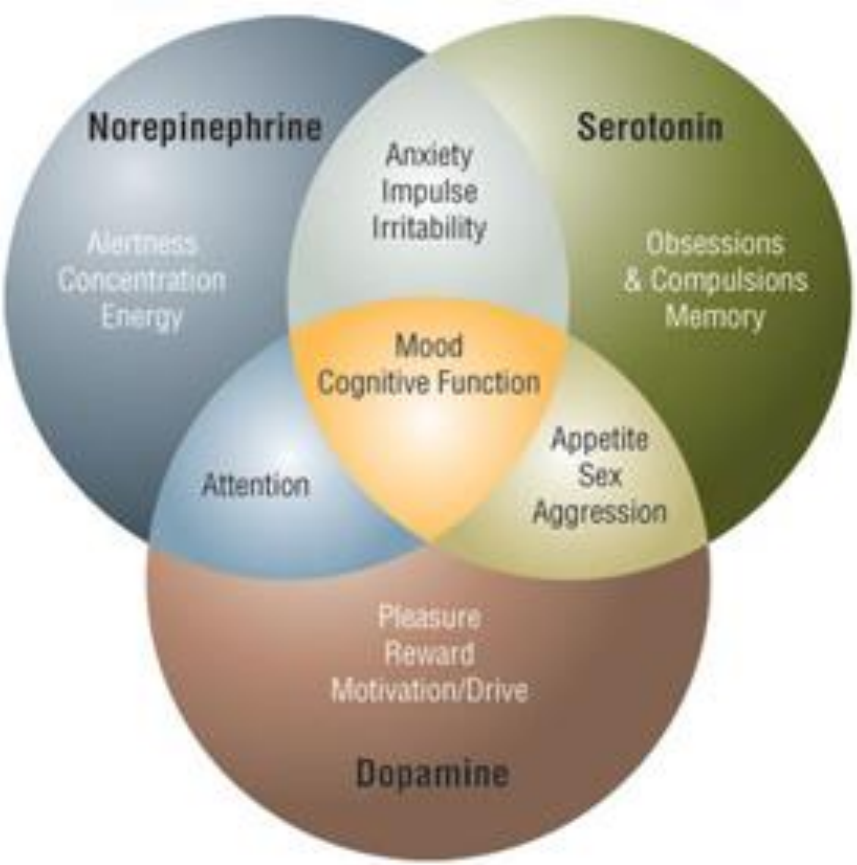
Eating for Brain Health



With

Dr. Ritamarie Loscalzo

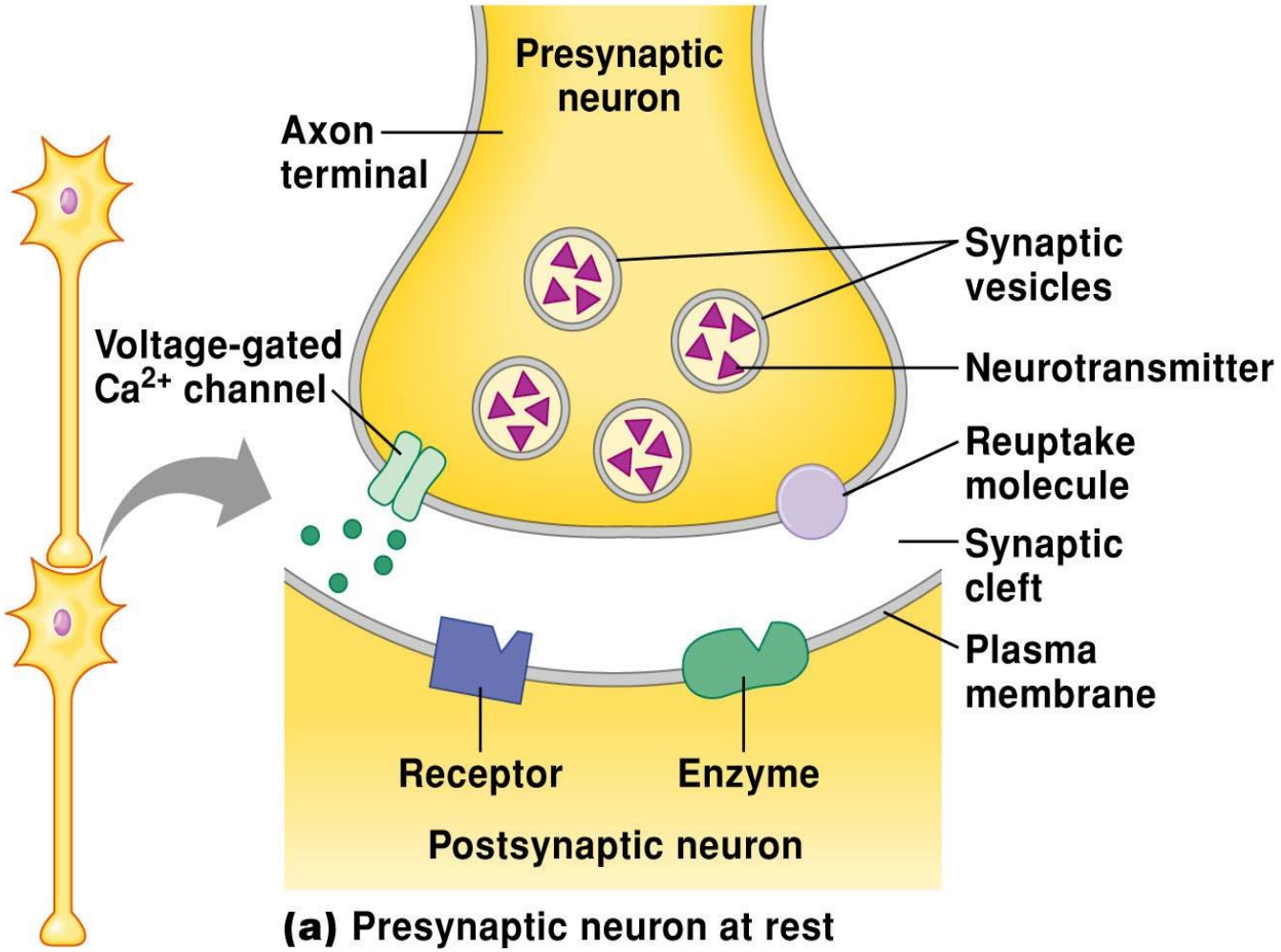
Medical Disclaimer: The information in this presentation is not intended to replace a one-on-one relationship with a qualified health care professional and is not intended as medical advice. It is intended as a sharing of knowledge and information from the research and experience of Dr. Ritamarie Loscalzo, drritamarie.com, and the experts who have contributed. We encourage you to make your own health care decisions based upon your research and in partnership with a qualified health care professional.

