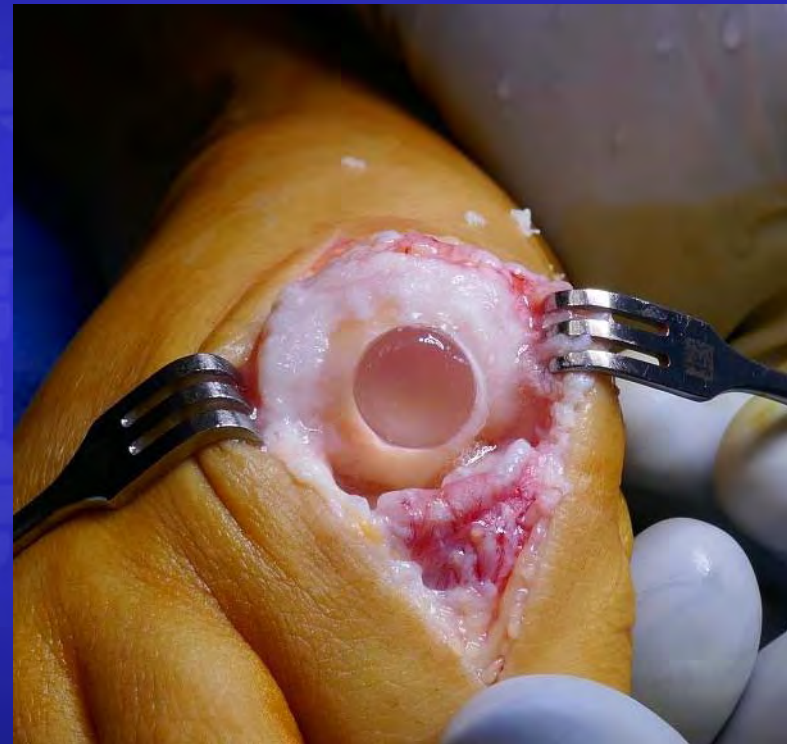
Cartiva technique



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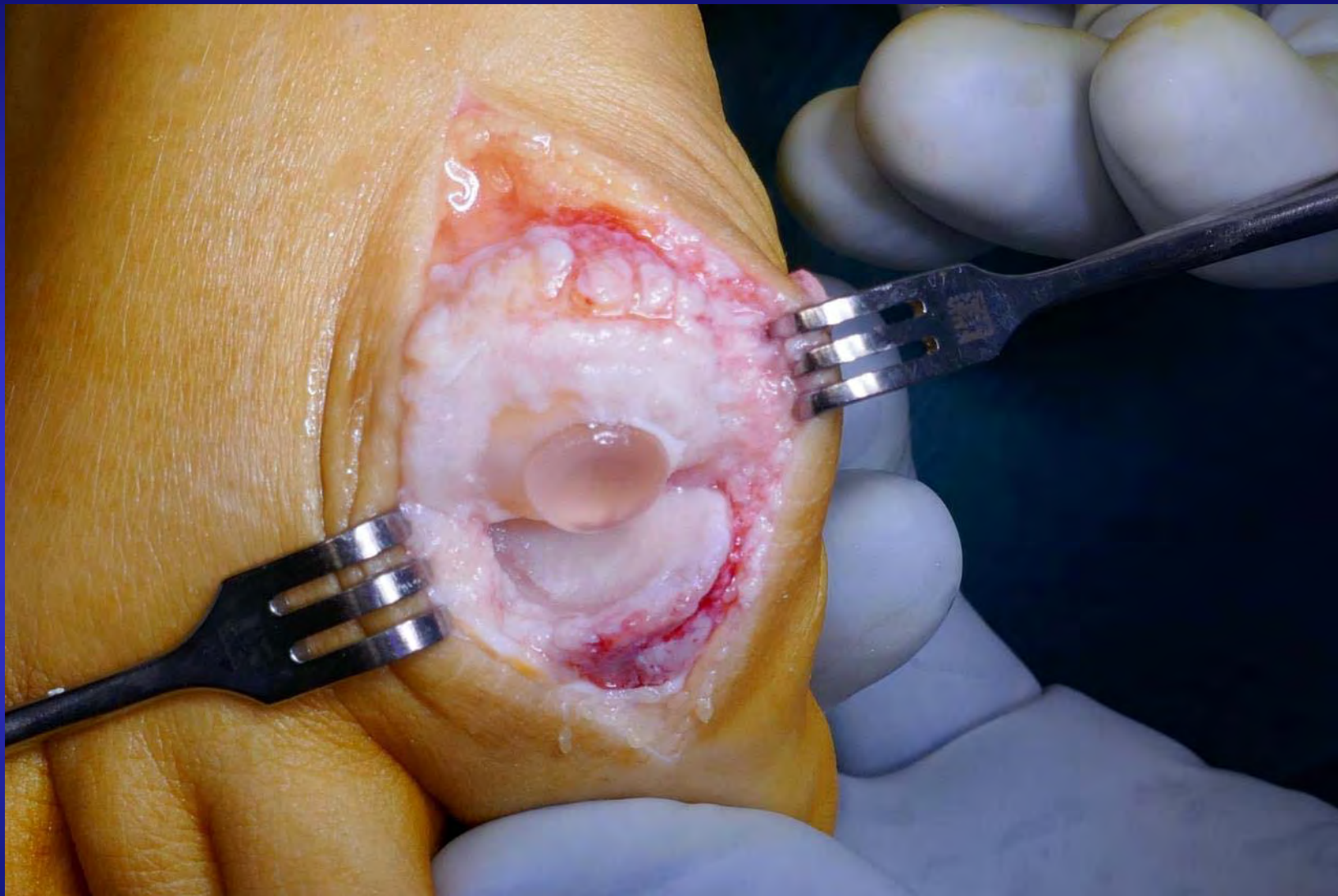
Cartiva technique



