



SCIENCE, SCIENCE, SCIENCE...

We've been asked a few times, "IS THERE SCIENCE ON YOUR PRODUCTS?"

The answer to that is YES, and NO...

Yes – there is nearly 50 years of actual peer reviewed science on the specific ingredients used AND (more importantly) *NOT USED in our products*; and the

doctors that formulated the products have a seriously impressive list of board certified credentials, and years of experience, particularly in NUTRITION and TREATMENT. So, their choices weren't random, and didn't happen lightly. It wasn't just one or two people tossing stuff together in their basement.

The founders & formulator's of the MD's Choice products are mostly retired today, but it was a group that wanted to change the world, ONE BODY AT A TIME!

- 1 A Board Certified Medical Doctor with a PhD in Pharmacology and Biochemistry,
- 2 PhD's in Nutrition,
- 2 Board Certified Master's in NUTRITION (human & animal) ... that are also practicing doctors,
- 2 Veterinarian's specializing in Orthopedics,
- 2 other Veterinarian's that are actively treating patient's, and assorted other doctors (human and animal)

These professionals WANTED SOLUTIONS, better options than what was then available, and support that had the flexibility to help a body prevent some common problems, maintain health, give therapy to small issues, and even assist in their treatment protocols.

Those that really understand THE SCIENCE of NUTRITION, and the care we [at MD's Choice] take in sourcing quality ingredients with optimum bioavailability have been using our products, both personally and for their clients, for decades. There are no formal peer reviewed science 'specifically' on our joint, digestion, complete general supplement formulas... here is why:

The reality is MONEY, just money, lots and lots of money!

A) **We are already a 'Rolls Royce' product at a 'Cadillac' price,** i.e., extremely high quality, very bio-available, and have consistently met or exceeded the 'label specifications' since 1998 at competitive prices that are FLEXIBLE... depending on if a person is attempting to help PREVENT, MAINTAIN, aide THERAPY, or effectively TREAT a specific condition that has a problem the doctors believe would be helped with higher nutritional support. COST depends on the amount of product (dose) necessary... for the specific reason... and OTHER KEY FACTORS. In general, compared to the most popular high end Glucosamine HCl Chondroitin

product on the market - **our product is generally HALF THE PRICE and TWICE as bioavailable**, unless you're at a level 5 (treatment level) dose without any other medications or complementary treatments employed.

B) We choose to never sacrifice quality, or source ingredients from China or third world countries. Our products are tested for a variety of important things the doctors believe play a key role in longevity. Not only do we pay attention to ratios of the ingredients, and the LABEL CLAIMS (to insure our contents meet, or safely exceed, the 'Supplement Facts' panel... even at the full expiration date), **we also pay close attention to what is NOT IN OUR PRODUCT!** We have our products tested by a third party **THREE TIMES**: 1st in the bulk, 2nd after blending, and 3rd randomly after bottling (to insure nothing was introduced, or to verify shelf life).

C) The doctors have NEVER DRAWN A SALARY from MD's Choice or VetSupplements... they do purchase the products themselves, and for their clients... and helped the business remain in business all these years. But there are limits to their generosity, financial obligations, and altruistic goals.

D) We learned the hard way that a small start up company can NOT really play the game of patents and peer reviews. WHY? Because we **ACTUALLY DID IT** with our REPRODUCTION product, and it nearly put us out of business!

Our LESSON:

While at one of the educational events Dr. Davenport insisted on, Terry stumbled upon a 'stupid question' ... and interesting observation. The corresponding answer resulted in a theory (as to WHY & HOW), which was tested (safely & humanely)... confirmed, and then after a 2yr field study proving our theory, **we started the patent...** and after the official two year double blind placebo cross over clinical study; which involved three different universities, over a dozen professionals (most donating their time, already trying to treat 'reproductively challenged' problem animals at that time), and multiple third party companies... the results were 'officially CONFIRMED.' **That product should have been a BILLION DOLLAR CONCEPT, especially since our patent covers ALL MAMMALS, but it wasn't (yet).**

The results of the studies were "statistically significant," but nearly 20 years later, WE ARE STILL PAYING OFF THOSE COSTS, those bills, although we were able to PROVE IT HELPED TROUBLED REPRODUCTIVE ISSUES (for stallions & mares, males and females of other troubled mammals, including human beings). **The Doctors that used the product LOVED IT.** Those with problem breeders appreciated it. **Reproductive specialists saw the results.** We still occasionally get asked for it, but not in large enough quantities to deal with the cost of labels, manufacturing thousands of containers (again), the warehousing, marketing, and then patent protection. **The original patent & science costs, back in the early 2000's, nearly put us out of business! It was a tough lesson.**

We learned the hard way... unless you have tons of money to burn, when it comes to patents, inventions, and PEER REVIEWED SCIENCE for custom formulations, there are only three options:

1. **SELL huge quantities** of the product (quickly, preferably before manufacturing, to help cover the costs),

2. **Shelf the product** (waiting for when you can afford to make it, sell it, AND PROTECT IT... closets & basements hide a lot of never realized inventions of awesomeness), or
3. **Sell out** (to some other company, you hope doesn't #2 all over it (i.e., just 'shelf' it)).

This is because the costs of jumping through the hoops for PATENTS and finalizing PEER REVIEWED STUDIES, especially here in the USA, is ugly high! In fact, cost prohibitive for most all small businesses; BECAUSE, **once you meet those costs (if you can), which can quickly top a million dollars, you then have to have enough money left over for MARKETING, actual MANUFACTURING, then WAREHOUSING, ORDER FULLFILLMENT, and.... then MORE LAWYERS (PATENT PROTECTION).** Because, **if YOU (your business/company/or as an individual) doesn't protect YOUR PATENT, NO ONE ELSE WILL!** Sadly, a musician writing a song has more legal rights, protections, and the ability to both profit and protect THEIR CREATION for far longer periods of time, for less expense, and a far greater likelihood of success, than ANY INVENTOR or other type of creator, designer, formulator, or researcher. Wrap your head around that reality!

The magic '20 years of protection' clock starts at your FIRST SALE. Before you filed for the patent (absolutely before you got the patent)... BUT, **it only matters IF YOU HAVE THE MONEY TO TAKE PEOPLE TO COURT THAT INFRINGE.** Again, the 'clock' doesn't start when the patent is finally approved, but often years before the approval which often takes 3 to 7+ years, unless you're a mega well established company. Oh, and there is no guarantee you can (or will) even get a patent on your 'unique' idea, or not found on the market for sale anywhere, or in the 'patent records' - concept. Nope, not if someone *might* have *kinda* sorta written about it, drawn it, or otherwise discussed the concept at some point in history... even if hundreds of years ago, and never prototyped or made real. THAT all depends on WHO is doing the patent, and WHAT mood they seem to be in at that time. **American patents are sadly a sham.**

We didn't want to either raise the cost of our products, or reduce the quality. PLUS, the doctors that formulated and designed our products ALREADY KNEW THE SCIENCE, already proved the RESULTS and knew biologically how & why to their satisfaction, **because of THE SCIENCE that already existed, and they had experience over the months of verifying** their highly educated professional opinions, science based hypothesis! They were actively USING THE FORMULAS on themselves, their family, friends, and patients! They could feel, see, and follow the improvements and benefits... so **why waste hundreds of thousands of dollars back (likely multiple millions today) to 'officially prove' WHAT THEY ALREADY KNEW?**

Since 1998, we've had a RESULTS BASED GUARANTEE that is not limited to 30 days, or one container! We've put our money where our mouth is, where our marketing is, SINCE THE BEGINNING! It is a guarantee that is honored by our resellers, and is seldom ever actually used, **BECAUSE WHEN OUR PRODUCT IS ACTUALLY USED CORRECTLY A POSITIVE DIFFERENCE IS ABSOLUTELY NOTICED MORE THAN 98% of the time – usually starting within 6 to 12 weeks.** There are NO BLOCKERS or SYMPTOM MASKERS; it's PURE NUTRITION, supplying the body what it actually NEEDS, in forms it really CAN USE, to help PROMOTE HEALTH & HEALING!

The doctors have repeatedly shown 'the science' for what DOES and DOES NOT work... it USED TO BE PUBLIC on our websites, but that only helped some of our competitors try to copy, revamp, and alter their product(s) to compete with us. So, when one of the world's largest 'sports rub' manufacturer's released their 'equine formula' that was nearly identical to our human formula - just added alfalfa, and didn't quite have the ratios of 'glucosamine to sulphate to potassium' correct, so their functionality was off, and frankly their dose way too low for a horse, we still removed the 'more specific science' from our websites... to slow our competitors.

We are in business to HELP PEOPLE when possible, educate the consumers, and TO REMAIN IN BUSINESS... not improve our competitors.

Enough of all that, NOW FOR SOME ACTUAL SCIENCE, by those that know!

Let us know if you have any questions, suggestions, or find a type-o we missed.

Joint Supplements

The Good, the Bad, and the Useless

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The number of products claiming to help joint pain has grown rapidly over the last 40 years.

