

CARE FOR SENIOR PARROTS

INTRODUCTION

It is a popular belief and a common expectation that larger pet parrots will live to over 50 years of age. However, despite their ability to live much longer than mammals of the same size, most of the captive parrots do not live as long as their wild counterparts. A long-lived bird will ultimately suffer from age-related changes including alterations in behavior, cognitive loss and various health issues such as cardiovascular diseases, cataracts, cancers or metabolic disease. With appropriate care and regular health examinations, it is however possible to delay the effects of aging and to support senior parrots into their old age.

What is a “Senior” Parrot?

When is a pet parrot considered “geriatric”?

The word geriatric refers to old age, especially with regard to healthcare. Of course, this stage of life starts at an age which is specific to each species. It is interesting to realize that reported lifespans of wild psittacine birds are greater than their lifespan in captivity. (Table 1) Indeed, besides the species, life expectancy is also dependant on other factors such as nutrition, genetics, stress and exercise which can greatly influence the aging process.

In avian medicine, a bird is considered geriatric when he reaches the age at which medical conditions associated with aging are being reported. It is a common misconception to consider that longevity records are similar to life-expectancy in parrots, and it is important to acknowledge that most pet psittacine birds will unfortunately not reach 50 years of age.



Table 1. Average life expectancy of commonly kept psittacine species

Species	Median lifespan in the wild (50% of the birds live longer) [years]	Median life expectancy in captivity (50% of the birds live longer) [years]	Longevity record in captivity [years]	Considered geriatric [years]
Budgerigar (<i>Melopsittacus undulatus</i>)	7-15	5.5	18	> 6
Lovebird (<i>Agapornis roseicollis</i>)	5-15	8	25	> 10
Cockatiel (<i>Nymphicus hollandicus</i>)	10-14	9	35	> 12
African grey parrot (<i>Psittacus erithacus</i>)	23	9	48	> 15
Galah (<i>Eolophus roseicapillus</i>)	30	13	73	> 18
White cockatoo (<i>Cacatua alba</i>)	30	12	32	> 20
Blue fronted amazon (<i>Amazona aestiva</i>)	40-49	20	38	> 25
Blue and gold macaw (<i>Ara ararauna</i>)	35-43	21	49	> 30

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What is aging?

Aging is characterized by the accumulation of changes in organs over the years. This process can ultimately lead to dysfunction of the organ and disease. In other words, old age is not a disease but it can contribute to development of it. The oxidative-damage theory suggests that molecules called reactive oxygen species produced during normal oxidative metabolism lead to molecular changes and age-related decline. Because of their high metabolic rates (high body temperature, high blood-glucose levels, fast heart rate, etc.) the lifetime expenditure of a bird is estimated to be up to 15 times greater than those of mammals. Therefore, accelerated tissue damage and faster aging would be expected in birds. Many species of birds live up to three times longer than mammals of the

same size. It is proposed that birds may actually, age more slowly and gradually because they have developed defensive mechanisms against oxidative damage and a unique capacity for neuro-regeneration.

Nevertheless, even if avian species age slowly, psittacine birds will ultimately become geriatric and suffer from degenerative and neoplastic diseases just as mammals. Such geriatric changes include waning fertility, cardiovascular diseases, cancers, cataracts, hepatic failure, neural aging and osteoarthritis. Aging also affects the immune system, with an associated decrease in immune function and increased sensitivity to infections in older birds.

What are the 6 Most Common Diseases of Senior Parrots?

