

# MOLD TOXICITY + PARASITE GUIDE

*Understanding the CIRS-Gut Infection Overlap and How to Address Both for Complete Recovery*

FOR PATIENTS WITH CHRONIC INFLAMMATORY RESPONSE SYNDROME (CIRS) AND UNEXPLAINED GUT SYMPTOMS

This guide is for educational purposes only and does not constitute medical advice. Always consult a qualified healthcare provider before beginning any protocol. Mold-related illness and parasitic infections require professional medical oversight.

## THE CIRS-PARASITE CONNECTION: WHY IT MATTERS

Chronic Inflammatory Response Syndrome (CIRS), often triggered by mold toxicity and mycotoxin exposure, is increasingly recognized as a complex, multi-system condition that affects immune function, detoxification, gut health, and neurological function. What is frequently overlooked in CIRS treatment is the significant overlap between mold toxicity and parasitic infection. Addressing both simultaneously is often essential for recovery.

### Why Mold and Parasites Co-Occur:

- Mold mycotoxins (aflatoxins, ochratoxins, trichothecenes, gliotoxin) directly suppress immune function, particularly Th1 and NK cell activity, creating an environment where parasites can thrive undetected.
- Parasites produce biofilms that can harbor and protect mold spores and mycotoxins from elimination.
- Both mold and parasites damage intestinal lining, causing leaky gut, which allows mycotoxins and parasite antigens to enter the bloodstream.
- Mold exposure often occurs in water-damaged buildings, which are also environments where parasites (protozoa, helminths) can proliferate due to moisture and organic material.
- Mycotoxins impair liver detoxification pathways (glutathione, methylation, sulfation), reducing the body's ability to process and eliminate parasitic toxins.
- Parasitic infection increases histamine release and mast cell activation, which is already elevated in CIRS patients, amplifying symptoms.
- Both conditions cause mitochondrial dysfunction, leading to the severe fatigue and exercise intolerance seen in CIRS patients.
- Mold and parasites both produce neurotoxins that contribute to brain fog, anxiety, depression, and cognitive decline.

## **SYMPTOM OVERLAP: MOLD VS. PARASITES**

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Distinguishing mold-related symptoms from parasitic symptoms can be challenging because they share many clinical features. However, certain patterns can help guide diagnosis and treatment.

### **Symptoms More Suggestive of MOLD TOXICITY (CIRS):**

- Symptoms began or worsened after moving into a specific building, water damage event, or renovation.
- Multiple chemical sensitivities: reactions to perfumes, cleaning products, new furniture, gasoline.
- Static shocks or feeling "electric."
- Ice-pick pains or unusual nerve sensations.
- Tearing or red eyes, blurred vision, or light sensitivity.
- Frequent urination and excessive thirst (mycotoxin-related diabetes insipidus).
- Morning stiffness that improves with movement.
- Symptoms improve when away from the suspect environment (vacation, outdoor air).
- Visual contrast sensitivity (VCS) test abnormalities.

### **Symptoms More Suggestive of PARASITES:**

- Chronic digestive issues: bloating, gas, diarrhea, constipation, or alternating patterns.
- Visible worms or eggs in stool, or itching around anus (especially at night).
- Grinding teeth at night (bruxism).
- Symptoms that worsen around full moon (parasite reproductive cycle).
- Unexplained weight loss or difficulty maintaining weight.
- Food cravings, especially for sugar or starchy foods.
- History of travel to endemic areas, camping, or contaminated water/food exposure.
- Elevated eosinophils on blood work.

### **Symptoms Suggesting BOTH MOLD + PARASITES:**

- Severe, unrelenting fatigue that doesn't improve with rest or sleep.
- Brain fog, memory loss, difficulty concentrating, and word-finding issues.
- Mood disorders: anxiety, depression, irritability, panic attacks, or emotional lability.
- Sleep disturbances: difficulty falling asleep, staying asleep, or unrefreshing sleep.
- Headaches, including migraines, that don't respond to conventional treatment.
- Muscle and joint pain, often migratory or without clear injury.
- Skin issues: rashes, hives, eczema, or unexplained itching.
- Respiratory symptoms: chronic cough, sinus congestion, post-nasal drip, or asthma-like symptoms.
- Hormonal imbalances: irregular cycles, PMS, low libido, thyroid dysfunction.
- Frequent infections or slow healing: recurrent colds, sinus infections, or skin infections.

