

Basketball injuries

Marta García Abiétar y Darko Vucic

Index

1. Definition of injury
2. Most common injuries in basketball
3. How can we prevent it?
4. How to act when it happens? How to cure it?
5. Bibliography

1. Definition of injury

An injury is the alteration of normal body conditions caused by a blow, hurt or illness.

In the field of sport, an injury is produced when an athlete is forced to leave the physical practice during a specific time.

There is two types: acute and chronic. **Acute injuries** occur as a result of a traumatic event. Their characteristics are pain, swelling and loss of functional capacity. However **chronic injuries** are progressive and slow.

Also inside acute injuries there are **catastrophic injuries** that affect the brain or spinal cord, and they can threaten the patient's life.



2. Most common injuries in basketball

Basketball, as a team sport, is an activity that requires a constant contact with the opponets and also with teammates. This fact produces different situations like accelerations and decelerations, jumps, falls, abrupt changes of direction...

For this reason, basketball is a sport in which there are high incidence of injuries, and the most common are acute and chronic injuries.



ANATOMIC INJURIES	Nº	%
LOWER EXTREMITIES	130	46,13
Leg	6	2,13
Knee	40	14,2
Ankle/foot	84	29,8
UPPER EXTREMITIES	36	12,76
Forearm	1	0,35
Elbow	2	0,71
Shoulder	10	3,55
Hand	22	7,8
Wrist	1	0,35
BODY	52	18,39
Hip/Pelvis	9	3,19
Rachis	43	15,2
HEAD	20	7,09
MUSCLE PATHOLOGY	42	14,9
BONE PATHOLOGY	2	0,71

Spanish Basketball Professional League. Nº of players protolized: 217. Total injuries: 282.

ANATOMIC INJURIES	N°	%
LOWER EXTREMITIES	2130	57,3
Ankle	537	14,5
Knee	350	9,4
Kneecap	332	8,9
Foot/ Toes	276	7,4
Femur	272	7,3
Leg	257	6,9
Groin	106	2,9
UPPER EXTREMITIES	593	15,9
Fingers	200	5,4
Hand/Wrist	161	4,3
Shoulder	139	3,7
Humerus/elbow/ forearm	93	2,5
BODY	640	17,9
Lumbar spine	331	8,9
Hip	114	3,1
Cervical spine	72	1,9
Thorax	44	1,9
Coccyx / sacrum	35	0,9
Dorsal spine	26	0,7
Abdomen	18	0,5
HEAD	321	8,6
Eyes (and around)	120	3,2
Mouth/ Jaw	101	2,7
Nose	36	1
Face	33	0,9
Skull/ Brain	31	0,8

American Professional Basketball League (NBA). N° of players protolized: 3718. Total injuries: 3711.

