

# Brain Aging and Related Behavioral Changes

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## Brain Aging and Related Behavioral Changes

Nervous tissue is especially vulnerable to attack by free radicals. As the brain ages, this type of free radical damage can manifest as behavioral changes or cognitive dysfunction. Age related changes can include confusion, disorientation, decreased social interaction, wandering, pacing, frequent “accidents” in the house, and altered sleep behaviors. This client education sheet will help you learn more about this condition and will review your veterinarian’s instructions for your pet’s care at home.

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## What You Should Know About Brain Aging and Related Behavioral Changes

The brain is susceptible to the effects of unstable oxygen based compounds called free radical. Free radicals affect the brain because it has a high oxygen demand, high fat content, and limited defense and repair capabilities. Consequently, over time, neurons are lost and B-amyloid deposits, better known as plaque, increase. Additionally, mitochondria that produce energy for cells produce increasing numbers of free radicals, furthering the oxidative damage to the brain. This damage impairs brain function and, in turn, induces behavioral changes. Behavioral problems attributed to these brain changes include confusion, disorientation, decreased social interaction, wandering, pacing, frequent “accidents” in the house, and altered sleep behaviors.

### Treatment and Home Care

Your veterinarian will want to conduct a physical exam, and a routine blood and urine test to be sure some other underlying disorder is not the cause of the behavioral changes you have observed. X-rays or ultrasound may also be used, especially when signs have appeared suddenly.

Your veterinarian may prescribe medications to help improve brain function. Home care consists of giving all prescribed medications and following your veterinarian’s advice regarding practical exercise, mental stimulation, and dietary management.

### Nutritional Plan

Your veterinarian may recommend a special food that has antioxidant vitamins E, C, beta-carotene, fruits and vegetables that contain carotenoids and flavinoids to inactivate free radicals, fatty acids (DHA and EPA) to promote cell membrane health, plus lipoic acid and L-carnitine nutrients to help maintain healthy mitochondria and decrease production of free radicals. Also, older pets need foods low in sodium, with reduced levels of phosphorus and protein to help maintain heart and kidney health. Hill’s® Prescription Diet® Canine b/d® provides for the special needs of older pets and also provides Hill’s exclusive antioxidant bundle and additional nutrients to improve certain age related behavioral changes in older pets.

## Transitioning Food

Unless recommended otherwise by your veterinarian, gradually introduce any new food over a seven-day period. Mix the new food with your pet's former food, gradually increasing its proportion until only the new food is fed.

If your pet is one of the few that doesn't readily accept a new food, try warming the canned food to body temperature, hand feeding for the first few days, or mixing the dry food with warm water (wait ten minutes before serving). Feed only the recommended food. Be patient but firm with your pet. This is important because the success or failure of treatment depends to a large degree on strict adherence to the new product.

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## Home Care Instructions

Client's Name: \_\_\_\_\_

Patient's Name: \_\_\_\_\_

Medication(s): \_\_\_\_\_

Nutritional Recommendation: \_\_\_\_\_

Follow-Up Appointment: \_\_\_\_\_

(Hospital Stamp Area Above)