When 'this project' started, in the mid-90's, there were only a handful of human joint supplements, and a couple animal joint supplements. Today, you can't avoid the advertisements claiming that this product or that one, is some 'magic bullet' or 'miracle cure' or will 'eliminate joint problems' quickly, can 'cure arthritis,' or is even 'a liquid joint replacement.' Of course most of it is SMOKE & MIRRORS, the illusion of 'working' by BLOCKING the pain, MASKING the symptoms, and honestly not really helping or fixing a darn thing! That is the reality we are faced with, regarding the vast majority of the products being advertised, promoted in big box stores, and pushed by the multi-million dollar drug companies.



Healthy Questions

If, however, a person takes a moment to step back and think, to ask questions, and do a little research... they can QUICKLY LEARN what to look FOR, and what to AVOID. Like a warm breeze clearing the fog, certain things are easy to spot, see, and learn.

Although the following article is geared toward people and their specific joint related problems, the principles of nutrition are true for all mammals... people and our pets!

The basics doesn't need to be magic, just a band-aide, or some other temporary symptom masker.

So, You Want SCIENCE?

G.A.I.T. Study (Glucosamine-chondroitin Arthritis Intervention Trial) was released back in 2018, but like most things contrary to what the media pushed for decades, it's been buried in the shadows... and ONLY THERE FOR THOSE LOOKING FOR IT.

The study was initially supposed to span just six months. However, because the initial results supplement companies using 'glucosamine-chondroitin' didn't confirm what they hoped for, (cough, their product didn't just FAIL... they were scientifically like a line of lemmings walking off a cliff... fail, fail, fail, fail). So, they coughed up more money, more product, and **the study was expanded to nearly nine years; involving thousands of test subjects, spanning multiple universities, dozens of doctors, and hundreds of students. Yet, their 'GLUCOSAMINE HCl & Chondroitin' products repeatedly FAILED... their Chondroitin only products FAILED, the Glucosamine HCl only product tests failed... so then, with so much failure, they attempted to cover up the fact they BLOCKED the nutrients that HAD SCIENCE PROVING THEY WORKED, were absorbed, and actually did something positive within the body, by trying to 'generalizing the name.'** In much of 'the study' "Glucosamine HCl" became **JUST 'glucosamine.'** Sorta like saying Terry, Dave, Mike, Frank, or John... there are many other's LIKE each of those, which are little to nothing LIKE THOSE discussed.

The nine YEARS of glucosamine HCl & chondroitin sulphate studies were closely monitored by the NIH (National Institute of Health)... a federally funded organization, which supposedly has no 'skin in the game' (no reason to lie), and comprises 27 separate FEDERALLY FUNDED Institutes and Centers, and is one of eight health agencies of Public Health Service, which, in turn, is part of the U.S. Department of Health and Human Services; a tax payer funded division in the American government dedicated to 'health: diet and nutrition' who answers to the F D A, the C D C, and congress).

You can read their findings for yourself, but the conclusions were what the doctors that originally wrote the article below, and developed the key products at MD's Choice, already knew nearly 30 years ago: **Glucosamine HCl is ineffective, and very little Glucosamine - from Glucosamine HCl actually gets into the joint tissue! And, better yet, NO GLUCOSAMINE, from the Glucosamine HCl, gets there without that key 'exchange' of the HCl molecule for a SULPHATE molecule happening in the digestive tract!**

How's that for science? Yet, still today, many of the "Glucosamine" supplements in national chain stores, on tv adverts, still contain this less expensive, and far less useable, form of Glucosamine (HCl) rather than either of the Glucosamine Sulphate forms (NaCl - sodium salt, or **2KCl - potassium salt... the later of which is the ONLY TYPE/Form we, at MD's Choice, use...** for very real scientific reasons, though it tends to be a little more costly, and is tested for some VERY SPECIFIC RATIOS of glucosamine to sulphate, to potassium, **BECAUSE IT ALL MATTERS!** Just like the proper mix of oil to gas for 2-cycle engines, **the correct ratios of nutrients matter to absorption and functional use.** Some companies have added a 'sulphate' (but don't tell you what type, how much, or still has a pile of blockers & masking agents).

GAIT STUDY -[Proving, REPEATEDLY, the two most popular ingredients used FAILED, repeatedly:](#) <-- (linked, and will open in a new tab/window) **The NIH Glucosamine/Chondroitin Arthritis Intervention Trial (GAIT) National Center for Complimentary and Alternative Medicine**

How is that even possible? Well, it's science.

Glucosamine HCl does not contain a sulphur source. Therefore, has NO SIGNIFIGANT or POSITIVE EFFECT on a mammals body in that form.

The fraction of Glucosamine HCl MUST undergo molecular changes before it can even be used in connective tissues. Again, that is MUST - not might, should, or may... but has to be remanufactured within the body for any of that type of Glucosamine to be used by the joints and soft tissue. Years of science, and dozens of studies, repeatedly prove the HCl molecule must be removed and a sulphate added/exchanged, for the joint tissue to even know that glucosamine exists.

Because of that science, Glucosamine HCl is not sold by itself, but, rather, with other ingredients that provide the sulphur, usually chondroitin sulphate; OR help block the pain or mask the symptoms. The problem with Chondroitin Sulfate is that it has larger molecules, which affects how well it gets into the joints. **Even the best Chondroitin Sulfate on the market, as much as 70% ends up in the urine and feces.**

How is that for an effective use of your money?

Studies repeatedly show

Glucosamine SULPHATE 2 K C 1 (Potassium Salt) and Glucosamine Sulphate N A C 1 (Sodium Salt) actually get to the joint tissues.

Arthrosamine™, which contains Glucosamine Sulphate, provides basic building blocks to joints in high concentration and does not just mask the pain, which is what most of the products using HCl do.

However, joints need to be fed every day, preferably 2 or 3 times a day, just like the whole body; and not just for a ,month or two. **The fastest, most effective and economical way to address serious joint and connective tissue problems is to start a high quality oral supplement BEFORE the problem exists... at the right levels to help address the problem.** (once healing has occurred, and health restored, then a person can USUALLY reduce the dosing to a minimum FOR THEIR BODY, over time). Unless the problem occurred because of an injury, odds are there is a nutritional deficiency, which Arthrosamine can help fulfill.



We know that all of this can be confusing, and much of it contradicts the media . . . but it is completely backed by science, not advertising or an ignorant marketing company. The professionals at MD's Choice care about effectiveness, usefulness, and helping to solve the problem(s) – not masking it.

"It Works"



First, understand marketing and advertising claims have two very different - and often opposed - meanings:

The most common type, especially on store shelves:

A) Masks the problems, covers the symptoms, blocks the pain. The reality is that ALL oral supplements offering a 'quick fix' are using ingredients (usually herbs: plant derived drugs) that merely mask, cover, or block the symptoms. **They all ultimately fail**, while many can help reduce, and even temporarily eliminate the pain, they fail to address **WHY THE BODY WAS IN PAIN**, thereby allowing the body to get worse, often causing further injury & problems.

B) Promotes actual healing Which is the best long term option, by supplying the body the building blocks necessary to help the body heal itself (when possible); and those nutrients are delivered in forms it can readily use.

This second option is not the 'quick fix.'

It does not eliminate the pain and suffering in hours or days, but over time... as healing occurs. The second type of 'works' is far healthier, better for the body, and ALL THE ORGANS! (Hint: if you're in pain, use pain killers as prescribed, as necessary, but never daily, or for prolonged periods of time!)

Medicinal herbs do NOT belong in any daily supplement

For these reasons. Particularly none intended for prolonged use!

Companies manufacturing, promoting, marketing, selling, and delivering such should honestly list proper use, all known side effects, valid concerns, and honest dangers of the ingredients used within their product(s)... especially when **USED AS DIRECTED FOR MONTHS OR YEARS. Sadly, most don't, won't, and the combination of their irresponsibly and the consumers overuse and misuse of some of the supplements is why some groups push for more regulation of dietary supplements.**

Medicinal herbs have nothing to do with 'diet.'

People really need to understand, and remember, "Just because things are "natural" doesn't mean that they are natural to the body or that they are good to use daily." Or that they will remain 'good' if over used or misused

Understand ALL DRUGS, including plant derived counter parts, that offer 'drug activity' (medicinal herbs) in the correct dose, with the correct usage, can be very beneficial (especially in hormonal balances) for a time.

However, medicinal herbs, as with all drugs, are seldom ever recommended or prescribed for daily prolonged use by professionals, because **the majority of the drugs WILL result in 'the RANTS'(one or more of the following):**

R - Resistance or immunity (you need more and more to accomplish the same thing).

A - Addiction

N - Negative interaction with other drugs... or treatment processes

T - Toxic Effect, OD, or build up (often slowly impacting the liver, kidneys, or even brain, over months or years).

S - Serious Side Effects.

Natural isn't always "safe" or necessarily better than the synthetic versions.

Just because things are "natural" doesn't mean that they are natural to the body or that they are good. Both are concepts of scientific reality that are contrary to a lot of companies' marketing material, and what a number of seemingly good people will attempt to tell you. They either don't know any better, or are like that proverbial old west 'snake oil salesman' that just doesn't care what the truth really is, so long as they can make a buck (or 50) from you.

