

# **OSTEOARTHRITIS [SIMPLIFIED]**

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### **Vital Points:**

1. It is a non inflammatory degenerative age related disease of weight bearing joints of body with a predominant complain of pain on weight bearing.
2. Obese, Diabetics, Patients with Thyroid disorders and those with a history of preceding trauma at the affected joints are high risk of developing Osteoarthritis
3. The disease and its symptoms have got no relation with the planetary position of moon [ a myth born by most ]
4. The disease has got nothing to do with blood uric acid levels, ASO titre and Rheumatoid Factor.
5. The terminal and definitive treatment of the disease is total joint replacement. Results are excellent in recent times. Cost of therapy is the major disadvantage.
6. The backbone of non surgical management is active physiotherapy and dedicated weight loss.
7. There is no medicine that can alter arrest or reverse the course of the disease. All oral medicines are administered to reduce pain and improve the quality of life. Yes, it is not curable with non surgical treatment options.
8. Use of medicines like Chondroitin and Glucosamine Sulfate, Diacerin and Visco Supplementation is debated. Most of the researchers have failed to demonstrate any added benefit. A trial of this costly medications may be attempted
9. Intra-articular injections of steroids cause short duration symptom improvement. Patients may require more than 10 to 12 injections in a year to maintain joint silence.
10. Intra-articular visco-supplementation is being practised by many orthopedicians and rheumatologist. Results vary person to person. A trial may be attempted if pocket permits.
11. Only approved medicines for control of pain without any kidney, cardiac or gastric injury is Paracetamol & Tramadol.

### **Introduction:**

If penned down in simplest possible language, Osteoarthritis is as simple as accelerated aging of an affected joint due either to chronic overburdening or distortion of its normal architecture owing to some trauma or instrumentation. You do not expect a truck full of bricks or sand to cruise through the ascent of a fly over unless you unload the truck or change the engine with a doubly powered one. Hence to keep an aging joint active, off loading of the joint is the primary intervention and replacement of the joint is the final one.

### **But why me?**

If you have contracted the disease in spite of not being obese, diabetic or not having thyroid problems then you can blame it on your luck. People who have a higher risk of getting the accelerated joint degeneration are usually [among the common causes]

1. Obese
2. Hypothyroid [Require Thyroxin supplementation]
3. Hyperthyroid
4. Diabetes
5. Family History
6. History trauma or instrumentation in the joint

### **Does it have a cure?**

If you want your knees to behave the way you want, then replace them with a new one. The decision depends on the weight of your wallet as the charges for total knee replacement in the corporate hospitals range from 1,25,000 to 1,70,000 INR.

Over last 50 years of intense research have failed to produce a single modality of medical [non surgical] treatment that can cure the disease.

### **What if I do not want a surgery? Is my knee doomed?**

This is the most important question in my clinic. And the answer is NO. There are a series of treatment options which if followed can change the quality of your life. There are many diseases which have a single important treatment modality which is called the back bone of the therapeutic armamentarium. For Osteoarthritis it is Physical Therapy.

