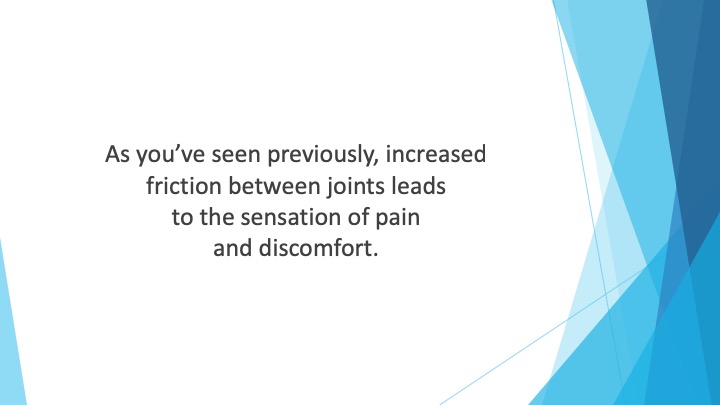
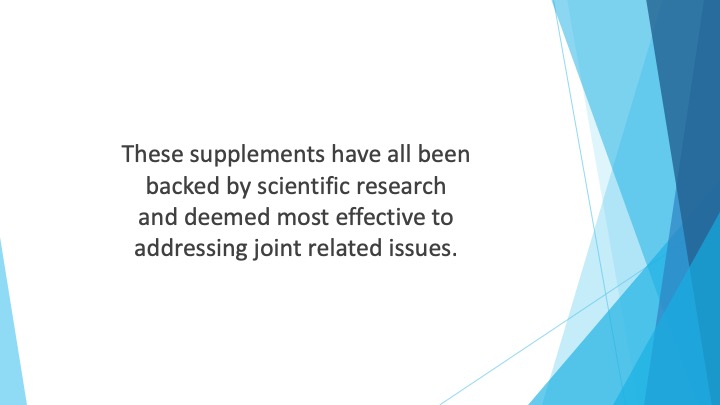
**Chapter 7: Best Supplements For Joint Health**

****

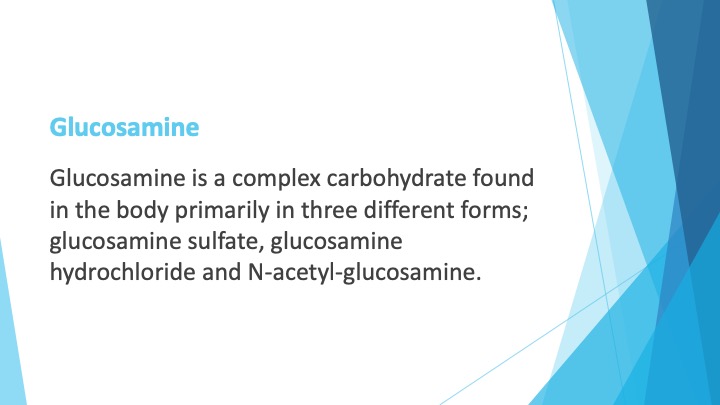
**S1** : In this video, we’ll learn about “Best Supplements For Joint Health”



**S2** : As you’ve seen previously, increased friction between joints leads to the sensation of pain and discomfort. While many resort to medication, (coming up in the next chapter) as the primary solution to the problem, supplements are also a popular alternative.

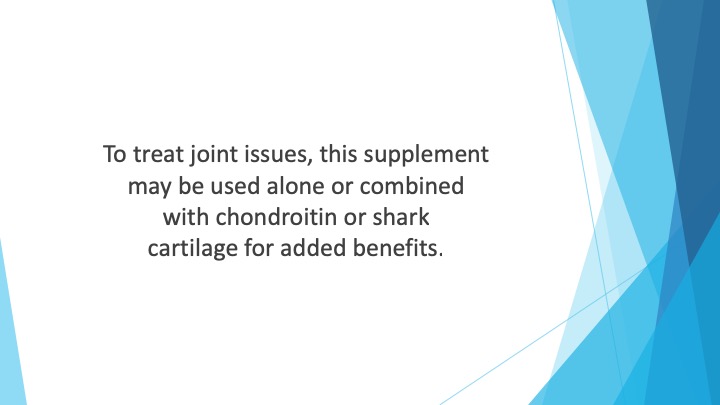


**S3** : And while there is a plethora of supplements available, here we’ll only look at some of the best in this category. These supplements have all been backed by scientific research and deemed most effective to addressing joint related issues.