The reality is that negative effects may take days, weeks, months, and sometimes even years. A lot depends on just exactly what might be causing the negative, as well as the individual body, the quantity taken, a person's diet, and exercise routine. It is also important if any drugs, or other supplements are being used, quality of the ingredients ingested, and the specific drugs and herbs used... **as well as, where it came from, and how it was sourced, produced, and processed.**

The one thing that is certain is that every single drug in existence whether "natural" or synthetic... **DRUGS will eventually cause one or more of the above problems (RANTS) if they are overused, misused, or abused, and even when used daily for more than a few days or weeks at a time.** Even Echinacea, which is one of the best 'natural' immune system boosters available (from nature), is recommended at no more than 3 weeks (21 days) maximum, and at least 10 days off... or the body **WILL BECOME IMMUNE TO IT!**





Over use of some herbs have prove to be life-threatening.

For example, a person taking a regular dose of just ten milligrams of ginko biloba, or many other 'herbs' & spices **can NOT undergo certain major surgeries** because they could have issues with the anesthesia or even bleed to death (God help them if they were also taking some type of blood thinner, or blood pressure medicine at the same time).

Tumeric is another amazing 'medicinal herb' (especially when combined with curcumin and black pepper)... **BUT** it too is a blood thinner, and too much really can hurt you'; and it's **NOT** recommended for those already with blood pressure issues without a doctors specific approval.

MOST herbs, drugs, and ingredients have other 'side effects' - problems, concerns, and indicators that most bodies should try to avoid. This is particularly true relating to long term use, common misuse, over use, and abuse. There is some very good peer reviewed third-party science about the cautions and concerns of **MOST HERBAL REMEDIES**.

Health and safety should be a valid concern, and worthy of your time to research which company you can trust. There are some herbal ingredients, as well as trace amounts of most heavy metals (often found in some minerals), that do not have an immediate effect, but gradually build up in the liver, kidneys, brain, and lungs... until those organs stop working.

When choosing a joint supplement ("flex product") the first thing you have to decide is: Do you just want to make the joints temporarily feel better **OR** do you want to help solve the underling problem that is causing the pain?

The ingredients most commonly added to joint supplements are there either to mask or cover symptoms (pain or inflammation), **not to address the underlying problems that are causing the pain. The reality is that a product intended for daily use, for a prolonged period of time cannot safely and effectively do both.**

Drugs, which include most herbs, particularly the 'medicinal ones,' can quiet pain very quickly and effectively. However, for a body to use the building blocks provided through good nutrition to actually rebuild tissues, it usually takes at least 4-8 weeks for the pain to be reduced. If there are spinal and cartilage issues, it will take even longer.

We don't enjoy pain, but **pain serves a very important purpose:** it lets the rest of the body know that something is wrong. When a joint hurts, the natural response is for the other joints to do more of the work and let the painful joint rest. When there is a problem, such as an injury, a body's natural reaction is to try to 'baby' that painful joint... which can help (if the proper nutrition is there to feed the body what it needs to heal). However, it will also add extra wear & tear on the **OTHER JOINTS** (used to compensate for the injured joint). During that type, not only can the cartilage be at greater risk, but if that other joint also had

issues, the issues will ultimately increase with the extra use... and muscles on the initial damaged joint can atrophy some over time, depending on their use and downtime.

So, it's really one of those proverbial 'double edged swords.' You don't want to be in pain, you can't just sit (lay or stand) around, you don't want to make any other matters worse... and you don't want to be living on pain killers or blockers... but it all TAKES TIME and the proper nutrition to fix the problem(s) the right way (and safely).

On their own, joints heal very slowly.

But, if a damaged joint is feed the proper and necessary nutrients (through diet or supplementation), and isn't rested, it will certainly get worse.

In addition to not having the joint work as hard, the immune system supplies it with more blood than usual. This extra blood feeds the joint more nutrients so that it can repair faster, but **it can only do that if those nutrients EXIST (again, in the diet or supplementation).**

This natural healing process causes pain, inflammation, and swelling (results in actual symptoms).

However, trauma is not the only way joints get damaged. Normal use over time can lead to degeneration and breakdown. Running, jumping, pounding, carrying heavy loads, and normal daily movement all accelerate joint problems. Degenerative changes cause the normally smooth cartilage to become rough due to a loss of chondrocytes (the cells that make cartilage, fluid and connective tissues for the joint). When this happens, they do not produce normal synovial fluid or connective tissue, and pain becomes a very real symptom.

In traditional medicine, immediate masking of pain is accomplished through the use of drugs that are placed in the body either orally or by injection. These drugs (including herbal ingredients, which are plant drugs) change the way the body normally functions so that pain is not recognized and/or the immune system stops the inflammatory response (which also slows the healing process, and frequently allows the problem to GET WORSE... merely because the brain doesn't know it's suppose to 'take it easy' ON THE HEALING JOINT). The main types of drugs used are steroids (such as Cortisone or Prednisone), NSAID's – non-steroidal anti-inflammatory drugs – (such as Banamine, Phenylbutazone, Ibuprofen, Ketofen, or Aspirin), or other drugs that alter the recognition of pain and/or interfere with the immune response.



Steroids and NSAID's may cause joints to deteriorate faster than if these drugs had not been used.

These chemicals interfere with how tissues are made and how they heal. Since the pain is masked, they play a role in how the workload is divided among joints, slowing the healing and increasing the risk of further injury. Some of these drugs also decrease the joint's ability to use sulfur, which gives connective tissue its elastic strength.

Many of the "flex products" on the market contain **herbs which do not contribute nutrients (building blocks) to the joint** tissues.

Don't be fooled by the words "all natural" or "organic". Remember, there are many poisons found in nature.



"Natural" Doesn't mean what some claim

Since plants can't fight off insects or animals that want to eat them, they contain chemicals that are their defense mechanism, and 'cause changes in the way the predator's body works.

These chemicals do many different things. Some act like the animal's own hormones (which is what steroids do) and many actually attack the body's immune system. Depending on the specific plant, the amount eaten, and the size and type of animal or person, ingestion of herbs and their chemicals can cause death, abortions, seizures, or an altered activity of the nervous system. Herbs can also be used as antibiotics and anti-fungals, because they can also kill bacteria and fungus.

Some of the most common herbs used in joint products, and the type of chemicals they contain... or produce... are:

YUCCA:

Yucca contains steroid saponins. These chemicals are related to the steroids. In the animal's body they decrease pain and inflammation. They also decrease the immune response, and steroids have been shown to **slow** the production of glycosaminoglycans (GAG's), which are a major component of joint tissues.

The main use of Yucca in animal feeds has been to promote feed efficiency and growth, while lowering the amount of ammonia in the manure (so that it won't smell as bad).



Science has proven that animals with daily prolonged use of Yucca have joints that appear to age much quicker. However, because these animals have a limited life expectancy, the results are ignored. For livestock, it probably doesn't matter... but **for people, human joints, and those animals that are supposed to live longer than 2 or 3 years, it should absolutely matter!**

Boswellia, White Willow's Bark, and Snake Root.



These are all herbs containing chemicals that act as NSAID's. These drugs decrease pain and inflammation and are **known to cause severe gastrointestinal (GI) problems such as ulcers.** These drugs should not be used in people or animals with GI problems; or daily for prolonged periods of time.

Remember, in people, gastric ulcers digestive problems are already common because of our fast food diets, junk food, alcohol, sodas, and irregular eating habits.

Bromelain

This is an enzyme found in pineapples. Yes, it has been shown to reduce the amount of swelling present in some experimental animals and people. However, **Bromelain can enter the body intact because it eats away the outer lining of the GI tract** (something any body with digestive issues should absolutely avoid). In addition, in cancer patients, it has been shown to stimulate the body's own immune system to kill the body's own cells. **Since it is a protein, it can cause allergic reactions.** People who merely handle bromelain on a daily basis for a few months have become highly allergic to it.





Devil's Claw

This herb contains several chemicals that are reported to decrease pain. They do not decrease inflammation and are similar in structure to steroids. It is generally easier on the digestive tract than Bute, or many of the other common herbal pain killers.

However, **Serious WARNING: This herb should not be used with any female (human or animal) that is pregnant, or actively breeding with the purpose of getting pregnant**, as it has been reported that it can cause abortions by stimulating uterine

contractions. There is over 4,000 years of evidence, in African Culture and Chinese medicine, of this particular herb being used to terminate pregnancies in the early stages and induce labor in the later stages. Yet you'll see it in many American joint supplements, sometimes without any such critical warning. **Is it because they don't know any better, or just plain don't care?**

Even "Natural to the body" is sometimes a concern when there is TOO MUCH, or it's in the wrong place, or used the wrong way!

Glutamic Acid (Glutamate or Glutamine).

