

HIGH LYSINE/ LOW ARGININE DIET

Joan McGovern Tendler
Masters in Architecture
Weston A. Price Foundation
Milwaukee Chapter Leader

A HIGH LYSINE DIET IS ABOUT ANCESTRAL FOODS



Beef barley soup

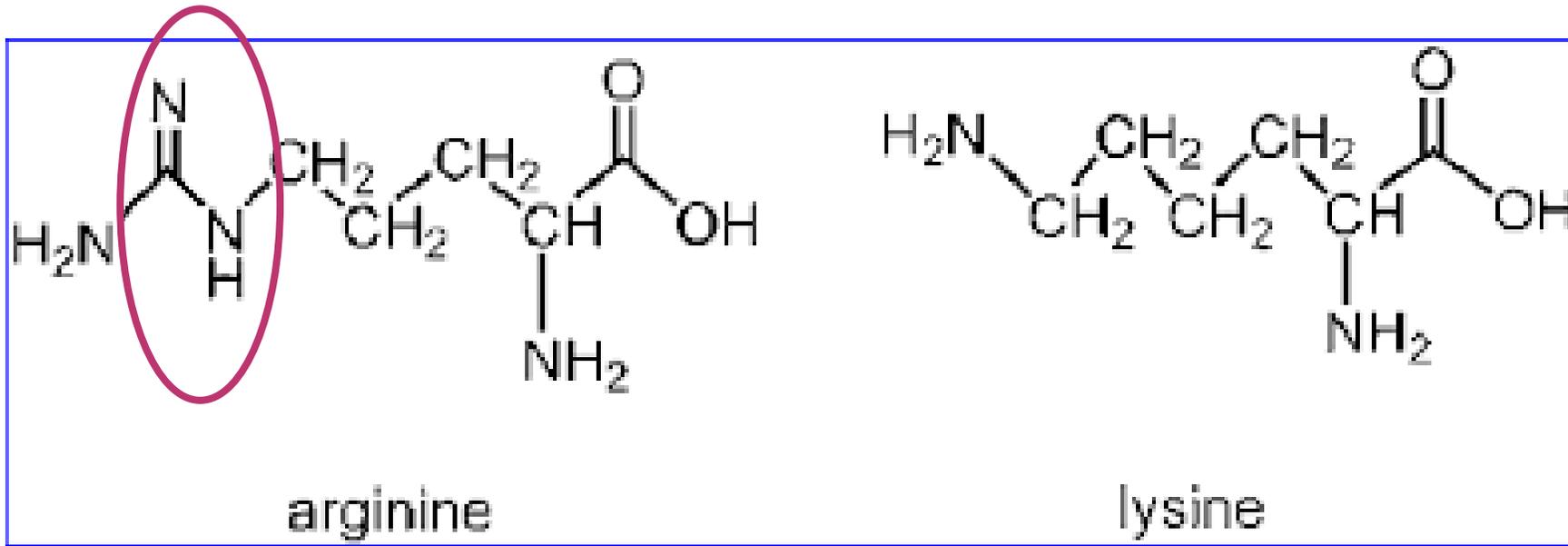
SUMMARY

Lysine, an essential amino acid, regulates absorption and actions of dietary and endogenous arginine.

Lysine: detoxes, dissolves oxalates, immunity, anti-cancer, calcium, hormones, heart, blood sugar, calming, digestion

Arginine is non-essential: increases inflammatory immune response/pathogens/cancer, worsens kidneys/methylation

In contrast, arginine made in the body from glutamine is needed for healthy blood flow.



Arginine

- "extremely" bitter (poison)
- high in nitrogen/ammonia
- high in all seeds

Lysine

- sweet-ish taste
- controls nitrogen in the body
- high in animal foods



Lysine may be the most important amino acid for determining protein needs.

3-day Danish pea and ham soup with open-faced ham on rye (smørrebrød)

Higher Lysine:

Dairy, brewers
yeast, fish,
avocado, pork,
poultry, potato,
beef, eggs,
shellfish,
white/red/black
beans

Finnish baked cod with milk,
cheese and barley crumbs





Higher Arginine:

Tahini, OJ, nuts, peanuts, berries/ grapes, coconut, seeds, rice, corn, **chocolate**, gelatin, wheat, oats, rye, peas, barley, chickpeas, soy isolate, quinoa, lentils, tofu



ASK A DOCTOR
www.healthwellness.com

Dark chocolate, nuts, avocados, whole grain and seeds can help boost your memory.

