

# SPORTS INJURIES

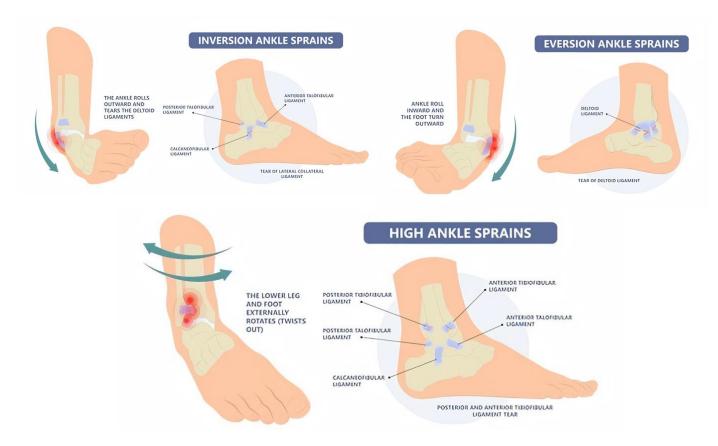
THE ROYAL COLLEGE RED CROSS SOCIETY

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# Ankle Sprain

- An ankle sprain is an injury to the tough bonds of tissue (ligaments) that surround and connect the bones of the leg to the foot.
- There are 3 types of ankle sprain,



# Causes

- Activities that involve explosive side-to-side motion such as tennis, basketball, soccer, rugby football, badminton.
- Carelessness and inadequate attention paid to movements of the ankles which causes unbalanced movements.
- Slow neuron muscular response to an off-balance position.
- Running on uneven surfaces.





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### **Sports Injuries**

- Weak or lax ligaments that join together the bones of the ankle joint.
- Shoes with inadequate heel support.



# Symptoms





Ask what happened at the moment that person was injured. This may be difficult, especially if he/she in a great deal of pain. However, their experience at the moment of injury may provide clues.

**Sports Injuries** 

• Determine the severeness of the sprained ankle.

 Recognize the signs of a fracture



Grade I

Grade II

Grade III

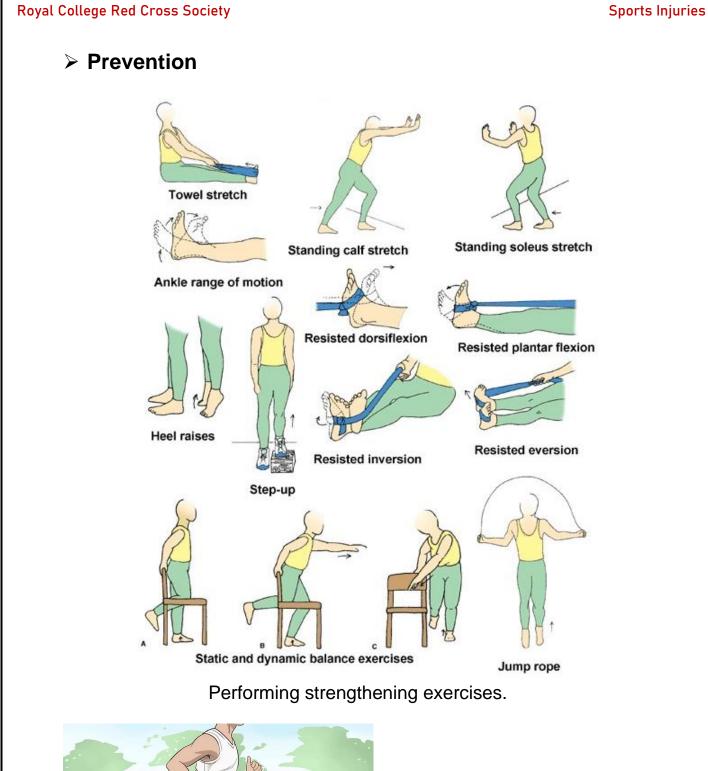
A fracture is a bone injury that is especially common with high-speed ankle injuries. The symptoms are often similar to a grade III sprain.

# A fracture will require X-rays and professional treatment.





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Warm up before exercising.

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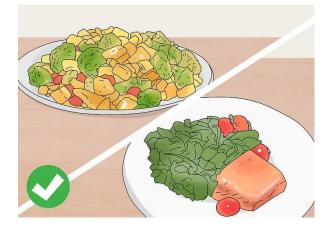
### **Sports Injuries**



Avoiding high heels and wear sturdy, quality footwear.



Whether you've experienced ankle sprains before or not, bracing your ankles will reduce your chances of spraining them during athletic activities.



Build your diet around fish and other lean proteins, as well as fresh fruits and vegetables to help protect your joints.

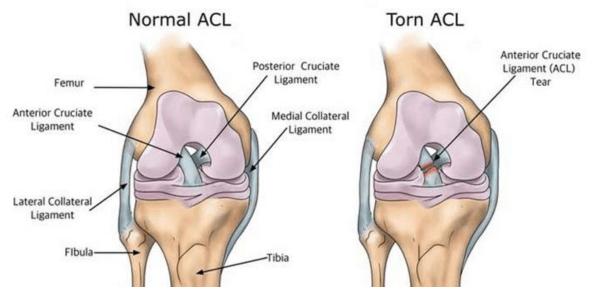


Maintain a healthy weight to put less pressure on your joints.

Carrying extra weight on your body puts added pressure on your joints, especially your ankles.

# Knee injury: ACL tear

• An ACL injury is a tear of the **a**nterior **c**ruciate ligament (ACL) which one of the major ligaments in your knee. ACL injuries most commonly occur during sports such as soccer, basketball, rugby football etc.



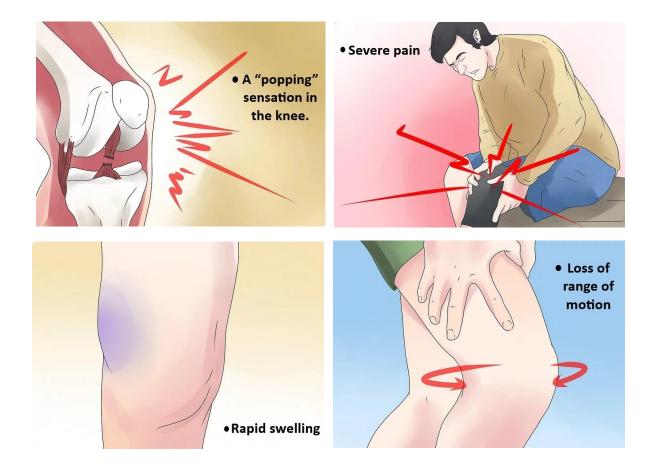
# Causes

- Sports and fitness activities that can put stress on the knee.
- Suddenly slowing down and changing direction of an activity.
- Pivoting with your foot firmly planted.
- Landing awkwardly from a jump.
- Stopping suddenly.
- Receiving a direct blow to the knee or collision, such as a rugby tackle.



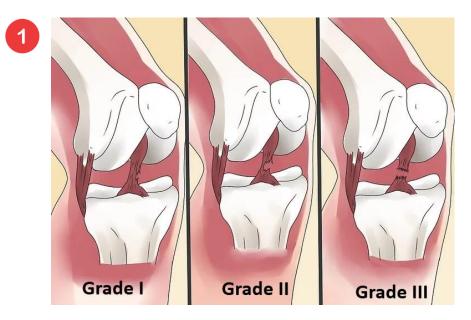


# Symptoms



# Providing first aid

Be aware that there are three grades of ACL injury.



