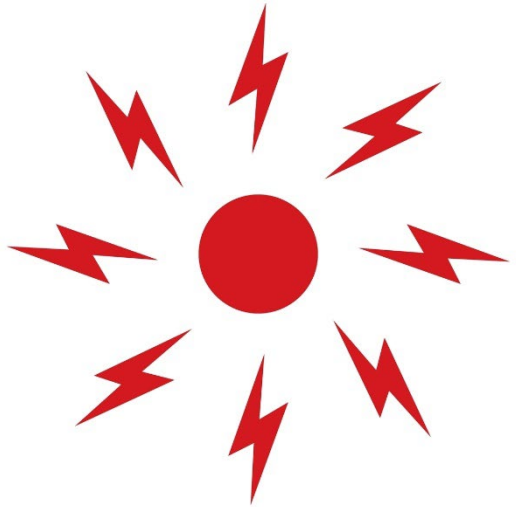
Relieving Nerve Pain



Who Has Nerve Pain?

- 21% of Americans suffer needlessly with chronic pain
- Neuropathic pain, pain caused by nerve damage, is estimated to affect 7-10% of the general population.
- In individuals with diabetes, the prevalence can increase to 20-30%.

30 million Americans are needlessly miserable and looking for help with nerve pain

Common Causes of Nerve Pain (part 1)

- Diabetes
- Infections (e.g. shingles, Lyme disease, etc)
- Injuries
- Autoimmune conditions (e.g. – MS, lupus, rheumatoid arthritis)
- Nerve compression (e.g. – disc disease, carpal tunnel, peroneal)

Common Causes of Nerve Pain (part 2)

Medically triggered/associated

- Chemotherapy
- Antibiotics (e.g. AIDS, Cipro, Flagyl, and nitrofurantoin)
- B12 and other nutritional deficiencies (despite normal lab testing)
- Low thyroid (despite normal lab testing)

When to Suspect Nerve Damage

When the pain is:

- **burning, stabbing, or shooting pain**, often described as “electric shock like”
- **associated with numbness or tingling**
- sometimes associated with **pain on light touch** (allodynia)
- **Resulting in misery for the patient!**

Nerve Pain Triggers Brain Pain

Any chronic pain will trigger brain inflammation called microglial activation, or "brain pain" **especially neuropathic pain**

This causes chronic pain to both persist and amplify, dramatically increasing preventable dementia risk

Despite the research being clear on its importance, most physicians are not even familiar with the term "**microglial activation**." So, they have no real hope of helping people with chronic pain.

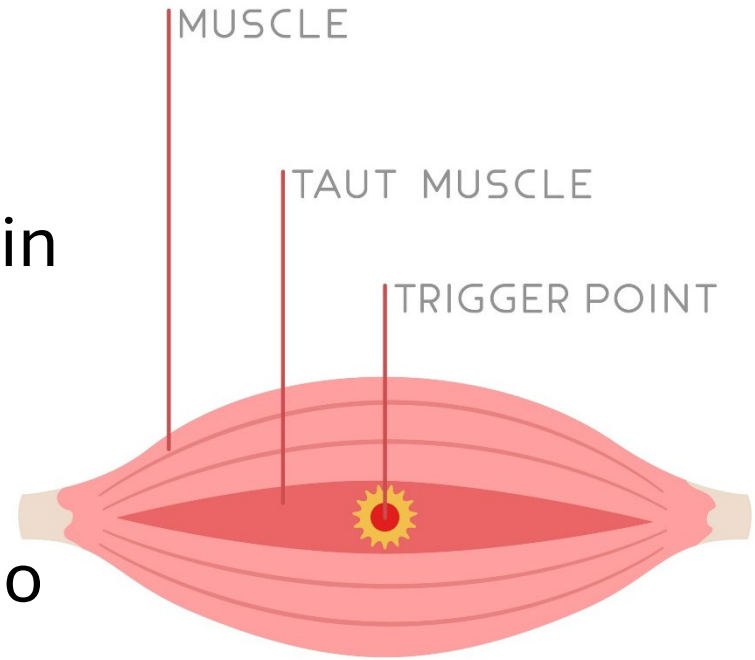
But you do!

