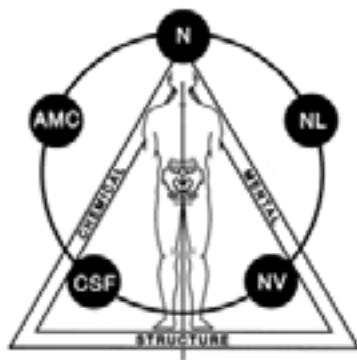


Food Combining

Think of the typical American diet: steak and potatoes, the large burger with a bun and the large order of french fries, or a summer favorite corn on the cob and barbecued meat. Combine this with ice cream or pie and you have the typical American diet.

The concept behind food combining in a meal has been around for years and years. There's nothing new about this concept. It is based on normal physiology of your digestive system. Unless you want to eat European style - small servings, over 90 minutes or 2 hours for your evening meal consisting of 4 to 5 courses, which are nothing but small servings, you need to think about food combining. The basic problem is that proteins and starch

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Shoes and Skeletal Stress

The type of shoes and the age of the shoe can have positive or adverse effects on your muscles and joints.

Shoes can support the arches in your feet or they can contribute to the breakdown of the feet.

When you walk, the muscles of your feet should be activated. This is what happens when you are young and walk bare footed. If you are not used to it, go to a beach and walk in the sand bare foot for a distance. The muscles of your feet will ache after because you have not been using them walking on hard floors.

There is a new movement towards barefoot running and footwear that just covers the bottom of the foot with straps over the toes. That is not what we will be talking about here, as almost all of you will be wearing

shoes.

So, let's talk about your shoes. Take out an older shoe that you have been wearing and let's examine it.

First, turn the shoe over and look at the wear on the bottom. This will show you where the greatest stress is applied to the shoe. One caveat, because we drive cars, the outside of the heel on the right shoe usually wears out before the left due to pushing on the accelerator and then moving your foot to the brake.



The picture here shows abnormal wear on the bottom of the shoe.

Next, put the shoes on a table and look at them from the back and then from above. You should look for any distortion in the shoe.

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Orthotics

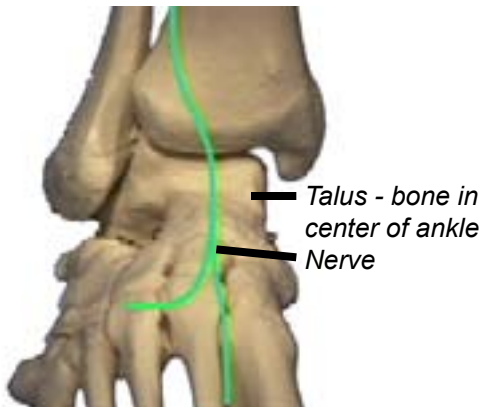
What is an orthotic shoe insert?

This is a removable insert that goes in shoes to support the arches of the foot.

There are over-the-counter general supports and different types of custom orthotics of various materials.

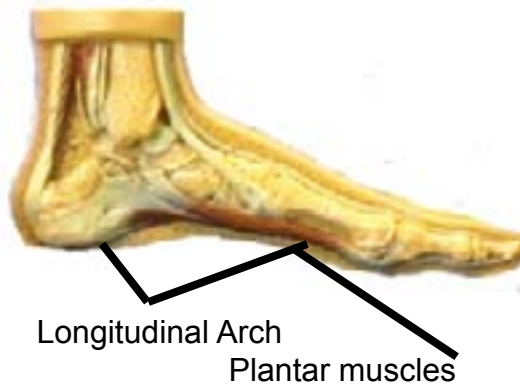
Do you need an orthotic?

There is a normal correct position of the bones of the feet and ankles. In the center of the ankle there is a bone known as the talus. When arches are strong, this bone is equally centered in the ankle. When the main arch drops, this bone shifts to the inside twisting the lower leg. One of the main reasons to use an orthotic is to support the arch preventing this twisting of the lower leg and supporting the talus.



