

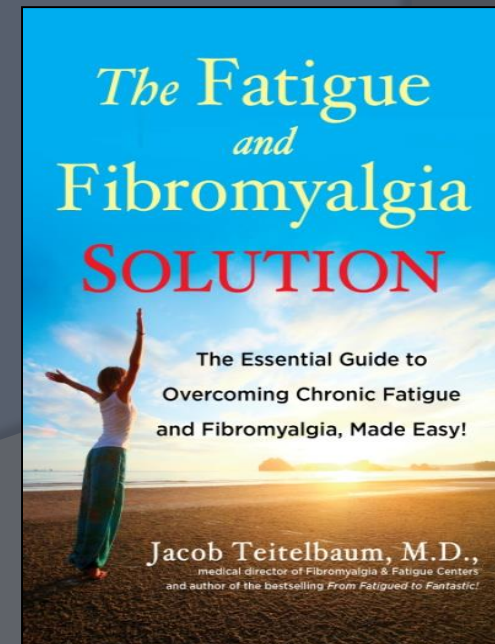
# **Effective Treatment for CFS, Fatigue, Pain and Fibromyalgia**

Jacob Teitelbaum, MD

# Jacob Teitelbaum MD

---

- Board certified internist and Medical Director of the Practitioners Alliance Network (PAN)
- Lead author of groundbreaking research on effective treatment for Chronic Fatigue Syndrome and Fibromyalgia
- Author of the best-selling books *From Fatigued to Fantastic!* and *Pain Free 1-2-3*, and *The Fatigue and Fibromyalgia Solution*
- Featured in many publications, radio and television events, including Good Morning America, CNN, Fox News Channel, the Dr Oz Show and Oprah & Friends
- Knows CFS/Fibromyalgia as an insider -- I contracted Chronic Fatigue Syndrome when I was in medical school and had to drop out for a year to recover. In the ensuing 35 years, I've dedicated my career to finding effective treatments.



# Pain and Loss of Vitality Are a Rising Epidemic

Most physicians are simply not trained in:

- Fatigue: 31% of adults
- Pain: 1/3 of adults
- CFS & fibromyalgia: 2-4%

These all often reflect poor energy production.

# A “Perfect Storm” for Human Energy Crisis

- ~50% of our diet now from empty calories (18% added sugar, 18% white flour, plus added fats).
- Average nights sleep in the US has dropped from 9 hours 130 years ago (pre-light bulbs) to 6 <sup>3</sup>/<sub>4</sub> hrs — a 30% drop!
- Hormonal deficiencies- From aging, Hypothalamic dysfunction, autoimmune illness and toxins.
- Infections-e.g.-Candida, new viruses, etc.
- Increased speed and stress of modern life.
- Increased stress from many other causes as well.

## 3 Key Areas Impacted by Low Energy —

1. Muscle pain. Most of the other fibromyalgia pains are then triggered by this
2. Hypothalamic dysfunction. This key control center uses a very large amount of energy, and also malfunctions when mitochondrial energy production drops.
3. Immune and autonomic dysfunction

# Pain

Your muscles also need a lot of energy

- When you run out, they get stuck in the shortened, rigid position and hurt – including by the joints where they attach (think about rigor mortis).



# Defining Symptoms of CFS/FMS – All Tracing Back to Low Energy

- Exhaustion
  - Aching
  - Weight gain
  - “Brain Fog”
- Hypothalamic Dysfunction
- Increased thirst
  - Low temps
  - Low libido
  - Disordered sleep
  - Bowel Disorders

# Clinical Research

We examined the efficacy of an integrated treatment plan for the treatment of CFS/FMS compared to placebo.

91 percent of the CFS and fibromyalgia patients receiving active treatment experienced moderate to marked improvement in their symptoms of pain and fatigue compared to the placebo group.

