

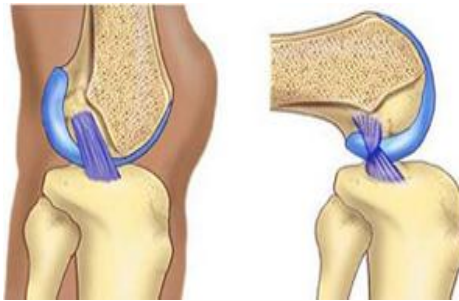


Scope and Limitations of Ligament Tear in Homeopathy

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INTRODUCTION



Ligaments are bands of fibrous tissue that connect bones to bones and joints. They are responsible for the **stability of joints**. Ligaments are variably elastic and contribute to the degree of stiffness or laxity of joints. These structures are capable of being stretched, torn or ruptured.

A sprain is a stretch and/or tear of a ligament.

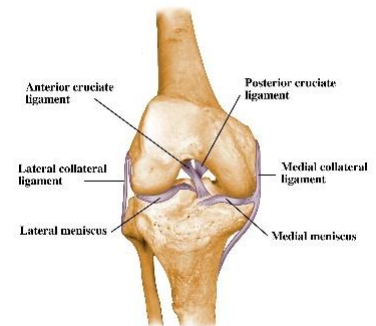
It is a soft tissue injury due to any fall, trauma and sometimes due to simple everyday activities.

Most common torn ligaments are knee and ankle ligaments. This is because the joints are weight bearing and under high stress with change of strenuous and rigorous activities during sports.

Athletes are generally at a higher risk for ligament injuries to the knee.

Ligament tears decrease efficiency of the joints, there may be restricted movement and further can be a predisposing factor for arthritis.

Torn ligaments can cause decreased and restricted mobility. If it is not addressed properly, there will be recurrent instability of the joint, meniscal injury, mild chondral injury and further complications may be secondary osteoarthritis. It is thus important to seek medical assistance as soon as possible.



Epidemiology-

Incidence rate of ACL reconstruction surgeries in India is 8.14/10000 females every year. USA performs 350000 surgeries every year (American Orthopedic society for Sports Medicine).

Age distribution of 17632 injuries with a median age of 25 years (Scandinavian ACL registries). Younger patients of the age group 15-30 suffer from the injury to rotator cuff and thus causing Shoulder dislocation.

Relevance of this study- To determine the scope of Homeopathy and to understand the prognosis.

Why Homeopathy??

This system of medicine helps in complete repair in cases of partial tear. Homeopathy will help in reducing the inflammation, reduce pain and promote healing. There will be reduction in the number of surgeries done.

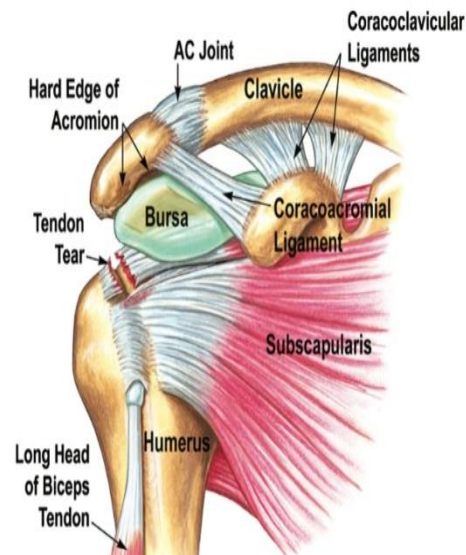
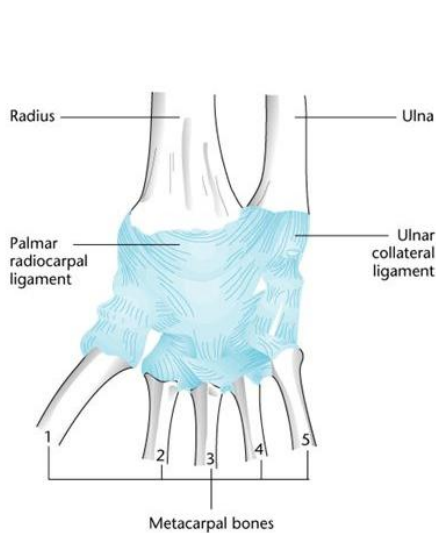
In complex and advanced cases of ligament tear where there are irreversible changes, Homeopathy can work as an auxiliary treatment post-surgery.