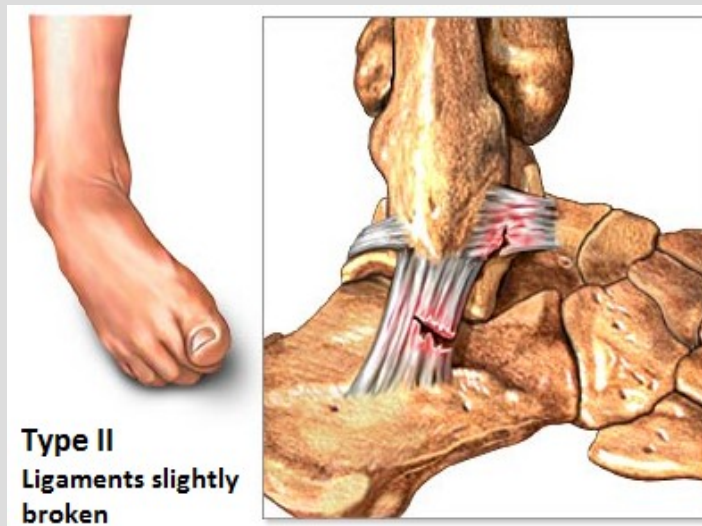
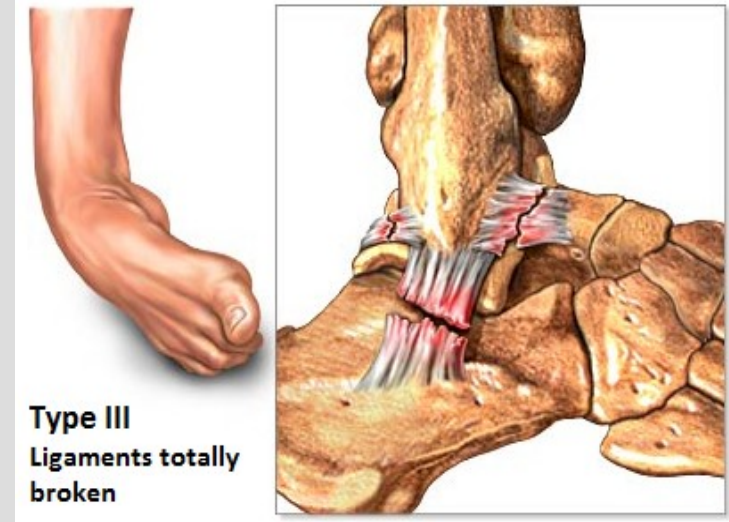
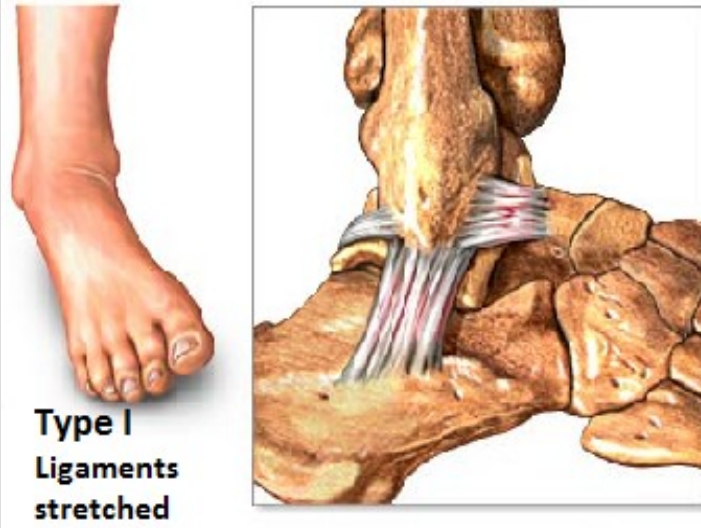
THE MOST COMMON INJURIES IN BASKETBALL

TYPE OF INJURY	%
Ankle sprain	13,2 – 25,0
Patellar tendinitis/ Patellar chondropathies	3,9 – 10,87
Back pain	6,1 – 7,45
Knee sprain	3,6 – 4,61
Sprain/ Dislocation of the fingers	2,7 – 17,09
Achilles tendinitis	3,2 – 2,84
Plantar fasciitis	1,6 – 2,84
Slipped disc	1 – 2,83
Meniscal rupture	1 – 2,13
Compartment syndrome in legs	2,13

The most affect ligament is the lateral external

American Professional Basketball League (NBA). N° of players protolized: 3718. Total injuries: 3711.

