

What's new in foot and ankle?

John P. Negrine F.R.A.C.S

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Adult Foot & Ankle Surgery

Highlights of the combined IFFAS/AOFAS meeting Chicago September 19th – 23rd 2014



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1200 Foot and Ankle surgeons

- Mostly North American
- 48 countries
- 168 from Brazil
- 10 from Australia
- 135 podium presentation papers
- 300 e-posters



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Meeting format

- Expert symposia: Trauma, Achilles tendon, ankle replacement, sports injuries, lesser toes, hallux valgus etc.
- Free papers
- Industry sponsored satellite sessions
- Showing an expert an xray on your phone over a beer....illegal in USA



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IFFAS / AOFAS 2014 Meetings

YOU HAVE ARRIVED!

Welcome to this year's
global orthopaedic event



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AOFAS President

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J. Chris Coetzee, MD
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WE ARE GLAD YOU ARE HERE

IFFAS
International
Federation of
Foot & Ankle
Societies
September 14-17



AOFAS
American
Orthopaedic
Foot & Ankle
Society
September 17-18

THE CONTEMPORARY ASSOCIATIONAL EXPERIENCE



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Missing you already



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Chicago – Great fire 1871



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International Federation of
Foot & Ankle Societies

SCIENTIFIC MEETING



IFFAS

September 19-21

Global Orthopaedic Exchange

Trends and vogues

- Arthroscopic everything
- Smaller incisions
- Biologic therapies big \$\$\$\$\$
- Improved fixation for bone, tendon ligament
- Ankle replacement still in fashion but osteolysis problems arising
- Evidence evidence evidence



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The search for solid evidence

- Level one = Double blind randomised prospective “gold cliché”
- Level Five = Expert opinion
- Great research is very difficult, very expensive, time consuming and labour intensive...industry funding an obvious bias



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It's much easier to criticise a
paper than to write a good one



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Osteochondral lesions of the talar dome (OCL)

- Reviewed 95 papers, 2,703 patients
- Used a Coleman methodology score
- 40 prospective, 55 retrospective
- Publication year correlated with Coleman methodology measure
- Conclusions often difficult to substantiate



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The search for evidence

SPECIAL SURGERY

Conclusions

- Investigators should exercise caution when interpreting results of studies assessing surgical treatment for ankle OCL.
- Need to develop a consensus on a treatment paradigm that will have optimal results for patients.
- It would be beneficial to create a uniform, validated functional outcome score as well as appropriate postoperative protocols for each type of surgical intervention.
- Do stronger study methods produce better treatment



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Large medial cystic osteochondral defect

Vascularized Bone Graft for Talar OC Lesions

The Problem

Treatment for OCL

- *Superficial lesions*
→ many treatment options
- *Deep lesions including*
→ difficult to treat
→ limited options
- *Cystic defects*
→ usually filled with bone graft
→ autologous vs allogenic
→ non-vascularized vs vascularized



Bad vascularity
→ critical for healing

M, 30 Y



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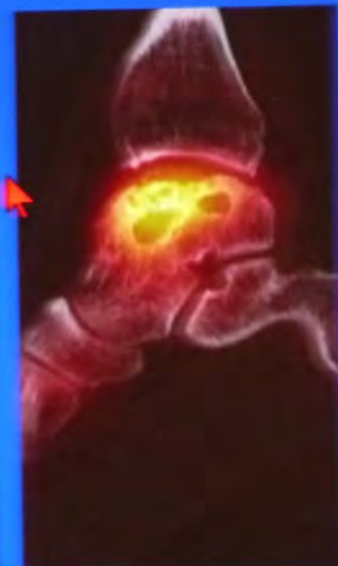
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Vascularized Bone Graft for Talar OC Lesions

Case Report

M, 38 y

- Pain
 - loading
- No sports
 - jogging
 - soccer
- Failed surgery
 - arthroscopy
- Lawyer



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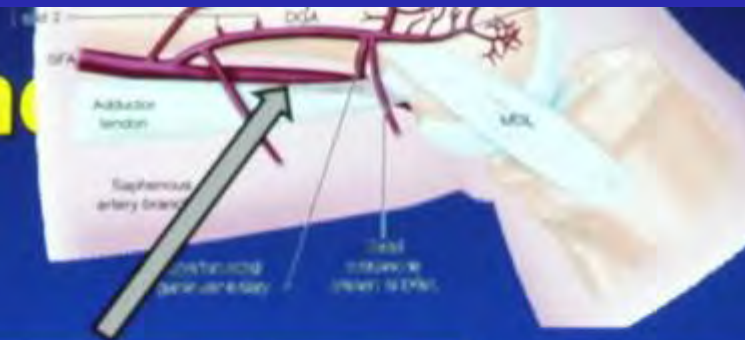
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The solution