- Effective Treatment Of Chronic Fatigue Syndrome (CFIDS) & Fibromyalgia (FMS) - A Randomized, Double-Blind, Placebo- Controlled, Intent To Treat Study. *Teitelbaum J, Bird B, Greenfield R, Weiss A, Muenz L, Gould L .Journal Of Chronic Fatigue Syndrome Volume 8, Issue 2 – 2001.p3-27*



# Effective Treatment for CFS and Fibromyalgia: A Placebo Controlled Study

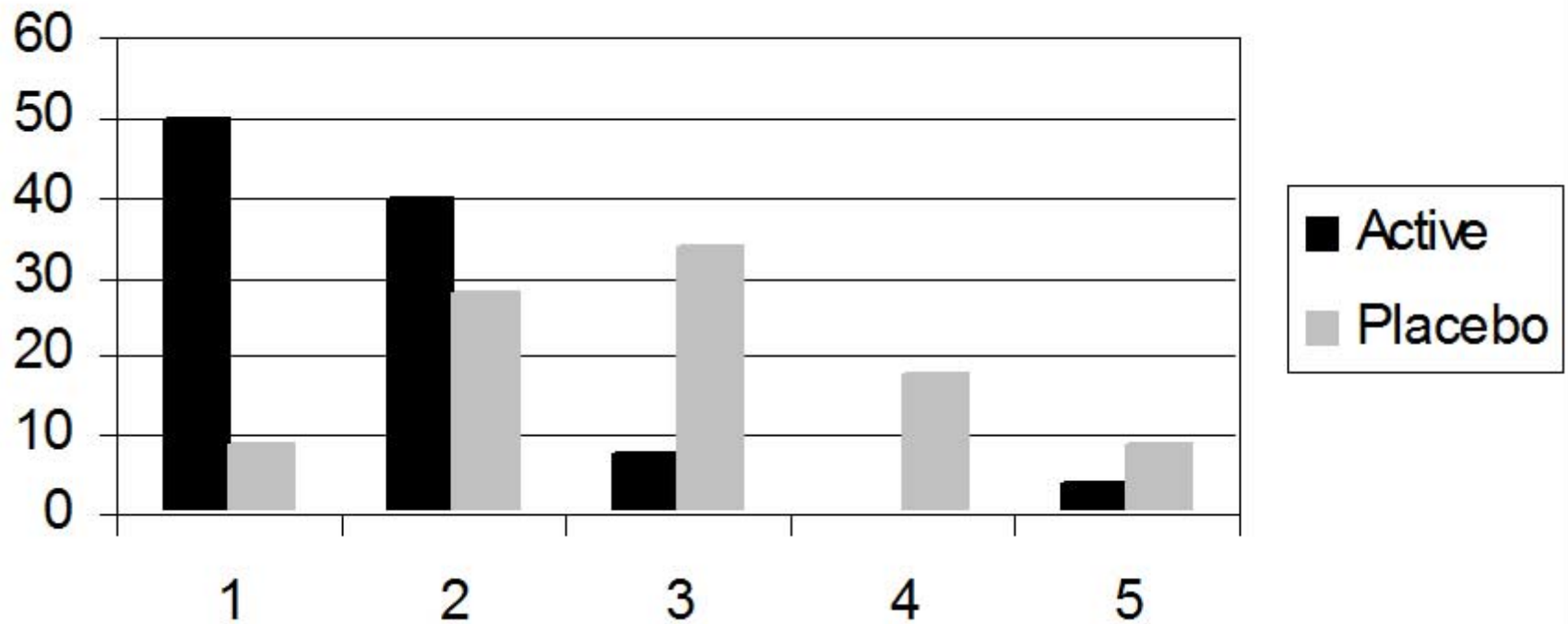
## Study Design

- Randomized Double-Blind
- Placebo-Controlled
- Intent to Treat Analysis

Low energy – a common denominator for CFS, fibromyalgia, fatigue, and most kinds of pain

Although we will use fibromyalgia as a model, these principles will apply to most kinds of pain and fatigue as well

# Patient Self Report Of Improvement



much better  
(p<.0001)