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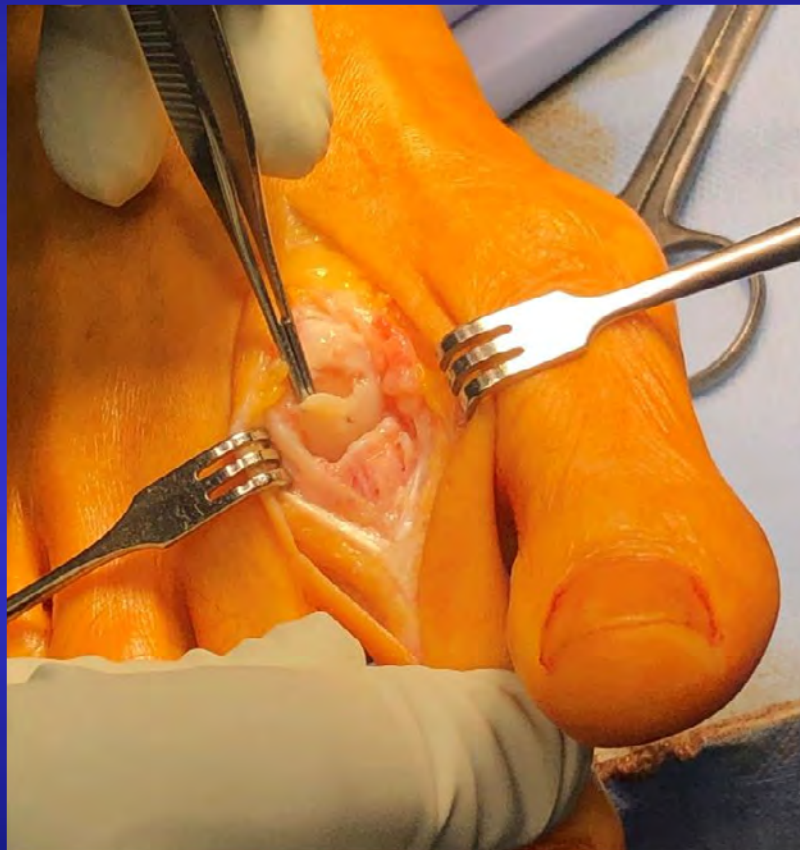


