


AOFAS Specialty Day Update–What’s New in Foot and Ankle Surgery?

David B. Thordarson, M.D.
Professor of Orthopaedics
University of Southern California
Editor–In–Chief Foot and Ankle International
Card Carrying Member –California Orthopaedic Association

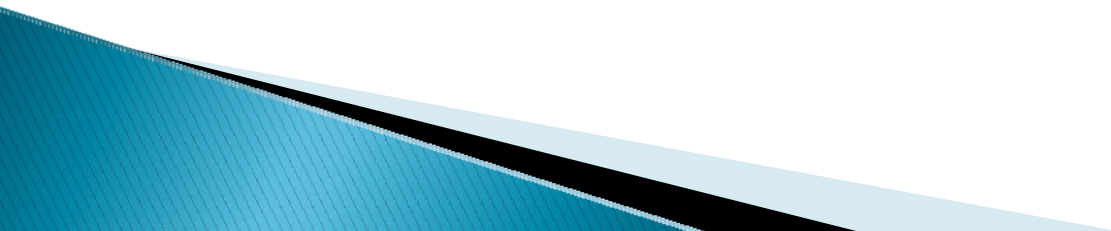
Disclosure

- ▶ My only disclosure relative to this talk is
- ▶ that I am Editor-in-Chief of Foot and Ankle International.

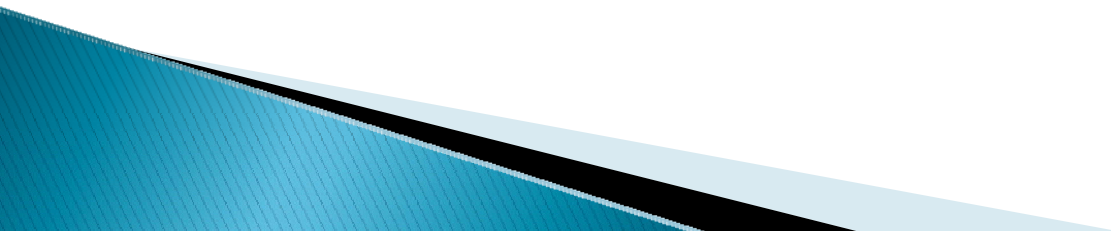
AOFAS Specialty Day February 12, 2012, San Francisco, CA

- ▶ A series of invited lectures by experts
 - ▶ Multiple scientific papers
 - ▶ “Journal Club–best article I read this year symposia”
 - ▶ Reflects the ongoing dynamic nature of our subspecialty
 - ▶ I am sure Tye Ouzounian, our COA president, and Nick Abidi, Program Chair of this meeting, would agree it is best subspecialty (both are foot and ankle surgeons!)
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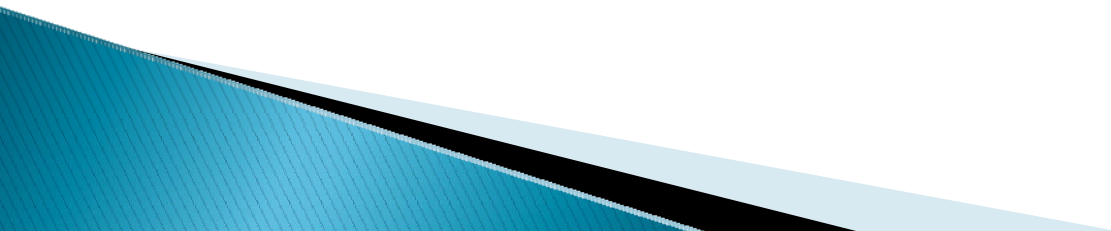
Best Paper

- ▶ Outcome of displaced intra articular calcaneus fractures treated operatively using a lateral plate and screw construct–long term results. (Valpo Z, Erdogan M, Sanders R.)
 - ▶ 95 fractures (85 patients) – 45% follow up
 - ▶ Patient age 60 with average follow up 15 years(10–21)
 - ▶ 59 Sanders Type II, 26 Sanders Type III
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Best Paper

- ▶ All fractures had excellent articular reduction (less than 1 mm step off).
 - ▶ Subtalar motion reduced in all 82/85 but had minimal gait disturbance.
 - ▶ Average AOFAS score 72, average Maryland foot score 79.
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Conclusion