This arch is part of the longitudinal arches of the feet. These run from the heel bone towards the toes. There are two of these. The main one is the one on the inside of the foot and when that one breaks down, it causes what is called pronation. Ligaments and a muscle known as the tibi-
alis posterior support this arch.

This muscle starts in the lower leg and runs down the back of the shin bone. The tendon of it supports the bones on the inside of the foot and then crosses under the front of the foot to support the metatarsal arch. When this arch collapses, the muscles on the bottom of the foot contract and can cause plantar fasciitis and heel spurs.



There is a lateral arch as part of the longitudinal arch. This is not as vital and runs along the outside of the foot to the little toe.

There is another important arch that lies just behind the toes. This is called the metatarsal arch.



When this arch collapses, it will be tender. Pressure is applied over the center of the arch between the second and third toes. If this arch drops, conditions like ham-

mertoes and called metatarsalgia. can develop. Another problem that can occur is called Morton's neuroma. This condition causes severe pain in the front of the foot and is related with changes in the formation of this arch.

Two of the easiest ways to evaluate the arches of the foot are to:

1. Observe the foot and ankle in a standing position and then bring your weight forward towards your toes. In a normal foot, there will be a slight dropping of the arch to help absorb shock to the foot when you are walking or running. If there is excessive dropping of the inner arch, you will notice that your kneecap will rotate inwards. If the knee rotates outwards, then the outside arch is weak. Both of these conditions will cause muscle changes from your feet extending all the way to your neck and head.
2. In the sitting position, place your foot on a piece of paper and trace around your foot. Make sure that you keep the pen at a 90-degree angle to the side of your foot. Then stand up and with your weight on your foot have someone trace your foot again. A normal foot tracing will look the same whether you are weight bearing or not. It is not uncommon to find that your foot becomes much longer or wider when you are weight bearing.

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Calcium -

More than just for Bone Strength

Calcium is the most plentiful mineral in the body, and it has more uses than just making our bones strong. It is used in many different reactions like muscle contraction and nerve transmission. It is also required for normal blood clotting.

Everyone knows the importance of calcium intake for bone growth and maintenance.



What most don't know is that bone is constantly being broken down and replenished in our body. In fact, the bones act as a reserve bank for maintaining the level of calcium in our blood stream. If our body needs more calcium, it borrows it from our bones. Consequently, blood levels of calcium are a poor reference for adequate calcium intake.

The first symptoms of a calcium deficiency are usually muscle cramps, tremors, or an elevation in blood pressure. It could even be a loss of gum tissue that your dentist notices. When we are young, we make bone faster that it is being broken down. Later in life and in some diseases, bone is broken down faster than it is being replaced.

Your dietary needs for calcium vary with age.

Age	Male	Female
0-6 months	200 mg	200 mg
7-12 months	260 mg	260 mg
1-3 years	700 mg	700 mg
4-8 years	1,000 mg	1,000 mg
9-13 years	1,300 mg	1,300 mg
14-18 years	1,300 mg	1,300 mg
19-50 years	1,000 mg	1,000 mg
51-70 years	1,000 mg	1,200 mg
71+ years	1,200 mg	1,200 mg

There are excellent food sources of calcium. You should add up your average intakes of these foods and realize that most people only absorb 30% of dietary calcium. The level of absorption goes up to over 50% in children and during pregnancy.

The absorption of calcium is above 50% for cauliflower, cabbage, Brussels sprouts, kale, mustard greens, and broccoli. However, spinach has only a 5% absorption. Almonds, sesame and beans come in at 20% absorption.

There are two main forms of calcium that are frequently taken. These are calcium carbonate and citrate. One advantage of the citrate form is that it does not need stomach acid for it to be absorbed. For those who do not have osteoporosis or osteopenia, this is a source that can be taken anytime. The carbonate form requires stomach acid for it to be absorbed. As we age, we make less and less hydrochloric acid in our stomachs so the carbonate form becomes less effective. The carbonate form also has more side effects

Pregnant	Lactating
1,300 mg	1,300 mg
1,000 mg	1,000 mg

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Walnuts

Walnuts, an overlooked snack, are a good source of antioxidants, vitamins and proteins.

