



LUBE YOUR JOINTS

Human joints are similar to metal joints in that they require lubrication. The body produces natural oil called hyaluronan. Increasing the natural oil decreases wear and tear from impact, running injuries, and arthritis.

Lube Your Joints With:

- **Glucosamine:** Glucosamine stimulates the production of hyaluronan, and it also increases the natural building blocks of the joint cartilage called glycosaminoglycans. These natural sugars absorb water and cushion the joint from impact.
- **Hyaluronan Injections:** Called viscosupplementation, these injections of hyaluronan stimulate the joint lining to produce more lubricant. A series of five weekly injections seems to produce protection for six months to a year in many patients.
- **Optimizing Your Weight:** You take 2-3 million steps per year at up to five times your body weight, depending on the height of the step. Losing ten pounds decreases the force on the joint up to 50 lbs. 2-3 times per year. See our e-newsletter, "*Water, Water Everywhere But Not Enough Drunk*" to get specific recommendations.
- **Drinking More Water:** Most people are naturally dehydrated during the day and sleeping all night leads to water loss. Exercising while dehydrated leads to joint stiffness and further injury. Hydrate with water (not soft drinks or coffee) frequently.
- **Cross Training:** Mix up your workouts and mix in bicycling and water workouts. The lowered impact of cycling and water running permits recovery from weight lifting and road running. The cross training uses multiple joints and muscles in varied ways.
- **People who follow The Stone Clinic's CrossFit-based training program** return fitter, faster, and stronger than they were before they got injured. See www.stoneclinic.com/athlete.
- **Future directions include progenitor stem cells** designed to produce natural joint lubricant for arthritic knees. Stay tuned.

Best wishes for a great spring,

Kevin R. Stone, M.D. and the Team at The Stone Clinic