Chronic Nerve Pain Triggers Muscle Pain

Called myofascial pain, it reflects chronic muscle shortening from low energy in the muscles.

This can also be triggered by the chronic nerve pain in the area.

Restoring muscle energy can be helped by simple measures such as Mg++ and B vitamins, which also helps nerve pain



The secondary muscle pain can cause more pain than the neuropathy itself

Most Chronic Pain is a Mix of Processes

a. low energy in nerve cells and/or inflammation, compression, or other injuries
b. secondary brain pain or microglial activation (brain inflammation)
c. secondary local muscle shortening and myofascial pain

For Neuropathy (or Any Chronic Pain) Think PEA!

- PEA- Palmitoylethanolamide, a natural fatty acid amine
- Hundreds of studies showing powerful benefit – remarkably, **for all kinds of chronic pain**

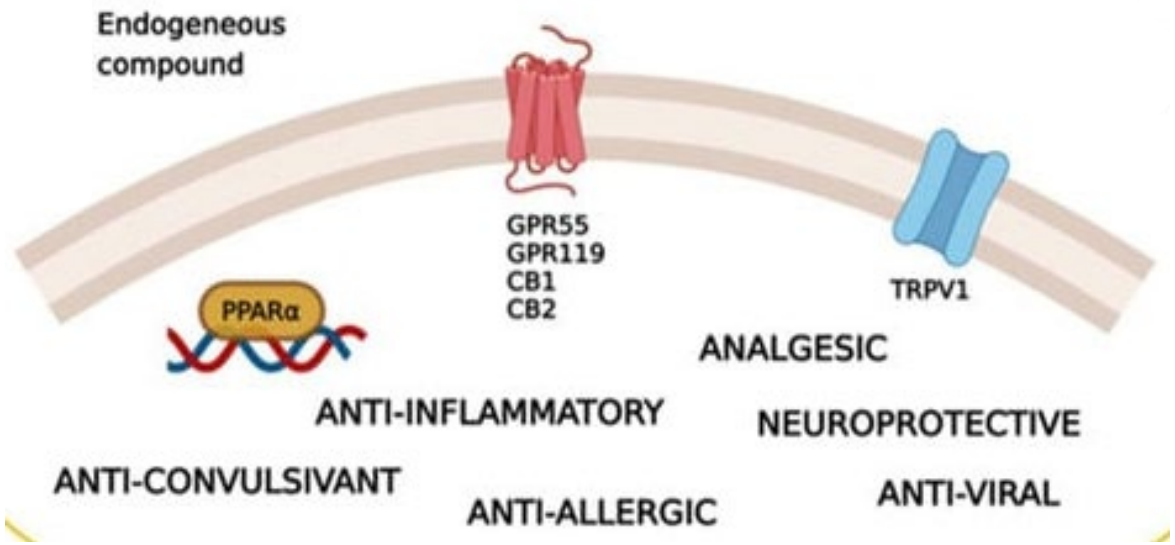
Why? Because ALL chronic pain triggers microglial activation (secondary brain pain). **The brain is amplifying the pain signals.**

We will discuss how to address all of these today.

Easily and effectively.

What is PEA?

- Palmitoylethanolamide (not green pea or pea protein)
- Naturally synthesized in the body – found in all tissues including the brain
  - In foods, found in egg yolks and peanuts
- In the scientific literature, PEA is a “Super-Hero” molecule
- PEA-Made by the body in response to
  - Chronic pain
  - Sensitivities (e.g.- MCAS)
  - Brain cell damage
  - Chronic Inflammation or infection
- The SUPERHERO Molecule