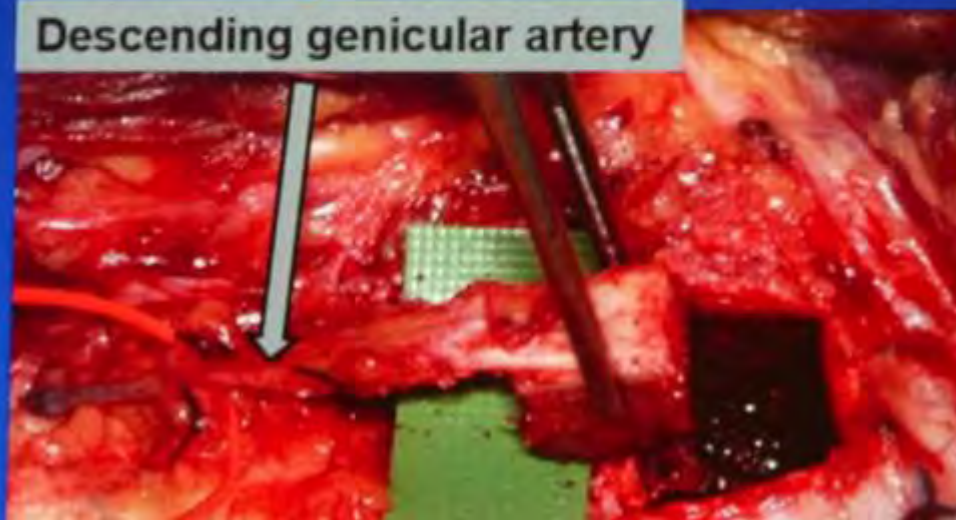
Vascularized Bone

Medial Femoral Condyle

- Easy to access
- Suitable for large lesions
- Strong periosteum
- Blood supply



Descending genicular artery



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Microsurgically anastomosed to posterior tibial artery

Case Report

Surgical Technique

- Microsurgical anastomosis

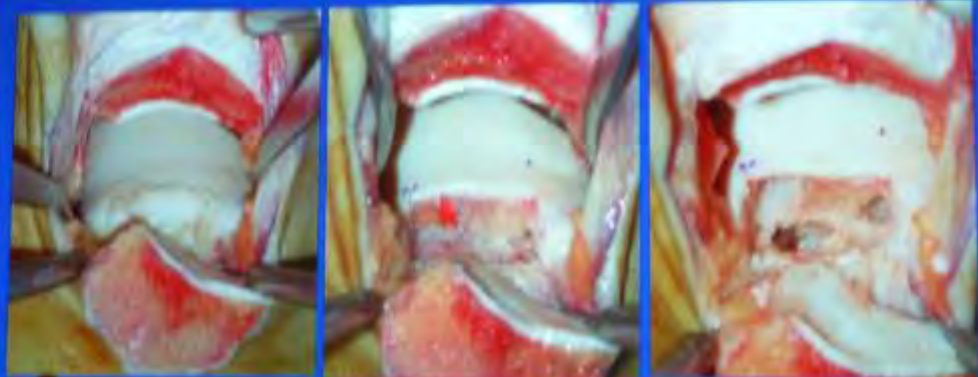


Vascularized Bone Graft for Talar OC Lesions

Case Report

Surgical Technique

- Exposure



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Vascularized Bone Graft for Talar OC Lesions

Case Report

Outcome

- 8 weeks post-op
→ graft incorporated
- 4 months post-op
→ jogging possible
- 2 years post-op
→ pain free
→ no limitations