In cases where surgery is not opted for; Homeopathy can help in slowing down the process for further damage and degeneration.

COMMON LIGAMENT INJURIES

Upper Extremity

1. Rotator Cuff Tear
2. Wrist sprains
3. Thumb Sprains
4. Triangular fibrocartilage Complex tear



Mechanism of Injury-

- Trauma

- Lifting heavy weight and overuse.
- Fall.
- Impingement.

Signs and symptoms-

- Shoulder pain
- Clicking during shoulder elevation and shoulder weakness lifting your hand above shoulder height or reaching behind your back.
- Sleepless due to the relentless pain in severe cases.

Treatment-

- Rest
- Ice Fomentation
- Compression bandage or elastic support.
- Regain Full Shoulder Range of Motion
- Restore Scapular Control, normal neck-scapulo-thoracic-shoulder Function and Rotator Cuff Strength.

Prevention-

- Avoid lifting heavy weights.

Rotator Cuff Tear**Wrist Sprain****MechanismOf Injury-**

- Fall onto outstretched arm.
- Twisting of the wrist while playing sports.
- Trauma.

Signs and symptoms-

- Wrist pain mild or severe depending on the severity of the injury.
- Swelling and tenderness.

Treatment-

- Rest
- IceFomentation
- Compression bandage or elastic support.
- Elevate the injured area.

Prevention-

- Wrist guards or snug-fitting plastic wrist splints.

Thumb Sprain**Mechanism of Injury-**

- Bent beyond the normal range of movement (usually backwards) due to trauma or fall with outstretched hand.

Signs and symptoms

- Pain when the thumb is bent backwards.
- Pain in the web of the thumb when it is moved.
- Swelling over the joint at the bottom of the thumb.
- Laxity and instability in the joint.

Treatment-

- Rest
- Ice Fomentation
- Compression bandage or elastic support.
- Restore Range of movement by physiotherapy.
- Restrict activity until asymptomatic.

Prevention-

- Avoid overuse of the thumb and extending the thumb backwards.
- Wear a thumb support bandage.

**Triangular Fibro Cartilage Complex Tears****Mechanism of Injury-**

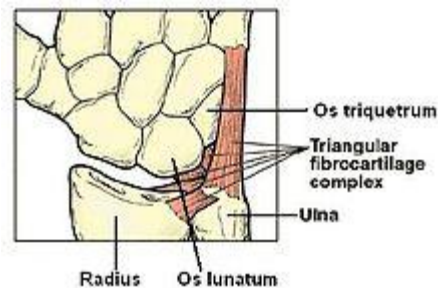
- Violent twist of the wrist.
- Fall onto Outstretched hand.

Signs and symptoms-

- Pain on ulnar side.
- Pain on extension.
- (Not reported immediately.)

Treatment-

- Rest
- Ice Fomentation
- Compression bandage or elastic support.
- Immobilization for 4 weeks.
- Surgery may be indicated if pain and swelling increase.



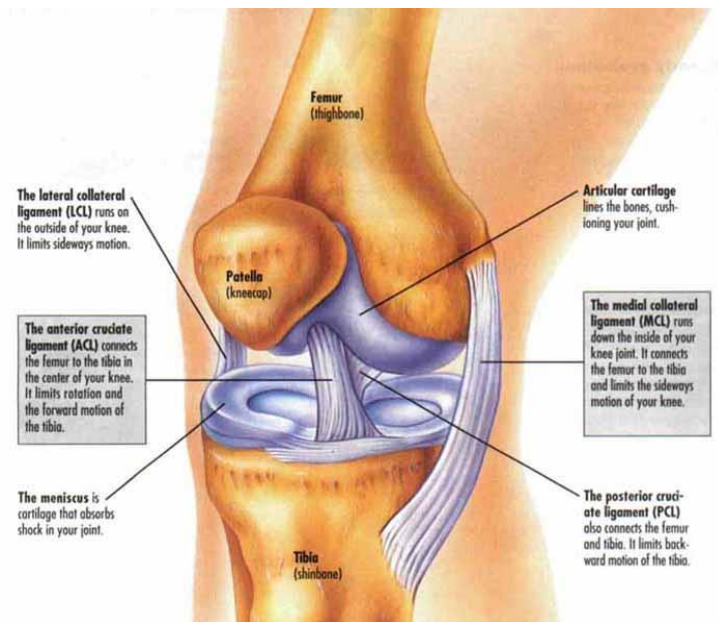
Prevention-

- Avoid lifting heavy weights.
- Avoid overusing of the hand.
- Use a tight bandage to maintain the alignment of the wrist and the bones.