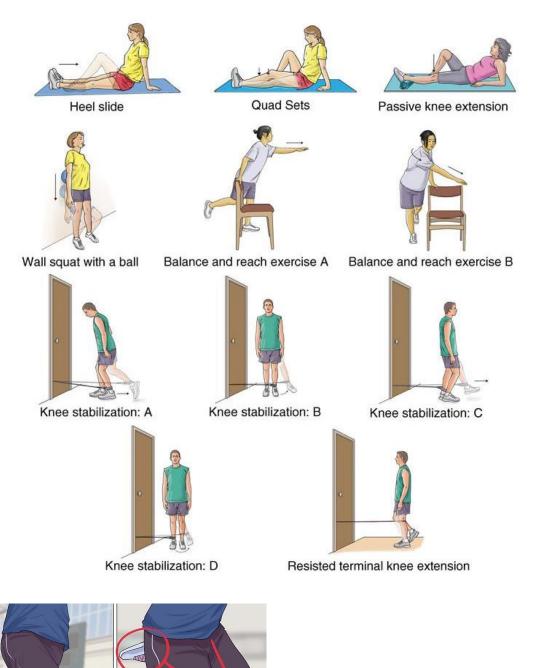
# **Royal College Red Cross Society Sports Injuries** 3 2 MIN Rest your knee Protect your knee General rest is necessary for Protection is meant to prevent further injury. healing. 5 4 Ice your knee Apply a compress 20 Minutes Ice the wounded area by using Wrap an elastic badge or cold packs with a barrier between compression wrap around them and your skin 3 to 4 times your knee but not too tightly. per day for 20 minutes at a time. 7 • Go to a doctor 6 • Elevate the knee

Lie down with your knee propped up on pillow and keep it above the level of the heart.

Once you do immediate care of your knee, you should reach out to a doctor.

# Prevention

 Do exercises that strengthen leg muscles, particularly hamstring exercises to ensure an overall balance in leg muscle strength.



Warm up your muscles before exercising.



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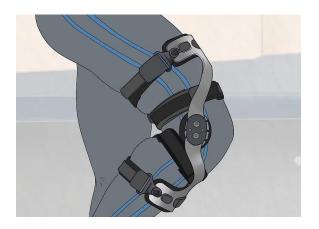
### **Sports Injuries**



Practice proper jumping and landing techniques.



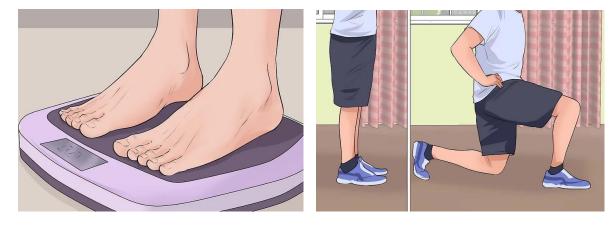
Recognize that certain activities, cause more ACL injuries.



Using a brace can help to protect and support your knee.



Add anti-inflammatory foods to your diet.



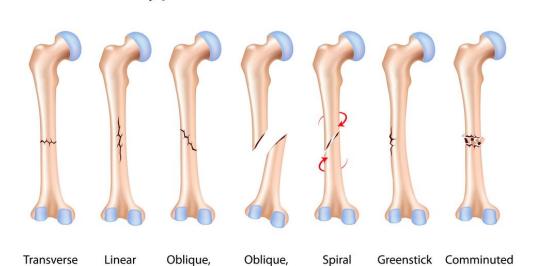
Keep your weight under control

Cool down after working out

# **Fractures**

• A bone fracture is a medical condition in which there is a partial or complete break in the continuity of the bone. In more severe cases, the bone may be broken into several pieces.

**Types of Bone Fractures** 



displaced

# Causes

- Practicing incorrect training or sport technique.
- Having too rapid of a training program

nondisplaced

- Changing the surface
- Running on a track or road with sloped surface.
- Having a poor diet that has inadequate caloric intake for volume of sport.
- Having a low vitamin D level.







# Symptoms



Swelling and discoloration at the site of fracture.





Tenderness or "pinpoint pain" when touched on the bone

Pain that begins after starting an activity.

Pain that's present throughout the activity and does not go away after the activity has ended.

Pain which occurs while at rest, during normal activity.

# Providing first aid



• Move the patient to a safe location and check for other injuries.



# Prevention



Make sure to properly warm up and cool down before and after activities.



Strengthen your bones by building bone tissue through exercise.



Wear proper running shoes. Running shoes should be replaced each year or when they become worn out.



Start new sports activities slowly and gradually increase the time, speed and distance.



Once you feel pain, stop exercising.

Only return to exercise if you are pain-free.

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### **Sports Injuries**

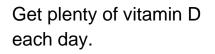


Be aware of the risk factors that can lead to a fracture

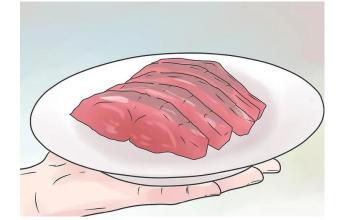


Increase your intake of calcium.

Almost all of the calcium in your body gets stored in your bones and teeth, making them stronger.

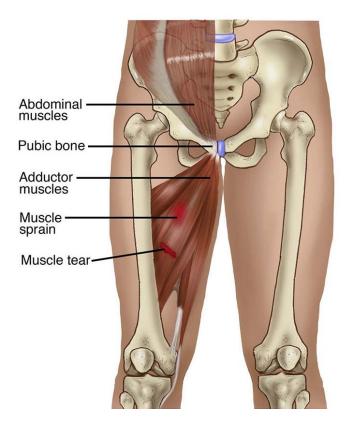


Your body needs vitamin D to absorb calcium correctly.



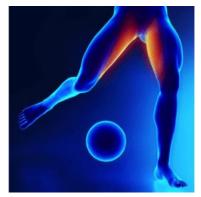
# <u>Groin pull</u>

• A groin pull or groin strain results from putting too much stress on muscles in your groin and thigh. If these muscles are tensed too forcefully or too suddenly, they can get over-stretched or torn.



# Causes

- Groin strain is usually caused by muscles in the groin being contracted or stretched with too much force.
- In practice, this often happens during sports where the leg is rotated or moved quickly upwards or sideways.
- It may also happen when muscles are being overused or are not warmed up. This is one of the reasons why it often affects athletes.





• Swelling and Bruising

# Symptoms



Pain, a deep ache or spasms in the groin area or lower abdomen.



Swelling and bruising in the groin area

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Weakness in the leg when trying to walk, climb stairs, or move the leg.

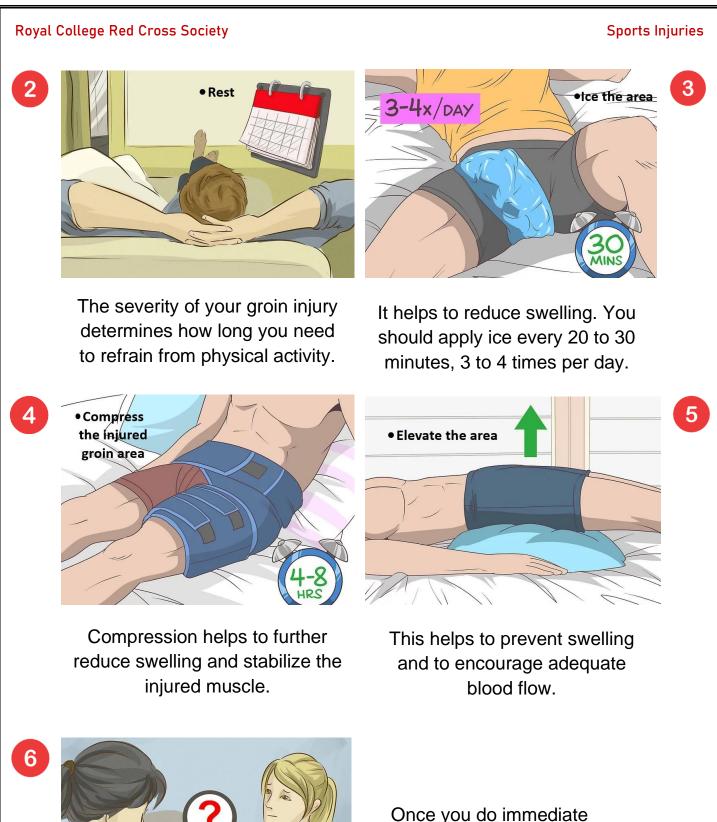
Limping when walking.

