**Pain management in Arthritis:**

Chronic pain can be the most debilitating part of any arthritic condition. Pain is one of the body’s responses to a problem, or a disease. It is a message that something is wrong in the body. In the case of arthritis, pain is most often caused by inflammation (a type of swelling) in the joint, or damage in the joint. There is not one best way to manage arthritis pain, and normally a combination of medication and non-medication techniques are used.

*Medication:*

The first goal of drug therapy in arthritis in children is to reduce the pain and inflammation associated with this condition. There are a range of medications that are cheap and available without a prescription that can help with this.

Non-steroidal Anti-inflammatory Drugs (NSAIDS):

NSAIDS are medications that reduce inflammation within the body, and therefore some of the pain associated with arthritis. NSAIDS are used very effectively to manage arthritic pain because they block a specific enzyme called the COX enzyme, which makes a hormone called prostaglandin and causes inflammation of the joints. The most common NSAIDS are aspirin, ibuprofen or naproxen. These are only just some of the NSAIDs that are available. Children under the age of 18 should not be given aspirin, as it can cause a disease called Reye’s syndrome. Other possible side effects of regularly taking NSAIDS are:

* Stomach discomfort – heartburn, nausea, vomiting, diarrhea, and stomach ulcer
* Dizziness, drowsiness, headache
* Rash
* Swelling of feet

More uncommon side effects include:

* Bleeding (particularly with long term use of aspirin)
* Blood clots, heart attacks/strokes
* Kidney disease
* Liver disease

These side effects are normally very rare in otherwise healthy individuals. However, staff should be aware of other conditions that patients have. If a patient has Haemophilia, heart disease, kidney disease or liver disease you should not recommend that they take NSAID’s as a form of pain relief or as an anti-inflammatory. If a patient has one of these conditions and needs to be on NSAIDs, they need to be managed very carefully and closely by a medical professional.

Dosage in children:

*Ibuprofen:* 10 mg/kg every 6 to 8 hours (with a maximum of 400 mg per dose). Ibuprofen can safely be used in children older than 6 months.

Example: A child who weighs 10kg can have 100mg (10 mg X 10 kg = 100 mg) of ibuprofen every 6 to 8 hours

A child who weighs 50kg (10 mg X 50 kg = 500 mg) can only have 400mg every 6-8 hours. 400mg is the maximum amount that anyone can have per dose

*Naproxen:* 10mg/kg/day divided into two doses

Example: A child who weighs 15 kg can have 150 mg per day (10 mg X 15 Kg = 150 mg). This means that the child can have one dose of 75mg in the morning, and one dose of 75mg at night (150kg / 2 times per day = 75mg per dose)

Special Instructions:

* NSAIDs should always be taken with food. Taking them on an empty stomach increases the chance of getting gastrointestinal side effects such as stomach ulcers
* NSAIDS may be taken on a standard daily basis, or as needed if a patient is experiencing pain
* Children taking NSAIDS regularly should have a regular check up with a doctor included kidney and liver function tests and blood examinations
* DO NOT take more than one type of NSAID without talking to a doctor first. For example do not take Naproxen and Ibuprofen at the same time.
* Patients who have a pre-existing heart, kidney or liver disease should talk to a doctor before taking NSAIDs for the relief of pain.

Other Pain Relief:

Apart from NSAIDs there are other types of pain relief that can be used in arthritis. Medications like Paracetamol/Acetaminophen can be purchased without a prescription and can effectively relieve some of the pain associated with arthritic conditions. These medications do not reduce inflammation, but block a different part of the pain cycle. Paracetamol is safe to use in children older than 6 months. Paracetamol typically has less side effects than ibuprofen, particularly in terms of gastrointestinal side effects. However, Paracetamol can be damaging to the liver. Those with liver disease or decreased liver function should be very careful when taking Paracetamol, and should consult a doctor first.

For those who require stronger pain relief it is recommended that seek advice from an experienced doctor for long term pharmaceutical pain relief options, such as codeine. The use of codeine is restricted in children under 18 years because of the possibility of side effects.

Topical Medications:

These are medicines that can be rubbed onto the skin to help with pain and inflammation. They are designed to deliver medicine directly to the site of the pain. Topical NSAIDs have been proven to be effective in reducing pain and inflammation in ankle, hand, wrist, finger and knee joints. The most common topical NSAID is Voltaren Gel. These creams should be used in conjunction with other arthritis treatments as they will only provide temporary pain relief. Patients should be instructed not to apply the cream if there is a skin break, or onto skin that is irritated, and to wash their hands carefully after application and to avoid touching their eyes and mouth.

Heat/Cold:

Applying heat to the affected joint can temporarily provide pain relief by increasing the blood flow to the painful joint and relaxing muscles. Cold reduces swelling and inflammation by constricting the blood vessels. Heat can be applied using hot water bottles, heating pads, heat patches, heat bags, or warm baths. Cold can be applied using a cold pack or an ice pack. Patients should not apply heat to an acute muscle injury, as it can make swelling and inflammation worse. Patients should never apply heat or cold packs directly to their skin; they should always be wrapped in a towel or pillow case first. Applying heat or cold directly to the skin can cause burns. Heat and cold should be applied two – four times a day for 15 minutes.