Lower Extremity

1. Anterior Cruciate Ligament tear
2. Medial Collateral Ligament tear
3. Posterior Cruciate Ligament tear
4. Anterior Tibiofibular ligament tear
5. Anterior talofibular ligament tear
6. Ankle sprains (Medial and lateral)

Ankle sprains are common and often are treated inadequately. Unstable lateral ankle ligaments cause abnormal ankle motion and can lead to degenerative changes.

**Anterior Cruciate Ligament Sprain****Mechanism Of Injury-**

This Ligament sprain can be due to various causes.

- Noncontact - deceleration
 - foot planted
 - rotation
 - valgus stress
- Contact – hyperextension with foot planted.

Signs and Symptoms

- Hears or feels a pop
- Rapid swelling
- Joint instability

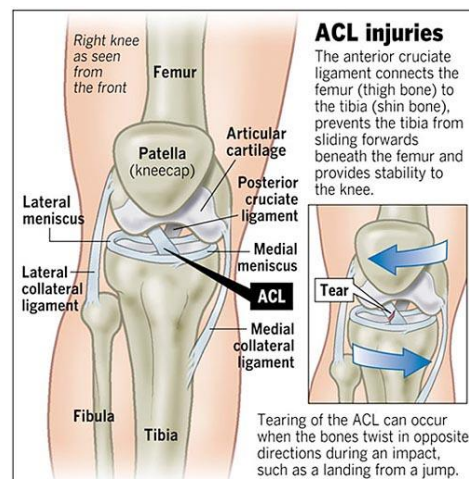
Treatment-

- Rest
- Ice Fomentation
- Compression
- Elevation
- Restore Range of movement by physiotherapy.

Surgery can be required to reconstruct the ligament

Prevention-

Lower extremity strengthening and conditioning.



Posterior Cruciate Ligament Sprain

Mechanism Of Injury- This ligament sprain can be due to following reasons-

- Falling on bent knee
- Direct force to front of knee
- Rotational forces

Signs and Symptoms-

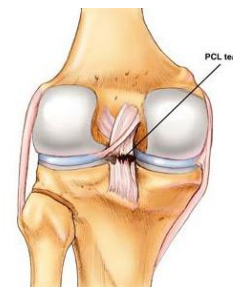
- Hears or feels a ‘pop’
- Minimal Swelling
- Posterior tibial sag

Treatment-

- Rest
- Ice Fomentation
- Compression
- Elevation
- Restore Range of movement by physiotherapy.

Prevention-

Lower extremity strengthening and conditioning.

**Medial Collateral Ligament Sprain**

Mechanism Of Injury- This Ligament sprain can be due to various causes-

- Valgus force
- Tibial External Rotation

Signs and symptoms-

- Pain medially to the knee
- Mild Swelling
- Joint stiffness and possibility of Joint instability

Treatment-

- Rest
- Ice Fomentation
- Compression
- Elevation
- Restore Range of movement by physiotherapy.
- Restrict activity until asymptomatic.

Prevention-

Lower extremity strengthening and conditioning.

**Lateral Collateral Ligament Sprain**

Mechanism Of Injury- This Ligament sprain can be due to various causes-

- Varus force
- Tibial Internal Rotation

Signs and symptoms-

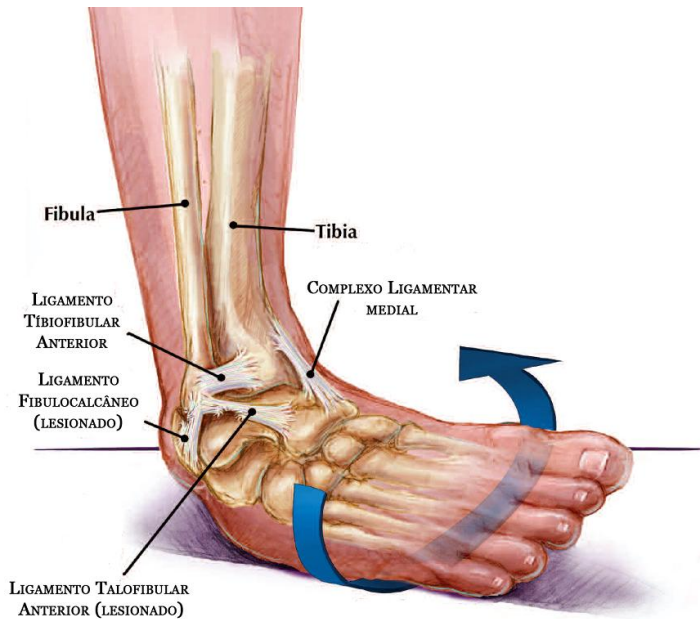
- Pain lateral to the knee
- Mild Swelling
- Possible joint laxity.