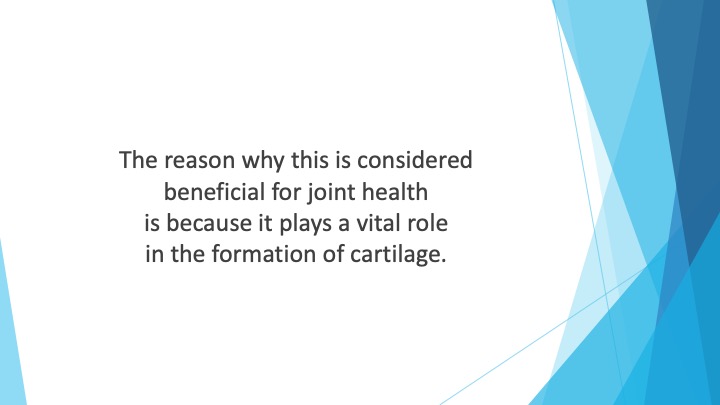


**S4** : **Glucosamine**

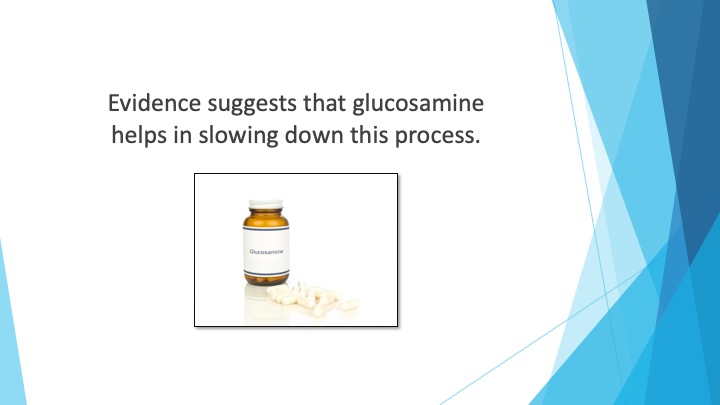
Glucosamine is a complex carbohydrate found in the body primarily in three different forms; glucosamine sulfate, glucosamine hydrochloride and N-acetyl-glucosamine. Among these, glucosamine sulfate is the most common form and is extracted from the outer covering of shellfish.



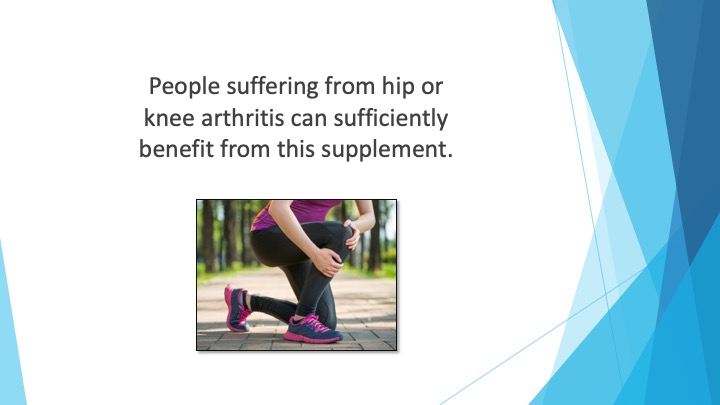
**S5 :** To treat joint issues, this supplement may be used alone or combined with chondroitin or shark cartilage for added benefits.



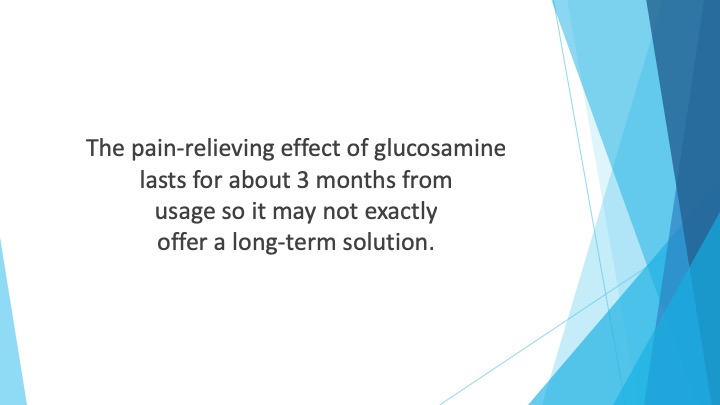
**S6 :** The reason why this is considered beneficial for joint health is because it plays a vital role in the formation of cartilage. As you’ve already seen, cartilage thins and deteriorates with age. If anything, it needs help from supplementation to keep it healthy.



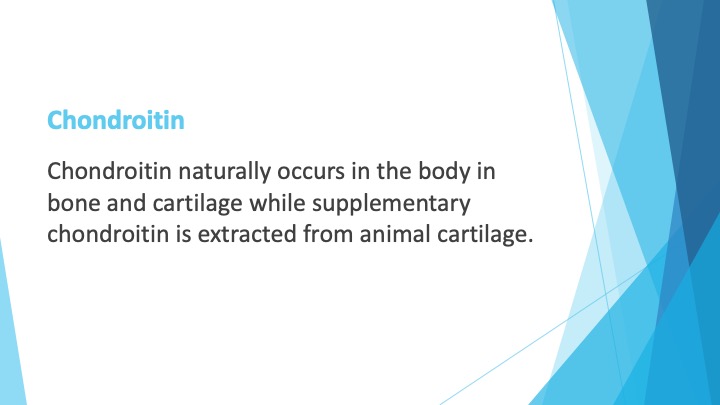
**S7 :** Evidence suggests that glucosamine helps in slowing down this process. It assists cartilage repair and formation by incorporating sulfur into the structure. Likewise, swelling also reduces in the presence of glucosamine.



**S8 :** People suffering from hip or knee arthritis can sufficiently benefit from this supplement.

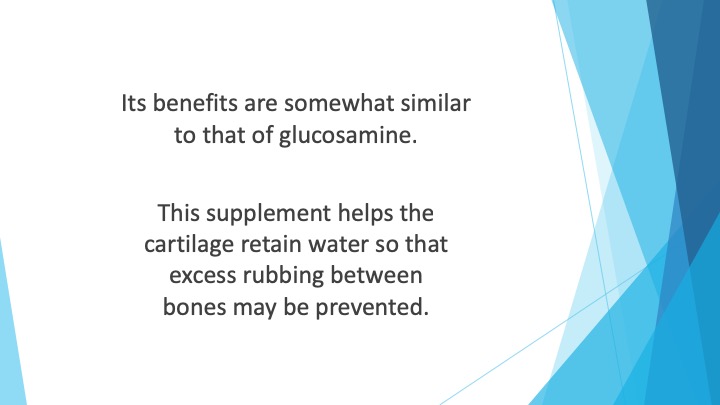


**S9 :** The pain-relieving effect of glucosamine lasts for about 3 months from usage so it may not exactly offer a long-term solution. Results may take a good 6-8 weeks to become noticeable, but will likely be more effective than those achieved by using over-the-counter and prescription medication.



