

RECOMMENDED SUPPLEMENTS

SUPPLEMENT	DAILY DOSE	RECOMMENDATION
VITAMIN E (natural source)	2000 I.U.	5 X 400 I.U. CAPSULES at one time
VITAMIN C	1000 mg (time released)	500 mg twice a day
GINSENG	APPX 500 mg (cannot purchase exactly 500mg tablets)	AMERICAN GINSENG (active ingredient is Panax Quinquefolius)
RESVERATROL (red grape seed extract)	TAKE 1 TO 3 CAPSULES	JAMIESON and GRAPES PLUS (might be only distributor)
CO-ENZYME Q10	APPX 100 mg (cannot purchase exactly 500mg tablets)	60 mg CAPSULE twice a day
CREATINE	1 TSP	ADD TO APPLE SAUCE, YOGURT, JUICE etc...

ANTIOXIDANT VITAMINS

When our cells use oxygen to create energy, most of the oxygen ends up as part of harmless water molecules and carbon dioxide. However, a small amount of this oxygen takes the form of highly charged, destructive molecules called free radicals. Free radicals are bad for our cells because they can oxidize cellular proteins or membrane components and may even damage the genetic material in our cells (oxidation is the same type of chemical reaction that causes iron to rust). Fortunately, our cells have built-in mechanisms for neutralizing free radicals and they usually are able to handle the minimal damage that does occur.

In ALS, however, some researchers think that cells become overwhelmed by free radicals — they are produced much faster than the motor neurons can neutralize them. This situation is called oxidative stress. Faced with oxidative stress, a cell may eventually decide to self-destruct because it cannot handle the amount of damage that has occurred. **No one really knows for sure** if the motor neurons of people with ALS die because of oxidative stress, but there are a number of lines of research that suggest **oxidative stress plays some role** in their loss. For this reason, researchers have been interested in using antioxidants to try to **slow the progression of ALS**. Antioxidants are chemicals that can help cells neutralize free radicals (such as co-enzyme Q10, resveratrol, vitamin E and C and ginseng).

CREATINE

Creatine is an amino acid (amino acids are the building blocks of protein) and is categorized as a food supplement. In the body, creatine is changed into a molecule called "phosphocreatine" which serves as a storage reservoir for quick energy. Phosphocreatine is especially important in tissues such as the voluntary muscles and the nervous system, which periodically require large amounts of energy. It is suspected that the neuroprotective effects of creatine in the mouse model of ALS are due either to an increased availability of energy to injured nerve cells or to a blocking of the chemical pathway that leads to cell death.

Where can I buy these supplements? You do not need to buy these supplements at a specialized health food store. These are very common supplements and can be purchased at almost any leading pharmacy and/or retailer (such as Costco, Fortinos and/or Walmart).

Do I have to take all these supplements at once? No. When you take the supplements is up to you. You can take them in the morning or evening, you can take them all at once or you can take them at different times throughout the day. We just ask that you take our recommended daily dose.

I am taking other supplements. Should I keep taking these? Although the medical community is not fully aware of all the interactions between vitamins and supplements, we don't usually ask patients to stop taking other supplements and vitamins (such as calcium, a multi-vitamin, vitamin B, greens plus).

I cannot find American Ginseng. Can I use Siberian or Korean? The studies reviewing the benefits of Ginseng in ALS have only used American Ginseng (*Panax Quinquefolius*). We can only recommend vitamins and supplements that have proven to be beneficial in ALS.

Will these vitamins interact with the medications I am taking? Although the medical community is not fully aware of all the interactions between vitamins/supplements and medications you might want to review the vitamin list and your medication list with your pharmacist, Dr. Turnbull and/or family physician, especially if you are taking blood thinning medications (such as warfin), cholesterol lowering medications (such as pravastatin), blood pressure medications (such as atenolol) or anti-diabetic medications (such as insulin).

How will I know the supplements are working? You won't. All treatments in ALS are designed to slow down the progression of the disease. Since the treatments will not improve or cure ALS it is difficult to tell in any one given person if the treatments are working. However, the supplements and vitamins we recommend have been proven to be beneficial in ALS either theoretically (drawing on research done on other diseases) or experimentally (using mouse models of ALS).

Are there any side effects to these supplements? Rarely do patients report side effects when taking these supplements. If you are at all worried about possible side effects start by taking one vitamin at a time and add a new vitamin each week until you are taking all the supplements. If you think you are experiencing a possible side effect please let the clinic know.

Why can't I start the rilutek and vitamins all at once? Typically we suggest patients start by taking the supplements first (approximately 1 month) because they have the least amount of side effects. If there are no side effects after about 1month patients usually start taking rilutek (if they wish). We do not like to start too many new things at once because if there were side effects we would have a difficult time trying to figure out which medication/supplements were causing the problem.

I am having trouble swallowing the supplements. What can I do? You can crush and/or open the supplement capsules and put them in apple sauce, yogurt or pudding; blend them into a milk shake and/or put them in nutritional supplements such as ensure or boost.

Do the supplements come in liquid form? Some of them do (such as the vitamin E and C). Please ask your pharmacist which ones come in liquid form. The dose between liquid and capsules might not be the same so make sure to discuss this with your pharmacist.

ANY QUESTIONS OR CONCERNS PLEASE CONTACT THE CLINIC AT: 905 521 2100 extension 76870