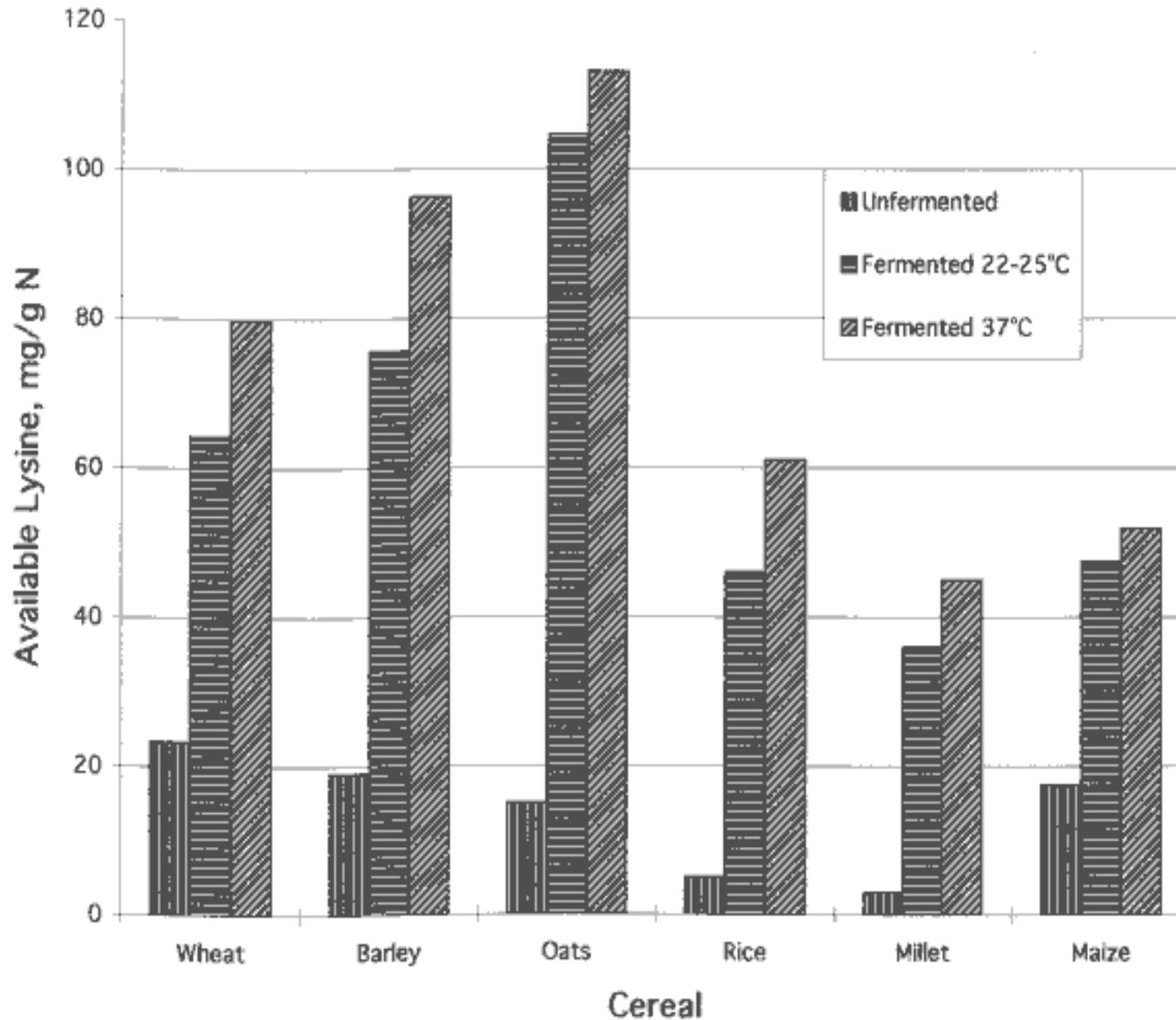
Causes of low lysine/high arginine

Diet, due to new recommendations

Lysine heated w/ carbs to 284 F

Toxins

Trypsin inhibitors



Traditional fermenting raises lysine by reducing phytates.

Chart is from the World Health Organization

“Why always lysine?” It’s catalytic!

- ▶ Insulin receptor
- ▶ Ketosis hormone PPAR alpha
- ▶ Sex hormones
- ▶ Vitamin A
- ▶ Vitamin D (kidneys)
- ▶ Thyroid hormone
- ▶ Blood pressure hormones
- ▶ Dopamine
- ▶ Cortisol (main stress hormone)
- ▶ Cancer-fighter p53
- ▶ SIRT
- ▶ Methylation



Shrimp and
spaghetti squash
casserole



Chemical “obesogens” bind to lysine in insulin receptor, causing metabolic syndrome

- Pesticides
- Bisphenol A (in protein powder)
- Trichloroethylene (silicone)
- Gossypol

FATTY LIVER, HEART, KIDNEY, AND MENTAL/NEUROLOGICAL DISEASES, CANCER, BIRTH DEFECTS/ INFERTILITY, OBESITY

Beef, Carrot and Turnip Stew

Normalizes high blood pressure, and reduces high blood sugar via activating insulin receptor

These are major risk factors for COVID-19. Also “efficiently blocked” COVID-19 infection!