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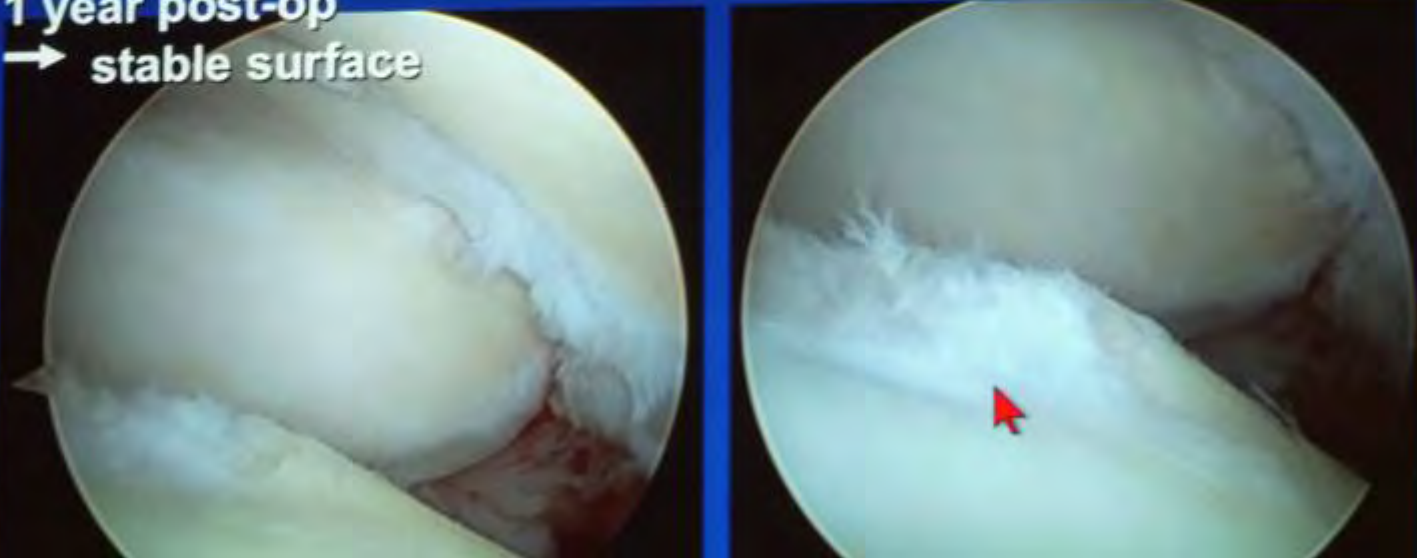
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Joint surface appearance

Case Report

Outcome

- 1 year post-op
→ stable surface



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Novel plantar fasciitis treatment

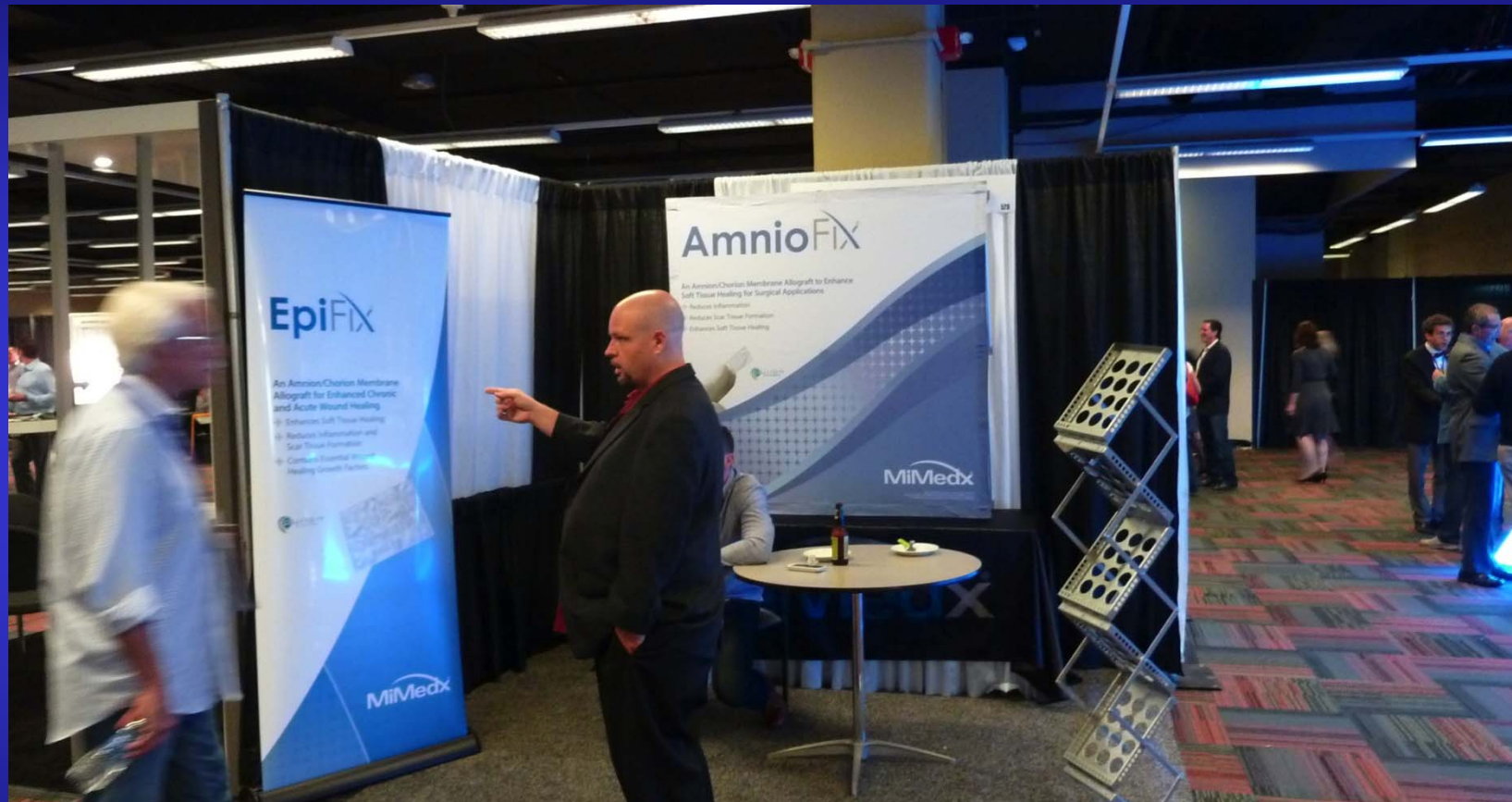
- Gastrocnemius proximal release 50 cases
90% good or excellent results
- Hyaluronic acid injection and dry needling
57 patients reported good results
- RCT comparing saline to botox 24 patients
botox did better (to FDB muscle)
- RCT steroid vs microlysed amniotic
membrane 57 patients MAM did better