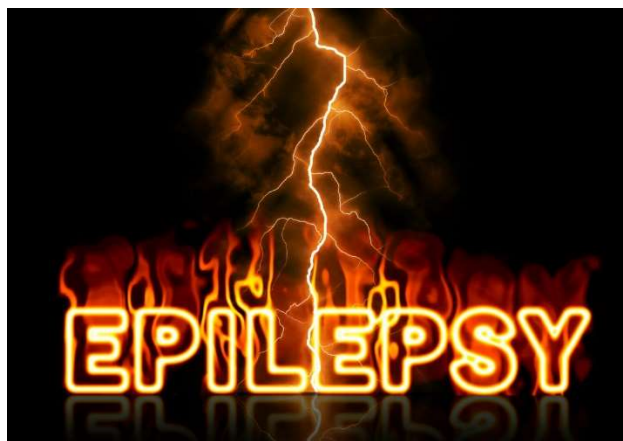
While this is not an herb, it should be mentioned because of its role as an excitatory amino acid (EAA), because **mega doses are actually being used in some joint supplements, marketed for daily prolonged use. (which should be a concern)**

When this amino acid is added to a brain, it causes seizures. Higher than normal concentrations are present in the brain of seizure patients. Research is being done to see whether blocking its activity will help control seizures; for those suffering from epileptic seizures. **It is also being considered as an antidepressant, and for treatment of Parkinson's, because it is a synaptic inhibitor.**

This amino acid is also naturally produced and released by joint nerves... in TRACE AMOUNTS in a healthy mammals body, to signal pain (and essentially 'leave bread crumbs' for the brain to 'send' extra nutrients to the right spots, to begin the healing process... assuming the necessary nutrients are in the diet or supplementation).

Ask yourself, logically, if that is how a healthy body normally deals with this amino acid, what really happens when an otherwise healthy body is flooded with an over abundance of it?

Science has shown, in a healthy mammals body, more glutamate is naturally released when more pain that is felt in a joint. So, when companies using this ingredient claim pain relief, and 'quick results,' they might be right... but not because it is fixing anything! Watch for mood changes, neural issues, and know that in high doses this nutrient is likely only confusing most mammals bodies, and merely blocking the brain (and really messing with their brain synapses and nervous system), especially with daily prolonged use.



Not too many years ago, there were professional athletes that broke bones, tore vital parts, suffered serious injuries... but, with enough pain killers & blockers attempt to keep on playing, competing, and trying. Often to only make matters worse.

Injecting a joint directly with glutamate (glutamic acid) produces pain, because this amino acid is naturally released by joint nerves to signal pain.

Yet, there was a popular "flex product" that contains glutamic acid and loudly proclaimed a '5 day cure' for the longest time, but as of 2016, we believe they either changed or discontinued that product, or toned down their rhetoric and misleading advertising; as we've not seen or heard much about it over the last few years.

But, for a few years, they claimed it in their product was because 'glutamate' is a precursor to 'glucosamine.' But that was no more true than someone claiming 'iron is a precursor to a magnet.... therefore, if I give you iron ore, I'm giving you a magnet.' Hopefully you see the flaw in that logic, and the hole in their claim.

Caution is given here because a review of this product in a popular publication discusses its dramatic and swift change in attitudes of horses, in particular. There is also research being done to determine Glutamic Acids role in seizures and the signaling of pain.

Valid Questions:

- ~ What will daily prolonged overuse do?
- ~ At what levels does it become dangerous?
- ~ How addicting is it?
- ~ Is there a withdrawal?
- ~ How does it mess with the brain?

These are only some of the questions NOT clearly answered by science over the last couple decades, since this 'ingredient' just started showing up in some joint supplement products, most preaching a 'quick fix' and 'instant results.'

The only things that are sure: **in some bodies, it seems that it might help mask pain, but there is zero actual science showing it helps heal anything joint related.**

Marketing makes some things defy reality



Hyaluronic Acid (H.A.)

Consider the scientific reality of H A injections: used to replenish the synovial fluids , but **doesn't do anything with the ligaments, tendons, or cartilage.** (except as a side effect of having improved lubrication on THAT JOINT).

It's real, and if synovial fluid is the problem, or a primary component of the problem, the results will be almost immediate... because of where and how it is administered.

At best, these type of injections are like squirting WD40 on a squeaky hinge. **It does nothing to the bent frame, the rust, or door's structural problem,** but absolutely adds lubrication. It really masks a symptom of the rusty hinge or broken frame, for a time. Until the hinge starts squeaking again, or finally falls apart at some point in the future. The length of time will vary,

depending on the condition to begin with... the continued use, the care in future use, and any other repairs (or treatment) happening to it.

The reality is that H A injections alone can only help a limited amount of specific and direct joint issues. Generally only those related strictly to the synovial fluid (lubricating fluid).

It is important to understand HOW the non-oral (ie. pure liquid) version of Hyaluronic Acid (HA) is used: when a doctor uses it, they INJECT.

Notice: most HA injections are done IA (intra-articular – directly in the afflicted joint), rather than IM (intramuscular - directly in the muscle) or IV (intravenous – directly in the blood stream).

Positive results are less likely IV, and nearly impossible IM. It's been proven scientifically, tested both in the field and clinically over the last 20+ years.

So, what about oral HA then?

CONSIDER: If it's known to be significantly less effective when directly injected into the body via IM and IV, one must rationally ask: "How can HA effectively get to the joint going through the digestive tract?"

Also, molecularly, HA is absolutely larger than Chondroitin Sulphate (CS), which science has proven only 8 to 10% of the CS can make it into the blood stream. So, the next question is: "How much oral HA do you think actually gets into the system?"

These aren't new questions, with oral HA studies occurring the last 6 to 30 years by **third parties have consistently shown only about 5% can be found to be absorbed 'in the body' with the majority of that mere 5% being found in the bone marrow and spinal column, and just a fractional amount in the synovial fluids.** Over 90% of the oral HA passes through the system and is found in the poop in less than 24 hours. That makes some dang expensive manure!

Two of the most interesting studies were done by Wieder Int'l - one on rats, another on beagles (dogs) the results of both were consistent in what amount of radio tagged materials passed through the body, and where the small amount that was absorbed was found (the majority (over 95%) **never made it to the joints**).

Interestingly, the majority of the professionals that have actually paid attention to the science **inject directly INTO THE JOINT to have a direct and real impact on the synovial fluid of that joint. They do not use Oral HA to treat anything! As they know that if it doesn't get to the joints from an IM or IV, it's really not going to do it through the digestive tract.**

Oral HA (Hyaluronic acid, which is also known as hyaluronate, also called hyaluronan, and is an anionic, nonsulfated glycosaminoglycan), may be an effective painkiller, for a time.

Yet, in reality, injecting directly IN THE JOINT is the most challenging, dangerous, for a variety of reasons (especially for Equine Vets). But that is exactly where 99.9% of the H A injections occur by the professionals. Not directly into the blood stream which is safer, and not in the muscle which is so much faster and easier... and more effective systemically, with most 'medicines,' but that is not how HA injections are given. **Which should give all thinking people some pause,** when the professionals won't administer it systemically... at a higher risk.

Then, when science shows the ingredients (the HA) doesn't survive, and isn't properly broke down or readily absorbed through the digestive tract, with the vast majority ending up in the poop (up wards of 90%)... **the little bit that was 'taken up' was actually found in the spinal column and brain stem, one should wonder just exactly what it does in the body.** It would stand to reason that it should be able to help all joint tissues in the body when injected directly into the blood stream... yet it doesn't. Therefore, it's not administered that way by the trained professionals.

Also, HA is made from rooster combs and bovine eyeballs... while natural to the mammals body, it is a non-native form (foreign to the body) not 'designed' for 'food stuff.'

Excerpt from the review summary- **"...dietary supplements containing HA are not equivalent due to the inherent properties of the three major types of HA commercially available** as dietary supplement materials. Consumers and **health care professionals need to be aware of the different types of HA** and their very large differences in properties (even before ingestion). One source, hydrolyzed chicken sternal cartilage, is clearly unlike native HA it does not match the real biological properties of native HA and consequently should not be represented as HA to consumers on product labels..." yet supplement manufacturers regularly use this type of 'HA' for oral application, many [marketing mavens] claiming it's a 'miracle.' At best, a smaller percentage might be actually used, but not by the actual joints, and **upwards of 95% still passes through the body (unused).**"

Again, upon evaluation of WHERE the little bit that remained in the body was actually found (the spinal column and brain stem), it's highly likely, though unsubstantiated, that the effects tend to lean toward Cox-2 inhibitors (pain blockers and maskers - similar to what Vioxx did, before it was pulled from the human market). **Oral HA is positively NOT 'building blocks' or nutrients otherwise considered 'healing promoters' (or agents) regardless.**

Further, **HA is also a major component of skin, where it is involved in tissue repair. When skin is exposed to excessive UV-B rays, it becomes inflamed (sunburned) and the cells in the dermis stop producing as much hyaluronan, and increase the rate of its degradation. Hyaluronan degradation products then accumulate in the skin after UV exposure.** Sounds good, right? Well, read on...

Another important scientific note: HA is also a component of the group A streptococcal extracellular capsule, and is believed to play a role in virulence. (that came from a peer reviewed study. Just wrap your head around that one).

Hyaluronic acid is, thus, often used as a tumor marker for prostate and breast cancer. And has been suspected since the turn of the century, but known since 2009, when the peer reviewed study was published. **HA levels are also be used to monitor the progression of the disease [certain types of cancer].**

"In some cancers, **hyaluronic acid levels correlate well with malignancy and poor prognosis.** It is important to note that the various types of molecules that interact with hyaluronan can contribute to many of the stages of cancer metastasis, i.e. further the spread of cancer. HA synthases (HAS) play roles in all of the stages of cancer metastasis. By producing anti-adhesive HA, HAS can allow tumor cells to release from the primary tumor mass, and if HA associates with receptors such as CD 44, the activation of Rho GTPases can promote epithelial-mesenchymal transition (EMT) of the cancer cells.