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2nd MTP Cartiva



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First MTP fusion

- For Coughlin Grade 4 – mid range pain, bone on bone with or without deformity

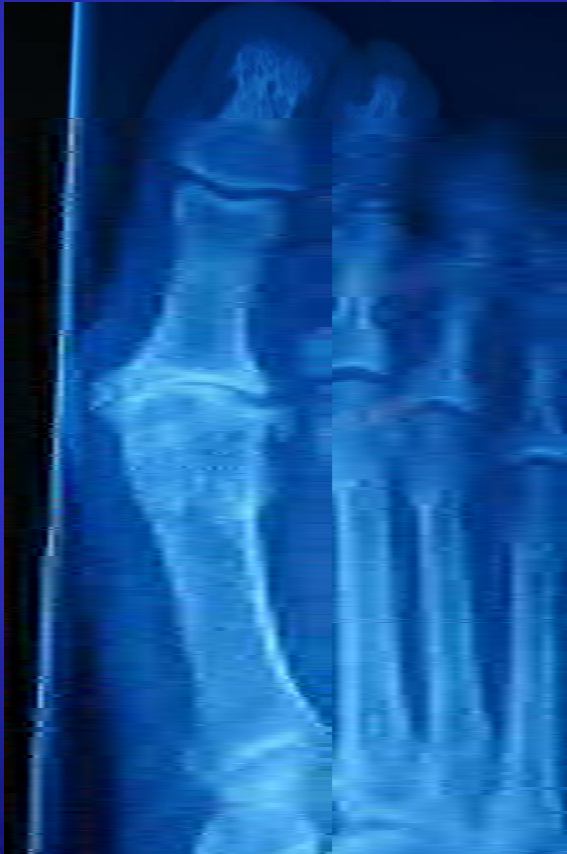


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Fusion technique



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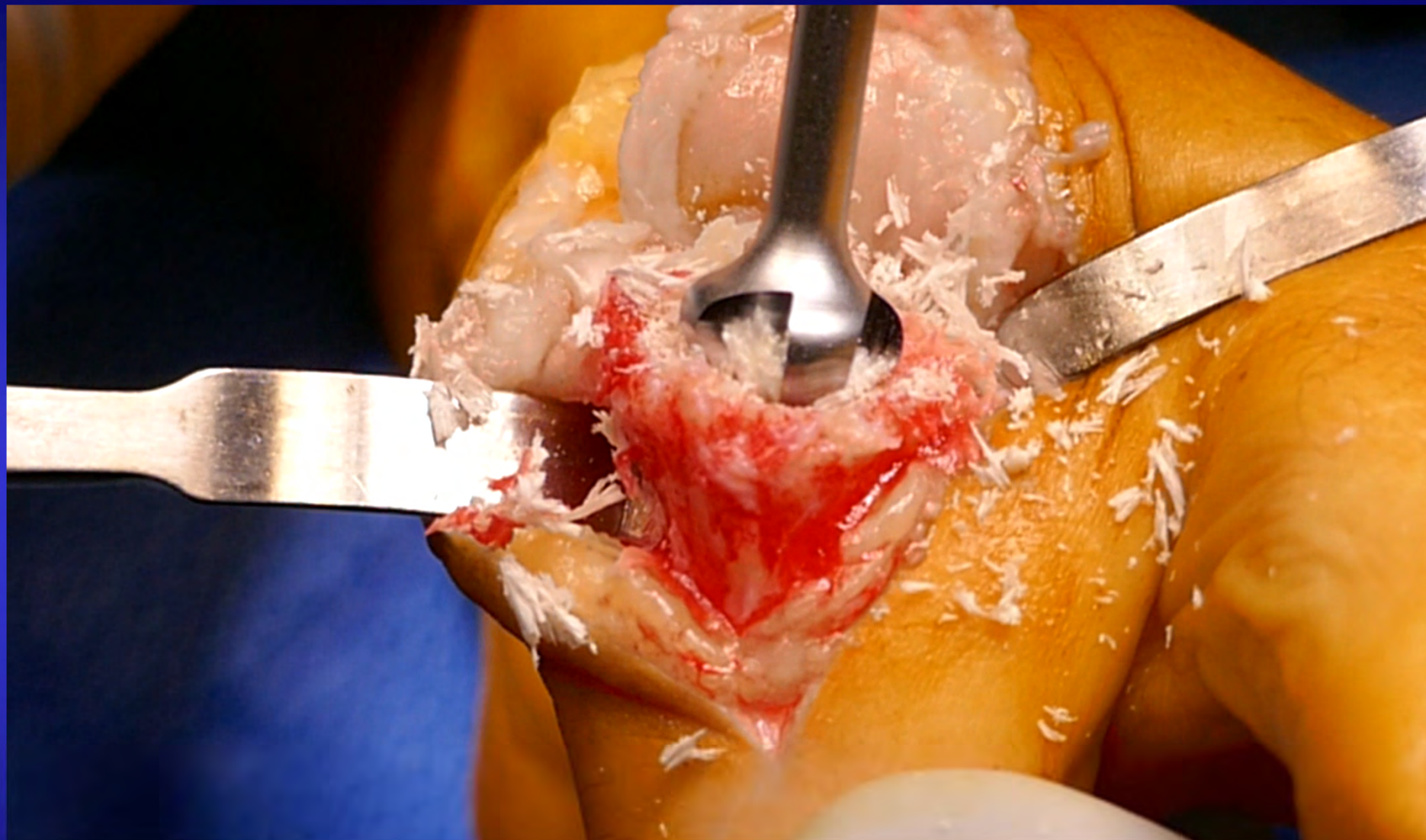
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Fusion technique