Prevents diabetic neuropathy

- ▶ Nerve/muscle regeneration
- ▶ Lysine inhibited protein glycation (cataracts), improved glycemic control, and increased antioxidants in type 2 diabetics.
- ▶ Lowered meal frequency

Kohlrabi hashbrowns,
bacon, and eggs



Cardiovascular

- Prevents calcification of arteries
- Lowers “sticky” cholesterol Lp(a)
- “Rapid relief” from angina
- Saves niacin
- Increases healthful nitric oxide
- Prevents anemia/low hemoglobin
- Strong heart, arteries, capillaries
- Carnitine for heart energy

8 ounces of grains per day?



Converts cholesterol into bile, controlling LDL, preventing fatty liver. Gossypol raises cholesterol by binding to lysine in NPC1.



Gyros salad with feta cheese



Fat burning, or ketogenesis

- ▶ 1 of only 2 amino acids that form ketones, and not glucose
- ▶ Carnitine-”potent” inducer of ketosis, reducing belly fat
- ▶ Lysine supplement increased gut-derived ketones, decreased BCFA (depression) vs. arginine counteracts anti-depressants
- ▶ Protects mitochondria with MnSOD anti-oxidant

Lysine is needed for sex organ development/fertility.

- Gossypol binds to lysine, so was tested as birth control, but blocks cholesterol absorption, causing CAD.
- Lysine blocks testosterone conversion to DHT, so helps hormone-related disorders- endometriosis, PCOS, hair loss, acne.

1. Toxins, like solvents and estrogenic chemicals, may be the “drivers” of disease. Our main detoxification systems need lysine for activation.

2. Petro-chemicals are linked to herpes virus disorders, and lysine activates the CYP450 enzymes and glutathione that detoxify these chemicals.

3. Anti-oxidants: researchers induced acute pancreatitis with arginine (via **inflammatory nitric oxide**), then gave lysine. Lysine increased SOD, catalase, and master anti-oxidant glutathione, and lowered **inflammatory nitric oxide**.

IMMUNE SYSTEM/DETOXIFICATION



Immune system

- Lysine blocks absorption of arginine, which is a building block for virus, bacteria, fungi, and toxoplasma replication.
- Cancer fighter: Lysine activates major cancer-fighter P53, blocking inflammatory nitric oxide. Stabilizes DNA for reading.

Pulled pork on egg tortilla



Collagen (healing), elastin, calcium absorption

- Skin
- Joints (cartilage)
- Tendons
- Bones
- Muscles/heart
- Hair and nails

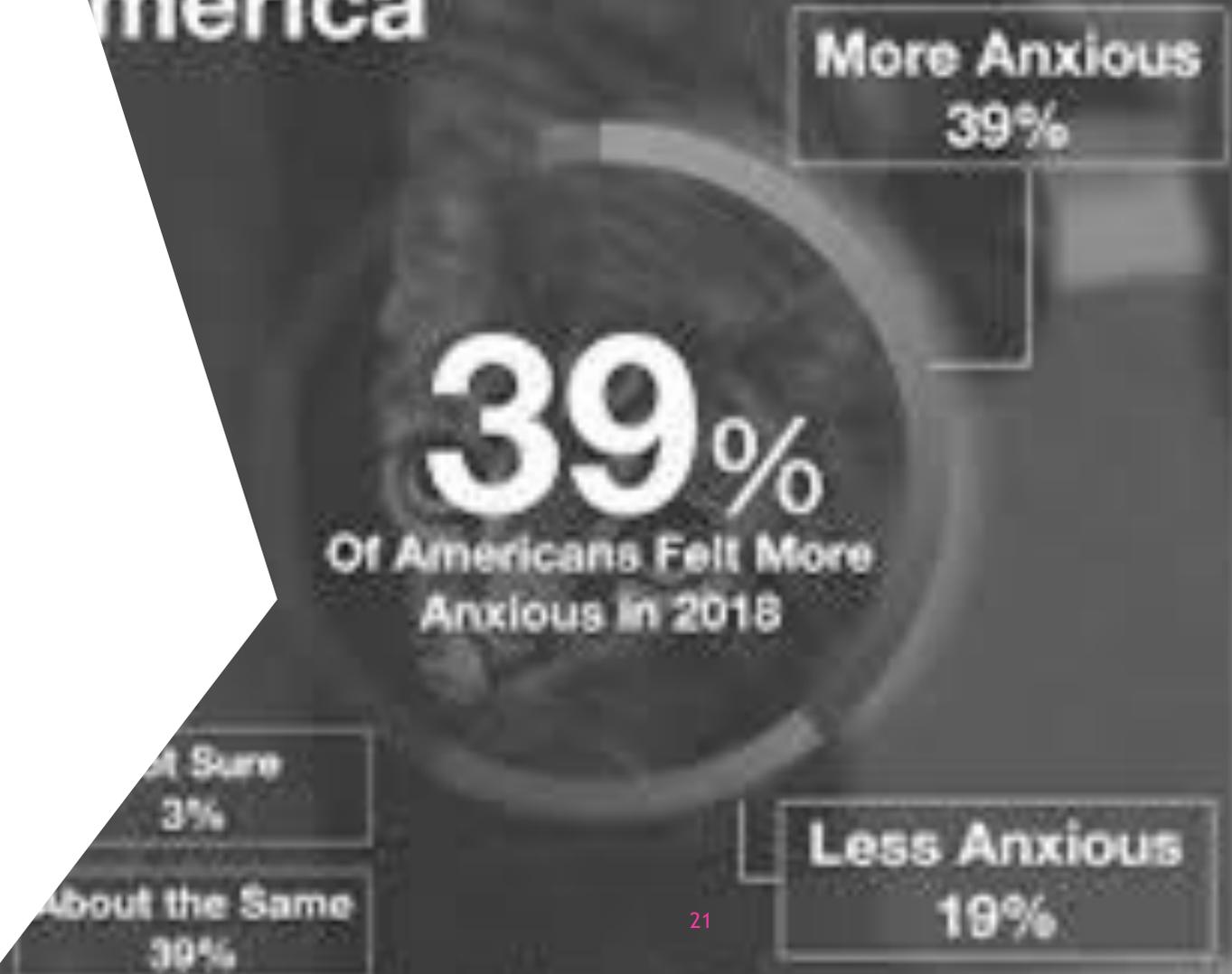
Vegans have higher risk for
kidney (calcium) stones.

