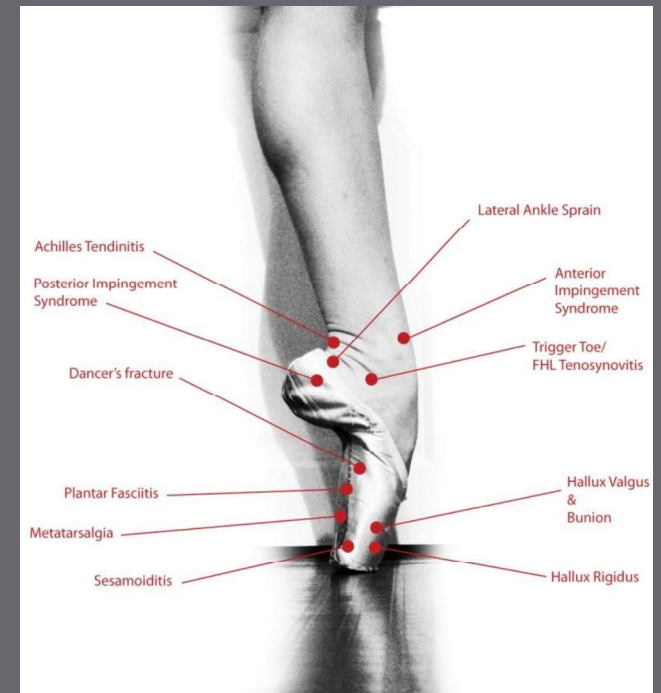


FOOT AND ANKLE INJURIES IN DANCERS

Nikos Reissis FRCS, PhD
Consultant Orthopaedic Surgeon
Honorary Associate Professor
UCL

