

ALLERCEPT® Therapy Shots

Owner Workbook for Animals with Allergies

A stylized illustration of a plant with several large, rounded leaves and a smaller bud-like structure, rendered in various shades of teal. The plant is positioned in the lower half of the page, with its base extending towards the bottom right corner.

HESKA
AN ANTECH COMPANY

Dear Pet Owner:

Welcome to the ALLERCEPT® Allergy Assessment and Treatment Program. Your doctor chose to use the ALLERCEPT program to test and treat your pet because they trust the results. Based on your pet's medical history, location and test results, a customized treatment has been created. This treatment, also known as immunotherapy injections, is successful in 60–80% of patients and is one of the safest, long-term treatments available. Your doctor may also choose to add additional therapies to your pet's immunotherapy regime such as skin support supplements and antihistamines, for example.

Please use this workbook as a reference guide. You have also been provided a Calendar & Notes tool to document your pet's treatment schedule and track progress. We suggest you take pictures of your pet before and during treatment to help you with this documentation.

Please contact your veterinarian if you have any questions regarding your pet's treatment and to order treatment refills.

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ALLERGIES



Your pet has been diagnosed with allergies. You and your veterinarian have agreed to manage the allergic disease using a process called allergen-specific immunotherapy (ASIT). This workbook will provide you with an understanding of how allergic disease can develop. It will identify and discuss some of the specific allergens that your pet may be sensitive to, and instruct you in how to ensure the best possible outcome for treatment.

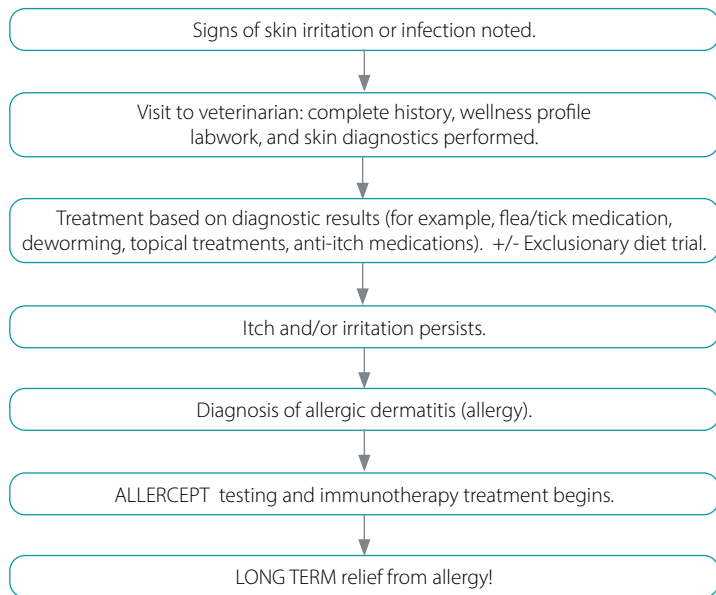
WHAT ARE ALLERGIES?

Allergies occur when your pet's immune system reacts abnormally to everyday substances such as pollens, animal dander(s), mold spores, fleas, mites and certain foods. These offending substances are known as allergens and your pet can be exposed by absorption, ingestion or direct contact. Months or years of continued exposure may cause your pet to develop clinical signs that suggest they are uncomfortable. Dogs and cats may lick their feet, scratch their face, ears or belly, or bite at the base of their tail. Horses may rub their faces, rump, or tailhead, or possibly experience skin hives or respiratory heaves. With repeated exposure to the allergen(s), your pet may gradually experience prolonged periods of itchiness (pruritus) and changes in the texture and color of their skin and haircoat. Allergies should always be considered in pets with unexplained hair loss, recurrent ear infections, or when showing signs of excessive self grooming; however, there are many other conditions that can cause your pet to be itchy.

