



Glucosamine as its name suggests is a natural Substance made in our bodies from a combination of a sugar, glucose and an amino acid glutamine. Glucosamine is an important part of the Mucopolysaccharides which form proteoglycans that provide structure to the bones, cartilage, skin, nails, hair and other body tissues.

This nutrient is important to people with connective tissue injury and trauma as well as those suffering from joint osteoarthritis.

In a normal joint structure in the body you have two bones that meet in a cartilage formation. Ligaments and membranes hold the two bones in place and enable free and flexible movement. The cartilage itself is constantly renewing itself (just like any other tissue in the body) so it can continue to support healthy and easy joint movement.

Regrettably in the case of injury or age the cartilage can have its ability to support joint movement compromised.

This is one of the main reasons that we immobilise broken bones or sprained joints.

When the cartilage deteriorates, inflammation of the surrounding tissue occurs and this is quite painful. In some more severe injuries the fluid that lubricates the joint can also be lost or diminished.

This can only add to a restriction in movement and increase discomfort when you try to move the affected joint or bones.

There are a number of solutions, you can use antiinflammatory drugs, you can undergo extensive surgery, or you can increase your bodies natural supply of the nutrients it needs to rebuild damaged tissue through supplementation.

Glucosamine HCl is one of the most important nutrients to consider supplementation with. When you increase this resource into the diet the body's rate of bone collagen synthesis increases.

Collagen is a conglomerate of a number of proteins and minerals (for the most part two amino acids L-Proline and L-Threonine) which makes up the cartilage that holds the bodies joints in place.

Collagen also acts as a special coating on joint bones in very mobile areas of the body (hands, feet, spine, and hips) and helps to reduce shock impact.

In the case of injuries, especially in sports people, the increase of basic nutrients to the diet will allow the injured joint or connective tissue to heal quickly and more efficiently.

Even so it is important to make sure that you are fully healed before you go back to the field and participate in a heavy tackle.

Repeat injuries are no laughing matter.

When shopping for Glucosamine products it is important that you look carefully at what you find.

Glucosamine HCl has a number of advantages over other Glucosamine salts that you might find on the health food shop shelves.

Initially you should consider purity.

Glucosamine HCl is the specific and pure form of Glucosamine and has a higher yield than other forms such as Glucosamine Sulphate. It is also more bio available to the body, which reduces the amount you need for an effective therapeutic dose.

Glucosamine HCL is used in FLEX and 1 metric teaspoon 2twice per day gets amazing results . (3 x 2 = 6 grams per day)

ARE ALL GLUCOSAMINES CREATED EQUAL?

The use of the amino-sugar Glucosamine has risen in popularity over recent times for its role in the Treatment of arthritis and both connective tissue and bone injuries.

Glucosamine as a single substance does not generally exist on its own and is usually found bound to another substance to form what we know as a Glucosamine compound.

Some amino acids and other products have little 'tags' or additional words on the end of their names, eg Glucosamine HCl, and Creatine Monohydrate.

These are the chemical forms, or compounds of these products which are most stable under normal environmental conditions.

Normal environmental conditions are those that we experience each day from a cold winter's night to a hot summer's day. The forms that many of the above products are in should remain stable under most of these conditions.

That is to say, these products will not break down or 'go off' unless they are subjected to extreme conditions of high temperature (100°C plus) or pressure etc.

The two most common Glucosamine compounds are what we find on the market - Glucosamine Sulphate and Glucosamine HCl (HCl is short for Hydrochloride).

This presents a choice to the consumer. One thing all consumers should be aware of is that

Chemically not all Glucosamine compounds are created equal.

Basic science tells us that if we alter a compound, even in the slightest way, we can significantly alter the properties of the resulting substance.

This is true with Glucosamine compounds -

For instance:

Glucosamine Sulphate, as a substance is not inherently stable. In fact, if it was left purely on its own, it would start to decompose.

This process is not especially fast, it takes place over a period of weeks.

Commercially this can spell doom for a preparation containing pure Glucosamine Sulphate, because it takes time for raw materials to be transported, the product to be packed and shipped, and then time might also be spent on the shelves of the health food shop.

This time spent is quite likely to be enough to allow Glucosamine Sulphate to decompose of its own accord.

This decomposition is not due to outside influences, it is merely a property of Glucosamine Sulphate.

The manufacturers of Glucosamine Sulphate compounds discovered that the decomposition could be stalled or even halted with the addition of a stabiliser additive. In **most cases the additive is common table salt,** or some times potassium chloride or sugar.

The amount of stabiliser needed to retard decomposition of Glucosamine is very high. It can run from **15 to 30 percent of the total weight of glucosamine sulphate in a product.**

The additional sodium intake may not be desirable for some people – it could make the situation worse.

Another fact that has to be considered is the amount of dose required. With up to 30 percent of dose being stabiliser your amount of Glucosamine is significantly reduced per teaspoon or capsule.

Gram for gram, Glucosamine HCl will yield nearly 20% more 'free' Glucosamine than Glucosamine Sulphate!

This is due to the relative sizes of the salt attachments on each Glucosamine molecule.

A Sulphate molecule adds nearly three times as much mass as a HCl molecule!

So, if you were to allow for the 20% difference due to the salt and perhaps throw in

20% breakdown of Glucosamine Sulphate due to its lesser stability, **you would end up needing**

about 60% more Glucosamine Sulphate to equal the same effective dose found in Glucosamine HCl.

And this is only if you had the pure forms of both.

Glucosamine Hydrochloride is inherently stable and needs no artificial substances added to it.

There is no added salt or other compounds to contend with, so your dosages can be smaller yet still as effective.

Another question that is commonly asked is does Glucosamine Sulphate absorb better than Glucosamine Hydrochloride?

As you digest each of these, both are soluble, and would completely dissolve in the stomach juices fairly quickly.

The amino sugar portion of Glucosamine would be liberated and then absorbed into the blood stream.

There is no absorption advantage either way, both forms will be fairly effectively absorbed and utilised.

A level metric teaspoon of Glucosamine HCL weighs 3.39g.