Chicken with cauliflower rice

Lysine added to flour reduced anxiety in Syria

- Acts as a barbiturate
- Increases serotonin
- Induces acetylcholine for the alpha state, which stops inflammation, lowers cortisol/ tachycardia, repairs myelin, prevents seizures.

The Rise of Anxiety in America





Tuna spaghetti
squash casserole

Digestive system health:

Improves
diarrhea, leaky
gut, irritable
bowel syndrome,
SCFA (ketones).
Dissolves kidney
stones.

LOW CARB - GF - 5 ING

2g
NET CARBS

Almond Flour
KETO BREAD

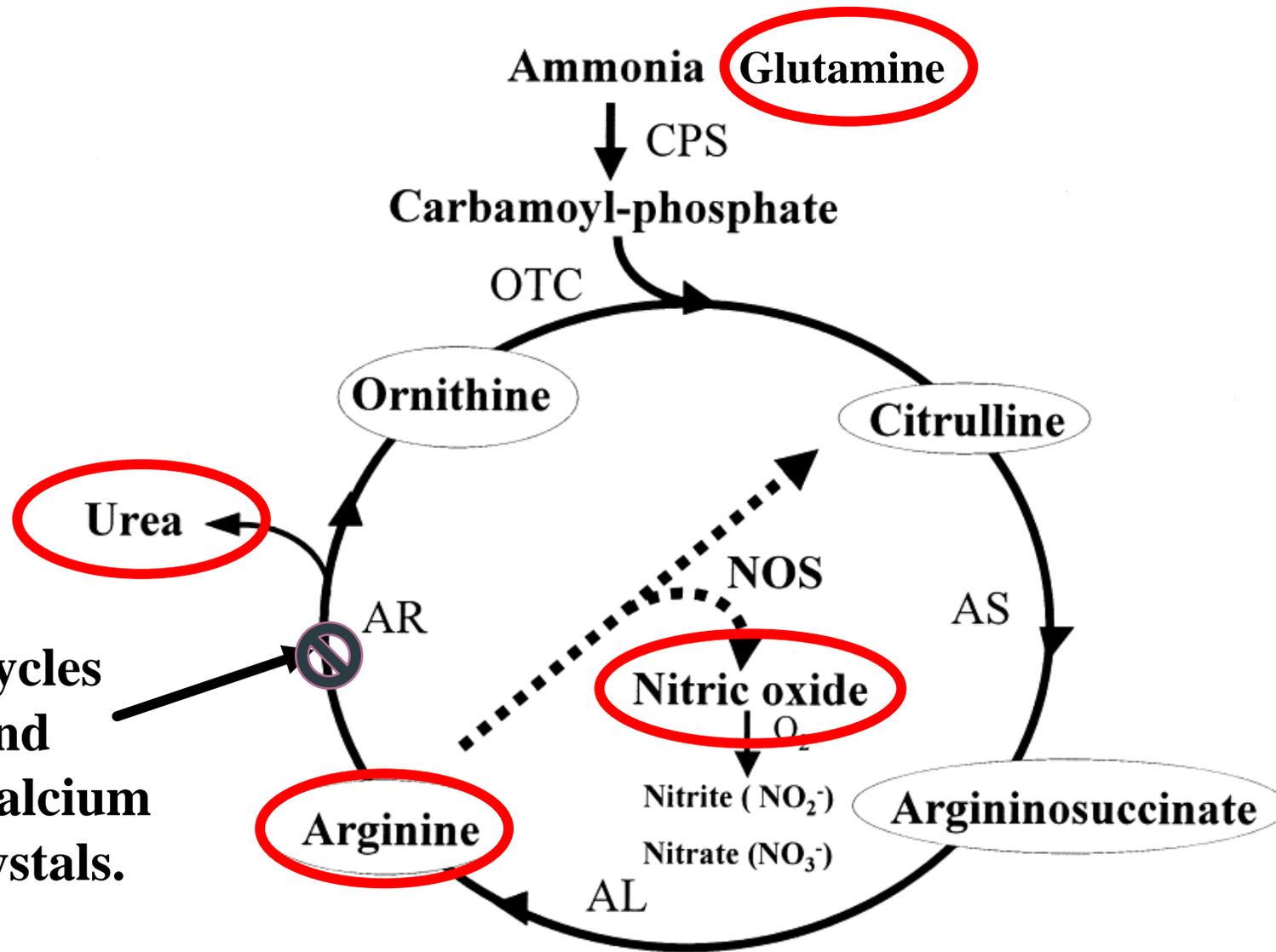
HOLESOMEYUM.COM

ARGININE

Supplement side effects

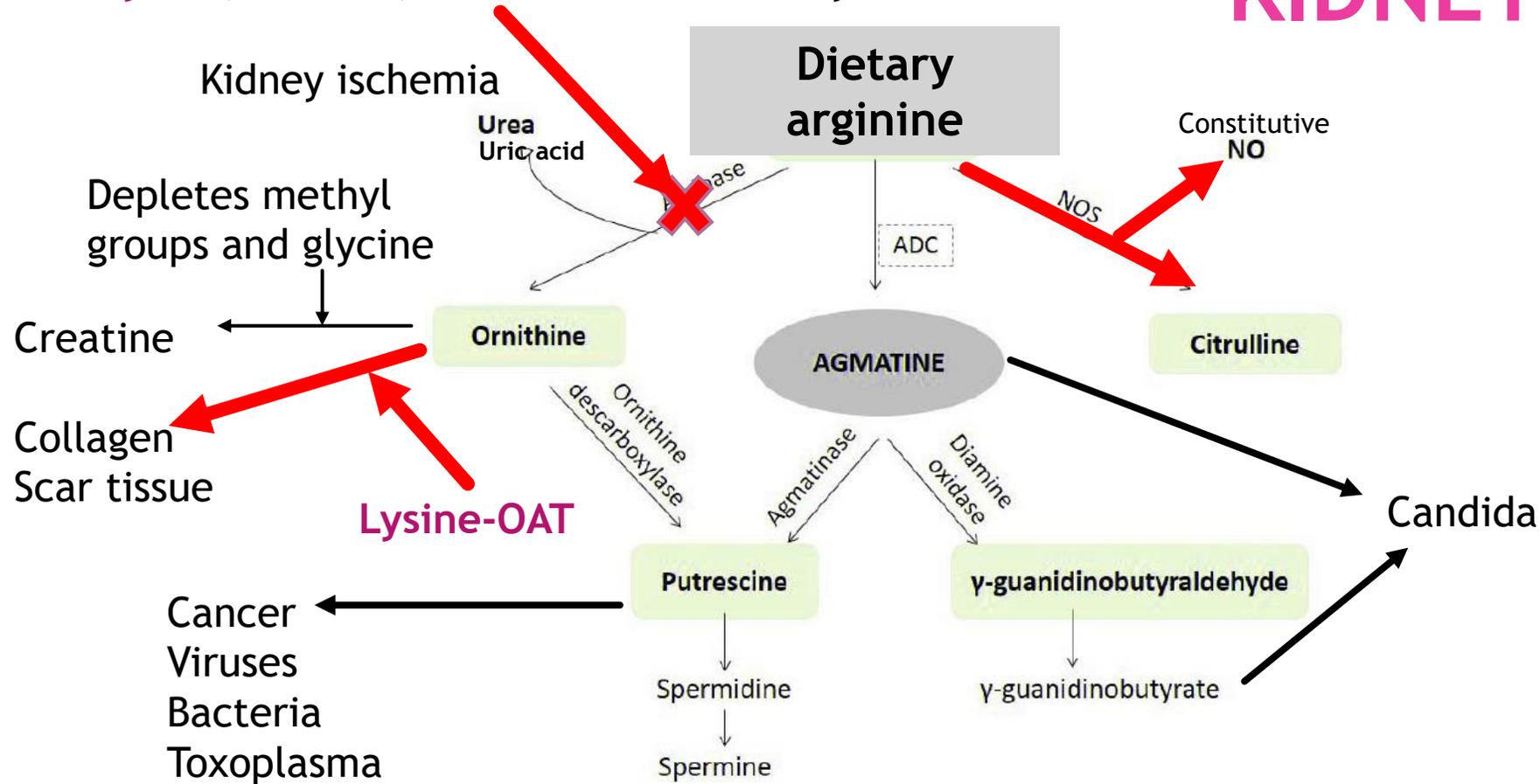
- ▶ Dizziness, light-headedness
- ▶ Irritability, depression, anxiety
- ▶ Dehydration, headache
- ▶ Restless legs, swollen legs
- ▶ Indigestion: bloating, GERD
- ▶ Chest pain, breathing problems
- ▶ Low blood sugar, blood abnormalities
- ▶ Lower back pain
- ▶ Worsened allergies, asthma
- ▶ Raises homocysteine
- ▶ Worsened kidney disease, gout

