

Sports Specific Safety

Cross Country Running

*Sports **M**edicine & **A**thletic **R**elated **T**rauma
SMART Institute*

Objectives of Presentation

1. Identify the prevalence of injuries to cross-country runners.
2. Discuss commonly seen injuries in these athletes.
3. Provide information regarding the management of these injuries.
4. Provide examples of venue and equipment safety measures.
5. Provide conditioning tips to reduce potential injuries

Injury Statistics

- 65% of all runners will be injured in any year.
- For every 100 hours of running, the average runner will sustain 1 running injury.
- The average runner will miss about 5-10 per cent of their workouts due to injury each year.
- Novice runners are significantly MORE likely to be injured than individuals who have been running for many years.
- Only 50% of these injuries are new – the rest are recurrences of previous problems.

Commonly Seen Injuries

By far the most common running injuries are overuse injuries due to improper training.

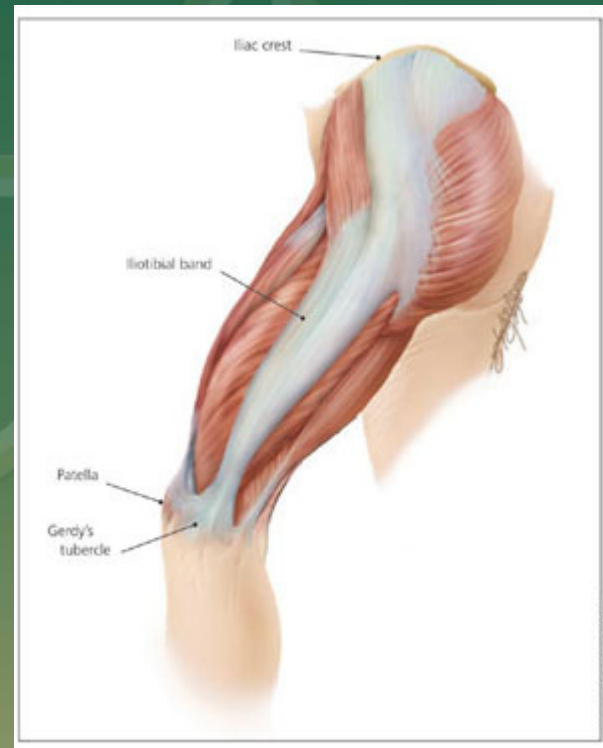
- **Anterior knee pain syndrome – Runner's Knee**
- **Iliotibial band (ITB) syndrome**
- **Shin splints**
- **Achilles tendonitis**
- **Plantar Fasciitis**

Patellofemoral Pain Syndrome

- Cause of Injury
 - Repetitive/overuse conditions
 - Mal-alignment
 - Weakness
 - Poor flexibility
 - Joint 'looseness'
- Signs of Injury
 - Pain over front of knee
 - Worse with stairs, sitting and squatting
 - Pain is worse at start and end of runs

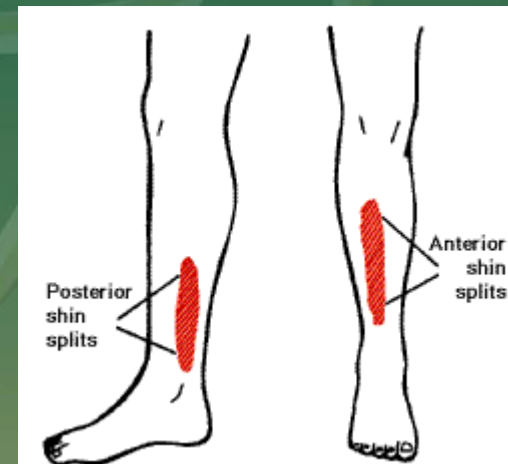
Iliotibial Band Friction Syndrome (Runner's Knee)

- Cause of Injury
 - Repetitive/overuse conditions
 - Can be the result of running on crowned roads
- Signs of Injury
 - Irritation at band's insertion (side of knee)
 - Tender, warm, swollen and red over side of knee
 - Pain with activity



