## FACT SHEET | Ochratoxin

Ochratoxin is one of the most prevalent mycotoxins in water-damaged buildings and food. It's been implicated in numerous health conditions, including many that affect the kidneys. It binds to and lowers albumin, which affects how it's detoxified. It also reduces zinc stores inside cells.

Ochratoxin can reduce immune function, inhibit energy production, and is neurotoxic especially to males. Studies have correlated Ochratoxin exposure to birth defects and the male prevalence of autism.

## MOLD SOURCES

Aspergillus ochraseus, Aspergillus niger, Penicillium verrucosum, Penicillium nordicum, and Penicillium chrysogenum Color - various species of mold can take on any color, even "black mold" color Favorite building material - flooring, carpet, ceiling tiles, heating ducts

## SIGNS & SYMPTOMS

LABS ~ Low albumin, reduced or lowering GFR (glomerlular filtration rate) Fatigue Brain fog Headache, migraine Low appetite or nausea Chemical sensitivity Itchy skin Frequent urination, which may over time become low urine output from low kidney function Edema High blood pressure Chest pain Muscle weakness and/or cramps Exercise intolerance Frequent infections

## THINGS THAT HELP MY PATIENTS

Therapeutic Diet ~
Eat the rainbow of colorful vegetables, 5-7 servings daily.
Plenty of good fats every day.
2 Tbsp ground organic seeds as insoluble fiber binder.
Flavor with rosemary, mint, sage, and thyme. (Ochratoxin-specific mycotoxin neutralizing activity)
Bioflavonoids unbind Ochratoxin from albumin, which reduces its toxic effects on the kidneys.

Bioflavonoids require frequent, repeated dosing for this effect. A mixed bioflavonoid supplement is ideal as it covers the wide range of the flavonoids studied. Focus on astaxanthin, luteolin, quercetin, lycopene for Ochratoxin-specific activity.

Zinc. (Take with food. May cause nausea on empty stomach.)

Resveratrol. For kidneys.

Tocotrienols. Improves blood pressure, restores GFR, protects kidneys.

Rosemary (Rosmarinus officinalis). Rosmarinic acid has a significant cell protective effect against Ochratoxin and is antifungal.



Glutathione. Or use glutathione inducers if not tolerated - ALA, NAC, Selenium. NAC+Selenomethionine - combination combats immunotoxic effects.

Milk Thistle. Potent protective effect against Ochratoxin. Reduces immunotoxicity.

Spore-based probiotic. Bacillus spp. 1 capsule yielding multi-billion CFUs.

\*Start with sprinkles\* using 1 capsule over 2 weeks time for first introduction as it can cause severe die-off symptoms at full dose initially.

Melatonin. Take at dinnertime to avoid morning grogginess. Kidney protective. Ushers zinc into cells.



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