Exercise:

Many people who experience joint pain do not want to exercise because of the risk of further pain. However, getting regular exercise is important as it strengthens joint-supporting structures and improves flexibility. It also has other benefits, like improving cardiovascular health. Patients should be encouraged to not avoid physical activity. For example, encourage patients to ride a bicycle one day a week instead of a motorbike. Or to walk to a local coffee shop instead of ride their motorbike.

Swimming and other water exercises are great for people with joint pain. The water is buoyant and removes most of the weight off load bearing joints, while still enabling them to be strengthened. Swimming laps or walking in deeper water are great exercises. Make sure that patients are safe in the water however. People who do not have access to pools might swim in the ocean, which can at times have rip tides and other dangerous weather conditions. Patients should take precautions such as life jackets, swimming in populated areas and not going too deep.

Gentle walking is another exercise that people with joint pain should engage in. It is best when it can be done on smooth surfaces that will not enhance instability in joints, and with proper shoes. This might not always be available to patients though. Patients should be advised to begin walking at their own pace, and for as long as they feel comfortable, gradually increasing the amount as their tolerance increases.

People with joint pain should not avoid strengthening and load bearing exercise. While it is not practical for most people to join a gym with weights and proper training, patients should be encouraged to take up these activities in their every day life. For example, they should be encourage to lift heavy shopping bags or boxes, up to the point that they can tolerate. When performing this exercise, it is important that their elbows remain bent at approximately a 45 degree angle, rather than letting them dangle straight.

Cycling is another exercise that does not put pressure on joints, and should be engaged in regularly. Cycling particularly increases the strength of hip and knee joints. Again, patients should start slowly, and increase the amount and intensity of the cycling as their tolerance increases.

Meditation:

Meditation is the practice of developing deep concentration or focus through relaxation, breathing techniques and guided imagery. These techniques can help reduce stress and inflammation, and lead to decreased pain. Meditation also helps to relax muscles that become tense when someone is in pain.

Breathing exercises are a great way to shift focus away from painful areas, and enable meditation and relaxation. It’s a good idea to also teach someone close to the patient the breathing exercises, so they can help guide and remind the patient about the steps involved. Here are some examples of breathing exercises that patients can try:

*Exercise 1:*

* Simply pay attention to your breathing, without trying to change your breathing pattern.  Notice how quickly or slowly you’re breathing. Notice how shallowly or deeply you’re breathing. Notice where your breath comes in to your body, and where it leaves your body. Now just continue to watch your breath.

*Exercise 2:*

* Begin to pay attention to your breathing, and invite your body and mind to begin to relax. Take 3 normal breaths in through your nose, watching your chest expand and fall.
* Then slow and deepen each breath, and let your chest expand a bit more for the next 3 breaths. Then return your breathing to normal for 3 more breaths.
* Once again, slow and deepen your next 3 breaths, letting your chest expand even more. Then return your breathing to normal for 3 more breaths.
* Now take 3 breaths, imagining the air flowing in to the very bottom and top of your lungs, letting all areas of your lungs expand with air and then fall. Then again return your breathing to normal.

*Exercise 3:*

* Begin to pay attention to your breathing, and invite your body and mind to begin to relax. Imagine that healing oxygen in the air you’re breathing in is traveling to all areas of your body. With each breath in, imagine this healing traveling to a different area of your body. First to your head … with your next breath to your face … next your neck and shoulders … next down your arms to the tips of your fingers … next your chest and stomach … next your back … next your pelvis … and down your legs to the tips of your toes.
* Now focus on your healing breath going to those areas of your body that have discomfort, one area at a time. Let each area receive that healing oxygen for 10 or 20 or more breaths.

*Exercise 4:*

* Begin to pay attention to your breathing, and invite your body and mind to begin to relax.
* As you take breaths of a normal depth, imagine the air only entering through the left side of your nose, through your left nostril. Imagine letting the air come in only through the left, and then exhaling only though the left. Follow this pattern for 10 breaths.
* Then slowly change over to the right side, imagining air coming in only through the right nostril, and then exhaling only through the right. Follow this pattern for 10 breaths.

Acupuncture:

Acupuncture can help to reduce arthritic pain by increasing the production of endorphins and increasing blood flow to areas of pain. Acupuncture has been proven to reduce the pain and inflammation experienced by arthritis suffers. It is a safe and effective method that is readily available in Vietnam. Patients should be advised to ensure that they receive hygienic treatment. Patients should always insist on the use of new and properly sterilized needles to reduce the risk of transmission of blood borne viruses like Hepatitis B, Hepatitis C and HIV/AIDS.

Herbal Medicine:

Traditional herbal medicine can be used to treat arthritic symptoms. There is mixed scientific evidence as to whether herbal medicine is an effective treatment or not. If patients feel that traditional herbal medicine is reducing their symptoms and improving their condition, they should not be discouraged from using it unless there is a significant medical contraindication. Contraindications can be:

* If the herbal medicine adversely interacts with other medication that is being taken by the patient – some adverse effects of a combination of herbal medicine and western medicine can be mild, but some can be very serious. Patients should be encouraged to disclose ALL medication taken so that possible adverse effects can be investigated. Not all herbal and western medication are contraindicated, but it is necessary to investigate to avoid serious complications
* Some herbal medicine mixtures contain steroids. Steroids are an effective treatment for arthritis, but they can have adverse effects if they are used in the wrong dosage or over long periods of time. If steroids are being added to herbal mixtures the patient might not be aware of this. The patient could then be at increased risk of serious complications from long term use of herbal medicines containing steroids.