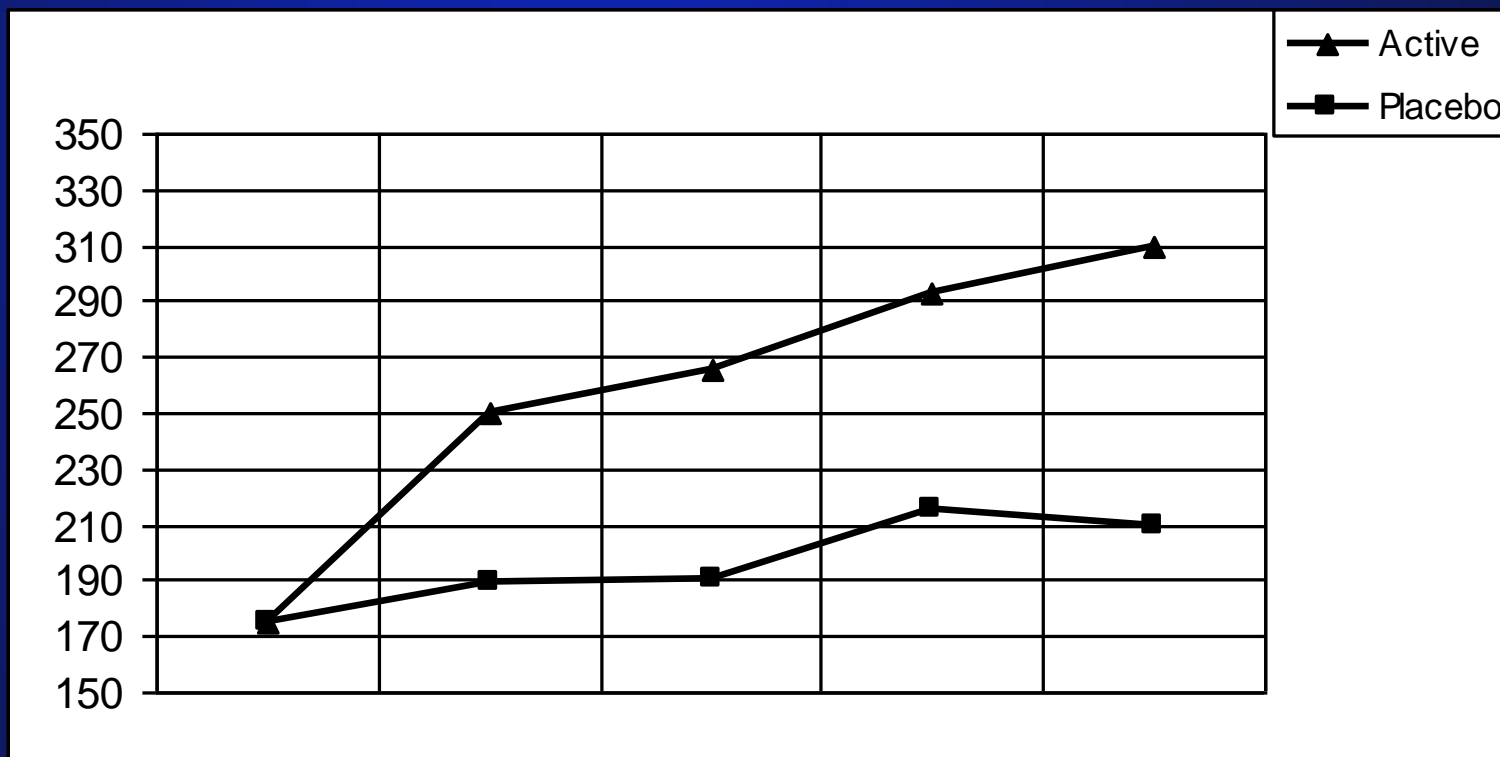
better  
(p<.0001)

no change  
(p<.0001)

worse  
(p<.0001)

much worse  
(p<.0001)

# Well Being (Analog) Index Score Average (By Group) – Per Visit



Average Analog Score per group by visit number

1. (p=.95)

3. (p=.0063)

