



# California Wildlife Center

## Patient of the Week

### September 30, 2022



Photo by Jenn Guess

## A Pigeon Recovers from Air Sac Trauma

If you hike through the forested mountains along the Pacific or live in a wooded region on the west coast, you may spot native Band-tailed Pigeons foraging for acorns or berries in the trees. These medium-sized birds are noticeably larger than the non-native Rock Pigeons, who are a common sight in urban areas. Band-tailed pigeons are almost all grey, with the adults having iridescent colors on the back of the neck and a white stripe just below the head. Band-tails also have bright yellow legs and feet, and a yellow beak with a black tip. Rock Pigeons, however, can have multiple plumages, but they all tend to have brownish/red legs and feet and dark colored beaks.



Photo by Jenn Guess

Here at CWC we admit on average 75 Band-tailed Pigeons each year, and the vast majority of these patients are injured or orphaned nestlings and fledglings. Band-tailed Pigeons leave the nest about 28 days after hatching and spend a week on the ground while they learn how to fly. This period of time, called the fledgling stage, is dangerous for almost all young birds since it is when they are the most susceptible to predator attacks. Young pigeons are extremely vulnerable at this time since they are not as active as other species, and the fledglings tend to stay in one location for hours at a time. Their docile nature makes them easy prey for roaming outdoor cats.

This was the case for one particular Band-tailed Pigeon who was admitted to CWC at the beginning of September. The patient had experienced multiple punctures and lacerations along their neck and chest. Although we do not know exactly what caused the injuries, it is highly suspected that the young animal was cat caught. Since cats have extremely sharp claws that can drag dirt and bacteria deep into wounds (and potentially cause infection) we prescribe heavy duty antibiotics for any animal that has been caught by a cat.

With daily wound care the patient healed relatively quickly from the external injuries, but they continued to suffer trauma to multiple air sacs. The avian respiratory system is very different from mammals. Mammals have a diaphragm that contracts and draws air into the lungs. As the lungs inflate the gases reaches the respiratory bronchioles, and oxygen starts to make its way into the bloodstream. The diaphragm then presses upwards, the lungs become smaller, and the used air is expelled.



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Birds do not have a diaphragm. Instead, they have a system of air sacs that moves gases throughout the body. It takes two inhalation/exhalation cycles to move a single volume of air in from the trachea, through the lungs, and out the mouth. The first inhalation draws fresh air into a specific set of air sacs, and the exhale pushes that air into the lungs. The second inhalation moves the used air from the lungs into a separate set of air sacs, with the exhalation expelling the breath from the body. Each inhalation/exhalation cycle brings fresh air into the body and pushes out old air. This process, called double respiration, is extremely efficient for oxygen absorption and results in increased energy.

When a bird experiences trauma to the air sacs, the air no longer stays within the respiratory system and instead can accumulate under the skin. The young Band-tailed Pigeon was consistently suffering from large pockets of air that needed to be drained on a regular basis. Unfortunately, there is no surgical procedure that can repair an injured air sac, and so the patient was given supportive care and an extended course of antibiotics to minimize the chance of infection. Eventually the air sacs healed, and we were able to discontinue medical treatment. At this point the Band-tailed Pigeon was too young to go into an outdoor aviary, and so they spent additional time in our Orphan Care Unit with other pigeons. After the group was consistently eating on their own and gaining weight, they were moved into an aviary. The pigeon is currently becoming acclimated to the weather and building up flight muscles. We are hopeful that this patient will be ready for release within two weeks.

If you find an animal that has been caught by a cat, contain them in a box in a warm, quiet, dark location and contact your local wildlife rehabilitation center for help. Since cats can inflict wounds that cannot be seen with the naked eye it is important that all cat caught animals are assessed by a professional and administered antibiotics.