Shin Splints

- Cause of Injury
 - Repetitive microtrauma
 - Weak muscles
 - Improper footwear
 - Training errors
 - Flat feet
 - Tight heel cord
- Signs of Injury
 - Pain in front of shin
 - Worsens with activity



Achilles Tendinitis

- Cause of Injury
 - Tendon is overloaded due to excessive stress
 - Gradual onset
 - Worsens with continued use
 - Poor flexibility
- Signs of Injury
 - Generalized pain and stiffness just above heel
 - May feel thickened, warm
 - May progress to morning stiffness

Plantar Fasciitis

- Cause of Injury
 - Change from rigid to flexible shoe
 - Poor running technique
 - Leg lengths
 - Flat feet
 - Rigid arch
 - Tight heel cords
- Sign of Injury
 - Pain in arch and at heel
 - Pain worse in A.M. – loosens up after first few steps

Treatment

- Correction of training errors
- Check shoe wear
- Proper warm-up and cool down
- Stretching after activity
- Ice after activity
- Avoidance of aggravating activities
- Take rest days

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Field/Playing Area Safety

- Know your environment
- Acclimate to the surroundings
 - Stay well hydrated in the heat
 - Dress according to the weather
- Watch for uneven surfaces
- Avoid harder surfaces if possible

Grass – trails – treadmill – asphalt – concrete

Field/Playing Area Safety

- Lightning
 - Flash to Bang or 30-30 Rule
 - If there is 30 seconds or less between the time that you see lightening and hear thunder then seek shelter immediately.
 - Wait at least 30 minutes after the last thunder is heard before resuming play. If you see further thunderstorm clouds building, you should wait at least another 30 minutes.
 - Seek shelter in an enclosed vehicle, restroom, or other nearby building. Golf carts, trees, or other “shaded” locations are not safe.
- Sun
 - Don’t forget sunscreen.

Equipment Safety

- You don't have to wear \$200 dollar shoes ... but you do have to wear shoes that fit!



Neutral



Flat Foot



High Arch

Equipment Safety

- Check your shoes regularly for too much wear
- Consider 2 pairs and alternate them
- Wear appropriate clothing
- Always wear sunscreen!

Conditioning Tips to Avoid Injury

- Start slow and gradually
- Never increase training by more than 10% per workout AND 10% per week
- Good warm up and cool down
- Maintain good strength – hit the gym
- Stay well hydrated and don't diet while training – you need to eat for workouts



Heat Illness

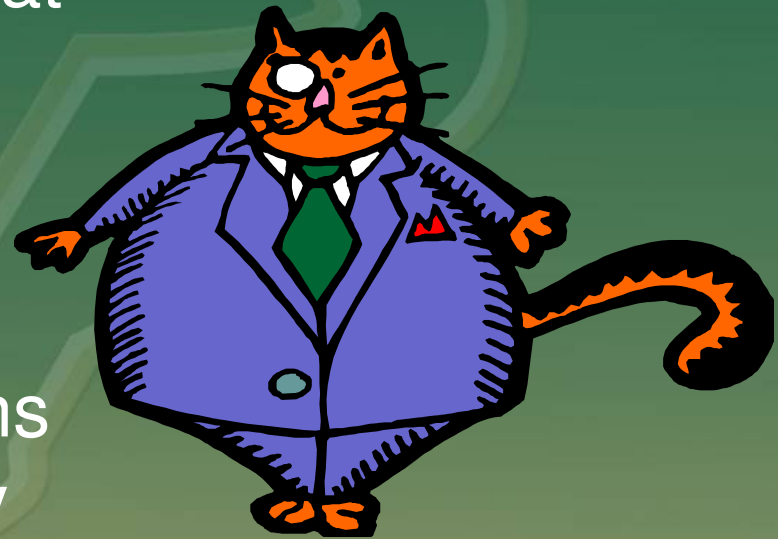
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Prevention of Heat Illnesses (NCAA)

- Allow for 7-10 days to acclimatize
 - 80% acclimatization
- 2 months for full acclimatization

Who is at greatest risk?

