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

Stress Fractures

- Pars Interarticularis (4.6%)
- Fibula (4.6%)
- Medial Cuneiform (6.2%)
- Tibia (9.2%)
- 1st Proximal Phalanx (12.3%)
- Navicular (12.3%)
- Sesamoid (27.7%)
- Metatarsal (23.1%)
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 need 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 Sclatters
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
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

- 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