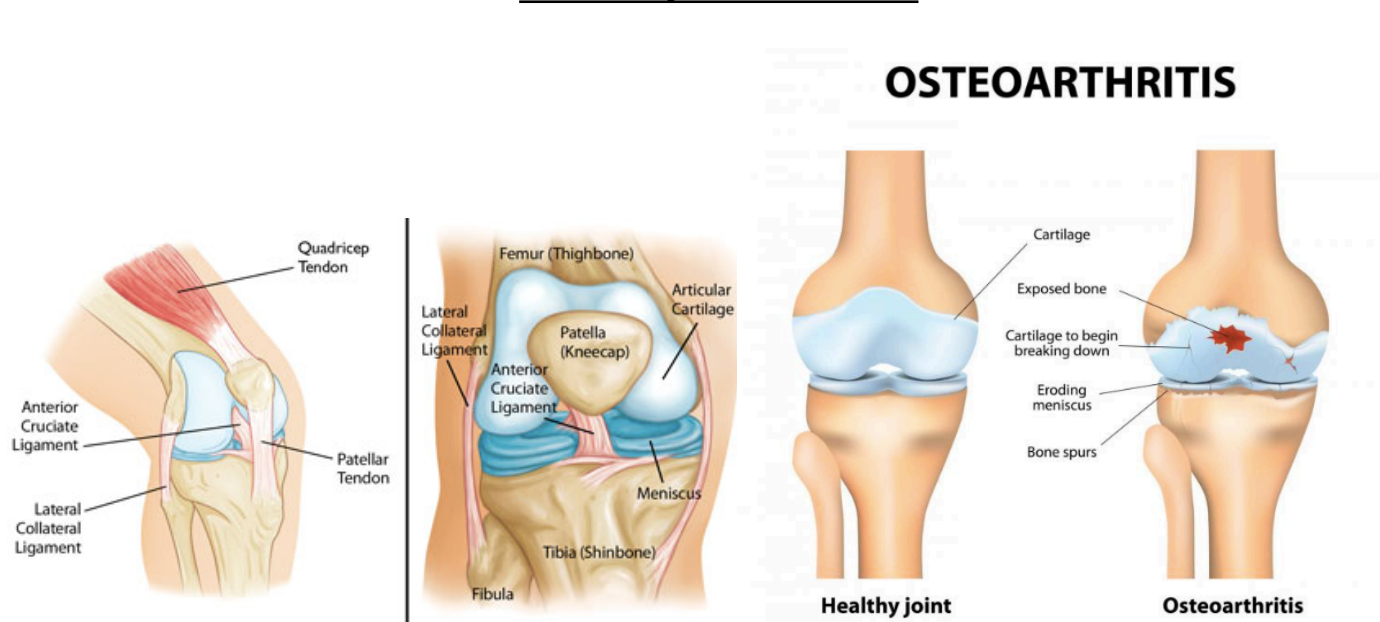


KNEE PAIN INFORMATION SHEET

Knee pain can be caused by a variety of reasons including overuse injury, sudden trauma, and/or underlying conditions such as arthritis. Symptoms of knee injury can include pain, swelling, and/or stiffness.

Anatomy of the knee



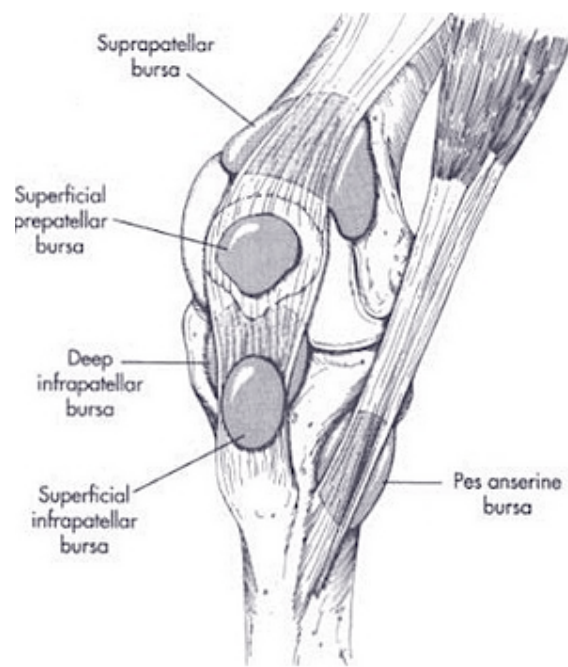
Bones - The knee joint involves four bones: femur, tibia, fibula, and patella. They provide structural support and weight bearing.