During the processes of intravasation or extravasation, the interaction of HAS produced HA with receptors such as CD 44 or RHAMM promote the cell changes that allow for the cancer cells to infiltrate the vascular or lymphatic systems. While traveling in these systems, HA produced by HAS protects the cancer cell from physical damage. Finally, in the formation of a metastatic lesion, HAS produces HA to allow the cancer cell to interact with native cells at the secondary site and to produce a tumor for itself;"

(Bharadwaj AG, Kovar JL, Loughman E, Elowsky C, Oakley GG, Simpson MA (2009). "Spontaneous metastasis of prostate cancer is promoted by excess hyaluronan synthesis and processing". *Am. J. Pathol.* 174 (3): 1027–36. PMC 2665762 Freely accessible. PMID 19218337. doi:10.2353/ajpath.2009.080501)

NUTRITION is the science of providing a mammals body the basic building blocks it needs in forms it can actually use, to help it function properly and to build the different tissues it needs to grow, heal, and survive.

The majority of non-traumatic joint problems can be addressed through proper nutritional support. In general, surgery is needed **ONLY** when a piece of the cartilage (the tissue that covers the ends of the bones in a joint) is loose and needs to be removed **OR** when the support structures (ligaments or tendons) are physically separated and need to be repaired or replaced. (The 'healing' period for most joint surgeries are many months, with a daily physical therapy routine required.)

Nutritional supplements can help the body fight back and heal itself by increasing the production of new tissues, in most other normal cases.

Over 90 years ago, it was found that, over time, eating ground up connective tissues could actually help relieve problems associated with arthritis. So, in the 1950's and 60's, people began to purposefully consume gelatin and cartilage (shark, chicken, bovine, or Perna muscle) and these helped some.

By the 1970's, scientists began really studying these 'ingredients' and creating actual products. They found, at that time, that the most helpful substances in them were chondroitin sulfates, or Type II Collagen. However, by the 1990's, radio tagging was cost effective, and it was quickly learned that most (**over 70%**) of these type of large, unrefined, 'nutrients' merely passed through the body, doing nothing.

About 60 years ago, the research began focusing in on a much smaller, more efficient nutrient, which is the most basic building block of connective tissues and fluids: Glucosamine Sulphate.

The scientific reality is that the proper nutritional supplements CAN help connective tissues grow and heal. There is little to wonder about, if a person actually takes the time to look at the real science behind the ingredients commonly used. The science exists, and has for decades.

Many are truly a waste of money (or give false hope). Some actually do work - either as a pain killer or blocker, and others (fewer) as healing promotion, support, and building blocks. **The truth is: there really is no 'magic bullet' oral supplement that does both (stop pain quickly & heal), and can cause a body to heal in hours, or even a few days.** (As sad as that sounds). **Any company claiming there is... either is purposefully lying to you (marketing around the truth), or just doesn't know any better.**



People of all ages who are regularly working, training, exercising or competing, putting great stress on their joints, can use the additional support. Most athletes, parents and coaches take great care to protect the outside of a young adult's body to avoid injuries. The same care should be taken inside the joints, whether we are young or old. **Joints can absolutely benefit from the right extra nutrients.** If joint injury does occur, proper nutritional supplementation is definitely appropriate, if not more important. As a body ages, joints naturally wear out faster than they are repaired naturally, by the body... but only if the proper building blocks exist (either in the diet or supplementation).

Understand, contrary to the marketing hype... **science has proven, that whole cartilage and its large components (chondroitin sulfates and collagen) can NOT be absorbed well by the body, though they are still the most popular components in most joint supplements on store shelves today.** We believe this is because they are cheap ingredients, and easy to come by for most manufacturers. Crafty marketing, and hype saturation of bogus claims, offering the illusion of a quick fix in a bottle, **over shadows the reality of science and common sense.**

While large molecules, such as these, can be injected and work very well when actually injected. Most people don't realize that, **when taken orally, more than 70% of the chondroitin/collagen ingredients end up in the feces (poop), within 24 hours 100% of the time!**

For many of the 'ingredients' on store shelves, the scientific reality of bio-availability (absorption), would kind of be like believing you can improve your vehicles mileage by having a gas can full of gas in the bed or trunk of your vehicle. With others, it's like thinking that pouring gas in the drivers seat will increase your mileage. (non-sense, and potentially dangerous); neither impacts the actual mileage, but there are claims, from '5-day cures' to 'liquid joint replacement' - and it's a JOKE! Just think about that for a moment.



Chondroitin sulfate is large in size.

In fact, some are 50 times larger than others. And the best is ten times, 50,000 Dalton's, larger than the largest size joint tissue is designed to absorb (5,000 Dalton's). Thereby, **only 8-10% of the smallest ones have been shown to get from the gut into the blood intact (meaning about 90% passes through the body, never making it into the blood stream, the body's 'nutrient super highway').**

What is eaten (or fed) must be broken down into smaller pieces by the gut, and the pieces that do actually get into the blood **must be further broken down to get into the joints.**

Another concern with these large-sized, mixed animal byproducts (chondroitin or collagen) is that they can also cause allergic responses. And yes, **many serious allergic responses have been documented over the last century.**

Lastly, regarding the chondroitin (and collagen) by-products, **one should consider the source: where it came from, what type of by-products it came from (really), and how it was processed (manufactured). But, more importantly, WHERE it was actually manufactured can be even more vital to longevity, health, and safety.**

Seriously, if 'we' can not safely drink the water in some areas, why would we want any supplements or ingredients in our supplements sourced in those very same industrial areas? Especially when it

comes to communist and third world countries? Especially those that often have little to no safety standards, are riddled with unchecked heavy metals, and other common contaminants?

MD's Choice does not, and will not, use nutrients sourced from third world countries. In fact, all ingredients come from North America (USA, or Canada with certain Amino Acids).

The other extreme difference found in some supplements is the promotion of simple amino acids (A.A.'s). It's important to understand that **amino acids are the basic building blocks of proteins**; and, it is very important that the right amount of protein, from the proper sources, is in your food. However, simply providing extra of a particular A.A. (amino acid) does not mean that more connective tissue will be made, it's just one key part of the nutrition a mammals body requires for optimum health..

For example, let's say you ordered some boards to put a wall on a barn and, instead of boards, the lumber company delivered a load of acorns. When asked about the acorns, the deliveryman uses the reasoning that oak is the best type of wood for your job and that, someday, the acorns will grow into trees and can then be used for the lumber you need. Obviously, the acorns will not get your job done. **Unfortunately, this failed logic has been applied to some joint supplements, with the same lack of results.**

Further, **ALL products that 'promise' (and 'claim') "Quick Results" might be experienced ARE DRUGS (or medicinal herbal plant derived drugs) OR LYING!** If there really are 'quick' results, within hours or just a few days, then they are actually masking the symptoms, merely blocking pain, and are NOT A SOLUTION. In reality, those type of **pain blockers CAN ACTUALLY MAKE THINGS WORSE in time.** The cause of the problem isn't being treated or addressed... and because the joints are still being used, often over used or abused, the problem grows. More, and often different, pain killers and masking agents become more necessary just to make it through the day (to the point of surgery or immobility).

Awareness of your goal, expectation, and reality is important.

Fact - Glucosamine Sulphate is the basic building block of connective tissues and fluids.

Studies have shown that when Glucosamine Sulphate is given orally, within 30 minutes, 87-97% is actively taken from the gut into the blood. Furthermore, within 4 hours, the chondrocytes (joint cells) have actively taken it from the blood.

When linked together with sulfur, chains of glucosamine become several different types of connective tissues and joint fluid. **(A lack of sulfur will cause the production of connective tissues to stop .)**

In addition, an enzyme can slightly change the shape of the glucosamine so that it is also the basic building block of the chondroitin sulfates.

Oral Glucosamine Sulphate has been scientifically shown to return people suffering from arthritis and osteo-arthritis to normal function within a few weeks to months (not a few days).

There are other types of glucosamine in different supplements, **but they are not the same as Glucosamine Sulphate.** Below are some facts about two other common forms of glucosamine that are used in some joint products (and shouldn't be - really; a result we've known since the 90's, but proven in the G.A.I.T. Study) . .



N-acetyl-glucosamine:

This type of glucosamine has been proven to have **no active uptake from the gut.**

REPEAT: "no active uptake from the gut" means doesn't leave the gut, unless USED BY THE GUT, until it's converted to urine or feces' (and expelled).

Many of the large budget marketing campaigns are written by the marketers, who don't have a clue about nutrition, absorption, bio-availability or effectiveness... and they are promoting a product with THIS FORM of glucosamine in their product, unaware that type does NOT MAKE IT TO THE JOINTS!

Most doctors are NOT nutritional specialists and only took one or two semesters of nutrition in college.

Glucosamine HCl

There are no studies that show if Glucosamine HCl molecule is actively taken in from the gut or how much of it can actually get into the body or the joints.