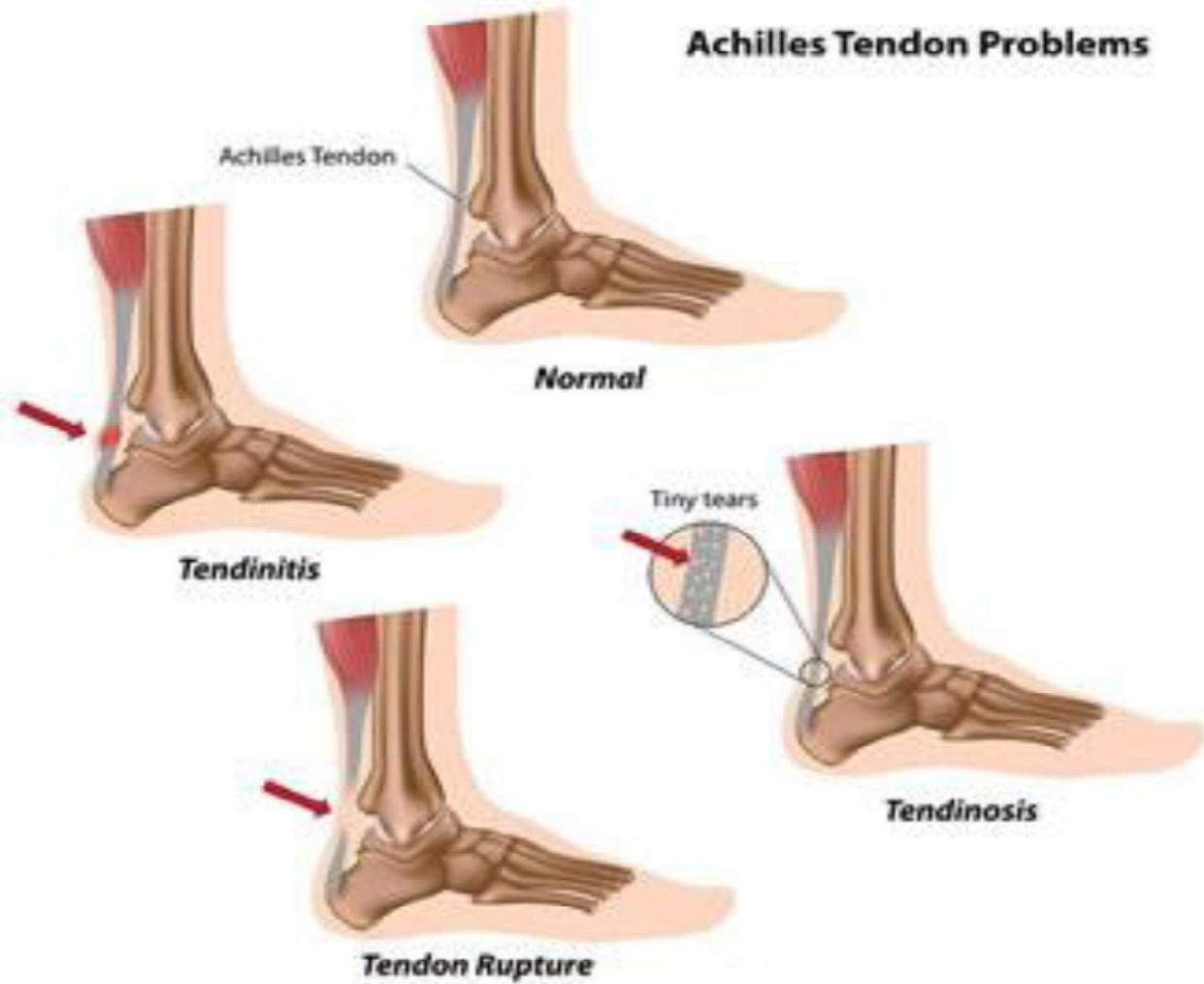
Ankle & Foot

- ▣ Πολύ συχνά προβλήματα στους χορευτες
- ▣ Οι χορευτες εχουν μεγαλες απαιτησεις από το ποδι τους
- ▣ Οξεα περιστατικα
- ▣ Χρονια περιστατικα



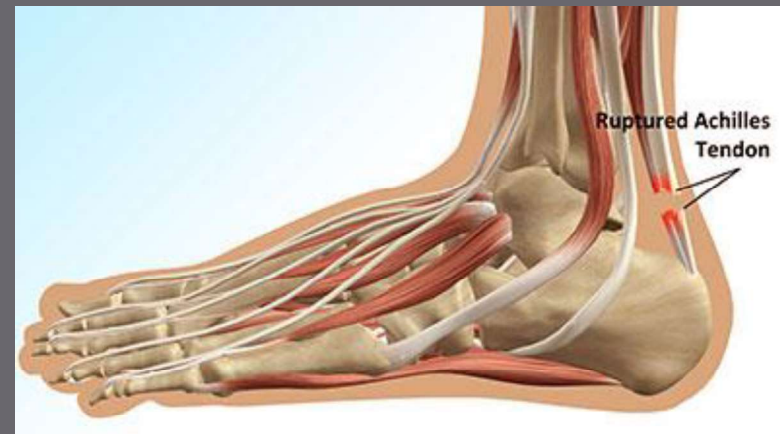


Achilles Tendon Problems



Achilles Tendon Rupture

- ▣ Μερικη η ολικη ρηξη??
- ▣ Ξαφνικη διαταση – χορογραφια??
- ▣ Ανεπαρκης προετοιμασια??