Ligaments - The knee joint involves four ligaments: the anterior cruciate ligament (ACL), posterior cruciate ligament (PCL), the medial collateral ligament (MCL), and lateral collateral ligament (LCL). They connect bones to one another and provide stability.

Tendons - The knee joint involves two major tendons: the quadriceps tendon and the patellar tendon connecting muscles to bones.

Cartilage - Meniscus lie between the tibia and the 2 knuckles at the bottom of the femur. Meniscus is a shock absorbing cartilage that provides cushioning for the knee joint

Bursae - Bursa are found all over the body and there are approximately fourteen around the knee. They are fluid filled sacs containing synovial fluid that help cushion the knee. There are five major knee bursae: the suprapatellar bursa (lie above the patella), the prepatellar bursa (lie in front of the patella), the Pes anserine bursa (located on the inner side of the knee), the infrapatellar bursa (located below the kneecap) and the infrapatellar bursa (located below the patella).



Why Does your knee fill with fluid?
This is your body attempting to help heal injury / degeneration of the knee joint. When your knee becomes inflamed, the synovium (sac holding synovial fluid) allows molecules of any size to pass through it, meaning that inflammatory proteins are able to enter your knee joint, causing further irritation.

Non-medical treatment for knee pain:

- **Protect the knee from further trauma.** Use assistive devices such as padding, splinting, braces, and/or walking devices. Ask your doctor which of these devices may be useful with your condition.
- **Rest.** Reduce straining activities and give the knee time to heal from the injury.
- **Stretching and low impact exercise.** Physical inactivity can lead to weakened muscles, worsening arthritis, increased pain and less mobility. Continue to stay active by choosing exercise such as swimming or yoga.
- **Weight loss.** Excess weight puts pressure on the knee joint and can impair the healing process. Maintaining healthy weight is a very important aspect for pain management. Healthy weight can be achieved by maintaining a regular exercise regime combined with a nutritious diet.
- **Physical Therapy.** Initial assessment with physio therapist will help identify the areas of weakness and individual plan of care using physical exercises and/or electronic devices. Physiotherapist will help with strengthening supportive muscles which will take the strain off the knee joint. Your physical therapist may recommend supportive equipment to help decrease pain and improve mobility.
- **Ice.** Icing the knee can help reduce swelling, inflammation, and/or pain. Use the ice pack for no longer than 15 minutes at a time, repeat as necessary.
- **Heat.** Heat can relax muscles, promote blood flow, and/or help lubricate joints. Heat therapy may be used to relieve muscle and joint stiffness, help warm up joints before activity, or ease a muscle spasm.
- **Compress.** Knee compression with tensor bandages can help with swelling reduction. Compression can be used to keep the patella aligned and to keep joint mechanics intact, ask your doctor if

this is the case for your injury. Tensor bandages that are sold in local pharmacies are good examples of a compression tool that can be used.

- **Insoles.** Look for insoles specific for knee pain such as Dr. Scholl's which are available at the local pharmacy. Shoe insoles can provide extra cushioning and lessen the strain on the knee.
- **Elevate the knee.** Elevation of the affected joint can help reduce swelling by shifting fluid to the central circulation.
- **Over the counter pain medication.** Non-steroidal anti-inflammatory (NSAID) drugs can alleviate pain and help reduce swelling. Topical creams such as Voltaren gel can help reduce the pain at the site and can be applied 2-3 times per day. Ask your doctor about which options will be better for you.
- **Acupuncture.** This treatment can help increase blood flow to the affected joint and promote healing.
- **Vitamins and Supplements.** Please consult your doctor if this is an option for you. Generally, supplement such as Glucosamine HCl, Chondroitin Sulfate, methylsulfonylmethane (MSM), Vitamin D, Ginger, Turmeric, Omega-3, and/or Calcium help reduce symptoms with joint pain.
- **Massage Therapy.** Regularly massaging muscles and joints can reduce knee pain. Massage can help improvements in pain, stiffness, range of motion, walking and overall function of the joint.
- **Meditation and Cognitive Behavioural Therapy.** Meditation helps you quiet your thoughts and release tension.
- **Diet.** An anti-inflammatory diet focused on balanced nutrition rich in vegetables and fruits, whole grain products, and healthy proteins. Avoid processed "junk food" containing high amounts of artificial sugars, salt and processed food. Restrict alcohol consumption and products containing preservatives as these foods increase inflammation. Examples of foods to avoid: white breads, artificial juices, chips, canned products, cookies, etc. Focus on anti-inflammatory foods such as fish, fruits and vegetables, nuts or seeds (do not exceed a handful), olive oil, and fiber rich food.