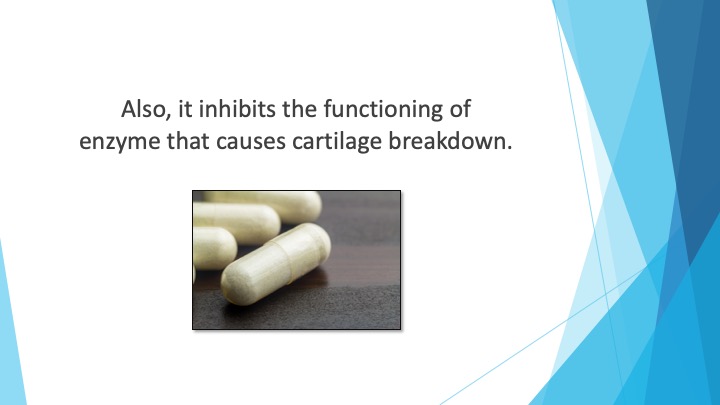
**S10 : Chondroitin**

Chondroitin naturally occurs in the body in bone and cartilage while supplementary chondroitin is extracted from animal cartilage.

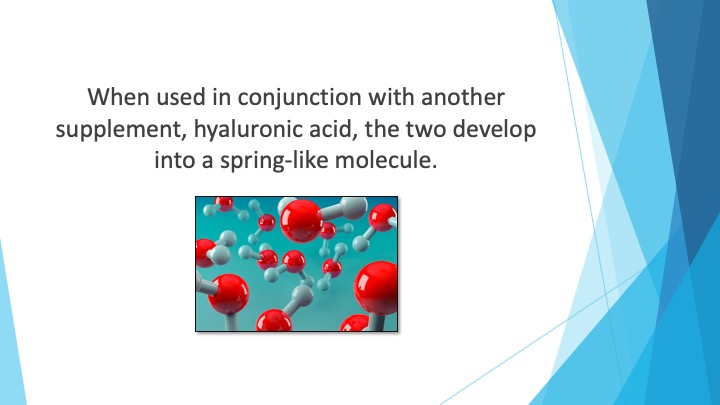
****

**S11 :** It’s present in the form of chondroitin sulfate and is often administered alongside glucosamine. Its benefits are somewhat similar to that of glucosamine.

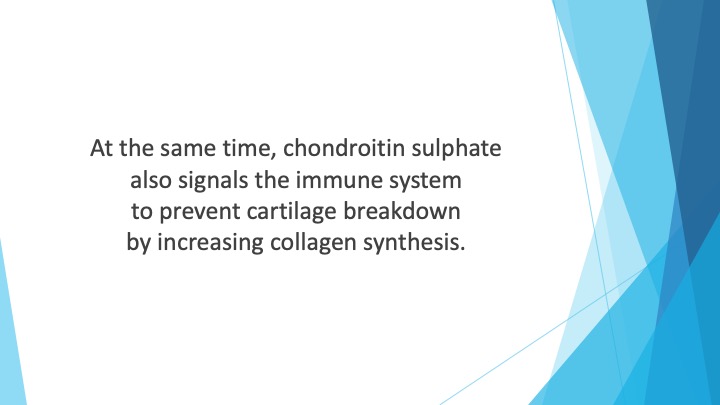
This supplement helps the cartilage retain water so that excess rubbing between bones may be prevented. At the same time, it also slows down the progression of osteoarthritis.



**S12 :** When used on its own or in association with other supplements, chondroitin improves the shock-absorbing ability of collagen protein. Also, it inhibits the functioning of enzyme that causes cartilage breakdown.



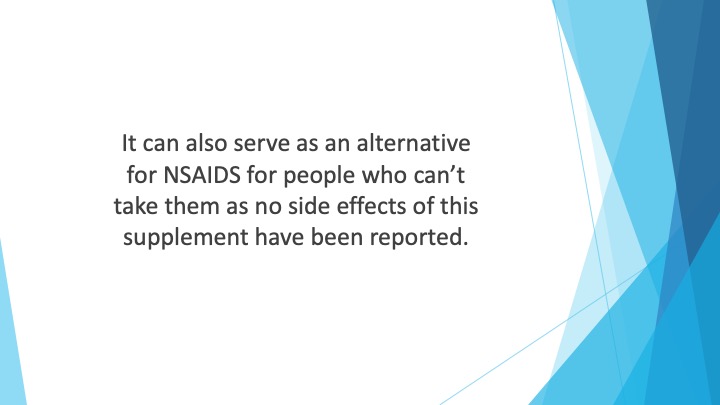
**S13 :** When used in conjunction with another supplement, hyaluronic acid, the two develop into a spring-like molecule. This improves the elasticity and strength of the cartilage.