How The Nervous System Works

- Brain parts
- Neurons
- Synapses
- Neurotransmitters
- Myelin sheaths

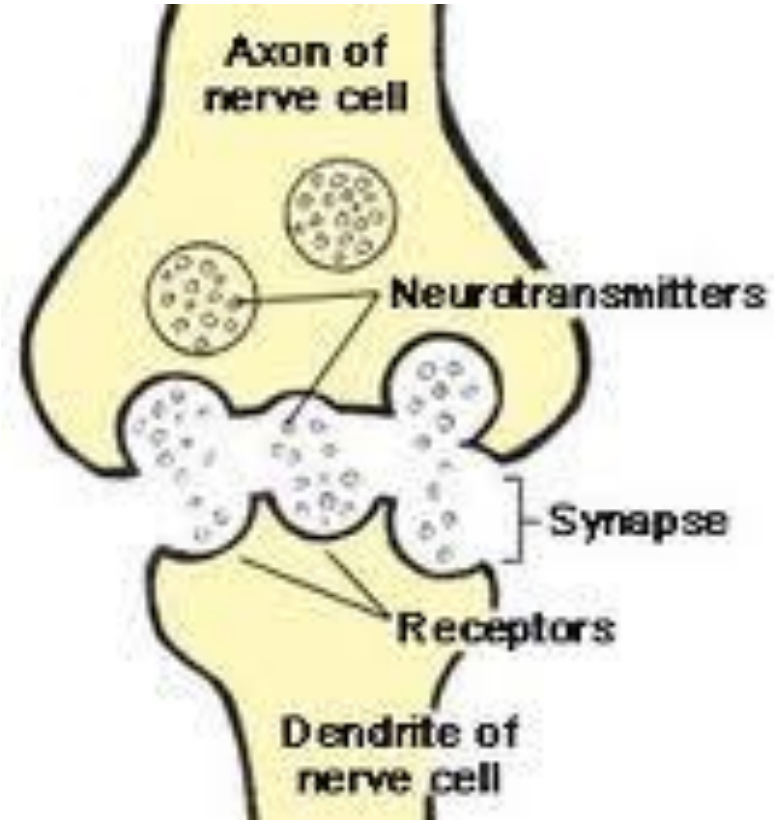
SYNAPSES

- Can be excitatory or inhibitory



Neurotransmitters

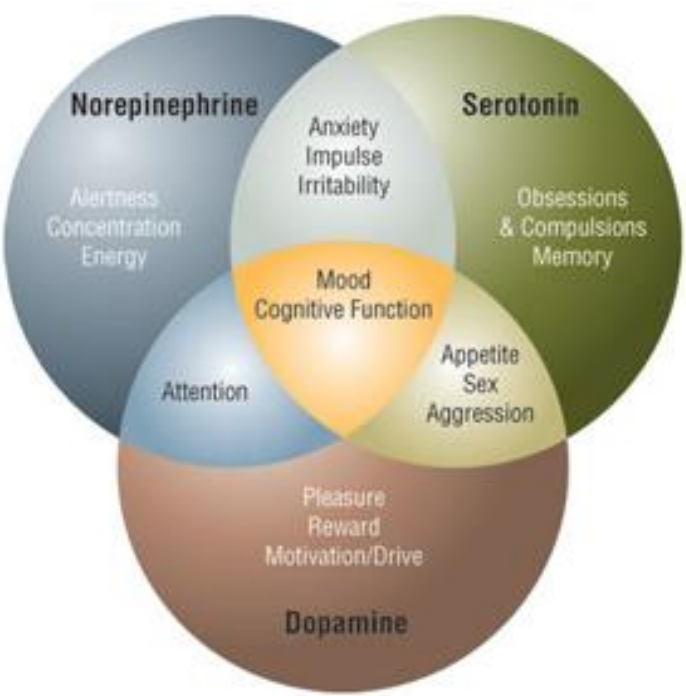
- Chemical messengers of the brain
- Location and action varies
- Excitatory or inhibitory