Medical treatments available to treat knee pain include:

- Surgery
- Anti-inflammatory Drug Therapy
- Steroid Injections
- PRP (platelet rich plasma) Injections
- Fluid Aspiration (arthrocentesis)
- Hyaluronic Acid Injection
- Prolotherapy

What is PRP?

Platelet rich plasma (PRP) is blood plasma with concentrated platelets (the body's repairmen for damaged tissue). The concentrated platelets found in PRP contain growth factors that are vital to initiate and accelerate tissue repair and regeneration. These bioactive proteins initiate connective tissue healing and repair, promote development of new blood vessels, and stimulate the healing process. If you would like more information on this type of treatment, please discuss with MD or grab one of our information pamphlets in the clinic.

What is Hyaluronic Acid?

In a healthy joint, a thick substance called synovial fluid provides lubrication, allowing bones to glide against one another. Synovial fluid acts as a shock absorber. In people with osteoarthritis, a critical substance in synovial fluid known as hyaluronic acid breaks down.

Hyaluronic acid is similar to a substance that occurs naturally in the joints. It works by acting as a lubricant and shock absorber in the joints and helps the joints to work smoothly. If you would like more information on this type of treatment, please discuss with MD or grab one of our information pamphlets in the clinic.

What is Prolotherapy?

Prolotherapy also known as regenerative injection therapy. It is a recognized orthopaedic procedure that stimulates the body's nature healing processes to strengthen joints, tendons, and ligaments weakened by traumatic or overuse injury. When joint, ligament and/or tendon attachments are stretched, torn, or fragmented, become hyper-mobile and painful. Traditional approaches with surgery and anti-inflammatory drugs often fail to stabilize the joint, tendon, and/or ligament strength and relieve pain. Prolotherapy, with its unique ability to directly address the cause of the instability, awakens the body's healing cells to repair the weakened sites and produce new fibrous tissues, resulting in improved stabilization of the joints, ligaments, and/or tendons. If you would like more information on this type of treatment, please discuss with MD or grab one of our information pamphlets in the clinic.

Additional Resources

Podcasts and Apps:

PainNoPain.com

Calm is an app which helps with meditation and relaxation

Headspace is a meditation podcast which has a section on managing chronic pain.

Curable is an application designed to help you learn about your chronic pain and manage symptoms.

Books: A great resource is Stuart McGill's book "Back Mechanic" coupled with his "Big Three" low back exercises which you can find on google. These exercises should be added to your daily routine regardless of the location of your pain. If seeing a physiotherapist, they should prescribe you exercises in addition to McGill's "Big Three." As well, 'The Way Out: A Revolutionary Approach to Healing Chronic Pain' by Alan Gordon, provides excellent insight into how pain affects the nervous system including the brain and how you can harness the power of your brains to decrease the amount of pain we experience. Yes, the body and mind are intimately connected!

Chronic Pain Psychologist in the GTA

- **Sara Trought** (MA, RP, Member of OACCPP)
Languages Spoken: English
Professional Psychotherapy Services
211 Danforth, 3rd Floor
Toronto, ON M4K
(855) 873-4454
sara@therapytoronto.ca
Cost Per Session: \$120-150
- **Rob Nolan** (Psychologist, PhD, CPsych)
Languages Spoken: English and French
1235 Bay Street
7th Floor Reception
Toronto, Ontario M5R
(647) 933-5324

Cost per session: \$200 - \$220
- **Andrika Rook** (RP (Q), BA, OPC, Dipl., Psych.)
Languages Spoken: English and Ukrainian
14 Prince Arthur Avenue
Suite 312
Toronto, Ontario M5R
(416) 962-8255

