Aurum Medicine & Wellness

DESIGNING YOUR DIET FOR MENTAL HEALTH

Rebecca Minshall, MHSc, RD

FOOD & MOOD

Mental health symptoms are signs that one or more of the brain's connections are not working properly. Medication can be extremely useful in some cases, though looking at our food and gut microbes shouldn't be overlooked!

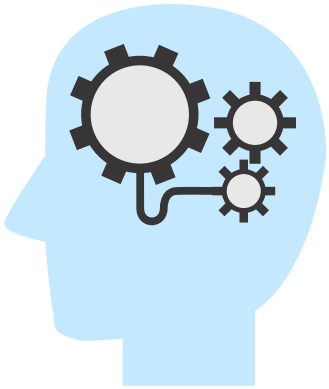
THE BRAIN-GUT CONNECTION

The **Enteric Nervous System (ENS)** is the nervous system **in our guts**. It has 100 to 500 million neurons (the most our body!). Neurons are messenger cells that send signals throughout our bodies. The ENS is sometimes called **"the second brain."**

The **Vagus Nerve** is the main nerve that **connects the brain stem to the gut**. It is wrapped around our digestive system and helps with food digestion and sending nerve cell signals to and from the brain.

Other systems that play a role in the brain-gut connection include:

- **The Central Nervous System (CNS)**
  - Produces: Dopamine, Serotonin, Acetylcholine
  - Regulates mood, thought and emotion
- **Autonomic Nervous System (ANS)**
  - Regulates hormones: adrenaline and noradrenaline
  - Controls involuntary functions, including digestion and fight or flight response
- **Hypothalamic-Pituitary-Adrenal Axis (HPA-axis)**
  - Produces hormones that stimulate the release of cortisol
  - Gut plays role in cortisol release and proper responses to stress



Imbalances in any of these systems can affect the whole gut-brain balance and cause mood changes, reduced immunity and compromise our gut barriers.

THE MICROBIOME

The microbiome is made of the living microorganisms and bacteria in our digestive systems. **Some are good**! They help us by doing things our bodies can't, like digesting some fibres. Ideally, these microbes are kept in a healthy balance but disruptions (like stress or mental health conditions) can change that balance and affect our whole body, including our mental health. **The food we eat can affect our microbiomes**. Different foods can promote or slow the growth of good bacteria.

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FOOD & MOOD: ANXIETY AND DEPRESSION

Anxiety is the most common mental health disorder and often goes undiagnosed and untreated. Anxious feelings are linked to the gut.
Depression can affect our appetites. It can decrease or increase appetites and make it challenging to make healthy meals.
Both anxiety and depression can change the microbes in our guts.

FOODS THAT IMPROVE MENTAL HEALTH

Probiotics & Fermented foods

- Living bacteria that are good for our health
- Can increase the good bacteria for mental health & memory
- Available in supplements, though it is better to eat "food first"

Food sources: Probiotic yogurts, fermented soybean products (Tempeh, Miso, Natto), kimchi, kombucha, kefir, sauerkraut, some cheeses (cheddar, mozzarella, gouda)

Omega 3 Fatty Acids

- Essential fats that we can only get through eating food sources
- Play roles in cell membrane structure and making hormones
- Reduces brain inflammation and are vital to mental health

Food sources: Fatty fish (salmon, mackerel, tuna, herring, sardines), walnuts, edamame, chia seeds, vegetable oils (canola oil), dark leafy vegetables, fortified foods, (eggs, milk, yogurt)

Prebiotics & Fibre

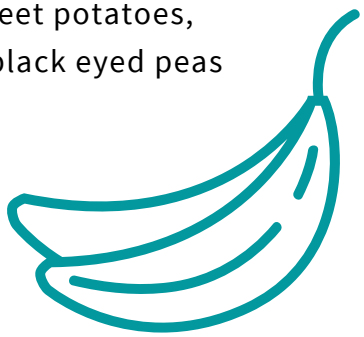
- Prebiotics are foods we eat that feed good bacteria
- Some bacteria breakdown fibres that we can't digest. This can reduce inflammation and help the growth and repair of healthy cells.