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New idea –"iwalk 2.0"



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?Dodgem car??

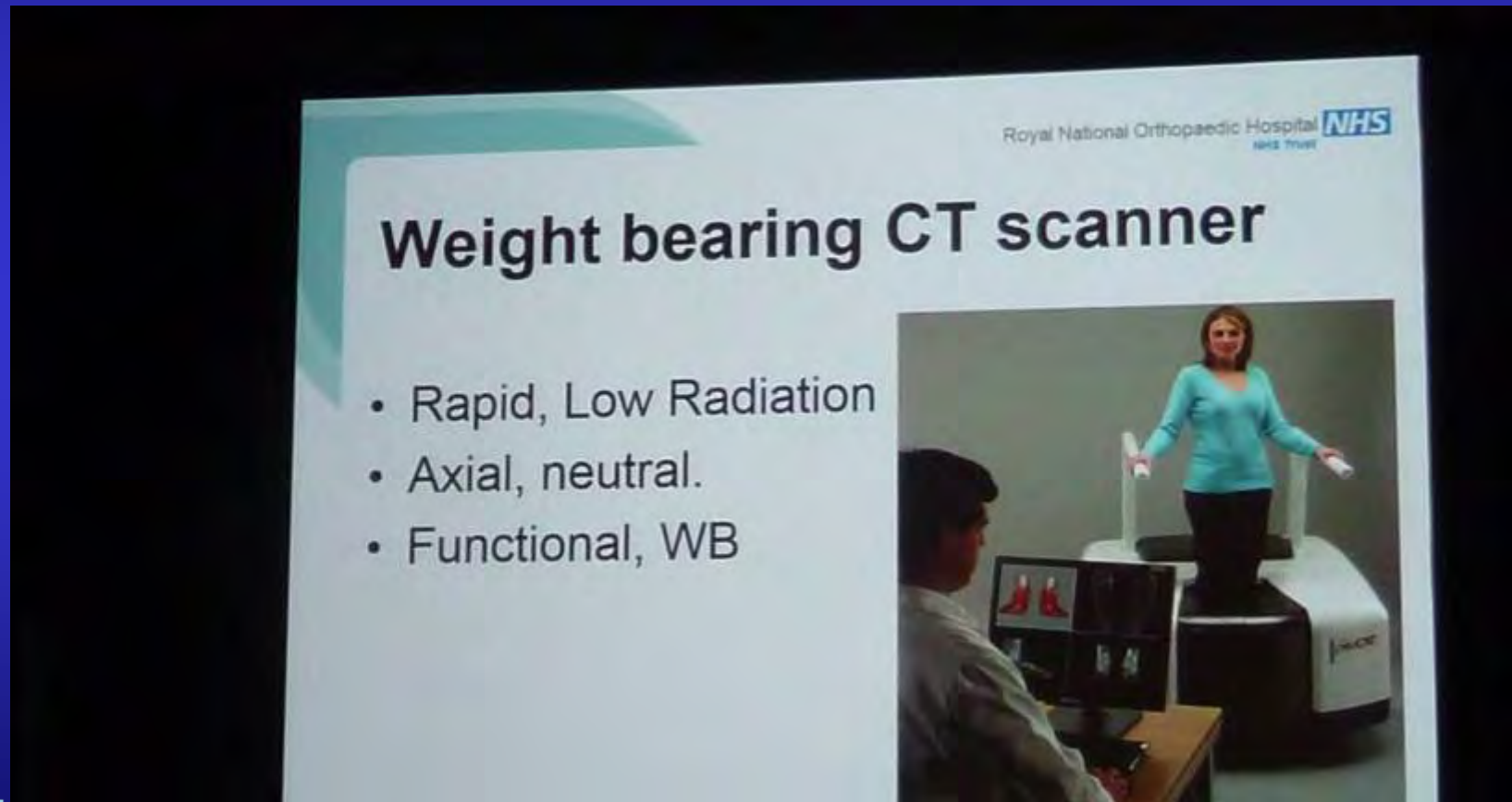


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Weight bearing in office CT



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Office CT pictures

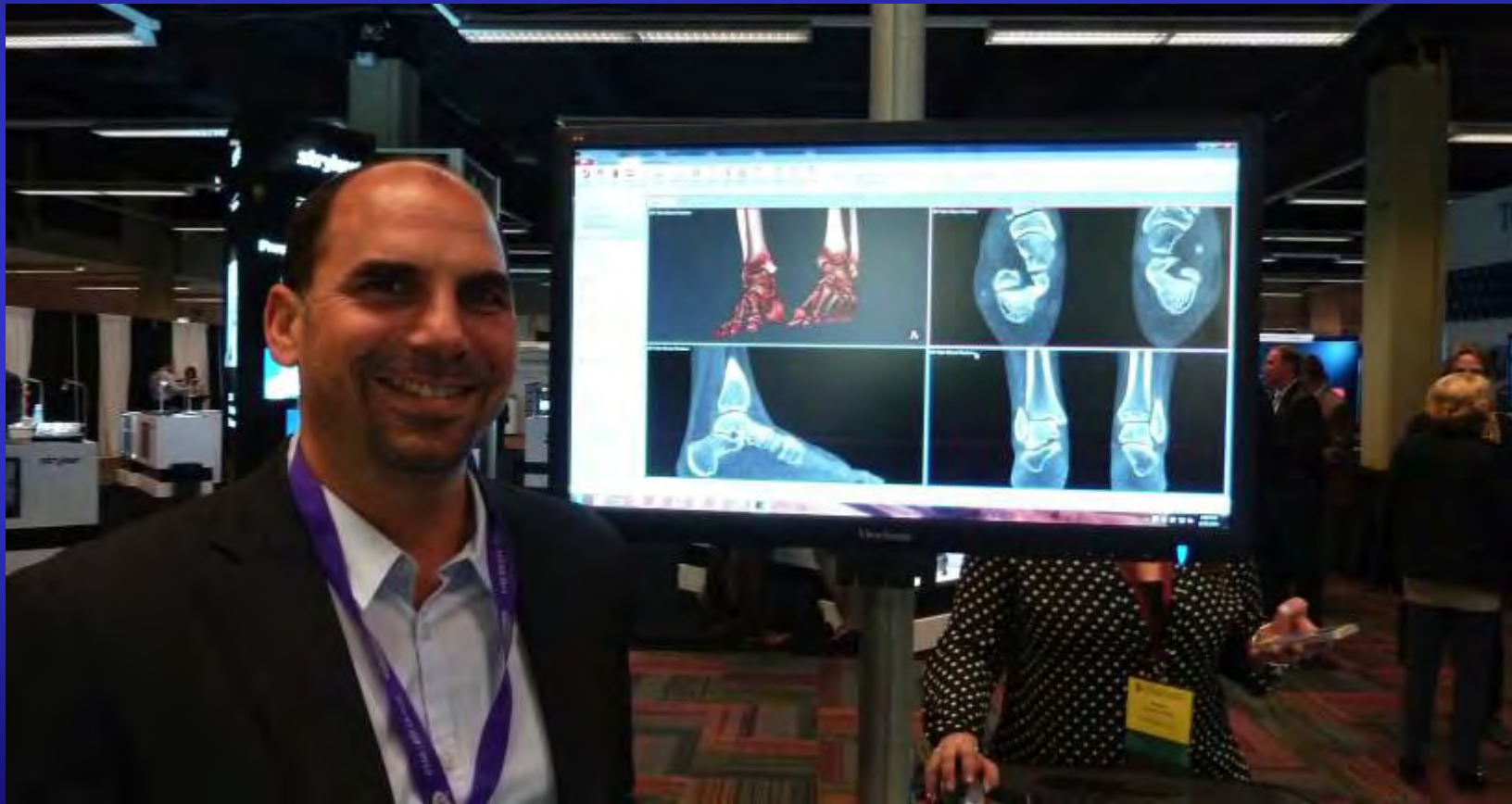


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No Todd, Jerome says we can't afford one!



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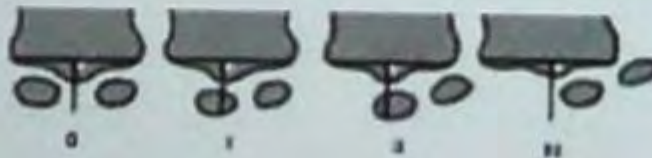
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Sesamoid Position

(Yildirim, 2005., Talbot, 1998)

- Mid cristal line
- Widest sesamoid
- 4 grade (AOFAS)



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Some fast grabs we already knew

- Diabetic patients don't do as well with ankle replacement
- Hindfoot arthrodesis does increase the risk of failure in patients undergoing TAR
- Post operatively prolonged weight bearing or boot did not seem to make a difference in osteochondral lesions of the talar dome
- Small lesions do better than big lesions



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What you already knew

- Old people and smokers have a higher incidence of complications after foot and ankle surgery
- In calcaneal fractures smaller wounds have less complications than bigger wounds
- The elderly with ankle fractures did better operatively than non-operatively (?like hips)



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Mangled leg salvage – Level 6



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Ankle replacement

- Lots of papers
- Comparing different types of prosthesis
- In old people
- In obese people
- In diabetic people
- In people with concomitant subtalar or triple fusions



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Comparison paper ankle replacement vs fusion

- Looked at parameters in barefeet, in runners and in rocker soled shoes
- Walking speed
- Maximal forefoot force