Atherosclerosis

Cardiovascular disorders are common in psittacine birds as they get older. African grey parrots and Amazon species over 25 years of age, as well as older cockatiels are considered highly sensitive to the development of atherosclerosis. Atherosclerosis is an inflammatory and degenerative condition of the arteries characterized by mineralization and plaque formation in the vascular wall. This disease is more frequent in female birds and in birds with a sedentary lifestyle receiving a high-fat or high-cholesterol diet such as one that is mainly whole seeds. Clinical signs arise because the condition results in a narrowing of the arterial lumen and a resultant decrease in blood flow which may lead to changes in tissue perfusion and even cardiac failure. Less frequently, they can be secondary to thrombosis, hemorrhage, or aneurism. Clinical signs depend on the localization of the lesions and can include sudden death, weakness, difficult breathing, fainting, exercise intolerance, feather picking or stunted feather growth and neurologic signs such as disorientation, blindness, seizures, tremors, clenching of the toes, sudden falls, extension and rigidity of one limb, incoordination and lameness. Diagnosis of atherosclerosis is challenging and can rely on advanced imaging as well as blood analysis. The treatment aims at improving blood flow and slowing progression of the disease. A variety of medical treatments have been advocated to lower cholesterol levels, but none appear to be consistent in their efficacy and a change in diet, as well as exercise, may play an important role in the management of this disease.

Tumors

Tumors (or neoplasms) are abnormal growths which can be benign or malignant (also called "cancers") in nature. Neoplasms have been documented in birds of all ages but, as in any other species, occur most frequently in older individuals. The most common cancers in

psittacine birds involve the skin (e.g. squamous cell carcinomas and fibrosarcoma), the fatty tissue (e.g. liposarcoma), the hematopoietic system (e.g. lymphosarcoma), the cloaca (e.g. carcinoma) and the reproductive tract (e.g. testicular and ovarian neoplasms). However, neoplasms can occasionally affect bones (e.g. osteosarcoma, chondrosarcoma), the liver and other organs. Species such as Galahs are predisposed to develop fatty tumors and budgerigars are commonly affected by renal, reproductive and brain tumors (e.g. pituitary adenoma). Moreover, some viral infections can predispose birds to the development of cancers such as herpesvirus infections (PsHV-1 and PsHV-2) which increase the risk of biliary and cloacal carcinomas. Given the wide variety of organs and cancers, clinical signs can be very diverse and may include lethargy, depression, anorexia, difficult breathing, abdominal swelling, weight loss, incoordination, head tilt, inability to fly, lumps and bumps, non-healing wounds, diarrhea and vomiting, or bleeding. According to the tumor and location, different diagnostics are needed to help identify a cancer and its extension. Blood analysis, diagnostic imaging (radiology, CT-scan, ultrasound), and biopsy or fine needle aspiration of a tissue sample may be needed. Treatment should be adapted to each patient and may include surgical excision, radiation therapy or chemotherapy.

Liver diseases

The functions of the liver as a metabolic and filtering organ make it susceptible to many disorders such as viral infections (e.g. herpesvirus, polyomavirus), bacterial infections (e.g. chlamydiosis), nutritional imbalance (e.g. hepatic lipidosis) or toxicosis (e.g. mycotoxins, pesticides, heavy metal). When such diseases evolve over a span of time, they lead to severe alterations of the liver and can alter its function. This situation is more frequent in older birds and species such as Amazon parrots, cockatiels, macaws and budgerigars. Risk factors include poor diet (all-seed diets,

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unhealthy table foods), unsanitary food (i.e mold contaminated), and secondary to heart disease. Birds suffering from hepatic insufficiency may show signs such as depression, anorexia, increased thirst, weight loss, overgrown beak and nails, poor feather quality (e.g. lack of powder down, color changes) as well as changes in the droppings (increased urination, discoloration of the urate). Blood analysis, diagnostic imaging and sampling of the liver (fine needle aspirate or biopsy) may help to diagnose hepatic disorders and more specific tests can also be offered (culture and sensitivity, PCR for infectious agents). The prognosis in cases of chronic liver disease is poor. Supportive care can be provided to help with the liver function and include various drugs as well as long-term diet modification. When possible, treatment for the initial disease should be provided.

Cataract

Cataracts are a degenerative eye disorder which shows as opaque areas of the lens. Given that psittacine species can have long life expectancies, idiopathic age-related cataract formation is not uncommon, particularly in macaws after 35 years of age, as well as in older Amazons and cockatiels. Cataracts can also occur secondarily to many causes including trauma, infection, genetics, nutritional deficiency (e.g. zinc, vitamin B2 and B3 or antioxidants such as vitamin A and E) or certain light exposure. If the onset of cataracts is gradual, adaptation to decreased vision usually occurs and the disease may be unnoticed. Cataracts can eventually lead to total vision loss which can result in inactivity, reluctance to move, reduction in appetite and interaction with other birds and people. In some birds, blindness can lead to fearful behaviors such as startling, screaming or biting. Birds with unilateral blindness tend to hold their heads to the side so that their visual eye faces forward. Complications of cataracts can include retinal detachment and lens-induced (or phacolytic) uveitis which is an inflammation of the iris secondary to the breakdown of the lens. Treatments in case of cataracts aim at improving the quality of life and can rely on ocular drops but some larger birds may be candidates for a surgery called phacoemulsification.

