



BUILDING EMOTIONAL STABILITY WITH AMINO ACID THERAPY

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MASTER CONTROL PANEL

Feelings

Mood

Skills

Sleep

Willpower

Choice

Perceptions

Relaxation

Behaviors

Motivation

Cognitions

Energy



The background is a dark teal gradient. In the four corners, there are decorative white line-art elements resembling circuit boards or neural pathways, with lines connecting to small circles.

**THIS EMOTIONAL AND COGNITIVE
“CONTROL PANEL”
IS MEDIATED BY CHEMICALS CALLED
“NEUROTRANSMITTERS”**

The background is a solid blue color with decorative white circuit-like lines in the corners. These lines consist of straight lines and small circles, resembling a network or neural structure.

LOW NEUROTRANSMITTERS MAKE YOU FEEL OUT-OF-BALANCE!

***WHEN YOUR NEUROTRANSMITTERS ARE LOW, YOU WILL
HAVE SYMPTOMS SUCH AS***

DEPRESSION, ANXIETY, INSOMNIA, FATIGUE, & ANGER!

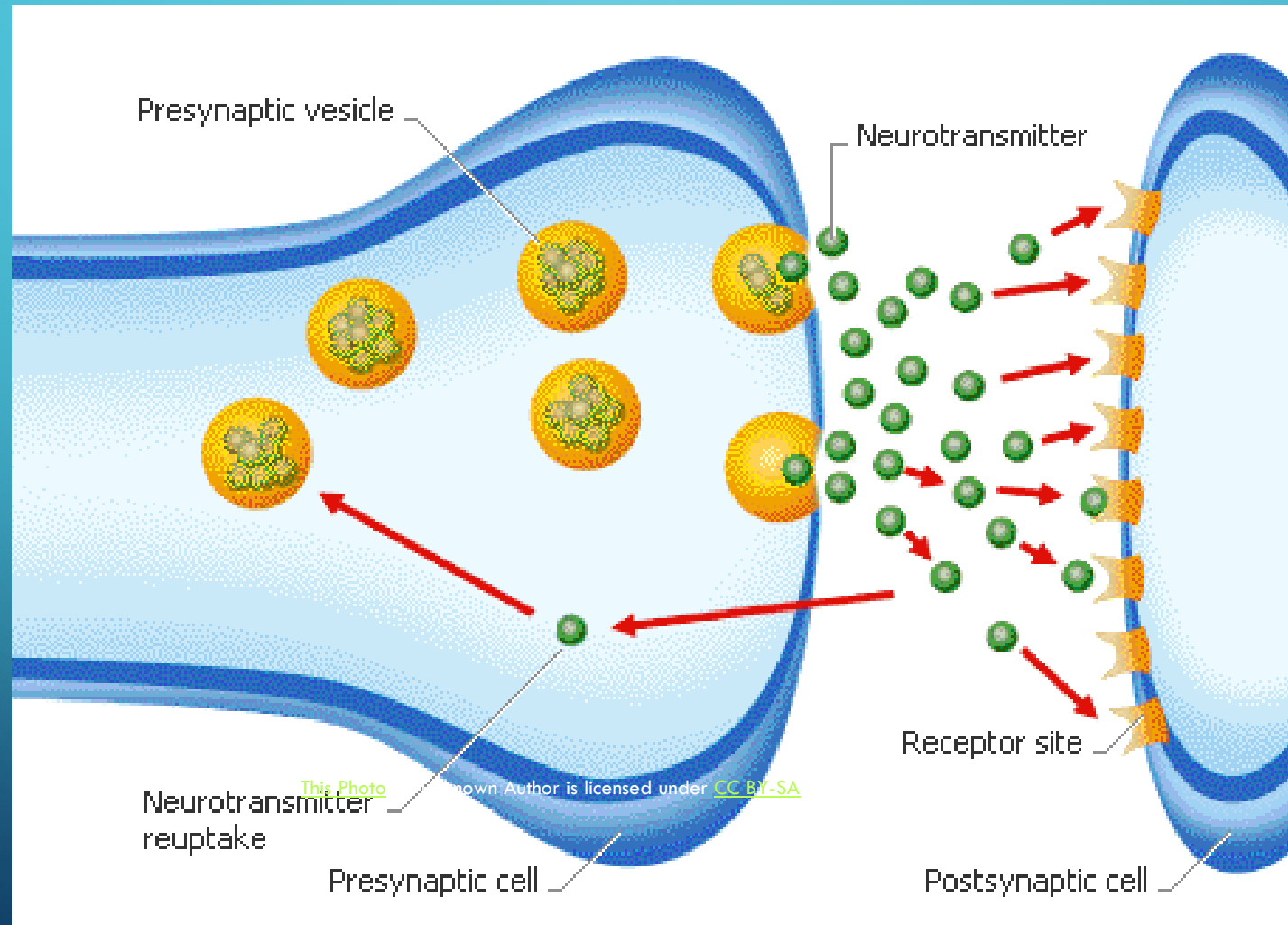
***You will probably want to use or do something to make you
feel better***