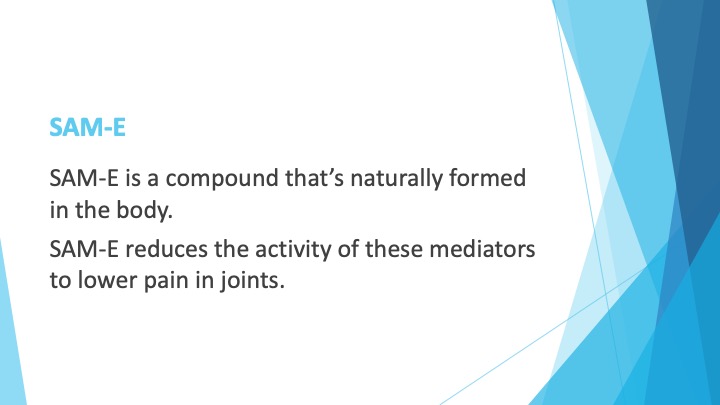
**S14 :** At the same time, chondroitin sulphate also signals the immune system to prevent cartilage breakdown by increasing collagen synthesis.



**S15 :** Chondroitin is especially beneficial for people with hand arthritis. Although it doesn’t enhance grip strength or reduce the need for pain medication, it still reduces morning stiffness in such individuals.

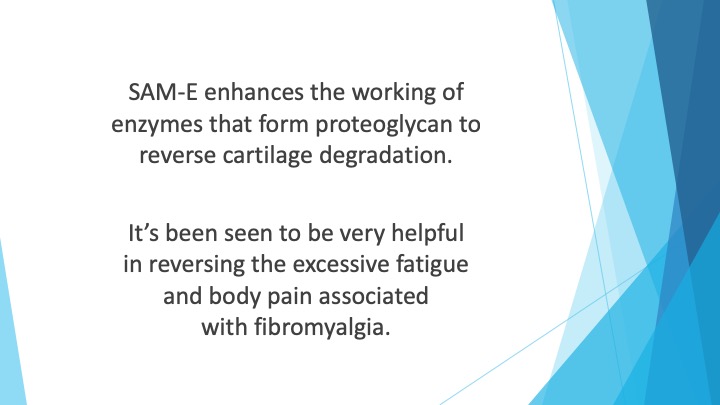


**S16 :**  It can also serve as an alternative for NSAIDS for people who can’t take them as no side effects of this supplement have been reported.



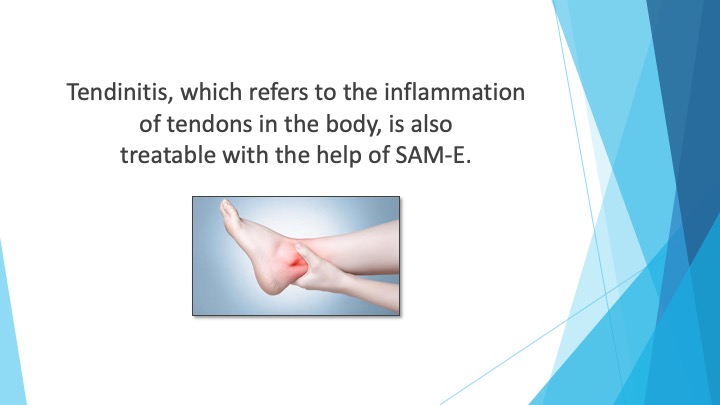
**S17 : SAM-E**

SAM-E is a compound that’s naturally formed in the body. It plays a role in synthesis, activation and degradation of hormones, drugs and different proteins. The body produces chemicals that induce inflammatory responses to activate the immune system. SAM-E reduces the activity of these mediators to lower pain in joints.

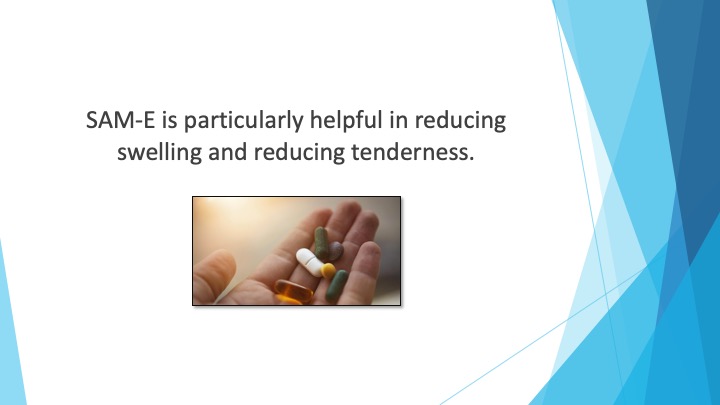


**S18 :** In osteoarthritis, proteoglycan, which is a constituent of cartilage, doesn’t get produced in sufficient amounts. SAM-E enhances the working of enzymes that form proteoglycan to reverse cartilage degradation. SAM-E also plays a role in reducing stiffness in joints. Consequently, mobility is improved.

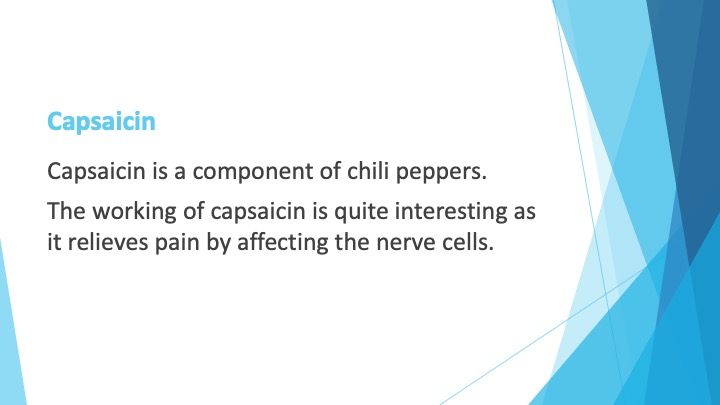
It’s been seen to be very helpful in reversing the excessive fatigue and body pain associated with fibromyalgia.