- ▶ Anatomical reconstruction critical to good outcome
 - ▶ Essentially normal function and gait achieved.
 - ▶ However high rate of radiographic arthritic changes (interesting not in abstract book but presented from podium)
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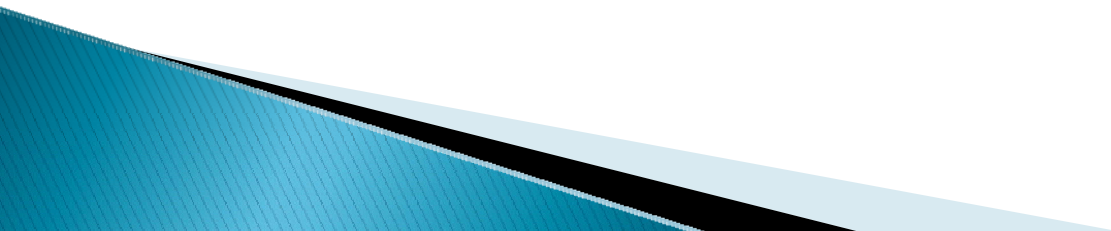
Definition of Complication – Is it in the eye of the beholder?

Alastair Younger, Vancouver

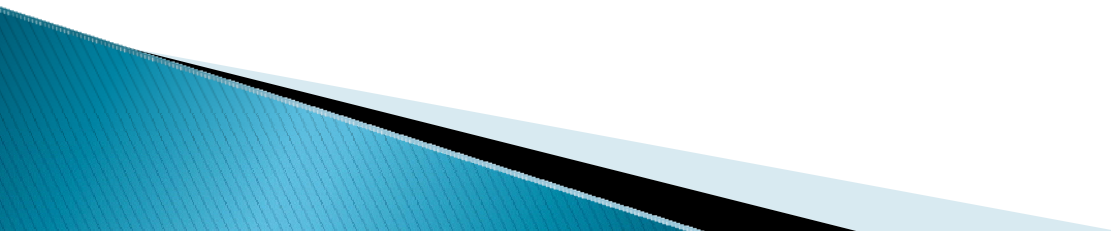
- ▶ Recommended complications be termed “un-anticipated events” to remove stigma
- ▶ Currently disincentive to report complications and thus skewing results ie redness and swelling or cellulitis could depend on eye of the beholder

Tibial Pilon Fractures– Predicting outcomes and complications

Sam Flemister, M.D.


- General talk on pilon fractures
 - Emphasized severe nature of these injuries
 - Strongly supported staged external fixation
 - Discussed surgical technique
 - Post-traumatic arthritis is common regardless of treatment but this is minimized by anatomical reduction
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Risk factors of wound complications after ankle fracture surgery. (Miller A, Margolis A, Rankin S.)

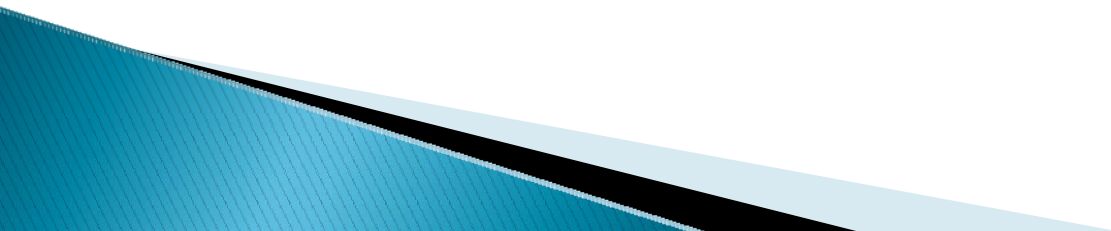
- 478 patients underwent ORIF of ankle fracture
 - 1.25% incidence of wound complications requiring surgical debridement
 - 2.9% incidence of dressing changes/or antibiotics
 - Association with diabetes, peripheral neuropathy, wound medications such as steroids, open fractures, non compliance
 - Conclusion– emphasize importance of preop improvement of swelling with appropriate timing of surgery, and attempting to modify factors when possible
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Reconstruction of Soft Tissue Defects of the Ankle –Orthoplastic approach

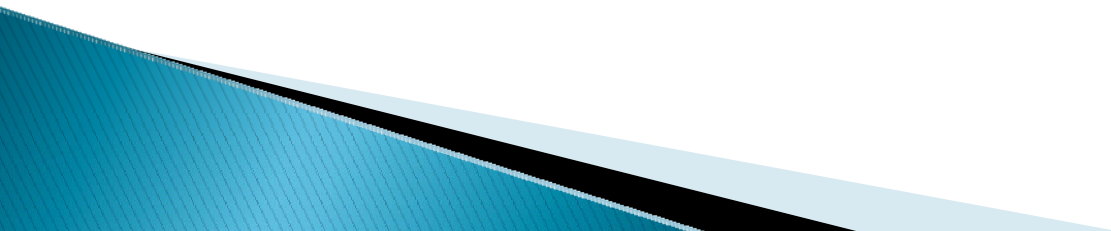
Scott Levine, M.D.