The Major Neurotransmitters

Inhibitory

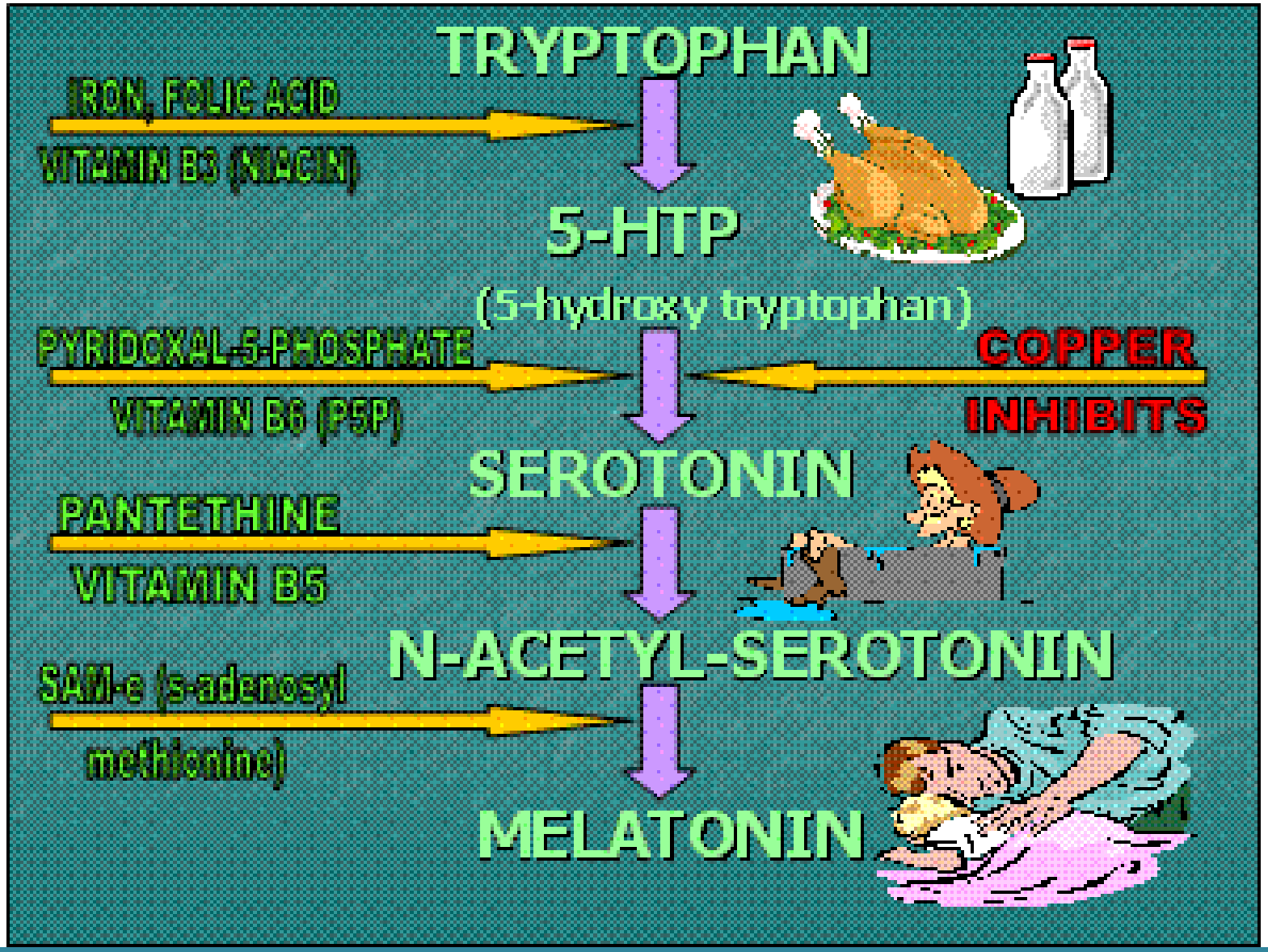
- Serotonin
- Dopamine
- GABA
- Glycine



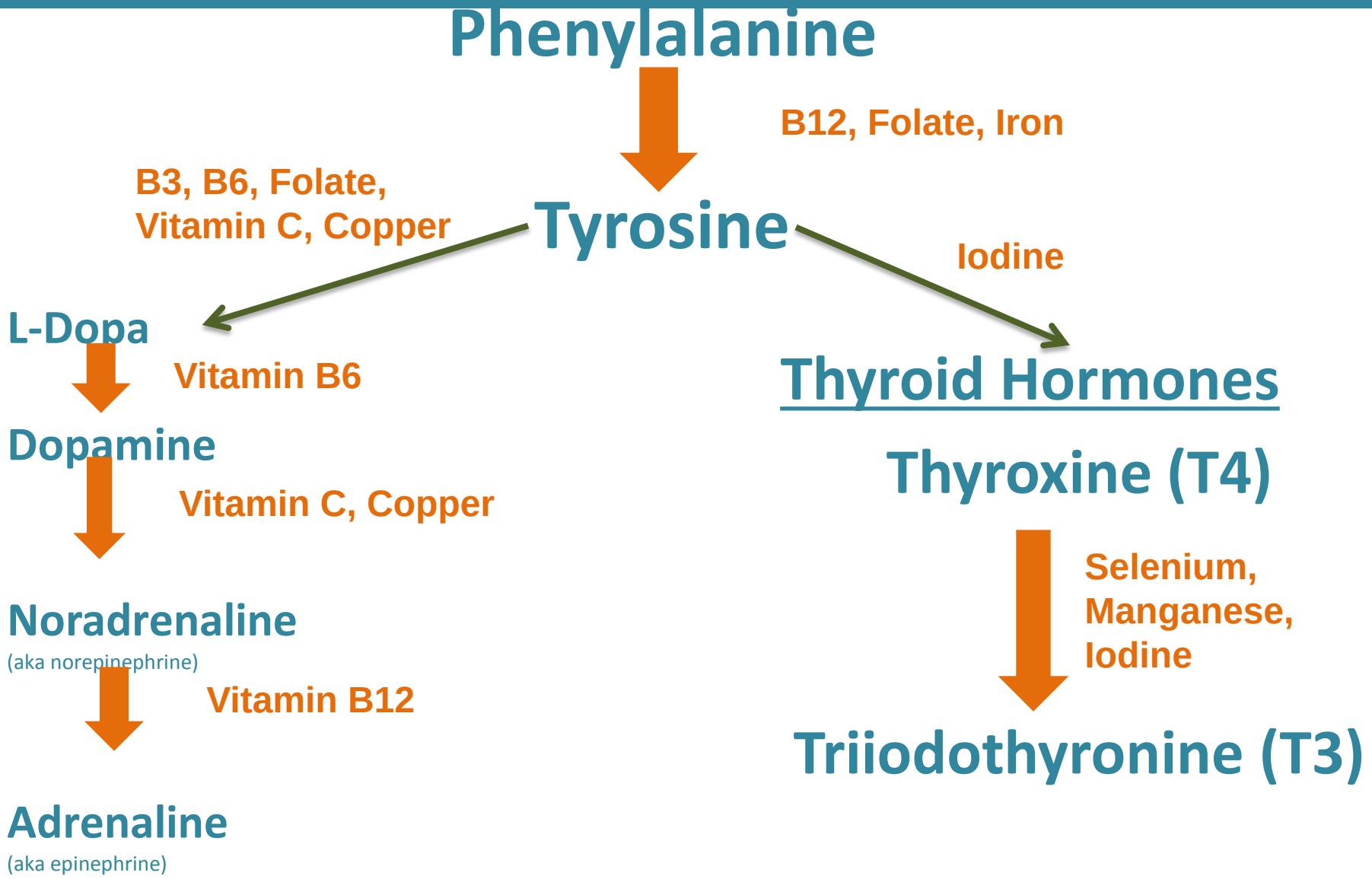
Excitatory