They are approximately 20% protein and also contain omega-3 and omega-6 fatty acids.

They are also a good source of vitamin B 6 and vitamin E.

Compared with other nuts, they are high in antioxidants called polyphenols.

They beat out other nuts like pistachios, peanuts, almonds, cashews, and pecans.

As an added benefit, they are high in fiber.

Here is a snack food that aids the nervous system, especially your brain.

Walnuts are extremely health friendly, fight the aging process, and boost your immune system with antioxidants.

Finally, they add a little protein to your diet.

Calcium

like gas, bloating, and constipation. Another form of calcium that can be taken is calcium lactate.

For bone formation and potentially reversing osteopenia and osteoporosis, there is another form called microcrystalline hydroxyapatite or MCHA. This form has been shown to cause an increase in bone density when combined with an exercise program.

The absorption of calcium also depends on an adequate intake of vitamin D, and is aided by stomach acid, lactose, and even growth hormone.

The absorption of calcium is inhibited by a lack of stomach acid, a high phosphorus intake, a high fiber diet, and phytates like nuts, seeds, and grains.



Observe the excessive heel wear on the right shoe. The left shoe demonstrates what happens when there is a dropping of the arch and weakness of the muscles that support the foot and ankle. Wearing a shoe like this further speeds the development of arthritic changes in the foot.



The next step is to put the shoe on a flat surface and test to see if it has been distorted as it has been worn. With the shoe flat, push down on the heel raising the front of the shoe about 2 inches and then let the shoe drop. It should come down and stop without rocking side to side. The short video inserted here shows a shoe with excessive twisting. This is caused by muscle imbalance when you walk.

Another aspect of shoes that needs to be discussed is the heel height. Ironically, as you elevate the heel you need less arch support. If the heel height is too high, you will increase muscle tension in the muscles of your low back, between the shoulder blades and neck.

Finally, shock absorption could be very important to you if you have arthritic changes in the joints of your feet and lower legs.

Exercise and Aging

One of the most effective tools to help stave off the aging process is moderate exercise. No matter when you start it, you will have positive effects on aging. The three major changes that you can feel are an increase in strength, an increase in endurance and an increase in range of motion. What you won't feel is that people who exercise regularly heal from injuries faster than individuals that don't. This finding is universal. It doesn't matter how old you are. If you are actively exercising when you get an injury, you will heal faster than someone the same age that is not exercising.

When we age, we slowly lose the number of muscle fibers, but the size of the fibers that we have can be positively changed through exercise. One study showed that 95-year-olds increased their strength when put on a moderate exercise program geared for their age. After 3 months, their strength increased by over 20%.

Endurance, the ability to keep going, is related to muscle development and lung capacity. A 1989 study using individuals in their 70's showed a 22% increase in lung capacity after 6 months of exercise. Another way to say this is that after 6 months of exercise, the 70-year-olds had the lung capacity of 50-year-olds.

Exercise does much more than increase strength and endurance. It also helps prevent osteoporosis, reduces blood pressure, aids in reducing obesity, and helps prevent cardiovascular disease.

The best news is that moderate exercise is almost as effective as strenuous exercise, and when it comes to injury prevention, is actually better. Ideally, start by planning your schedule to get in at least a long walk every other day. On the day you aren't taking your long walk, try to get in at least one short fast walk. A walking routine like this will help your cardiovascular system and keeps your legs in shape. You should plan on some activity to exercise your arms. This can be simple exercise with weights in your hands, doing pushups against a wall or kitchen counter, or a full exercise routine in a gym.

When choosing what exercises to do, keep this in mind. You want to prevent or at least prolong the ravages of time. Look at how many older persons stand and walk. They are bent over with their heads jutting forward. In general, they have lost the strength in the muscles that hold them erect. These are the muscles that run up and down our backs. Specifically, our gluteus maximus, spinal extensors, shoulder extensors and the muscles of the back of our necks.