Lysine recycles nitrogen and dissolves calcium oxalate crystals.



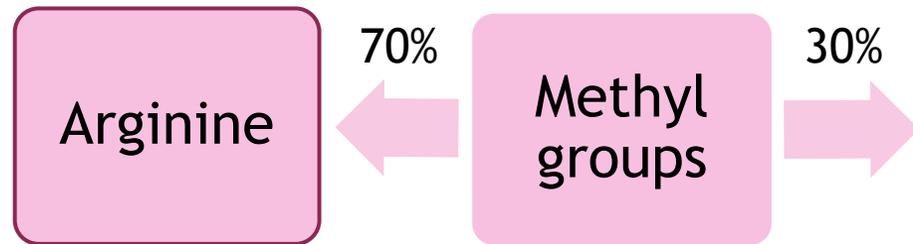
Lysine, ketones, diabetes/heart/kidney disease meds

KIDNEYS



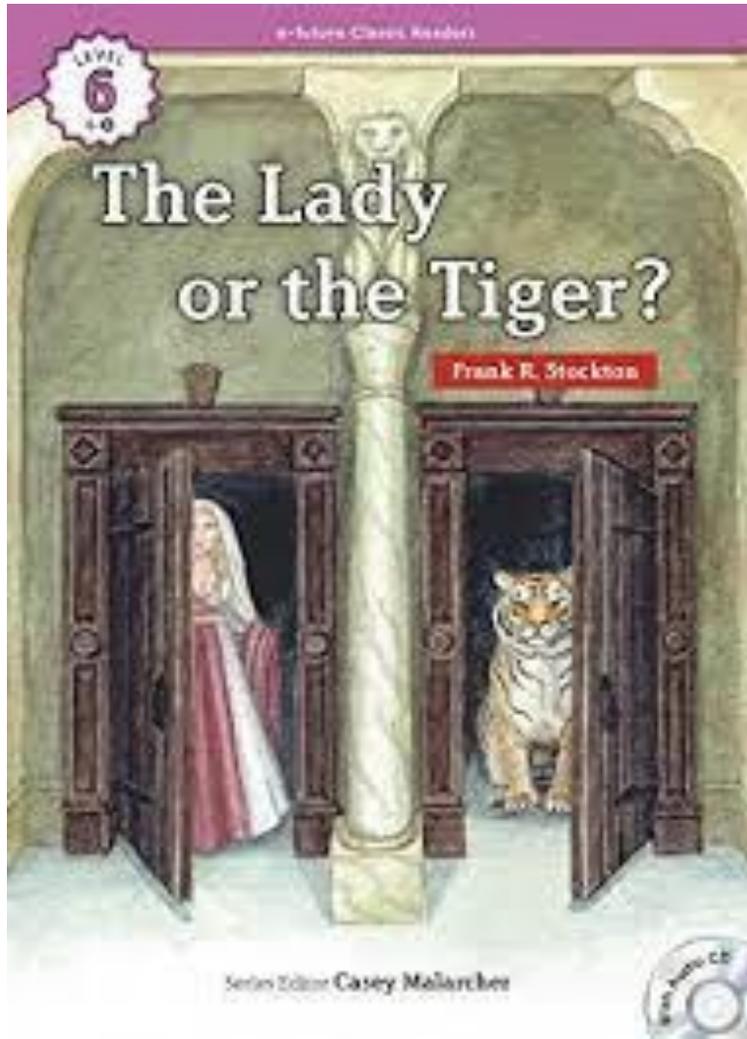
“Most dietary arginine is made into polyamines”: feed cancer cells/cancer-causing viruses and toxoplasma. “Arginine enhances tumor growth”. Arginine supplementation accelerates renal scar tissue and kidney disease, but lysine “diminished kidney injury”.