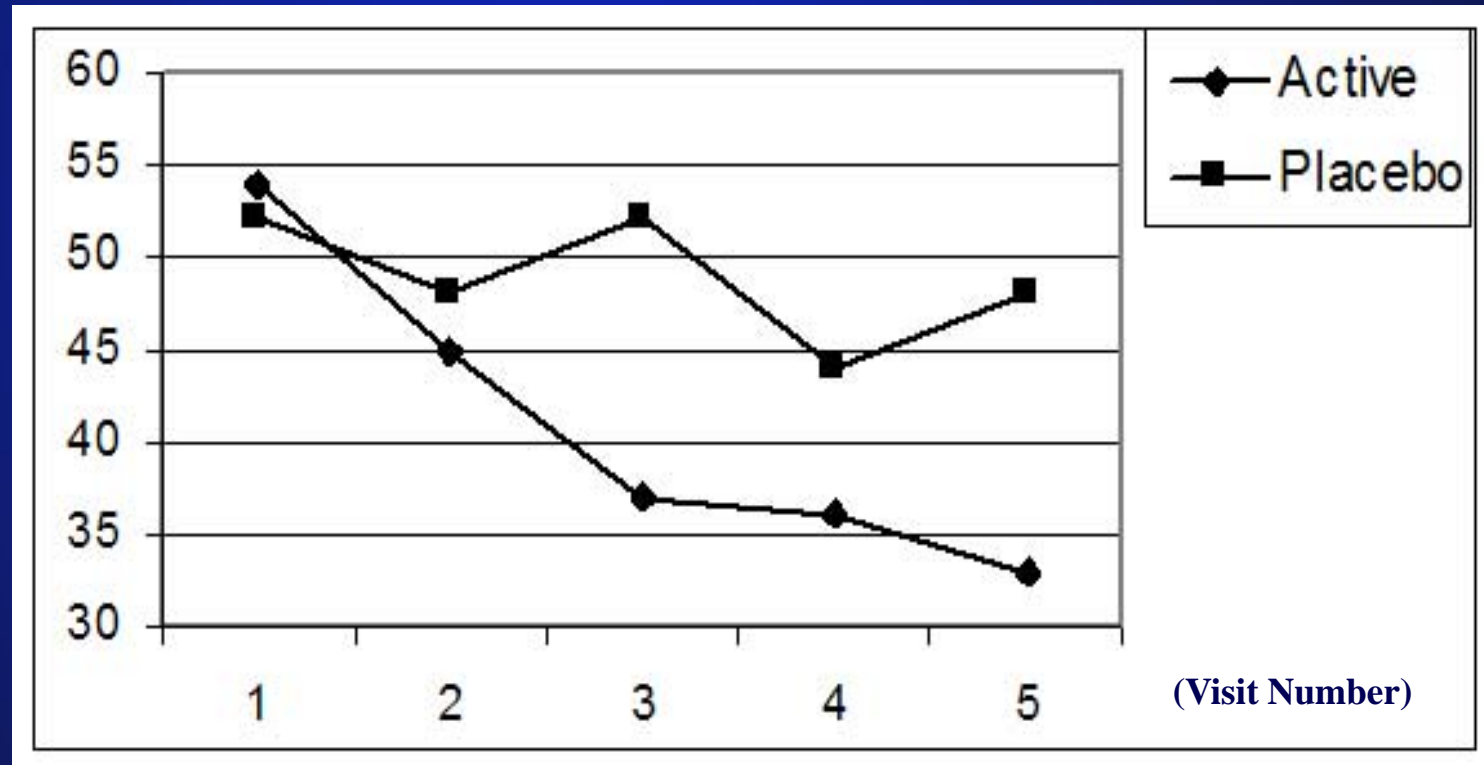
Final (p=.0002)

2. (p=.0051)

4. (p=.0053)

(\*p<.0001 adjusted for baseline score)

# FIQ (Disability Index) Averages by Group Per Visit



## FIQ Score

1. (p=.14)

2. (p=.37)

3. (p=.0013)

4. (p=.080)

Final (p=.0005)


(\*p<.0001 adjusted for baseline score)

# Long Term Effectiveness

- A 2-year follow up showed that patients continued to improve despite being able to wean off most treatments.
- They went from an average ~ 75% improvement in quality of life at 99 days to an average ~90% increase.

**I had CFS/FMS in 1975.**

**Since then, I've dedicated myself  
to creating effective treatment for everyone.**

Jacob   
Teitelbaum, MD

# Think “S.H.I.N.E.”

**Sleep**

**Hormones and Hypotension**

**Infections**

**Nutritional Deficiencies**

**Exercise**



# Evaluation

Jacob   
Teitelbaum, MD

# Applying the SHINE Protocol Made Easy

I can't treat everybody personally. To help everyone, many free tools are available at [www.vitality101.com](http://www.vitality101.com) to simplify applying this protocol


Look for the "Energy Analysis Program" (Step Three)

# Key Labs

- ESR (Sed Rate: sedimentation rate IF >20 THINK CORTEF / INFLAMMATION/CTD. IF > 50, THINK PMR), cbc, chemistry
- Free T<sub>4</sub> (free thyroxine), TPO antibody, Reverse T3, TSH
- DHEA-S (DHEA-sulfate — not plain DHEA)
- Vitamin B12 (TREAT IF < 540),
- Iron and % saturation (TREAT IF < 22%), Ferritin (TREAT IF < 60)
- Morning cortisol (TREAT IF < 16)
- Free testosterone (TREAT IF IN LOWEST 30% FOR AGE)
- Stool for parasites (only at specialty labs)

# Good Quality Sleep



Jacob   
Teitelbaum, MD

# Getting a Good Night's Sleep

To eliminate pain and restore energy production, it is critical to get eight to nine hours of deep sleep each night.

