

### Prevention of Injuries

- Effective warm up and cool down
- Stretching adequately
- Good landing technique
- Good lunge and calf strength
- Assessing muscles groups to determine weakness and tightness so no muscle imbalance
- Good rehabilitation

10  
lunge.

20  
calf  
raises

side squats

### Effective Warm up

- Prepares muscles and joints for play
- Improves performance, increases flexibility
- Reduces risk of injury
- Muscles can work more efficiently
- Duration: 10-15 minutes

### Examples of a netball warm-up

1. Aerobic warm-up, fun games-age appropriate (5mins)
2. Dynamic stretches (3-5 mins)
3. Cool down: slow jog (2-3 mins) Static stretches

Lunges

Knee wig!  
Dynamic  
twist

↓  
calf lunge hold

pt of  
discomfort


### Static vs. Dynamic Stretches

- Dynamic stretches  
When?: before training or game
- Static stretches:  
Why?: -less soreness and stiffness, increases muscle length  
How?: -stretch is applied slowly to the point of slight discomfort, no pain  
-held 30-60 secs 4 x for each muscle group  
When?: -during the week to improve flexibility

### Netball Specific Stretches

### Stretches and exercises to avoid

- Ballistic Stretching
- Neck circling
- Stretches on the spine
- Standing while toe
- Hurdler's stretch
- Deep knee bends
- Stretches where the body weight is supported on knees or ankles




*preferred hamstring stretches*

*bouncing*  
*turn yes not X circle*  
*X bend over & touch toe*

### Cool down

- Gradual decrease in activity level to allow the body to recover
- Prevents
  - Reduces effect of fatigue and muscle soreness
  - Pooling of blood in limbs
- Clothing *wear track suit*



### Early Treatment

- What to do in the first few days?
  - RICE (rest, ice, compression, elevation, refer to a physiotherapist)
- **REST:**
  - Rest from painful movements in the first few days
- **ICE:**
  - Application of 10-15 mins
  - Ice every 2-3 hours for the first 2-3 days
- **COMPRESSION:**
  - Apply compression/elastic support to injury
  - Controls swelling and reduces pain
- **ELEVATION:**
  - Elevate leg to reduce swelling in first few days
- **REFERRAL:**
  - Refer to a physiotherapist

*use cloth as barrier*

### Why refer to a physiotherapist?


- Many benefits for acute soft tissue injuries
- Why?
  - 1. Relieves pain quicker
  - 2. Improves scar quality
  - 3. Loosening or strengthening injured area
  - 4. Return to sport more quickly
  - 5. Improving your performance when you return
  - 6. Correct any biomechanical faults which may predispose you to injury
- What if I do nothing?
  - Injuries left untreated take longer to heal or ongoing pain
  - More likely to reoccur and leave you with joint stiffness or muscle weakness

### Growing pains

- Poorly understood
- Occurs when bones are quickly lengthening through the growth spurt
- Muscles need to lengthen at same rate as bones and unfortunately this doesn't happen
- Consequences of increased muscles tension pulling on soft growth plates causes:
  - Sever's disease
  - Osgood Schlatters disease

### Severs Disease

- Heel pain: resulting from growth plate inflammation of the calcaneus
- Peak incidence: growth spurt in adolescence
- 2 years period between ages of 10-15 in boys; 8-13 in girls
- Symptoms: limping or running awkwardly
- Causes: tightness in calf muscle, pronated feet, decreased ankle dorsiflexion, excessive running



*stretch well in training & after*

### Osgood-Schlatter's Disease

- Knee pain: resulting from inflammation of the bone at the tibia where the tendon attaches
- Peak incidence: 11-14 year olds
- Symptoms: Pain with exercise, limp after exercise
- Causes: very tight quadriceps, hamstrings and calves



### Common netball injuries- Ankle Sprain

- Occurs when ankle ligaments are overstretched, most often injured are the lateral ligaments
- Vary in severity
- Cause: awkwardly planting foot or landing unbalanced
- Symptoms: hearing pop or cracking sound and will notice swelling, bruising or ankle pain
- Prevention: balancing



stands on 2 pillow  
throw a ball bet players

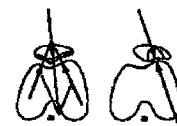
### Balance

- Balance training can prevent ankle and knee injuries
- Use balance as a training tool



### Common netball injuries- Patellofemoral pain (Knee Cap Pain)

- Pain behind your kneecap where your patella (kneecap) articulates with your thigh bone (femur); known as patellofemoral joint
- Pain: results from excessive patellofemoral joint pressure from poor kneecap alignment
- Cause of malalignment:
  - abnormal muscle imbalance,
  - poor biomechanics e.g. flat feet
- Occurs: lunges, squats and stairs



### Common netball injuries- Patella tendinopathy (Jumpers knee)

- Overuse injury affecting patella tendon
- Maximal stress is when jumping and landing
- Pain during netball, pain and stiffness next morning



### Common netball injuries-Achilles Tendonitis/ Tendinopathy

- Overuse injury
- Inflammation of the Achilles tendon and its covering
- Causes: sudden increase in training, pronated feet, tight calves



Sharelle McMahon



### Landing technique

- Correct landing can reduce loading on the knee cap and ligaments
- Avoid landing with a straight knee
- Avoid "knock kneed" land
- Practice jumps, hops, specific landing techniques



cramps - muscles v tight  
potassium