

# KRAMER ORTHOPEDICS

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## GLUCOSAMINE AND CHONDROITIN

### DOSAGE:

*Less than 120 pounds:*

1000mg glucosamine **plus**  
800mg chondroitin sulfates

*Between 120 and 200 pounds:*

1500mg glucosamine **plus**  
1200mg chondroitin sulfates

*More than 200 pounds:*

2000mg glucosamine **plus**  
1600mg chondroitin sulfates

\*Vitamin C and the mineral Manganese increase the effectiveness of both.

*Manganese 25-50mg daily.*

Also found in: Nuts, beans, oatmeal, beef liver, and dried peaches. Manganese is usually lacking in processed foods.

*Vitamin C 500-2000mg daily.*

\*Vitamin C serves as an antioxidant and is water soluble. It is eliminated from the body in just a few hours, so taking several smaller doses throughout the day is more effective than taking one large dose.

Other supplements that potentiate the benefits:

**Niacinamide** at 500-1000mg 3 times a day

**Vitamin E** at 400-1200 units once a day

**Selenium** at 400-800mcg once a day

**Omega +3 fatty acids** at 2-4 a day

**Calcium, Magnesium, Zinc, Copper**

**It may take up 2 to 6 months to see the full benefit.**

*Side effects:* May increase serum cholesterol in high cholesterol patients.  
May cause gastric irritation.