- Chairman Department of Orthopaedics University of Pennsylvania, who is both orthopaedic surgeon and plastic surgeon
 - Strongly emphasized importance of microsurgery and free vascularized flaps
 - Gave multiple examples of salvages with these but emphasized necessity to have skilled microvascular surgeons
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Syndemosis Fixation 2012 – Chris Coetzee, M.D.

- ▶ Maintain talar reduction
 - ▶ Transfer load to fibula
 - ▶ Allows fibular motion
 - ▶ 2.4 mm fibular distal motion during stance, 1 mm widening, 2–4 degrees of external rotation
 - ▶ Subluxation of 1 mm leads to 42% loss of joint contact (Ramsey and Hamilton)
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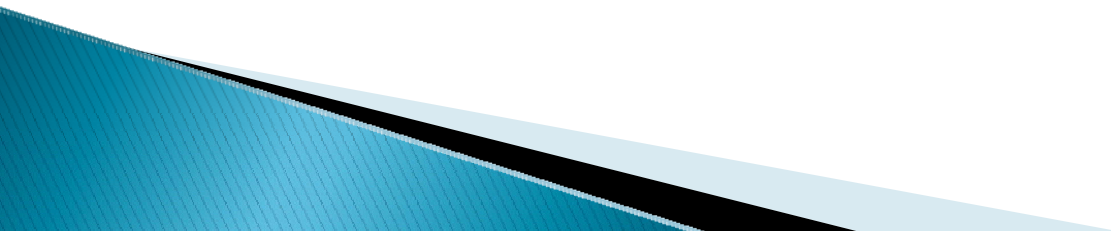
Syndesmosis Fixation 2012 – Chris Coetzee, M.D.

- ▶ FAI study 2006 Gardner et. al 52% rate of mal reduction syndesmotic injury
 - ▶ Recommendation – if no widening in patient with pain treat conservatively, if widening recommend syndesmotic fixation
 - ▶ Cited Degroot et. al FAI 2011 suture button is effective way to repair syndesmosis.
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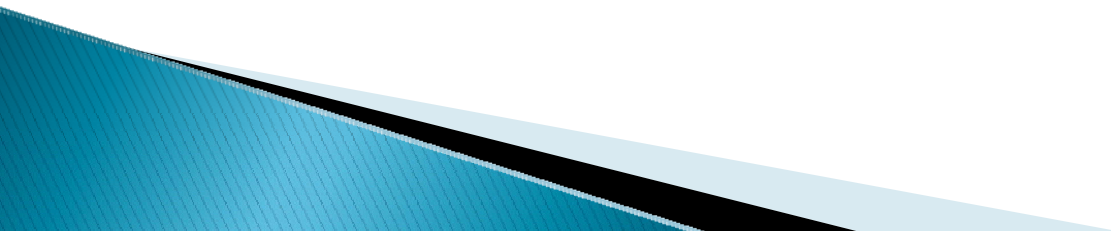
Effect of Syndesmotic Screw Removal On the Reduction Distal Tibiofibular Joint

- Prospective radiographic study, Song D, et. al
- 15 patients, average age 24
- 6 patients had syndesmotic malreduction on initial post-operative axial CT scan
- Post syndesmosis screw removal, CT scan showed 5/6 mal reductions spontaneously reduced after screw removal
- Conclusion – syndesmotic screw removal may be helpful to achieve final anatomical reduction of distal tibiofibular joint
- Note: Personal clinical experience is generally the fibula is malreduced leading to syndesmotic malreduction in cases of fibular fracture where reduction is lost after screw removal but study nonetheless supports screw removal which is my personal practice

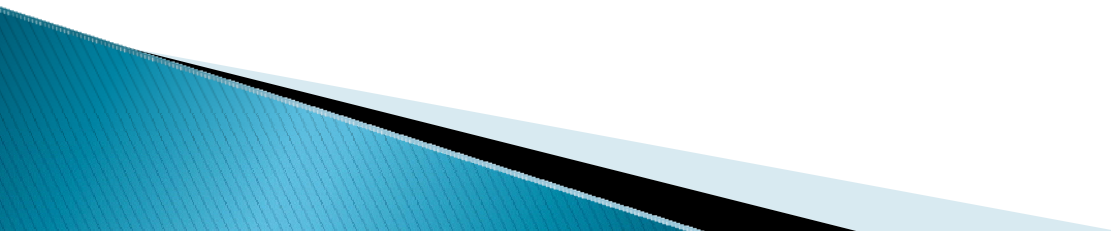
Stress Examination of SER Ankle Fracture– Comparison of Lateral gravity stress vs Manual stress