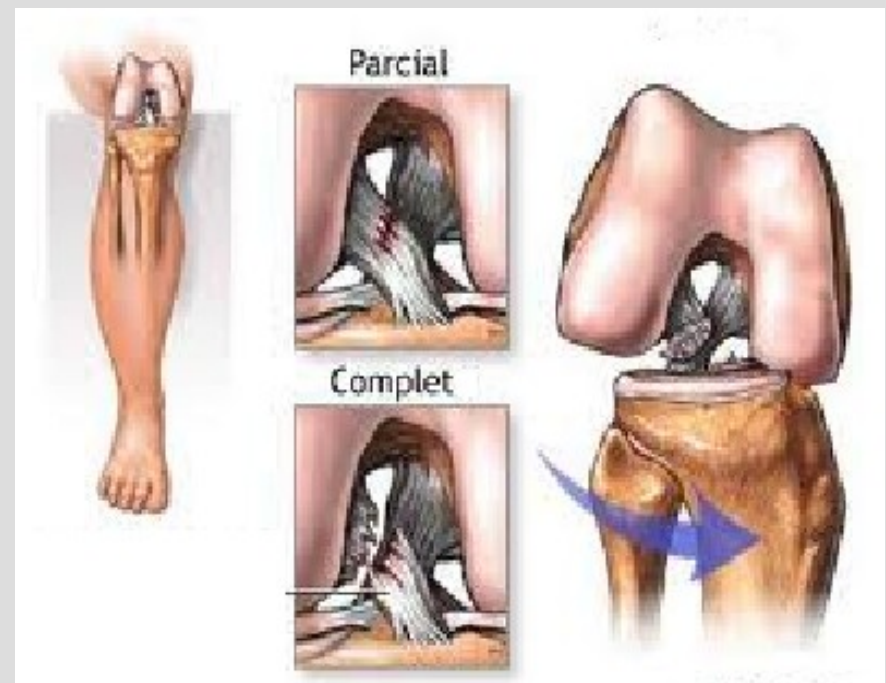
Ankle sprain



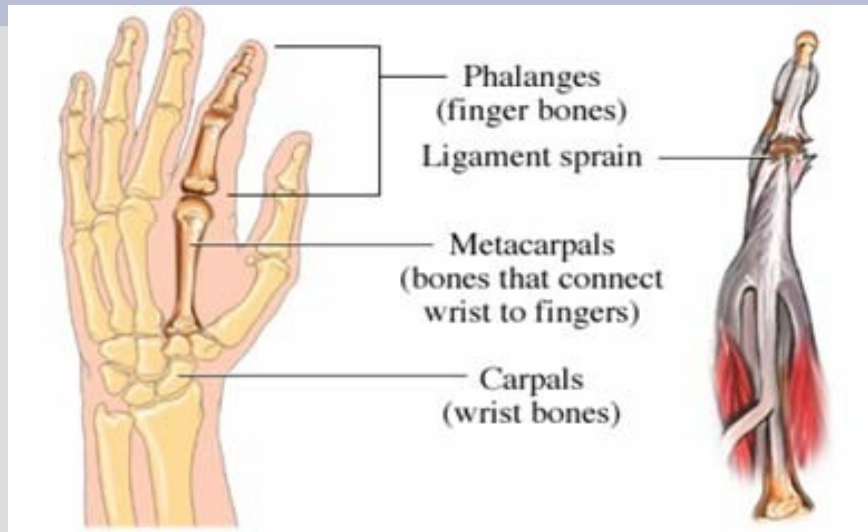
It is a result of movement into or out of the foot. The pain is intense and often the individual can't continue doing sport.

Knee sprain

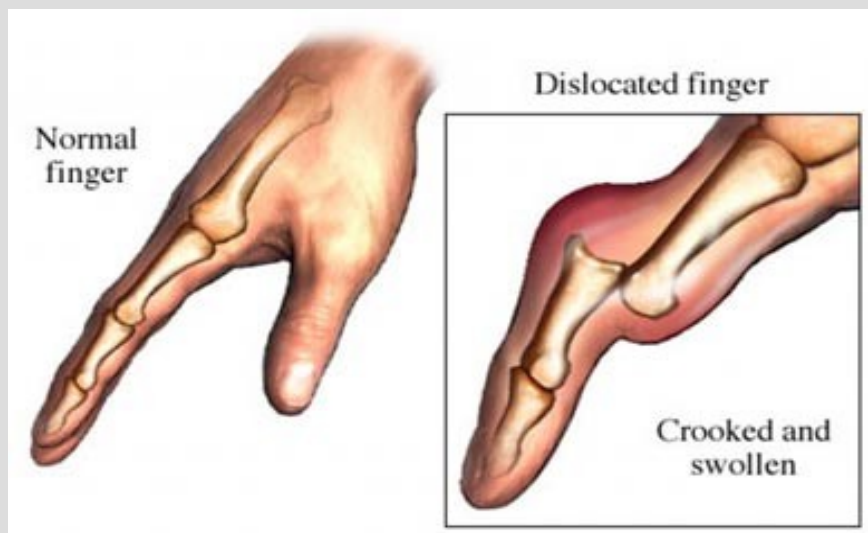
This is caused by a forced movement of the articulation, such as a rotation of the body above the knee, a fall... There are also three types.