*FOR YOU & YOUR LIFE TO BE IN
BALANCE...*

YOUR BRAIN MUST BE IN BALANCE!

- **Balanced blood sugar**
- **Balanced hormones**
- **BALANCED NEUROTRANSMITTERS!**

THE SYNAPSE



THE DEPLETED **NT** THEORY OF ADDICTION

- Depleted NTs lead to stressful emotions and the inability to deal with stress gracefully
- This often leads to the use of mood altering chemicals and behaviors to feel better
- These substances and behaviors further deplete neurotransmitters
- Leading to tolerance and increased use
- If you stop using abruptly, you will have withdrawal symptoms, PAW and cravings, due to:

VERY DEPLETED NEUROTRANSMITTERS!

WHY USE NUTRIENT THERAPY?

**WE CAN REBUILD LOW NEUROTRANSMITTER STORES USING
AMINO ACIDS AND OTHER NUTRIENTS!**

Very Quickly

Without drugs!

Leading to reduced cravings and improved mood!

MOOD REGULATING NEUROTRANSMITTERS AND THEIR PRECURSOR AMINO ACIDS

- **Dopamine/Norepinephrine:** L-Tyrosine and L-Phenylalanine
- **Endorphins/Enkephalins:** Tyrosine, Tryptophan, GABA, etc. (D-Phenylalanine)
- **GABA:** GABA, Taurine, Glycine
- **Serotonin/Melatonin:** L-Tryptophan and 5HTP

WHAT ARE AMINO ACIDS?

- **Amino Acids are molecules which form the building blocks of the human body**
- **Essential Amino Acids are found in food, and clump together to form protein**
- **When protein is digested, it is broken back down into its component amino acids**
- **These amino acids are absorbed into the bloodstream and go everywhere in the body accomplishing many diverse tasks.**

AMINO ACIDS AND MOOD

- **Specific amino acids cross the blood brain barrier and create neurotransmitters in the presence of specific co-factor vitamins and minerals**
- **Research shows that ingested amino acids cross the blood brain barrier and create new neurotransmitters in as little as 1-20 minutes depending upon delivery methods**
- **Various free-form (not food bound) amino acids can be bought on-line or at the vitamin store.**