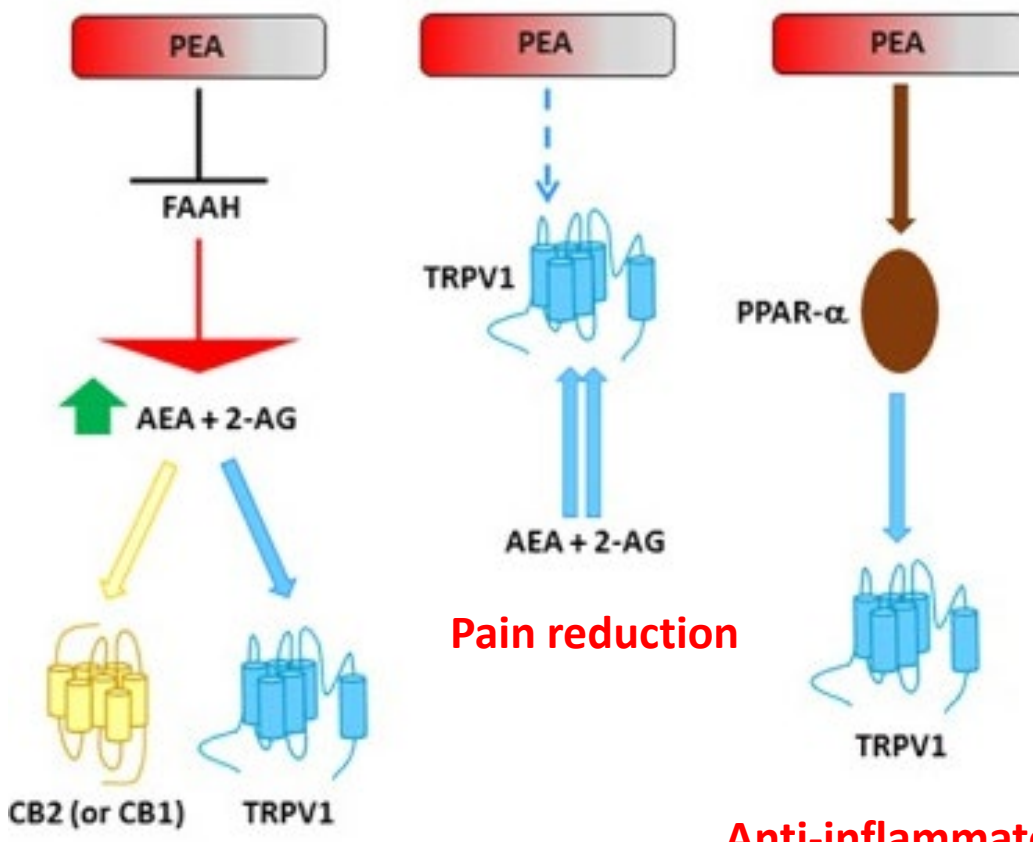


Mechanism of Action: Technical Explanation

PEA is part of the extended endocannabinoid system

Exerts multiple effects –

- downregulates inflammatory mast cells
- activates PPAR-alpha to reduce inflammation
- modulates TRPV1 to desensitize (block) pain signals
- preserves anandamide (AEA) and 2-AG



PEA is the Team Captain

PEA is like the team captain – it can play all the positions, but it can also help guide players on both offense and defense to help them perform at their best!

Think of PEA for…

1- <u>Any Chronic Pain</u> : Pain has 3 key components

A- Inflammation- add to Curcumin/Boswellia/DLPA/Nattokinase

B- Muscle/low energy- Add to multivitamin powder drink mix

C- Microglial Activation/brain pain- Main cause of resistant chronic pain; **PEA to the RESCUE**

2- **<u>Sensitive to Everything? MCAS?</u>**

A- PEA directly addresses this by suppressing hypothalamic histamine. Remarkable!

3- **<u>ANY Neurological injury</u>**. Actually helps REGROW brain cells!!!