- ❖ **Physical Therapy or Physiotherapy** is the mainstay therapy for knee osteoarthritis. Exercises that increase the muscle strength around the joint can significantly change the quality of life, reduce pain, increase activity and alleviate depression.
- ❖ Targeted Shedding off excess weight and thereby **off loading the joint** can result in a feeling of complete cure if done under strict determination. Cycling, Swimming and even walking in a swimming pool in neck deep water can cause significant weight loss in a month. If you dip yourself neck deep in a swimming pool, by the effect of buoyancy you actually weigh less in the water and the knees do not feel the brunt of your weight during walking in the pool. This is new research revelation.
- ❖ Before moving into the detail of medicines, I would like re-emphasise the role of Physical therapy and Joint Offloading in management of Osteoarthritis without which the medicines are complete waste of your money.
- ❖ All medicines /Tablets used in Osteoarthritis are basically Symptom Modifying Drugs of Osteoarthritis [SYSDOA] and hence as the terminology suggests, the medicines do not contribute in reversal or arrest of disease progression.
- ❖ **Paracetamol** is the mainstay drug for management of Osteoarthritis pain. Usually taken for managing fever, Paracetamol at a dose of 1000mg up to 4 times a day can cause excellent pain relief without causing any adverse effects provided you are not a heavy alcoholic and are not suffering from any serious liver problems. Being practically free from any side effects you can take paracetamol and forget about the ill effects on Stomach [Gastritis/Ulcers], Kidneys, Heart or brain caused by most of the classical pain killers.
- ❖ **Tramadol** is another centrally acting pain reliever which has got no classical side effects of Gastritis, Kidney or Cardiac problems unlike other analgesics. Nausea and vomiting are the two principal adverse effects of Tramadol. Often Tramadol and Paracetamol are combined together.
- ❖ Keep your bones strong and ensure that calcium reserve is intact. So we often prescribe **Calcium and Vitamin D** Supplementation so that the quality of bone is good. A daily requirement of 1200mg of elemental calcium and 800units of Vitamin D is mandatory.
- ❖ Use of Neutraceuticals and Nutritional Supplements such as **Chondroitin Sulfate, Glucosamine Sulfate and Diacerin** are debated. Most of researches have failed to show better results than the above mentioned conventional treatment. One can give it a try but it is prudent to stop these medicines once no added improvement is noted after 3 months of therapy.
- ❖ **Intra-articular Viscosupplementaion** injections have shown some benefit is alleviating pain and buying time for joint replacement surgery. They are costly, reimbursable by medical insurance and are given once or twice a year and can be administered on a day care basis.
- ❖ **Intra-articular steroids** are short term therapeutic option in an effort to control the pain but the effect often last no more than 4 to 6 weeks requiring another shot. Too many Steroid shots are harmful and is not recommended.
- ❖ **Use of knee braces** has significantly changed the quality of life. Knee braces help in offloading of the affected joint causing significant improvement in symptoms. But it is often seen that due to better quality of life with Knee braces, patients tend to neglect physical therapy and ultimately they develop wasting or weakness of muscles around the joint. This particular issue should be kept in mind.
- ❖ Use of a **walking stick** is commonly considered as a stigma of old age and it had been a tough task to convince my patients to use the same. Use of a walking stick by the hand opposite to affected knee can cause approximately 30% off loading of the affected joint. Hence, it is more of a therapy rather than stigmata. Use of this modality of treatment is strongly advocated.

It is worth mentioning that all these therapeutic modalities work best when initiated early in the disease. I have seen patients with swollen joints and deformed or curved legs dropping in my clinic and these patients have advanced disease and hence are less likely to respond to the treatment.

I hope this article helps you in better understanding of the disease and change your perception accordingly. An attempt have been made to educate the readers and their care givers and if by remotest possible chances the reader gets more confused, then emails, criticism and suggestions are invited at [drtanoybose@gmail.com](mailto:drtanoybose@gmail.com)

#### LET'S KNOW A BIT ABOUT THE DRUGS:

##### TRAMADOL

Tramadol is a narcotic-like pain reliever.

Tramadol is used to treat moderate to severe pain.

The extended-release form of tramadol is for around-the-clock treatment of pain.

You should not take tramadol if you have used alcohol, sedatives, tranquilizers, or narcotic medications within the past few hours.

Tramadol can slow or stop your breathing, especially when you start using this medicine or whenever your dose is changed. Never take tramadol in larger amounts, or for longer than prescribed. Do not crush, break, or open an extended-release pill. Swallow it whole to avoid exposure to a potentially fatal dose.