However, because of sleep center malfunction and pain, patients with CFS/FMS cannot do this without help

# Natural Sleep Aids

- Valerian, Passion Flower, Wild Lettuce, Hops, Jamaican Dogwood, and Theanine (Revitalizing Sleep Formula)
- Magnesium 100-300 mg
- Melatonin (Helps reflux as well)
- 5-HTP 200-300 mg
- Lavender (aroma therapy)
- Keep your bedroom cool
- Don't forget a good, old fashioned hot bath!

# Prescription Sleep Support

- Zolpidem (Ambien) 5-10 mg
- Trazodone (Desyrel) 25-50 mg
- Gabapentin (Neurontin) 100-600 mg
- Cyclobenzaprine(Flexeril) 3 mg
- Zanaflex (tizanidine) 4 mg

# Sleep Disorders- Common in CFS/FMS

- R/O Sleep Apnea
- R/O RLS (Restless Leg Syndrome-PLMD). This is often an IRON Deficiency! Keep the ferritin >60. Add magnesium. Neurontin and Ambien may also help



# Hormone Production

- Hormones – produced by glands which are controlled by the hypothalamus
- Thyroid – your body's gas pedal
- Adrenal (Cortisol, Pregnenolone & DHEA) – the stress handler
- Ovaries (estrogens and progesterone) and testes (testosterone)

# Hormonal Deficiencies

- Even mild under-production of hormones (deficiency) can be associated with many health problems, and leave the patient sick, tired, “brain-fogged” and in pain!
- Hormonal deficiencies are common – **despite normal blood tests.**
- Treat with bioidentical hormones.

# Thyroid dysfunction — PRESUME It's Present in CFS/FMS. Low Thyroid=Low Mitochondrial Function

- Hypothalamic dysfunction
- Hashimoto's more common
- Iodine deficiency
- Poor conversion of T4 to T3 (conversion needs Se<sup>++</sup>, Fe<sup>++</sup>)
- T3 Receptor Resistance

Treat based on symptoms, keeping Free T4 from going above normal for safety.

# Adrenal Dysfunction — HPA Axis

- Routine in CFS/FMS
- Rx: Hydrocortisone(cortef) 5-15 mg/d
  - Adrenal glandulars, licorice, Vit C and B5, Pregnenolone (eg- Adrenaplex)
  - Increase salt and water; avoid sugars
- Suspect if Fasting am cortisol <14 mcg/dl
- Diagnose mainly based on symptoms:
  - low blood pressure/ orthostatic intolerance
  - Hypoglycemia-”Feed me NOW or I’ll kill you!”
  - Frequent infections

# Hypotension – orthostatic intolerance (POTS, NMH)

- You can email me at [FatigueDoc@gmail.com](mailto:FatigueDoc@gmail.com) for two simple free tools that will screen for this
- Common in CFS and fibromyalgia – especially in the sickest 20%
- Increase salt and water intake
- Medium pressure compression stockings
- Midodrine (ProAmatine), Florinef, DDAVP, and in severe cases Mestinon

# Infections

- Most important is yeast/fungal/Candida overgrowth.
- Suspect if nasal congestion or irritable bowel. (Sulfur smelling flatus suggests small intestinal bacterial overgrowth)
- Suspect in all CFS/FMS patients. Markers include sinusitis and spastic colon.
- Rx – **Probiotics**, low sugar (use stevia), natural antifungals, **Diflucan** (Rx).
- Look for other infections as well – parasites, viral, antibiotic sensitive/ Lyme, etc.

