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| Introduction  Over the years there have been several supplements that athletes and body  builders have turned to in order to gain muscle quickly and effectively. Whether  it be drugs like steroids or nutrients that can be found in various foods. One  of these nutrients that can be found in meat or fish is creatine. Creatine was  discovered in the 1830s by a French Scientist named Chevreul(1), but was not  actually available as a supplement until the early 1990s.  Creatine is a nutrient that is produced in everyone’s body by the building  blocks of three amino acids- Arginine, Glycine, and Methionine. Generally  speaking it helps provide the energy to help our muscles move. Creatine found in  meat and fish is at a density of approximately 5-6 grams of creatine per  kilogram. The human body makes about 1 gram of creatine a day. Taking more  creatine in the body allows more ATP to be made in the muscles, which allows  athletes or anyone to work for longer periods of time and at a higher intensity.  The sales of creatine have increased dramatically over the last few years. It  went from just under $27 million in 1997 to well over $100 million last year in  2001. The reason would have to be quite simple, athletes finally found something  that could enhance their performance and didn’t have to have all the negative  side effects that drugs such as steroids bring. Of course it does have its  negative side effects such as loose stools, nausea, upset stomach, weakness and  dizziness, most of which will only occur at high doses such as close to 20 grams  daily.(2) Doses like this, if used regularly for weeks can cause kidney  damage.(3) The recommended amount of creatine to take is 3-5 grams daily and if  this range is maintained there should not be any problems.  Little is known about the long-term effect of creatine, as it has only been  available for 10 years.(4)  The benefits of creatine-  Obviously and proved by many tests the benefits of creatine would be increased  size and strength, while the increase in size may be partly to do with water  retention. Besides it allowing more ATP to be made in the muscles, it increases  oxygen uptake in the muscles.  It helps in short bursts of exercise that can be done normally in one to ten  seconds, so good for weightlifting or sprints, but not for long distance running  or high intensity cardiovascular workouts. After taking their first dose of  creatine, most will notice results in 2 to 4 days depending on how much they  take and how long they work out. It can be used at any time in the day but is  most effective if used around the time of a workout.  Just as you notice a fairly fast response when taking creatine, you will notice  a similar decline when it is stopped,(5) which can easily get picked up again  after restarting.  Oddly enough with creatine in particular there are people that benefit and  people that don’t feel any effects at all, the ones that feel it being called  “responders” and the ones that don’t are called “non-responders,” the reason for  this has not been discovered yet.  As your body makes 1-2 grams of creatine a day there is a schedule with creatine  supplements that you must follow to get the proper effects. For the first week  you must take approximately 20 grams of creatine a day, which is best if taken  in 3-4 doses of 5-7 grams of it. This is called the loading phase and it gets  creatine flowing through your muscles and when it is done the maintenance phase  begins which allows you to take 3-5 grams a day for the rest of the time you are  using it which can vary depending on the size of the person taking it.  The thing that has not been stressed before is that for creatine to be effective  it must be pushed into your muscles. At first creatine is taken into the gut,  the ultimate way to push it into the muscle is the hormone insulin.(6) The  glycemic index shows the ability of any substance to increase blood glucose,  which causes insulin to be produced. Thus the substance with the highest  glycemic reading will produce more insulin, allowing more creatine to be pushed  into the muscles, for a better workout. So the question is what has the highest  glycemic rating? Many people say that taking creatine with juice is effective as  it is to a certain extent, but most juices rating at 20, and grape juice rating  at 58, can contribute to unwanted weight gain that can easily be avoided, but  any type of juice has shown to be more effective than just taking creatine with  water if just muscle mass was trying to be obtained. But for the ultimate and  best results, dextrose has a rating of 100 on the index mainly because it  produces insulin in very high amounts. This brings up a new substance called  cell-tech, which is nothing more than creatine mixed with dextrose, which in  some tests has been proven to be 19 times more effective than creatine mixed  with water and 4.5 times more effective than creatine with grape juice.  However research also shows that after stopping creatine you will notice a  gradual decline in muscle mass, which can be easily regained once creatine is  picked up again. But with the side effects, the cost, and the fact that the  effects creatine give may not be permanent, is creatine really worth using? This  leads to my experiment.  (1)- www.powerhouse-supplements.com/creathisofer  (2)-Creatine -- just the FAQs, ma'am.  (3)-Creatine -- just the FAQs, ma'am.  (4)-Creatine -- just the FAQs, ma'am.  (5)-Creatine -- just the FAQs, ma'am.  (6)-Creatine has been reinvented: Find out how the world's first  third-generation creatine formula, CELL-Tech, has bodybuilders smiling about  their dramatic muscular gains!    ([Intro1](http://docs.google.com/introduction.html))([Intro2](http://docs.google.com/intro2.html))([Intro3](http://docs.google.com/intro3.html))([Intro4](http://docs.google.com/intro4.html))  [[Home](http://docs.google.com/home.html)][[Introduction](http://docs.google.com/introduction.html)][[Hypothesis](http://docs.google.com/hypothesis.html)][[Procedure](http://docs.google.com/procedure.html)][[Data](http://docs.google.com/data.html)][[Conclusions](http://docs.google.com/conclusions.html)][[Bilio/Links](http://docs.google.com/biblio.html)]  [[2002 Projects](http://docs.google.com/AP2002/index.html)][[2001 Projects](http://docs.google.com/index.html)][[2000 Projects](http://docs.google.com/AP2000/index.html)][[1999 Projects](http://docs.google.com/AP99/index.html)][[1998 Projects](http://docs.google.com/AP98/index.html)] |