Osteoarthritis

Osteoarthritis is also called degenerative joint disease and is caused by abnormal wearing of the cartilage that covers and cushions the joints. It is more common in psittacine birds over 15 years of age and these lesions can occur at an earlier age in situations where there is normal wear on abnormal joints (e.g. birds that experienced trauma, or suffer from metabolic bone disease) or abnormal wear on normal joints (e.g. obesity, sedentarity). Commonly affected joints include the phalangeal joints of the feet, the tarsus and the stifle, whereas the joints of the wings seem less frequently affected. Occasionally, osteoarthritis can lead to complications such as bumblefoot, ulcerative dermatitis and



This aging parrot suffers from cataracts. - note the opaque area on the lens.

callous formation. Osteoarthritis is mainly responsible for pain. Birds with osteoarthritis often present with lameness, decreased activity, increased sleeping time, decreased alertness, behavior changes (including increased irritability or vocalization), falling off perches, stiff or sore joints, feather picking or mutilation, as well as reluctance to fly, jump or climb. Clinical signs and radiographs can help to diagnose osteoarthritis. Treatments are focused on slowing progression of the disease and relieving pain. Environmental adaptations may be considered to help disabled birds.

Senility

As in mammals, the cellular activities of parrots produce molecules (reactive oxygen species) that are potentially dangerous. Antioxidants normally help to protect the brain against their deleterious effects. However, with aging, fewer antioxidants are produced which allows these reactive oxygen species to damage neurons. Although effects of aging on bird cognition are unknown, conserved mechanisms underlie age-related changes in the avian brain similar to those observed in mammals. Moreover, some studies have noted that the volume of the hippocampus, which is responsible for certain types of memory, is reduced in captive birds, with an associated decrease in particular types of memory. Anecdotal accounts from veterinarians and owners of older birds suggest that senility may occur and can be evidenced by inability to locate entrances to cages and food sources, with which they were previously familiar, as well as behavioral changes and altered interactions with human and avian cohabitants.

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How to Improve Health of Older Birds

Senior birds have specific needs and require increased attention, including more frequent visits to the veterinarian, possible changes in diet, and in some cases modifications to their home environment. Following are some basic considerations when caring for older psittacine birds.

Exercise

As with older people, keeping older birds active through appropriate exercise will be beneficial to prevent development of atherosclerosis or osteoarthritis. Flighted birds can be allowed or encouraged to fly. Flapping exercises can also be done by gently raising and lowering the bird, or walking swiftly with them while allowing them to perch on a hand or arm. When this is not possible, birds should be stimulated to climb and walk. For example, it is possible to ask them to “step up” several times as part of their exercise routine. In birds suffering from stiff joints, passive motion exercises can be performed. One example of a passive motion exercise is allowing the bird to perch on its owner while gently rocking in a chair. Finally, foraging for food is another way that can be used to encourage exercise, by putting foraging boxes on different sides of the cage or enclosure.

Diet

There is overall little to no research on the nutritional needs of the geriatric psittacine bird. However, it is believed that diets should be easily digested and contain reduced levels of proteins, energy, phosphorous, sodium and of some minerals and vitamins compared to those received earlier in life. However, increases in vitamins A, E, B12, thiamine, pyridoxine, zinc, lysine, linoleic acid and other omega 3 and 6 fatty acids may be helpful in overcoming some of the metabolic and digestive changes seen in old age.

