Outline

- Traumatic Injuries
- Non Traumatic Injuries
- Common Injuries
- Basic Treatment Principles
- Training Principles
Traumatic Cycling Injuries

- Risk Factors
- Accident Mechanisms
- Types of Injuries
  - Most common superficial lesions
  - Head trauma
  - Upper/Lower Extremity
  - Trunk
Traumatic Cycling Injuries

- Prevention Strategies
  - Helmet use
    - In Canada there is a 45% reduction in head injuries in provinces that legislate mandatory bike helmet use
  - Cycling Gloves
    - Protect against superficial hand injuries
  - Clothing/lights
    - Bright colours, reflective material and lights to enhance visibility
  - Eye Protection
Non Traumatic Cycling Injuries

- Prevalence of non-traumatic cycling injuries can be as high as 85%
- Variety of injuries in this category
  - Difficult to track because injuries go unreported
  - Prevention strategies remain relatively untested in the literature
- Usually result from overuse
  - Increase in mileage or training intensity (hill training, big gears)
Overuse Injuries

- **Grading**
  - Grade 1: Pain only after activity
  - Grade 2: Pain starts during activity
  - Grade 3: Pain persists the next day
  - Grade 4: Pain is constant

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Common Injuries

- Neck Pain
  - Horizontal riding position forces neck into hyperextension

- Shoulder Pain
  - Impingement syndrome

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Common Injuries

- **Carpal Tunnel Syndrome**
  - Compression of the median nerve against the handle bars usually where the brake lever attaches

- **Cyclist Palsy (ulnar neuropathy)**
  - A compression syndrome of the ulnar nerve caused by bearing upper body weight on the handle bars
Common Injuries

**Back Injuries**

- General low back pain
  - Prolonged trunk flexion can lead to disc pain
  - Top tube that is too long and handle bars too low exaggerates lumbar lordosis
  - Possible correction is lowering tip of the saddle 10-15 degrees from horizontal

**Buttocks/Perineum**

- Ischial tuberosity pain/chafing from hard narrow saddle
  - Use of padded shorts and wider padded saddles
- Genital Numbness
  - Frequent breaks, standing on pedals
  - Road bike instead of MTB
  - Keep handle bar height lower than the saddle
# Common Injuries

<table>
<thead>
<tr>
<th>Hip/Knee</th>
<th>Lower leg/Foot</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Iliotibial Band Syndrome</strong></td>
<td></td>
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<tr>
<td>□ Lateral hip and knee pain</td>
<td></td>
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<tr>
<td><strong>Iliopsoas Tendonitis</strong></td>
<td></td>
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<tr>
<td>□ Anterior hip/groin pain</td>
<td></td>
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<tr>
<td><strong>Patellofemoral Syndrome</strong></td>
<td></td>
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<tr>
<td>□ Anterior knee pain</td>
<td></td>
</tr>
<tr>
<td><strong>Plantar Fasciitis or Metatarsalgia</strong></td>
<td></td>
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<tr>
<td>□ Constant pressure on pedals or ill fitting shoes</td>
<td></td>
</tr>
<tr>
<td><strong>Achilles Tendonitis</strong></td>
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</tr>
<tr>
<td>□ Unaccustomed to hill climbing</td>
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</tbody>
</table>

- Generally injuries to the lower leg or foot don’t prevent individuals from cycling.
Basic Treatment Principles

- Appropriate Training Plan
- RICE Principle
- Seek out a medical professional if needed
- Fit the bike to the rider not the rider to the bike
Training Principles

Warm Up

- **DYNAMIC**
  - Preparing the body for movement

Cool Down

- Dynamic to reduce HR
- **Static**
  - Stretch all major muscle groups
  - Hold stretches for 20-30 seconds
  - No bouncing
Thank You