With that said, most studies testing the urine and feces for radio tagged product, **show more than 50% of 'the best' glucosamine hcl passes through the system;** and then, any found 'in' the body has to be combined with a sulphur source (like that from chondroitin). **Understanding that whatever portion that does make it into the joints MUST undergo molecular changes before it can be used in connective tissues is vital to science (and reality).**

The H.C.l. molecule MUST BE removed, and a sulphate added for that form of glucosamine to actually be used by a body. (See note below.) Furthermore, Glucosamine HCl is not stable in liquids. **Published experiments have shown that over half of the Glucosamine HCl added to a liquid solution will breakdown within 27 hours.** Within 4 days, these new and different "breakdown products" form completely different molecules that were 20 times larger than what was originally in the solution. **All of this often happens BEFORE the product leaves the manufacturer!** So those people claiming 'liquid' is the best delivery method are ignoring the science of glucosamines sitting in liquid; which means they are either ignorant, or purposefully doing wrong.

The doctors that started MD's Choice, and formulated the products, specialize in nutrition and preventative health for both human beings and animals for over 100 years of combined experience back in 1998. It's even more today!

Educating others is still one of our core goals.

MSM is biologically active sulphur (Methyl-Sulphanyl-Methane), the GRAS active metabolite of DMSO.

(GRAS = Generally Recognized as Safe) The particular variety MD's Choice uses is based on 26 animal patents AND 26 human patents, for process, use, and function by the original 'inventor' Dr. Bergstrom, and his company Cardinal Nutrition, now Bergstrom Nutrition. They exclusively manufacture Opti-MSM in the USA. **They have many long term studies, over the last 70+ years, on safety, effectiveness, use, lack of toxicity, and benefits to mammals (people and animals). Their process and formulation has been scientifically proven impossible for a mammal to overdose on.**

The legal stuff.

What the body doesn't use of their MSM passes through. Their MSM is the **ONLY** type of MSM MD's Choice uses.



There is no toxic build up, no known negative interaction with other medication or treatment. Other than it IS A CARRIER, and CAN HELP SOME MEDICATION BE MORE ACTIVELY AND READILY USED.

With that said, there are five other company's in the world which have attempted to copy the Opti MSM ~ one in Alabama, one in South America, two in China, another in some more remote third world country.

Just like pie's aren't the same: Apple isn't Pumpkin, isn't Lemon Meringue, and it isn't just food or desert, verses Mud... **there are significant differences;** far larger differences than what brand of gas you use in your vehicle, though **the potential for worse 'longevity' because of contaminates or lack of quality absolutely exists in the nutritional ingredient world.**

With nutrition the differences can be subtle, but incredibly significant! They go far beyond just 'taste,' or personal choices, but **actually touch safety, absorption, effectiveness, longevity issues.** Those differences are really more vital than just taste or smell; knowing what **OTHER INGREDIENTS** are used, what 'contaminates' might be included in the MSM (and other ingredients) that other companies make (and use), their purification process, as well as the testing and care behind their manufacturing process could mean years of added life, or even a shorter or more painful life. That is a reality most 'supplement' companies avoid discussing; especially if their product is sourced from China or some third world county.

HEAVY METALS MATTER! Even more so when combined with a biologically active carrier. At least 4 of the M.S.M. manufacturers are in countries 'we' wouldn't want to drink their water, so the purity and contamination of other substances should be of concern, and a valid question

All of this was a serious concern the doctor's that founded MD's Choice seriously considered when selecting the form and type they use. The testing mattered, and knowing the specifics and ratios of all ingredients in the products is vital. Again, these 'other' forms of MSM, especially those created in other countries and shipped to the USA, should be a concern for consumers... and is a valid reason to ask questions:

**WHERE DOES the M.S.M. used in your products come from?
Where were the RAW bulk ingredients originally manufactured?**

MSM occurs naturally in all meats, fish, poultry, eggs, milk, dark green vegetables, kelp, and algae among others. It is also naturally and normally found in foods containing sulfur, which include grains, legumes, fresh unprocessed vegetables like garlic, onions, cabbage, broccoli and brussels sprouts.

As of 2017, any American "supplement company" claiming THEY 'manufacture' 'their own' MSM is LYING! Because **neither US manufacturer of MSM 'creates' their own line of mixed products** (containing their MSM). They focus on the manufacturing of their bulk, raw MSM only. I've toured the Cardinal/Bergstrum plant many times, some as 'surprise visits,' and have consistently found their facilities cleaner than most hospital operating rooms!

Chinese-made MSM is not distilled, but uses a crystallization process that actually **traps contaminants** (away from the active ingredients). Either way, the cheap stuff suffers from lower purity levels, a higher presence of unwanted chemicals left from the manufacturing process, and a higher water content; all of which leads to a faster decomposition and increased contamination. **They also frequently use lower quality raw materials to save costs.** Chinese, and other third-world factories, undergo few (if any) health and safety inspections, and the safeguards are left up to the manufacturer (as there are no real 'regulations' or consistent applications to test for safety). **They lack the "Good Manufacturing Practice" (cGMP) certifications that American manufacturers are obliged to. Why chance using their 'biological carrier' (MSM)? Didn't we learn enough from the lack of safety protocols in 2019?**

What was their MSM tested for?
Were the ingredients they are combining it with tested for?

MSM will carry stuff into the body... into the blood stream, what ever it's attached to... so making sure there are no heavy metals or other containments is vital. Responsible manufacturers will also seek third-party testing for their finished products. These safeguards will ensure that each batch made is put through extensive analytics to ensure the absence of lead, arsenic, cadmium, aluminum, mercury, and microbes.

For high quality MSM, there are four additional tests that establish purity, quality, melting point (important to verify quality), water content (low water content is essential for stability), and shelf life. That information isn't public knowledge... but key to the reason MD's Choice uses the Opti-MSM.



People forget that herbs and spices CAN BE DANGEROUS... and really are "PLANT DERIVED DRUGS."

Yes, while some may be common or seem harmless to most people, most of the time, **some are really deadly. Some are just dangerous under certain circumstances, over certain amounts, or when over used, abused, or misused.** While others are fine topically... but deadly if ingested. **Some are ok for culinary use, in a light dusting, but not for supplementation of milligrams or grams.**

While others can be deadly to people with blood pressure issues, heart concerns, kidney or liver issues, and others dangerous only to breeding or pregnant mammals (yes, that includes people).

EVERY SINGLE herb & spice on the list below

should be avoided without specific instructions of a healthcare professional.

Agave	Cumin Seed	Hyssop
Agrimony	Damania	Ipecac
Aloe Vera	Dong Quai	Iris
American Pennyroyal	Elecampane	Juniper
Angelica	Ephedra	Juniper berries
Arbor Viae	European Pennyroyal	Juniper Oil
Arnica	False Unicorn Root	Kava Kava
Autumn Crocus	Feverfew	Kola nut
Balm of Gilead	Garlic	Lady's Mantle
Barberry	Gentian	Lady's Slipper
Basil Oil	Ginger	Lemon balm
Beth Root	Gingko	Licorice
Black Cohosh	Ginseng	Life Root
Blessed Thistle	Golden Seal	Lily of the Valley
Blood Root	Goldenrod	Lobelia
Blue Cohosh	Goldenseal	Lovage
Broom	Gota Kola	Lungwort
Bugleweed	Gravel root	Ma Huang
Butternut	Greater Celndine	Malefern
Calendula	Guarana	Mandrake
Chaste tree	Hawthorn	Melissa
Clove Oil	Honeysuckle	Mistletoe
Cohosh (see black, blue, and red)	Hops	Motherwort
Comfrey	Horse chestnut	Mugwort
Cotton root	Horseradish	Myrrh
Cowslip	Horsetail	Oregon Grape root
	Hydrangea	Orris

Osha	Roman Chamomile	Tea tree
Palsatilla	Rosemary	Thuja
Parsley	Rue	Thyme
Passion Flower	Sage	Tien Chi
Pennyroyal	Sarsaparilla	Valerian
Periwinkle	Sassafras	Vitex Agnus Castus
Peruvian Bark	Saw Palmetto	White clover
Pokeroot	Senecio Aureus	Wild Yam
Pseudoginseng	Senna	Witch Hazel
Pulsatilla	Shepherd's Purse	Wood Sorrell
Queen of the Meadow	Southernwood	Woodruff
Red Clover	Squill	Wormwood
Red Cohosh	Stillingia	Yarrow
Rhubarb	Tansy	

Much more information on Herbs can be found on-line. PubMed, WebMD, and HerbsAreDrugs.com are other resources worth checking out if you need more info.

Remember These Points

As Nutrition is the third most important thing in life, behind air and water (in that order).

- **Nutritional support can most definitely help maintain and heal joint tissues.**
 - **Be an educated consumer (administrator).**
 - **Ingredient quality is extremely important.**
 - **Be sure that you are buying the proper building blocks in the supplements you purchase.**
 - **Be sure that when you use a daily supplement, you are providing nutrition, not drugs.**
 - **Is the product formulated by professionals to address structural problems or is designed to cover pain? Professionals that understand the differences in nutrients, and want to address structural problems... or just cover pain or mask symptoms?**
 - **Structural changes through nutritional supplementation take weeks, not days, to be seen.**
- **Beware of "one size fits all" doses.**

The amount of nutrients needed by an individual is based on individual factors, such as: weight, age, severity of the problem or deficiency, other medications and treatments, as well as their personal goals. Ultimately, it's often 'time vs money' (or visa versa). However, healing is what healing is, and no amount of money can truly make it 'instant' or 'painless;' but rather only mask it or block it.