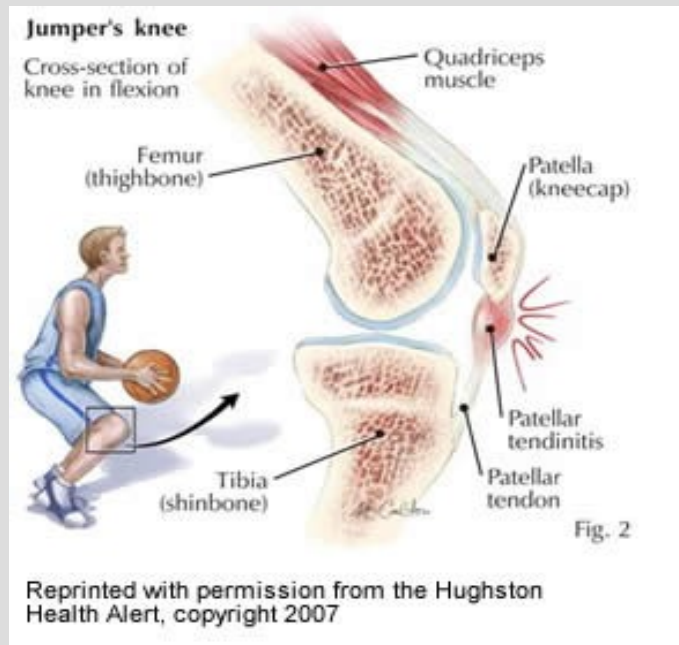
Sprain/ Dislocation of the fingers



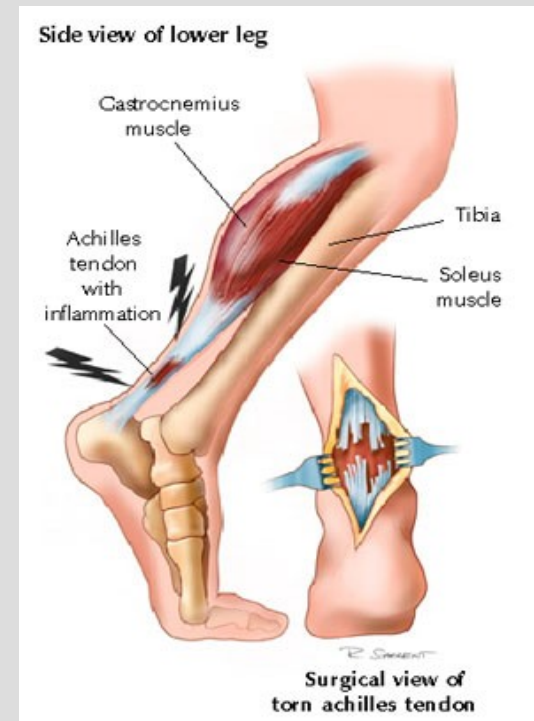
It is caused by a hit on the fingers through the ball, players or falls.



Patellar tendinitis and achilles tendinitis



Inflamation of the patellar tendon. It is caused by eccentric efforts.



Inflamation of the achilles tendon.