Before testing for allergies, your veterinarian will likely have ruled out a large number of conditions that can cause itchiness including parasites (fleas, lice, mites and intestinal parasites), skin infections (bacterial, yeast and fungal) and even some metabolic diseases (thyroid disease, Cushing's disease, etc.). Although this work-up may seem extensive, it is absolutely necessary before your pet is tested

and treated for allergies. This workbook is designed to guide you through the process of how Heska's ALLERCEPT Allergy Assessment and Treatment Program identifies the allergens that are most likely triggering your pet's allergies, and how that information is used to customize treatment specifically for your pet.

The Path to Allergy Relief



MANAGING ALLERGIES

If you are reading this book, it is likely you have already tried a variety of allergy management strategies for your pet. Avoidance, environmental control and medications offer some degree of relief but none provide the complete, safe, long-term management your pet needs. Those patients with persistent allergies often require immunotherapy (allergy injections) to modify the excessive response their immune system has to specific allergens. Treating the root cause of allergies with all-natural immunotherapy is key to limiting disease progression and minimizing long-term medication usage for your pet.

Subcutaneous immunotherapy is a medical treatment where allergens (pollens, dust, molds, mites, *etc.*) to which your pet is allergic are injected subcutaneously (beneath the skin) in progressively higher amounts and concentrations. The goal with immunotherapy injections is to change the immune system's response so that it becomes tolerant of those allergens, resulting in reduction of your pet's allergic signs as well as reducing or eliminating the need for steroids and other medications.

Immunotherapy is one of the safest, most effective long-term treatments for allergy. While other treatments simply mask allergic signs, immunotherapy is the only treatment that targets the root cause of allergies. It is, however, important to remember that immunotherapy is not a cure for allergies. Even in cases where pets are noted to enjoy complete resolution of clinical signs, immunotherapy should be continued for the life of the pet to reduce relapse. Allergy specialists at Heska are available to discuss your pet's medical condition with your veterinarian at any time before and during treatment.

TESTING AND TREATMENT

Accurate identification of specific environmental allergens to which your pet is reacting is a key first step in the path to effective immunotherapy. These allergens are identified by measuring blood levels of allergen-specific IgE antibodies. Heska's ALLERCEPT IgE Test uses a patented, sophisticated and specialized IgE receptor technology that measures only allergen-specific IgE, thus significantly decreasing the chance of false positives. Peer-reviewed scientific studies have shown that Heska's ALLERCEPT IgE Test correlated very well with skin testing (considered by many to be the historic standard) for the purposes of immunotherapy treatment formulation. Using the ALLERCEPT IgE Test, your veterinarian can get accurate results for allergen-specific IgE levels with a single blood sample. In contrast, skin testing is typically performed by a veterinary dermatologist, requires your pet to be shaved, sedated or anesthetized, and entails the injection of a battery of allergens just beneath the outer layer of your pet's skin.

Heska's simple blood test with industry-leading accuracy is key to immunotherapy success. No other serum IgE test for pets uses the patented IgE receptor, and thus other tests may be prone to providing false positive or false negative results. Immunotherapy treatment sets based on these erroneous test results may therefore include unnecessary, or exclude necessary, allergens for your pet.

Pets that are suspected of having allergies may be required to discontinue some medications for a predetermined amount of time prior to IgE testing. Your veterinarian will determine this time based on your pet's medication history and clinical signs. When it is appropriate to test, a blood sample is taken from your pet and submitted to Heska's Veterinary Diagnostic Laboratories. Your veterinarian will receive easy-to-read results and immunotherapy recommendations within 2–3 business days of Heska receiving the sample.

Many factors are considered when formulating your pet's customized immunotherapy. An allergy expert from Heska will review your pet's history and interpret the ALLERCEPT IgE Test results, giving consideration to the botanical region, distribution, the pollens of allergenic importance, and knowledge of allergen cross-reactivity. The best response is observed when immunotherapy contains a minimum number of relevant allergens in the appropriate amounts necessary to retrain the immune response, thus managing your pet's allergies at the root cause.

ALLERCEPT IMMUNOTHERAPY

ALLERCEPT IMMUNOTHERAPY



WHAT TO EXPECT

After your veterinarian has drawn a blood sample from your pet, submitted it to Heska's Veterinary Diagnostic Laboratories for allergen-specific IgE testing, and consulted with Heska's allergy experts on the recommended allergens to be used in your pet's customized immunotherapy treatment, a specialized mixture of allergen extracts is made just for your pet. This workbook contains all the information you need to eventually administer customized immunotherapy allergy injections to your pet at home.

