

5-1-2009

To the Editor

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Recommended Citation

Becker, Bruce E. (2009) "To the Editor," *International Journal of Aquatic Research and Education*: Vol. 3 : No. 2 , Article 3.
DOI: 10.25035/ijare.03.02.03
Available at: <https://scholarworks.bgsu.edu/ijare/vol3/iss2/3>

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To the Editor

I very much enjoyed the lead article in February's *IJARE* concerning swimming mythologies. The study and conclusions are useful and very relevant, and if acted upon may save lives. I have only one comment, dealing with a VERY tangential issue. While bloodletting as a medical cure in centuries past was highly inappropriately used, both bloodletting and leeches are currently a part of medical practice, although in fairly rare circumstances for the former, and somewhat less rare circumstances for the latter.

Medical leeches (*Hirudo medicinalis*) have been found useful in body part reimplantation because they are efficient little organisms for removing blood and reducing edema. When a body part is surgically reimplanted, microscopic repair of arteries and arterioles is relatively simple, because the structures are stout and fairly easy to identify and suture. Veins, however, are very thin and fragile and venules even more so. As a consequence, restoration of arterial blood flow runs up against inadequate venous and lymphatic drainage. Leeches produce a saliva containing a number of bioactive substances, one of which, hirudin, is a potent anticoagulant. Others produce local anesthesia making their attachment painless. The leeches fill with blood, facilitating restoration of normal circulation and then drop off, with the wound continuing to ooze so that there is less back-pressure within the tissues. In 2004, the FDA approved leeches as medical devices, having no other category to use like "slimy brown creatures that suck blood." Medical leeches come from certified facilities, using carefully controlled basins and laboratories. While the gross factor is high, the limb salvage factor is even higher, clearly offsetting the aesthetic concerns.

Bloodletting remains as a lifesaving treatment for individuals with hemachromatosis, a disease resulting in excessive iron storage, as humans have no way of excreting iron. It may also be useful in treating polycythemia, a disease of the bone marrow that produces excessive numbers of red blood cells.

This does not detract whatsoever from the important points that Dr. Irwin and her colleagues make in the paper. Mythologies can clearly blind us to higher realities. As a cartoon on my office door states, "Don't believe everything you think."

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