Low-fat formulated diets with antioxidant fresh vegetables and fruits will provide the necessary nutrients to the geriatric bird and limits development of atherosclerosis or other degenerative changes in the brain and liver. A healthy diet rich in omega-3 and -6 fatty acids may help to slow down the degenerative process such as cataracts, osteoarthritis and atherosclerosis in geriatric parrots. Moreover, essential fatty acids (flaxseed oil, walnuts, and almonds), have been used to reduce inflammation and have renal protective effects. Reduction in fat and cholesterol in the diet may help to prevent atherosclerosis and liver disease. Zinc, selenium and some vitamins (C, E and riboflavin) are considered important in the prevention of cataracts. Vitamin A will support the immune system and reduce the risk of respiratory infections.



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Enrichment

Stimulating older psittacine birds through social interactions can help keep them mentally active and slow down senility. Perch diameter, texture, or padded perches can all help birds with weak or painful legs or feet and help to decrease the development of bumblefoot in birds with osteoarthritis. Moreover, in birds suffering from decreased vision, minimal alteration of the home environment is critical specially as far as perching, food and water bowls are concerned since it will help the bird maneuver and access nutritional resources safely. Foraging opportunities can also entertain and distract the bird and diminishing feather picking or mutilation behaviors.

Regular health checks

Prevention of many of the geriatric problems lies in early recognition of risk factors and diseases. Annual health checks allow your veterinarian to identify early signs of diseases and provide you advices to reduce risk factors that could lead to them. When a bird is geriatric, check-ups should be semi-annual to detect and treat any problem as early as possible. Senior bird exams are similar to those for younger birds but are generally more in-depth and may include specific evaluations for diseases that are more likely in older psittacine. Additionally, diagnostics might be recommended to check organ function (blood analysis, stool analysis, cardiac ultrasound, etc.), or to investigate any abnormalities noticed during physical examination.

Before any medical signs become apparent, behavioral changes can serve as important indicators that something is changing in an older pet, which may be due to medical or other reasons. If any changes in your bird's behavior are noticed, such as water consumption, droppings appearance, eating habits or preening habits, please consult your veterinarian.

Conclusion

Nutrition, exercise and genetics can all influence the life expectancy of parrots. Improved education of veterinarians and increased awareness of specific needs of parrots have led to better healthcare and increased life expectancy. However, your role as a primary caretaker is invaluable in preventing some of the more frequent diseases encountered in geriatric psittacine birds: nutrition, habitat, social interaction, and exercise are all of critical importance to limit disorders of advanced age. Your veterinarian can assist you in evaluating quality of life of your pet bird and will be able to compare to previous years if regular check-ups are performed. On some occasions, husbandry and medical changes are just not enough to improve the quality of life to an acceptable level. In such cases, your veterinarian will be able to assist you with end of life decisions.



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Avian medicine is a distinct and very specialized field that requires extensive training, advanced skills, and facilities specifically designed and equipped to treat and hospitalize birds. The Association of Avian Veterinarians was established to provide veterinarians with this special education, and to keep them up to date with the latest information on bird health. The AAV holds an annual conference on avian medicine and publishes the peer-reviewed *Journal of Avian Medicine and Surgery*. AAV also makes annual contributions toward avian conservation and sponsors studies advancing the understanding of avian medicine.

For More Information

For more information on birds, ask your veterinarian for copies of the following AAV Client Education Brochures:

- Avian Chlamydiosis and Psittacosis*
- Additional Bumblefoot Brochures (Raptors, Poultry)
- Veterinary Care for Your Pet Bird*
- Basic Care for Companion Birds*
- Behavior: Normal and Abnormal
- Caring for Backyard Chickens
- Caring for Ducks
- Digital Scales
- Feather Loss
- Feeding Birds
- Foraging for Parrots*
- Injury Prevention and Emergency Care
- Managing Chronic Egg-laying in Your Pet Bird
- Signs of Illness in Companion Birds*
- Ultraviolet Lighting for Companion Birds
- When Should I Take My Bird to a Veterinarian?*
- Zoonotic Diseases in Backyard Poultry*



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References

1. Young AM, Hobson EA, Lackey LB, Wright TF. Survival on the ark: life history trends in captive parrots. *Anim Conserv*. 15 (1): 28-53, 2012.

*Available in multiple languages. All others are available in English only at this time.



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