Treatment-

- Rest
- Ice Fomentation
- Compression
- Elevation
- Restore Range of movement by physiotherapy.
- Restrict activity until asymptomatic.

Prevention-

Lower extremity strengthening and conditioning.

Ankle Sprains (Medial and Lateral)

Mechanism Of Injury- This Ligament sprain can be due to various causes-

- Inversion : forced inversion and plantar flexion “rolling”.
- Eversion : forced eversion of ankle – high risk for fracture.
- Syndesmosis (high)- Forced inversion with rotation of the talus.

Signs and symptoms-

- Pain in the ankle
- Mild Swelling
- Decreased range of movement
- Possible joint laxity.

Treatment-

- Rest Rest
- Ice Fomentation
- Compression
- Elevation
- Symptomatic modalities.
- Taping and/or bracing

Prevention-

- Appropriate footwear for activity.
- Lower leg strengthening
- Proprioceptive training
- Taping and/or bracing of joint.

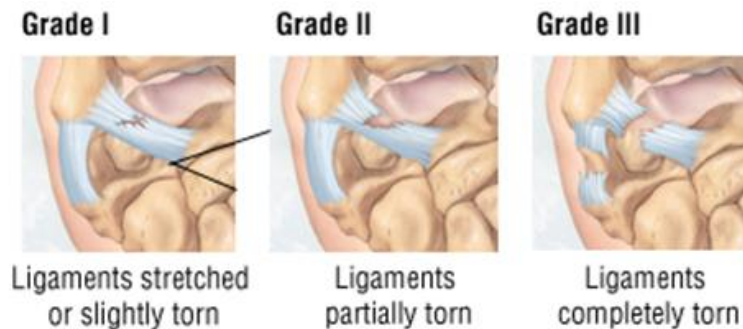


GRADES OF LIGAMENT INJURY

GRADE 1 SPRAIN-There is damage to a few collagen fibres, producing a local inflammatory response. This is characterized by pain over the affected ligament.

GRADE 2 SPRAIN-There is damage to a more extensive number of collagen fibres. This produces a more marked inflammatory response characterized by intense pain and joint effusion (swelling).

GRADE 3 SPRAIN-The damage to collagen fibres is such that there is a complete rupture of the ligament. This produces intense pain, joint effusion and marked joint instability. Surgery may be necessary to restore joint stability.



DIAGNOSIS

Diagnosis of the condition will include physical examination and investigations.

The following tests are carried out to confirm or rule out Ligament Injury:-

- Stability and strength.
- Swelling and tenderness.
- Painful movement of the joint and site of reflected pain.
- Range of movement- degrees at which there is restriction.
- Valgus and/or Varus is present.
- Clicking sound/ Crepitations in the affected joint.

INVESTIGATIONS

X-ray of the affected joint- X-rays show fractures (broken bones) and dislocations of bones in the knee as well as arthritis and abnormally large or small joint spaces.

CT Scan

Rarely, the doctor may order a CT scan (a 3-dimensional X-ray) of the knee to precisely define a fracture or deformity. Both X-rays and CT scans are excellent for diagnosing fractures are poor at evaluating soft tissue structures of the knee, such as ligaments, tendons, and the menisci.

MRI scan.

Are excellent for evaluating ligaments and tendons.

COMPLICATIONS

In cases of acute ligament injury, immediate and strict conservative treatment should be undertaken; otherwise complications may follow in the long run.

1. **Chronic pain**- If the ligament injury has not been taken care of at early stage there will be chronic nagging pain while walking or any physical exercise like cycling, running, etc.
2. **Initial stiffness**- If the acute injury is overlooked there might be joint stiffness.
3. **Menisci tear**- From ligament tear to multiple ligament tear and eventually prolonged chronic pressure and improper care may lead to menisci tear.
4. **Joint instability**- The joint may not regain complete mobility like before.
5. **Impingement** may cause avascular necrosis.

