

## **Autogenic Therapy and Nutrition**

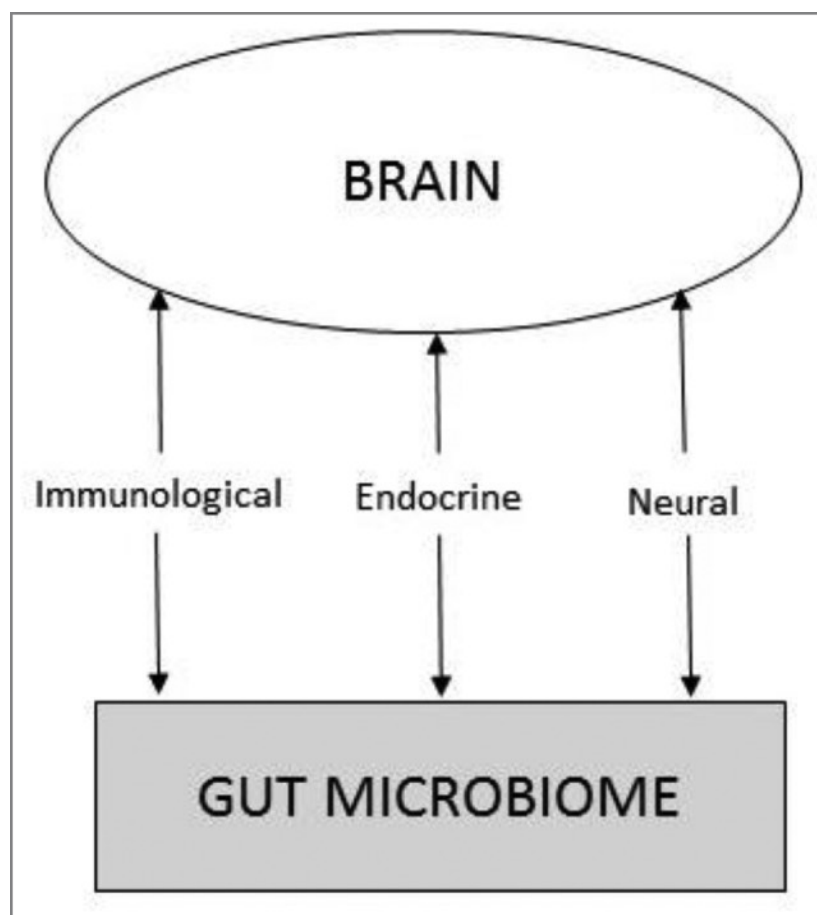
### **How does stress affect health?**

- Stress activates the hypothalamus-pituitary-adrenal axis leading to cortisol release.
- This increases the risk of weight gain, insomnia, depression, reduced immune response and hormonal disruption.
- Stress also activate the sympathetic nervous system, leading to the release of catecholamines.
- These inhibit digestion, increase the level of circulating free fatty acids, increase blood pressure, and stimulate the breakdown of glycogen to glucose in the liver which results in the raising of blood sugar levels.
- The gut has a central role in the stress response through the way gut bacteria modulates not only gut-function but also emotions, and vice-versa
- These reactions potentially lead to disease over time.

### **The gut , stress and health**

- The gut communicates with the brain through the brain-immune-gut axis, in a bidirectional way.
- This involves both the parasympathetic and sympathetic nervous systems. The parasympathetic system communicates through the vagus nerve. The vagus nerve sends signals to release neurotransmitters such as acetylcholine, which has a relaxing and healing action on the gut, as well as coordinating smooth muscle contractions.
- Signals travelling from the gut to the CNS, transmitting inflammatory or other signals corresponding to danger are thought to be responsible for our “gut feeling”.
- Going from the gut to the brain via the vagus nerve: some of the microbiome can release neurotransmitters, just like our own neurones do, via the vagus nerve.

- The gut barrier function decreases when stress is present, permeability of the gastrointestinal epithelium diminishes, and inflammatory cytokines are triggered from the gut.
- Moreover, it has been shown that there is bidirectional communication between gut microbiota and the brain: Stress suppresses beneficial bacteria, which causes more brain chemistry disruption, which in turn suppresses beneficial bacteria further.
- Another important consequence of the change in the microbiota is its negative effect on the immune system and so an increased vulnerability to disease. There can be a vicious circle of ill health mediated by stress until it is broken by the relaxation response.