Haglund's Deformity

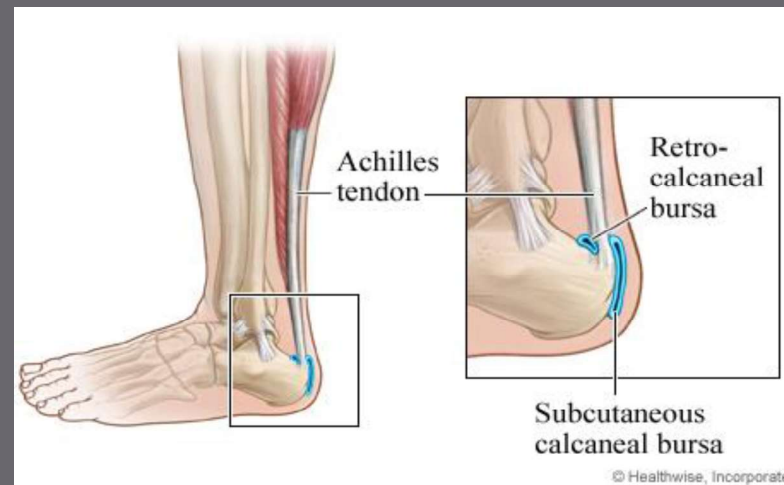
Haglund's deformity - also known as "pump bump."

Οστική προβολη που προκαλει φλεγμονη στους γυρω ιστους

Επωδυνη χρηση παπουτσιων



Πιθανη θυλακιτιδα



Plantar Fasciitis Πελματοειδής Περιτονίτιδα

Παχυνση περιτονιας

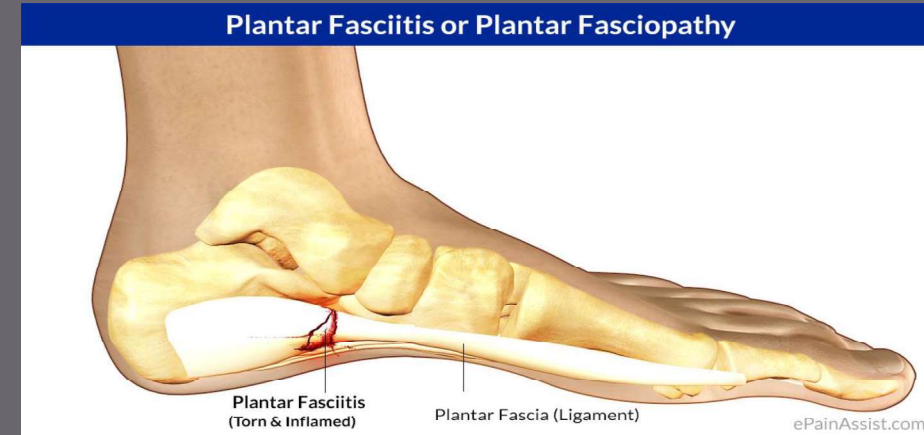
- συνηθως λογω πολλων μικροτραυματισμων

Επωδυνη

Πιθανη οστικη ακανθα

Δημιουργειται

- Με καινουργια τεχνικη χορου
- Με αυξημενες ωρες χορου
- Με αλλαγη υποδηματων (τακουνι σε flat)
- Συσπαται εντονα ο Αχιλλειος
- Οι μυες του ποδιου υστερουν σε φυσικη κατασταση



Ligament Injuries

- ❑ Lateral ligament sprain – ATFL, PTFL, CFL – common, heal predominately conservatively
- ❑ Syndesmotic Injury - easily missed, eversion of the ankle with rotation



Anterior Calcaneal Process Fracture



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Talar Dome Fracture / osteochondral defect