# Nutritional Deficiencies

## 1. Poor dietary choices

- 140 lbs sugar yearly
- ~18% calories from white flour

## 2. Poor absorption

- Bowel infections, enzyme deficiencies, acid blockers

## 3. Increased nutrient losses

- Zinc, glycine, cysteine, & glutamine from infections

## 4. Increased needs secondary to illness

- R. M. Marston and B.B. Peterkin, "Nutrient Content of the National Food Supply," National Food Review, Winter 1980, pp.21-25.
- *American Journal of Clinical Nutrition* 1985;41:1070-1076. Prasad AS. Clinical spectrum of human zinc deficiency. In: Prasad AS, editor. Biochemistry of zinc. New York: Plenum Press; 1993. pp. 219–258.

# Treatment & Testing

- Minimal lab testing required
- Exceptions include:
  - **B12** – if low (<540)
  - **Iron** – Fe % sat [keep > 22%] and Ferritin [keep >60]



# Nutritional Supplementation – I like Powders

- Comprehensive Nutritional support in one drink – the Energy Revitalization System
  - 50 key nutrients from A-Z
    - Vitamins A, C, D, E, and high dose B Complex
    - 7,000 mg amino acids
    - Magnesium, zinc, iodine, selenium, boron, etc
    - Malic Acid, inositol, TMG, etc
    - High dose antioxidants, NAC
  - Convenient alternative to over 35 tabs/caps in 1 drink
  - Adjustable dosages for sensitive patients

# Other Important Nutritional Advice

- Increase water intake and decrease sugar intake.
- Add salt if you have low blood pressure.
- Consider high protein-low carb diet.

## For 3-9 months consider:

- Acetyl L-Carnitine 1,000 mg/day (energy and weight).
- D-Ribose for energy production.
- Coenzyme Q10, 200-400 mg/day – for energy.
- Fish oil – if dry eyes and mouth.

# D-Ribose for Additional Support

- Promising new nutrient for CFS/FSM sufferers (and cardiac patients).
- Ribose availability is **rate limiting** in energy production – especially in people having an “energy crisis.”
- Key component of DNA & RNA, ATP, FAD, and Acetyl CoA.
- **Ribose deficiency** in energy deficient states can be a critical piece of the puzzle.

# Two Ribose Studies in CFS/FMS: Initial Study

- **65.7%** of patients experienced significant improvement during study ( $p < 0.0001$ ).
- Average increase in energy of **44%** and overall well-being of **30%**.
- Also significantly improved sleep, mental clarity, and pain.
- Recommended dose: 5 g, 3x/day for 3 weeks then 2x/day.