**S19 :** Tendinitis, which refers to the inflammation of tendons in the body, is also treatable with the help of SAM-E. Bursa, a cushioning sac filled with fluid between tendons and bones, can be inflamed. This leads to swelling of the bursa and joint pain.

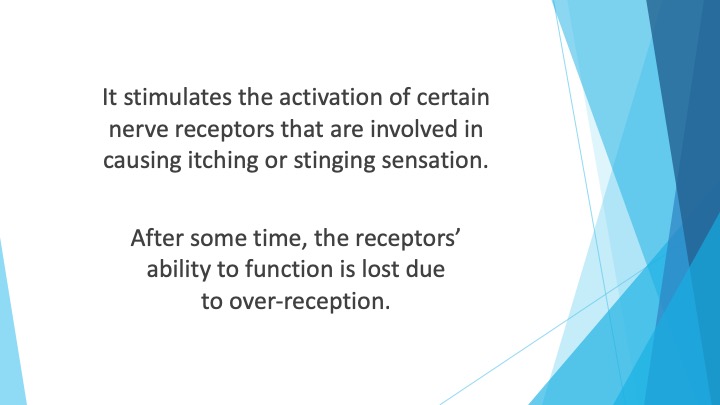


**S20 :** SAM-E is particularly helpful in reducing swelling and reducing tenderness. Individuals suffering from chronic lower back pain, caused due to weight or sports injury, can also benefit from this supplement.

****

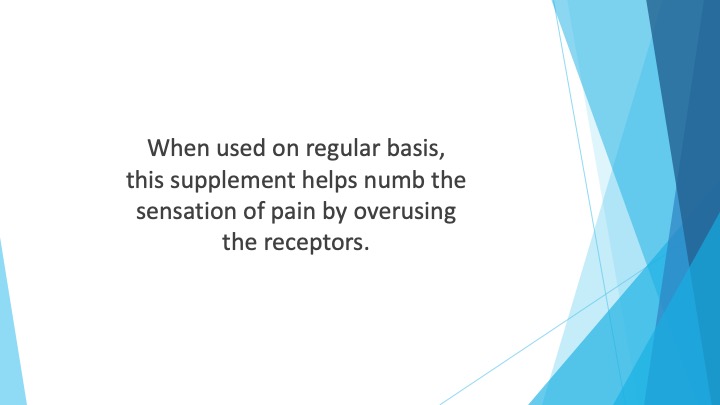
**S21 : Capsaicin**

Capsaicin is a component of chili peppers. It’s the constituent that causes a burning sensation in your mouth because it causes a sting when it comes in contact with any body tissue. The working of capsaicin is quite interesting as it relieves pain by affecting the nerve cells. It’s used in form of a topical cream or patch.

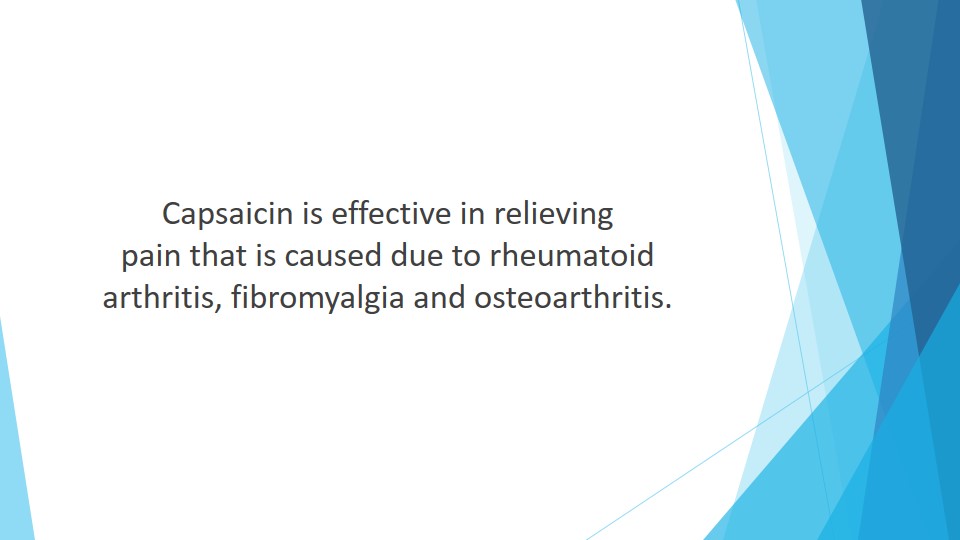


**S22 :** It stimulates the activation of certain nerve receptors that are involved in causing itching or stinging sensation. Capsaicin keeps the receptors activated for a long period of time.

After some time, the receptors’ ability to function is lost due to over-reception. So, these receptors also stop processing signals for pain induction.



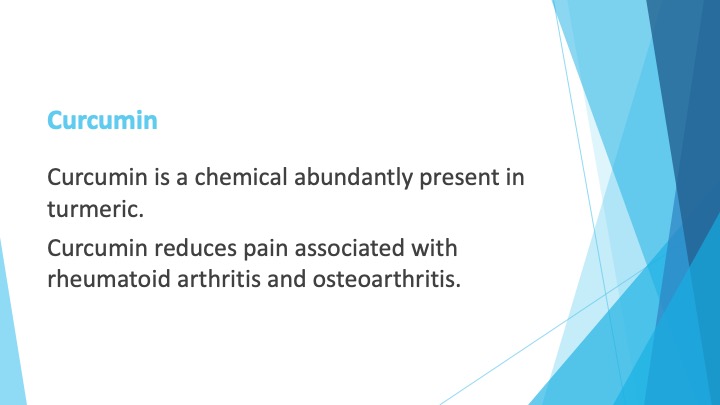
**S23 :** When used on regular basis, this supplement helps numb the sensation of pain by overusing the receptors.



