COMMON RUNNING INJURIES

DR. IRA MEYERS
HUNTINGDON VALLEY, PA
Causes of injuries

1. Improper training
2. Improper shoe gear
3. Training surface
4. Abnormal mechanics (pathomechanics)
5. Acute injury
6. Systemic diseases/nutrition/nonrunning related activities
Training error

Too much too soon
- Gradually increase and augment with cross training

- Too intense
Running shoes
Running shoes
Different drop shoes
Improper shoe gear

- Running shoes last an average of 500 miles
- Midsole wears out first
- Racing shoes
Running terrain

Ideal surface-soft but not unstable-tartan track, Valley Green

Running in same direction may create a relative limb length discrepancy
Pathomechanics/abnormal biomechanics

Foot structure

- High arched feet (that are high arched both weightbearing and non-weightbearing) do not absorb shock well
- Low arched feet cause increased stress on the muscles of the lower extremity
Pathomechanics

Check flexibility, especially hamstrings and check range of motion of major joints

Check for limb length discrepancy
  - Shoulders and hips should be at same level

Running in same direction may cause relative limb length discrepancy
Pronation
Flexibility
Tarsal coalition
Acute injury

Ankle sprain

RICE - rest, ice??, compression, elevation
– Reduce swelling
Systemic diseases

- Example - lyme disease, diabetes, etc
- Gout
Poor nutrition

Dehydration - caffeine products, soda, etc

Female triad - anorexia, amenorrhea, osteopenia
Other activities

- Work/job
- Social requirements
Common running injuries

- Blisters
- Stress fractures/stress reactions
- Tendinitis
- Plantar fasciitis/heel spur syndrome
What seems routine is not always routine
Blisters

Wipe with alcohol, sterile lancet, drain fluid and apply neosporin and band aid. If not painful, may leave alone.

Hot spot - use vaseline

Subungual hematoma - black toenail
Subungual hematoma
Routine Podiatry

Corns, calluses, ingrown toenails

Don’t under estimate the effect that a painful corn or callus can have on your gait
Stress fractures

- Pain is usually localized
- Usually have localized swelling
- Pain usually increases with running
- Treatment varies with location and severity
Diagnosing stress fractures

X-rays are often negative at first—stress fractures usually take 2-4 weeks to show up on x-rays.

Bone scans or MRI are more sensitive but not always definitive.
Diagnosing stress fractures

A positive bone scan or MRI does not necessarily mean you have a stress fracture. All it means is that something is going on.

Positive bone scan or MRI with a negative xray (after 2-4 weeks) is more likely a stress reaction and not a stress fracture.
Stress fracture vs stress reaction

Stress reactions heal quicker than stress fractures and allow for more aggressive cross training and less time lost from running.
Forefoot stress fractures
Forefoot stress fractures

- Localized pain and swelling

Treatment

- Taping to casting to surgery
- Usually removable cast and cross training for 2-6 weeks
2nd metatarsal stress reaction

STRESS RXN 2ND MET

ELEVATED FIRST MET
Freibergs infarction
Sesamoiditis/fracture

pre

post
sesamoiditis tx
Padding
Shoe modifications
Walking boot?
Injection
Hallux limitus/rigidus

- Pain around big toe joint.
- Usually due to trauma or pathomechanics.
- Gout?
5th metatarsal stress fx
Neuroma

Symptoms- Pain and/or numbness on the bottom of the forefoot that usually radiates into 3rd and 4th toes

Diagnosis mostly clinical. Xrays normal. MRI or ultrasound sometimes helpful
Neuroma treatment

- Padding, taping, shoes, arch supports/orthotics
- Injection - cortisone/alcohol
- Surgery - less than 10% -- excise or release
Midfoot stress fractures

- Harder to diagnose.
- Pain usually vague and present several months.
- Treatment varies with clinical presentation and diagnostic studies, but usually includes period of casting and sometimes surgery.
Midfoot stress fractures
Navicular stress fracture
Tibial stress syndrome

AKA shin splints

Tibial stress reactions often diagnosed as tibial stress fractures

Pain medial border or anterior border

If well localized may be stress fracture
Shin (tibial) borders
Diagnosis of TSS

- Xray - usually negative
- MRI/bone scan usually positive - negative scan more helpful
- POSITIVE MRI OR BONE SCAN DOES NOT ALWAYS MEAN YOU HAVE A STRESS FRACTURE
Diagnostic studies

MRI - American Journal of Roentology
Sept 2004 - Bergman, et al: 43% of 21 asymptomatic runners had positive MRI consistent with tibial stress reaction

Bone scans - Sports Medicine 4 65-75 (1987), Matheson et al: about 40% of athletes diagnosed with stress fx also had a positive finding in an asymptomatic area
TIBIAL STRESS SYNDROME
Treatment for TSS

Physical therapy-modalities and strengthening/Graston/ART
Gait/shoe eval
Shoe therapy/orthotics
Ice??
NSAIDs??
Shockwave
Stem cell/Amino fluid
Plantar fasciitis/fasciosis/strain of intrinsics

- Pain usually near origin of plantar fascia
- Post static dyskinesia
- Pain may vary with running
- Plantar fasciosis/strain of intrinsics
Treatment for Plantar fasciitis

- Shoe therapy/OTC arch supports (powerstep)
- Physical therapy-graston, art, massage ball, strengthening
- Taping
- NSAIDs??
- Injection-cortisone, botox, stem cell, prp
- Orthotics
- ESWT/shockwave
- Surgery
Tendinitis/Tendinosis

- Inflammation or pain along the course of a tendon
- Enesthiopathy - pain at the insertion of the tendon to the bone
- Crepitation - squeaky or sandpaper type of feeling when moving an inflamed tendon
- Tendinosis - degeneration of the tendon
Tendons of the foot and ankle

Anterior tibial
Posterior tibial
Achilles
Peroneal
Long Flexors
Long Extensors
Treating tendon injuries

- Identify cause
- Protect tendon - tape, inserts, shoes
- Rehab tendon
- Several modalities
- Meds
- Injectables
Peroneal cuboid syndrome

Pain that can be pretty intense outside of foot.

Usually no swelling and no pin point pain

Peroneal tendon makes a 90 degree turn under the cuboid

Usually occurs after a change in shoes, hard workout or race
PCS continued

Treatment

- Tape
- Rehab/theraband
- Usually resolves within 1-2 weeks
- Meds?
Achilles tendinitis

2 types seen in runners

- Acute: crepitation and swelling – DO NOT RUN
- Chronic - no swelling but pain present
Achilles tendinitis treatment

Same as others, but almost always use a temporary adjustable, bilateral heel lift.

Acute with crepitation usually occurs after a hard workout, but should resolve quickly with ice, NSAID and physical therapy, modalities.
Cross training
Summary

Running injuries are common and vary greatly—try to identify cause.

Treat the patient not the imaging study

There are few things that you will experience in your life that will give you the gratification of completing a marathon
Summary

“The will to win is nothing compared to the will to prepare” — Juma Ikangaa

Hardest part of running a marathon is getting to the starting line healthy