- Glutamine
- Acetylcholine
- Norepinephrine

Serotonin Metabolism

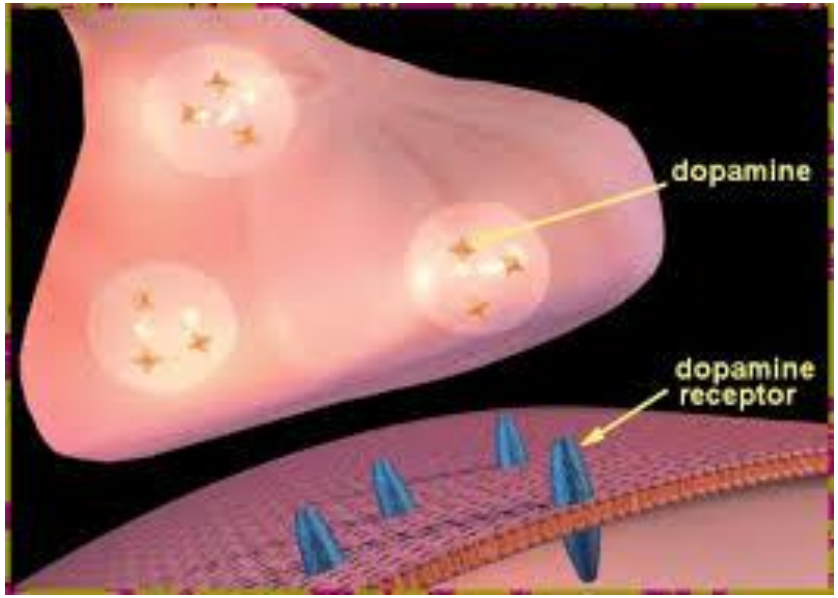


Dopamine Metabolism



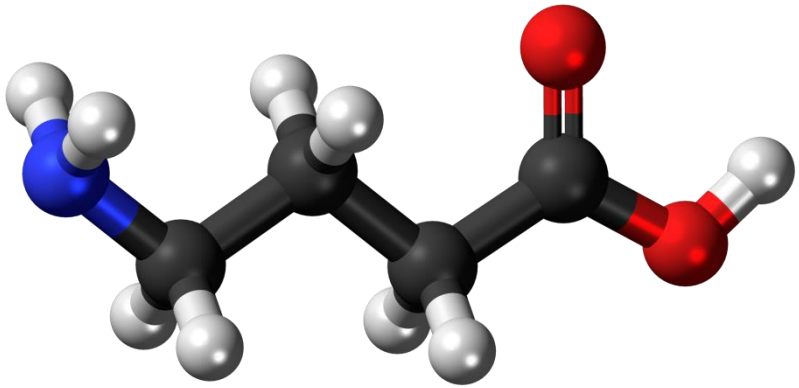