**S24 :** Capsaicin is effective in relieving pain that is caused due to rheumatoid arthritis, fibromyalgia and osteoarthritis. Its working is so intense that it can actually help lower the pain by 50% after just a month of usage.

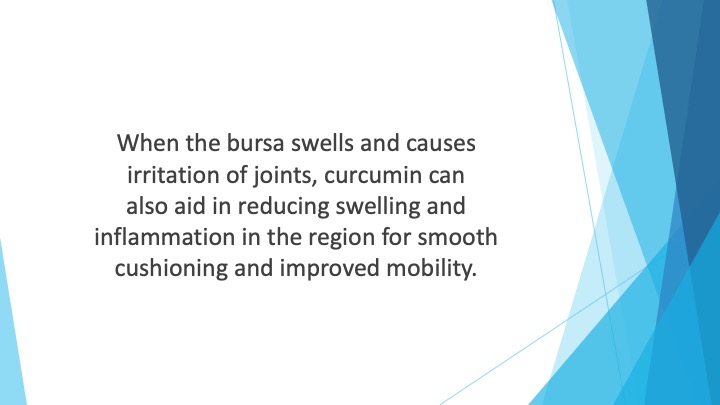
****

**S25 :** It also helps reduce pain which results from nerve damage as a result of diabetic neuropathy or HIV.

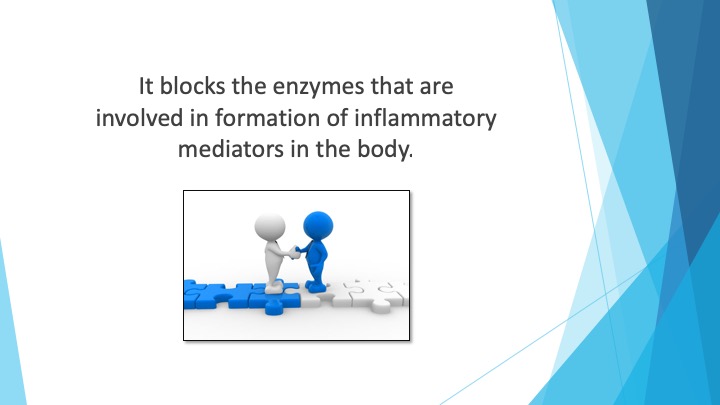
****

**S26 : Curcumin**

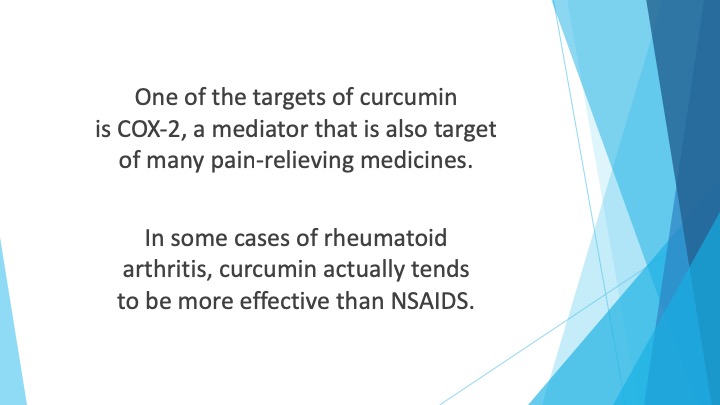
Curcumin is a chemical abundantly present in turmeric. Although turmeric is only used as a flavoring agent in cooking or to give color in cosmetics, it also has benefits for joint health. Curcumin reduces pain associated with rheumatoid arthritis and osteoarthritis.

****

**S27 :** When the bursa swells and causes irritation of joints, curcumin can also aid in reducing swelling and inflammation in the region for smooth cushioning and improved mobility.