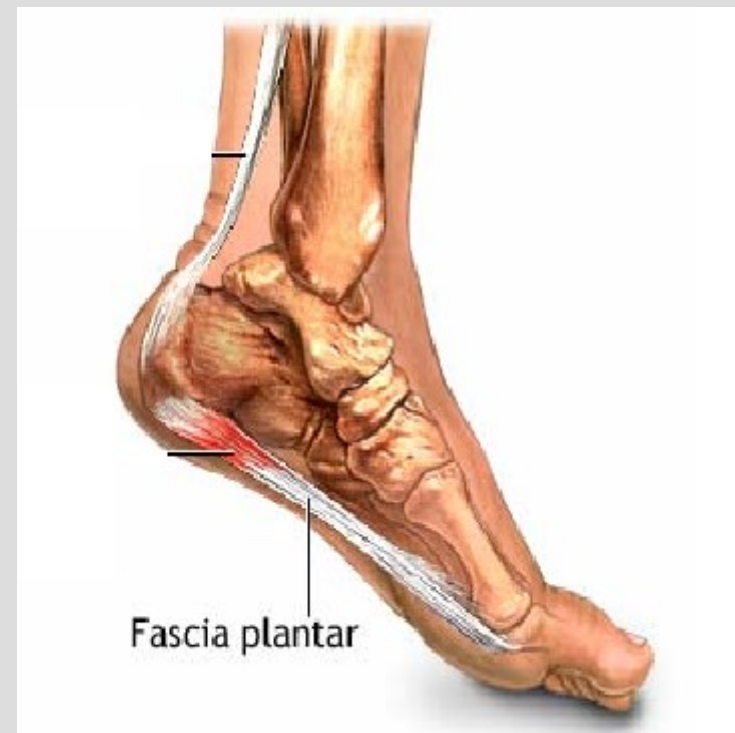
Back pain



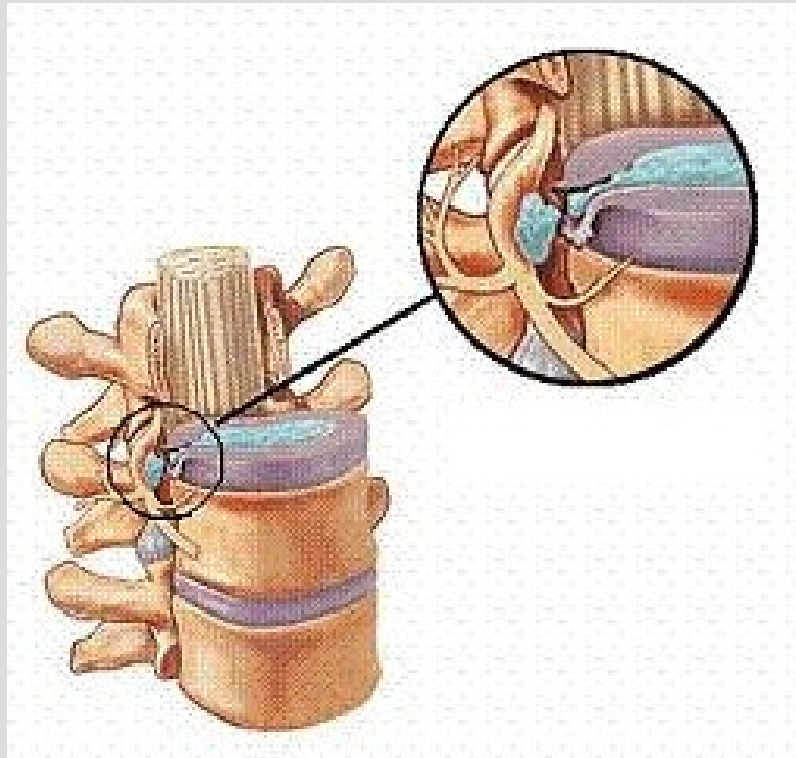
It is related with lumbar vertebrae and structures such as muscles, ligaments, nerves and intervertebral discs.

Plantar fasciitis

It is the inflammation of plantar fascia. It produces pain in the heel.