- Jones, C. et. al
 - 73 consecutive SER ankle fractures randomized to manual vs gravity stress
 - Pain significantly less for gravity stress vs manual stress
 - Conclusion –gravity stress was as effective as manual stress detecting deltoid injury but less painful and without the need for an orthopaedic resident/surgeon to do the stress views
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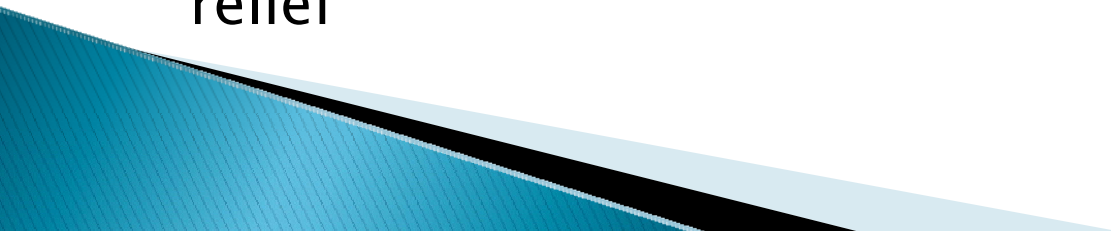
Forceps Reduction of Syndesmosis In Rotational Ankle Fracture

- Cadaveric study, Ebinger et. al
 - 10 cadaveric specimens had clamp placed across syndesmosis
 - Clamps placed at 3 angles relative to syndesmosis with CT obtained after each application
 - Conclusion obliquely oriented clamps caused malreduction
 - Clinical relevance—important to place clamp in neutral anatomic axis to prevent translation of fibula in incisura
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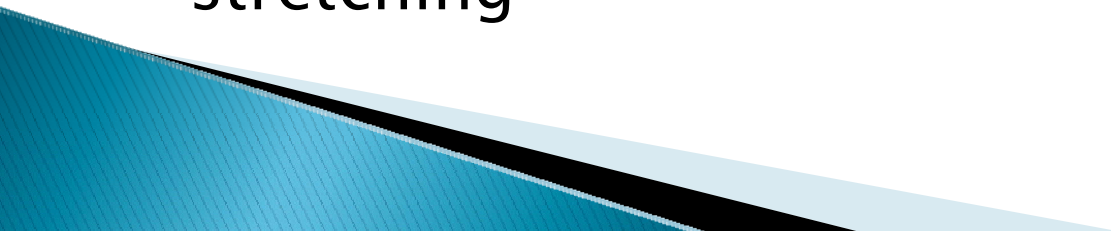
Syndesmosis and Lateral Ankle Sprain in the NFL – Osbahr et. al

- Single NFL team 15 year review
 - 36 syndesmosis (high ankle) sprains with 53 lateral ankle sprains
 - Time loss from participation 15.4 days in syndesmosis group and 6.5 days in lateral sprain group
 - Conclusion– non operative management successful in both but significantly longer disability in the syndesmosis group
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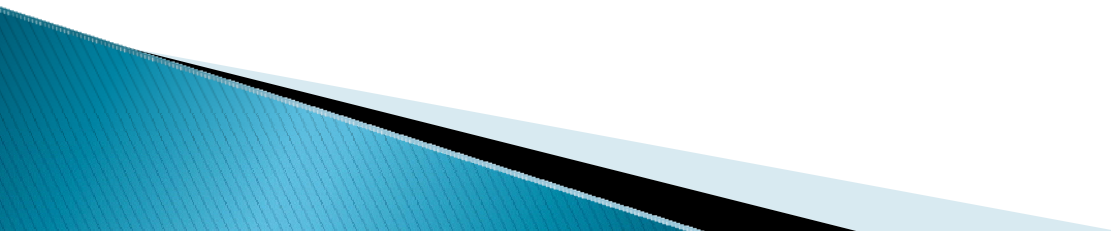
Journal Club – Best Articles I Read this Year

- Easley M, M.D.
 - Selection –Classification and Treatment of Supramalleolar Deformities
 - Knupp M, et. al FAI 32:(132)
 - Contributed new information on supramalleolar osteotomy on 92 patients
 - Provides useful classification system which he felt was superior to Takakura classification system since not only coronal but saggital plane deformities included
 - Treatment algorithm for osteotomy including when to perform fibular osteotomy
 - Conclusion that supramalleolar osteotomy for midstage arthritis results are encouraging with significant pain relief
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Journal Club – Best Articles I Read this Year