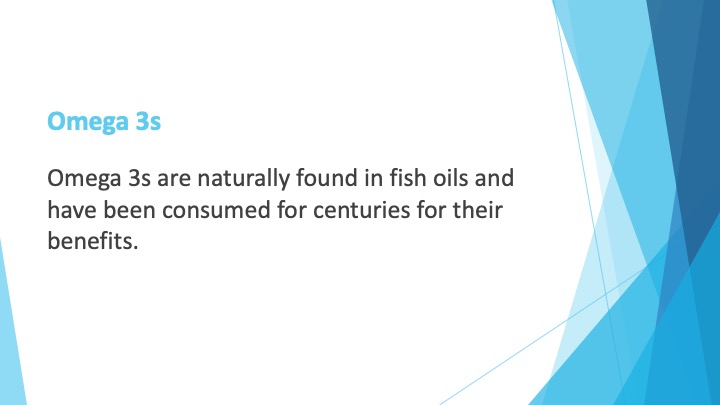
****

**S28 :** It blocks the enzymes that are involved in formation of inflammatory mediators in the body.

****

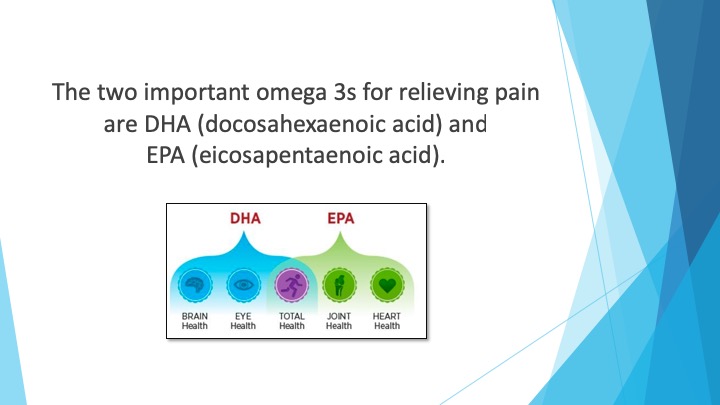
**S29 :** One of the targets of curcumin is COX-2, a mediator that is also target of many pain-relieving medicines. So, curcumin can act as an alternative to NSAIDS. Instead of reducing joint inflammation, this supplement actually prevents further inflammation. Patients suffering from knee osteoarthritis can benefit from this supplement.

In some cases of rheumatoid arthritis, curcumin actually tends to be more effective than NSAIDS.

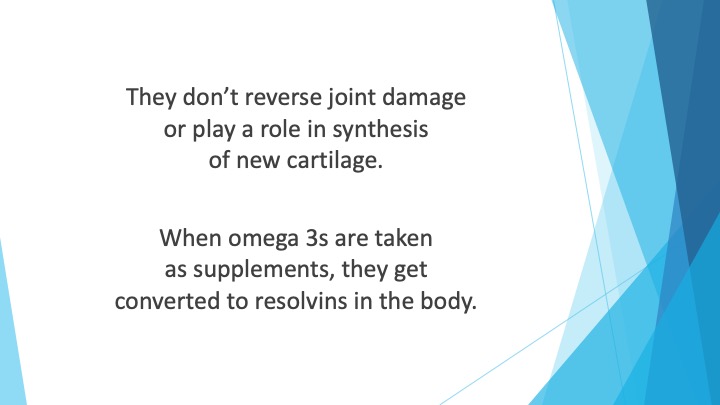
****

**S30 : Omega 3s**

Omega 3s are naturally found in fish oils and have been consumed for centuries for their benefits. One of the main benefits of omega 3s is pain relief.

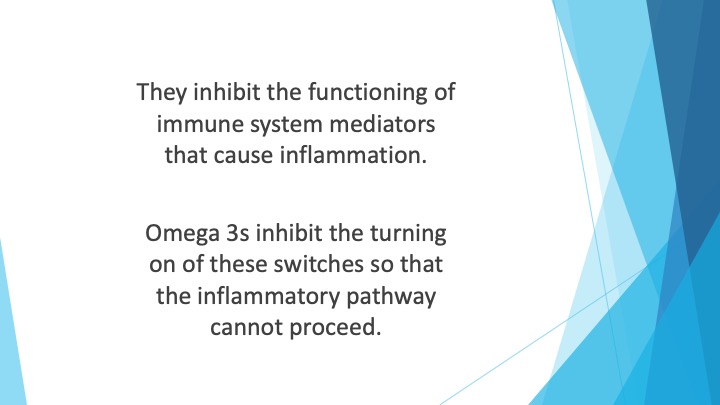
****

**S31 :** The two important omega 3s for relieving pain are DHA (docosahexaenoic acid) and EPA (eicosapentaenoic acid). Omega 3s have shown most effectiveness in relieving pain caused due to rheumatoid arthritis.

****

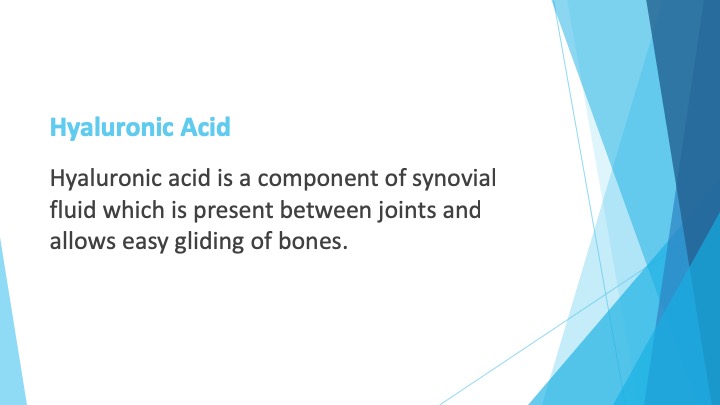
**S32 :** They don’t reverse joint damage or play a role in synthesis of new cartilage. Instead, their only function is for pain relief.

When omega 3s are taken as supplements, they get converted to resolvins in the body. These compounds are 10,000 times more effective than normal fatty acids.

****

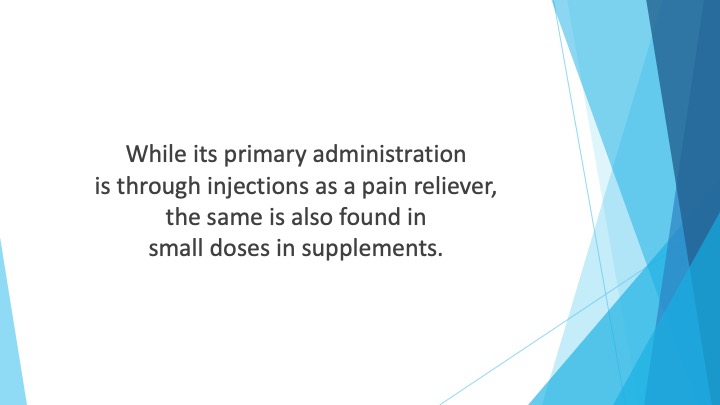
**S33 :** They inhibit the functioning of immune system mediators that cause inflammation.