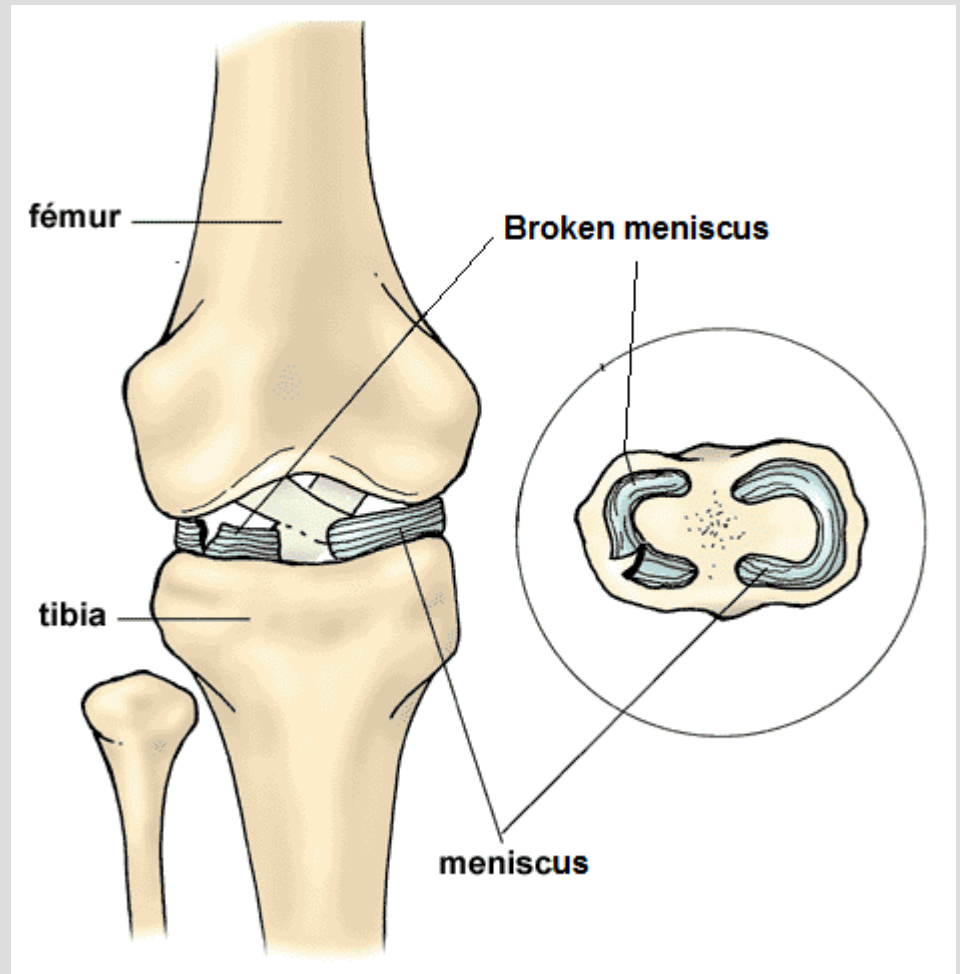
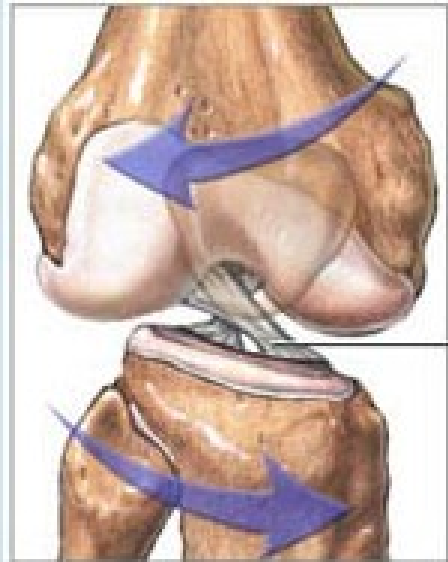
Slipped disc



It happens when all or a part of spinal disk comes out of the nucleus and this pressures on nearby nerves.