Difficulty performing daily activities that require standing and walking.

# Providing first aid

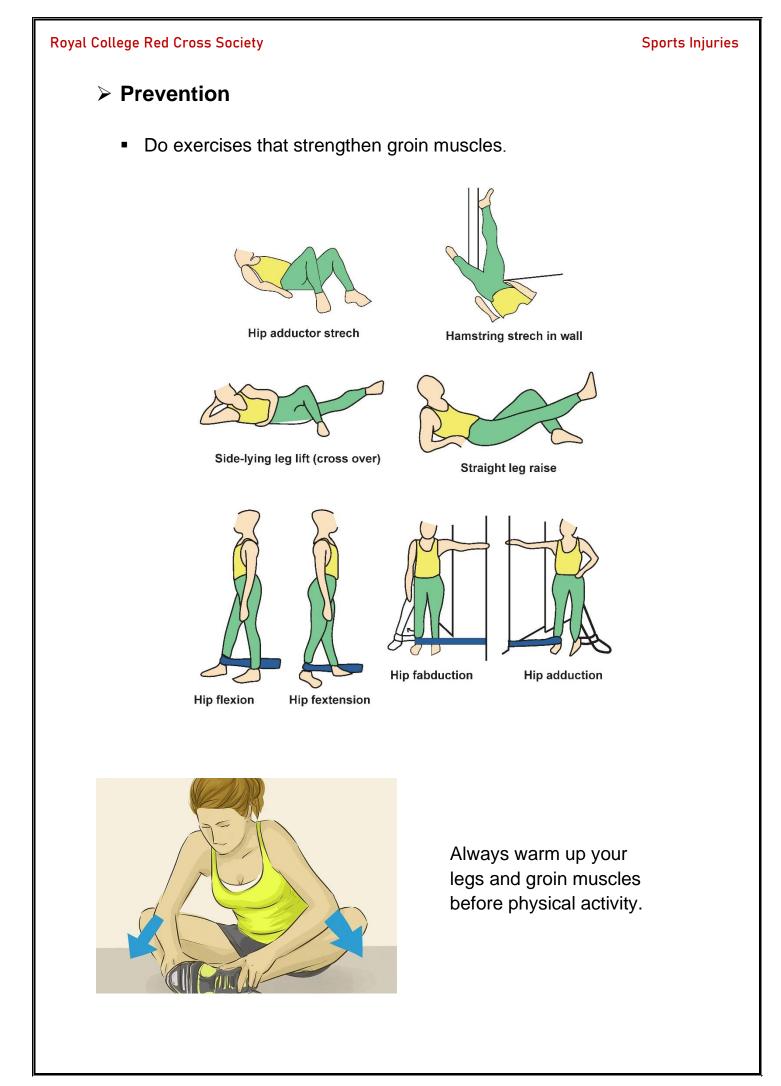
• Be aware that there are three grades of groin pull.







Once you do immediate care, seek medical attention.

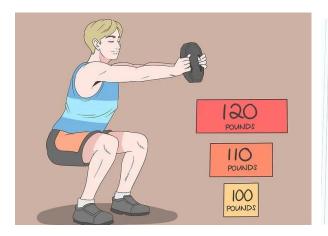


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### **Sports Injuries**



Do exercises regularly to maintain healthy muscles.



Always increase the intensity of your physical activity slowly.



Wear shoes with good support that fit well.



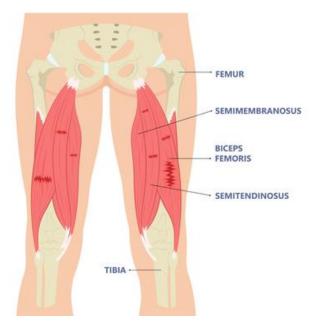
Allow any injuries to heal before doing more physical activity.



Stop exercising if you feel pain or tightness in your groin or the inside of your thigh.

# Hamstring Injury

• A hamstring injury is a strain or tear to the tendons or large muscles at the back of the thigh.



# Causes

- Not warming up properly before exercising
- Being out of shape or overdoing it.
  Weak muscles are less able to handle the stress of exercise, making them more likely to get injured.
- An imbalance in the size of your leg muscles.
- Poor techniques when doing activities.
- Returning to activities too quickly after an injury.







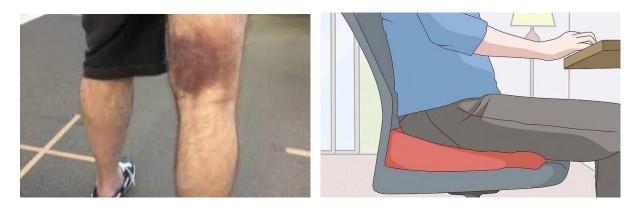
# Symptoms



Sharp pain at the back of the thigh.

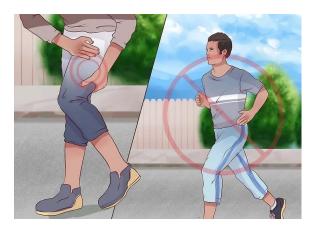


Swelling and deformity.



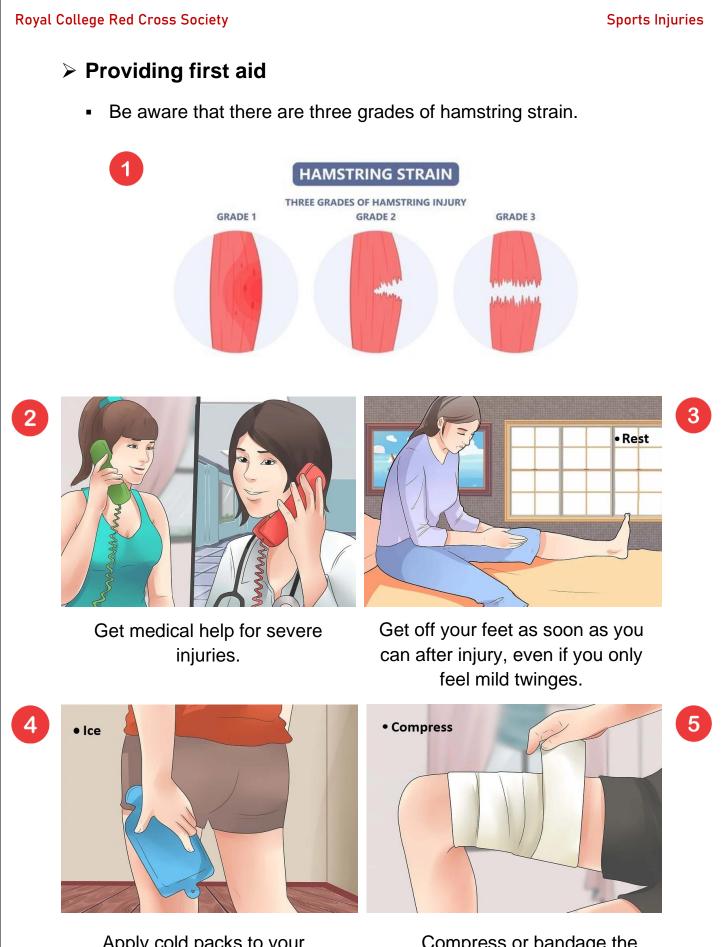
Sometimes bruising and discoloration can be seen along the back of the thigh.

Pain and discomfort when sitting.



Difficulty moving and bearing weight.

