



## Health

# Our wounds heal slower than the cuts and scrapes of other primates

Human wounds take almost three times as long to heal as those of other primates, which may come down to our lack of fur

By [Chris Simms](#)

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### ▲ Lesions close up quicker if you're a chimpanzee than a person

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Human wounds take almost three times as long to heal as the injuries of other mammals, including chimpanzees, which are among our closest living relatives. It isn't clear why, but it may be an evolutionary adaptation connected to the loss of most of our body hair.

People have sluggish healing <https://carta.anthropogeny.org/moca/topics/wound-healing-rate-compared-with-other-animals/>. To see just how slow this is, [Akiko Matsumoto-Oda](https://kenkyushadb.lab.u-ryukyu.ac.jp/html/100001172_en.html) [https://kenkyushadb.lab.u-ryukyu.ac.jp/html/100001172\\_en.html](https://kenkyushadb.lab.u-ryukyu.ac.jp/html/100001172_en.html) at the University of the Ryukyus in Japan and her colleagues turned to four other primate species: velvet monkeys (*Chlorocebus*

*pygerythrus*), Sykes' monkeys (*Cercopithecus albogularis*), olive baboons (*Papio anubis*) and chimpanzees (*Pan troglodytes*).

The researchers anaesthetised at least five of each kind of primate, shaved off a small patch of their hair and created a circular wound 40 millimetres across, which they treated with an antibiotic ointment and covered with gauze for a day to protect against infection.

Photographs and measurements of the wounds, taken every couple of days, revealed that they all healed at about 0.61 millimetres per day.

Next, Matsumoto-Oda and her colleagues looked at 24 patients at the University of the Ryukyus Hospital after they had [skin](#) [/article-topic/skin/](#) tumours removed, finding that these wounds healed at a rate of just 0.25 millimetres per day.

The researchers also conducted studies on mice and rats, and found pretty much the same healing rate as in the non-human primates. This suggests that there may be an evolutionarily optimal healing rate for most mammals, but not humans, says Matsumoto-Oda.

“Most importantly, we found that chimpanzees exhibited the same wound-healing rate as other non-human primates, which implies that the slowed wound-healing seen in humans likely evolved after the divergence from our common ancestor with chimpanzees,” says Matsumoto-Oda.





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Why this happened isn't known, but she says it may be linked to how early humans adapted to hot environments. "The slower wound healing rate in humans may be linked to evolutionary changes, such as the reduction in body hair," says Matsumoto-Oda. "A higher hair density leads to an increase in stem cell numbers, which results in faster healing."

Social support, in the form of food sharing, nursing and medicine, may have compensated for the disadvantages of slow healing, she says.