The gut-brain axis.

Nurs Res. 2016 ; 65(1): 76–88

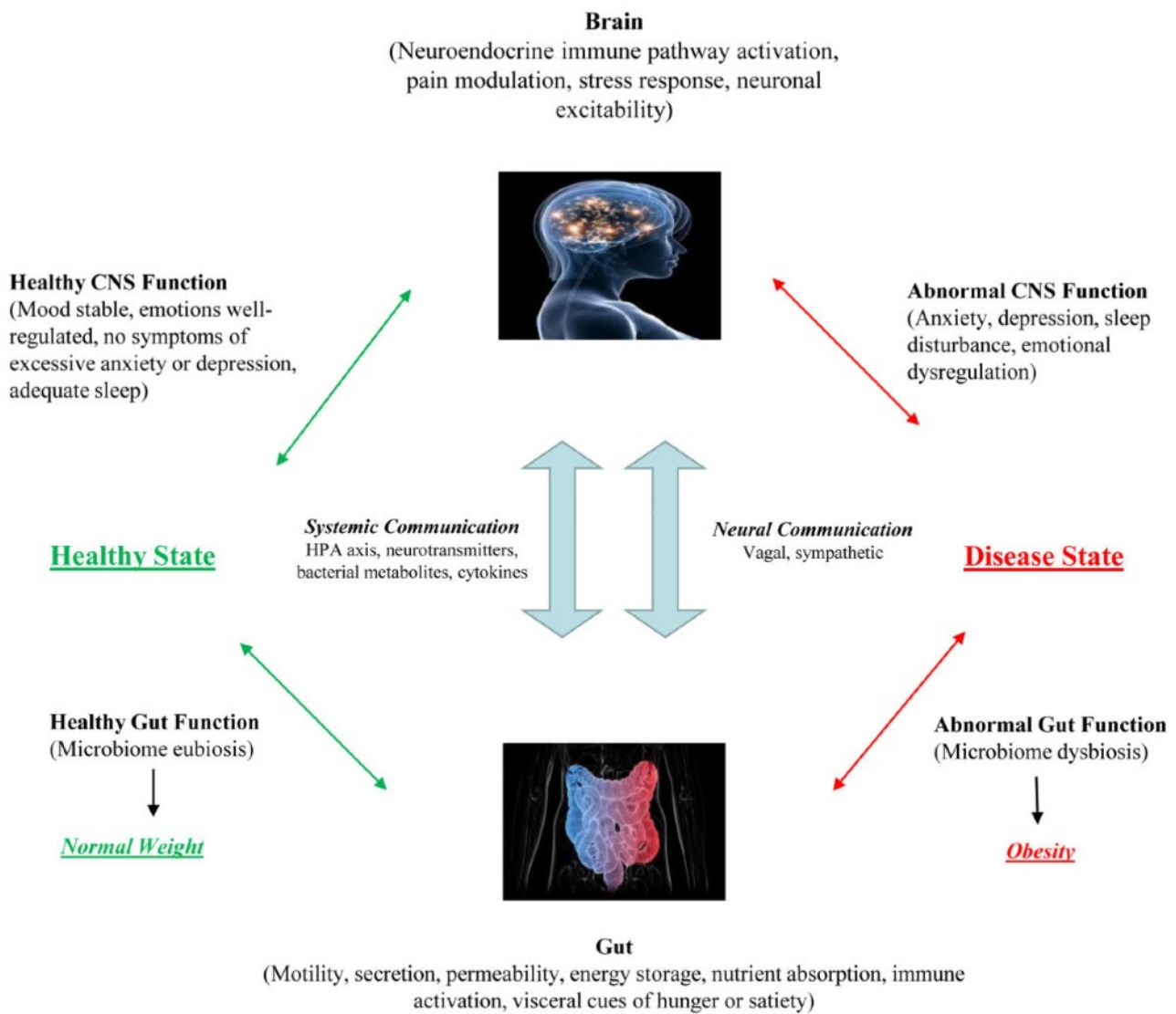
## **Some digestive disorders helped by AT practice**

There has been some research showing that the following conditions respond well to AT practice, or other meditation/relaxation methods. This is not surprising given what we know of the physiological effects observed on people practising AT: change in gastric contractions, which become more ample and regular; normalisation of gastric secretions; increased blood flow to the abdominal region.