Lysine Methylation/ Detoxification



Excess dietary arginine raises homocysteine, may explain why vegans have high homocysteine and low glutathione.

- Correct reading of DNA, prevents birth defects
- Detoxification
- Repair, cell regeneration, anti-aging, prevents brain/muscle deterioration
- Lowers oxidative stress
- Cerebral blood flow
- Circadian rhythm
- Dopamine, serotonin
- Epinephrine: anti-histamine, Norepinephrine: anti-depressant



NITRIC OXIDE: THE LADY, OR THE TIGER?



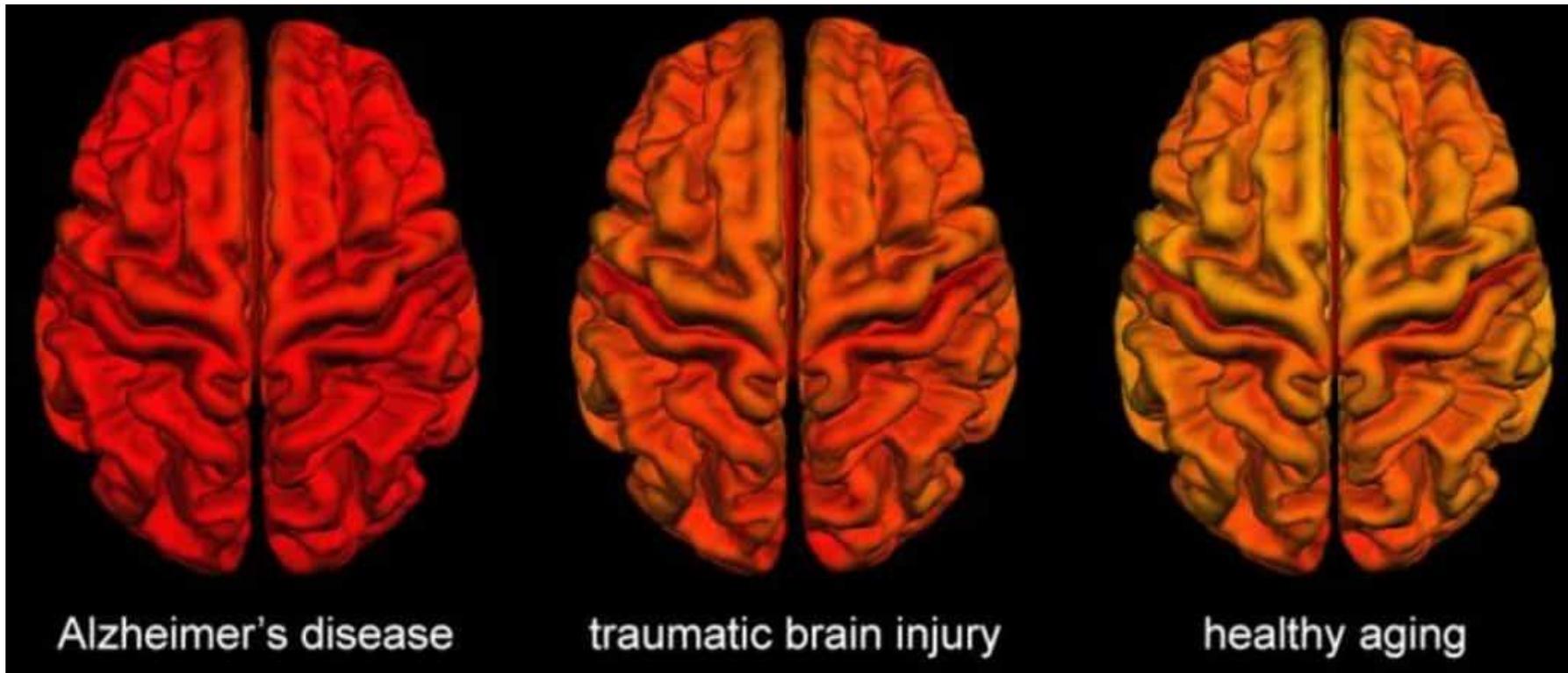
Borscht

We make all the arginine we need from glutamine (cheese, gelatin, fish, sauerkraut, meat), also beets, making constitutive NO-”the lady”-via lysine.