Following a hamstring injury, it may be hard or impossible to continue activity.



Apply cold packs to your hamstring for up to 20 minutes every 2 to 3 hours. Compress or bandage the thigh to limit any swelling and movement that could cause further damage.

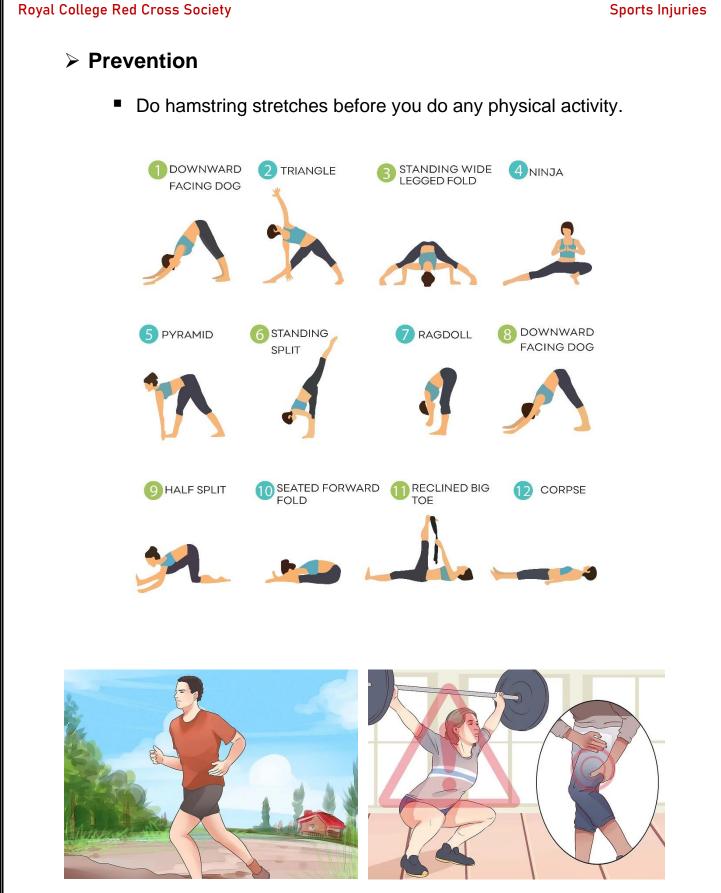


To reduce swelling, sit or lie down and prop the leg up on a tall object, so the site of the injury is higher than the heart.

**Sports Injuries** 

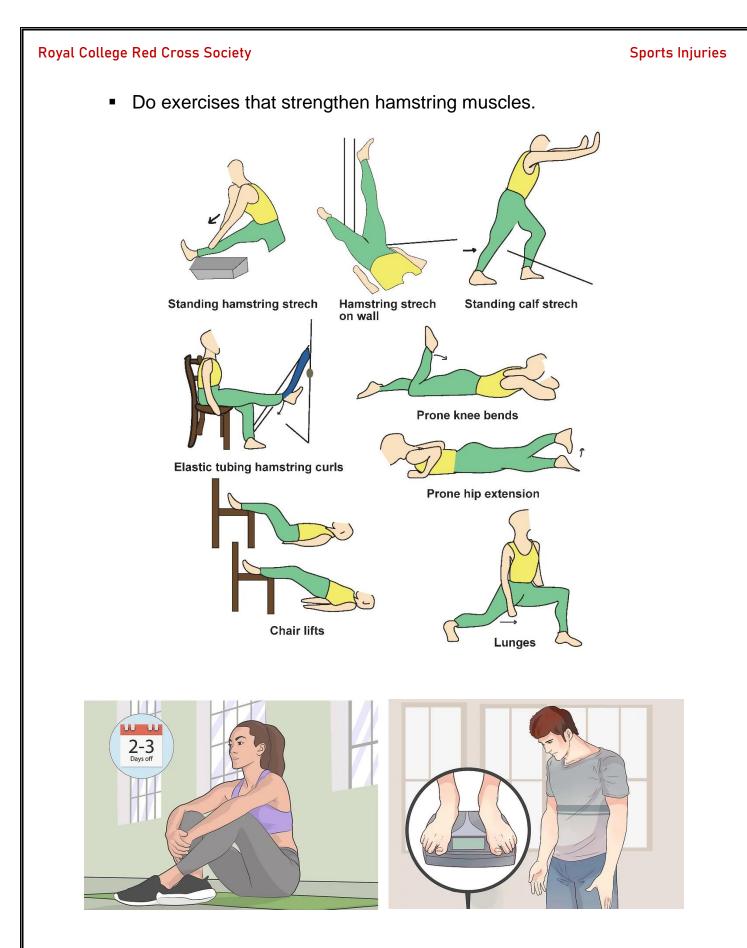
Use crutches or a cane to immobilize the injured leg.

After basic first aid treatments, seek medical attention.



Warm up properly before exercise or intense physical activity.

Do not overexert your hamstrings if you have a history of hamstring injuries.

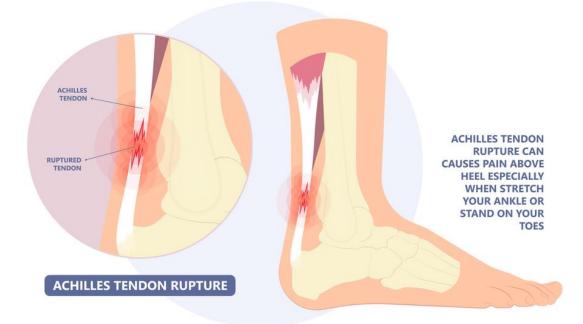


If you feel pain in your thigh, stop your activity immediately.

Reduce your weight if you are overweight or obese.

# Achilles tendon rupture

- Achilles tendon rupture is an injury that affects the back of your lower leg. It mainly occurs in people playing recreational sports, but it can happen to anyone.
- The Achilles tendon is a strong fibrous cord that connects the muscles in the back of your calf to your heel bone. If you overstretch your Achilles tendon, it can tear (rupture) completely or just partially.



## Causes

- Ruptures often are caused by a sudden increase in the stress on your Achilles tendon.
- Common examples include:
  - Increasing the intensity of sports participation, especially in sports that involve jumping.
  - Falling from a height.
  - Stepping into a hole.





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Pain and stiffness along the Achilles tendon.



Feel for swelling on the Achilles tendon.



Tenderness when touched on the heel.



A popping or snapping sound from injured area.



Get medical help immediately to diagnose the injury after check for symptoms.



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You have to ask medical help immediately.

In the meantime,



Rest the injured area and keep weight off it.

15-20m

Ice the injured area to ease swelling.

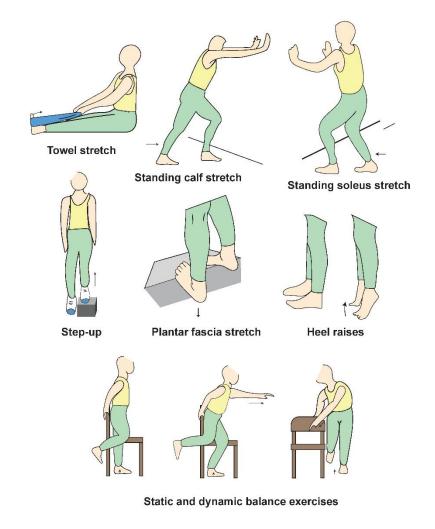


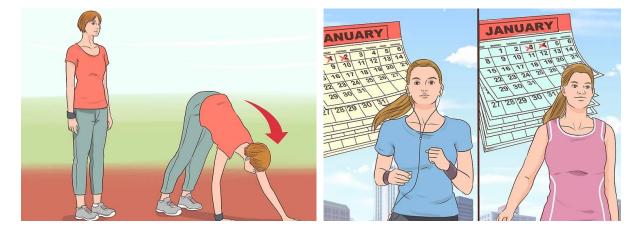
Compress injury by gently wrapping with an elastic bandage.