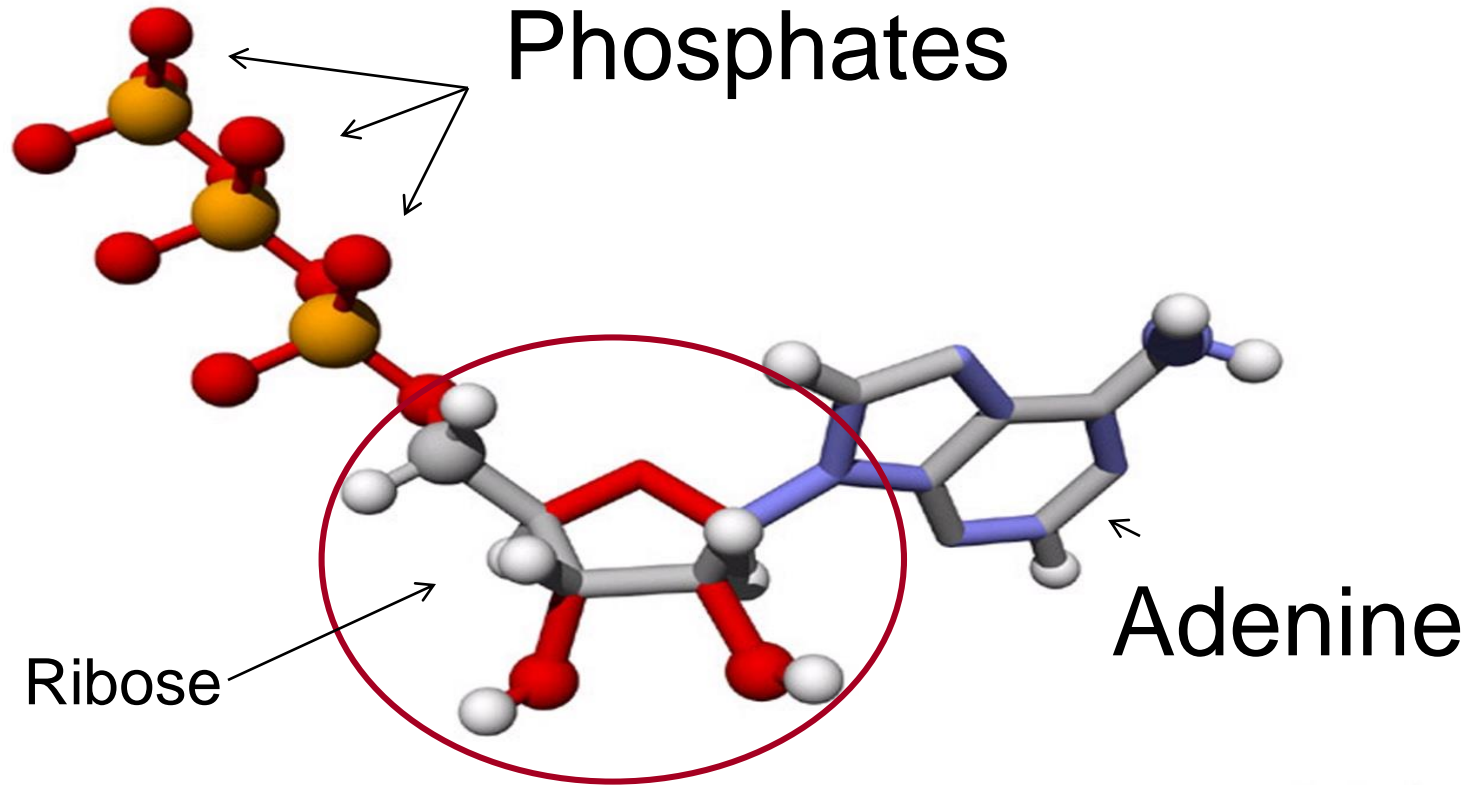
# Follow-Up Multi-Center Study

**Methods:** 53 health practitioners enrolled 257 patients who had been diagnosed with Fibromyalgia and/or Chronic Fatigue Syndrome. They were given D-ribose, a naturally occurring pentose carbohydrate, at a dose of 5-g 3x day for 3 weeks. All patients were assessed at baseline (1 week before treatment was begun), and after 1,2, & 3 weeks of treatment, using a Visual Analog Scale (of 1-7 points) rating energy, sleep, cognitive function, pain and overall well being.

# Multicenter Ribose Study

- Energy 61% increase
- Sleep Quality 29% increase
- Mental Clarity 30% increase
- Pain 16% decrease
- Overall Wellbeing 37% increase

# ATP the Energy Currency of the Cell



Benjamin  
Cummings

# Exercise AS ABLE

- Important balance: Too little exertion causes deconditioning; Too much will cause severe post exertion fatigue.
- Begin with a walking program. Walk as much as is comfortable.
- After 10-12 weeks on Rx, can increase walking 1 minute a day as able.
- When at 1 hour a day, can increase intensity – AS ABLE!
- Use a pedometer-Aim for 10,000 steps each day (over time as able).



# **Treatment Protocols for Common Types of Pain**

**(Can also find these in the Cures A-  
Z phone app)**

# Treat Pain Naturally — With S.H.I.N.E.

- Treat underlying triggers of muscle shortening.
- Otherwise, benefits are short term.
- Natural treatments for arthritis:
  - **Willow Bark, Boswellia, and Cherry (End Pain)**
  - **Curcumin, Boswellia, DLPA, Natto ( Curamin)**
  - As effective as Celebrex/NSAIDs
- Give 2 tablets 3x/day for 6 weeks, then as needed.  
Can use with medications

# Neuropathies-Nutrients

1. Vitamin B6- 50 mg/day
2. Acetyl L Carnitine 1500-3000 mg/day
3. CoEnzyme Q10 200-400 mg/day
4. B12- 500+ mcg/day
5. Lipoic Acid 300 mg BID (diabetic and other neuropathies)

# Neuropathies – Medications

- For localized areas add a compounded pain gel (effects seen within 2 weeks). Then begin with:
  - Neurontin — may take 2,400 to 3,600 mg daily for nerve pain
  - Lyrica
  - Cymbalta
  - Tricyclic anti-depressants, 10 to 50 mg at bedtime
  - Effexor, 75 mg 3 times a day
  - Ultram, 50 mg, 1 to 2 tablets up to 4 times a day

