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**Vitamin D, CO2, and Fibromyalgia: The Unexpected Missing Link**

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Overbreathing: The Hidden Trigger for Chronic Pain

What if hyperventilation, often dismissed as a minor issue, was actually fueling chronic pain disorders like fibromyalgia? A groundbreaking hypothesis suggests that overbreathing might disrupt your body’s ability to produce vitamin D—and that could have devastating effects on your health.

The Problem: What’s Really Going On?

A study by JM Lewis et al. [[ref1](https://www.consciousbreathing.com/blogs/co2-academy/vitamin-d-co-and-fibromyalgia-the-unexpected-missing-link#ref-1)] dives into respiratory alkalosis, a condition caused by excessive breathing that lowers carbon dioxide (CO₂) levels in the blood.

Here’s the kicker: this CO₂ drop sets off a chain reaction, preventing your body from producing calcitriol—the active form of vitamin D.

Fibromyalgia has long been a medical mystery, leaving many patients without clear answers. But what if the culprit isn’t genetics or inflammation—but how we breathe?

This research suggests that long-term hyperventilation may actually mimic or even trigger fibromyalgia symptoms. The link? A suppressed ability to regulate calcium, nerve function, and energy production due to a hidden vitamin D deficiency.

The Big Reveal: What the Researchers Discovered

Hyperventilation → Low CO₂ → Kidney Dysfunction → Less Vitamin D → Chronic Symptoms

The study suggests that fibromyalgia and acute mountain sickness (AMS) may share a common root cause: an inability to properly regulate CO₂ and pH balance. This could explain why both conditions share symptoms like:

✅ **Muscle pain and fatigue**
✅ **Sleep disturbances**
✅ **Brain fog and dizziness**
✅ **Sensitivity to touch and temperature**

If this theory holds up, it could change the way fibromyalgia is treated forever.

How Did They Figure This Out?

Instead of dismissing fibromyalgia as a “mystery illness,” the researchers looked at how the kidneys struggle to compensate for prolonged respiratory alkalosis. Their findings?

Hyperventilation puts the kidneys into overdrive, forcing them to excrete excess bicarbonate in an attempt to rebalance pH. This process is slow and exhausting, leaving other kidney functions compromised.

🛑 With chronic hyperventilation, the kidneys struggle to release phosphate—a key ingredient for producing active vitamin D (calcitriol).

🛑 Without enough vitamin D, the body loses its ability to regulate calcium and nerve function, potentially leading to chronic pain, fatigue, and heightened sensitivity.

🛑 This could explain why many fibromyalgia patients experience chronic stress, anxiety, and shallow breathing—not just as symptoms, but as a possible root cause.

So… Should You Stop Breathing?

Not exactly. But this research challenges the mainstream approach to treating fibromyalgia. Instead of relying solely on painkillers, antidepressants, or endless stretching routines, the key could be restoring proper CO₂ balance.

The paper hints at a potentially game-changing solution: Instead of more medications, low, slow, rhythmic nasal breathing, CO₂ therapy, and even mild metabolic acidosis (through diet changes) could help restore the body’s natural balance—and potentially reverse symptoms.

The Bottom Line: Why This Matters

For years, traditional treatments for fibromyalgia have focused on managing pain instead of addressing the root cause. But this research suggests that we may have been looking at it all wrong.

Instead of adding more medications, maybe we need to focus on something far simpler: restoring CO₂ levels through Conscious Breathing and metabolic regulation.

**It’s time to stop ignoring the breath-body connection and start asking the right questions.**

Scientific References

1. Respiratory alkalosis may impair the production of vitamin D and lead to significant morbidity, including the fibromyalgia syndrome 2. Breathing evaluation and retraining as an adjunct to manual therapy 3. Hypocapnia in women with fibromyalgia

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