

## NUTRIENT SUMMARY

Methionine-rich foods  
Effective B-vitamins  
Mineral cofactors  
Antioxidant variety  
Avoid gluten, casein

## METHIONINE CYCLE NUTRIENTS

Methionine  
Choline  
Betaine  
Phosphatidylserine  
SAME  
Adenosylcobalamin  
Methylcobalamin  
RNA, Nucleotides  
5 Methyl THF  
Pyridoxyl-5-phosphate

## INCREASE IGF-1

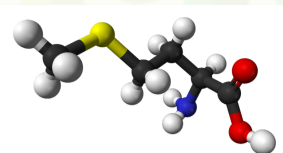
Milk, particularly whey  
Soy isoflavones  
Prunes  
Creatine  
Velvet deer antler  
Vitamin E  
Magnesium  
Omega 3 oils  
Sufficient sleep  
Exercise

## HIGHEST VEGETARIAN METHIONINE FOODS

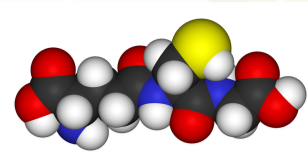
Sesame seeds, flour  
Sunflower seeds, flour  
Brazil nuts  
Spinach, turnip greens  
Broccoli  
Squash, zucchini  
Parmesan cheese  
Butter  
Blue cheese  
Soy protein  
Seaweed, spirulina