Your pet's immunotherapy contains small quantities of allergens that are injected underneath the skin (subcutaneously). The initial immunotherapy kit contains two vials of allergens. ; a vial #1 and vial #2. Vial #2 is more concentrated than vial #1. Note that due to the higher allergen content, vial #2 will frequently be darker in color than vial #1.

Treatment starts with ten escalating injections which are given four days apart. The first five of these escalating injections are from vial #1. The next five injections will then be from vial #2, which completes the induction phase. Once the maintenance dose has been reached, administer an injection every seven days. Maintain this dosing interval until significant improvement has been noted in your pet's allergic signs. Then, work with your veterinarian to carefully extend the time interval between injections.

The final injection interval is between one and four weeks and is determined by how far apart injections can be given while still providing the best control of allergic signs. **Heska recommends the first eleven injections be given in the clinic under the supervision of a qualified veterinary staff member.** Thereafter, if giving the injections at home, keep a record of date, dose and response to all of the injections.

PLEASE NOTE: Dosage instructions for the initial injections are different than those of the maintenance injections (Refer to ALLERCEPT Allergy Program Administration Guidelines.).

STARTING TREATMENT

Immunotherapy Instructions

Administering your pet's injections can be done easily at home.

The following are tips to ensure you and your pet have the most positive experience possible:

- Always use a new needle and syringe. Avoid injection of the allergen into the blood stream.
- Insert the needle but DO NOT INJECT; gently pull back on the plunger and check for blood. If blood is present, remove the needle, select a new location, reinsert the needle and pull back on the plunger to check for blood as before. If after pulling back on the plunger blood is not present, inject the prescribed dose.
- Treatment vials should be refrigerated (35° F–45° F) when not in use; do not freeze.
- Always keep a record of the date, dose and your pet's response to the injection.
- Report any concern or unusual response to your veterinarian immediately.

How to give an injection:



1. Find an area of loose skin over your pet's shoulder region. Elevate the skin to form a tent.



2. Insert the needle under the skin. Pull back plunger.



3. If no blood is seen, inject.

Alternate injection sites across the shoulder area to avoid repeated injections in one site.

TIP: It may be helpful to distract your pet with food or a favorite toy.

ALLERCEPT Allergy Program Administration Guidelines

These are merely meant as guidelines. Your veterinarian will make all necessary adjustments.

VIAL #1 – INITIAL SERIES FOR ALL PETS			
Injection	Dosage	Date Given	Days Until Next Injection
1	0.1 mL		4
2	0.2 mL		4
3	0.4 mL		4
4	0.8 mL		4
5	1.0 mL		4
VIAL #2 – MAINTENANCE SERIES			
Injection	Dosage	Date Given	Days Until Next Injection
6	0.2 mL		4
7	0.4 mL		4
8	0.6 mL		4
9	0.8 mL		4
10	1.0 mL		7
11	1.0 mL		7
12+	1.0 mL		As directed by your vet*

**Once the maintenance dose is reached, continue a weekly injection interval until there is significant improvement in your pet's allergic signs. The interval can then be increased gradually (2 weeks for several injections, then 3 weeks and possibly 4 weeks). The final injection interval is determined by the time period that provides the best control and will fall between 1 and 4 weeks.*

Over time, the potency of the allergens in a treatment vial decreases. When you receive a new vial, it is at full potency. To allow your pet to adjust to the new vial, **give your pet one half of its maintenance volume for the first injection from the new refill vial.** Resume full maintenance volume on subsequent injections if no adverse reactions are seen.

- Continue with treatment unless instructed otherwise. Treatment will be lifelong.
- Pets may remain on anti-itch medications and topical therapies while starting treatment.
- Most animals show a positive response to treatment within 4–12 months. As your pet responds, consult with your veterinarian on whether additional supportive treatments should be continued.
- It's recommended to order refill vials 1–2 weeks before needed.
- If itchiness returns in a previously well-controlled animal, the pet should be re-checked by your veterinarian.