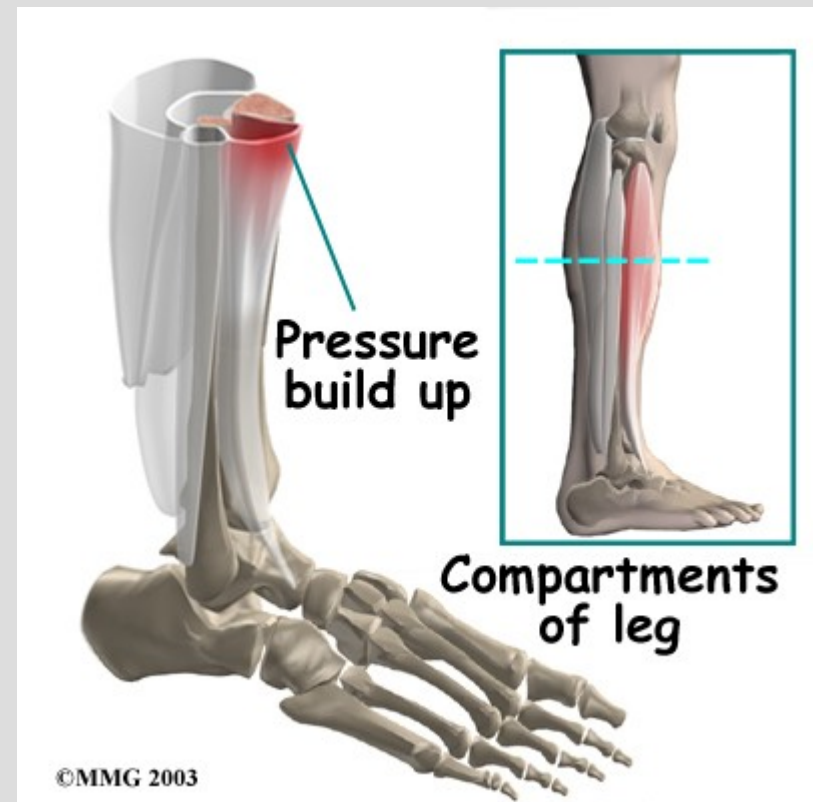
Meniscal rupture

It is caused by a twisting of the knee.



Compartment syndrom in legs

It is the inflammation of the compartment that includes muscle tissue, nerves and blood vessels. So it produces a compression of nervous, vascular and muscular system.



3. How can we prevent it?

The injuries need, not only a correct diagnosis and treatment, also a prevention that contribute to a sense of wellbeing and a better quality of life in sports.

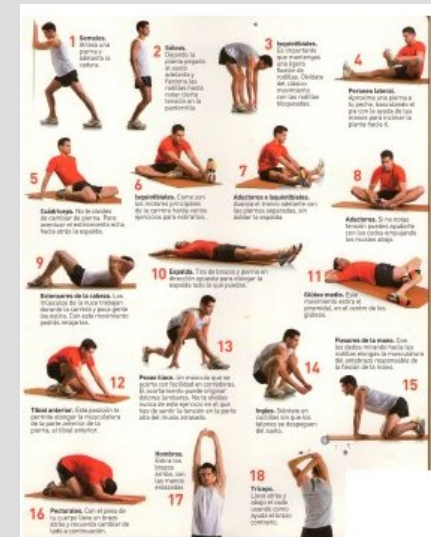
Injury prevention in sport depends on a number of factors like:



Proper physical preparation



Being progressive, starting with a good warm up.



Stretching before and after sports practice



Following the rules



Pass health checks



Follow proper nutrition and hydration



Proper rest and recovery



Using the appropriate equipment



Flexibility work

4. How to act when it happens? How to cure it?

Ankle sprain

How to act when it happens?

- Aim to reduce the swelling by RICE (Rest, Ice, Compression, Elevation) as soon as possible.
- R is for rest. It is important to rest the injury to reduce pain, prevent further damage and accelerate rehabilitation.
- I is for ICE or cold therapy. Applying ice and compression can decrease the pain, reduce swelling, reduce bleeding (initially) and encourage blood flow (when used later). Apply an ice pack or similar immediately following injury for 15 minutes. Repeat this every 2 hours.
- C is for compression - This reduces bleeding and helps reduce swelling. A bandaging technique is excellent for providing support and compression to a recently injured ankle.
- E is for Elevation - Uses gravity to reduce bleeding and swelling by allowing fluids to flow away from the site of injury. So put your feet up and get someone else to wait on you.



How to cure it?

- A sports injury specialist will undertake a thorough assessment of the injury so time is not wasted treating the wrong condition.
- A doctor may prescribe anti-inflammatory medication (e.g. ibuprofen) to help with pain and swelling.
- Reduce swelling by compression devices or taping techniques.
- Use ultrasound and laser treatment to reduce pain and inflammation and promote healing.
- Use cross friction massage to promote healing and reduce scar tissue development.

