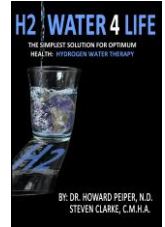


H2 WATER 4 LIFE MAY HELP ARTHRITIS SUFFERERS

An Abbreviated Scientific Literature Review written 12.31.2025 by:

STEVEN CLARKE, 2025 Certified H2 Advisor, 2018 C.M.H.A., Quantum Medicine Level 1 Graduate, CAM Liaison, Biochemistry Student, Lab Technician, Nutritionist, Author, Mineral and Electrolyte Science Specialist, Hydration Consultant & Coach to Celebrities, Pro Athletes, VIPs & Global Companies

According to the U.S. Centers for Disease Control and Prevention updated 11/03/2021, "In the United States, **24%** of all **adults**, or 58.5 million people, have arthritis. It is a leading cause of work disability, with annual costs for medical care and lost earnings of \$303.5 billion." ... "There are more than **100 types** of **arthritis**. The most common form ... is osteoarthritis. Other common types ... include rheumatoid arthritis [RA], gout, and fibromyalgia ... Pain and stiffness in and around ... joints are common symptoms ... By 2040, an estimated 78 million (26%) US adults ... are projected to have doctor-diagnosed arthritis." In 2022, Arthritis Foundation estimated nearly **300,000 children** in the U.S. are afflicted by **juvenile arthritis**.



Why are arthritic diseases so prevalent in America? Before I try to answer, please know that most symptoms **gradually appear** over **months**, **years** or even **decades**. The two most common forms are osteoarthritis and rheumatoid arthritis. Others include juvenile idiopathic arthritis, Psoriatic arthritis (PsA), gout and pseudogout. Let me try to explain the basics.

NOTE: MEDITERRANEAN countries and the MEDITERRANEAN diet, characterized by high consumption of fruits, vegetables, legumes, nuts, fish and olive oil, is associated with LOWER arthritis risk.

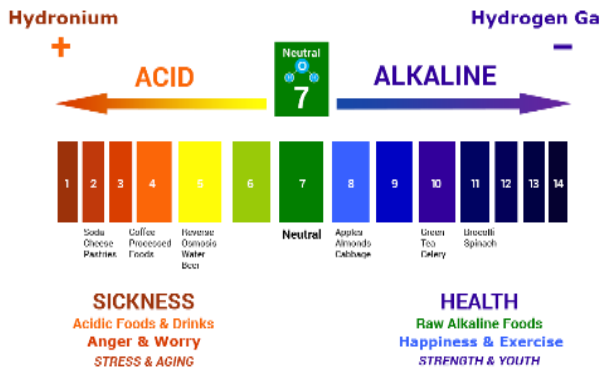


FIRST, **water deficiency**, **under-hydration** and **dehydration** are often a primary cause. Synovial joints with rheumatoid arthritis, pain, stiffness and swelling can indicate water deficiency in the affected joint cartilage surfaces. **Pain** can be another one of our body's regional **thirst signals** and indicate that a joint is under-hydrated and not prepared to endure pressure until it is fully hydrated. This joint must receive an adequate increase in water intake to temporarily dilute our blood circulating in that area.

Cartilage surfaces in **synovial joints need lots** of **water**. Synovial fluid is a water-based, bio-lubricant held inside joint regions. It is used to aid two opposing surfaces to freely glide over each other during joint movement. To minimize or avoid pain, **ample water must reach cartilage** from the base through the bone marrow and bone. Our bone cells are immersed in calcium deposits and our cartilage cells are submerged in a **matrix containing much water**. As our cartilage surfaces glide over one another, some exposed cells die and peel away. New cells take their place from growing ends attached to sides of our bone surfaces. In a **well-hydrated cartilage**, the rate of frictional injury is **minimized** or avoided. In an **under-hydrated cartilage**, the rate of **abrasive damage** is **increased**. Therefore, maintaining **full hydration** should be a first therapeutic to address any arthritic disease.