CONSERVATIVE TREATMENT

DIET AND REGIMEN

Proteolytic enzymes

The first step of any injury is to reduce inflammation in the region and foods that contain *Proteolytic enzymes* are especially useful due to its anti-inflammatory properties which help to eliminate protein from the injured region. Foods that are rich in proteolytic enzymes include pineapples and ginger roots.

Zinc

Zinc is another mineral that is excellent in combating inflammation. The way our body works is fascinating. When one part of the body is injured, it will divert all the zinc in the body to the injured part to counter inflammation. As such, other parts of the body will have a zinc deficiency. In order to prevent zinc deficiency, it is important to consume foods that are rich in zinc such as oysters, wheat germ and veal liver.

Vitamin C

Vitamin C has excellent anti-inflammatory properties as well and when worked together with Proteolytic enzymes, it provides an even better result. Vitamin C is also required to produce collagen in the body and this is important in ligament healing. Foods that are rich in Vitamin C include citrus fruits, broccoli, spinach and tomatoes.

Manganese is also required to make collagen. Clams, hazelnuts, pecans, walnuts, pumpkin seeds, chia seeds, flaxseeds are rich in manganese.

Vitamins B₆ and B₁₂

Support nerve function and aid in the formation of amino acids. Amino acids are the building blocks of protein, which are used to form muscles, tendons and ligaments. Chickpeas, salmon, chicken, turkey, potatoes, sunflower seeds, spinach, bananas. Clams, trout, beef, eggs, fortified cereals, fortified soymilk.

Magnesium

Magnesium is a mineral that aids in muscle relaxation, bone formation, and protein synthesis. It can be found in a standard multivitamin, or taken by itself. Spinach, almonds, peanuts, cashews, soymilk, black beans, avocado.

Protein

Protein is the building block of our body and it is required by the body for any healing process. Protein can easily be obtained from foods such as tofu, meat, eggs and soy products.

Calories

Although the body's metabolism is low during injury, there is still a need to consume sufficient *calories* on a daily basis. Calories are required in the healing process and if patients decide to cut down severely on their calorie intake, this will slow down the recovery process.

RICE Treatment

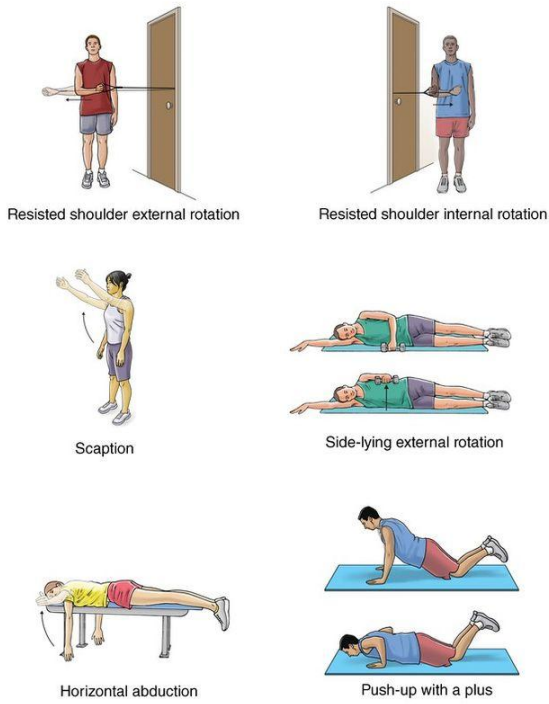
As soon as possible after an injury, such as a knee or ankle sprain, you can relieve pain and swelling and promote healing and flexibility with RICE-Rest, Ice, Compression, and Elevation.

- **Rest.** Rest and protect the injured or sore area. Stop, change, or take a break from any activity that may be causing your pain or soreness.
- **Ice.** Cold will reduce pain and swelling. Apply an ice or cold pack right away to prevent or minimize swelling. Apply the ice or cold pack for 10 to 20 minutes, 3 or more times a day. After 48 to 72 hours, if swelling is gone, apply heat to the area that hurts. Do not apply ice or heat directly to the skin. Place a towel over the cold or heat pack before applying it to the skin.
- **Compression.** Compression, or wrapping the injured or sore area with an elastic bandage (such as an Ace wrap), will help decrease swelling. Don't wrap it too tightly, because this can cause more swelling below the affected area. Loosen the bandage if it gets too tight.

