

## Musculoskeletal Healing

All NSAID anti-inflammatory drugs (such as Ibuprofen) aggravate GI function by increasing intestinal permeability which inflames the immune system. (This new concept has become a hot topic of GI research but is still not discussed much in conventional medicine.) NSAIDs may also impair collagen healing, which would impact all healing musculoskeletal injuries. It is better from the Functional Medicine perspective to avoid that class of drugs as much as possible.

The following nutrients are helpful in healing musculoskeletal injuries & recovery from orthopedic surgery, and can also help to prevent osteoporosis and to reduce cartilage damage in osteoarthritic joints:

**BioSil**, 10 drops twice daily with meals (*liquid form preferred over capsules*).

Helps heal collagen fibers in ligaments and tendons, which are commonly damaged in musculoskeletal injuries, and are important in chronic neck and back pain. Bone is also made of 20% collagen fibers, which make bone tough and more resistant to fracture, so collagen healing is helpful in preventing osteoporosis. BioSil also helps growth of skin, hair and nails.

**MSM** (Methylsulfonylmethane) powder, 1 scoop or teaspoon twice daily with meals (*powder form preferred over capsules; dissolve in fluid*).

Helps heal cartilage in joints, important in joint injuries and osteoarthritis.

**Vitamin C** is important in wound healing and collagen formation. It is an excellent antioxidant, and high doses may be helpful in any condition with acute or chronic inflammation where high levels of localized oxidative stress can contribute to pain and interfere with healing.

**Magnesium** is a vital cofactor for hundreds of important enzymes in body chemistry, especially in the central nervous system, and is increasingly deficient in modern diets. It helps to relax the nervous system, which is important in anxiety, panic attacks, insomnia, seizure disorders, and hypertension. It is also vitally important in bone healing (too much calcium intake can interfere with this), and it helps to prevent kidney stones and to prevent abnormal calcium deposits in arteries and other places where calcium doesn't belong. (**Several trace minerals** & Vitamin K2 are also needed for the enzymes that rebuild bone.)

These are available in better nutrition stores. Magnesium and vitamin C come in many forms, some preferred over others; see Dr Bradford's handout for "[Magnesium and Vitamin C Dosing](#)".

Don't expect immediate pain relief, because healing takes time and patience, and avoiding exacerbation from pushing activities too far too fast. Be sure to maintain passive range of motion (a physical therapist or I could show you how), so the injured area doesn't get tight and stiff.