A- Post stroke; MS; Neuropathy, etc etc

4- **<u>CFS, Fibromyalgia, Lyme and Long COVID</u>**

5- Even **<u>athletes</u>** who want a faster recovery

Many, Many Uses for PEA

Pain

Exercise recovery

Irritable bowel

TMJ

Allergies

Cold and flu

Cognition

Insomnia

Chronic inflammation (-itis)

Depression

Anxiety

Multiple sclerosis

Arthritis

Autism

ADHD

Obsessive compulsive disorder

Macular degeneration

Migraines

PMS

Urinary tract infections

Atherosclerosis

Stroke

Obesity

Neuropathy

Ulcerative colitis

Carpal tunnel

Asthma

Fatty liver

Dementia

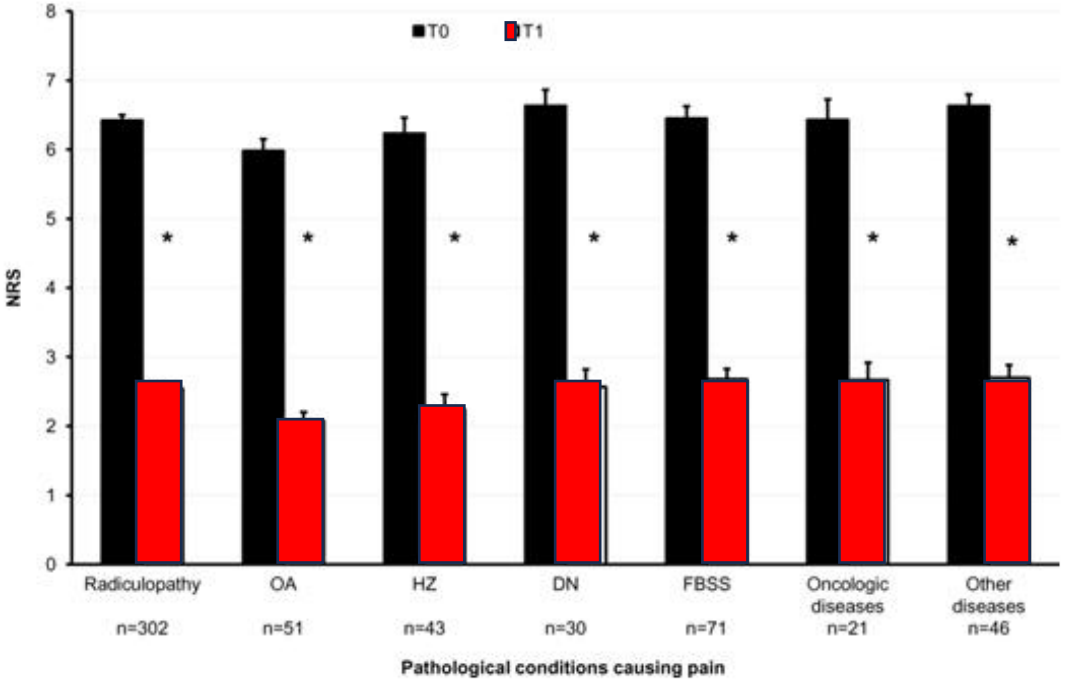
Heart disease

Metabolic syndrome

Long COVID

PEA Reduces Chronic Pain

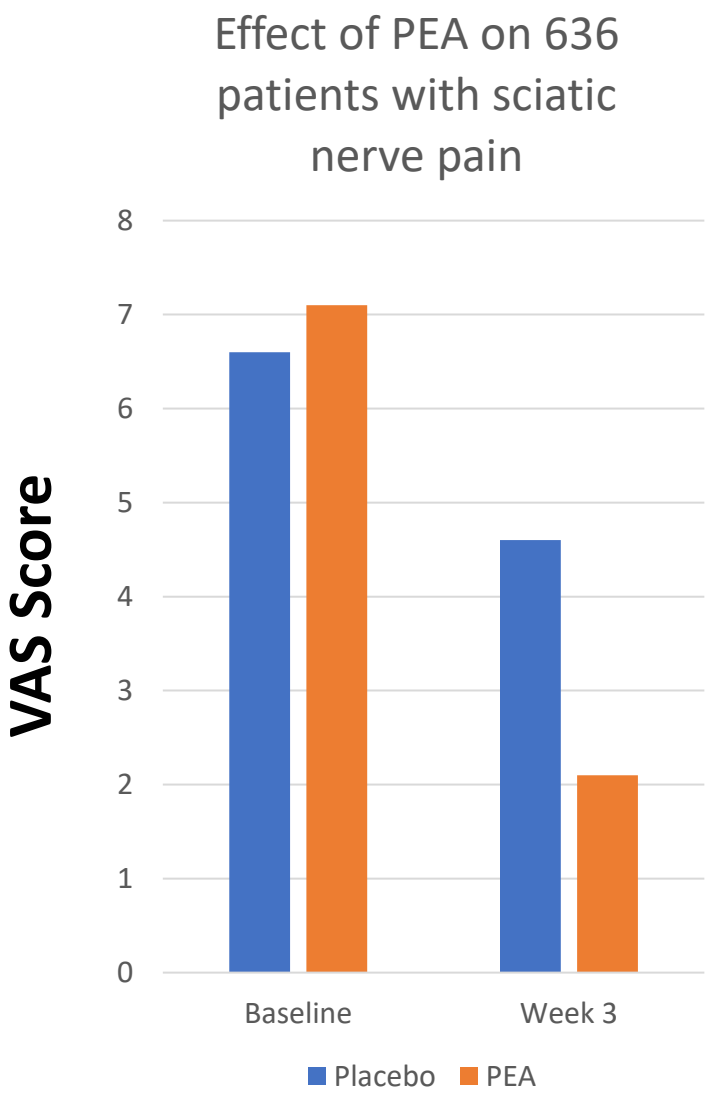
- Over 600 patients with chronic pain due to a variety of different conditions that either
  - Were not getting satisfactory results from standard treatment
  - Discontinued standard treatment due to side effects
- Received PEA plus their standard treatment OR PEA alone if discontinued standard treatment
- Results: at least a 50% reduction in pain scores, no matter what pain condition the patient was experiencing



NRS = Numeric Rating Scale for Pain
Cth = Concomitant Drug Therapy
OA = Osteoarthritis
HZ = Herpes zoster
DN = Diabetic neuropathy
FBSS = Failed Back Surgery

Nerve Pain