Possible Side Effects

Allergen-specific immunotherapy (ASIT) is one of the safest and best treatment options for long-term management of allergic conditions. Although rare, there is always a chance of an allergic reaction to the injection. Your pet should ALWAYS be observed for a minimum of 30 minutes after an injection.

Clinical signs of a mild reaction may include a small amount of redness and/or itching at the injection site. If your pet becomes itchier after an injection or shows other problems, contact your veterinarian.

Rarely, clinical signs of a more severe reaction may occur following an immunotherapy injection. If you observe your pet having any unusual reactions, contact your veterinarian immediately.

UNDERSTANDING IMMUNOTHERAPY RESULTS

While every pet responds differently to any given medication, immunotherapy has been found to be successful in 60-80% of patients. It may take several months (4–12) after therapy begins before significant improvement is seen. Remember, immunotherapy works by modifying the immune response to significant allergens; immune change takes time. It is recommended that immunotherapy injections be continued for at least twelve months before deciding whether or not it is the best way to manage your pet's allergies.

Regular follow-up visits with your veterinarian, especially during the first year of immunotherapy treatment, is key to treatment success. If your pet is not significantly improving on immunotherapy, your vet can determine whether there are confounding factors (*e.g.*, parasites or food allergy), or whether adjustments to treatment should be made.

In selected cases, it may be beneficial to retest if it is suspected your pet has developed new allergies. Also keep in mind, a subset of pets that do not respond adequately to immunotherapy injections may respond positively to immunotherapy drops.

Every pet's allergy condition is unique. Therefore, the dose and interval between immunotherapy injections should be tailored according to the animal's response. Working with your veterinarian and the allergy experts at Heska will give your pet the best chance for safe, long-term relief from the problems associated with allergic disease.

In the pages that follow, we have provided information on some of the allergens that are most commonly associated with allergic diseases in dogs, cats and horses.

In addition to immunotherapy, minimizing your pet's exposure to environmental allergens identified by positive reaction in ALLERCEPT IgE testing may be helpful in managing clinical signs. It is impossible to avoid and/or eliminate all allergens from the environment. Some suggestions are provided, but nothing can address the underlying problem better than immunotherapy.

ENVIRONMENT— MINIMIZING EXPOSURE



HOUSE DUST MITES

House dust mites (*Dermatophagoides* and *Blomia* species) are common in any environment and feed on human and animal dander, skin scales and hair. They thrive in humidity of 50–70% and are commonly found in beds, mattresses, carpets, sofas and pet bedding. Elimination is impossible; control measures are aimed at inhibiting mite multiplication. Ideally, the entire household is incorporated in an environmental control program. If this is not possible, at a minimum, pet sleeping areas should be maintained according to the following guidelines:

- Wash bedding (human and pet) and soft dog toys weekly in HOT (130° F) water. Dry on full heat for at least 20 minutes.
- Avoid feather and wool bedding, use allergen-proof bed covers and encase box springs in vinyl or plastic covers.
- Minimize clutter where dust can collect.
- Change furnace and air conditioning filters regularly. If possible, use filters made for allergen control.
- Vacuum and dust regularly, preferably while pet is outdoors. Use a vacuum with a high efficiency particulate air (HEPA) filter or a double-layered micro filter bag.
- Use a damp or oiled rag to dust rather than dry dusting, which can stir up mite particles.
- Groom animal regularly.

STORAGE MITES

Storage mites (*Tyrophagus*, *Acarus*, and *Lepidoglyphus*) thrive in environments where there is moisture or increased humidity. They are primarily found in dry food items, such as flour, grains, dried fruits and cereal and may also occur in dry dog and cat food. Dry pet food does contain some level of moisture (less than 10%), which can create an environment that promotes storage mite growth; however, additional studies are needed to more thoroughly document this.