Cost per session: \$120
- **Paul Kelly** (Psychologist)
Languages Spoken: Farsi, Hebrew, Hindi, Polish, Portuguese, Punjabi, Russian, Serbian, Spanish, Urdu and French
The Mindfulness Clinic
700 Bay Street
Suite 2200
Toronto, Ontario M5G
(855) 507-0092

Cost per session: \$150-250
Group Therapy Available: Mindfulness-Based Cognitive Therapy (MBCT), Social Anxiety/Social Phobia Program, Mindful Self Compassion Group
- **Nilu Kulatunga** (Registered Psychotherapist (Qualifying), CCC, MA, MSc)
Languages Spoken: English and Sinhalese
Humber Bay Physio Inc.
2137 Lake Shore Boulevard West
Etobicoke, Ontario M8V
(647) 492-3511

Cost per session: \$120-130
- **Leila Abbaszadeh** (Clinical Social Work/Therapist, MSW, RSW, RP)
Languages Spoken: English and Farsi
North York, Ontario M2K
(888) 539-9221

Cost per session: \$150
- **Mariia Cohan** (Registered Psychotherapist (Qualifying), M.Psych, RP (Q))
Languages Spoken: English and Russian
L-Tower
8 The Esplanade
Toronto, Ontario M5E
(647) 360-2234

Cost per session: \$80-120
- **Caroline Rosta** (Registered Psychotherapist, M.Sc., M.A., OACCPP)
Languages Spoken: English and Spanish
1020 Eglinton Avenue West
Toronto, Ontario M6C
Call Ms. Caroline Rosta
(647) 560-0711

Cost per session: \$130-180
- **Dr. Andrew Wong** (Psychologist, PhD, CPsych)
● Languages Spoken: English and Cantonese
Andrew Wong Psychological Services
Etobicoke, Ontario M9B
(877) 571-3037

Cost per session: \$180
- **Mihaela Dirlea** (Clinical Social Work/Therapist, MSW, RSW)
717 Bloor St W
Toronto, Ontario M6G
(647) 492-4318

Cost per session: \$90-120
Group Therapy Available: Mindfulness-Based Cognitive Therapy (MBCT)

Holistic Nutritionists and Registered Dietitians in the GTA

- Jill Hillhouse (BA, BPHE, CNP, RNT)
<http://jillhillhouse.com/personal-nutrition-consulting/>
P3 health
145 Front St. East, Suite G2
Toronto, ON M5A 1E3
416-699-3636
- Lara Frenjjan (RHN, CPA, CA)
<https://mycompletebalance.com/our-services/nutritional-counselling/>
Complete Balance
1100 Sheppard Ave East, Unit 309 Toronto,
ON M2K 2W1
416-901-2873

Cost: \$120/Initial Appt., \$85/Follow-up Appt.
- Renita Lam (BSc, MPH, RD)
<http://renitalam.com/services/>
** Speaks English & Cantonese
- North York @ 701 Sheppard Medical - 701
Sheppard Ave. East, Unit 218
- Downtown Toronto @ Kyle Byron Nutrition - 98
Richmond St. East, Unit 450
- Markham - 2600 John St., Unit 113
647-725-9765
- Samantha Goren (HBSc, RD) <http://foodhomeco.com/>
Toronto Psychology and Wellness
Group 3080 Yonge St., Suite 5090
Toronto, ON M5M 4N1
647-400-5579
info@foodhomeco.ca
- Andrea Miller (MHSc, RD) <http://www.amillerrd.ca>
105 Consumers Dr., Unit 2
Whitby, ON L1N 1C4
905-233-2437
- Elizabeth Gullaher (RD, MHSc, BSc) <http://www.thetherapycentre.ca/nutrition-counselling/>
The Therapy Centre
2525 Old Bronte Rd., Suite
320 Oakville, ON L6M 4J2
289-291-0205
- Maria Fisher (RD)
<http://www.mariafisher.ca/services.html>
Aurora Medial Clinic
372 Hollandview Trail, Suite
302 Aurora, ON L4G 0A5
416-919-7130

Cost: \$20-180
- Anisha Gupta (RD) <https://hellonutrition.ca/>
Mississauga - 6033 Shawson Dr., Unit 8
Markham - 26 Starry Sky Ave.
647-408-6474

Cost: \$130-500