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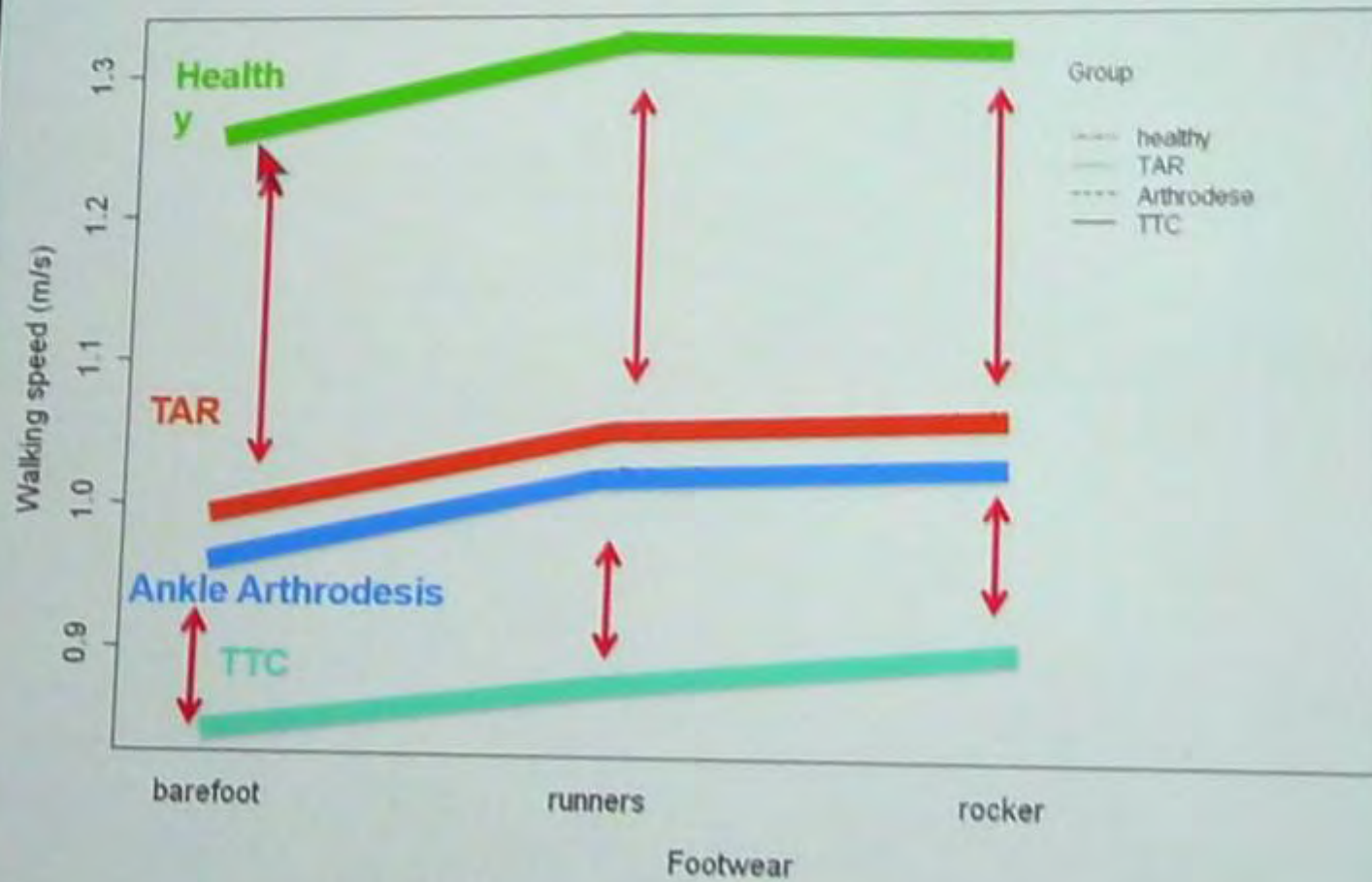
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Materials and Methods

