



Irish Dancing Injuries



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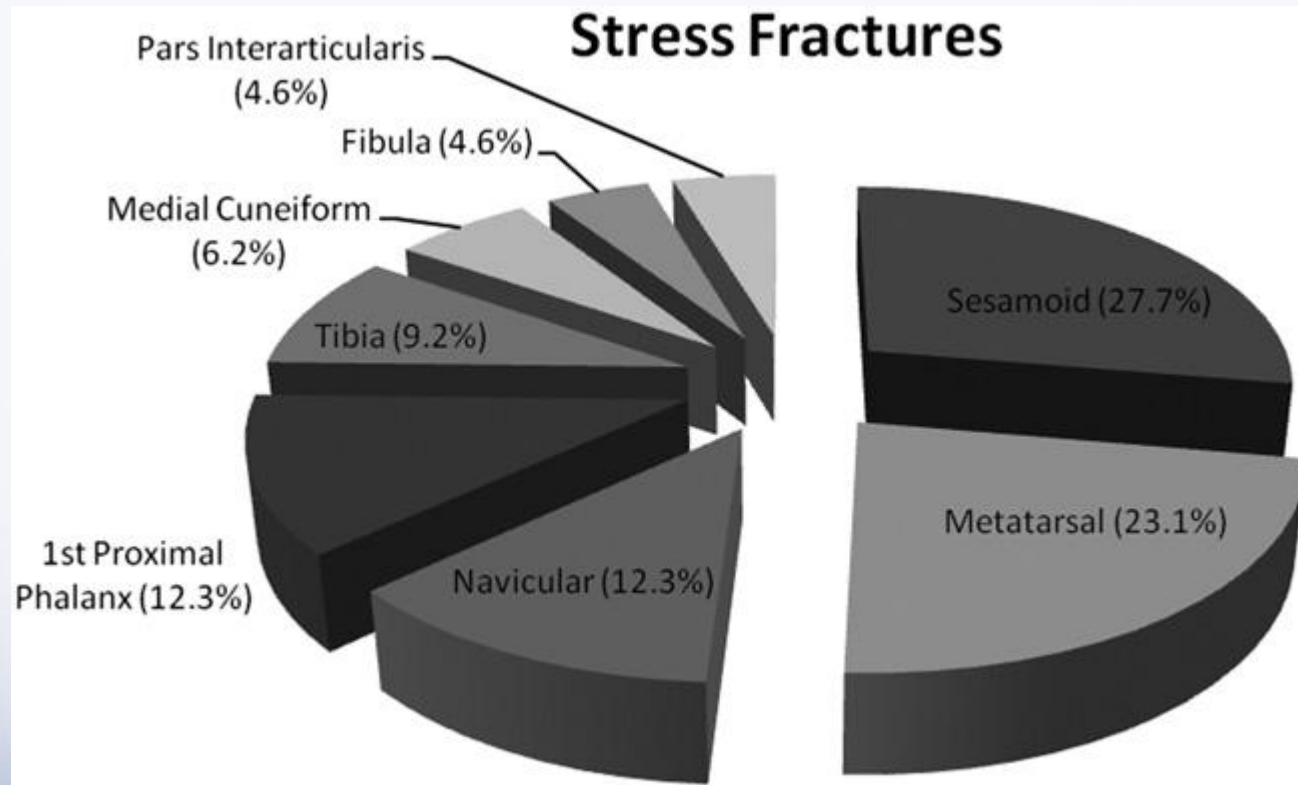
Types Of Injuries

- 95% Lower Limb
- Stress Fracture 29%
- Patello-Femoral Pain Syndrome 11%
- Sever's Disease 6%
- Ankle Sprain 5.1%
- Tibialis Posterior Tendonitis 4.6%
- Plantar Fasciitis 4.6%

- From Noon et al.
- 7 year study
- 69 dancers, 200+ injuries



Types Of Injuries



Why do we get Injuries?

- Overtraining
- Combination of Sports
- Hours
- Bone Fatigue
- Repetition of High Stress Movements
- Inadequate cross training/rest/recovery
- Sleep



On Toe

- Ankle fully plantar flexed
- Knee fully extended
- Key Movement In Irish Dancing
- The problem
- = landing on a straight knee increases jarring and increase stress on ankle and foot



Rock Step

- Causes excessive force at LL and ankle
- Creates 4.5x BW Ground Reaction Force
- Produces near maximal calf/Achilles force production
- Contraction Force at ankle Joint 14 x BW