SOURCES OF THESE PRECURSOR AMINO ACIDS

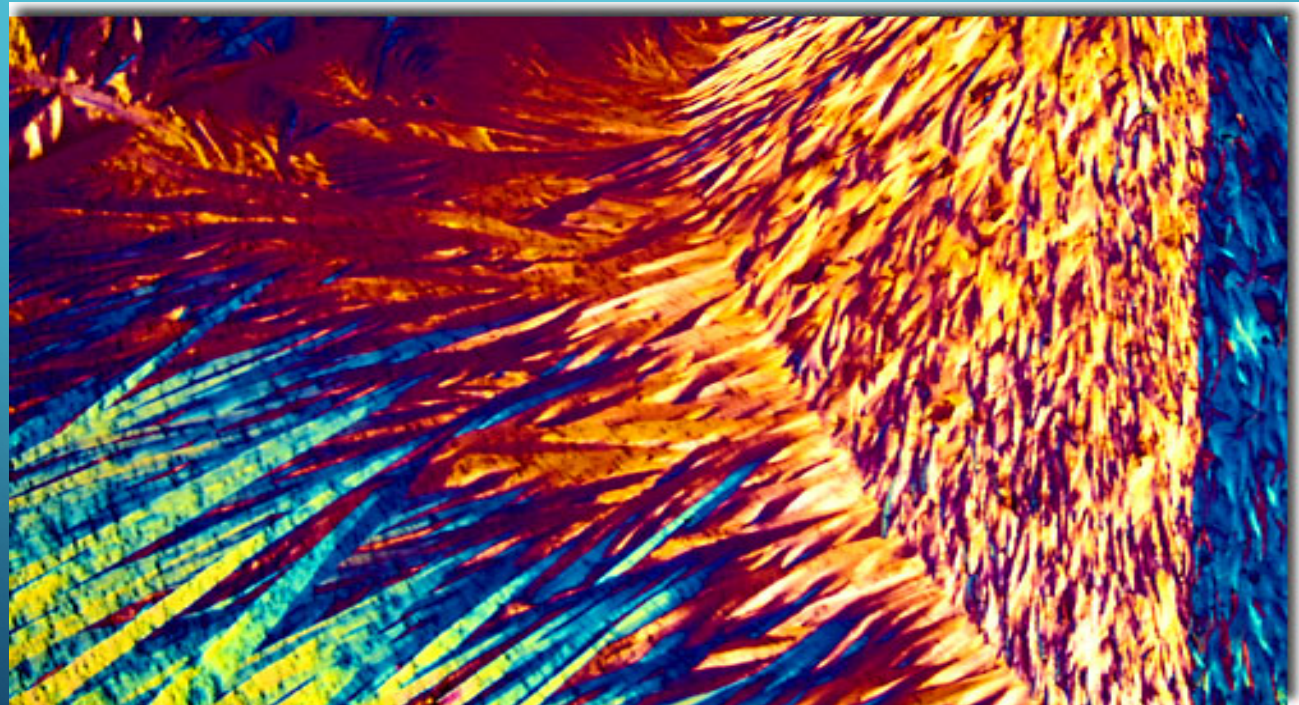
- **High Protein Foods:**

- **Meat**
 - **Fish**
 - **Eggs**
 - **Milk and Milk Products**
 - **Legumes, Nuts and Seeds**
- **Carefully Grown Free-Form Amino Acids**



TYROSINE & THE CATECHOLAMINES:

***PROMOTE INNER DRIVE AND
RECOVER FROM STIMULANT ABUSE***



DOPAMINE CREATES THE SPARK IN LIFE!

- **Associated with:**

- **confidence and enthusiasm**
- **ambition and drive**
- **motivation**
- **focus and the ability to solve problems**



- **Responsible for:**

- **persistence and determination**
- **integrating information from different sources to creatively develop solutions**

OPTIMAL CATECHOLAMINE LEVELS

- **Alertness**
- **Motivation**
- **Focus**
- **Persistence**
- **Enjoyment**
- **Energy**



LOW CATECHOLAMINE LEVELS

- **Apathy**
- **Depression**
- **Lack of energy**
- **Boredom**
- **Lack of focus, easily distracted**
- **Cravings for stimulation from substances or thrills**



REWARD DEFICIENCY SYNDROME

- **Discovered by Dr. Kenneth Blum**
- **Is characterized by a genetically influenced deficiency in D2 receptor sites**
- **Leads to low dopamine activity and a resulting lack of normal enjoyment**

REWARD DEFICIENCY SYNDROME

- Leads to the full range of addictive behavior through-out an addicted family system:
 - Substance abuse
 - Eating disorders
 - Process disorders such as gambling and sex
- Can be modified through amino acid therapy, especially L-Tyrosine over a period of about 10 months, sometimes longer.
(See *Synaptamine*)