Elevate injured area above the heart level, if possible.

# Prevention

 Calf-strengthening exercises can also help the muscle and tendon absorb more force and prevent injury.





Warm up before exercising.

Alternate your routine. Alternating between high-impact exercises with lower impact exercise.

### **Sports Injuries**

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Assess what exercises may cause injury.

Use a protective heel pad specially designed to alleviate stress on the Achilles tendon.



Stop your activity if you notice any pain in your Achilles tendons and the surrounding area.



Wear proper shoes.



Maintain a healthy weight.

Extra weight adds stress to the Achilles tendons and may contribute to serious injuries.

# **Dislocated shoulder**

• A dislocated shoulder is an injury in which your upper arm bone pops out of the cup-shaped socket that's part of your shoulder blade. The shoulder is the body's most mobile joint, which makes it susceptible to dislocation.

# **Shoulder Dislocation**







Normal anatomy

Anterior dislocation

Posterior dislocation

# Causes

- Any hard fall onto the shoulder.
- Forceful hitting, lifting, or throwing.
- A hit to an outstretched arm.
- Athletes at risk of shoulder dislocations include:
  - Football players
  - Hockey players
  - Badminton players
  - Tennis players





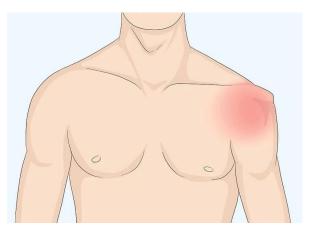
# Symptoms



Severe shoulder pain.



Limited motion of the shoulder.



A distortion in the contour of the shoulder.



A hard knob under the skin near the shoulder.



Shoulder bruising or abrasions if an impact has caused your injury.

#### **Sports Injuries**

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### Providing first aid



Get medical help right away for a shoulder that appears dislocated.

• While you're waiting for medical attention:



Advise the casualty to stay still. Don't try to move the dislocated joint or force it back into place.



Ice the dislocated shoulder to reduce pain and swelling.



Compress the shoulder by strapping it.



Use a sling or shoulder immobilizer to prevent further injury.

## Prevention

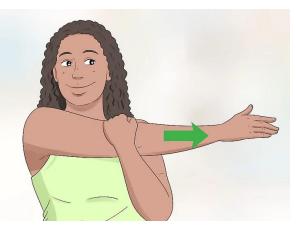


Warm up properly before exercise.



Wear protective gear when you play contact sports.

 Once you've dislocated your shoulder joint, you may be more susceptible to future shoulder dislocations. To avoid a recurrence, follow the specific strength and stability exercises that you and your doctor have discussed for your injury.



Exercise regularly to maintain flexibility in joints and muscles.



Be aware of the risk factors that can lead to a dislocated shoulder.



Resisted shoulder adduction



Resisted shoulder extension



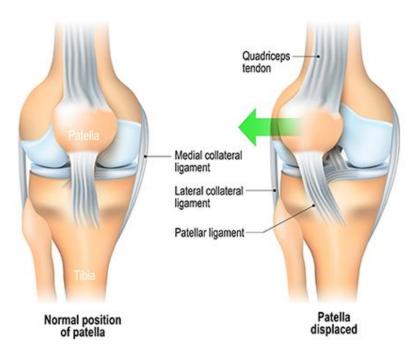
Resisted shoulder flexion



Latissimus dorsi strengthening

# Patellofemoral Syndrome

 Knee injuries or Patellofemoral syndrome, is caused by the kneecap repeatedly moving against the leg bone. This movement damages the kneecap's tissues and causes pain. Basketball, cycling, swimming, rugby football, volleyball and running are the most common sports where these injuries occur.

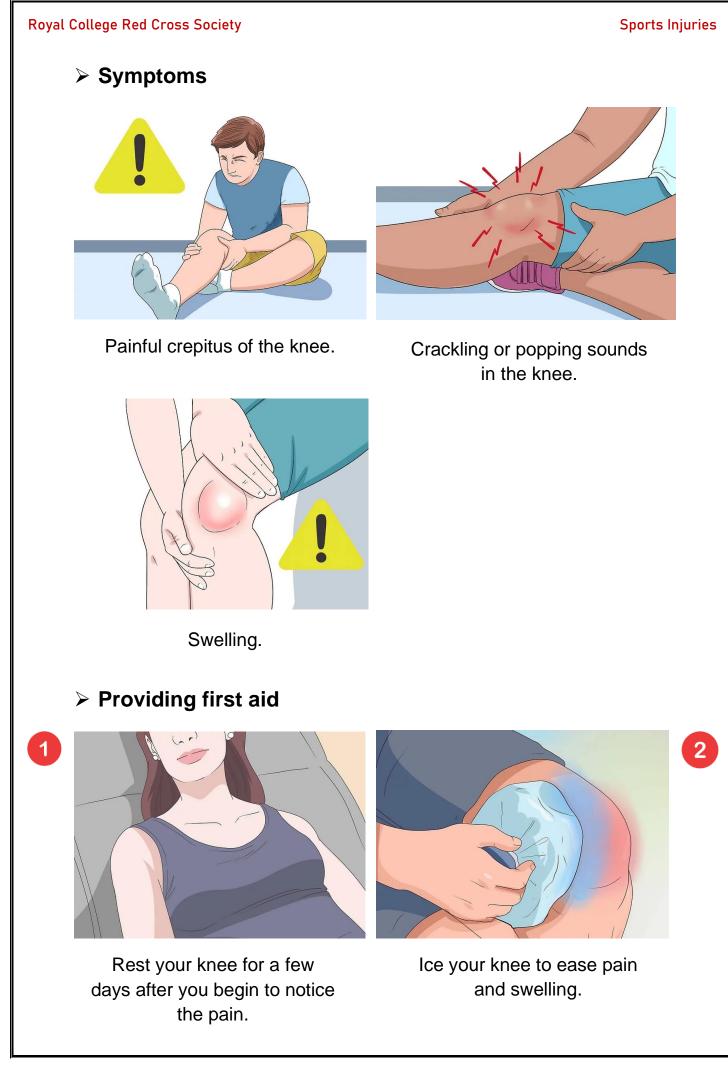


- Running or jumping sports puts repetitive stress on your knee joint, which can cause irritation under the kneecap.
- Muscle imbalances or weaknesses.
- Trauma to the kneecap, such as a dislocation or fracture, has been linked to patellofemoral pain syndrome.









#### **Sports Injuries**

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Wrap your knee. Use an elastic bandage, patellar straps, or sleeves to give it extra support.

Elevate your leg on a pillow when you sit or lie down.

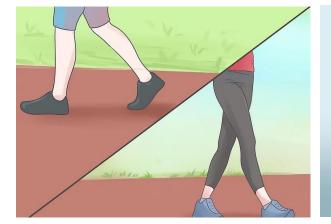


Wear medical shoe inserts.



See a doctor after the basic first aid treatments.

## Prevention



Warm up before running or other exercises.



Wear a brace to protect knee.

### **Sports Injuries**



Practice shoe smarts. Make sure your shoes fit well and provide good shock absorption.