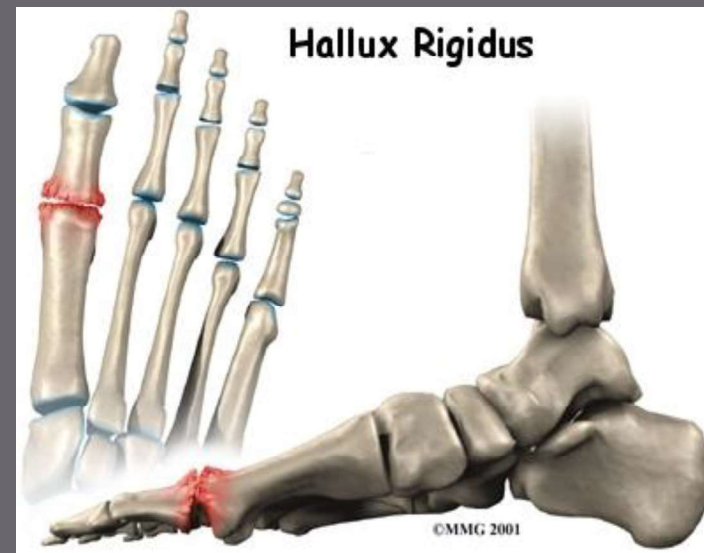
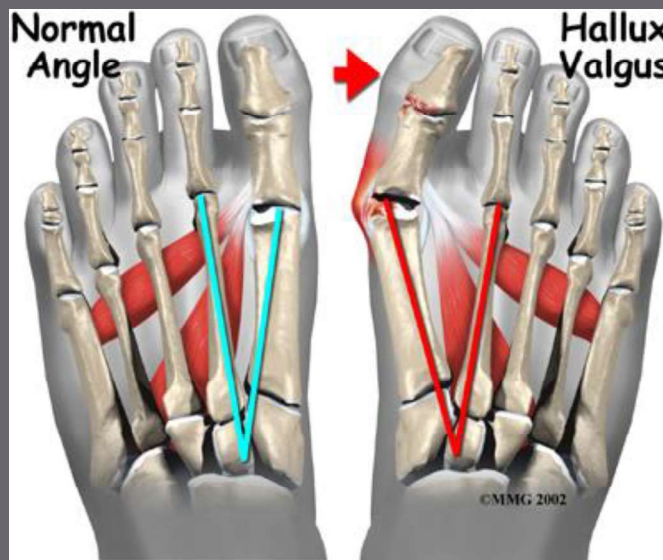
5th Metatarsal fractures