- Kenneth Hunt–Selection “One year results of PRP in Achilles Tendinopathy–Double Blind, Placebo Controlled Trial” deJonge, et al AJSM
 - patients received 4cc PRP or 4 cc of saline
 - Result –both groups showed improvements with no significant difference between them
 - Ultrasound revealed tendon structure and neovascularity improved in both with no difference
 - Conclusion –no demonstrative superiority of PRP or placebo when compared to eccentric stretching
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Journal Club – Best Articles I Read this Year

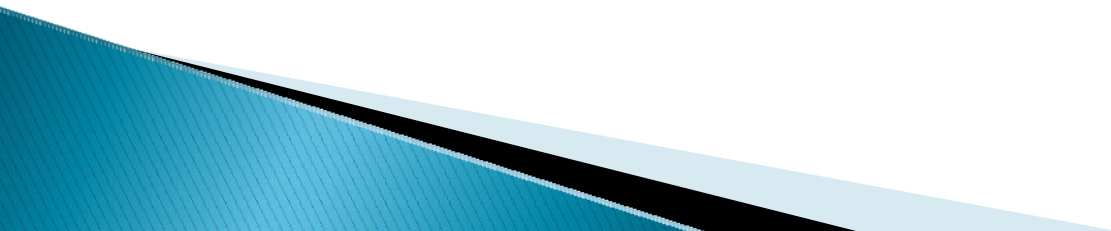
- ▶ Murray Penner, M.D. Selection–
 - ▶ Venous thromboembolic events following Foot and Ankle Surgery in the English National Health Service, JBJS BR 2011 Vol 93
 - ▶ Large database with large number of patients with extremely low rate of DVT
 - ▶ Conclusion –reinforced his practice of not routinely using DVT prophylaxis
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My Choice–

When Is An Additional Akin Osteotomy Necessary? The Incidence Of Post–bunionectomy Hallux Valgus Interphalangeus With Radiographic Support Of Intraoperative Hallux Interphalangeal Angle Measurements
FAI Nov. 2011

- ▶ 54 feet
- ▶ After correcting HV with DSTP and PCMO, HVIP significantly increased from an average of 9 to 13.3 degrees
- ▶ Akin ostetomy was added in 44 (81%) feet.
- ▶ Personal note– I had noticed patients over years where HVIP obvious postop but not preop but the pronation correction at the time of surgery makes it much more obvious

Minimally Invasive Calcaneal FractureTalk – Bruce Cohen MD

- ▶ Emphasized need to perform earlier
 - ▶ Discussed Surgical techniques
 - ▶ Discuss results
 - ▶ Conclusion –excellent technique for high risk patient, minimizing operative complications, equivalent functional results, operative timing critical, significant learning curve
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Extensile approach for calcaneus fractures – Robert Santrock, M.D.

- ▶ Gave standard advocacy for extensile approach
- ▶ Speakers note: personally perform all through limited sinus tarsi approach

I drilled the OCD hole but my patient still hurts—
what happened? –Richard Ferkel, M.D.

- ▶ Outlined proper treatment of OCD lesions arthroscopically with microfracture
- ▶ Recommended non weight bearing 2–4 weeks for lesion less than 1.5 cm, 6–8 weeks or greater for more than 1.5 cm
- ▶ Follow–up CT or MRI at 6 months to assess healing
- ▶ Salvage procedure– OATS, allograft OATS, ACI, denovo cartilage transplantation, focal resurfacing implant

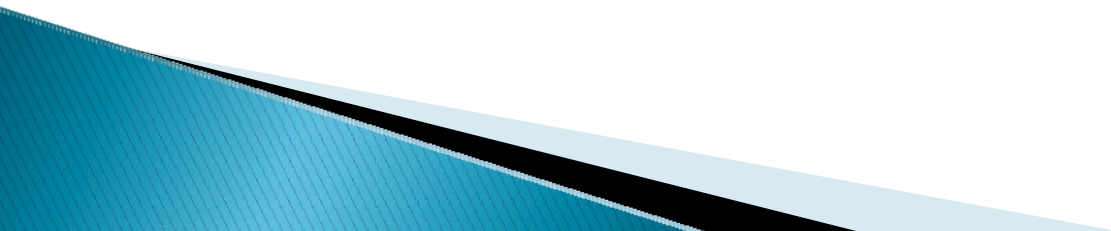
Midfoot Sprains in the NFL – Osbahr et al

- ▶ 15 players from a single NFL team database and all NFL physicians were questioned
- ▶ 12 players were managed non-operatively while 3 patients managed surgically
- ▶ Non-operative treatment led to 11.7 days loss of participation but Grade 1 3.1 days vs Grade 2 36 days loss
- ▶ Operative Grade 3, 1 patient returned in 73 days and 2 patients injured it end of the season and returned the following year
- ▶ Conclusion– midfoot sprains cause significant disability where return to play can occur in 3 weeks unless it requires surgical treatment

