

# Veterinarians adapt human tests for monkeys

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The silvery marmoset is one species that now benefits from a noninvasive iron test, modified from a test used for humans by veterinarians from the Wildlife Conservation Society. Credit: Julie Larsen Maher/Wildlife Conservation Society

A medical test developed to detect an overload of iron in humans has recently been adapted to screen for the condition in some distant relatives: diminutive monkeys from South America, according to veterinarians at the Wildlife Conservation Society.

The test—which is now used to screen for elevated iron levels in marmosets and tamarins—is a recent example of how advances in human health can be applied to animals in zoological parks and in the wild. The study, titled "Hematologic Iron Analyte Values as an Indicator of Hepatic Hemosiderosis in Callitrichidae," appears in the most recent

edition of the *The American Journal of Primatology*.

"With this test, we can easily and safely monitor the iron levels in marmosets and tamarins for early identification of individuals that may be predisposed to develop hemosiderosis, an overload of iron in the body, despite the low iron diet that has been fine-tuned to the unique requirements of these species," said Dr. Kristine Smith of the Wildlife Conservation Society's health programs and lead author on the paper.

Tamarin and marmoset monkeys are able to absorb iron very efficiently from their food and are susceptible to developing high levels of iron in their system. This diagnostic test, also used in humans, is now being implemented as part of the periodic physical exam given to the tamarins and marmosets in WCS's Bronx Zoo. This condition is also common in humans, with up to 10 percent of people of European origin possessing the gene which could lead to hemosiderosis. If necessary, veterinarians and curatorial staff can treat abnormalities in iron levels with minor dietary adjustments tailored to the individual animal's needs.

"Commonly, discoveries in animals lead to helping human health, but this is an instance in which methodologies developed to detect conditions in humans can help veterinarians provide the same level of care to animals that share similar conditions, especially our closely related non-human primates," said Dr. Smith, who added that the test has also been used to monitor iron levels in birds, bats, rhinoceros and lemurs.

In addition to caring for the animals in city's zoos, the Wildlife Conservation Society's Global Health Programs work to broaden the public's awareness of the linkages between the health of people, animals, and the environment through their "One World, One Health" concept. The program leads worldwide initiatives addressing a wide range of health issues, including the battle against emerging infectious diseases and improvement of human livelihoods in developing countries through

sustainable activities that promote a healthy planet, and build capacity for future generations.

Source: Wildlife Conservation Society

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