

Urine Mycotoxin Tests vs. Environmental Assessments

1. Urine Mycotoxin Testing

- **What it measures:** Levels of mycotoxins excreted in urine, usually following dietary intake (e.g., grains, coffee, nuts).
- **What it does not measure:** The presence of a moldy building or ongoing exposure to a water-damaged environment.
- **Limitations:**
 - Studies consistently show healthy controls also excrete mycotoxins—meaning a positive test does not prove illness or exposure to a particular environment.
 - CDC (2015) and U.S. Navy Medicine (2024) both state: there are no FDA-approved urine mycotoxin tests for diagnosing illness or guiding treatment.
 - The 2019 Shoemaker review concludes that urinary mycotoxin results “are the main source of information regarding dietary exposure” and cannot separate sick patients from controls.
 - Clinical consequence: Using urine mycotoxin tests to justify antifungal therapy or environmental remediation is unsupported and potentially misleading.

2. Environmental Assessments

- **What they measure:** The source of exposure in a building—airborne spores, fragments, microbial VOCs, endotoxins, and settled dust reservoirs.
- **Tools include:**
 - Visual inspections of water-damage and humidity problems.
 - Dust sample analysis (ERMI, HERTSMI-2, or advanced qPCR panels) to detect species strongly associated with water-damaged buildings.
 - Moisture mapping, infrared thermography, and building envelope assessment.
- **Why it matters:**
 - Chronic Inflammatory Response Syndrome (CIRS) and other mold-related illnesses are triggered by ongoing exposure to contaminated environments, not simply by having mycotoxins in the diet.
 - Environmental assessment pinpoints where and how exposure is happening, allowing effective remediation.
 - This is the foundation of the Shoemaker Protocol and related CIRS management strategies.

3. Key Contrast

Aspect	Urine Mycotoxin Test	Environmental Assessment
Purpose	Measures mycotoxins excreted, mostly dietary	Identifies sources of environmental exposure
Validation	Not FDA-approved; not recommended by CDC	Standard of care in building science & CIRS medicine
Clinical Use	Cannot diagnose WDB illness or guide therapy	Essential for exposure control and treatment success
Bottom Line	Reflects what passed through the body	Identifies and fixes what the patient breathes

4. Bottom Line

- Urine mycotoxin tests are exposure markers of uncertain meaning, mostly dietary.
- Environmental assessments are the gold standard for determining building-related exposure.
- For patients with suspected CIRS or mold-related illness, remediation decisions must be guided by building inspection and dust sampling—not urine testing.

Reference:

- Shoemaker RC, Lark D. *Urinary Mycotoxins: A Review of Contaminated Buildings and Food in Search of a Biomarker Separating Sick Patients from Controls.* Internal Medicine Review. 2019.
- CDC. “Notes from the Field: Use of Unvalidated Urine Mycotoxin Tests...” MMWR. 2015.
- U.S. Navy Medicine. “Mycotoxin Testing and Clinical Utility.” Nov 18, 2024.
- **“Urinary Mycotoxins: A Review of Contaminated Buildings and Food in Search of a Biomarker Separating Sick Patients from Controls.”** Internal Medicine Review, Oct 2019. (Author: Ritchie C. Shoemaker, with David Lark.)
- Dr. Heyman co-authored the CIRS textbook *The Art and Science of CIRS Medicine* with Dr. Shoemaker (and Dr. Scott McMahon), which covers testing philosophy
- Dr. Heyman also authored the chapter **“The Shoemaker Protocol”** (with April Vukelic) in *Nutrition and Integrative Medicine for Clinicians*—again, aligned with Shoemaker’s approach rather than promoting urine mycotoxin testing for environment diagnosis.