

What Do These Patients Have in Common? A Lesson in Posture from a Patient Who Carried Water on Her Head

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A patient of mine referred his mother to me. A delightful woman, she presented with a history of chronic, recurring headaches, upper back pain especially to her right midback extending to her right shoulder and arm as well as low back pain. She related to me that her neck pain with headaches has been particularly severe and interferes with her work and sleep as well as leisure reading.

During my examination of her neck, I noticed a familiar pattern that I have seen with a number of other patients who include a former Nebraska Cornhusker football linebacker, a Desert Storm soldier whose vehicle hit a very rough road and caused him to hit his head against the top of the vehicle he was riding in, and a middle-aged woman who had been in a severe rollover automobile accident. The common mechanism of injury was vertical head compression with the head and chin tucked forward.

I asked my new patient what types of severe injuries she had been involved in, but she could not recall any severe injuries at all. Knowing that there must have been some traumatic event causing this type of restriction in her neck—considering the neck and headache pain she had been experiencing for many years—I continued to ask her what might have caused what I thought surely was a severe blow to the top of her head.

She thought and finally said, “When I was a child, I carried containers filled with water from the stream to my village in Kenya—on the top of my head.”

“That’s it!” I exclaimed, knowing this mechanism of injury matched what I have seen with others who had this similar pattern of neck restriction and the same symptoms.

Fortunately, she has responded well to treatment and is improving, but I continue to ask her about the custom of carrying water on top of their heads. It was a way of life, and for many in this world, it still is a life-sustaining duty.

At first I wanted to get my hands on some of those water baskets because I thought they might be able to be redesigned to reduce the head/neck pressure that eventually causes dire consequences in the neck, but this patient clearly stated that they use whatever containers are available to carry water. If their arms are not strong enough, then they put the containers of (heavy, up to forty pounds) water on their heads in a precarious balancing act that serves more utility than daring.

Studies of the practice show that villagers often carry those plastic buckets you might see at construction sites. Nothing ergonomic about them. And their treks for water for cooking, bathing, and drinking might be as long as six miles a day. Photos of the practice from World Vision show women (the men are occupied tending crops) balancing the buckets with an infant wrapped on her back and perhaps a free hand to tow another child. Children are shown with smaller containers and balancing them on a shoulder.

I know now that my patient's neck condition arose from carrying those heavy containers of water on her head while her head and chin were tucked forward. The studies show these practices cause all manner of health issues, and most especially musculoskeletal in nature.

She told me she was rather young at the time, so this was occurring while her cervical spine was still forming and growing. I asked why she held her head in the chin-tucked posture while she was carrying water, and she simply replied that she had to look at the ground (and I speculate it was to see any tripping hazards on a less-than-perfect trail from the stream to the home). While that made perfect sense to me, I know from working with many patients that repeatedly tilting their heads forward for various reasons from computer uses to cell phone texting to reading that a significant amount of this tilting can be eliminated by shifting your eyes downward instead of tilting the head forward/downward.

This suggestion to shift the eyes made sense to her once I fully explained why it would have been better. She said she would have done this had she known about this technique when she was young and especially if she had understood how much neck pain and headache misery she could have avoided later in life.

I asked this delightful patient if people in the village she grew up in still carry water on their heads, and she confirmed they certainly do. If they can't (or aren't strong enough) to carry water with their arms, they carry it on their heads.

I understand that even though it is hard on a young, growing cervical spine to carry such a relatively heavy weight on top of the head, these villagers simply must do it anyway. With that being said, I suggest we explore ways to teach these adults and children to head carry with their heads level while pointing their eyes downward instead of tilting their heads. We can also explain better lifting techniques to get the water containers to the tops of their heads and avoid lifting injuries.

Better yet, we can support aid organizations that build wells and water aqueducts so water is more readily available closer to villages.

In this country, we don't carry water on our heads, but how many of us are feeling the same effects by tilting our heads downward toward iPhones, iPads, and computers? Is this today's lesson that the human body and human ingenuity have evolved to carry water on our heads and to tilt downward to electronic devices yet we are unable to adjust to the pain such activity will cause down the road?

The good news is that we can be aware of the hazards in that road and adjust our postures and gaze to avoid injury, whether in Kenya or Kalamazoo.

For photos, see World Vision: <https://www.worldvision.org/clean-water-news-stories/carrying-water-pain-neck>.

For an article on the practice, see Charles Q. Choi, Head-Carrying Actually Pain in the Neck at <https://www.livescience.com/10782-head-carrying-pain-neck.html> (October 4, 2010).

For research and a deep reference section, see Jo-Anne L. Geere and colleagues, Domestic water carrying and its implications for health: a review and mixed methods pilot study in Limpopo Province, South Africa, *Environmental Health* 9:52 at <https://ehjournal.biomedcentral.com/articles/10.1186/1476-069X-9-52> (2010).

Lack of access to safe water remains a significant risk factor for poor health in developing countries. There has been little research into the health effects of frequently carrying containers of water. The aims of this study were to better understand how domestic water carrying is performed, identify potential health risk factors and gain insight into the possible health effects of the task.

Conclusions: Typical water carrying methods impose physical loading with potential to produce musculoskeletal disorders and related disability. This exploratory study is limited by a small sample size and future research should aim to better understand the type and strength of association between water carrying and health, particularly musculoskeletal disorders. However, these preliminary findings suggest that efforts should be directed toward eliminating the need for water carrying, or where it must continue, identifying and reducing risk factors for musculoskeletal disorders and physical injury.