SUBSTANCES WHICH FIRE & DEplete DOPAMINE

- **Caffeine: coffee, tea, soda**
- **Chocolate**
- **Stimulant Medications-*Ritalin, Adderall, Concerta***
- **Cocaine and crack**
- **Methamphetamine**
- **Marijuana**
- **Opiates**
- ***All of them!***

CREATING CATECHOLAMINES

L-Phenylalanine

L-Tyrosine

L-Dopa

Dopamine

Norepinephrine

L-Tyrosine

L-Dopa

Dopamine

Norepinephrine

Epinephrine



Vitamin and Mineral Co-factors Required!

CO-FACTOR SUPPORT

- **Vitamin C starting at 500 mg three times/day. Higher doses may be more helpful.**
- **All of the B vitamins are needed.**
- **Omega 3 fatty acids- at least 1000 mg EPA and 500 mg DHA**
- **Iron is a necessary co-factor but should be given only if testing indicates that levels are low. Excess iron is harmful.**

RESTORING CATECHOLAMINES

- **A high protein diet provides the amino acids L- phenylalanine and L-tyrosine. Food sources include meats, dairy products, beans, nuts and seeds.**
 - **Make sure protein is optimally digested**
- **L-Phenylalanine or L-tyrosine taken in supplement form,**
- **Supplementing with co-factors, such as B3, B6, C, and iron may be needed to support production.**

AMINO ACID DOSING FOR DEPRESSION

- **L-Phenylalanine, DL-Phenylalanine (DLPA) or L-Tyrosine.**
- **Start with a test dose of 250 to 500 mg.**
- **Increase the dose until symptoms are relieved.**
- **Doses can be given up to three times per day in the morning, mid-morning and early afternoon. *Avoid later doses as they may interfere with sleep.***
- **I usually start with L-Tyrosine unless there is a specific reason to use one of the others.**

PRECAUTIONS

- Tyrosine is known to feed melanomas, so **AVOID** if you have an **ACTIVE** melanoma
- **AVOID** if **MANIC, PARANOID, HALLUCINATING** or have **GRAVES DISEASE**
- Be cautious if you have migraines or high blood pressure. Lower dose L-Phenylalanine might be better in these cases.

5HTP & L-TRYPTOPHAN: TO SUPPORT MELLOW MOODS AND SLEEP



SEROTONIN

CNS FUNCTIONS OF SEROTONIN

- **Mood Regulation**

- **Positive Outlook**
- **Emotional Stability**
- **Self-Confidence**
- **Emotional Flexibility**
- **Sense of Humor**

- **Other Functions**

- **Pain Regulation**
- **Appetite Regulation**
- **Sleep-Wake Cycle (creates Melatonin)**
- **Circadian Rhythm**
- **Sensitive to changes in light, weather, & temperature**

SYMPTOMS OF LOW SEROTONIN

- **Anxious, agitated depression**
- **Tearfulness**
- **Social Anxiety & low self esteem**
- **Panic Attacks, Phobias**
- **Worry/rumination /obsessive thinking**
- **Obsessive behaviors (OCD)**
- **Irritability, Rage, Violence**



SYMPTOMS OF LOW SEROTONIN, CON'T

- **Chronic Pain:** fibromyalgia, migraines, TMJ, etc
- **Sugar and Carbohydrate Craving**
- **Bulimia and Compulsive Overeating**
- **Afternoon and Evening Cravings**
- **SAD (Seasonal Affective Disorder)**
- **Hyperactivity**
- **Sleep Issues:** trouble falling asleep, frequent waking
- **PMS** (serotonin drops as estrogen drops)



