Analyzing Mold Claims From Medical and Scientific Perspectives: What Owners, Managers, Builders, and Their Attorneys Need To Know

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Introduction

This is the first in a two-part series on the most recent scientific reports on the health effects of mold exposure. The exploding number of mold exposure claims that have been the subject of litigation and media attention over the last five years may prove to be a greater challenge to those with interests in real property than any prior mass tort.

Although some building owners have been subject to asbestos claims over the last several decades, the focus of prior mass torts has been occupational exposure, with injured workers filing workers' compensation claims against their employers and civil actions against the manufacturers and suppliers of silica, welding rods, and other allegedly injury-causing products. Prior mass torts that did not involve the workplace, such as breast implant litigation, were still aimed at manufacturers and suppliers. Mold litigation, however, is directed at those who sell, own, lease, and manage real property and the construction industry. See Handling Mold Litigation in California, step 4 (Cal CEB Action Guide Oct. 2005).

Those with interests in real property and their counsel need a means of analyzing the complex medical and scientific issues raised by these claims. Mold exposure issues can be far more complicated than other mass torts. For instance, silica is an inert mineral with a limited number of types. The key issue in silica claims is whether the allegedly injured worker was exposed to silica of respirable size. Although several conditions have been associated with silica exposure, the focus in silica litigation and related claims is silicosis and related pulmonary diseases. In contrast, mold is a living, biological entity, with between 100,000 and 200,000 identified species of fungi and hundreds of diseases associated with exposure.

A recent publication by the Institute of Medicine (IOM), a component of the National Academies of Science, based on a review of a select body of scientific literature, has concluded that other than allergies, the literature does not support a link between mold exposure at the levels found in residences and office buildings and serious disease in otherwise healthy individuals. This is the critical issue in many mold exposure claims, *i.e.*, the nature of the alleged injury. See Handling Mold Litigation, step 2.

Those handling water damage and mold exposure claims need to know how to break down the types of health conditions potentially associated with mold—allergy, infection, toxicity, and irritation—and apply these categories to analyze the claim or litigation. This article discusses these categories, how this analysis is supported by the IOM and another recent report, the use of these categories to evaluate nonlitigated and litigated claims, and the implications of this analysis in determining the future of this mass tort.

Bodily Injury Claims Need To Be Analyzed Categorically

Many articles and media reports treat the subject of mold-related illness in a cursory manner, assuming that it is a simple issue. Failure to recognize the complexities of the medical issues regarding mold exposure ensures continuing controversy and litigation. Many media reports assume that the question is whether mold causes illness. The real issue is: What types of illness can mold cause?

In responding to that question, a framework is needed. Instead of attempting to analyze mold-related illnesses on a symptom-by-symptom basis (which is often too time-consuming and subjective for the nonphysician), those involved with mold claims should look at the categories of disease that may be associated with mold exposure:

- Allergy;
- Infection;
- Toxicity; and
- Irritation.

Black Mold and Human Illness, Texas Medical Association Council on Scientific Affairs (2002); *Adverse Human Health Effects Associated with Molds in the Indoor Environment*, American College of Occupational and Environmental Medicine Evidence Based Statement (Oct. 27, 2002), p 1; Khalili & Bardana, *Inhalational Mold Toxicity: Fact or Fiction? A Clinical Review of 50 Cases*, 95 Annals of Allergy, Asthma & Immunology (Sept. 2005), p 239.

A brief explanation of these four categories is needed to understand their impact on responding to litigated and nonlitigated claims.

Allergy. Allergy is defined as an exaggerated response of the immune system to foreign proteins. Mold is a common environmental allergen; it is estimated that five to six percent of the general population may be allergic to mold. Although allergies can lead to asthma and other respiratory problems, the symptoms are generally minor. Mold allergies can be diagnosed through skin tests and/or serology (blood) tests for Immunoglobulin E, the antibody that causes common allergies.

Infection. Systemic fungal infections, in which mold infects and grows in bodily organs, as a result of exposure in a home or office building is extremely rare in otherwise healthy individuals. (Nail fungus and "athlete's foot" are examples of dermal or surface infections due to mold, the consequences of which are minor.) These infections are of a greater concern in immune-compromised individuals, such as patients receiving chemotherapy or those with HIV. Fungal infection can be diagnosed through pathology tests that examine the infected tissue.

Toxicity. Under certain environmental conditions, some species of mold produce secondary metabolites known as mycotoxins. When greatly concentrated in a laboratory, these substances have been used as biological weapons. To date, no peer-reviewed study has demonstrated that respiratory exposure to mycotoxin levels found in homes causes human illness. Similarly, no study has demonstrated how mycotoxins would become respirable at levels resulting in harm from inhalation in a home. Notably, the ingestion of sufficient quantities of mycotoxins can be harmful, although they are found in many foods, such as peanuts and blue cheese. However, ingestion is not an issue in most mold exposure claims. Toxicity is the theoretical cause of the more serious injuries asserted in mold claims, such as brain damage and cancer. To date, these claims have not been supported by any objective diagnostic test identifying the type and level of mycotoxin exposure in a given individual; the most recent medical literature questions the scientific basis for such claims.