Prescribe a full ankle rehabilitation programme to strengthen the joint and help prevent future ankle sprains



After we heal we can use a lot of ortopedic tools such as strapping and taping or ankle supports to help us in the game and of course we need to use good basketball shoes.



Knee Injury

How to act when it happens?

- First aid for the knee injury such as knee sprain , menisci rupture, or injury anterior cruciate ligament are ice and immobilization This means that knee should not move too much.

How to cure it?

- First your doctor need to use X-rays or MRI or CT so he can make a right diagnose Depending on the degree of sprain or tear your doctor suspects, you will be referred to physical therapy for rehabilitation or to an orthopedic surgeon for possible surgery.
- If your sprain is minor, you may just need to rest the knee and go without rehabilitation.



After we heal we can use a lot of ortopedic tools such as knee supports or knee pads to help us in the game.



Dislocation of the fingers

How to act when it happens?

- If you have a dislocated finger, the finger will swell. To prevent further injury to the finger, immediately remove any jewelry, such as rings.
- Apply an ice pack to your injured finger and elevate the hand above the level of your heart.



How to cure it?

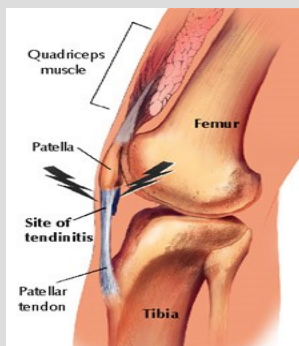
- The doctor will realign the dislocated bones with a simple technique. This will often require a local anesthetic injection into the finger to help decrease or stop the pain and allow the doctor to reduce the dislocation and realign the bones. You may also receive medications by mouth, injection, or IV to help the pain and ease the reduction.
- Your injured finger will then be placed in a protective splint or be "buddy taped" to the healthy finger next to it.
- The doctor may get a second x-ray to confirm the realignment of your finger and to check for any broken bones that may not have shown up on the first x-ray.



Tendinitis inflammation

How to act when it happens?

- Rest and apply cold therapy.
- We can use for tendinitis inflammation creams or gels (deep heat, polar ice...)
- Stretch the muscles - when pain allows



How to cure it?

- Apply electrotherapy such as ultrasound to help with pain.
- Prescribe anti-inflammatory such as Ibuprofen.
- Apply sports massage techniques to the tendon and muscle.
- Prescribe orthotic inserts if required to correct poor foot biomechanics.
- If the tendon is ruptured then it must be repaired surgically.

Insoles



Strapping and taping



Back pain and slipped disc

How to act when it happens?

- First aid that we can do is treat it with ice or cold packs early after an injury and switch to heat later. Heat may be used early if the pain and symptoms are not caused by a sudden injury.



How to cure it?

- Physical therapy, exercise, and massage can be helpful
- Anti-inflammatory medications, such as ibuprofen (Motrin) and others, may be recommended.
- Medicines to relax the surrounding muscle tightness and spasms are sometimes used.
- If the medical measures are not successful within a reasonable time, and the tests confirm a herniated disk as the source of symptoms, surgical repair may be considered.
- Surgery are serious procedures and we use it only when we dont have any other way.



5. Bibliography

- <http://www.entrecanastaycanasta.com/baloncesto/Distribuidor/Utilidades/ReglaBook/lesion.html>
- <http://www.sportsinjuryclinic.net/clinics/indextherapist.php>
- <http://www.efdeportes.com/efd62/balonc.htm>
- http://www.saludalia.com/Saludalia/web_saludalia/vivir_sano/doc/ejercicio/doc/prevencion_lesiones.htm
- Dick, R. *Descriptive Epidemiology of Collegiate Men's Basketball Injuries: National Collegiate Athletic Association Injury Surveillance System, 1988-1989 Through 2003-2004*. Journal of Athletic Training, 2007:42(2):194-201.
- Dick, R. *Descriptive Epidemiology of Collegiate Women's Basketball Injuries: National Collegiate Athletic Association Injury Surveillance System, 1988-1989 Through 2003-2004*. Journal of Athletic Training, 2007:42(2):202-210.