



## ORAC – What does it mean and how it affects recovery

ORAC stands for Oxygen Radical Absorbance Capacity and is correlated to antioxidants and their overall capacity in the human body to prevent and eliminate the dangerous effects of free radicals from attacking healthy cells. Examples of free radicals include toxins, chemicals, or pollutants that appear in our bodies from the foods we eat and the environment we live in. Think of free radicals as little unstable troublemaker cells that can be dangerous and cause damage in our bodies. Maintaining good health and enhancing recovery means keeping these cells under control. Eating foods with a high ORAC value is one way to do this.

ORAC measurement was created at TUFTS University for the USDA, to be a reliable way of determining the antioxidant capacity in foods. The FDA recommends 3,000-5,000 ORAC rating foods per day for optimal health. For athletes this may need to be higher. The higher the score, the more powerful the food is an antioxidant.

For most people, eating a diet rich in fruits and vegetables especially ones dark in color will get them an adequate supply. The government slogan of “5 a Day” is for the consistent consumption of five fruits and vegetables a day supplying an average ORAC value of 2500 ORAC units. The reality is that only 5% of the U.S. population consumes 5 fruits and vegetables a day. The National Cancer Institute found that 42% of the population eats less than 2 servings a day. The average American serving a day can be as low as 300 ORAC units.

As an athlete you need to increase your ORAC consumption because exercise creates free radicals or oxygen radicals. In addition boosting your ORAC units means boosting your immune system. When you play hard and train hard you are constantly in an oxidative state. Oxygen is essential for life, but it creates damaging by-products, “free radicals”, during normal cellular metabolism. Generally, these free radicals are eliminated by normal processes in the body but if you do a lot of intense exercise and you’re consuming enough foods with high ORAC values you may suffer from “under recovery”. This will hamper your daily training and keep you from reaching your goals. High ORAC value foods have a lot of antioxidants which protect the cells from this oxidative stress.

Remember, one important thing to keep in mind is that the overall antioxidant content of our foods has decreased due to soil depletion from modern farming techniques. Any antioxidant nutrients in fruits and vegetables that make it through growth and harvesting then become diminished due to the cooking, processing, preserving, and packaging which is very common today.

Bottom Line: You are what you eat and regarding vegetables it is better to eat raw. If you must cook, it is better to steam than to boil. Below is a chart that has foods with high ORAC values. Make these a part of your daily diet and you will discover that your able to train harder and recover faster.

<b>Food</b>	<b>Serving size</b>	<b>Antioxidant capacity per serving size. Units are Total Antioxidant Capacity per serving in units of micromoles (cooking can diminish their value)</b>
<b>Small Red Bean</b>	<b>1/2 cup dried beans</b>	<b>13727</b>
<b>Wild <u>blueberry</u></b>	<b>1 cup</b>	<b>13427</b>
<b>Red <u>kidney bean</u></b>	<b>1/2 cup dried beans</b>	<b>13259</b>
<b><u>Pinto bean</u></b>	<b>1/2 cup</b>	<b>11864</b>
<b><u>Blueberry</u></b>	<b>1 cup (cultivated berries)</b>	<b>9019</b>
<b><u>Cranberry</u></b>	<b>1 cup (whole berries)</b>	<b>8983</b>
<b><u>Artichoke hearts</u></b>	<b>1 cup, cooked</b>	<b>7904</b>
<b><u>Blackberry</u></b>	<b>1 cup (cultivated berries)</b>	<b>7701</b>
<b><u>Prune</u></b>	<b>1/2 cup</b>	<b>7291</b>
<b><u>Raspberry</u></b>	<b>1 cup</b>	<b>6058</b>
<b><u>Strawberry</u></b>	<b>1 cup</b>	<b>5938</b>
<b><u>Red Delicious apple</u></b>	<b>1 apple</b>	<b>5900</b>
<b><u>Granny Smith apple</u></b>	<b>1 apple</b>	<b>5381</b>
<b><u>Pecan</u></b>	<b>1 oz</b>	<b>5095</b>
<b><u>Sweet cherry</u></b>	<b>1 cup</b>	<b>4873</b>
<b><u>Black plum</u></b>	<b>1 plum</b>	<b>4844</b>
<b><u>Russet potato</u></b>	<b>1, cooked</b>	<b>4649</b>
<b><u>Black bean</u></b>	<b>1/2 cup dried beans</b>	<b>4181</b>
<b><u>Plum</u></b>	<b>1 plum</b>	<b>4118</b>
<b><u>Gala apple</u></b>	<b>1 apple</b>	<b>3903</b>

\*\*\*With nearly all vegetables, conventional boiling can reduce the ORAC value by up to 90%, while steaming retains more of the antioxidants.

**\*\*Remember to**

1. Always plan ahead for what you are going to eat
2. Obtain adequate amounts of protein
3. Work on Flexibility
4. Supplement your diet with a fish oil and multi-vitamin

Let me know if I can help. Email me at [architechsports@gmail.com](mailto:architechsports@gmail.com)

God Bless,

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