Irritation. Molds release volatile organic compounds ("VOCs"), which are the cause of the classic "moldy" smell associated with fungus. VOCs can cause irritation of the eyes and mucous membranes. This effect is short-lived and does not cause long term illness. Unlike allergies, this type of irritation is not dependent upon an individual having a predisposition to this condition. Because of the temporal nature of irritation due to VOCs, diagnosis is normally based upon history; treatment generally consists of avoidance.

In summary, there are four types of diseases associated with mold. One, toxicity, is controversial and unproven. Another, infection, is extremely rare in otherwise healthy individuals. Allergy is a known problem associated with mold, although it only impacts a small percentage of the population and will subside absent further exposure. Irritation may affect the entire population, but its effects are both minor and temporal.

The next step is to review the current research and then determine how this analysis affects claims handling, litigation, and the future of this mass tort.

Summary of Most Recent Medical Literature Supporting This Analysis

In September 2005, two physicians at Oregon Health Sciences University published the results of their study of the health effects of mold exposure in the Annals of Allergy, Asthma & Immunology.

The article (Khalili & Bardana, *Inhalational Mold Toxicity: Fact or Fiction? A Clinical Review of 50 Cases*) is notable for several reasons. First, it repeats the division of mold-induced disease into four categories: allergy, infection, toxicosis, and what it describes as "aero irritation." Three of the categories are acknowledged as being linked to mold, with the researchers stating that allergy and infection are "well-accepted" as being caused by mold and that epidemiological studies suggest the existence of irritation.

However, in regard to toxicity, the researchers found that only "oral toxicosis" is accepted as a disease caused by mold. This is important, because real property owners and managers are generally concerned with inhalation exposure, not with individuals ingesting building materials. As for inhalation-induced mold toxicity, which is at the heart of most so-called "toxic" mold cases, the researchers found that these claims "lack credible evidence" and are a social phenomenon rather than a disease. The article also compares "toxic" mold claims to prior mass torts based upon suspect scientific evidence, such as multiple chemical sensitivity and sick building syndrome.

A second recent study also generally supports the analysis suggested in this article. In 2002, the Institute of Medicine (IOM) was directed by the federal Centers for Disease Control to convene a panel of experts to research and review literature regarding damp indoor spaces and mold and their adverse health effects. The IOM is part of the National Academies of Science, which was granted a charter by Congress in 1863 mandating that it serve as an independent advisor to the federal government on scientific and technical matters.

In May 2004, the IOM published its report, "Damp Indoor Spaces and Health." The report is over 250 pages long; however, it comes to some very specific conclusions. The IOM found that there was evidence of an association between mold exposure and

- Upper respiratory symptoms (nasal & throat);
- Cough;
- Wheeze;
- Hypersensitivity pneumonitis; and
- Asthma symptoms in sensitized individuals.

The IOM also found a limited association between mold exposure and dyspnea (shortness of breath), lower respiratory illness in otherwise healthy children, and asthma development.

On the other hand, the IOM report found that there was inadequate or insufficient evidence to associate a long list of symptoms with mold exposure. These included

- Airflow obstruction in otherwise healthy persons;
- Lower respiratory illness in otherwise healthy adults;
- Inhalation fevers;
- Chronic obstructive pulmonary disease;
- Acute idiopathic pulmonary hemorrhage in infants;
- Skin symptoms;
- Gastrointestinal tract problems;
- Fatigue;
- Neuropsychiatric symptoms;
- Cancer;
- Reproductive effects;
- Rheumatalogic and other diseases; and
- Shortness of breath.

Although the IOM did not analyze mold-related diseases solely in the manner suggested by this article, the summary of its findings is in accord with this approach. The symptoms the IOM found associated with mold exposure—such as upper respiratory symptoms, coughing, and asthma—are likely the result of mold allergies, which is a well accepted disease model associated with mold exposure. The IOM's findings that there is insufficient evidence of an association among cancer,

neuropsychiatric symptoms, and reproductive effects, among others, are reflective of the lack of evidence of mold toxicity.

The only one of the four disease models discussed in this article that could theoretically result in cancer or reproductive effects is toxicity. The rejection by the IOM of an association between mold exposure and conditions of this type is a rejection of mold toxicity based upon current evidence. Finally, the IOM noted that its findings were not applicable to those with compromised immune systems, as these individuals are more susceptible to infection. Overall, the IOM's findings support the approach suggested here. Mold may cause allergies in susceptible individuals and minor irritation in the general population. Systemic infections may occur in immune-compromised individuals. For further discussion and critique of the IOM report, see Handling Mold Litigation in California, step 2 (Cal CEB Action Guide Oct. 2005).

[*Part Two of this article will appear in a future issue of the Reporter. It will cover strategies for attorneys representing property managers, contractors, developers, and landlords on responding to nonlitigated mold exposure claims, how the analysis works in litigating these claims, and ideas about the future of mold exposure claims.—Editor*]