Pets exposed to this mite through ingestion, or absorption through the skin may develop an allergy to it, and immunotherapy can be effective in reducing clinical signs. In addition, environmental control may be useful in decreasing exposure to storage mites. Although it is impossible to eliminate mites from the environment, the following steps may help control the population:

- Do not stockpile food; purchase only what is needed to maintain a 30-day supply.
- Prior to purchase, check the food bag for tears or holes.
- Store pet foods in airtight containers in a cool, dry environment.
- Divide the bag of pet food into one-week portions and place in freezer safe storage containers. Keep the containers of food in a freezer until needed.
- Wash food storage containers frequently with detergent and HOT water. Dry completely before refilling with food.
- Clean pet food bowls daily with detergent and HOT water. Dry completely before filling with food.
- Same control measures may be used for pet treats.

FLEAS

Fleas are one of the most common causes of itchy skin in pets. Fleas can cause itching in the following ways:

- Their physical presence causes scratching, biting and self-trauma, which develops into a perpetual cycle.
- Hypersensitivity, or allergy, to flea saliva injected when fleas bite.



Pets with hypersensitivity to fleas may develop flea allergy dermatitis (FAD), an extremely itchy disease which predisposes them to secondary bacterial and/or yeast skin infections. FAD should be considered a progressive disease; each flea season results in an increasingly severe reaction. A well-planned flea control strategy targeted towards all stages of the flea life cycle is essential for these patients.

An effective flea control program must involve the entire household, and all animals in contact with the affected pet. The goal is to eliminate fleas from the pet and the environment and prevent re-infestation. The following are recommendations for the house, the yard and the pet:

The House

- Frequently vacuum and mop all floors (dispose of vacuum bag outside of the home).
- Wash kennel floors and pet bedding with hot water regularly.

The Yard

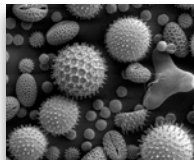
- Block off access to crawl spaces and treat with insecticides.
- Consider commercial extermination and outdoor spraying.

Your Pet

- Talk with your veterinarian about topical and oral flea control products for all pets in the household.

POLLEN ALLERGENS

Pollens from grasses, trees and weeds can be carried great distances by air currents. Pollen exposure most often occurs through inhalation of airborne particles and/or absorption through the skin. Avoidance is impractical, but exposure can be minimized.



- If possible, limit exposure to certain conditions and times of day, such as during high pollen counts, windy days, high humidity and early morning or evening hours.
- Vacuum and dust regularly.
- Use air conditioning instead of opening windows.
- Keep pet off of lawn for 1–2 hours after mowing.
- Bathe pet regularly with hypoallergenic shampoos, leave-in conditioners that soothe skin and cool water rinses to decrease pollen accumulation.
- Dry bedding in dryer instead of hanging outside.

Ask your veterinarian for more tips on managing allergies based on your pet's history, location and test results.

MOST COMMON ALLERGENIC TREES, WEEDS & GRASSES

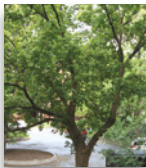
Trees

Box Elder

- Distributed throughout the U.S. and grows along streams and river banks.
- Leaves are typically 2 to 4 in. long with 3 to 5 (sometimes 7) leaflets.
- Bark is thin, gray to light brown with shallow interlacing ridges.
- Box Elder is considered a severe allergen.



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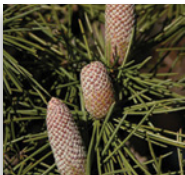
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Cedar

- Distributed in central and eastern U.S.
- Pyramidal in shape with a 10 to 20 ft. spread and a height range of 30–50 ft.
- Consist of spicy-resinous scented wood, thick ridged or square-cracked bark and broad, level branches.
- Allergenicity of Cedar ranges from mild to severe depending on the species.



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Oak

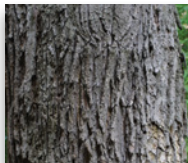
- Native to the northern hemisphere; found in central and eastern U.S.
- All are deciduous trees with toothed leaves and heavy, furrowed bark.
- Most oak species are considered to be severely allergenic.



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Weeds

English Plantain

- Distributed throughout the U.S.; a common weed of lawns and roadsides.
- The flowers are borne on heads whose supporting stalks protrude from a mass of sword-like leaves; leaves are up to 12" long and 1" across.
- English Plantain is considered a moderate allergen.