- Nerve pain is difficult to treat and doesn't respond well to standard pain treatments
- PEA can effectively relieve pain associated
  - Sciatica
  - TMJ
  - Multiple sclerosis
  - Diabetic neuropathy
  - Spinal cord injuries
- PEA slashes "brain pain" (microglial activation)



Takes 10-12 weeks to kick in

- Warn people that though it is a miracle, it takes 3 months to work. They should get 3 bottles to see what it will do
- Can take along with any other pain medicine
- It is a key “Missing Link” in eliminating pain

Why add Serratiopeptidase (SP)

A great partner for the PEA Superhero.

PEA puts out the fire.

SP lets in the rest of the healing team

- Dissolves Biofilms
- Dissolves fibrin (chronic clotting and inflammation)

Gamma cyclodextrin-

Absorption makes all the difference!

PEA Absorption and Bioavailability…

- Poorly water soluble with limited absorption and bioavailability
- Does have the ability to cross the blood/brain barrier
- Short half-life
- As a lipid, ideal for partnering with gamma cyclodextrin to boost absorption

Healing Nerve Pain: Part 2

Feed the Nerves

Part 1: PEA addresses both brain and nerve pain

Part 2: Feed the nerves…

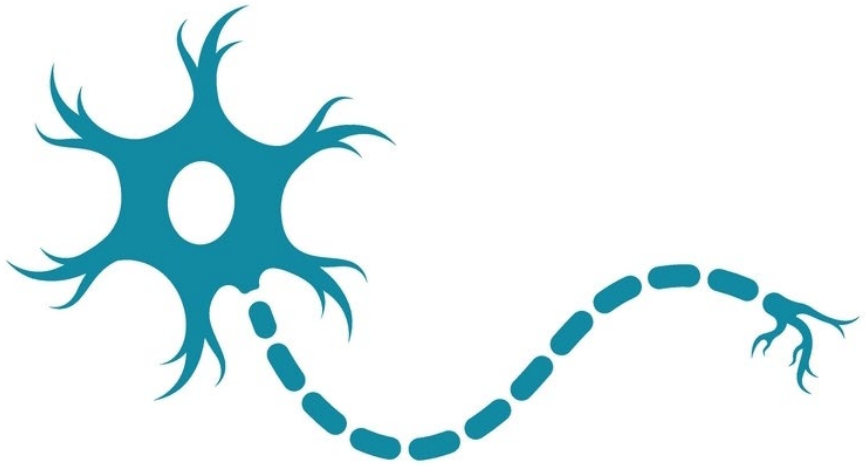
Nutrients **Antioxidants** **Anti-inflammatories**

These are all compatible with pain medications

Low Energy,
Excess Inflammation

These drive both muscle and nerve pain.

