PSYCHO-SOMATIC
The gut's brain, known as the enteric nervous system, is located in the sheaths of tissue lining the esophagus, stomach, small intestine, and colon. Considered a single entity, it is a network of neurons, neurotransmitters, and proteins that enable it to act independently, learn, remember, and produce gut feelings. It contains 100 million neurons, more than in the spinal cord, and 30 neurotransmitters. It communicates with the CNS via the Sympathetic (fight or flight) and Parasympathetic systems (rest and digest), but functions when connection to the vagus nerve is severed, indicating its independence from the autonomic nervous system.
Neuronal hierarchy in the heart is primarily concerned with matching cardiac output with regional blood flow demands in the rest of the body.

Activity is stochastic, but hierarchy is sensitive to catastrophic waterfall effects.

Transplant is possible without a connection to the vagus nerve and others.
a complex set of direct influences and feedback interactions among the hypothalamus, the pituitary gland (a pea-shaped structure located below the hypothalamus), and the adrenal (or suprarenal) glands (small, conical organs on top of the kidneys). The interactions among these organs constitute the HPA axis, a major part of the neuroendocrine system that controls reactions to stress and regulates many body processes, including digestion, the immune system, mood and emotions, sexuality, and energy storage and expenditure.
Increased production of cortisol mediates alarm reactions to stress, facilitating an adaptive phase of a general adaptation syndrome in which alarm reactions including the immune response are suppressed, allowing the body to attempt countermeasures.

Glucocorticoids have many important functions, including modulation of stress reactions, but in excess they can be damaging. Atrophy of the hippocampus in humans and animals exposed to severe stress is believed to be caused by prolonged exposure to high concentrations of glucocorticoids. Deficiencies of the hippocampus may reduce the memory resources available to help a body formulate appropriate reactions to stress.

The HPA axis is involved in the neurobiology of mood disorders and functional illnesses, including anxiety disorder, bipolar disorder, insomnia, post-traumatic stress disorder, borderline personality disorder, ADHD, major depressive disorder, burnout, chronic fatigue syndrome, fibromyalgia, irritable bowel syndrome, and alcoholism. Antidepressants, which are routinely prescribed for many of these illnesses, serve to regulate HPA axis function.
meditation suppresses expression of stress genes
repetition of a mantra, breathing, why do these things work?
MEDITATION

- RELIEVES TENSION
- CONFUSION
- HABITUAL THINKING
- BENEFITS HEALTH
- INNER PEACE
- CALM
- STRESS FREE
- ANXIETY FREE
- LOWERS BLOOD PRESSURE
- BETTER CIRCULATION
- IMPROVED BREATHING

- PEACE
  - JOY
  - HARMONY
  - COMPASSION
  - MINDFULNESS
  - CALMNESS
  - PRESENCE
  - UNDERSTANDING
  - NEUTRAL MIND

- CALM BODY
  - CALM MIND
  - INNER WORLD
  - OUTER

- REDUCES ANGER
  - HOSTILITY
  - RESISTANCE
  - WORRY

- EASY TO TRY
- PERSEVERE
- MIND LOVES TO THINK
- RELAX BODY
- RELAX MIND
- PATIENCE
- ACCEPTANCE
- QUIET SPACE
- SIT OR LIE
- COMFORTABLE
- RESTED
- LET GO

- BE WILLING TO FAIL
- MAY FALL ASLEEP
  - WILL IMPROVE
  - NOT A BURDEN
  - KEEP GOING
  - ENORMOUS BENEFITS
  - DON'T TRY TOO HARD
  - NO EFFORT
  - SLOW MIND
  - STOP THINKING
  - JUST "BE"
  - ALLOW
  - REST

- ONCE TAPPED
  - AVAILABLE ANYTIME
  - INSTANT RELIEF

- LET THOUGHT GO
  - NON-ATTACHMENT
  - NO ANALYSIS
  - DON'T SEEK ANSWERS
  - THEY COME NATURALLY
  - UNFORCED
  - AVOID DISTRACTION
  - DON'T BE HARD ON YOURSELF
  - NOTICE GAPS
  - SILENCE BETWEEN NOISE
  - AND UNDER NOISE
  - TAP THE GAP

- DEEPE BREATHING
  - SLOW
  - GENTLE
  - SMOOTH
  - NO FORCE
  - FULL USE OF LUNGS

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part of autonomic nervous system, but we can control it consciously.

A way of mastering the system, well influencing really.
- Shallow, upper chest breathing is part of the typical stress response.
- The stress response can be switched off by consciously breathing with the diaphragm.
- Abdominal breathing plugs into the autonomic nervous system and encourages it to relax, bringing about a range of health benefits.