- Irritable Bowel Syndrome
- Ulcerative colitis
- Crohn's disease
- Peptic ulcers
- Dyspepsia
- gastro-oesophageal reflux disease

## **Treating the gut for mental and physical health**

- It starts in the womb!  
The mother's gut microbiome changes during pregnancy and has a long term impact on the child's long term health. Dysbiosis during pregnancy is linked to higher incidences of intestinal disorders, neuropsychiatric disorders and ill health in the child in the long term.
- The birth: transmission of mother's flora during vaginal birth. There is less diversity and different species of bacteria in the gut of babies born by Caesarian section.
- Early days: breast versus formula milk- antibiotics exposure. Again, there's different bacterial colonisation of gut. Formula fed babies have higher levels of C.difficile, which is linked to higher risk of developing atopic symptoms (eczema, allergies..)
- Need for advice on nutrition and lifestyle, including how to deal with stress! AT: self-care for new mother.
- Diet of child up to 3 years impacts on gut microbiome and can predispose to obesity in later life.
- Can you change your gut bacteria? Probiotic usually only have a transient effect. They can be useful for specific infection. It's better to influence gut flora through diet and lifestyle: prebiotic and fermented foods, good fats and little sugar, and AT practice.



The bidirectional communication of the brain-gut axis occurs via systemic and neural mechanisms. It contributes to a healthy state with gut eubiosis and normal weight or a disease state with gut dysbiosis and increased risk of obesity.

Taken from The Maternal Gut Microbiome during Pregnancy  
MCN Am J Matern Child Nurs. 2017 ; 42(6): 310–317

## Weight loss and AT

- Sleep  
lack of sleep leads to increased appetite as it leads to levels of the hormone ghrelin, which stimulates hunger, to rise. At the same time, levels of leptin, a hormone that promotes feelings of fullness, go down. Poor sleep also increase cortisol and insulin release, which prompts the body to store energy as fat, particularly in the abdomen.
- Anxiety  
Anxiety might lead to mindless eating, comfort eating, and has an effect on hormones: chronic stress increases leptin resistance, down regulate thyroid function, has negative effect on blood sugar (again, leading to insulin resistance and fat storage) and cortisol release.
- Gut flora  
The composition of the gut flora has an effect on the way different foods are absorbed and metabolised. Also, a leaky gut can lead to an immune response against the body's own appetite regulating peptides. It can be modified with pre and probiotics, and of course by practising AT!
- Getting to the root of the problem: losing weight is very difficult because of a lifetime of bad habits, because of what food means to us beyond nourishment for the body and because of how it was used by parents. AT can really help free us from all these background issues which make it literally impossible to stick to a diet in the long term.
- Personal formula  
Should address the root of why the client is eating too much, so might end up being completely unrelated to food.

## Case studies

### Just retired lady with anxiety and lowered immunity

Gina retired recently, and moved house, and, as well as feelings of anxiety and inadequacy, has been having cold after cold. She is also developing food intolerances, and her arthritis is getting worst.

Diet: work on the immune system, so primarily on the gut flora. Increase prebiotics (mostly vegetables), add and fermented foods, change fat profile, particularly increasing omega 3 intake.

Supplement with probiotics, L-glutamine, and 5-HTP and curcumin

AT course

High powered manager who has just hit the peri-menopause

Fiona works mainly with men, and is getting close to the menopause. She feels unbalanced and in a state of constant anxiety.

We adjusted her diet: looked at her blood sugar balance, her need to take time over her meals, included phyto-oestrogens (soy products, linseeds, sesame seeds, whole grains...), good fats and more vegetables in her diet, and worked out practical ways of doing all that.

She got on really well with AT and particularly the intentional exercises.

Teacher diagnosed with Irritable Bowel Syndrome. Also has Gastro Oesophagus Reflux Disease and wants to lose weight.

Her diet was very far from what it needed to be. The practice of AT assisted with the changes and helped directly with IBS and GORD which were very much stress related. Addressed her diet for weight loss but she found it difficult to break certain habits, particularly eating biscuits while watching TV. Learning AT made a huge difference, and she really liked using a personal formula.