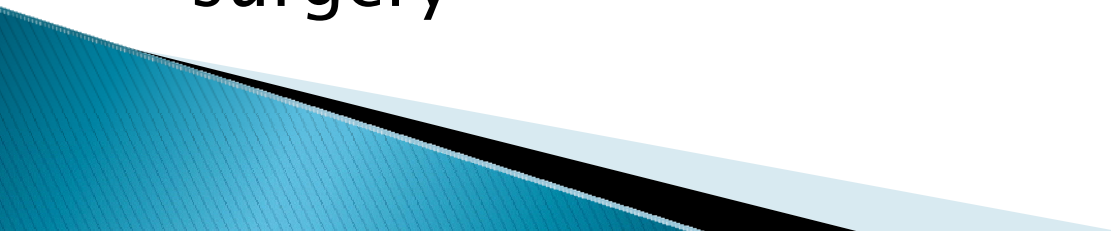
Athletic Activities Following Hallux MP Arthrodesis – Clowers et. al.

- ▶ 126 eligible patients
- ▶ 63 returned questionnaire
- ▶ 43 females, 19 males, average age 59
- ▶ Follow-up 45 months
- ▶ VAS 1.3
- ▶ 86% would do it again
- ▶ 87% satisfied or very satisfied, 85% returned to normal work with improvement in ability to perform 14/25 athletic activities.
- ▶ Conclusion – fusion good option for pain relief allowing return to most athletic activities.

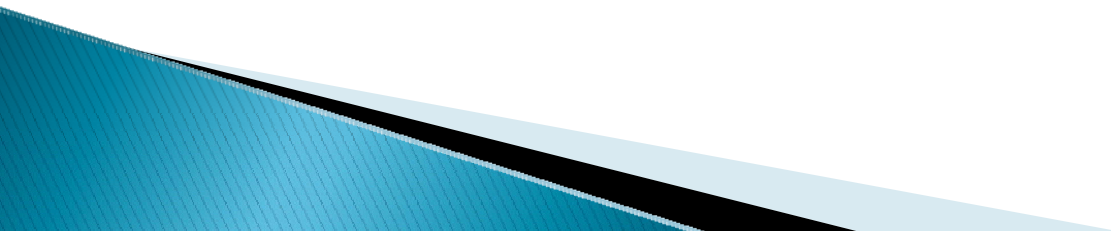
Non Union Risk Assessment in Foot and Ankle Surgery – Proposing a New Predictive Risk Assessment Model – Thevenderan et. al.

- ▶ Survey of Experts
 - ▶ Identified smoking, lack of biomechanical stability at time of surgery, and increased BMI as risks for nonunion
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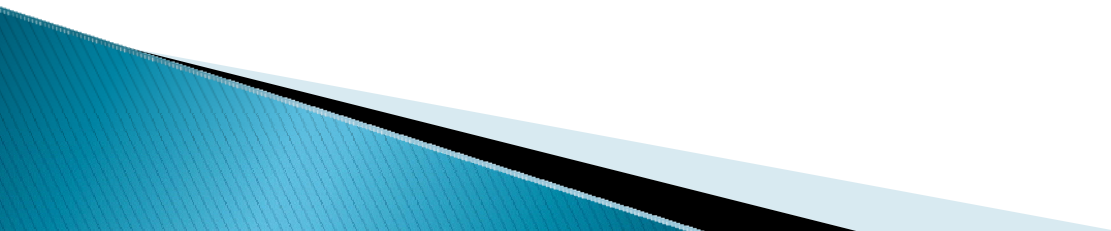
Ankle Arthroplasty Symposium – Varus Valgus – Does it really matter? –Steve Haddad, M.D.

- ▶ Discussed problems with varus valgus correction
 - ▶ Recommended two stage treatment
 - ▶ Even suggested possibility of placing PMMA wedge in joint to correct deformity while awaiting definitive ankle arthroplasty surgery
 - ▶ Emphasized recent studies have begun to show that significant varus /valgus deformities not absolute contraindication to surgery
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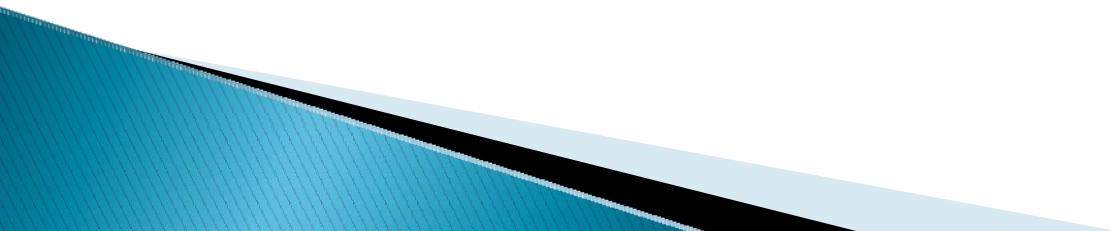
Retrospective Comparison of Arthroplasty vs Scope Assisted Ankle Fusion – Willams, Kelikian, Kodros