For example:

- **An athlete, attempting to prepare for their next competition, will benefit more from a slightly higher dose than the average person.**
- **In general, a younger person will need less than an older person.**
- **A large person more than a smaller body.**
- **A sedentary person less than a competitive and highly active one.**

If you are shopping for (or using) a joint supplement you absolutely want "Glucosamine Sulphate" in that product, preferably the 2KCl (potassium) form

- • **Not Glucosamine HCl**
- • **Not Chondroitin Sulphate**
- • **No Herbs**
- • **No Fillers**
- • **Not some 'magic' ingredient**

For more information on the MD's Choice products, and other high quality supplements, which don't use herbs or any of the unproven and often money wasting ingredients that only make a fraction of the possible difference, please visit www.MDsChoice.com

The MD's Choice joint supplements are purposefully not liquid... because of the reality of the science! Contrary to the marketing hype: **Glucosamine is NOT STABLE in liquid!**

MD's Choice's products provide the other necessary basic building blocks to target the joint tissue, in high concentration, in forms the body can use. They do not mask the symptoms or kill the pain.

However, just like the rest of the body, joints need to be fed every day, preferably 2 or 3 times a day, not just once a day, or every 4 - 6 weeks. Remember, the fastest, most effective, and economical way to address serious joint and connective tissue problems is to start a high quality oral supplement BEFORE the problem exists.

Preventive measures can really help a body be its very best, for the longest time. As well as help in the event there is an injury, as you're already supplying key nutrients... just add more while healing, reduce again when you're back to normal. The MD's Choice joint formula actually helps improve the synovial fluids, but, more importantly, it also strengthens the ligaments and tendons (and all other connective tissue and soft tissues), and supplies the body (systemically) with basic building block nutrients required to help the body build healthy joint tissue, in forms the body can readily use. (Yes, that's a mouth full).

With the MD's Choice joint formula, the ingredients are generally absorbed into the blood stream within 30 to 45 minutes, and can be found in the actual joint tissue within 4 to 6 hours. That does not mean it's a 'quick fix' or relief will happen right away, it's nutrition - not a pain blocker or masker.

It means that the body is getting the basic building blocks it needs, in the forms it can use, so it can **start healing faster, easier, and better than it would have without those extra nutrients. It means the pain will decrease and go away over time, as the healing occurs.** In other words, the MD's Choice joint formula does a whole lot more (and better) than oral HA by itself. And, it is better for the body than symptom blockers and pain killers. However, because of the potential for pain blocking in some bodies, which oral HA has shown with some, a few customers have reported a faster positive impact when they used oral HA in conjunction with MD's Choice's joint supplement. Just don't over use the HA, and be aware of the potential issues it causes while blocking the pain.

MD's Choice has purposefully and knowingly avoided adding any pain killers and symptom blockers to their products, with the firm scientific belief that any such masking agents do NOT belong in a DAILY SUPPLEMENT INTENDED FOR DAILY PROLONGED USE.

Like any 'pain killer' - **IF a person is going to use oral H.A.. it should be limited, controlled, and only used as needed... when needed... and daily use for more than 2 to 4 weeks at a time should be avoided.**

MD's Choice has three primary joint supplements:

1. **Arthrosamine Capsules for people of all ages**, and smaller bodies; often used for toy dogs & cats, especially any with beef allergies.
2. **Arthrosamine Beefy Chewables for dogs** (perfect for those under 150 pounds, the powder is recommended for larger dogs, as well as those with 'beef liver' allergies)
3. **Gluquestrian - powder for horses, and body's over 200 pounds** (Yes, people use the powder, mixed with a variety of liquids (it just has to be ingested the same day it's mixed)). It's also used for large dogs, and a variety of other mammals.



Your Source for Quality Nutrition

Remember, the MD's Choice products are PURE NUTRITION! The formulas on the key products have not changed since 1995, and It remains one of the most effective, most consistent, most bio-available (absorbable), and best 'joint formulas' on the market.

We care... and know our product can help make a difference in bodies of all ages.

The Doctors that formulated these products have NEVER DRAWN A SALARY from MD's Choice (or VetSupplements.com)... that wasn't why they did it; They wanted consistent high quality products for themselves, their family & friends, patients and clients, but ultimately:

They wanted to help change the world... ONE BODY AT A TIME!

For more information on **Arthrosamine™**, a high quality joint supplement that doesn't use herbs or any of the unproven and often money-wasting ingredients that only make a fraction of the possible difference, please visit www.arthrosamine.com. Arthrosamine™ is pure nutrition for joints! **Since 1998 MD's Choice has had a mind boggling RESULTS BASED GUARANTEE** for nearly 25 years; maintained a 'zero complaints' rating with the BBB, and the guarantee isn't limited to just 30 days or 1 bottle!

They understand mammals, and absolutely know science. They are in fact NUTRITIONAL SPECIALISTS, that either actively practice medicine or have retired. Their goal was to help change the world, one body at a time... to help improve health when and where possible. **Use it as directed, and if you don't physically notice a positive difference within the three bottles of faithful use you get your money back!**

Many of the large budget marketing campaigns are written by the marketers, who don't have a clue about nutrition, absorption, bioavailability or effectiveness. **Most doctors are NOT nutritional specialists and only took one or two semesters of nutrition in college. Our doctors, on the other hand, specialize in nutrition and preventative health for both human beings and animals.**

Give us a call from 7am to 5pm, M-F, PST (10 to 8 EST) with any questions, looking for a reseller in your area, or resellers placing an order. 865-380-0950 voice ~ 865-380-2212 fax

If you don't have free long distance, call 1-800-628-0997

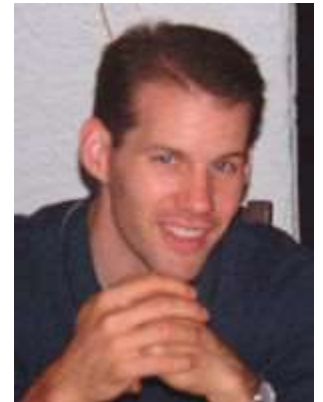


Dr. David Davenport, D.V.M., M.S., C.N.S.

As a veterinarian and certified nutritional specialist (CNS) through the American College of Nutrition, he has devoted much of his time and studies to informing and educating people about the benefits of nutrition, dangers of herbs, and the fallacy of "quick cures." He believes in solutions through proper nutrition. He has spent many years in graduate coursework and research learning how to apply cutting-edge nutrition to clinical and preventive health care programs for both people and animals.

Dr. J. Eric Martin, D.V.M., M.S., C.N.S.

A veterinarian and certified nutritional specialist (CNS) through the American College of Nutrition, he continues devoting much of his time to educating students and clients about the benefits of nutrition, and the fallacy of "quick cures." He believes in medicine as necessary, and proper nutrition at all times. He has spent many years applying nutrition to clinical and preventive health care programs for both people and animals.



Dr. Michael R. Bishop, MD, PhD, FACOG

graduated as a Pharmacist from Purdue before obtaining both a PhD in Pharmacology and Biochemistry, and a MD from Vanderbilt. He is a clinical instructor, a published surgeon and frequent speaker at scientific meetings. Over the past several years, Dr. Bishop has turned much of his attention to preventive health.

Dr. Jim Blackford, DVM, MS, dACVS,

Retired Section Chief, Large Animal Surgery for The University of Tennessee College of Veterinary Medicine. As an equine practitioner, surgeon, researcher, and instructor, he understands the critical importance of connective tissue health as it relates to the overall health and longevity of the body (horses in particular).



There are many doctors, veterinarians, nutritionists, chemists, and industry professionals we owe a special thanks to. But those listed above, and below, were extra important to the formulas and foundation of MD's Choice... and helped in some vital and important ways. Thanks to each and every one of them, and their continued contributions to help keep this project alive and moving forward!

<u>Practicing Veterinarians:</u>	<u>Key People that helped MD's Choice:</u>	<u>Key Distributors of our Products:</u>	<u>Day to Day Operations:</u>
Dr. LeAnn Blackford DVM, dAVCS	Dr. Miller PhD in Nutrition	TN Farmer's Co-op	Frank McAlister, COO
Dr. Martin DVM and CNS	Dr. James Bailey a PhD in Nutrition	Valley Vet ~ National Catalog	Terry Mercer, President
Dr. Carla S. Somnardahl, D.V.M., PhD, Dipl. ACVIM	Dr. Sam Lyle, DVM	Henry Schein Animal Health	Carly Mercer
Dr. Cathy Johnson DVM	Dr. John Bennett, DVM	KV Vet ~ National Catalog	Ted McAlister (Part Time Help)
Dr. Sam Lyle DVM	Dr. Mika Bentley DVM	Bulter Animal Health	Bridgette Aldredge, Sales Rep
	Mr. Neil , CPA	Lextron Animal Health	April DeBusk, Sales Rep
	Mr. Roy Metzger, Business Advisor	Wynnco	Russ Leamons, Sales Rep
		Ivesco	Janis Beorkland, Sales Rep
			Lori , Sales Rep
			Walt Patrick, Sales Rep

MANY THANKS... to all that helped us!

