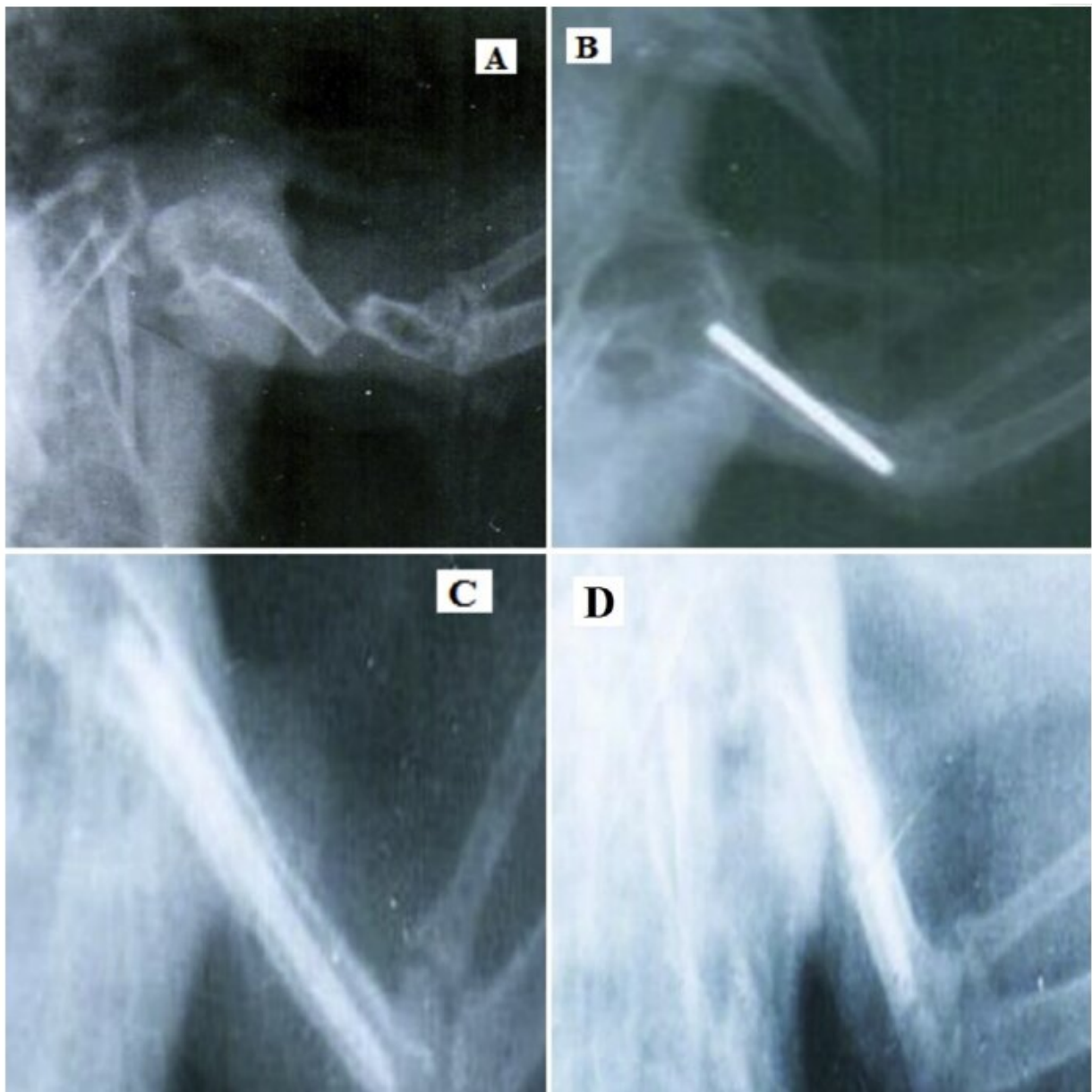


Dog and sheep bones help injured pigeons fly again

November 20 2019



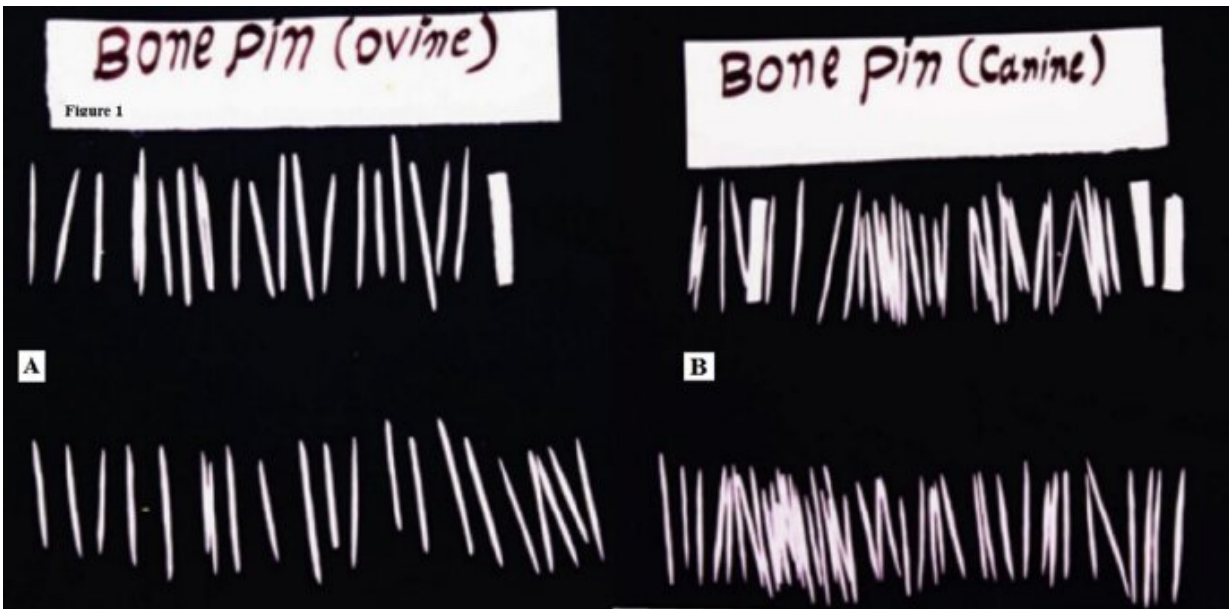
These images show fracture of pigeons humeral bones of different groups at 14 post-op week. A. The control group with no fixation; B. the CMP group with conventional metal pin fixation; C. the OBP group fixed by pin made of ovine long bone; and D. the CBP group fixed by pin made from canine long bone. Credit: Nazhvani et al.

Sheep and dog bones can be whittled into orthopedic pins that stabilize pigeons' fractured wings, helping the fractures to heal properly without follow-up surgery. Researchers describe the treatment, which is cheaper and more efficient than using metal pins for pigeon rehabilitative surgeries, November 20th in the journal *Heliyon*.

"There is no need for the [implants](#) to be removed because they will ultimately be absorbed by the body," says first author Saifullah Dehghani Nazhvani, of the Shiraz University School of Veterinary Medicine's department of [surgery](#) in Iran. "Therefore, the implants can be used for [wild birds](#), such as eagles, owls, and seagulls."

Nazhvani works at a veterinary clinic at Shiraz University, where they frequently see wild and companion birds suffering from fractures in their wings or legs. They typically use metal pins, which is standard for these types of procedures, but they noticed imbalance in the flight, take off, or landings after fracture repair. Therefore, they wanted a technique to use lightweight pins that they did not need to remove.