Seizures (convulsions) have occurred in some people taking this medicine. Tramadol may be more likely to cause a seizure if you have a history of seizures or head injury, a metabolic disorder, or if you are taking certain medicines such as antidepressants, muscle relaxers, narcotic, or medicine for nausea and vomiting

Tramadol may be habit-forming, even at regular doses. Take this medicine exactly as prescribed by your doctor. Never share the medicine with another person. MISUSE OF NARCOTIC PAIN MEDICATION CAN CAUSE ADDICTION, OVERDOSE, OR DEATH, especially in a child or other person using the medicine without a prescription.

Seizures have occurred in some people taking tramadol. Talk with your doctor about your seizure risk, which may be higher if you have:

- a history of head injury, epilepsy or other seizure disorder;
- a history of drug or alcohol addiction;
- a metabolic disorder; or
- if you are also using certain medicines to treat migraine headaches, muscle spasms, depression, mental illness, or nausea and vomiting.

Tramadol is more likely to cause breathing problems in older adults and people who are severely ill, malnourished, or otherwise debilitated..

**FDA pregnancy category C.** It is not known whether this medicine will harm an unborn baby. Tramadol may cause breathing problems, behavior changes, or life-threatening addiction and withdrawal symptoms in your newborn if you use the medication during pregnancy.

Tramadol can pass into breast milk and may harm a nursing baby. You should not breast-feed while you are taking this medicine.

Do not give this medication to anyone younger than 16 years old without the advice of a doctor.

Tramadol can be taken with or without food, but take it the same way each time.

#### **What happens if I overdose?**

A tramadol overdose can be fatal, especially in a child or other person using the medicine without a prescription. Overdose symptoms may include slow breathing and heart rate, severe drowsiness, cold and clammy skin, and fainting..

#### **Tramadol side effects**

Get emergency medical help if you have any of these signs of an allergic reaction to tramadol: hives; difficulty breathing; swelling of your face, lips, tongue, or throat.

Call your doctor at once if you have:

- seizure (convulsions);
- weak or shallow breathing;
- high levels of serotonin in the body--agitation, hallucinations, fever, fast heart rate, overactive reflexes, nausea, vomiting, diarrhea, loss of coordination, fainting; or
- severe skin reaction--fever, sore throat, swelling in your face or tongue, burning in your eyes, skin pain, followed by a red or purple skin rash that spreads (especially in the face or upper body) and causes blistering and peeling.

Common tramadol side effects may include:

- headache, dizziness, drowsiness, tired feeling;
- constipation, diarrhea, nausea, vomiting, stomach pain; or
- feeling nervous or anxious.
- itching, sweating, flushing (warmth, redness, or tingly feeling).

#### **Tramadol dosing information**

##### *Usual Adult Dose for Pain:*

For mild to moderate severe chronic pain not requiring rapid onset of analgesic effect:

Initial dose: 25 mg every morning

Titration: increase in 25 mg increments as separate doses every 3 days to reach 100 mg per day taken as 25 mg 4 times per day. Then the total daily dose may be increased by 50 mg as tolerated every 3 days to reach 200 mg per day taken as 50 mg 4 times per day.

Maintenance: After titration, tramadol 50 mg to 100 mg can be administered as needed for pain relief every 4 to 6 hours not to exceed 400 mg per day.

##### *Usual Geriatric Dose for Pain:*

For patients over 65 years:

Dose selection should be cautious, usually starting at the low end of the dosing range, reflecting the greater frequency of decreased hepatic, renal, or cardiac function and of concomitant disease or other drug therapy.

##### *16 years and older:*

Initial dose: 50 to 100 mg every 4 to 6 hours

Maximum dose: 400 mg/day

Alternatively, for patients not requiring a rapid onset of effect, side effects may be decreased by initiating dosage at 25 mg/day and increasing by 25 mg every 3 days up to 25 mg 4 times a day. Dosage may then be increased by 50 mg every 3 days as tolerated to 50 mg 4 times a day.