## SNPs, METHYLATION

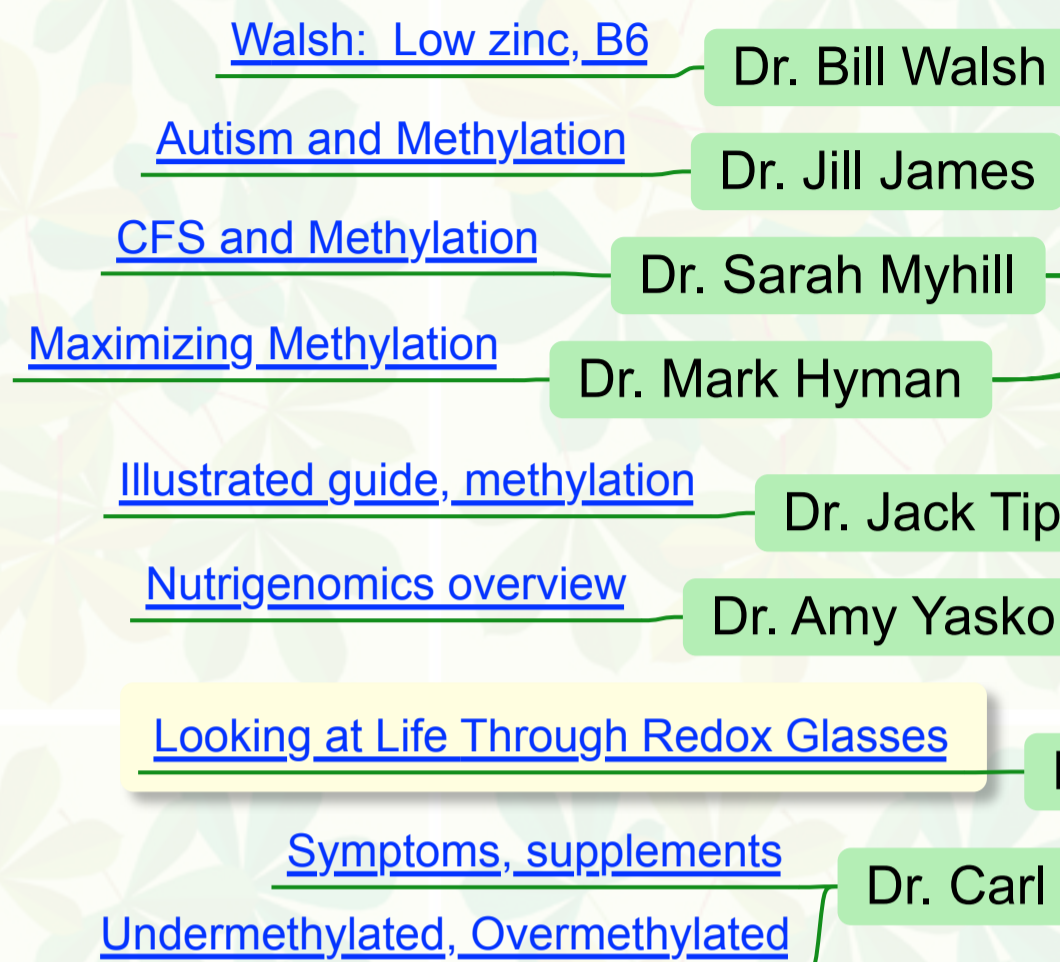


Glutathione



Methionine

**CASEIN, GLUTEN AFFECT GLUTATHIONE**



## NUTRITION AND LIFESTYLE FACTORS TO SUPPORT METHYLATION

Methionine

[Vegetarian, non-vegetarian](#)

Increase IGF-1

[Prunes in male rats](#)

[Prunes in postmenopausal women](#)

[Dietary factors to increase IGF-1, athletes](#)

[Soy isoflavones, capsaicin, IGF-1, hair loss](#)

[Prunes, osteoporosis, IGF-1, males and females](#)

Antioxidants spare GSH

[Lipoic acid](#)

[High ORAC foods](#)

RNA foods

[High purine foods](#)

★ [All foods with intact cells have nucleotides](#)

Toxins, choline

[Brain state determines methylation effect](#)

[Toxins inhibit methionine synthase, methylation](#)

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**[NUTRITIONAL BURDEN OF METHYLATION REACTIONS](#)**

**[EXERCISE AND METHYLATION](#)**

**[METHYLATION EQUALS LIFE](#)**

[Nutrient Summary](#)

[Diagram of Methylation Nutrients](#)

[MethylB12: Myth, Masterpiece, Miracle?](#)

**IGF-1: Doubles methylation if nutrients available**

"Lifestyle factors that increase IGF-1: low-fat, low-sugar diets; brief, intense exercise (not aerobic exercise lasting over one hour); not eating carbohydrates within 4 hours of bedtime. Yes, all the things your mother and your doctor have told you to do – you still need to do (surprise, surprise)! Another factor that increases IGF-1 is the correction of significant snoring (sleep apnea).

Foods and supplements that increase IGF-1: whey protein; creatine (5 grams per day); dairy products (although this may be from the whey protein in milk)." Dr. Ragno



**COMT: An important methyl-transferase molecule**

COMT is important in the metabolism of estrogen to products that have lower potential for oxidative DNA damage and reduced inflammatory properties. S-adenosylmethionine (SAME) is a substrate for COMT methylation, and availability of SAME depends on its own set of factors. Supplementation with SAME in patients who have COMT polymorphisms, in addition to folic acid, and vitamins B12, and vitamins B2, and B6 for those with MTHFR polymorphisms, can supply the needed substrate to favor the metabolism of estrogen to noncarcinogenic molecules. T. Morledge

**COBALAMIN: The best forms to take for methylation**

Lack of methylation happens with the lack of initial and methylfolate though these are not generally enough in themselves and are recycled many times receiving methyl groups from choline, TMG and other donors. SAM-e is a product of having methylb12 in the body and unless added as a separate item is part of a zero sum situation. I don't think there can be broken methylation in the presence of methylfolate and methylb12. This abnormal condition only occurs when the body is being starved for the real thing by being given pseudo vitamins like folic acid, cyanocbl and hydroxycbl or has paradoxical folate deficiency or other dietary and/or hereditary processing conditions. These three pseudo vitamins do not allow the body to normalize. Adenosylb12, methylb12 and Methylfolate allow the body to normalize. The initial stage of the body normalizing is for cell reproduction to turn on allowing general healing. [Phoenix Rising](#)