The buttock muscle, the gluteus maximus, is exercised if you walk with a long stride. You can place your hand over this muscle and lengthen your stride until you feel it contract. While walking, remind yourself to lengthen your stride to exercise this muscle. An effective way to do this is to walk from one telephone pole to another or from one house to the next with this longer stride.

The muscles of the back of the shoulder are a little harder to exercise. A good exercise for this is row-

Continued from page 1

require different digestive enzymes for their digestion. Proteins require acid from your stomach to digest them and consequently turn your stomach into an acid medium. This acid also helps activate other digestive enzymes in your system to digest the proteins. The amount of digestive enzyme production required is analyzed when you chew your food. Gulping down your food without proper chewing results in a lack of enzymes. Starches and sugars, on the other hand, are best digested in an alkaline media. Fruits, which normally pass through your digestive system rapidly, will adversely affect digestion of foods like proteins that require a greater time for their digestion.

When you combine foods that don't complement each other, you end up fermenting your carbohydrates and putrefying your proteins. This results in incompletely digested foods, gas, heartburn, possibly gastric reflux, bloating, constipation, and/or diarrhea.

Continued on page 7

Caffeine – Good or Bad

Coffee is one of the oldest beverages consumed by humans. Coffee beans have been found with humanoid skeletons in Africa that date back hundreds of thousands of years.

Caffeine is an ingredient in many preparations running from headache remedies to energy drinks to the common cola drinks.

There are short-term side effects in some like headache, nausea, and even anxiety from consuming caffeine. Long-term adverse effects can be an increase in blood pressure and excessive intake can lead to tremors, shakiness in the hands. If caffeine is consumed with dinner or in the evening, it can lead to insomnia or poor sleeping. Excess caffeine can even cause an increase in inflammation in the body.

If you listen to the advertisements of energy drinks, they talk about 5 hours of increased energy. One of the reasons is the time it takes your body to break down half of the caffeine ingested runs between 5 and 7 hours. There are also some short term effects that are potentially beneficial like relaxing smooth muscles like those in your intestines, increase in urinary output, stimulation of heart muscles, and an increase in mental acuity.

Caffeine intake has been shown to reduce the risk

of Parkinson's, type 2 diabetes, and some cardiovascular diseases. Recent studies have shown that moderate coffee intake actually slows the mental decline that occurs with the aging process.

Caffeine also speeds up metabolism in the body, but care must be taken not to overdose.

Studies show that an overdose of caffeine is about 300 mg., and this is when you will get the jitters.

If you look at the list below, you will find that it is very easy to exceed the 300 mg of caffeine within a 5 – 6 hour time frame.

Caffeine is broken down in the liver through a process called detoxification. This will be discussed in greater detail in a future newsletter. For simplicity, this process has two major steps. The first depends on many of the B complex vitamins and the second step requires amino acids. Amino acids are the sub-units of proteins. If you are missing any of these nutrients, then your liver will have great difficulty in breaking down caffeine and other toxins in an efficient manner.

Like most substances, a little is good and too much is bad.

Caffeine Content	Ounces	mgs.			
Coffee(drip)	8	145	Rockstar	16	160
Coffee espresso	1.5	77	Rockstar 2X	12	250
Coffee decaf	8	6	Rockstar shot	2.5	200
5 Hour	2	138	Snapple tea	16	42
Ice Tea	16	38	Starbucks Grande Americano	16	225
Coca-Cola	12	34	Starbucks Grande Latte	16	150
Coca-Cola Diet	12	45	Starbucks Grande Mocha	16	175
Fuel Energy	16	240	Starbucks Grande Coffee	16	330
Jolt Energy Shot	2	200	Starbucks Tall coffee	12	260
MacDonald lg coffee	16	145	Starbucks Tall Cappuccino	12	75
MacDonald sm coff	12	109			
Monster Energy	16	160			
Mountain Dew	12	54			
Pepsi-cola	12	38			
Pepsi one	12	55			
Red Bull	8.4	80			
			Sunkist Orange soda	12	41
			Tea brewed	8	60
			Tim Hortons large coffee	20	200
			Tim Hortons small coffee	10	100
			Vitamin Energy	16	150

ing. Using rubber tubing, elastic cords, or just lying on a bed with your arm hanging off holding a weight and pulling your arm back behind you as far as you can will activate these important muscles.