- Unaccustomed to heat
- Overweight
- Intense athletes
- Sick athletes
- Recent immunizations due to elevated body temperature



General Information

- White → Reflects 30% of the heat
- Dark → Reflects 18% of the heat
(skin or clothing)
- Male: Lower % body fat
- Female: Higher % body fat
 - Core temperature must get higher before sweating occurs
- Core temperature: for every one degree of increased core temperature – there is an increase in heart rate (about 10 beats/1 degree)

General Information

Body Temperature



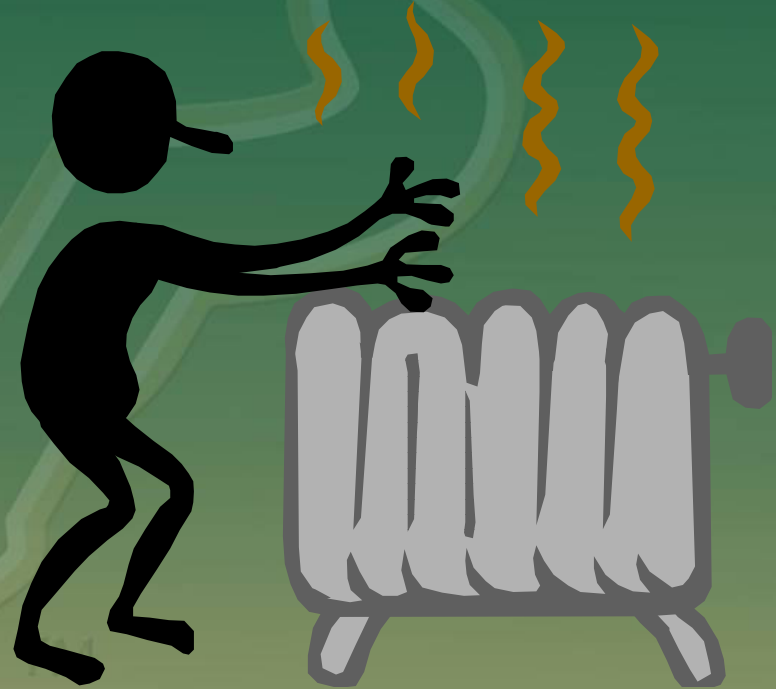
- Sweat increases
- Blood is pushed towards the skin
- Respiration increases
- Desire for food decreases
- Desire for fluids increases
- Desire for salt increases
- Muscle contraction decreases (willingness)

Heat Illnesses - Causes

- Dehydration
 - 60+ % of total body water
 - Sugar in the stomach prevents rehydration
 - Observe until urination occurs (key)
- Electrolyte Imbalance
 - Depletion occurs over a period of 2-5 days
 - Ion-chemical charge

Types of Heat Illnesses

- Heat rash
- Heat syncope
- Heat cramps
- Heat exhaustion
- Heatstroke



Fluid Replacement

- **Before exercise:** drink 17-20 oz. 2-3 hrs prior.
- 17-20 oz 10-20 min. prior to exercise.
- **During exercise:** 7-10 oz. every 10-20 min.
- **After exercise:** within 2 hrs, drink enough to replace weight loss from exercise.

<http://usfortho.com>

MRSA

Methicillin-resistant Staphylococcus aureus

The Silent Killer

Ways to combat MRSA:

- Keep hands clean
- Shower immediately after exercise
- Keep cuts and scrapes covered
- Wear clean exercise clothes
- Don't share razors or other personal items
- Notify the athletic trainer of any unusual sores

If you remember nothing else....

- Proper shoe wear is important
- Listen to your body – take rest days
- Stay hydrated
- Maintain good flexibility

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Summary

- Gradually increase training – **START SLOW**
- Always better to be 10% undertrained than 1% overtrained!
- Use different training routines
- Ice is your friend

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