- Clinically
- Important cause of Sever's Disease and or Achilles Problems

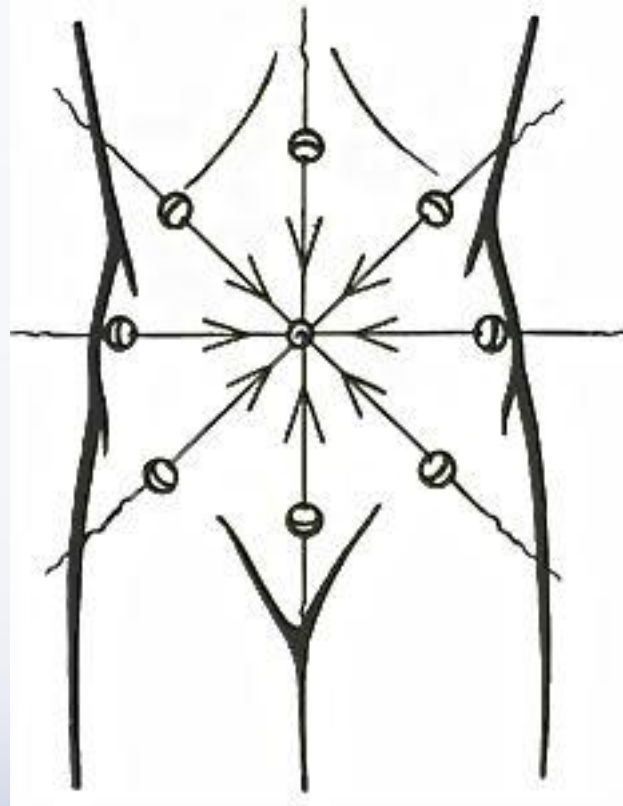


Essentials

- Strong Core
- Strong Tib Post, Peroneals
- Strong Gastroc and Soleus Complex
- Strong Toe Flexors
- Balance



Core Strength



Core Strength

- Core strength does not mean strong Abs

Definition – the ability to dynamically stabilize and control your trunk on top of your legs whilst changing body position

- Includes – abdominals
 - pelvic floor and diaphragm
 - gluteals
 - Hip Flexors
 - Back extensor muscles
- Better core strength =
 - less likely to fall over
 - better alignment
 - helps prevent torsion of feet/ankle