Nazhvani's team thought bones could be the answer. They sanded and processed sheep and dog bones, obtained from animals that had previously died, into pins small enough to be inserted into a pigeon's humeral bones—the wing [bone](#) closest to a bird's body. After 32 weeks of observation, [pigeons](#) with sheep or dog bone orthopedic pins were able to fly as well as before the operation.



These images show bone pins. A. Pins made of sheep's long bones (Tibia and Femur) and B. pins made of dog's long bones (Tibia and Femur). Credit: Nazhvani et al.

"There was no rejection of any of the implanted bones at all," says Nazhvani. "And for pigeons who underwent the treatment, there was early function of the wing and more solid repair than we thought due to slow absorption of the implant and its contribution to the [healing process](#)."

The researchers are already applying their finding to the birds that come into their clinic. They are also trying to make plates made from cattle or horse bone and compare them to conventional metal plates for other types of rehabilitative bird surgeries.

More information: *Heliyon*, Nazhvani et al.: "Humeral Fracture Treatment in Pigeons by Bone Pins Made from Ovine and Canine

Bones" , [DOI: 10.1016/j.heliyon.2019.e02679](https://doi.org/10.1016/j.heliyon.2019.e02679) ,
[www.cell.com/heliyon/fulltext/ ... 2405-8440\(19\)36339-X](https://www.cell.com/heliyon/fulltext/S2405-8440(19)36339-X)

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