Food sources: Oats, beans and legumes, bananas, berries, garlic, onions, dandelion greens, asparagus, leeks

Vitamin A

- Helps brain and neuron function
- Deficiency can affect stress response
- Can improve depression

Food sources: Sweet potatoes, carrots, spinach, black eyed peas



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B9 (folate) & B12 (cobalamin)

- Deficiencies can lead to loss of brain cells, especially in hippocampus which is important for learning & memory
- Can affect stress responses & serotonin synthesis

Food sources: Legumes, citrus fruit, bananas, avocado, leafy greens, cruciferous vegetables, asparagus, nuts, seeds, fish, shellfish

B1 (thiamine) & B6 (pyridoxine)

- Help make neurotransmitters involved in mood

Food sources: same as B6 & B12, plus soybeans, whole grains

Vitamin C

- Helps make neurotransmitter

Food sources: citrus fruit, cantaloupe, strawberries, cruciferous vegetables (broccoli, cauliflower, Brussel sprouts)

Selenium

- May help improve mood

Food sources: brazil nuts

Iron

- Protects neurons & helps make mood chemicals

Food sources: shellfish, lean red meats, organ meats, legumes, pumpkin seeds, broccoli, dark chocolate

Zinc

- Reduces brain inflammation

Food sources: seafood (cooked oysters), lean beef, poultry, beans, nuts, whole grains

Potassium

- May help improve mood

Food sources: sweet potatoes, bananas, mushrooms, oranges, peas, cucumbers

Vitamin D

- Lower blood levels of vitamin D seen with depression and anxiety
- Increasing vitamin D may help reduce anxiety and inflammation

Food sources: Fortified milk, egg yolk, salmon, sun dried mushrooms, cod liver oil

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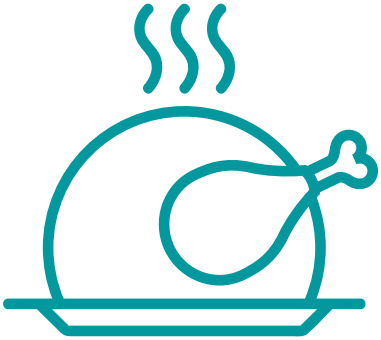
Tryptophan (TRP): Essential amino acid

- Helps make serotonin
- Claimed to cause "sleepiness" after Thanksgiving turkey
- Eating TRP foods with a carb may help TRP reach the brain and increase serotonin.

Food examples: Chickpeas (hummus) + carb (whole grain crackers or pita), Turkey + mashed potatoes



Magnesium

- Important for proper brain functions and muscle relaxation
- Deficiency connected to anxiety & depression

Food sources: avocados, nuts, seeds, legumes, whole grains, some omega3 rich fish (salmon, mackerel)

Mediterranean Eating Pattern

- Shown to improve depression compared to control group
- High amounts of vegetables, grains & legumes
- Moderate amounts of fruit, fish , nuts, seeds, unsweetened dairy and olive oil
- Low amounts of red meats, sweets, fried foods and refined grains

OTHER CONSIDERATIONS

Standard American Diet (S.A.D.)

- High intake of refined carbs & not-so-healthy fats, low intake of whole foods (vegetables, fruits, whole grains, healthy fats)

Sugar & refined carbs

- Too much sugar can flood the brain and lead to inflammation
  - **Consider:** eating refined carbs in moderation & pairing with protein food

Fried foods & not-so-healthy fats:

- High intake linked to higher risk of developing depression and poorer wellbeing
  - **Consider:** Eating fried foods in moderation and avoiding trans fats
  - Eating mainly healthier fats: olive oil, nuts, nut butters, seeds, avocados
  - Eating moderate amounts of other fats: corn, sunflower and safflower oils

Caffeine

- Above 400mg/day shown to increase anxiety (about 4 cups of coffee)
  - **Consider:** Cutting down slowly, choosing decaf or herbal teas (like Chamomile)

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SIMPLE STEPS FOR MENTAL HEALTH

Start small!

- Small everyday steps lead to long term, sustainable change

Add in foods that improve

- Focus on adding in brain-healthy foods rather than restricting other foods
  - Examples:
    - Add a serving of vegetables each day
    - Choose whole grains instead of refined grains
    - Choose baked foods instead of deep fried
    - Add a serving of health fats each day (like a handful of nuts)

Start to tune into your body's hunger signals & notice how foods make you feel

- Ask yourself: What foods give you energy? What foods make you feel good?

Choose water!

- Hydration is very important. Dehydration has been linked to increased anxiety.

Find your support team

- Having a support team who cares about your best interests can make all the difference!
- Your team may include family and friends, as well as health professionals like your dietitian, doctor, naturopath, therapist and/or psychiatrist.

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