Core Strength

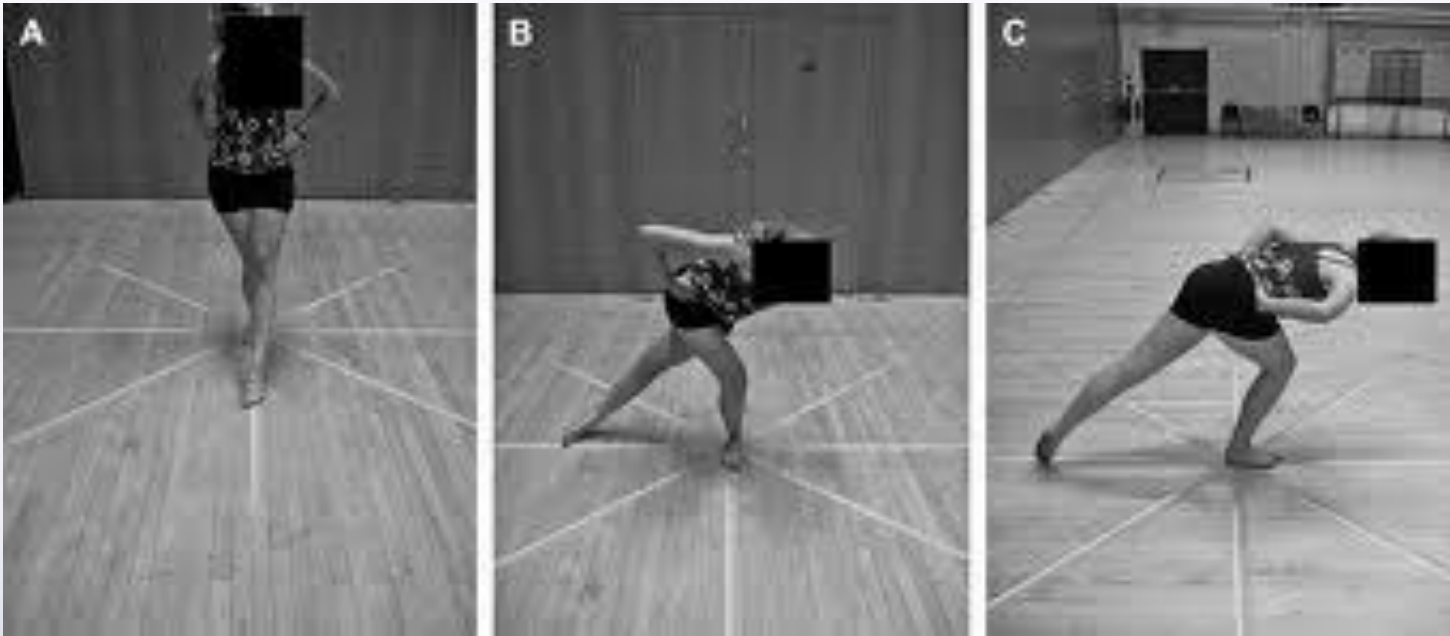


Balance

- Dancers needs trunk control and stability to help minimize demands of foot and ankle
- Technique crucial
- Scientifically
 - people with reduced proprioception and poor postural sway get injured more often
 - Balance training can prevent Ankle and Knee Injuries
 - Previous history of injury = greater chance of injury reoccurring
 - use balance as a training tool
 - If injured do at home eg. Down ball, eyes closed, jumping, landing
 - At training don't waste time include it as part of your warm up



Star Excursion



Injuries

- Growth Plates
- Jones/Dancer's Fracture
- Sesamoiditis
- Medial Tibial Stress Syndrome



Growth Plates

- Common source of pain
- Can remain open until 30 years of age
- Prevalent between ages 10-16
- Foot
- Achilles
- Knee
- Hip
- Present as “Tendonitis” or BONE type pain
- Xrays reveal growth plate BUT that does not always mean pain or pathology



Sever's Disease



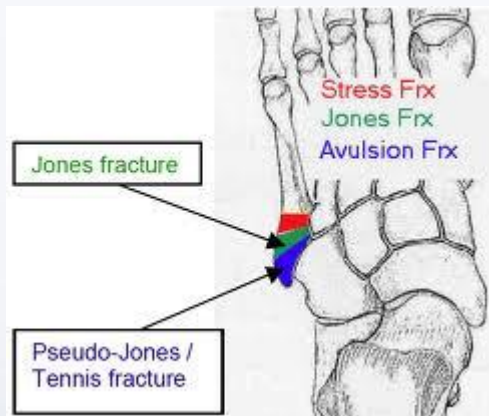
Osgood Schlatters



Insulin Disease



Jones/Dancer's Fracture



Sesamoiditis



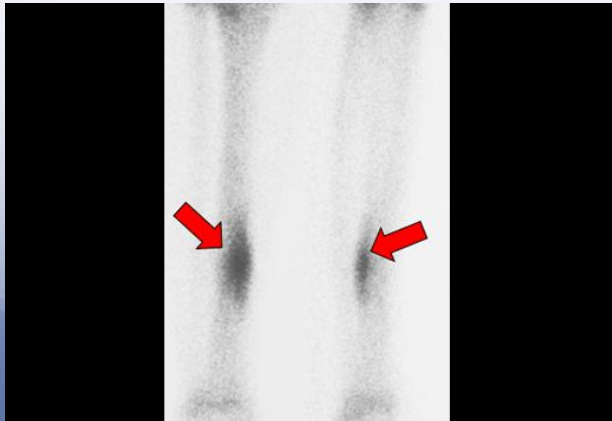
- Sesamoids located within flexor hallucis brevis tendons
- Traction and compression forces
- Look for Toe gripping, clawing
- Poor stability of foot or trunk
- AVOID
- Slow to heal
- Stress Fracture



Medial Tibial Stress Syndrome



- **Continuum**
- Muscular
- Tendon
- Teno-periosteal
- Bone Stress
- Fracture
- Muscle attachment
- ? Bone bending



Shin pain

- Can be avoided
- Calf Endurance Important
- Load Management – too many sports, too much training
- Inadequate rest and recovery
- Bone Fatigue
- Shin Splints/Stress Fractures
 - Israeli Army
 - \$Millions on shoes
 - \$Millions on orthotics
 - Strength/stretching Programs
 - Nothing worked
 - SLEEP 8 hours Day



Prevention Of Injuries

- Warm Up
- Landing Technique
- Stretching
- Calf Strength and Endurance
- Ankle DF Range
- Overload
- Monitor Hot Spots
- Recovery
- Rehabilitation