Signs that the bandage is too tight include numbness, tingling, increased pain, coolness, or swelling in the area below the bandage.

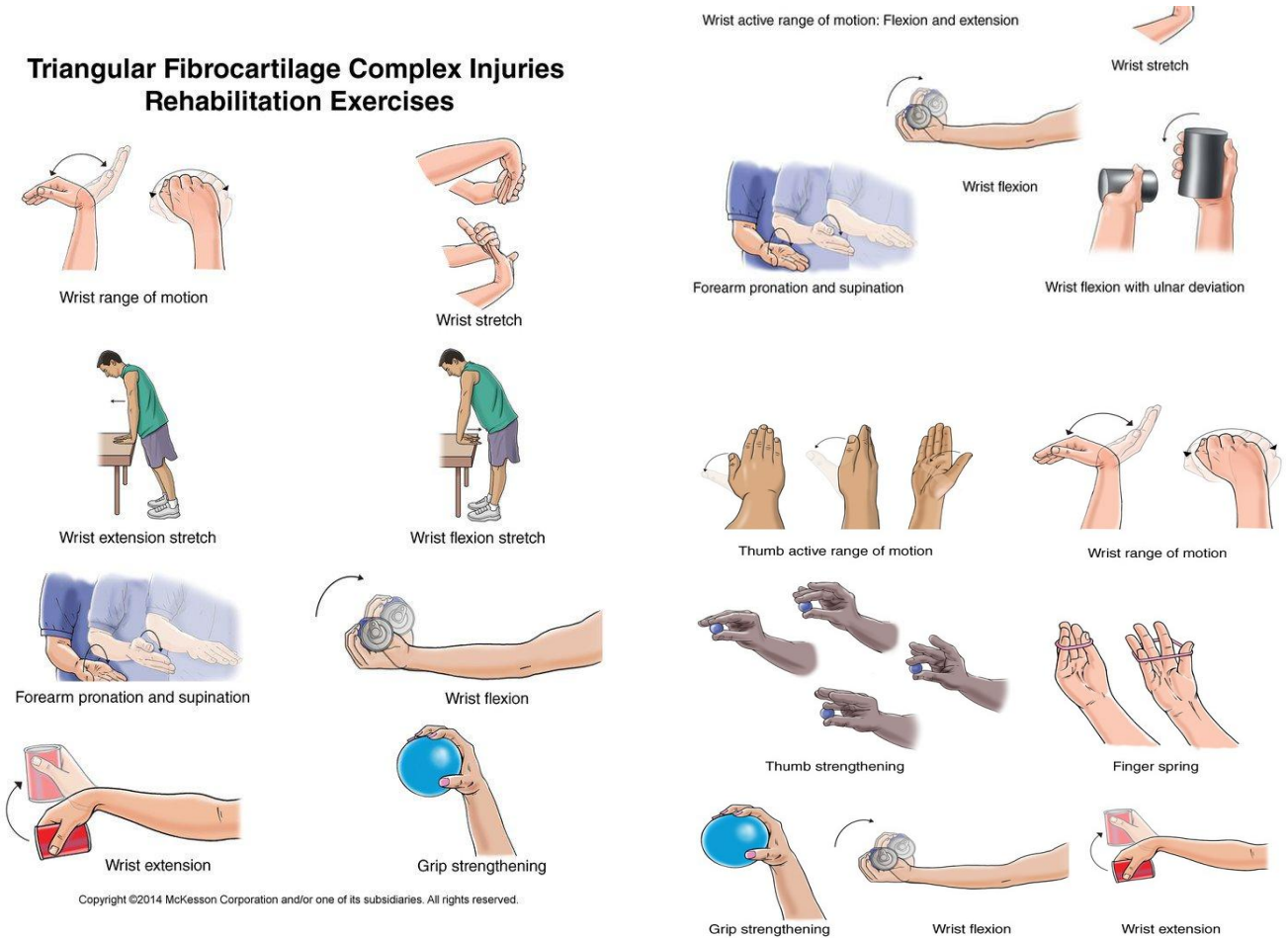
Elevation. Elevate the injured or sore area on pillows while applying ice and anytime you are sitting or lying down. Try to keep the area at or above the level of your heart to help minimize swelling.