## **PARACETAMOL**

### **What is paracetamol ?**

Paracetamol (acetaminophen) is a pain reliever and a fever reducer. The exact mechanism of action of is not known. Paracetamol is used to treat many conditions such as headache, muscle aches, arthritis, backache, toothaches, colds, and fevers. It relieves pain in mild arthritis but has no effect on the underlying inflammation and swelling of the joint.

### **Important information**

An overdose of paracetamol can cause serious harm. The maximum amount of paracetamol for adults is 1 gram (1000 mg) per dose and 4 grams (4000 mg) per day. Taking more paracetamol could cause damage to your liver. If you drink

more than three alcoholic beverages per day, talk to your doctor before taking paracetamol and never use more than 2 grams (2000 mg) per day.

Do not use this medication without first talking to your doctor if you drink more than three alcoholic beverages per day or if you have had alcoholic liver disease (cirrhosis). You may not be able to use paracetamol .

Before using paracetamol , tell your doctor if you have liver disease or a history of alcoholism.

Do not use any other over-the-counter cough, cold, allergy, or pain medication without first asking your doctor or pharmacist. Paracetamol is contained in many combination medicines. If you use certain products together you may accidentally use too much paracetamol . Avoid drinking alcohol while taking this medication. Alcohol may increase your risk of liver damage while taking paracetamol .

#### **What happens if I overdose?**

Seek emergency medical attention if you think you have used too much of this medicine.

The first signs of an paracetamol overdose include loss of appetite, nausea, vomiting, stomach pain, sweating, and confusion or weakness. Later symptoms may include pain in your upper stomach, dark urine, and yellowing of your skin or the whites of your eyes.

#### **Paracetamol side effects**

Get emergency medical help if you have any of these signs of an allergic reaction to paracetamol: hives; difficulty breathing; swelling of your face, lips, tongue, or throat. Stop using this medication and call your doctor at once if you have a serious side effect such as:

- low fever with nausea, stomach pain, and loss of appetite;
- dark urine, clay-colored stools; or
- jaundice (yellowing of the skin or eyes).

#### **Paracetamol dosing information**

##### **Usual Adult Paracetamol Dose for Fever:**

General Dosing Guidelines: 325 to 650 mg every 4 to 6 hours or 1000 mg every 6 to 8 hours orally or rectally.

Paracetamol 500mg tablets: Two 500 mg tablets orally every 4 to 6 hours

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##### **Usual Pediatric Dose for Fever:**

Oral or Rectal:

<=1 month: 10 to 15 mg/kg/dose every 6 to 8 hours as needed.

>1 month to 12 years: 10 to 15 mg/kg/dose every 4 to 6 hours as needed (Maximum: 5 doses in 24 hours)

Fever: 4 months to 9 years: Initial Dose: 30 mg/kg (Reported by one study (n=121) to be more effective in reducing fever than a 15 mg/kg maintenance dose with no difference regarding clinical tolerance.)

>=12 years: 325 to 650 mg every 4 to 6 hours or 1000 mg every 6 to 8 hours.

## **CHONDROITIN**

### **What is chondroitin?**

Chondroitin is a naturally occurring substance formed of sugar chains. Chondroitin is believed to help the body maintain fluid and flexibility in the joints.

Chondroitin has been used in alternative medicine as an aid to relieving arthritis pain.

Not all uses for chondroitin have been approved by the FDA. Chondroitin should not be used in place of medication prescribed for you by your doctor.

Chondroitin is often sold as an herbal supplement. There are no regulated manufacturing standards in place for many herbal compounds and some marketed supplements have been found to be contaminated with toxic metals or other drugs. Herbal/health supplements should be purchased from a reliable source to minimize the risk of contamination.

### **Chondroitin side effects**

Get emergency medical help if you have any of these **signs of an allergic reaction**: hives; difficult breathing; swelling of your face, lips, tongue, or throat.

Less serious side effects are more likely, and you may have none at all