Inflammatory NO “Tiger”: overactive immune system, pain, heart, mental, neurological

- ▶ Headache
- ▶ Fibromyalgia
- ▶ Osteoarthritis
- ▶ Rheumatoid arthritis
- ▶ ARDS/Sepsis
- ▶ Obesity
- ▶ Atherosclerosis (CAD)
- ▶ Hypertension
- ▶ COPD
- ▶ Type 1 and 2 diabetes
- ▶ Asthma and allergies
- ▶ Multiple sclerosis
- ▶ Vision loss/cataracts
- ▶ Restless legs
- ▶ Constipation
- ▶ Depression, anxiety
- ▶ Parkinson’s, ALS
- ▶ Autism, Asperger’s, OCD
- ▶ Alzheimer’s
- ▶ Bipolar/schizophrenia
- ▶ Recklessness/suicide
- ▶ Osteoporosis

With traumatic brain injury, **inflammatory NO** blocker improves cortical thickness, needed for memory, attention, speech, and learning.



“NO is thought to be involved in neuroinflammation due to its free radical properties,²⁰ which compromise cellular integrity and viability via mitochondrial damage.”



- ▶ “Intradermal administration of L-Arginine causes a dose-dependent **enhanced sensitivity to pain.**”
- ▶ “The development of iNOS inhibiting therapeutic agents in the treatment of pain is very promising.”
- ▶ “L-lysine inhibits iNOS and reduces NO.”
- ▶ YET, EVERYONE SAYS-
“Reduce pain by eating nuts.”



This work was supported by the Western Grain Research Foundation and Saskflax.

Arginine paradox: dietary arginine is the sole source of **inflammatory nitric oxide**-“the tiger”, nitrosamines, “very damaging” peroxynitrite, “significantly boosted” COVID-19 and flu death.



Inflammatory NO
induces COVID-19
ARDS! So, “lysine
supplementation
and the reduction
of arginine-rich
food intake is
prophylactic and
therapeutic against
COVID-19.”

Jalapeno poppers

Cancer: arginine deprivation decreases **inflammatory NO**, decreases tumor growth factor IGF-1, and shrinks tumors.



High arginine hummus and pitas

“Substantial” **inflammatory NO** with MS,
which blocks M2 macrophage debris clean-
up, while lysine suppresses MS relapse.



High lysine zucchini
egg bake with bacon

With 10% higher dietary arginine than lysine, **inflammatory nitric oxide** shuts down enzymes and lowers dopamine, lowers methyl groups.

High arginine chocolate and berry dessert



Plant anti-oxidants in high arginine foods

- ▶ Flavanols in chocolate, nuts, grains, and seeds block lipase, but lipase is needed to burn dietary and body fat.
- ▶ Lipase blocker med decreases gall bladder emptying.

Which is trustworthy?

Harvard: Nuts contain arginine thus may prevent endometrial, colon, and pancreatic cancer.

Mayo Clinic: Nuts contain L-arginine that may help improve the circulatory system.

Studies paid for by:

California Walnut Commission.

Peanut Institute.

International Tree Nut Council
Nutrition Research and
Education Foundation.

Arginine increased heart attacks in study!

2006 study: “L-Arginine, when added to standard post-infarction therapies, may be associated with higher postinfarction mortality. L-Arginine should not be recommended following acute myocardial infarction.”

Arginine supplements for heart, aging, muscles, and erectile dysfunction

- ▶ “Short term L-arginine supplementation enhances endothelial NO production, while long-term supplementation causes endothelial senescence (deterioration with age)”
- ▶ Growth hormone is raised significantly only in young people.
- ▶ “Research indicates that supplementing with...arginine does not increase muscle mass any more than training alone.”
- ▶ “Long-term use of Arginine supplements offered no significant results in testosterone levels and exercise-related hormones.”
- ▶ IN CONTRAST: “Inhibition of **inflammatory nitric oxide** displayed beneficial effects in the treatment of ED.” Lysine does this.

Can't stop eating 'em!

Arginine becomes glucose, blocks insulin, lowers satiety, increasing meal frequency. Nuts can be high in oxalates, tannins, phytates, mycotoxins, fumigants, and linoleic acid.



“The average weight increase for the walnut group was 3 pounds and 2 pounds for the placebo group.” “Regular walnut intake resulted in weight gain...” (Both studies sponsored by the California Walnut Commission.)

High Lysine Snacks





Lysine is
Sheldon Cooper's
favorite
amino acid!

A close-up photograph of a plate of food. On the left, there is a pile of brown, crumbly pork sausage. In the center, two poached eggs are served, their whites firm and yolks slightly runny. To the right and bottom, there are several stalks of bright green asparagus, some cut into smaller pieces. The background is a dark, semi-transparent overlay with white text.

For a **High Lysine
Ketogenic Diet**,
see “Have Your
Ketosis and Eat
Bread Too: with
Keto-Light!”

<https://tendler5.wixsite.com/highlyinediet>

Poached eggs, asparagus,
and pork sausage