Rotator Cuff Strain Rehabilitation Exercises



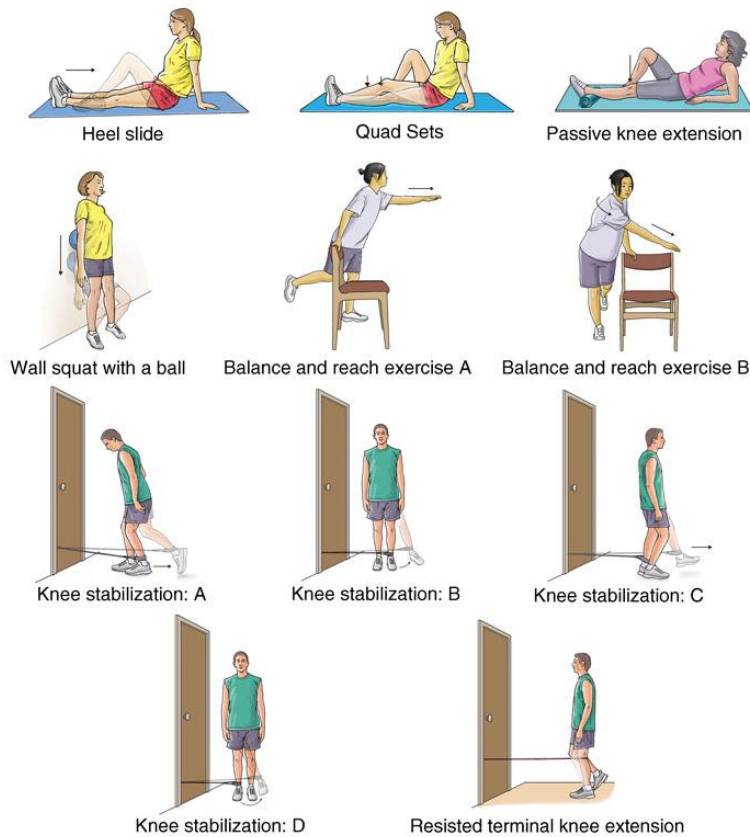
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Triangular Fibrocartilage Complex Injuries Rehabilitation Exercises



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Anterior Cruciate Ligament (ACL) Injury Rehabilitation Exercises



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The Conservative treatments used include immobilization while the patient remains symptomatic and then, after acute phase, stimulation of complete movement and progressive weight bearing.

The principles of rehabilitation for patients with complete tears are the same as those used for patients with partial tears.

The rehabilitation for patients consists of exercises for muscle stretching and strengthening and cardiovascular, proprioceptive and adaptive training.

Surgical Treatment

Treatment with selective ACL reconstruction in cases of partial tears may be justified by different factors.

CASE 01

Preliminary Data:

Name- Mrs. S. Bhadra

Sex- F Age- 50 occupation- House wife.

Religion- Hindu

Chief Complaints:

1. Pain in Left Knee – medially and patellar region.
Throbbing type of pain.
Onset- A/F – Overexertion, had gone for pilgrimage.
Progress- Increased. (She sat for 10-12 days continuously when her dad passed away)
<getting up , has to take support
<descending stairs+3, <walking
>hot fomentation, > massaging.
2. Head- headache temporal
<Sun+3,
Cannot go out.

Headache during cold and cough.
Extreme irritable during pain.

Physical Generals:

Appetite- Good. Sour eructations after meals.
Likes- sweets²⁺
Aversion- milk, it causes diarrhea.
Thirst- Good, 1-1.5 lit/day.
Urine- 4-5 times/day, NAD.
Stools- Occasionally unsatisfactory stools.
Perspiration- moderate.
Sleep- 6hrs, unrefreshing.
Dreams about wedding.

Gyn/Obs History-

Menopause- since 15months.
Menses – regular, dark red, flow was normal, 5 days.
G₂P₂A₀L₀. two sons.
Elder son- 32yrs. Down Syndrome.
Younger son- 29yrs.

Thermal Modality- Chilly patient.
Aggravation from sun and talking.

