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### Aging Changes in Cats

Aging is a natural process that we all experience. However, it brings with it some changes that are not particularly desirable. Forestalling and controlling certain aspects of the aging process are possible if appropriate intervention is undertaken in a timely manner. The purpose of this document is to inform you of some of these methods for slowing the aging process.

#### The Cat as a Senior Citizen

Cats age at a different rate than humans. During the first year of life, a cat achieves adulthood. Therefore, that first year is equivalent to about 16 human years. After that, the cat ages in a fairly linear fashion. Each year then becomes the equivalent to about 5 human years. Based on that scheme, a comparison of feline and human years is as follows:

Feline Age	Human Age
1 year	16 years
2 years	21 years
3 years	25 years
4 years	29 years
5 years	33 years
6 years	37 years
7 years	41 years
8 years	45 years
9 years	49 years
10 years	53 years
11 years	57 years
12 years	61 years
13 years	65 years
14 years	69 years
15 years	73 years
16 years	77 years
17 years	81 years
18 years	85 years
19 years	89 years
20 years	94 years

Based on this aging scheme, any cat over seven is at risk of age related conditions and any cat over 10 years of age is deemed a "senior" cat.

## Common Changes in the Aging Cat

Many senior cats get a bit lazy in their grooming habits. They often begin to develop mats in their hair coat. Therefore, frequent (1-3 times per week) brushing is important. Brushing collects the dead hair that would normally be removed by grooming, and it breaks down tangles before they become mats. However, occasionally it will be necessary to cut out a mat. Be very careful with scissors or clippers because many elderly cats have very thin skin that cuts or tears easily.

Senior cats also lose the desire or ability to sharpen their nails regularly. The nails become very thick because the dead nail tissue is retained. Failure to sharpen nails can also result in the nail curling backward into the footpad. This will be most uncomfortable and will result in lameness and bleeding. The key to preventing these problems is to cut your cat's nails at least once each month.

Dental disease is common in older cats. The two most common forms of dental disease are tartar buildup, with resulting periodontal disease, and deep cavities near the gum line.

**Tartar Buildup** Tartar buildup is common in cats of any age, but older cats often have heavy tartar buildup due to years of dental neglect. The tartar irritates the gums, pushes the gums away from the roots of the teeth, and fosters growth of bacteria. Bacteria not only affect the mouth but they are also carried by the blood stream to other organs, most notably the kidneys. Tartar buildup and periodontal disease are very treatable with proper cleaning and antibiotic therapy.

**Cervical Line (Neck) Lesions** Cavities that form at the gumline (gingiva) are called cervical line lesions. As they form, they may become covered by the gums; the gum then continues to proliferate over them. The cat's mouth is very painful when that tooth is touched and it may have difficulty eating. The only realistic treatment is extraction of the tooth. Attempts have been made to fill these cavities, but invariably these teeth undergo further deterioration and need to be extracted a few weeks to months later.

Geriatric cats do not usually lose their eyesight, although it can become diminished, especially in dim lighting situations. However, the irises (the colored part of the eye that opens and closes) often begin to get a mottled appearance at about 15 years of age.

The ears often are afflicted with two problems. Hearing loss and outright deafness occur in many cats over 16 years of age. It is permanent. Excessive wax production is the more common problem. Many older cats have very waxy ears that need cleaning about once each month. A wax solvent may be used; it is put in the ears the first few days of each month or possibly every other month.

Arthritis occurs in the spine or legs of some geriatric cats. It causes them become reluctant, or even unable, to jump on and off furniture; they may be hesitant to climb stairs. We are limited in the drugs that can be used safely in arthritic cats, so a close examination and discussion of options is important.

Senior cats also develop certain diseases with increasing frequency. The most common of these are diabetes, chronic kidney failure, hyperthyroidism, high blood pressure, and cancer. Each will be described briefly.

**Diabetes** (more correctly called diabetes mellitus) is a disease caused by the failure of the pancreas to produce adequate insulin. Insulin is required to move blood sugar (glucose) from the blood into the cells. It results in excess urine production, increased thirst, weight loss, and a ravenous appetite. Although these signs should be present in all diabetic cats, some of them may be missed. This is especially a problem when cats go outside because they may eat, drink, and urinate outdoors. If you have several cats and they all eat and drink together, increased thirst or urine production in one cat will easily be missed. Longhaired cats can lose a substantial amount of weight without detection, so weight loss can also be overlooked. If you suspect that any of these signs are occurring, your cat needs a blood test to determine its blood glucose level. It is most accurate if your cat has not eaten for at least 6 hours. This is a treatable disease.

**Chronic kidney failure** is the result of many years of slow deterioration in kidney function. Kidney infections, certain toxins, and congenital diseases may be part of this deterioration process, but aging is the major factor. Something has to wear out first, and in many cats it is the kidneys. Cats in kidney failure are actually producing an excess amount of urine in an attempt to remove waste products that are accumulating in the blood. This results in

increased thirst. Gradual weight loss is also common, and loss of appetite occurs as the disease progresses. It can be diagnosed with some simple blood and urine tests. It is manageable if treatment begins before the kidney failure is advanced. While the process can be slowed and the cat made to feel better, the kidneys are not restored to normal.

**Hyperthyroidism** is due to an enlargement of the thyroid gland. This gland controls the body's rate of metabolism so metabolic functions are accelerated. The first sign is weight loss followed by an increase in appetite as the cat tries to "catch up." As the disease progresses (over several weeks to months), increased thirst and urination, vomiting, diarrhea, hyperactivity, and lack of sleep may also occur. It is diagnosed by feeling for thyroid gland enlargement and some simple blood tests. The good news is that 98% of the time, the enlargement is not due to a cancer; therefore, this is a very treatable, and curable, disease.

**High blood pressure**, more accurately called hypertension, is fairly common in senior cats. Most of the time it is secondary to either chronic kidney failure or hyperthyroidism. However, it appears that a few cats may have "essential" or "primary" hypertension. This means that there is not an underlying disease; essential hypertension is common in humans. This disease is suspected in cats with the two underlying diseases and is diagnosed by measuring the cat's blood pressure. Because the cat's arteries are so small, a special instrument is required. The most common one used is based on the Doppler principle. Hypertension is very treatable.

**Cancer** is another common disease in senior cats. There are so many forms of cancer that it is impossible to list specific clinical signs. The signs will be determined by the parts of the body that are affected. Therefore, weight loss, anemia, lethargy, loss of appetite, vomiting, diarrhea, difficulty breathing and coughing are all possible. However, it is unlikely that all of those would occur in any one cat.

### **Detection of Geriatric Diseases**

Early detection is the key to successful treatment of all of these diseases. Most of them can be controlled or cured if diagnosed early enough. We recommend a panel of tests for our senior patients. These tests begin with a thorough history of your cat's past and present health. Next, a good physical examination is performed. Finally, we perform a blood and urine panel that includes specific tests for diabetes, chronic kidney failure, and hyperthyroidism. Blood pressure is determined. If any of these tests have questionable results, other tests are added including chest x-rays (radiographs), ultrasound studies, and possible biopsies of suspected abnormal organs. If you wish for your cat to have this Geriatric Panel of tests, please schedule it with one of our receptionists.