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Short Ragweed (Common Ragweed)

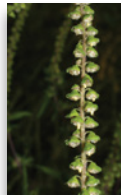
- Distributed across the majority of the U.S.; establishes along roadsides and in disturbed soil.
- Leaves are 1.5 to 4 inches long and hairy on the upper surface and margin.
- Produces enormous amounts of pollen grains; considered a severe allergen.



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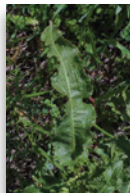
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Yellow Dock

- Distributed throughout the U.S.; often found in disturbed soils and frequently along roadsides.
- Mature plants are reddish brown and can grow as tall as 4 ft.
- Consists of smooth leaves that shoot off from a large basal rosette; leaves have distinctive, waved or curly edges.
- Yellow Dock is considered a moderate allergen.



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Lambs Quarters

- Distributed throughout the U.S.; typically found along roadsides, stream banks, gardens, lawns, and waste places.
- Mature plants can grow several feet tall and are capable of producing thousands of seeds.
- Stems have red streaks; leaves are either triangular or diamond-shaped.
- Lambs Quarters is considered a moderate allergen.



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Grasses

Bermuda Grass

- Distributed throughout the U.S.; except for the upper Midwest.
- Used extensively on lawns, golf courses, sports fields, arenas and parks for its durability.
- A severe allergen pollinating from spring to fall.



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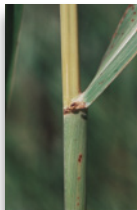
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Johnson Grass

- Distribution is primarily in the southern two-thirds of the U.S.
- A very aggressive, weedy species that can grow to 8 ft. tall.
- A moderate allergen which can pollinate all year long if the elevation and latitude are appropriate.



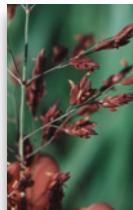
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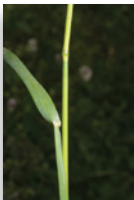
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Kentucky Bluegrass

- Distributed throughout the U.S.; grows along roadsides, in meadows, lawns, fields, woods and along stream banks.
- Dense grass with smooth, upright stems and boat-shaped leaf tips.
- Can grow up to 3 ft. tall and has clusters of greenish flowers at the top of the stems.
- Considered a severe allergen.



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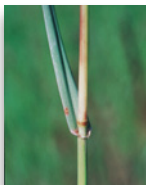
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Rye Grass

- Best suited for temperate climates and has a high growth rate.
- Typically found in meadows, fields, pastures, lawns, roadsides and in clearings.
- Grows in tufts or mats and can reach 1 ft. in height.
- Rye grass is one of the most severe allergens in people.



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COMMON FUNGI AND MOLDS

Molds are a type of fungus found indoors and outdoors in moist organic materials. Included in this group are rusts, smuts, mushrooms, toadstools, yeast and slime molds.



Outdoor Spore Levels

Outdoor spore levels vary throughout the day and year. Because levels are often higher near the ground, lawn mowing and grain harvesting result in increased dispersion of mold/fungal particles. Mold allergic animals may develop clinical signs following exposure to leaf litter, peat moss, mulches, soil and rotting logs.

Indoor Mold Levels

Indoor mold levels are commonly elevated when indoor air quality is poor (*i.e.*, the house is closed off to fresh, outside air). Common locations for mold growth include bathrooms, laundry rooms, basements and closets. Specific equipment can also be contaminated; these include cool mist vaporizers, furnace humidifiers, air conditioners and swamp coolers.

Indoor Mold Control

Indoor mold control involves general cleanliness, reducing excessive indoor moisture (relative humidity less than 50%), and identification and remediation of known mold sources.

COMMON MOLDS AND THEIR LOCATIONS

Principal outdoor, minor indoor – *Alternaria*, *Fusarium* and *Cladosporium*

Principal indoor, minor outdoor – *Aspergillus* and *Penicillium*

Minor outdoor and minor indoor – *Dreschleria* and *Stephyllium*



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