All Research and Information

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Science, especially nutrition, is a vital part of life... living... and longevity. Nothing on this website, or any other, should ever be given more power or authority than your actual doctor: that has seen the body, ran the tests, poked, prodded, x-rayed or ultra-sounded when necessary, thoroughly examined, and genuinely evaluated the history of the patient. Part of the reason the FDA has regulations and requirements, such as "These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent disease." is to help protect the consumer from false claims, 'magic cures,' 'miracle claims,' and dangerously avoidable contraindications (side-effects). **We understand and agree! Drugs should have quality control regulations, safety requirements, and that includes all plant derived drugs (herbs) which have their place, but seldom ever in a 'daily supplement, intended for prolonged use.'** Supplements should be tested for all the common contaminants, which MD's Choice has been doing since the very beginning.

Nutrition is key, good nutrition important, but even the best nutrition doesn't replace the hands on experience of doctors able to evaluate the individual body on a case-by-case basis. There are far too many ailments, types of diseases, genetic issues, contributing factors, and medical issues producing side-effects and symptoms for any responsible person - especially a doctor or healthcare related professional - to do more than generalize or suggest some elevated or minimized concern, without in-person testing and a real world exam. **IF YOU HAVE A SERIOUS CONCERN, PLEASE CONSULT YOUR DOCTOR!**

Our products are great, and have had the best Results Based Guarantee in the nutritional industry for nearly 25 years, which should tell you a lot about us. WE CARE... quality, education, and service are our primary goals. **We aren't the cheapest, but we are the 'biggest bang for the buck.'** The dosing of our products

are **FLEXIBLE**, based on the **LEVEL OF NEED** - from prophylactic to maintenance, **therapeutic** to treatment level needs.

If you have a serious concern, or life threatening situation, **PLEASE CONSULT YOUR DOCTOR**, or a specialist that can see the body, do the tests, and evaluate the individual situation.

Any products we have are considered the very best in their class... and all the key products have a Results Based Guarantee!

We help change the world, ONE BODY AT A TIME!

Knowledge IS POWER

1. **when it is proven with the test of TIME**, not just strangers opinions! (even under the best of circumstances, unless you know them, you don't know their motivation... or thoroughness).
2. **when it can be communicated**, and then understood by those seeking it, along with the wisdom to use correctly!
3. **ONLY when it is applied!** There are many great things stashed away in closets, hidden on shelves, buried in basements... and they aren't powerful, **UNTIL THEY CAN BE APPLIED BY OTHERS!**

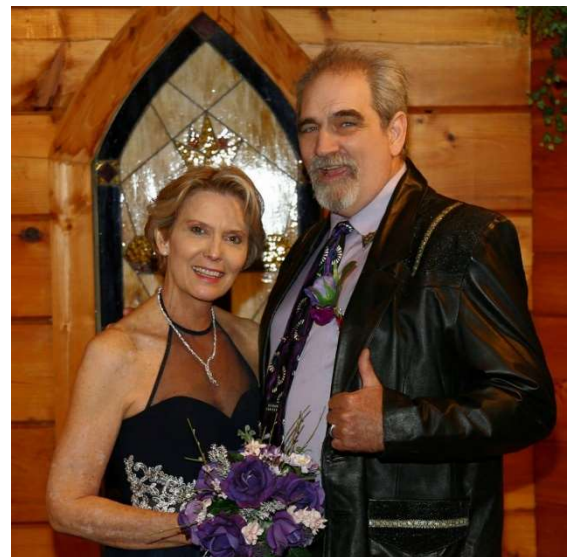
Terry & Carly Mercer

Terry's unique experience with MD's Choice, and Arthrosamine, are WHY HE IS HERE:

Despite having wrist, elbow, and knee surgery prior to meeting the doctors before the company was started in 1995. I was fast growing, 6 foot tall in grade school, six foot six and a half when I graduated. Tall, skinny, and a bit uncoordinated for many years, which didn't work well for someone that was a bit of an adrenalin junky.

Consequently, from age 5 to about 45 I averaged at least one doctor treated broken bone per year, minimum (some years more, some accidents involved more than one broken bone, sprained joint, or twisted limb). Growing up in rural America in the 60's, The Long Rancher, Evil Knievel and Zoro were my hero's. Thankfully, I've only had two instances of broken bones since 2016, and most of my adrenalin junkie days are over.

I started my first 'business' at age 10 (lawn mowing, raking, and gutter cleaning). I'd hustle the 'jobs' and work them, but also included some of my friends, as 'employees' - when there was enough work to go around, or it was a project that required more than one person.



I started playing with cameras around that time, winning a blue ribbon at the County Fair back in 1974 with a photo my photography teacher entered on my behalf. It was a costly hobby back then, even learning to roll, develop, and print your own film; so my photography stuff waned until about 1992, when digital cameras were released. I LOVED IT! Despite it being 'small' (initial digital was just 320x200, great for the web, but not practical for printing quality above a wallet size) Limited only by hard drive/storage space. It became a serious profession, nights and weekends, around 2009; shooting sporting events and concerts.

By age 13, I was a service project away from Eagle Scout, with every single merit badge that existed at that time. I had an aptitude for computers, and was one of the only junior high 'kids' allowed to program on the 'main frame' at the local high school and community college. **I was in the US Air Force at 17...** leaving my home town just days after my graduation; then with an Honorable Medical Discharge, I became an assistant manager of my first corporate store by 19.

I enjoyed exploring, challenging myself, learning, and doing a variety of things, like, skating, boarding, bicycling, skiing, kayaking, scuba diving, bungee jumping & zip lines, roller coasters & sling shots, climbing, as well as assorted sports activities.

I often pushed my limits, doing things many people wouldn't even try. I've had motorcycles jumping over me, horses stampeded directly at, and past me. I've been on the line at football and basket ball games, with a camera in my face, focused on taking pictures of the players, as they crashed past the invisible line. I loved speed: having been nearly 100 mph on the water, nearly 170 on a motorcycle, nearly 200 in a car... even over 70 mph hanging on to a ski rope, being pulled behind a boat. **I loved pushing the limits**, and have been around a wide variety of unique situations over the years. However, **I occasionally over estimated my ability (or the situation)**, or miscalculated, and consequently got hurt.

My most painful break, ever, was BOTH HEELS... showing off on a trampoline, I did a forward flip landing in a pike position... but my heels slammed the 4" steel bar, with excruciating pain instantly shooting up my body. Over 40 years later, I still have sensitive 'bumps' on my heels, and physically can't wear certain types of shoes, because of how they impact my heels.

The nastiest looking break: my left leg, when I was about 12. I was on some old school cross country skis, at a scouting event, 23 miles from Ashland. We were building igloo's, skiing, and ice fishing. While I was going down a slight slope, after it had snowed the night before, the tip of my left ski went under a downed tree (the right leg kept going). When the snow settled, my left leg was behind my back, with the foot coming out from under my right arm pit... with the cross country ski STILL ON. Yes, it was painful... especially getting the ski off, and then my dad and other adults loading me on to the sled my dad & I had built... to haul me out of the wilderness to the vehicle... then to the hospital. Before I finished grade school, I was very aware of the routine of x-ray techs, casts, learned to run on crutches, and could balance a wheel chair on two wheels (I could go down curbs and a couple steps without issue. Though I can still balance a wheel chair, I'm not sure I could jump curbs these days).

While computers, cameras, and business were things I enjoyed... I also finished a small degree in PHYSICAL SCIENCES. Basically anatomy, diseases,

I point out all that, because the study of 'nutrition' wasn't top on my list, it was because the doctor's insisted I knew something about the stuff I was helping them market. They insisted that I have a grasp of what the different ingredients used, especially for joint & digestive products, actually DO WITHIN THE BODY. **They insisted that I wasn't just an 'order taker' - but someone that could ACTUALLY TRY TO HELP OTHERS SOLVE COMMON PROBLEMS!**

Arthrosamine capsules easily gave me over 30 years of joint health back! I'm a firm believer in the benefits this product has to offer; to the point I moved from the west coast to Tennessee to help the doctors bring this product to market back in 1998. I faithfully use it everyday! Today, over twenty years later, I'm the CEO of MD's Choice... and have strived to never cut corners on quality. We HAVE the 'Rolls Royce' type of product, at Cadillac prices. We acknowledge we aren't the cheapest, but when it comes to oral supplements... WE ARE THE BEST! The biggest bang for the buck, and we have stood behind that statement since 1998 with a RESULTS BASED GUARANTEE that isn't limited to 30-days or 1 bottle! We wouldn't have been able to do that if our product didn't work as the doctors that actually formulated it have repeatedly said!

Terry Mercer, Computers & Cameras, Web Development, and now CEO of MD's Choice

Want to share your story about how an MD's Choice product helped you, or your loved one?

We'd love to hear from you.

[TELL YOUR STORY](#)

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