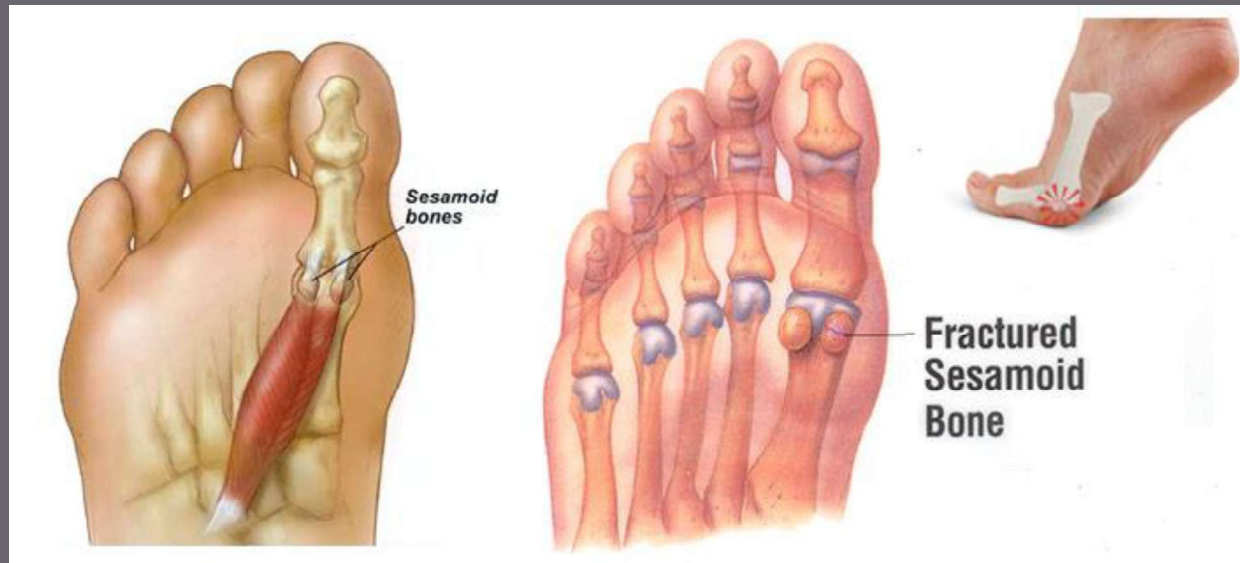
The Big Toe

- ❑ A **hallux valgus** deformity, commonly called a **bunion**, is a deformity characterized by medial deviation of the first metatarsal and lateral deviation of the hallux (big toe), often caused by ill fitting shoes (can have inflamed bunion bursa)
- ❑ **Hallux Rigidus** commonly refers to osteoarthritis of the big toe, the pain and inflammation of which can gradually, over time, restrict movement (can have dorsal lump/osteophytes)



Under the Big Toe! - The Sesamoids

- Sesamoids are located within the tendon and are under pressure particularly during demi-pointe



Between the toes! – Morton Neuroma

- ▣ Usually between 3rd and 4th metatarsal heads



Dance foot position and injury

- neutral vs en pointe (plantar flexion)

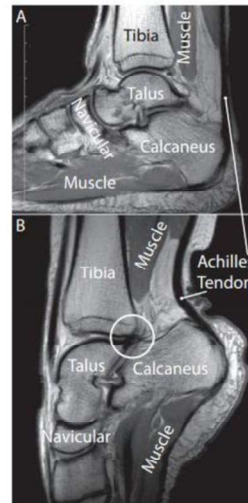


Loading

A: Neutral Standing Position

B: Plantar Flexion (En Pointe)

Tibia, talus and calcaneus come together to form a weight bearing situation "locking" the ankle in a more stable position



Οπισθια Προσκρουση

Os Trigonum



Dance foot position and injury

neutral vs sickling/winging (inversion/eversion)



Don't forget the Pelvis and the Hips!





Stress Fractures

- ▣ • Multifactorial
- ▣ • **Female athlete triad –
amenorrhea, eating disorders, osteopenia/osteoporosis**
- ▣ • Repetitive loading
- ▣ • Can occur in any bone in the foot, ankle or lower leg
- ▣ • Common fracture: metatarsal, navicular, calcaneus, tibia/fibula
- ▣ • High index of suspicion

RED-S

Relative Energy Deficiency in Sport

What is it?

A condition of energy deficiency causing adverse effects on all bodily systems. It affects both **male and female** athletes and dancers who do not fuel adequately, either intentionally or unintentionally

Why does it matter?

1. Impaired growth and development
2. Impact on health and wellbeing
3. Adverse effect on performance



Suboptimal performance as a result of RED-S (Keay, Br J Sports Med 2017)

Recognition & next steps



1. Look out for

- Perfectionist tendencies
- Disordered/restricted eating
- Frequent injuries/niggles
- Illness
- Menstrual dysfunction
- Loss of sex drive



2. Talk to someone

- Are you...
- 💡 Overtraining?
 - 💡 Fuelling adequately?
 - 💡 Taking regular rest days?



3. Seek medical help

- 💡 GP needs to rule out other conditions
- 💡 GP can refer on to specialist services such as



4. Read more at...



Be aware that...