SEROTONIN FIRING & DEPLETING ADDICTIONS

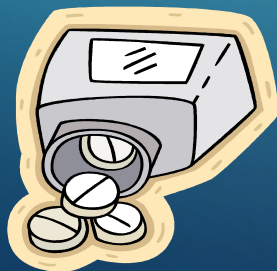
- Alcohol

- Ecstasy

- Sugar and Starches

- Marijuana

- SSRI's



CREATION OF SEROTONIN

- Serotonin itself does not cross the blood/brain barrier
- Both 5HTP and L-Tryptophan do cross the B-B-B
 - Tryptophan competes with Tyrosine and branched chain amino acids for transport, and often loses!
 - Therefore, don't take tryptophan with other protein foods or amino acids, but 5HTP is ok to.
 - Insulin from carbohydrates clears the way , which is why people with low serotonin often crave sugar

• Tryptophan → 5HTP → Serotonin → Melatonin

CREATION OF SEROTONIN

- **Co-Factors:** *B6, C, Magnesium, Biopterin*
- **Degraded by:**
 - Oxidation if anti-oxidant status is too low
 - TDO: if plasma tryptophan is too high
 - IDO: over-produced by aging & inflammation
- **Protected by:** *Niacinamide, Lysine and cytokine-suppressing nutrients such as Curcumin*

DOSING: ALWAYS START WITH A LOW, TRIAL DOSE

- **5HTP**

- **Bedtime OK for most people (may raise cortisol)**
- **Any time symptoms appear (before a date!)**
- **50-100mg/dose. Can go higher if needed.**
- **300mg before bed is an average dose for insomnia**

- **L-Tryptophan**

- **Can be sedating**
- **1000-3000 mg/day typical for depression and insomnia**

PRECAUTIONS

- **Serotonin in a see-saw relationship w/ Dopamine**
- *Risk of Serotonin Syndrome if combined with:*
 - *MAO inhibitors, SSRI's and St. John's Wort*
 - *Migraine medication*
 - *Possible but recorded incidences are very low*
- **Passes into breast milk: effect on infants unknown**
- **Avoid use with liver cirrhosis**
- **Certain tumors**



SEROTONIN SYNDROME

- **Diarrhea**
- **Shivering**
- **High Fever**
- **Headaches**
- **Nausea**
- **Fatigue**
- **Drowsiness**
- **Clumsiness**
- **Restlessness**
- **Dizziness**
- **Rapid heartbeat**
- **Euphoria**
- **Muscle twitch**
- **Muscle rigidity**

GABA: SUPPORTING CALM & RELAXATION



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GABA-THE CALMER

- **GABA (Gamma-amino-butyric acid) is the brain's primary inhibitory agent.**
- **The ability to slow down and relax requires adequate GABA activity.**
- **Adequate GABA helps us cope and flow with the demands of our busy lives.**
- **It is the primary natural anticonvulsant.**
- **It opposes Glutamate, and moderates other neurotransmitter signals**

OPTIMAL GABA FUNCTION

- **Muscle Relaxation**
- **Restful sleep**
- **Calm, stable and committed**
- **Resilient: able to tolerate stressful events**
- **Organized and able to complete tasks**
- **Adequate filtering out of distracting stimuli**



SIGNS OF LOW GABA

- **Epilepsy, tremors, convulsions**
- **Highly Sensitive Personality**
- **Highly distractible**
- **Stressed & anxious, overwhelmed**
- **Tight muscles & restless sleep**
- **Fatigued yet wired**
- **Digestive problems- irritable bowel syndrome**
- **Chronic use of alcohol, marijuana, benzos for relaxation**



SUBSTANCES WHICH FIRE GABA

- Alcohol
- Marijuana
- Food: sugar or starch
- Tobacco
- Benzodiazepines (Ativan, Xanax, Valium)



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DOSING GABA

- **The dose of GABA that will be effective could be as low as 100 mg. The highest dose used is typically 500 mg.**
- **Higher doses may produce agitation or anxiety, but not always!**
- **GABA can be given up to 6 times/day.**

GABA FORMULAS

- **GABA Calm** (Source Naturals) is a low-dose sublingual formula
- **Chewable GABA** (Now) is a low dose sublingual formula
- **True Calm (NOW)** is a moderate dose capsule formulated by Julia Ross
- **GABA Relaxer** (Country Life): Contains a significant dose of Taurine, so good for detoxing alcoholics to reduce the shakes
- **Theanine Serine**: Good sleep formula containing Theanine, Holy Basil & GABA

GABA SUPPORTING NUTRIENTS

Taurine is thought to slow down the conversion of GABA to glutamate. It is used in doses of 500 to 1000 mg once or twice a day.