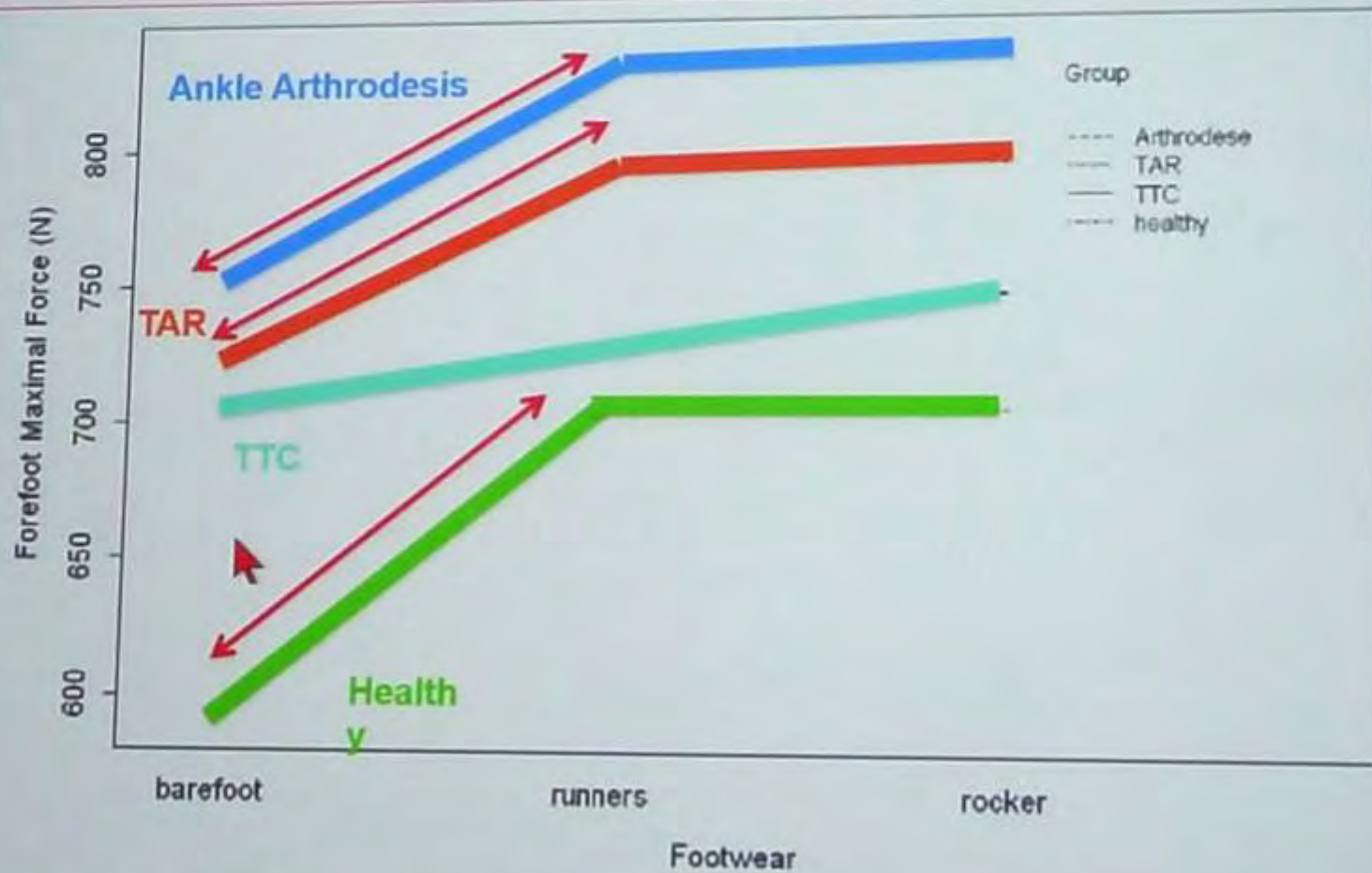
- in three conditions:
 - barefoot
 - standardized runners
 - standardized rockers