- ▶ 14 Fusion
 - ▶ 35 TAR
 - ▶ TAR –5 complications
 - ▶ Fusion –7 complications
 - ▶ Conclusion– TAR compared similar to scope ankle fusion thus TAR is safe alternative to fusion
- 

Salto Talaris TAR –Richard Marks et.al.

- ▶ 39 Salto Talaris TAR
 - ▶ Gait analysis on 12
 - ▶ Conclusion – high satisfaction, restoration of functional gait, low perioperative complication rate
- 

Prospective Clinical Results of In Bone TAR – Moore et.al.

- ▶ 21 patients
 - ▶ AOFAS 80.9 post-op
 - ▶ Conclusion – AOFAS scores pain and function VAS post-op significantly improved
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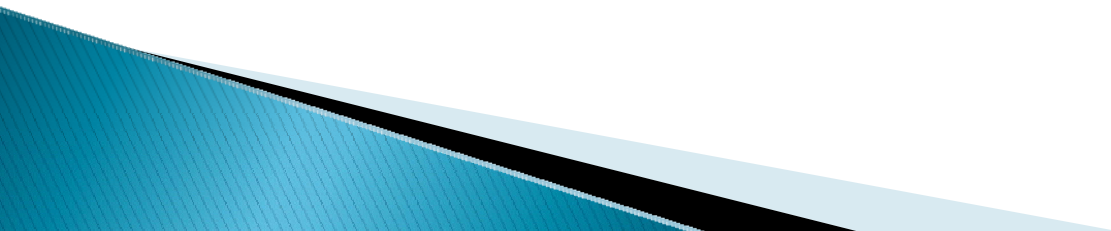
Bunion Symposium – Steve Conti, M.D.

- ▶ Opinion that all patients have medial sesamoid/metatarsal arthritis

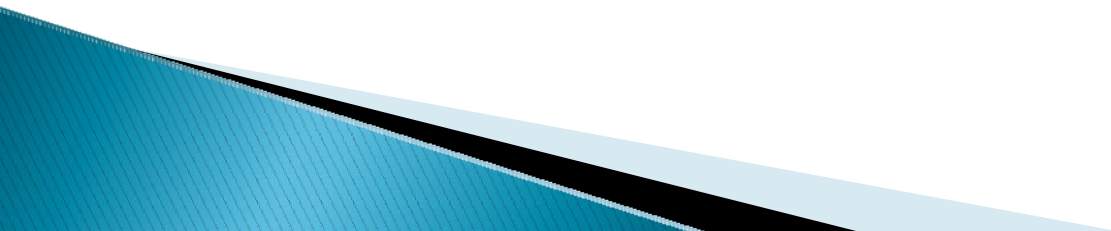
Avoiding Complications–patient dissatisfaction expected outcomes – Nicholas Abidi, M.D.

- ▶ Poor outcome multi-factorial
- ▶ 1 – failure to listen to complaints
- ▶ 2 – failure to adequately diagnose deformity, DJD, hypermobility
- ▶ 3 – No 100% good or excellent outcomes
- ▶ 4 – Perform wrong operation for deformity
- ▶ 5 – Failure of intraoperative techniques
- ▶ 6 – Failure to assess circulation
- ▶ 7 – Over-correction

Recommendations

- ▶ 1 – Set appropriate expectations for deformity correction, pain relief, range of motion, activity levels
 - ▶ 2 – Post-op stiffness must be discussed pre-operatively
 - ▶ 3 – Rule out inflammatory arthropathy and neurogenic spasticity
 - ▶ 4 – Order advanced imaging studies preop if necessary for evaluation for AVN metatarsal head or sesamoid
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Avoiding Complications – Associated structural Issues – Donald Bohay, M.D.

