



Information taken from “Change Your Brain, Change Your Life” & Amen Clinics

The **Basal Ganglia** (Movement, anxiety, and motivation), large structures deep within the brain toward the center surrounding the deep limbic system, control the body’s idling speed. When this part of the brain works too hard, anxiety, panic, fearfulness, and conflict avoidance are often the result.

- ❖ Caudate (thoughts), putamen (motor movements) and nucleus accumbens (pleasure)
- ❖ The insula is involved with emotional processing, including visual and auditory processing

## Functions

- Integrates feelings, thoughts, and movement
- Shifts and smoothes fine motor behavior
- Suppresses unwanted motor behaviors
- Sets the body’s idle speed or anxiety level
- Enhances motivation
- Mediates pleasure/ecstasy

## Problems

- If Overactive
  - Anxiety, nervousness
    - people (anxiety) are more likely to be overwhelmed by stressful situations and have a tendency to freeze or become immobile (in thoughts or actions)
    - Physical sensations of anxiety
      - Tension, increased awareness, pessimistic, and heightened fear
  - Panic attacks
  - Tendency to predict the worst
  - Conflict avoidance
  - Muscle tension/soreness
  - Tremors
  - Headaches
  - Parkinson’s Disease is caused by a deficiency of dopamine within the basal ganglia
  - Tourette’s syndrome (combo of motor and vocal tics) -abnormality in basal
    - Provides the bridge between the basal ganglia and 2 seemingly opposite disorders- ADD & OCD
    - Runs in families and associated with several abnormalities found in the dopamine family of genes
    - +/-60% of people with TS have ADD; 50% have OCD
  - Heightened dopamine-increased/excessive motivation=workaholics, unable to relax

- If underactive
  - (ADD) a stressful situation moves them to action; they respond to stressful situations without fear.
    - Problems with motivation, energy, and get up and go.
    - Low dopamine
  - Fine motor problems
    - Shifting and smoothing fine motor behavior is essential to handwriting and motor coordination.
  - Many children and adults with ADD have very poor handwriting (may be choppy or sloppy).
    - The act of handwriting is difficult and often stressful
  - Have difficulty getting their thoughts out of their head and onto paper (finger agnosia-the fingers cannot tell what the brain is thinking)
- When dopamine levels are raised, serotonin becomes less effective and vice versa

## “PRESCRIPTIONS”

- Kill the fortune-telling Automatic Negative Thoughts (ANTs)  
Do not accept every thought that comes into your mind. Thoughts are just thoughts, not facts.

**Step 1** write down the event that is causing you anxiety

**Step 2** notice and write down the automatic thoughts that come into your mind.

**Step 3** label or identify the thought as a fortune-telling ANT

**Step 4** talk back to the automatic negative thought and kill the ANT. Write down a response to defuse the negative thought.

- Use Guided Imagery
  - Set/reset your basal ganglia to a relaxed, healthy level by daily 20-30 mins of relaxation.
  - Decreases anxiety, lowers blood pressure, lowers tension and pain in muscles, and improving your temperament around others.
  - Find a quiet place to alone, sit in a comfortable chair, train your mind to be quiet.
  - Choose a special place/haven you can imagine w/all of your senses.
- Try Diaphragmatic Breathing
  - Breathe slowly and deeply with your belly
  - Slight changes in oxygen content in the brain can alter the way a person feels and behaves.
- Try Meditation/Self-Hypnosis
- Relaxation
  - **Step 1**-sit in a comfortable chair with your feet on the floor and your hands in your lap
  - **Step 2**-pick a spot on a wall that is a little bit above your eye level. Stare at the spot, as you do count slowly to twenty

- **Step 3**-take the deepest breath you can and very slowly exhale. Repeat three times.
- **Step 4**-tightly as you can squeeze the muscles in your eyelids. Slowly let the muscles in your eyelids relax. Imagine that relaxation spreading everywhere on your body.
- **Step 5**-after body feels relaxed, imagine yourself at the top of an escalator. Step on the escalator and ride down, slowly counting backwards from twenty.
- **Step 6**- enjoy the relaxation for several moments then get back on the escalator riding up. Count to ten then open your eyes.
- Stop worrying about what others think of you.
- Learn how to deal with conflict
  - Assertiveness means expressing your feelings in a firm, yet reasonable way.
    - Don't give in to the anger of others just because it makes you uncomfortable
    - Don't allow the opinions of others to control how you feel about yourself. Your opinion, within reason, needs to be the one that counts
    - Say what you mean and stick up for what you believe is right
    - Maintain self-control
    - Be kind, if possible, but above all be firm in your stance.
- Watch your Basal Ganglia Nutrition
  - Do not allow yourself to get too hungry during the day
  - High protein-low carb; eliminate caffeine/alcohol
- Calming Supplements
  - Magnesium
  - Relora
  - Holy Basil
  - B6
  - Theanine
  - GABA
  - Valerian
  - Kava kava
- Common Calming Medications
  - Buspar
  - Benzos
  - Anti-epileptic meds
    - Neurontin
    - Lyrica
    - Lamictal
    - Depakote
    - Trileptal
  - Propranolol