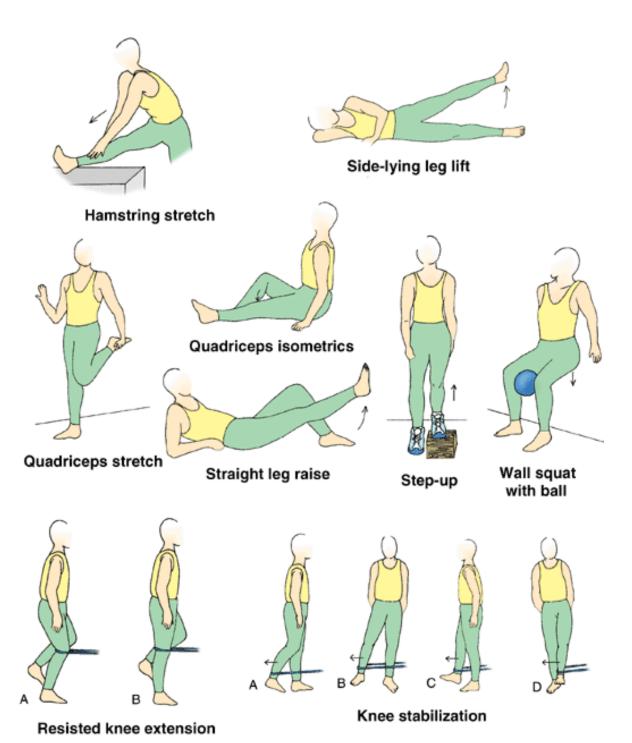
Lose excess weight. If you're overweight, losing weight relieves stress on your knees.



Be aware of the risk factors.

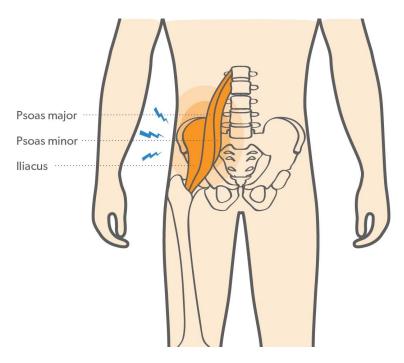


If you feel pain in your thigh, stop your activity immediately.  Maintain strength. Strong quadriceps and hip abductor muscles help keep the knee balanced during activity.



# Hip Flexor Strain

• The hip flexor is a group of muscles that assist with the upward movement of your leg or knee. An injury occurs when these muscles are torn or stretched too far.



- A hip flexor strain is typically caused by overuse.
- Other causes of hip flexor tears or strains:
  - Extended periods sitting (muscles in the hip stay contracted for a long period of time).
  - Weaknesses in muscles surrounding the hip flexors.
  - Acute contraction of the muscles.





## Symptoms



Sudden, sharp pain in the hip or pelvis after trauma to the area.



A cramping or clenching sensation in the muscles of the upper leg area.



Swelling or bruising around the hip or thigh area.



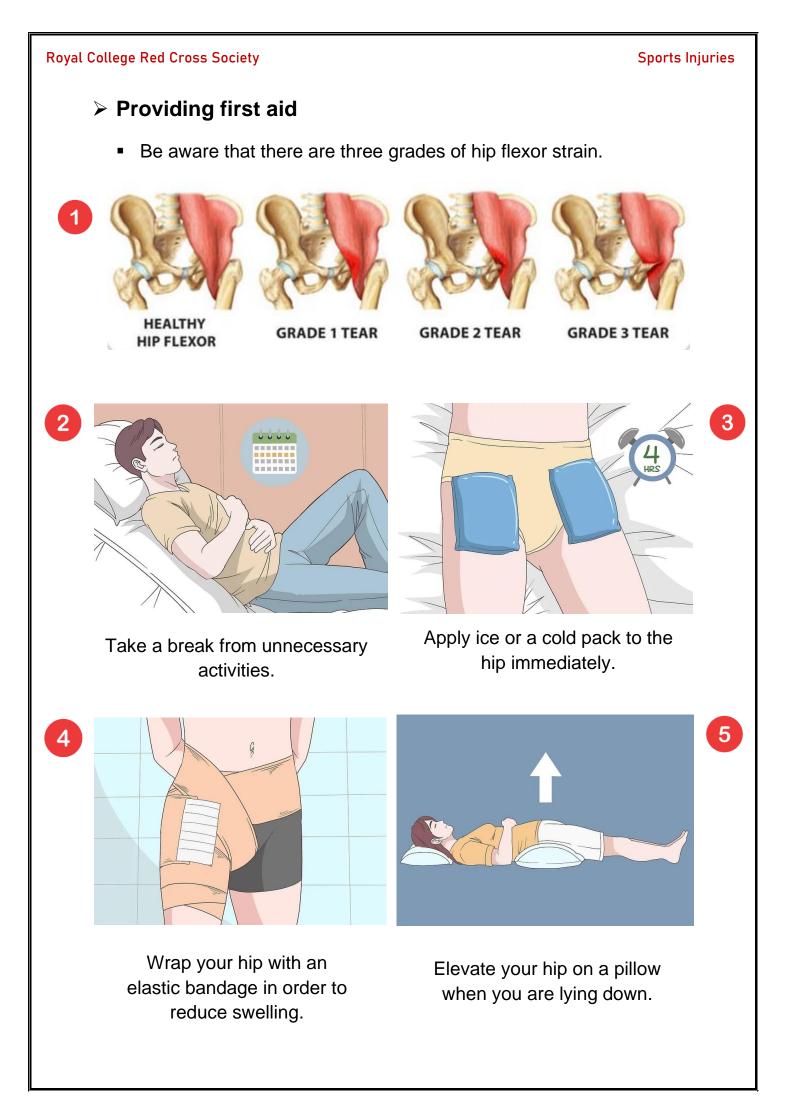
hip or thigh area.

Reduced mobility and discomfort when moving.



Tightness or stiffness around the hip area.

Inability to continue kicking, jumping, or sprinting.



#### **Sports Injuries**

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Walk with a cane or crutches to take the pressure off your hip.

See a doctor after the immediate treatment.

## Prevention



Warm up and cool down before and after work outs.



Maintain a proper weight.

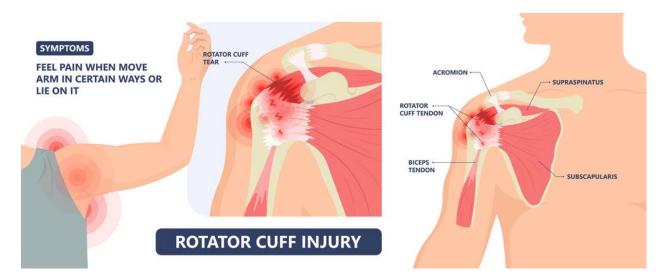


Wear proper shoes.

Stop your activity if you feel any pain.

# **Rotator cuff Injury**

• The rotator cuff is a group of muscles and tendons that surround the shoulder joint, keeping the head of your upper arm bone firmly within the shallow socket of the shoulder. A rotator cuff injury can cause a dull ache in the shoulder, which often worsens with use of the arm away from the body.



- Rotator cuff disease may be the result of either a substantial injury to the shoulder or to progressive degeneration or wear and tear of the tendon tissue.
- Repetitive overhead activity, heavy lifting over a prolonged period of time may irritate damage the tendon.
- Excessive or awkward heavy lifting, pushing or pulling.
- Falling onto an out-stretched arm.
- Overuse injury commonly seen in throwing and racquet sports such as cricket, baseball and tennis.





## Symptoms



Pain in the shoulder



Progressive weakness of the shoulder.