Results: Walking Speed



Results: MF Forefoot



Discussion

	Ankle Arthrodesis	TAR
Outcome	>preop	>preop
Walking Speed	slower than normals	slower than normals
Gait analysis	shorter, limp	more symmetrical barefoot
Subtalar joint	3% in 5y	1% in 5y
Knee	maybe OA	increased ROM knee
Revisions	7-26%	17-54%
Failure Rate	none	11-24% after 10y

Atkinson 2010, Beyaert 2004, Piriou 2008, Doets 2007, Müller 2006, Thomas 2006, Coester 2001, SoHoo 2007, Hahn 2012, Krause 2011, Mittelmeier 2013, Wood 2009, Hobson 2009, Henricson 2007, Stengel 2005

Conclusion

1. no measurable difference in sport- or rocker bottom shoes between TAR and AA
2. An increased MF in the forefoot, potentially a trigger for adjacent osteoarthritis, could not be found in AA compared to TAR.
3. TTC have an inferior functional outcome than AA.

Is it worth to buy minimal biomechanical advantages in barefoot condition at a high revision and failure rate in TAR?

Ankle replacement failure

- Cystic change seen in all types
- We have seen massive cysts as early as 2 years
- Some research says 3 component prosthesis not necessarily better than 2
- Not nearly as good as hip or knee replacement
- Still a role for fusion



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Massive cyst 2 years



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Ankle arthritis young person

- Still unsolved problem
- Re-align with osteotomy if deformed
- Paper on distraction 11 patients with deformity as well 75% improved
- 3 Months in a frame! Articulated better than static
- 18 – 24 months for full improvement



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Ankle arthritis without surgery

- No evidence for PRP
- Some evidence for steroid injection but catabolic to cartilage
- NSAIDS do work but side effects
- Hyaluronic acid (synvisc) highly controversial
- No evidence for stem cells



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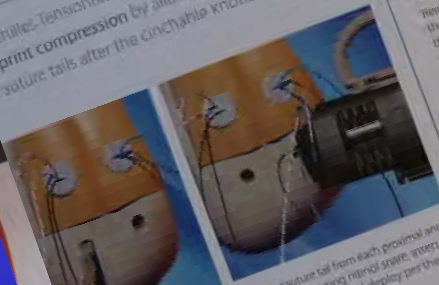
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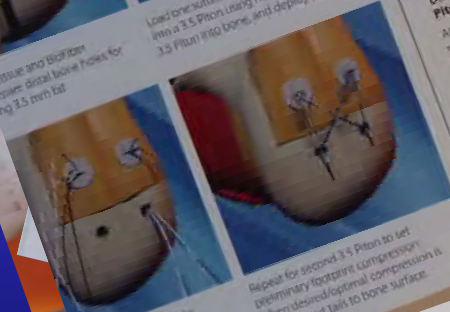
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... compression

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