

COMT: Warrior or Worrier?

COMT (Catechol-O-Methyltransferase)

COMT is the major enzyme involved in the methylation process. COMT catalyzes the transfer of the functional methyl group from S-adenosyl methionine (SAME) to a substrate, which has to be methylated.

Mutation of COMT gene is associated with

- Impaired DNA methylation
- Impaired neurotransmitter metabolism
- Decreased drug metabolism (important in neurodegenerative disorders)
- Decreased detoxification of toxic catecholamines from the environment
- Involvement in the manifestation of a variety of human disorders, including estrogen-induced cancers, Parkinson's disease, depression, and hypertension

People who has mutation of COMT, has Improved working memory, executive function and higher IQ, but as COMT gene controls estrogen, neurotransmitter (can stimulate 4 times more dopamine, adrenaline, adrenalin, and norepineprine levels) , and toxin elimination, these people also have anxiety and mood swings are prevalent.

Non-mutators are called 'Warriors' , they only focus when stimulated, like in a battle. The mutated are called 'Worriers', with continuous focus but subject to meltdown under high stress. Worriers get better grades but Warriors do better on tests.

More at risk for :

Anorexia ADHD Aggression Gambling Alcoholism Insomnia	Autoimmune disorders Tourette's syndrome bipolar disorder Schizophrenia Fibromyalgia
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"Worriers" (COMT mutators) has

- magnified response to caffeine and Ritalin
- worse PMS symptoms: migraines, carb cravings, crampings
- Easier to have panic, irritability, obsessive-compulsiveness, phobias, and sleep disturbance
- Increased sensitivity to pain and response to narcotic pain medicine

Supplementation: S-Adenosyl Methionine (SAME) is often recommended. Attention should be paid to other medications being taken, including anti-depressants.

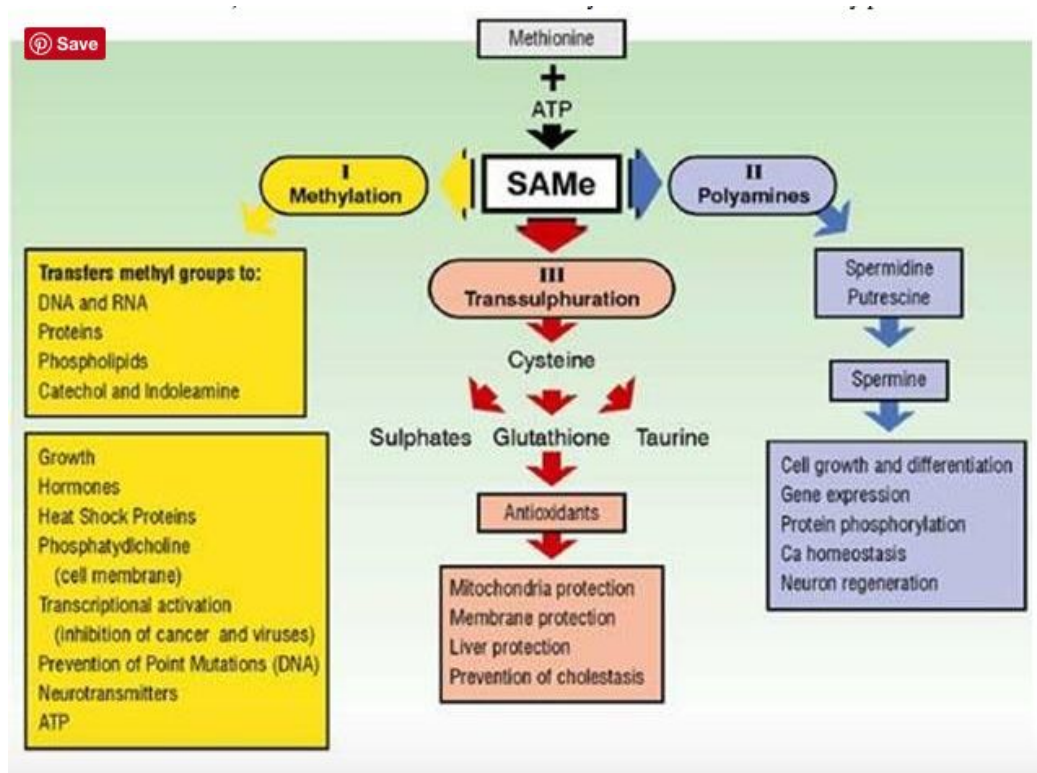
Before bed: Magnesium glycinate 400mg

AM a morning : B complex with methylcobalamin (methylB12) , L-5MTHF, and pyridoxine-5-phosphate.

Detoxification strategies of sweating, fasting, infrared sauna, and botanical liver support such as Milk Thistle, reduce risk and improve quality of life. GABA-promoting botanicals can give relief. Modulating estrogen can eliminate PMS. Nutrition, exercise, and botanical interventions are essential.

SAMe

- provides an important precursor molecule to 3 main pathways of all cellular metabolism: methylation, transulfuration, and aminopropylation.



SAMe

- Amount depends on amount of methionine synthesized by the body (involving folate (methyl-tetrahydrofolate) and vitamin B-12) and from breakdown of dietary proteins.
- serves as a universal methyl donor to many methylation reactions, other methyl donors include: folate, B12, TMG (Betaine), DMG and DMAE. Also, some vegetables (E.g. onions, garlic, beets) contain methyl donors
- donates a methyl group (CH₃) to another molecule to make it bio-active

Reference: <http://healyourselfathome.com/http://www.abihm.org/understand-comt-and-change-your-life>