Rheumatoid Arthritis and Foot Deformity

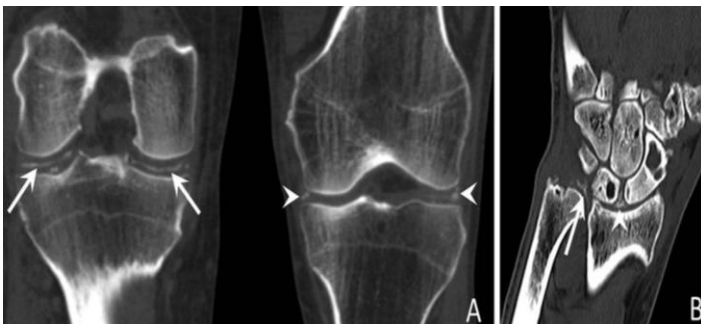
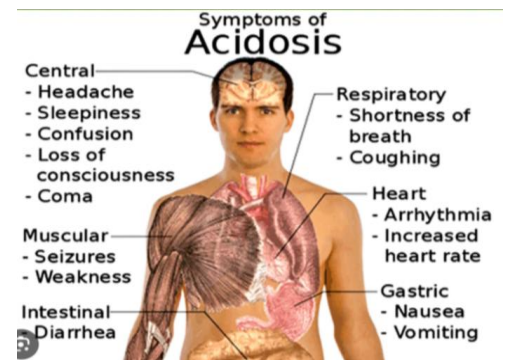




SECOND, a 2021 study showed “Low-grade metabolic **acidosis** as a driver of chronic disease [and many major diseases].” This includes arthritis and pseudogout. Metabolic acidosis is when our **overall body pH** cannot stay slightly alkaline. It is created by primarily eating **animal** and most **processed foods** that have an unhealthy positive **Potential Renal Acid Load (PRAL)** ... and ... mainly drinking acidic water or beverages ... whereas **raw**

plant foods have a healthy negative PRAL. Eating a diet high in meat, cheese, sugar, refined flour (bread, pasta, cakes, cookies, etc.) **increases** renal acid load. Most bottled waters, reverse osmosis water, distilled water and other demineralised waters are acidic.

One definition of chronic and/or metabolic acidosis is the accumulation of excess acidity in our cells, organs, muscles, tissues and fluids. It can be a principal cause of premature aging and an early demise. It is like stepping on the gas pedal of a slow-moving car to speed it up. Dr. George W. Crile, M.D. and surgeon stated: “All deaths from so-called natural causes are merely the end point of a **progressive acid saturation.**”

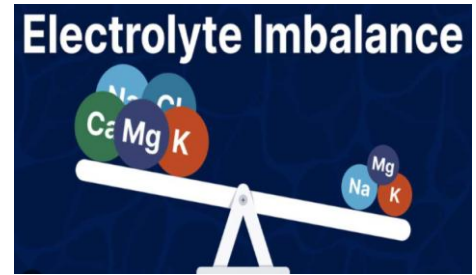


When too much acid enters and loads inside our body, it goes into a panic mode. So, our **body steals calcium** from our **bones** and uses other compensatory resources to buffer or neutralize excess acid. One outcome is calcium loss from bone areas that can be transformed into **rhomboid-shaped crystals** such as calcium pyrophosphate

(CPP) or apatite crystals. These **hard, sharp crystals** can form **painful deposits** in spinal facets and the synovial fluid areas of joints such as shoulders, elbows, wrists, hands, fingers, hips, knees, ankles, feet, toes and nearby tissues. **Pseudogout** (CPPD) is also CPP-driven arthritis that causes sudden flares of pain, swelling and stiffness. It is called pseudo because it mimics gout, but gout happens when there’s too much **uric acid** in the blood. An estimated **8-10 million Americans suffer** – mostly those who injured joints, **especially a knee**, and **seniors**.

Upper images show these crystals in the **(A)** knee and **(B)** wrist joint. Calcium crystals and/or excess acid accumulation gradually damage joint cartilages and cause painful inflammation. Unfortunately, joints are where our blood cannot easily reach and remove this hard bio waste by-product. So, **increasing H2 alkaline water intake** may help with this issue.

THIRD, **electrolyte imbalance** and/or **deficiency** can also be a factor. A Japanese study published in 2021 established “Urinary Na/K ratio is independently associated with current RA disease activity.” Samples and data were collected from 336 RA patients. Results were validated. Conclusion: **potassium (K)** and **salt (Na)** and their **ratio imbalance** are now **prime suspects** in **RA cases**. Where K was low and Na was high, **reducing salt** intake and **increasing potassium** are suggested. Newer research confirms a correlation between **RA disease activity** and **low levels** of **potassium (K)**. **Calcium overload** has also been implicated. Some studies found that hypercalcemia is associated with high disease activity in RA and may contribute to suppression of vitamin D hormone synthesis.



Of course, **diet** is a **key factor**. We should try our best to eat a well-rounded wide-array of rotating unprocessed foods each month. This can be a good start. However, even if we do this, most of us cannot get all of the total minerals needed to form enough **electrolytes** due to our American soil being mineral-depleted from modern farming and harvesting methods. This makes adding **electrolyte** supplementation of paramount importance.