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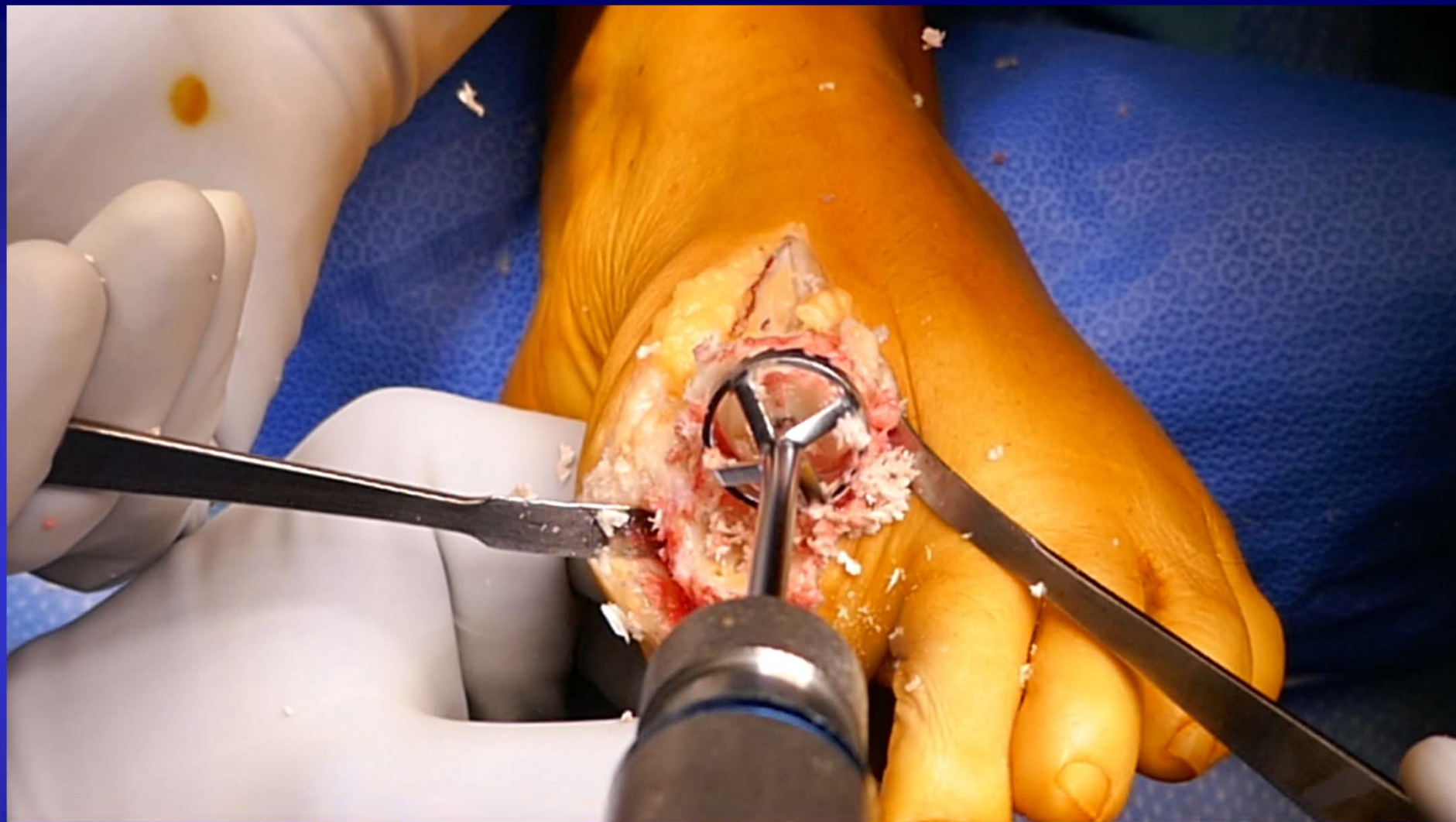
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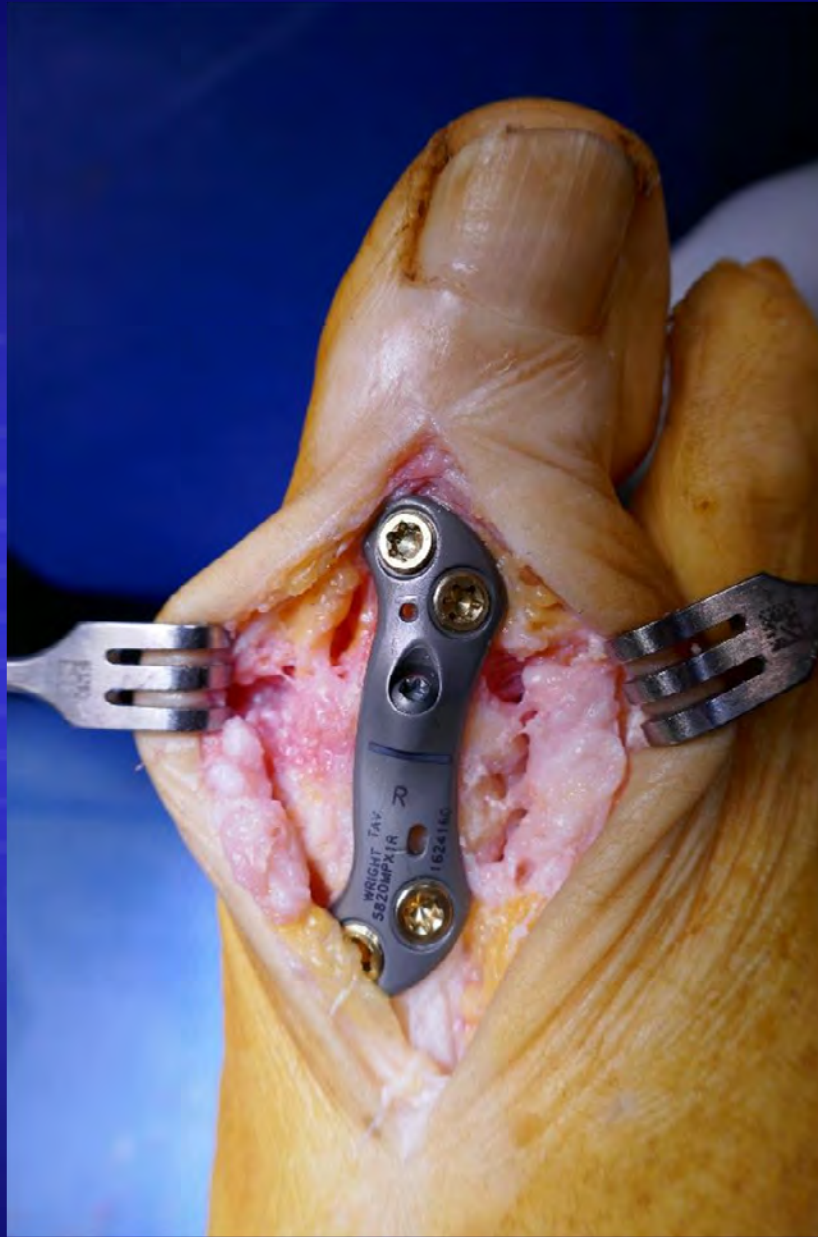
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Fusion technique