# Carpal Tunnel Syndrome

- Vitamin B6 @ 250 mg/day
  - Plus thyroid and splints
  - Routinely eliminates carpal tunnel syndrome in 6 weeks.
- 
- Level of Evidence B

# Migraines – Begin with Magnesium

- 200-500 mg/day (as glycinate) – presume deficiency
- Chinese diet >600 mg/day; SAD ~275 mg
- Most critical nutrient! > 300 reactions
- 1-2 mg IV over 15 minutes gives immediate elimination of the migraine in 85%!
- Demirkaya, S., et al. “Efficacy of Intravenous Magnesium Sulfate in the Treatment of Acute Migraine Attacks.” *Headache*, 2001; 41: 171 – 177.&Peikert, A., et al.
- “Prophylaxis of migraine with oral magnesium: results from a prospective, multi-center, placebo-controlled and double-blind randomized study.” *Cephalgia*, 1996 June; 16 (4): 257 – 63.

# Migraines – Acute

Seventy-five percent of migraine patients get painful sensitivity to normal touch (e.g. from eyeglasses) around their eyes. Studies showed that when participants used Imitrex before the tenderness/pain around the eyes began, it knocked out the migraine 93 percent of the time. If the pain/tenderness around the eyes had already set in, Imitrex only eliminated the migraine 13 percent of the time, although it still helped the throbbing.

# Migraines – Acute

- Midrin®, a mix of three medications, can also be effective. Give 2 capsules immediately followed by 1 capsule each hour until the headache is relieved (to a max of 5 capsules within a 12 hour period).
- Acetaminophen 500 mg, aspirin 500 mg, caffeine 130 mg is as effective than Imitrex 50 mg.
- Butterbur is an herb that can both prevent and eliminate migraines. Give 50 mg 3 times a day for 1 month and then 50 mg twice a day to prevent migraines. You can give 100 mg every 3 hours to eliminate an acute migraine.
- Brown, D.J. “Standardized butterburr extract for migraine treatment: a clinical overview.” *HerbalGram* # 58, 2003 p19.



# Migraine Prevention

Nutritional support and treating food sensitivities are very important. Also:

1. **Vitamin B2 (riboflavin)** - 400mg a day(67% decrease).
2. **Feverfew** - 250mg 1 to 3 times a day
3. **Butterbur (Petadolex)** 50 mg 2 X day
4. **B12-** 1000 mcg (43% decrease)

- Schoenen, J., al. "Effectiveness of high-dose riboflavin in migraine prophylaxis. A randomized trial." *Neurology*, 1998 February; 50 (2): 466 – 70.
- Van Der Kuy, P.H.M., et al. "Hydroxycobalamin, a nitric oxide scavenger, in the prophylaxis of migraine:." *Cephalgia*, 2002; 22: 513 – 519.
- Murphy, J.J., Randomized double-blind placebo-controlled trial of feverfew in migraine prevention." *Lancet*, 1988 July 23; 2May (8604); 189 – 92.
- Prusinski, A., et al. "Feverfew as prophylactic treatment of migraine." *Neurol Neurochir Pol*, 1999;33 supplement 5: 89 – 95.

# Risks of NSAIDs

- Aspirin and NSAIDs cause an enormous amount of gastritis and ulcer bleeding to the extent of killing over 30,000 Americans yearly.
- 40% increase in heart attack and stroke risk and as many as 16,500 bleeding ulcer deaths yearly

# Some Non-NSAID Pain Meds


1. Skelaxin (for muscle pain/achiness)
2. Ultram
3. Neurontin, Gabitril, and/or Lyrica
4. Flexeril (for muscle pain/achiness)
5. Elavil, Doxepin, or Cymbalta
6. Zanaflex
7. Effexor
8. Klonopin (for muscle pain/achiness)
9. Compounded topical pain medication cream mixes

You can now reclaim your health and  
vitality

*Remember SHINE!*

“ Teitelbaum’s treatment approach is an excellent and highly effective part of the standard of practice for treating Fibromyalgia and MPS.”

*– Journal of the American Academy of Pain Management*

Jacob   
Teitelbaum, MD