



## HEALING PROPERTIES OF VITAMIN C

Vitamin C, or ascorbic acid, is an essential micronutrient found in a variety of fruits and vegetables. It serves as an antioxidant that is known for its anti-inflammatory and immunity boosting properties.

This important nutrient has the potential to accelerate bone healing after fractures, increase collagen synthesis, and reduce oxidative stress (DePhillipo). It also plays a role in collagen synthesis and supports the regeneration and repair of other soft tissues in the body (Bechara).

Vitamin C supplementation has also been found to reduce complex regional pain syndrome (CRPS) and improve function during recovery post orthopedic surgery (Hart; Lee).

More human studies are needed to determine the appropriate dosing and administration of Vitamin C in supplement form for accelerating soft tissue and bone regeneration. However, researchers have concluded that simple ascorbic acid is the preferred form for supplementation, and that vitamin C is just as bioavailable in supplement form as it is from food (Johnston).

## RECOMMENDED DIETARY ALLOWANCES (RDAS)

Below is a table displaying the Recommended Dietary Allowances for vitamin C across multiple groups.

**Table 1: Recommended Dietary Allowances (RDAs) for Vitamin C**

AGE	MALE	FEMALE	PREGNANCY	LACTATION
0-6 months	40 mg*	40 mg*		
7-12 months	50 mg*	50 mg*		
1-3 years	15 mg	15 mg		
4-8 years	25 mg	25 mg		
9-13 years	45 mg	45 mg		
14-18 years	75 mg	65 mg	80 mg	115 mg
19+ years	90 mg	75 mg	85 mg	120 mg
Smokers	Individuals who smoke require 35 mg/day more vitamin C than nonsmokers.			

\* Adequate Intake (AI)  
\* Taken from the DRIs from the Institute of Medicine

## FOOD FIRST APPROACH

One approach to obtaining adequate vitamin C during recovery is through food. Below is a list of foods rich in vitamin C that you may consider including in your daily meals during recovery.

## PRACTICAL APPLICATION

If you are recovering from a musculoskeletal injury and/or orthopedic surgery, vitamin C is an essential aspect of healing. Focusing on adding vitamin C-rich foods into your meals is a great place to start. You may also talk to your registered dietitian about whether vitamin C supplementation is recommended for you.

**Table 2: Vitamin C Foods**

FOOD	MILLIGRAMS (MG) PER 100-GRAM SERVING
Red Bell Pepper	142 mg
Orange Bell Pepper	158 mg
Yellow Bell Pepper	139 mg
Green Bell Pepper	99.5 mg
Kale	93.4 mg
Broccoli	91.3 mg
Cabbage	40.3 mg
Spinach	26.5 mg
Kiwifruit	74.7 mg
Strawberries	59.6 mg
Oranges	59.1 mg
Pineapple	58 mg
Dark Red Cherries	10.4 mg
Tomatoes	17.8 mg

\*Taken from the USDA's FoodData Central

## REFERENCES

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