Theanine is thought to block glutamate receptors. Doses are 100 to 200 mg up to 4 times per day.



L-THEANINE (SUN THEANINE)

- *A recently discovered amino acid originally extracted from green tea*

Produces a calm alertness through the following actions

1. Blocks glutamate receptors
2. Blocks norepinephrine
3. Blocks cortisol
4. Enhances dopamine
5. Enhances serotonin
6. Great for the ADD
panic/spin/freeze

GABA SUPPORTING NUTRIENTS

- **Vitamin B6 is a crucial co-factor.**
- **Magnesium is another co-factor, and a muscle relaxer. It may help prevent the hyperactivity that some experience with B6 alone.**
- **Inositol is a B vitamin that amplifies the GABA signal. It can be used in low (500 mg) to quite high (4,000 mg) several times daily, if the dose is slowly increased.**

ALCOHOL & BENZO WITHDRAWAL

- **Abrupt withdrawal from the class of medications known as benzodiazepines (valium, ativan, xanax, klonopin) or alcohol can be life-threatening.**
- **Patience and caution are required.**
- **Seizures, tremors and death can result because GABA levels are so depleted and/or GABA signals are not being processed properly.**
- **Restoration of normal function can take time, and the use of high doses of GABA supporting nutrients.**



THE ENDORPHINS

Restoring Comfort

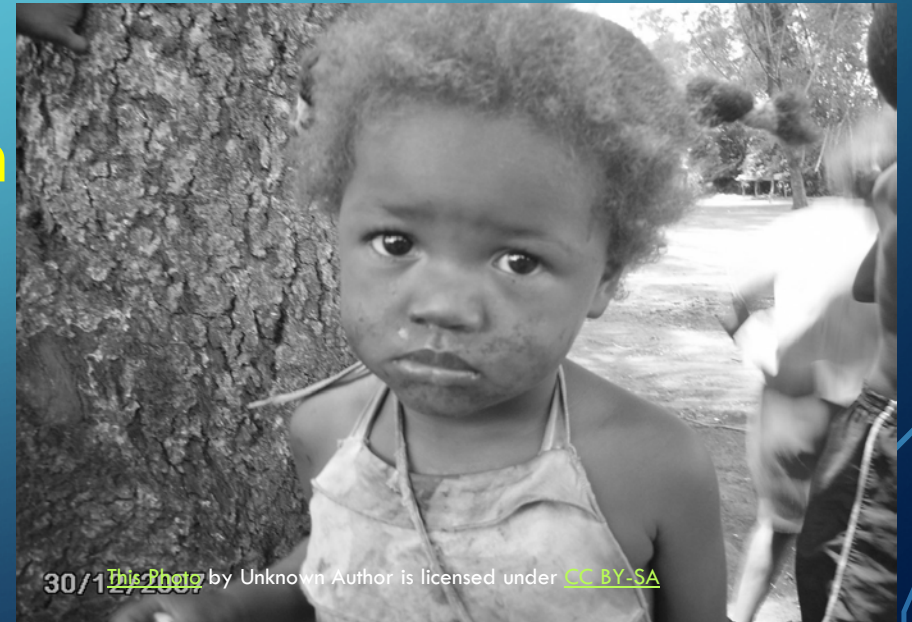
THE ENDORPHINS

- Create the feelings of contentment and enjoyment
- Relieve pain and create numbness
- They are active when:
 - Enjoying a good meal or good company,
 - Recalling a happy memory,
 - Thinking about someone or something loved,
 - Receiving a hug
 - Enjoyable sexual activity
 - Engaging in a “loved” activity.
 - Bonding with your baby
 - Being in the shock/numb phase of grief & injury



LOW ENDORPHINS

- Lack of pleasure
- Seeking comfort from opiates, food, alcohol, sex, self-harmful behavior such as cutting, bingeing, purging, danger
- Sensitive to pain
- Chronic physical & emotional pain
- Tearfulness
- Loneliness, grief
- BPD?