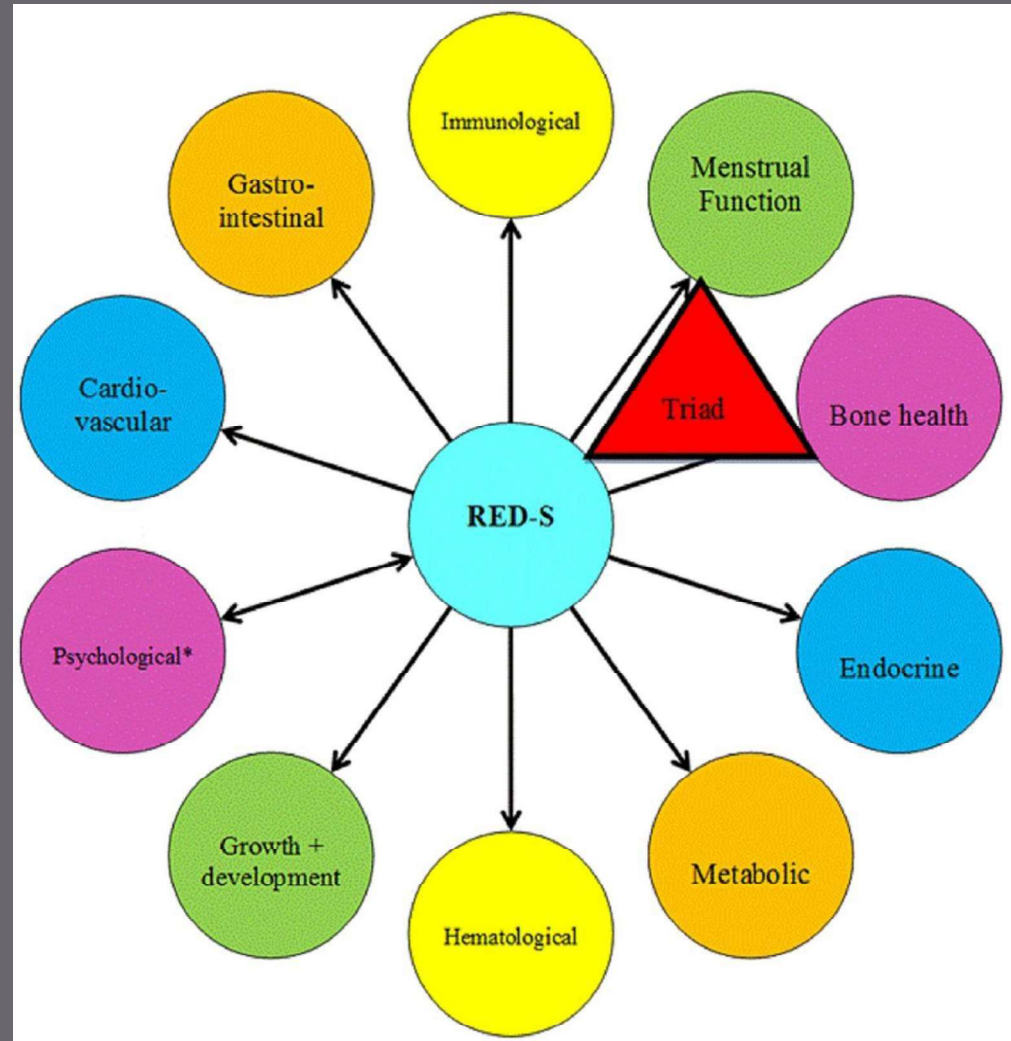
20%

Prevalence of disordered eating is 20% higher amongst athletes compared to non athletes

(Joy et al, Br J Sports Med 2016)

For female athletes

- ♀ Regular menstrual cycle is a barometer of hormone health
- ♀ Not starting periods by age 16 or not having periods for >6 months requires medical investigation
- ♀ Oral contraceptive pill (OCP) can **mask** problems without providing bone protection or addressing underlying cause
- ♀ Using OCP for contraception needs to be an informed decision by the athlete (Gordon et al, J Clin Endocrinol Metab 2017)



Overuse injury

- ▣ • Accounts for 40% of dance injury
- ▣ • Repetitive micro trauma
- ▣ • Extrinsic factors
- ▣ • Training error – volume/intensity
- ▣ • Surface – dance floor
- ▣ • Dance shoes
- ▣ • Intrinsic factors
- ▣ • Strength & flexibility
- ▣ • Biomechanics & alignment
- ▣ • Hormonal/nutritional status

Suggested Reading:

[Orthop J Sports Med.](#) 2017 Jun;

**Overuse Injuries in Professional Ballet:
Influence of Age and Years of Professional
Practice**

[Francisco José Sobrino,](#)

†Trauma and Orthopaedic Surgery Service at
Fremap, Madrid, Spain.



▣ THANK YOU