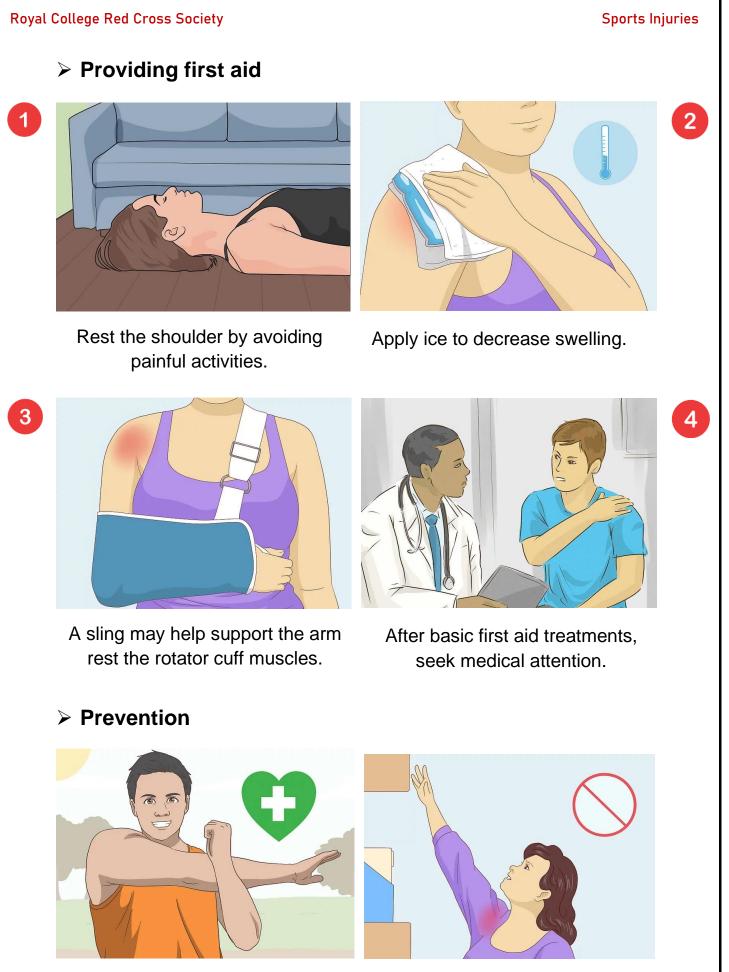


Pain or weakness when lift or extend the arm.

Listen for grating, clicking, or popping when moving shoulder.



Redness, swelling, or tenderness around the shoulder joint.



Warm up and stretch your shoulders before exercising.

Avoid activities with repetitive overhead arm action.



Keep good posture.

Be aware of the risk factors that can lead to a rotator cuff injury.

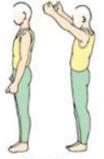
 Do rotator cuff strengthening exercises to help the muscle and tendon absorb more force and prevent injury.



Tubing exercise for external rotation



Tubing exercise for internal rotation



Scaption

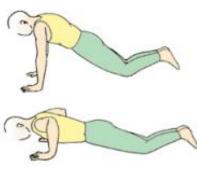


Horizontal abduction





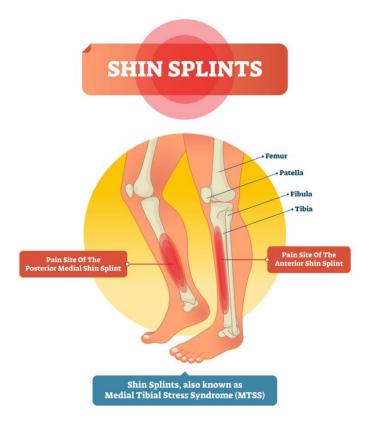
Sidelying external rotation



Push-ups with a plus

# Shin splints

• Shin splints are injuries that happen to the shine bone(tibia), the large bone in the front of the lower leg. This injury is medical known as medial tibial stress syndrome.

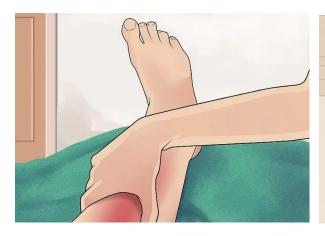


- shin splints often occur in athletes who have recently intensified or changed their training routines.
- Anatomical abnormalities (eg: flat food syndrome)
- Activities that involve sudden movements to the legs such as tennis, football, badminton.
- Inadequate calcium in bones.
- Running on uneven surfaces.
- Tackles to the shin and kicking heavy objects with the shin.





# > Symptoms



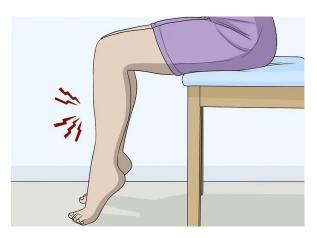
Pain along the shin bone.



Swelling in the lower leg.



Tenderness of the inner side of the shin bone.





Pain when moving the leg.

Inability to put weight on the leg.



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## Providing first aid



Rest by taking an adequate amount of time to heal and avoiding physical activity.



Use ice packs to reduce swellings and use it for 20 minutes intervals about 4 times per day.



Wear elastic compression bandages.

See a doctor after the basic first aid treatments.





Wearing shoes that fit well and offer good support.



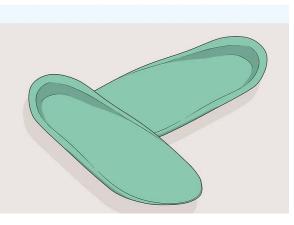
Warming up before exercising.



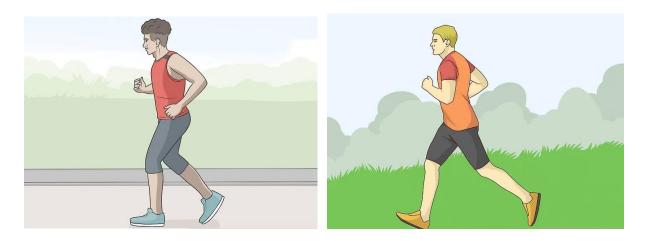
Know when to stop activities.



Replace your shoes once a year or when they are worn out.



Fit your shoes with shockabsorbing insoles to reduce impact.



Increasing exercise intensity gradually.

Work out on soft surfaces.

# Ankle Strain

• An ankle strain refers to damage to muscles and tendons in the ankle as a result of being pulled or stretched too far.



- Repetitive movement of the muscles and tendons over a long period of time.
- Weak muscles or tendons that cross the Ankle joint.
- Activities that involve lifting weights and the sports that require physical contact (contact sports) such as martial arts, rugby football, Soccer etc.
- Improper body mechanics with any activity.







**Sports Injuries** 

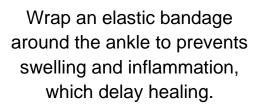
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#### **Sports Injuries**

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Use pillow or other devices to raise the ankle while you rest.



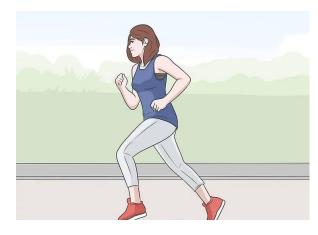
Keeping pressure off your ankle by supporting it with crutches or a cane.





Consult a doctor after the basic first aid treatment.

## > Prevention



Warm up before exercising.



Keep your movement low impact.





Wear proper shoes that fit well and offer good support.

Replace your shoes once a year or when they are worn out.

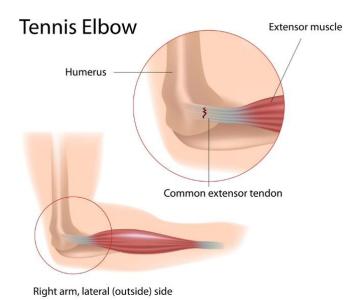


Recognize that certain activities, cause more ankle strain.

Maintain a healthy weight to put less pressure on your joints.

# **Tennis Elbow**

Tennis Elbow is inflammation or, in some cases, micro tearing of the tendons that join the forearm muscles on the outside of the elbow. The forearm muscles and tendons become damaged from overuse; repeating the same motions again and again. This leads to pain and tenderness on the outside of the elbow.



## Causes

 Tennis elbow is mostly caused by overusing your forearm due to a repetitive or strenuous activity. It can also sometimes occur after banging or knocking your elbow. If the muscles in your forearm are strained, tiny tears and inflammation can develop near the bony lump (lateral epicondyle) on the outside of your elbow.



## Symptoms

• Will feel pain while,



On the outside of the elbow, which may travel down the forearm when lifting or bending your arm.