For inflammation to occur, the body has its own on and off switch. Omega 3s inhibit the turning on of these switches so that the inflammatory pathway cannot proceed.

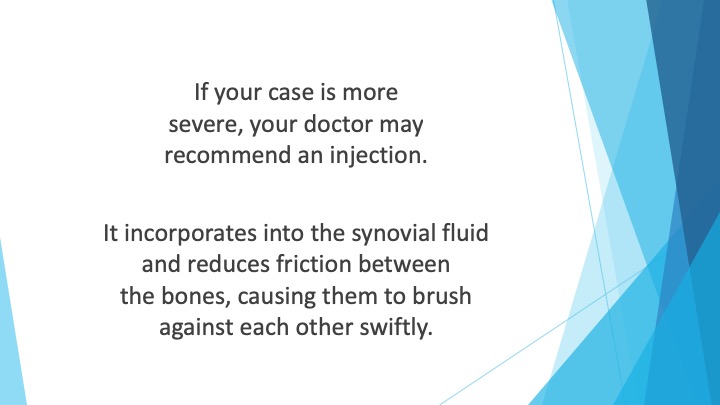
****

**S34 : Hyaluronic Acid**

Hyaluronic acid is a component of synovial fluid which is present between joints and allows easy gliding of bones. In patients of rheumatoid arthritis, this component starts to break up and functioning of the fluid is affected.

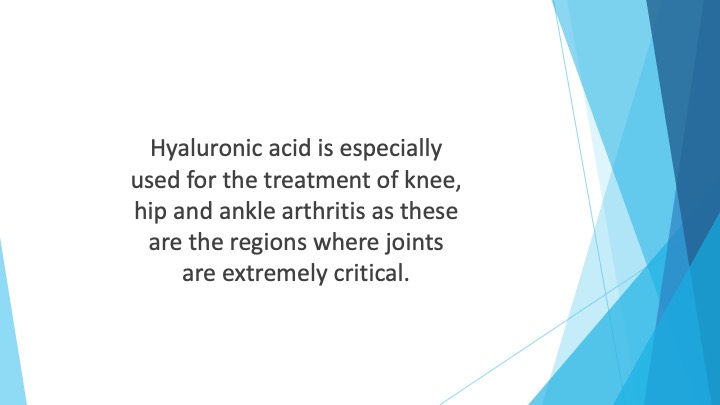
****

**S35 :** While its primary administration is through injections as a pain reliever, the same is also found in small doses in supplements. Research shows that low dioses of this acid can reduce chronic pain and joint stiffness, though results may vary from one person to the next.

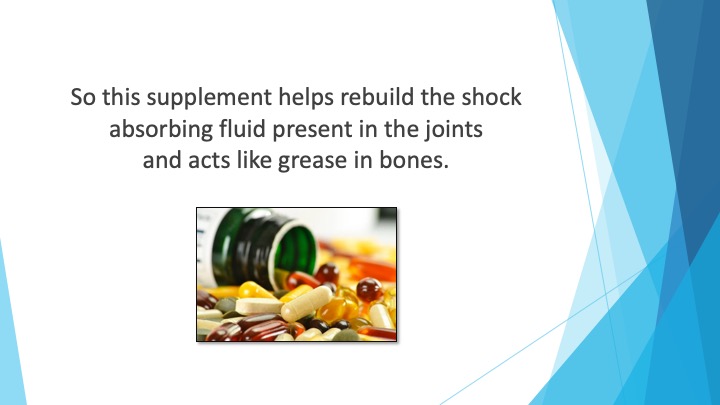
****

**S36 :** You can take hyaluronic acid for knee osteoarthritis in the form of 50mg tablets twice a day with meals. If your case is more severe, your doctor may recommend an injection.

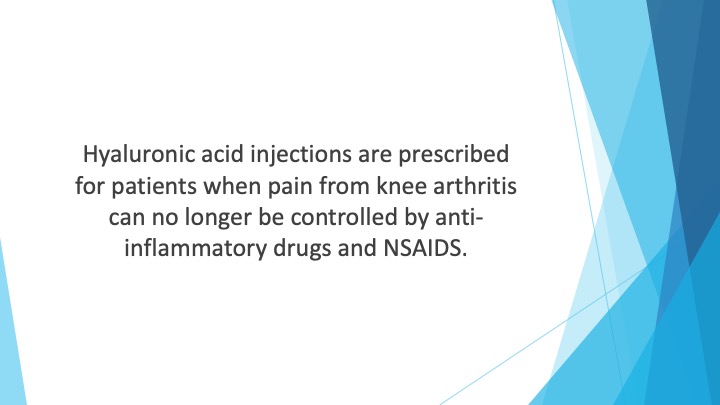
It incorporates into the synovial fluid and reduces friction between the bones, causing them to brush against each other swiftly. In this way, it reduces stiffness of joints and enhances mobility.

****

**S37 :** Hyaluronic acid is especially used for the treatment of knee, hip and ankle arthritis as these are the regions where joints are extremely critical. The ball and socket joint in the hips that allows maximum mobility can often be affected due to arthritis.

****

**S38 :** So this supplement helps rebuild the shock-absorbing fluid present in the joints and acts like grease in bones.

****

**S39 :** Hyaluronic acid injections are prescribed for patients when pain from knee arthritis can no longer be controlled by anti-inflammatory drugs and NSAIDS.