Dopamine Deficiency Symptoms

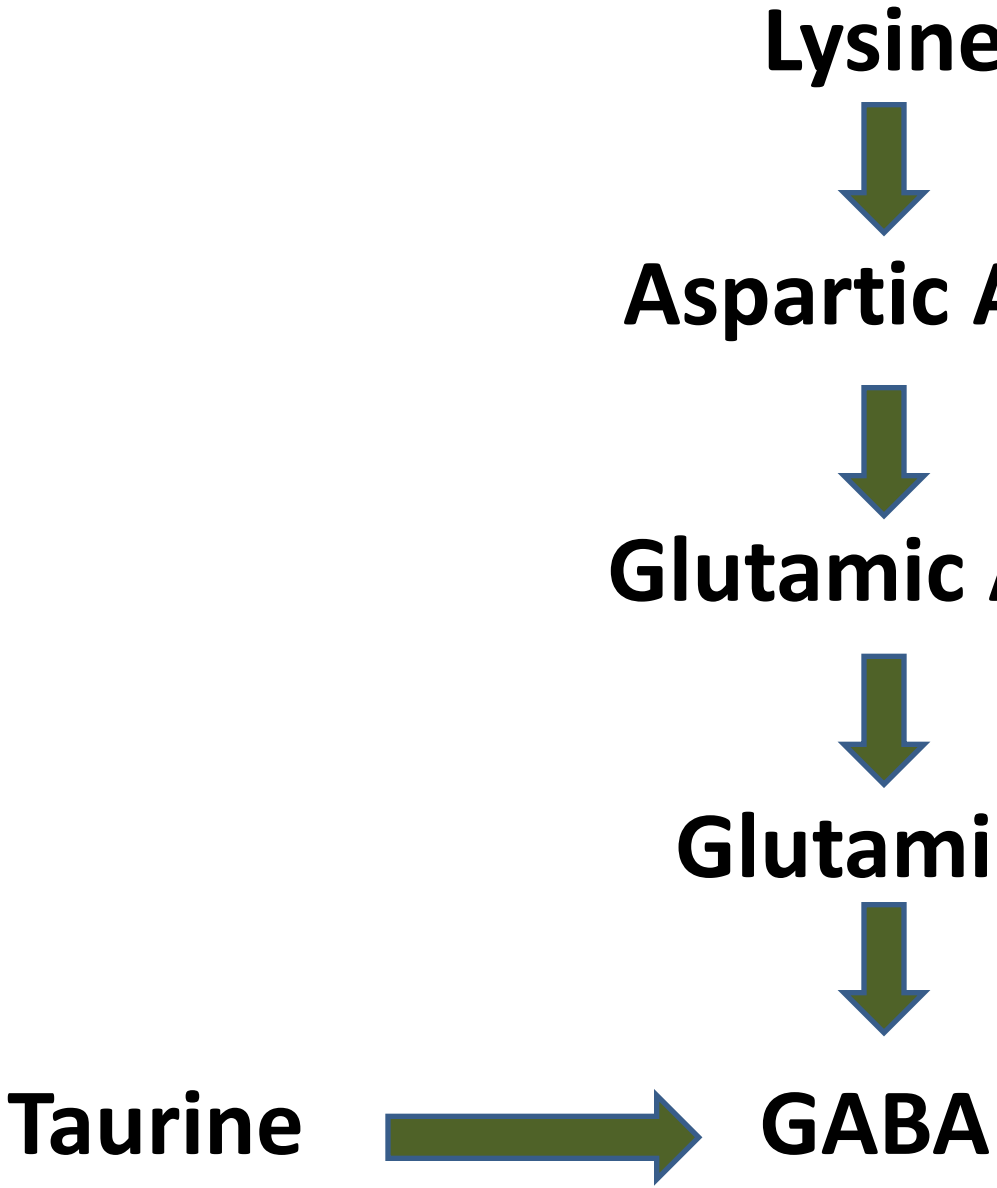
- Apathetic depression
- Lack of energy
- Lack of drive
- Easily bored
- Lack of focus
- Inability to concentrate
- ADD