When gripping small objects.



When twisting your forearm.



#### **Sports Injuries**

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## Providing first aid



Avoiding all activity that could potentially aggravate your injury.



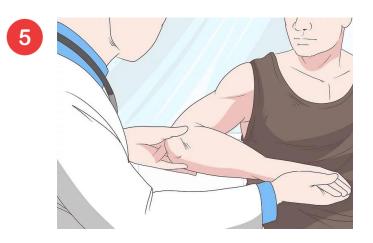
Apply the ice to your elbow region for approximately 10-20 minutes.



An elbow brace may be recommended to help and support elbow tendons



Raise and rest your arm so that it is above the level of your heart.

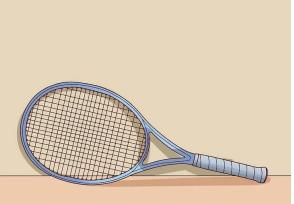


Get medical help after providing first aid.

## Prevention



Do proper warm ups and stretches before engaging in sports.



Use sports equipment with bearable weight and flexibility.



Follow proper techniques when playing sports such as Tennis.



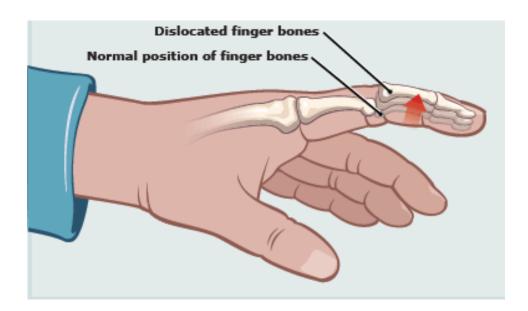
Wear a brace to protect the elbow.



Avoid heavy lifting over a prolonged period of time.

# **Dislocated Finger**

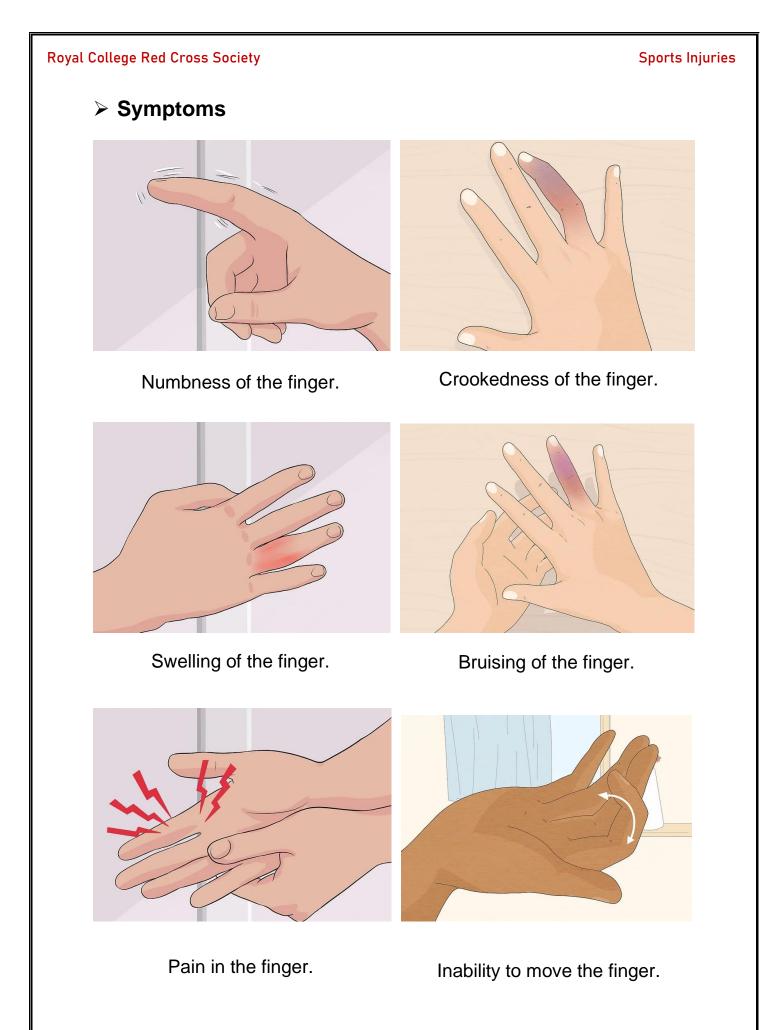
• Every finger has three joints. The thumb has two joints. These joints allow our fingers to bend and straighten. When any two bones are forced out of place at the joint, such as by a traumatic sports injury or a fall, the finger becomes dislocated.

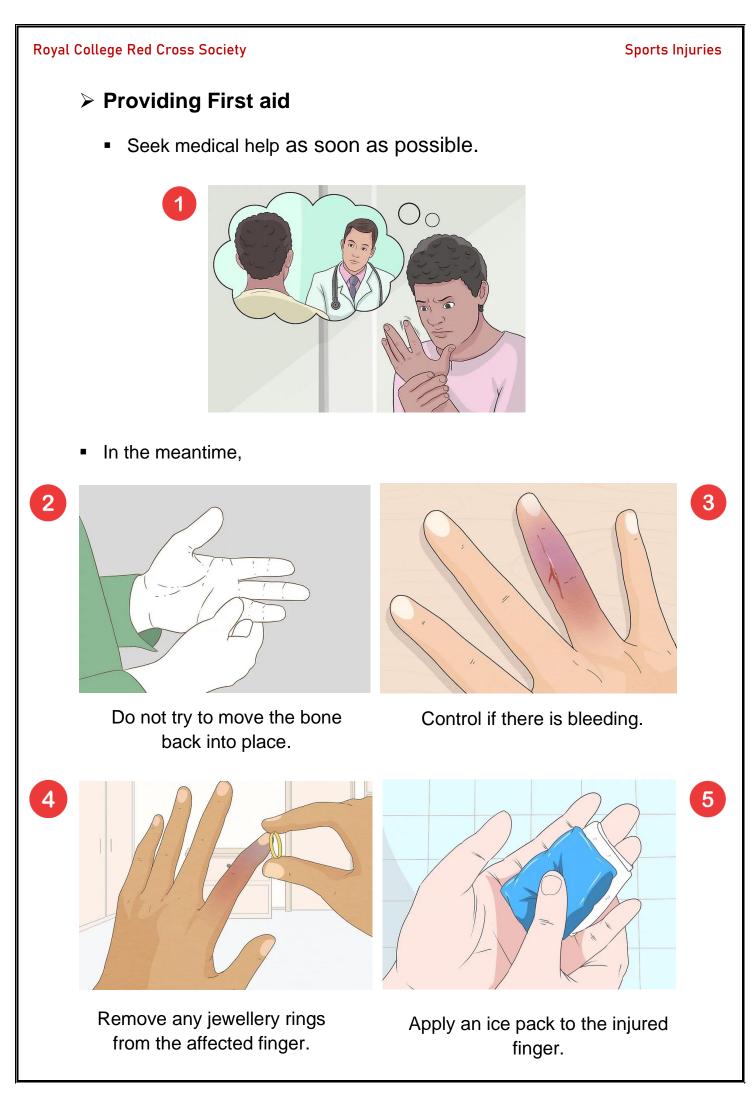


- Sports injuries such as getting hit on the finger by a ball.
- Fingers getting caught on sports equipment.
- Falling on to the ground and using hands to break the fall.
- Accidents like closing a door on the finger.
- Some people are born with weak ligaments they are also prone to finger dislocations.









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#### **Sports Injuries**





Elevate the hand above the level of your heart.

Immobilize the affected finger with a splint to prevent any further injury.

## > Prevention



Wear protective gloves when playing sports.



Removing rings or other jewellery when playing sports.



Practice hand exercises prescribed by a physiotherapist to prevent further injuries.

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