Your program needs to incorporate:

Endurance – Long walks: three to four - 45 minute walks per week

Cardiovascular walks – Shorter, faster 10 – 15 minute walks at least once a day

Weight training for your arms and legs – Do any combination of the following

Stairs – climb 6 flights a day or step up and down on a step seven times with each leg and do 6 sets a day.

Do 3 sets of ten pushups against a wall – slowly move your feet farther away from the wall as you gain strength.

Put a weight beside the bed and lie on your stomach. Lift the weight up and back behind you as far as you can so that your “wing” comes close to your spine.

Put an elastic cord through a door and close it tight. Make sure that you are on the side of the door that it opens away from you. Bend your elbow to 90 degrees and grasp the elastic cord. Pull back on the cord keeping your forearm parallel with the floor.

Exercises like these should be a part of your health maintenance.

These diagrams, the one on the next page and the lower one on page 4 are animations that can be played by clicking them

from page 2



To confirm that you have problems with the arches in your feet, you can rub certain muscles to see if they are tender and that raising your arches decreases the tenderness.

The easiest places to do this are at your hip joint and the muscles on the side of your neck.

If you place your fingers over the outside of your pelvis where the upper leg bone articulates with the pelvic bone and then rotate side to side on your foot, you can feel the movement in the hip socket of the leg bone. The

muscle that helps to stabilize the leg attachment to the pelvis attaches on the upper surface of the leg bone. If you rub here and it is tender, rotate outward on your foot and see if it decreases the tenderness. Likewise, the muscles on the side of your neck may also be tender and this tenderness may be reduced by rotating outwards, reestablishing the normal arch.

For your metatarsal arch, you can rub over the top of the foot. If it is tender, place a couple of quarters under the



Sneezing or Sniffling in the Morning?

We have all heard of dust mites. The place in your house with the most dust mites is your bedroom. They thrive on dead skin that drops from us every day. One of the places that we don't think about having dust mites is in the pillow.

When we are asleep and our head is on the pillow, dead cells from our skin fall into and on the pillowcase and through to the pillow itself. Here, dust mites live and eat the dead skin. This can rank among the top allergens that trigger asthma symptoms and can aggravate existing symptoms of allergies.

You can find dust mite proof covers for your pillow and mattress. Another alternative is to just discard or vacuum completely your pillow to remove the dust mites and their droppings from the surface and the interior of the pillow.

center of your foot and see if the raising of the arch reduces the tenderness.

Helping your Arches

One of the first questions is “**Do I need orthotics**” and if you do “**Can I build up the strength in my feet so that I do not have to wear them the rest of my life?**”



The answers to these questions depends on a number of factors. These include age, degree of dropping of the arches, the length of time that they have dropped, arthritic changes due to the dropping, your ability to exercise the muscles of the foot, etc.

These need to be evaluated on an individual basis.

If you need orthotic support, over the counter general supports are not overly useful. Most people do not have feet that are exactly alike. It is amazing how different people with exactly the same shoe size have different forms of arches. This approach would be like all 68-inch tall individuals wearing the same size clothes.

The problem is assessing your needs, which muscles are malfunctioning, do you need support, what you can do to aid the return to normal function of your feet, and the specific muscle therapies that can be done to support normal function.

Try tracing your feet and see if the outline changes when you stand. If so, bring in your tracing to the office and let us evaluate your lower leg for a proper treatment program

In October

More on Slowing the Aging Process

How do you heal an injury and what you can do to speed the process?

Sugar and Sugar Substitutes



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