MORE ON QUININE
By Jason Marsteller

The September issue of *Swimming World Magazine* features a story on muscle cramps--one of the most common ailments in the human condition. Although they can be very painful, there are things you can do to reduce your chances of encountering a muscle cramp.

The magazine story discusses a medication called quinine that is used to prevent or treat muscle cramps. Following is additional information on the subject:

From the *Columbia University Press:*

Quinine is a white, crystalline alkaloid with a bitter taste. Before the development of more effective synthetic drugs such as quinacrine, chloroquine and primaquine, quinine stood as the specific agent in the treatment of malaria. Almost insoluble in water, it dissolves readily in alcohol and other organic solvents. It is derived from the bark, called quina quina by the indigenous people of Peru, of several species of Cinchona and is used in the form of a salt, especially the sulfate.

By the middle of the 17th century, Jesuit missionaries had brought cinchona bark to Europe from South America, and French chemists J. B. Caventou and P. J. Pelletier isolated quinine in 1820. Meanwhile, R. B. Woodward and W. E. Doering performed chemical synthesis of quinine in 1944.

Certain strains of the malarial parasite Plasmodium falciparum have now developed a resistance to chloroquine, and quinine is again the preferred drug in some regions. Quinine also has been used medicinally to allay fever and pain, to induce uterine contractions during labor and as a sclerosing--or hardening--agent in the treatment of varicose veins.

It is added to tonic soft drinks, which are often mixed with alcoholic beverages. Excessive dosage or continuous use of quinine may cause cinchonism, characterized by ringing in the ears, headache, dizziness, changes in blood pressure and even death.

From *Wikipedia:*

Quinine can cause abnormal heart rhythms and should be avoided if possible in patients with atrial fibrillation, conduction defects or heart block. Additionally, quinine must not be used in patients with haemoglobinuria, myasthenia gravis or optic neuritis because it worsens these conditions.