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Results - Cartiva

- Prospective, Randomized, Multi-centred Clinical Trial Assessing Safety and Efficacy of a Synthetic Cartilage Implant Versus First Metatarsophalangeal Arthrodesis in Advanced Hallux Rigidus –
- Foot & Ankle International® 2016, Vol. 37(5) 457 –469



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Results

- RCT comparing
- Cartiva to arthrodesis – non inferiority
- 152 cartiva 50 arthrodesis
- Grades 2,3 and 4
- 90% good results
- Happy Days!!!!!!



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Not so fast!

Thordarson 64 cases Foot and ankle June 2019

14% (9/64) of patients were very satisfied, 28% (18/64) satisfied, 20% (13/64) neutral, 11% (7/64) unsatisfied, and 27% (17/64) very unsatisfied with their outcome.

In addition, 45% of patients underwent additional procedures at the time of SCI, and 23% had a history of surgery on the hallux before implantation.

20% reoperation rate



Thordarson results: 64 cases

- 38% either unsatisfied or very unsatisfied
- 20% re-operation rate
- Including 8 fusions



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What do I do:

- Use in Grade 4 ie. Significant mid-range pain
- Start conversation with: “The textbook answer to your problem is a fusion but if you would like to retain movement....”
- Warn the patient about slow improvement
- Warn the patient that fusion is the salvage



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Summary

- Hallux rigidus is arthritis of the first MTP joint
- Symptoms vary according to the stage of the disease and the demands of the patient
- We can generally relieve pain – retention of movement is a bonus



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