- ▶ Hansen trained thus tight gastroc drives essentially all problems of foot
 - ▶ In this case unstable medial column
 - ▶ Also causes hypermobile first ray
 - ▶ Also causes transverse instability
 - ▶ Solution–Gastroc (Strayer) recession with fusion/ osteotomy as needed
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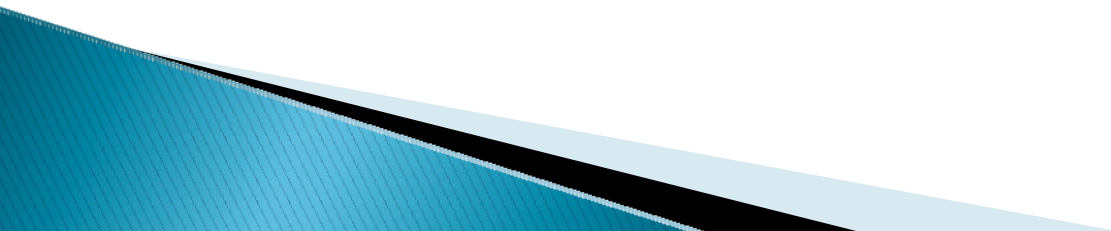
Hallux Valgus Angle, Sesamoid position DMAA predict outcome

- ▶ Park et al– Post operative radiographs can predict recurrence
- ▶ 93 feet
- ▶ 25.6% recurrence where it was predictable by post-operative hallux valgus angle, DMAA
- ▶ Conclusion – recurrence can be predicted from immediate post-op radiographs
- ▶ Editorial comment– must correct deformity at time of surgery

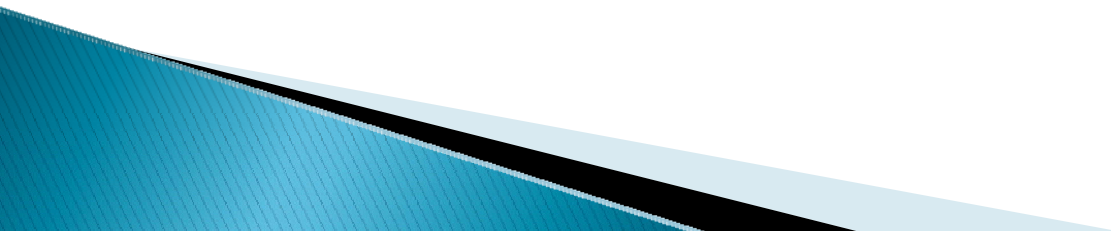
Correction Medial / Lateral Subluxation of Lesser MP Joints with EDB transfer – Young, Ellis, Deland (HSS)

- ▶ 20 patients with 12 achieving 75% or greater congruency of MP joint
- ▶ Conclusion – EDB transfer in conjunction with plantar plate release successful in correcting lesser MP deviation

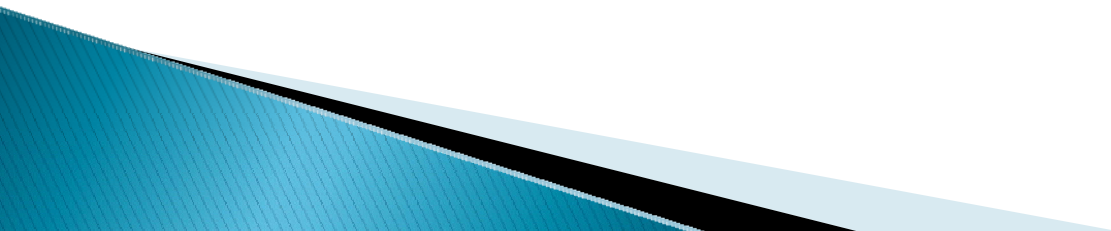
Flatfoot Symposium – Bruce Sangeorzan, M.D.

- ▶ discussed fusion for complex and rigid deformities
 - ▶ Greg Guyton discussed flatfoot reconstruction emphasizing managing expectations with patient reported maximum improvement from 12–18 months postop
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Radiographic Analysis of Surgical Correction of Flatfoot Deformity – Klein et. al. (Wash U)

- ▶ 84 patients with 87 surgeries– medial slide calcaneal osteotomy vs lengthening
 - ▶ Conclusion – medial slide does not create large change in radiographic parameters
 - ▶ Evan’s lengthening causes much greater radiographic improvements
- 

Correlation of radiographic parameters and functional outcome scores after flatfoot reconstruction– Ellis et al (HSS)

- ▶ 47 patients
 - ▶ Assessed outcome scores and radiographic correction
 - ▶ Conclusion – patients with overall worse outcomes had higher arch heights possibly sign of overcorrection.
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Conclusion

- ▶ AOFAS continues to actively support and present cutting edge research on all types of foot and ankle pathology
 - ▶ AOFAS is an inclusive society—any practicing board certified orthopedic surgeon can be active member
 - ▶ In addition to state societies like COA, the best advocacy source for us
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