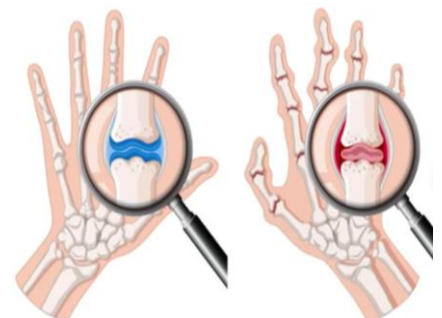
Note: Some studies indicate daily **collagen replacement** can also gradually reduce symptoms of several forms of arthritis.

Yet, **H2 Water 4 Life** may assist arthritis sufferers. **3,000+ science studies** suggest that freshly-infused hydrogen alkaline water ... filtered at a Kidney Dialysis Level ... plus a broad-spectrum low-dose and correct ratio of organic, non-GMO **electrolytes** ... has therapeutic potential to help numerous people who suffer with mild or very painful forms of arthritis. Below are a few of many **Testimonials** and **Studies** that offer hope to the millions who suffer every day. *

* Please read Steven’s comprehensive 18-page 2025 science paper “**To Understand Electrolytes – Learn About Minerals**”

➤ TESTIMONIALS

Rheumatoid Arthritis (RA) & Gout Pain Gone – Mary Ann Ebert. “I couldn’t hold my comb, toothbrush or a knife to cut my meat. Since the onset of arthritis and gout, I gained 30 pounds. I did not want to live the rest of my life in such agonizing pain. [Then], I learned about **alkaline antioxidant [H2] water**. After [drinking it] three weeks, I was feeling much better. **After five weeks, I was pain-free** and living life again. Today I am [still] pain-free, walking, cutting my own meat, and living life again.” (Health News Volume 17, #4)





Knee Surgery Cancelled – Evelyn Harrison. “[My] rheumatologist told me I needed both of my knees replaced. [A friend] brought me [alkaline] water for a month. Whenever she would **bring the water, my knee would stop hurting**. I knew it had to be the water. I don’t take pain medication. Then, I started to do my research. I talked to people all over who had [water] ionizers. My knees do well as long as I **keep drinking alkaline antioxidant [H2] water**. I can **hike a mile on knees** my doctor wanted to replace.” (Health News Volume 18, #6)

Severe Arthritis Virtually Gone – Guylaine D. (Canada). “My dear husband, Gaston, [suffered] severe Arthritis [and many other health problems]. I did research and found water ionizer technology as a safe, alterative therapy. [Gaston drank] about **1.0 ppm of H2** at its highest alkaline level. His [arthritis] and other problems **rapidly improved** and are virtually gone. H2 water is [now] a daily part of our lives and even our beloved **dogs love it!**” (H2 WATER 4 LIFE Book, Chapter 22)

➤ **SCIENTIFIC and/or CLINICAL STUDIES**

ISHIBASHI, T., et al. (2012) Consumption of water containing high concentration of **Molecular Hydrogen [H2]** reduces oxidative stress and disease activity in patients with **Rheumatoid Arthritis**. *Medical Gas Research* 2(1): p.27

SUN, Y., et al. (2013) Treatment [using] **Hydrogen Water** abates oxidative stress [that produces acidity] and alleviates **bone loss**. *Osteoporos Int.* 24(3): p. 969-78

ISHIBASHI, T., et al. (2014) Therapeutic efficacy of infused **Molecular Hydrogen [H2]** in saline on **Rheumatoid Arthritis (RA)**. *Int. Immunopharmacol* 21(2): p. 468-73

Kianifard, Toktam Msc., PhD., Chopra, Arvind MD, DNB (2017) Pune, India. **A therapeutic role for potassium (K) to reduce pain and complications related to the cardiovascular system and bone in rheumatoid arthritis (RA): A clinical research perspective.** *Rheumatology Research* Jan. 2017, Vol. 2, Issue 1, pp. 1-12

DiNicolantino, James J, O’keefe, James. (2021) Kansas City, Missouri, USA. **Low-grade metabolic acidosis as a driver of chronic disease: a 21st century public health crisis.** *Open Heart* 2021; 8(2): e001730. PMC8549658

Minamino, H., Katsushima, M., Hashimoto, M. et al. Kyoto, Japan. (2021) **Urinary sodium-to-potassium ratio associates with hypertension and current disease activity in patients with rheumatoid arthritis: a cross-sectional study.** *Arthritis Res Ther* 23, 96 (2021). <https://doi.org/10.1186/s13075-021-02479-x>



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CALL us at 707.374.2013 – TEXT Tina at 916.705.5001 – EMAIL: tina.aaawater@gmail.com