Mentals:

The patient stays with her husband and her younger son, who is mentally retarded.
The elder son is married and lives separately with his wife and kids with the patient's consent. He is a physiotherapist and has got the patient for the treatment. He supports the patient in everything.
The husband is illiterate. He has a business of gunny bags. He is quite active at work.
The younger son has down syndrome. She is very sentimental about him and starts crying while talking about the disabled son. He is very attached to him.
There are multiple illnesses in the family, so this taken a toll on her health, both mentally and physically.
There is subconsciously suppressed anger towards the husband and younger son.
She never shows if she is hurt because of something or someone. She withdraws herself from the situation. Does not say anything to anybody.
She is not very social. She gets irritated with social talks.
Keeps quiet. Very soft spoken and sober.

Investigations-

MRI of Left Knee Joint, 4/04/18.

- Grade III tear involving the body and posterior horn of medial meniscus.
- Intrasubstance Grade II involving the anterior horn of lateral meniscus.
- Anterior cruciate ligament strain.
- Moderate synovial effusion.
- Mild changes of Osteo arthritis.

Examination-

General- P: 70/min B.P.- - 126/80 mmHg

R. R- 16/min Temp- Afebrile
, lymphadenopathy, icterus, clubbing.

Systemic- R. S.: NAD, Clear.

C.V.S.: NAD.

G.I.T: NAD,Abdomen is soft.

Local –

	Left	Right
ROM	painful extension	-
Genu Recurvatum	5degrees	
Normal Valgus	Present	
Crepitations	Present	Present
Synovial effusion	Present	Present
Thelsay Test	Positive	Negative

McMurray test positive negative

Right Shoulder – over head abduction painful

Diagnosis- Diagnosis- Left ACL tear with Medial + Lateral menisci tear

Early osteoarthritis of knee joint

Miasmatic Classification-

Dynamic Chronic miasmatic disease with fully developed symptoms.

Totality of Symptoms :

Suppressed anger

Anxiety

Milk disagrees

Chilly patient

Pain in the knees pulling (drawing) type

>motion

>hot fomentation

<descending stairs+3

<sitting

Headache – whole head

<sun+3

<slightest exertion.

Remedy Selection-

RT 200 in dilution h.s.

Follow up criteria-

General sense of well being

Left knee joint- Pain

Swelling and tenderness

Headache – intensity and frequency

Any new complaints

24/03/21 : Left knee pain -SQ-

<ascending and descending stairs

>bending

Morning stiffness ->-

O/E- Swelling around Left Knee joint.

Tenderness+

Rx

RT 200 in dilh.s. – 7 days

01/04/21

Left knee pain ->- 20%

<descending stairs

Pain in the right knee since few days.

Retrosternal burning.

Eructation+

Rx

Pulsatilla 200 tds – 7 days

9/04/21

Left knee pain ->-

swelling >

morning stiffness -sq-

Diarrhea since yesterday <milk

Headache+3 <sun

mentally- irritated due to continuous head pain.

Rx

Kali carb 200 h.s. in dil - 7 days

16/04/17

Left knee pain ->- 50%

swelling >

morning stiffness ->-

Diarrhea -o-

Headache -o_

Right knee pain

Rx

Kali carb 200 h.s. in dil - 7 days

o/e – pain on extension
Creps+

24/04/21

Left knee pain ->- 50% Kali carb 200 h.s. in dil - 15 days
swelling >
morning stiffness ->-
Right knee pain ->-
No G.I.T complaints
Gen- Normal

10/05/21

Left knee pain ->- Kali carb 200 h.s. in dil - 15 days
swelling -o-
morning stiffness ->-
Right knee pain ->-
Headache two episodes
Gen- Normal

OBSEVARTIONS AND LEARNINGS

- Partial ACL tears are being diagnosed more and more frequently. They can be diagnosed through a combination of clinical examination and imaging examination, with confirmation of arthroscopic examination.
- The treatment needs to be individualized and appropriate for each patient's needs. Identifying patients with low and high risk of progression of the clinical deficiency of ACL is fundamental for providing therapeutic guidance.
- Low risk patients are those with low physical demands, without associated injuries or complaints of instability, whose clinical tests are negative. These patients' signs and symptoms generally tend not to progress and can be treated conservatively.
- High risk patients are the ones proven clinical instability and lifestyles that present high risk of new torsion. In these cases, the best option would be to perform selection surgical reconstruction of the ACL.
- The treatment strategy always needs to take into consideration the symptoms, clinical examination, percentage fibers remaining, associated injuries, length of time since the injury and daily physical work demands.

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