

# WIDE WORLD OF Watermelon



Watermelon should be top of mind when talking to patients about sustainable food choices.

## A NO-WASTE ENVIRONMENTALLY FRIENDLY FOOD

The bright red flesh of a watermelon is arguably the most popular part to eat—but it's not the only edible part. In fact, the entirety of the fruit can be eaten; from the seeds, which provide 8 grams of plant protein per dried ounce, to the rind, which can be stir fried, stewed, pickled and much more.

As part of plant-based diets, watermelon provides an array of nutrients and bioactives that can support a nutrient sustainable diet.

Moreover, research shows that plant-based dietary patterns, or diets that incorporate more plant-based foods, are associated with lower environmental impacts.<sup>1,2</sup>

## SUSTAINABLE WATERMELON:

### SUPPORTING A HEALTHY FOOD SUPPLY AND HEALTHY AMERICANS



## A NUTRIENT DENSE FRUIT THAT SUSTAINS HEALTHY LIFESTYLES

Watermelon delivers an array of vitamins, minerals, fiber and phytonutrients to sustain a healthy lifestyle. One serving (two cups)<sup>3</sup> of watermelon has 80 calories, no fat, vitamin A (8%), B6 (8%) and C (25%), potassium (6%), magnesium (6%), thiamin (8%) and phosphorus (2%).

Research shows<sup>4</sup> that adults and children who make watermelon part of their diets (compared to those that don't eat watermelon) have greater than **5% HIGHER INTAKES OF NUTRIENTS** including:

FIBER

POTASSIUM

VITAMIN A

MAGNESIUM

AND **5% LOWER INTAKE OF:**

ADDED SUGAR

SATURATED FAT

Specifically, this study used data from the National Health and Nutrition Examination Survey (NHANES) cycles 2003-2018 that included both children (2-18 years) and adults (19+ years). The researcher investigated associations between watermelon intake and nutrient intake and diet quality. A total of 56,133 people met the criteria. As with all NHANES analyses, a limitation of this study is the use of 24-hour dietary recalls; findings should not be generalized.





# A YEAR-ROUND CHOICE TO MAINTAIN HEART HEALTH

Watermelon proudly (and deservedly) is an American Heart Association Heart-Check Certified food that is always 'in season' with the help of 30 U.S. states and Mexico.

It is cholesterol-free, fat-free, sodium-free, and contains nutrients that support heart health, like magnesium (6% DV), which helps keep the heartbeat steady, and phosphorus (2% DV), which has a role in the electrical activity of the heart.

Exciting new areas of study suggest that an **amino acid called L-citrulline** (286- 1266 mg per 2 cup serving) in watermelon may help to support vascular health and help maintain healthy blood flow in middle-age obese people with slightly elevated blood pressure. Larger and longer-term studies are needed to demonstrate this effect in other populations.

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## STUDY DETAILS:

Specifically, a randomized, two-period, crossover design study that included 14 middle-aged ( $58 \pm 1$  years) obese adults (11 women and 3 men) investigated the relationship between watermelon extract and change in ankle systolic blood pressure—a risk factor for lower limb atherosclerosis<sup>5</sup>.

Participants were randomly assigned to watermelon powder (6g of l-citrulline/l-arginine (2/1) per day) or placebo (sucrose, glucose, and fructose at 2:2:1 to match the sugar composition of the watermelon powder) for 6 weeks separated by a 2-week washout period. At baseline and at the end of each 6-week intervention ankle blood pressure, brachial blood pressure, ankle-brachial index, heart rate and carotid augmentation index were simultaneously measured.

Findings show that after 6 weeks of watermelon supplementation, that included 6g daily of l-citrulline/l-arginine compared to the placebo, there were significant decreases in:

- Ankle blood pressure
- Brachial blood pressure
- Carotid Augmentation Index

Additional studies with larger sample sizes and more diverse populations are needed to generalize these findings.





# A HYDRATING FOOD TO SUSTAIN ACTIVE LIVES

Good hydration is critical to sustaining a healthy body—every cell, tissue and organ in the body needs water to work properly. Even mild dehydration can be a cause of energy drain and deter people from leading active lives.

While many think of water as the best solution, foods like watermelon can also help people hydrate while providing other nutrients to support active lives and exercising.

In fact, patients may be surprised to learn that watermelon is a great food to choose either before, during or after exercising, as it provides:

## FRESH, REFRESHING FUEL:

**21 grams of carbohydrates per 2 cup serving** for a before exercise jolt of energy or after exercise energy restoration.

## ELECTROLYTES FOR WATER BALANCE:

**6% Daily Value of potassium** for use throughout exercising.

## FLUID IN EVERY BITE:

**92% water** to help rehydrate during exercise

## PLANT-BASED PROTEIN:

Whether from the flesh (1 g/serving) or the dried seeds— (8 g/1oz)— watermelon’s protein contribution can be part of a post-workout eating plan for **muscle recovery**

## MUSCLE SORENESS:

An emerging area of study involves exploring possible associations between the **amino acid L-citrulline in watermelon** (286-1266 mg per 2 cup serving) and muscle soreness after exercise, but further research is needed with larger sample sizes and longer duration to fully determine the clinical implications.

## STUDY DETAILS:

The study<sup>6</sup> investigated the potential of watermelon juice as a functional drink for athletes, specifically investigating the role of L-Citrulline—an amino acid found in watermelon—may play with reduced muscle soreness. An in vitro approach was taken to investigate the intestinal absorption of l-citrulline using either unpasteurized watermelon juice, pasteurized (80 °C for 40 seconds) watermelon juice, and a standard of l-citrulline juice as a placebo. An in vivo approach was also taken to measure recovery heart rate after a bout of cycling and the perceived level of muscle soreness experienced. Seven athletes were given 500 mL of each of the three juices as part of three separate cycling bouts. Findings from the in vitro study show l-citrulline bioavailability was greater when it was contained in a matrix of unpasteurized watermelon. Findings from the in vivo show both watermelon juices helped to reduce the recovery heart rate and muscle soreness after 24 hours.

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