What Nutrients Do Nerves Need?



Lipoic Acid

Key antioxidant for nerves

Improves insulin sensitivity and decreases glycosylation

Improves blood flow

B Vitamins

B Vitamins (B1, B6, B12): These are essential for overall nerve health and function.

A. B12 is particularly known for its role in nerve regeneration, myelin sheath maintenance, and promoting nerve cell survival.

B. B1 (thiamine) and B6 also contribute to nerve protection and pain reduction.

Vitamin B12 as Methylcobalamin (500+ mcg/d)

- Activated form
- MeCbl has the highest uptake by subcellular organelles of neurons
- Well researched
  - Research suggests methylcobalamin can improve somatic and autonomic symptoms in diabetic neuropathy.
  - it can reduce pain and improve nerve function in peripheral neuropathy, including diabetic and post-herpetic neuralgia
  - improves nerve conduction, promotes nerve regeneration, and reduces ectopic firing in damaged nerves

B12 RDA (Ridiculous Dietary Allowances)

- RDA for B12 is an obscene 2.4 mcg
- 500+ mcg needed for Nerve support
- Severe B12 deficiency is common despite totally normal B12 levels
  - e.g. 6% of the population has autoantibodies to brain CD320 B12 receptors. Causing severe and completely reversible neurologic and psychiatric injury. Missed by doctors
  - metformin causes B12 deficiency
  - the normal ranges are also absurd
  - the old-time docs who gave B12 shots were right!

Thiamine- Vitamin B1

- Thiamine is essential for nerve function as it is a cofactor for enzymes involved in energy metabolism.
- When the body can't adequately use thiamine (thiamine resistance), it can lead to disruptions in nerve function and damage to the peripheral nerves.

Factors Contributing to Thiamine Resistance:

- **Alcoholism**
- **Malnutrition**
- **Certain Medications**

  e.g. diuretics, chemo, metformin, Dilantin, and digitalis
- **Genetic Factors**

Testing will Miss These Deficiencies

Testing is unreliable and simply supplementing B vitamins is easy, beneficial and low cost. The combined effect is where the most benefit is seen

1. B1-Thiamine 25 to 50+ mg daily
2. B1-Benfotiamine 50-100+ mg /d
3. B2- riboflavin 25 – 50+ milligrams /d
4. B3- niacinamide 10-20+ mg
5. B5-pantothenic acid 200-400 mg
6. B6 (preferably as P5P) 45 mg/d
7. Folate 5MTHF 250-500 mcg
8. Biotin 1000-2000 mcg/d

A few other helpful nutrients…

Zinc

Zinc levels are lower in people with diabetic neuropathy

Combining Zinc with the nutrients discussed above markedly decreased diabetic neuropathy by 80% when magnesium and E were also added

Optimal zinc is 10-20 mg/d in diabetic neuropathy

Boswellia (frankincense)

A. A powerful natural anti-inflammatory
B. Can **help** neuropathy – especially in combination of lipoic acid and other nutrients
C. Decreases pain
D. May promote nerve repair and regeneration

Treat the Root Causes of Neuropathy

1. **Nutritional deficiencies** – this is easy.
2. **Diabetes** and other hormonal issues – I will give you a great recipe
3. **Inflammatory conditions**, compression pain, infections and chronic pain- **Curcumin** and **PEA** are awesome

Optimizing Blood Sugar Made Easy

Decrease the glycosylated hemoglobin test by 2.4 points over 11 months with the protocol below [for example, from 8.8% (poorly controlled diabetes) to 6.4% (not diabetic)]

1. Hintonia latiflora

2. Berberine

3. Melatonin

Effects start at three months, but it takes 11 months to see the dramatic benefits above…