CAUSES OF LOW ENDORPHINS

- **Chronic stress can deplete all of the neurotransmitters, including the endorphins**
- **Sensitive nature in an insensitive world**
- **Chronic emotional or physical pain**
- **Poor diet, especially a lack of protein**
- **Hormone imbalances-low adrenal function or low estrogen**
- **Genetics (reward deficit syndrome)**
- **Brain injury**
- **Can be caused by lack of attachment in childhood**

RESTORING ENDORPHIN FUNCTION

- Restoring the endorphins requires a high protein diet, as they are very long proteins containing many amino acids.
- Amino acid formulas designed for brain support rather than body building are useful:
 - Total Amino Solution (TAS) by Ginessa
 - Synaptamine
- Use D-Phenylalanine (found on-line) or DLPA (D+L-Phenylalanine, found over-the-counter) to raise synapse levels

ACUPUNCTURE & DPA

- **As early as 1981, preliminary human research showed that DPA made the pain-inhibiting effects of acupuncture stronger.²³ One controlled animal study²⁴ and two controlled trials in humans²⁵ , ²⁶ showed that DPA taken the day before acupuncture increased the effectiveness of acupuncture in reducing both acute dental and chronic low back pain.**

<http://www.uofmhealth.org/health-library/hn-2895002>

OPIATE & ENDORPHIN ADDICTION

- **Opiate medications: Oxycontin, Percoset, Fentanyl and others**
 - **Opiate medications often cause rebound pain (hyperalgesia)**
- **Heroin**
- **Marijuana**
- **Alcohol**
- **Sugar**
- **Behaviors such as sex, cutting, gambling, bingeing/purging, extreme sports, craving addictive foods**

The background is a dark teal gradient. In the corners, there are decorative white line-art elements resembling circuit boards or neural networks, with lines connecting to small circles.

WHY SUCH AN OPIATE EPIDEMIC IN THIS COUNTRY?

EASY ACCESS TO PAINKILLERS!!!

- **Narcotics are widely dispensed by medical providers. Some are well-meaning, others aren't**
- **Easy access to these medications makes them easy to obtain legally or illegally.**
- **Deaths from overdose have risen dramatically in the US, & has become a national epidemic.**
- **We do not choose addiction: many people become addicted following surgery.**
- **When their prescription drug becomes too expensive or hard to get, heroin becomes an option.**

The image features a dark teal background with white, stylized circuit board traces in the corners. These traces consist of lines and small circles, resembling electronic components or data paths. The main text is centered in a bold, white, sans-serif font.

**THE MEDICAL PROFESSION IS SADLY
LIMITED IN ITS
PAIN-RELIEVING OPTIONS!**

NATURAL PAIN RELIEVING REMEDIES

• Natural Anti-Inflammatories

- **Proteolytic Enzymes – Vitalzyme, Wobenzyme N**
- **Cox 2 Inhibitors – Ginger, Curcumin, Boswellia**
- **Arnica Montana**
- **Omega 3 Fatty Acids and GLA**
- **Acupuncture/Energy Medicine**

• Natural Muscle Relaxers

- **GABA**
 - **Valerian**
 - **Wintergreen oil, etc**
-
- ## • Reducing Pain Awareness
- **DPA, 5HTP and Tryptophan**
 - **MSM, Capsiacin, Etc.**

NATURAL PAIN RELIEVING TECHNIQUES

- **Psycho-Social Techniques**

- **Hypnosis & EMDR**

- **Healing Somaticized PTSD**

- **Stress Management**

- *Tracking the relationship between stress and pain*

- *Breathing*

- *Self-care and boundaries*

- *Transforming ANTS (automatic negative thoughts)*

- *Distraction*



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- List of research articles on www.addictionnutritionacademy.com

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