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# Hip Fractures: Not Just Another Broken Bone

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In 1997, a study published in the *Canadian Medical Association Journal* projected the number of hip fractures to increase four-fold over 40 years, which highlighted the need for preventative strategies.<sup>1</sup> Hip fractures place a significant burden on Canadians because of the associated costs of care, pain, morbidity and mortality.<sup>2</sup> In the elderly, the one-year mortality rate after a hip fracture is up to 30%.<sup>3</sup> Furthermore, approximately 50% of hip fracture patients are unable to live independently again—many being unable to walk, dress or bathe.<sup>4</sup> Patients who recover can take up to a year to regain mobility and strength.<sup>5</sup> From a population health perspective, the cost of a hip fracture has been estimated at \$18,000 per event, with additional increased costs from loss of independence and need for long term care.<sup>6</sup> Hip fractures have a serious impact at both the population and individual levels, and therefore strategies must be implemented to prevent them.

In contrast to the predicted catastrophic rise in hip fracture rates, a 2011 study published by UBC researchers in *Osteoporosis International* reported that age-standardized rates in British Columbia actually decreased by 18% between 1990 and 2004.<sup>7</sup> The senior author, Dr. Pierre Guy—associate professor at the UBC department of Orthopedics and researcher at the Centre for Hip Health and Mobility—explains that “the reason for the declining rate is unknown. It may be associated with fall prevention strategies, improved health of the later portion of the cohort or even medications over the observation period.”<sup>6</sup> Dr. Guy further explains that:

Prevention of hip fractures can be organized into two general categories of either preventing falls or maintaining/increasing bone strength. The former category includes balance improving exercises, wearing protective hip pads, ensuring a safe home environment, limiting polypharmacy (mainly psychotropic drugs), and the proper assessment and correction of vision. The latter category includes adequate intake of vitamin D and

calcium, performing load-bearing exercises, and possibly taking Bisphosphonates.<sup>6</sup>

Dr. Guy also points out the unique interventions taking place in British Columbia, such as Osteofit, an exercise and education program based on published research for individuals at risk of falls. Osteofit is available in over 60 community centers throughout British Columbia. Dr. Guy also mentions other innovative prevention research programs taking place at the Center for Hip Health and Mobility including the Bone Health Research group (BHRG), the Centre of Excellence on Mobility, Fall Prevention and Injury in Aging (CEMFIA), Technology for Injury Prevention in Seniors (TIPS), and the Falls Prevention Clinic.<sup>6</sup>

The decreased rate of hip fractures may reflect positive steps taken towards prevention. It is important to note however, that despite this decrease, the absolute number of hip fractures continues to rise due to the growing population, particularly in the expanding fraction of the elderly. In British Columbia this year, over 3,500 people will suffer a hip fracture that will further affect the lives of their family and friends.<sup>8</sup> By vigorously promoting prevention in patients of all ages, healthcare providers in British Columbia can help reduce the number of people affected by this incapacitating and deadly injury. 

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# Should Patients, Medical Students, and Healthcare Professionals Use Wikipedia?

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In the September 2011 issue of the UBCMJ, Dr. James Heilman, an ER physician and UBC clinical instructor, encouraged medical students and healthcare professionals to contribute to Wikipedia—a free and easily accessible online encyclopedia—and provided compelling reasons why they should do so.<sup>1</sup> In a 2009 study, English Wikipedia was found to be a more prominent source of online health information than both MedlinePlus and NHS Direct Online, where information is checked for accuracy by licensed medical professionals prior to being published on their websites.<sup>2</sup> These findings lead me to consider if this degree of usage of Wikipedia for healthcare information is truly warranted.

A 2010 study found osteosarcoma information on English Wikipedia to be of inferior quality, in terms of the scope, completeness, and accuracy of information, compared to patient information provided by the U.S. National Cancer Institute (NCI) website.<sup>3</sup> With respect to drug information, Wikipedia was compared with Medscape Drug Reference (MDR), an online database that is also free and easily accessible. Through comparison on eight categories of drug information, including mechanisms of action, indications, and dosing, Wikipedia was found to be able to answer significantly fewer drug information questions compared to MDR (40.0% vs. 82.5%).<sup>4</sup> However, it is worth noting that no factual errors were found in Wikipedia during this study.<sup>4</sup>

I believe, at this time, patients should be advised to utilize currently existing resources such as MedlinePlus, where health topics are categorized in various ways for ease of access, including by body systems and demographic groups. Each article has been reviewed by healthcare professionals and has short, yet descriptive, sections on disease overview, diagnosis, prognosis, treatment, and other related issues.

Contributing to Wikipedia can be a great learning experience in critical reading and academic writing for healthcare students. However, I believe when accessing information for patient management, healthcare providers should rely solely on

reputable, peer reviewed resources. Critical information such as contraindications, adverse drug events, drug interactions, and drug dosing are frequently missing in Wikipedia's drug articles.<sup>5</sup> Additionally, the expertise of contributors cannot be verified. For example, an article on renal failure may have been written by an experienced nephrologist or a person who spent an afternoon reading about the topic. Even if the writer is a licensed physician, written material that has not gone through stringent peer review may be subject to personal bias or external influence,<sup>6</sup> and therefore, it should not be used for patient care. Some may argue that there is no harm in frequent Wikipedia use because students and doctors use it simply as a convenient resource for a quick refresher of what they already know. However, Dr. Peter Marr, a Family Physician in downtown Vancouver, cautions against this kind of usage because "that quick refresher may very well become patient care somewhere down the road" (oral communication, November 2011). Dr. Marr also recommends using the most updated version of the Compendium of Pharmaceuticals and Specialties (CPS) for drug information. The CPS contains Canadian units and guidelines, and all of its drug monographs are based on the best available evidence and have been reviewed by expert physicians and pharmacists.<sup>7</sup>

Nonetheless, I am very appreciative of the type of resource that Wikipedia volunteers are trying to create. Perhaps in the future, when all of the science and medicine articles on Wikipedia are transparent and have been peer reviewed by experts, it can become a comprehensive and reliable source of information for patients, medical students, and healthcare professionals around the world.<sup>8</sup>

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