

## AAAAI Journal Publishes Criticism; Finds No Reason to Withdraw Mold Paper

Harris Martin Publications

MILWAUKEE, Wis. — A peer-review journal on allergy issues published numerous responses critical of a March position paper on mold that found little or no scientific evidence for mold-related illnesses beyond allergic responses, but rejected critics' demands that the paper be withdrawn.

The criticisms arose from conclusions reached by Bush, et al. in their paper, "The medical effects of mold exposure," published in the March 2006 issue of the American Academy of Allergy, Asthma and Immunology's *Journal of Allergy and Clinical Immunology* (See HarrisMartin's Columns: Mold, March 2006).

The authors of that paper concluded that "[e]xposure to molds can cause human disease through several well-defined mechanisms," but they limited that conclusion to allergic responses, including asthma, allergic fungal sinusitis and hypersensitivity pneumonitis.

It was what the authors didn't find that initiated letters to the editor:

- "The occurrence of mold-related toxicity (mycotoxicosis) from exposure to inhaled mycotoxins in nonoccupational settings ...is improbable."
- "Exposure to molds and their products does not induce a state of immune dysregulation (eg, immunodeficiency or autoimmunity)."
- "The occurrence of mold-

related irritant reactions from exposure to fungal irritants in nonoccupational settings are theoretically possible, although unlikely to occur in the general population given exposure and dose considerations."

- "Measurement of antibodies to specific molds has scientific merit in the assessment of IgE-mediated allergic disease, HP, and allergic bronchopulmonary mucosis ... [but] cannot be used as an immunologic marker to define dose, timing, and/or location of exposure to mold antigen inhalation in a noninfectious setting."
- "Testing for airborne mycotoxins in nonagricultural environments cannot be used to diagnose mold exposure."

And despite the association's decision to allow critics to respond in the September issue of the journal, those conclusions will stand as representing the AAAAI's current position on mold.

Journal editor Thomas Platts-Mills, M.D., Ph.D., explained, "The authors of the position paper have extensive experience in the field, and they applied clearly defined criteria in evaluating the published evidence. In addition, the position paper was reviewed by the Board of Directors of the AAAAI in November 2005. Thus, although reasonable persons might disagree with the emphasis of the article in some areas or with any particular details, it has been determined that there is no reason for withdrawing the position paper."

### The Responses

Responders were allowed 500 words in which to present their views on the issue.

Mold researchers David C. Straus, Ph.D. and Stephen C. Wilson, Ph.D., of the Texas Tech University Health Sciences Center took issue with the position paper's view of trichothecene mycotoxins, saying that Bush, et al., implied that inhalation of *Stachybotrys chartarum* conidia was the most likely way trichothecene mycotoxins could invade the body.

"We have recently shown that the number of SC conidia in the air in a SC-infested building is not a good predictor for the amount of macrocyclic trichothecene mycotoxins in the air," Straus and Wilson countered.

Criticizing other findings, Straus and Wilson concluded, "we feel that the following statements are true. SC has been shown to grow in buildings where people are having health problems. SC definitely produces MTMs in these situations. These MTMs definitely get into the air in these buildings, where they can be inhaled. They definitely are inhaled by people in these buildings."

The pair ended with a question of their own: "The following, then, is the final question that remains to be answered: do the MTMs get into human beings in

concentrations sufficient to cause the health problems observed in SC-contaminated buildings?"

In his response, Maurice H.V. Strickland, M.D., FAAAAI noted the 500-word limit and used it to point readers to a series of published articles.

"I disagree with much of the position paper by Bush et al.," Strickland wrote. "There is much evidence supporting illness caused by water-damaged, moldy, or damp indoor spaces. Classic allergy accounts for only part of the problem."

Strickland also commented, "New knowledge renders virtually every study of indoor mold exposure obsolete. I have mentioned some of the pieces of the puzzle that will have to be used to assemble the entire picture of indoor mold effects. New knowledge and new studies will solve this puzzle."

Another letter questioned the thoroughness of the original paper's research, maintaining that "many important studies are not considered, and those considered are often accepted or rejected without evidence-based discussion."

That opinion was contributed by Ritchie C. Shoemaker, M.D.; Harriett Ammann, Ph.D.; Richard Lipsey, Ph.D.; and Edward Montz, Ph.D.

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Noting that the original paper included “only 44 references,” Shoemaker, et al., call the paper’s review “cursory,” and its positions “the opinions of a few, rather than the consensus of experts.”

“Rigorous, not cursory, reviews of the literature are needed to improve clinical care and design studies that can further describe the mechanistic pathways through which exposure to WDBs affects human health,” the Shoemaker group offered.

Jens U. Ponica, M.D., and David A. Sherris, M.D., commented that while Bush, et al., found allergic fungal rhinosinusitis to be “readily distinguishable” from chronic rhinosinusitis, using “well delineated” criteria, “[r]ecent advances in the detection methods for the criteria have resulted in the demonstration of those criteria in the vast majority of CRS cases.”

Citing several studies, Ponica wrote, “None of these recent developments are cited in the ‘state of the art’ review. Instead it is stated that ‘evidence supporting a role for fungi in CRS does not exist,’ citing only Dr. Bush’s own editorial as evidence. Either the authors were unaware of the emerging evidence for a role of certain molds or choose not to share it with the readers, neither of which is acceptable in a

position paper that carries the weight and name of the American Academy of Allergy, Asthma and Immunology and indirectly the Journal.”

“To withhold crucial scientific information on the role of mold in CRS questions the intentions of the authors,” Ponica and Sherris said.

Another letter also faulted the authors for not considering other references.

Allan Lieberman, M.D., William Rea, M.D., and Luke Curtis, M.S., CIH, wrote, “When anyone writes a position paper, we question whose ox is being gored.”

“You state in your article that ‘it is important for the members of the allergy-clinical immunology community who are frequently asked by patients, parents, and other interested parties to render opinions. Who are these other interested parties? Was there a separate agenda for this position paper that also agrees with the American College of Occupational and Environmental Medicine’s evidence-based statement on indoor molds?

Dr. Andrew Saxon [a coauthor of the Bush, et al. paper] co-authored both these position papers.”

Other writers called the paper “one-sided” and faulted the authors for failing to

note conflicts of interest.

The journal acknowledged that criticism in asking all letter writers, including the authors of the position paper who replied to the letters, to cite any conflicts in their responses.

Most, but not all, of the letter writers cited expert testimony on behalf of plaintiffs.

### The Authors Respond

Robert A. Wood, M.D., and Robert K. Bush, M.D., submitted a reply in which they said they appreciated the responses to their article, but continue to believe that “the weight of the evidence does not support a clear relationship between mycotoxin exposure and adverse health effects.”

“We did an exhaustive literature search in the preparation of this statement and clearly did not overlook the many citations provided in the above letters,” Wood and Bush stated. “We also made it clear in the statement’s introduction that space constraints limited the number of references that could be included.”

“In our final analysis,” they said, “we believed that the purported adverse health effects of mycotoxins are still not definitive. Many of these citations, in fact, do support the adverse health effects of mold exposure

but not necessarily the specific contribution of mycotoxins to these health effects. We fully appreciate that this might be another example of an overly conservative approach.”

“It is clear that this is an area of great controversy,” they said. “It is also clear that this is a rapidly evolving science and that much of the controversy will be settled with ongoing evidence-based research.”