GABA (*gamma*-Aminobutyric acid)

- **Inhibitory** CNS neurotransmitter
- **Functions outside nervous system:** intestine, stomach, pancreas, Fallopian tube, uterus, ovary, testis, kidney, urinary bladder, lung, and liver
- Regulates muscle tone
- Calms nervous system
- Affects attention and memory





What Can Go Wrong

- Depression
- Anxiety
- Lack of focus
- Memory problems
- Bipolar
- Schizophrenia

8 Essential Amino Acids: How They Affect Energy and Mood

- **Tryptophan:** Serotonin and Melatonin
- **Methionine:** Glutathione
- **Phenylalanine:** Tyrosine, Dopamine, Norepinephrine
- **Threonine:** Glycine
- **Valine:** Energy
- **Leucine:** Energy
- **Isoleucine:** Energy
- **Lysine:** Glutamine

Neurotransmitter And Precursors Amino Acids

- Phenylalanine → tyrosine
- Tyrosine → dopamine, norepinephrine, epinephrine, and thyroid hormone
- Tryptophan → serotonin and melatonin
- Glutamic acid → GABA
- GABA (gamma aminobutyric acid)
- Taurine → GABA

Nutrient Deficiencies That Can Lead to Neurotransmitter Imbalances

- B1
- B3
- Folate
- B12
- B6

- C
- D
- E
- Chromium
- Iron
- Choline

Serotonin Deficiency

Substances That Provide Relief

- Sweets
- Starch
- Tobacco
- Chocolate
- Alcohol
- Marijuana
- Ecstasy
- Prozac
- Paxil
- Effexor
- Celexa

Possible Amino Acid Solutions

- 5-HTP

  Or
- L-Tryptophan

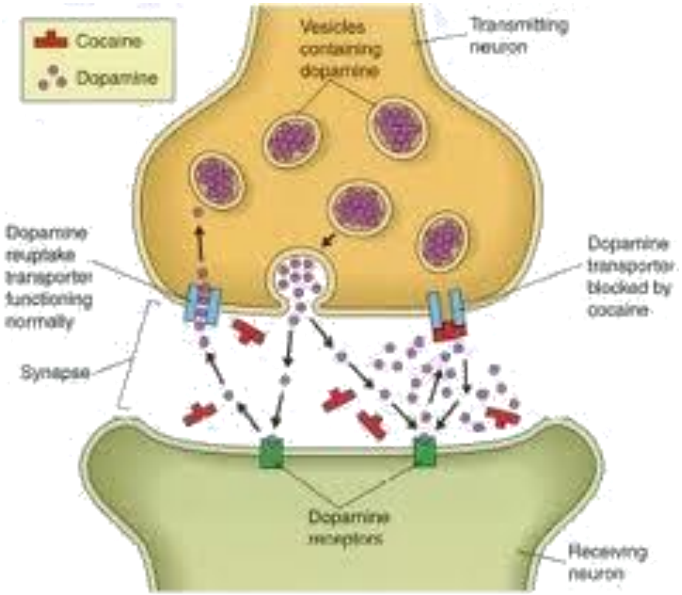
With

- Vitamin B6 as P-5-P
- L-Tyrosine

Dopamine Deficiency

Substances That Provide Relief

- Sweets
- Starch
- Aspartame
- Chocolate
- Alcohol
- Marijuana
- Caffeine
- Cocaine
- Speed
- Tobacco
- Wellbutrin
- Ritalin
- Adderall



Possible Amino Acid Solutions

- Tyrosine

Or L-phenylalanine, especially if also symptoms of low endorphins: sensitive to pain, cry easily, cravings for comfort foods or drugs

- With Vitamin B6

GABA Deficiency

Substances That Provide Relief

- Sweets
- Starch
- Alcohol
- Marijuana
- Tobacco
- Valium
- Neurotin
- Clonopin

Possible Amino Acid Solutions

- GABA
- Possibly with taurine and/or glycine

Brain-Friendly Diet and Lifestyle

- Whole foods, antioxidant-rich diet high in greens, fruits, and vegetables
- Fat balance: Omega-3s daily (flax, hemp, chia seeds, walnuts, purslane, and algae) and avoiding heated and processed fats
- Avoidance of environmental toxins
- Sugar balance
- Be wary of medications
- Manage stress