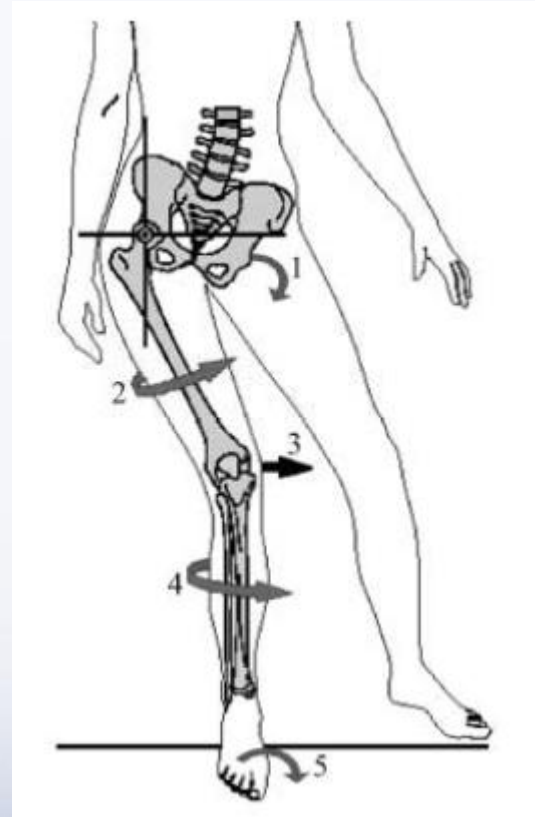
Warm up

- Crucial to warm muscle, improve flexibility
- Helps “cue in” balance systems
- Teachers – stress importance
- Discipline esp with junior instructors
- Make functional
- Use Dynamic/Functional Movements
- Incorporate balance

- Static Stretching – Do at Home



Landing



How to Land

- Correct Landing can cut ACL injury rate by 50%
- Always land on 2 feet where possible
- Avoid landing with a straight knee
- Avoid going “Knock kneed”
- Get stronger Hips, keep pelvis level
- Practice step downs – avoiding knock knees
- Practice jumps, hops, landing
- Practice Balance

- Try to make it feel natural



Stretching

- Stretching

- Do away from dance practice
- Can be important if you are a stiff jointed person
- Not essential if you are naturally flexible
- Regular stretching on non-training days may actually increase strength of connective tissue

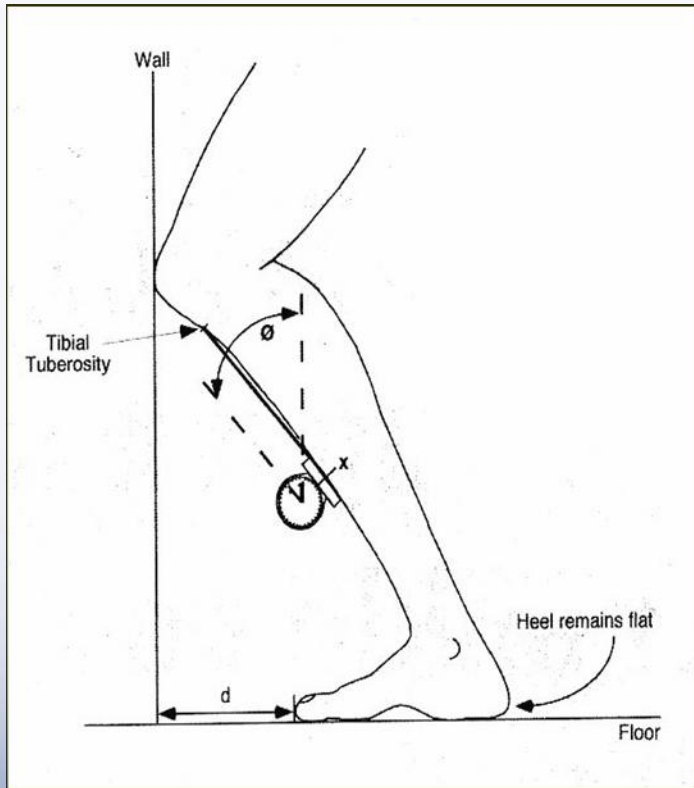


Calf Strength

- Calf raises
- Good technique up onto “On Toe”
- Good control
- Good endurance – up to 40 reps
- Important to reduce Shin pain
- Helps reduce loading stress



ANKLE ROM



- Reduced dorsiflexion
- Important for shock absorption when you run or land
- Linked to knee, ankle, back and hip injuries
- Minimum 12 cm
- Ice bucket ex



Monitor Hot Spots

- Shins
- Achilles
- Growth Plates in Feet
- Sesamoids
- Screening – Local Physio



Recovery

- Start Immediately once injury identified
- PRICER
 - Protect
 - Rest – relative rest where possible
 - Ice
 - Compression
 - Elevation
 - Referral
- Sleep – important for bone
- Rest
- Don't overtrain – basketball, other sports etc



Rehabilitation

- Ankle Sprain

- Initial Management crucial
- Ice and compress until swelling goes
- Ice Bucket regime to get mobility back
- Balance

- Opinion – Sprain = Torn Ligaments

- Return to sport when ready full hop, jump, full lunge
- Completed 2 training sessions