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## DIAGNOSTIC TESTING FOR MOLD + PARASITE CO-INFECTION

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Comprehensive testing is essential because treating only mold while ignoring parasites (or vice versa) leads to incomplete recovery and persistent symptoms.

### Mold / CIRS Testing:

- Great Plains Mycotoxins Test (urine): Detects aflatoxins, ochratoxins, trichothecenes, gliotoxin, zearalenone, and more. The gold standard for mycotoxin exposure.
- RealTime Labs Mycotoxin Panel: Alternative urine mycotoxin testing with different methodology.
- Visual Contrast Sensitivity (VCS) Test: Online or in-office test assessing neurological function affected by biotoxins.
- HLA-DR Genetic Testing: Identifies genetic susceptibility to CIRS (about 25% of population has susceptible genotypes).
- C3a and C4a Complement Levels: Elevated in acute and chronic biotoxin exposure.
- TGF-beta-1: Elevated in CIRS and indicates ongoing inflammatory response.
- MSH (Melanocyte Stimulating Hormone): Low in CIRS, correlates with symptom severity.
- VIP (Vasoactive Intestinal Peptide): Low in CIRS, affects vascular permeability and immune regulation.
- MMP-9: Elevated in CIRS, indicates matrix metalloproteinase activation and tissue breakdown.
- VEGF: Often low in CIRS, contributes to fatigue and capillary hypoperfusion.
- Professional Mold Inspection: Air sampling, ERMI/HERSTMI-2 dust analysis, and visual inspection of the home/work environment.

### Parasitic Testing:

- Comprehensive Stool Analysis (3-day collection with PCR): Detects ova, cysts, and DNA of parasites.
- GI-MAP: Quantitative DNA analysis for parasites, bacteria, Candida, and markers of gut health.
- Organic Acids Test (OAT): Identifies yeast overgrowth, bacterial dysbiosis, and mitochondrial dysfunction.
- CBC with Differential: Elevated eosinophils strongly suggest parasitic infection.
- Serology for Toxoplasma, Strongyloides, and other tissue parasites.
- Blood smear for blood-borne parasites (Babesia, malaria, filarial worms).

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## THE INTEGRATED TREATMENT PROTOCOL

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This protocol addresses both mold toxicity and parasitic infection simultaneously. It follows the Shoemaker CIRS protocol framework while adding antiparasitic and gut-healing components. Work with a CIRS-literate practitioner.

This protocol should be implemented under the supervision of a practitioner trained in CIRS (Shoemaker protocol) and functional medicine. Mold remediation of the environment is NON-NEGOTIABLE before or concurrent with treatment.

## **STEP 1: ENVIRONMENTAL REMEDIATION (NON-NEGOTIABLE)**

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Before any internal treatment can be effective, the source of mold exposure must be eliminated. You cannot heal from mold while continuing to breathe it in.

- Professional mold inspection and remediation of home, workplace, and vehicle.
- HEPA air filtration: IQAir HealthPro Plus or Austin Air HealthMate Plus (with activated carbon for VOCs).
- Dehumidify indoor environment to less than 50% relative humidity.
- Remove porous materials that cannot be cleaned: carpet, drywall, ceiling tiles, upholstered furniture in affected areas.
- Clean all hard surfaces with borax, vinegar, or hydrogen peroxide solutions.
- Launder all clothing, bedding, and textiles in hot water with borax or mold-killing detergent.
- Consider temporary relocation during remediation if exposure is severe.

### STEP 2: DETOXIFICATION FOUNDATION (Weeks 1-4)

Goal: Open and support all detoxification pathways before adding antimicrobials or binders.

Diet: Anti-inflammatory, low-mycotoxin, low-sugar, gluten-free, dairy-free. Focus on organic vegetables, quality proteins, and healthy fats. Eliminate alcohol, caffeine, and all processed foods. Avoid grains that may contain mycotoxins (corn, wheat, peanuts, oats).

#### **Core Detox Support:**

- Liposomal Glutathione: 500-1000mg daily. THE most critical supplement for mold detox.
- N-Acetyl Cysteine (NAC): 1200-2400mg daily. Glutathione precursor and biofilm disruptor.
- Alpha-Lipoic Acid: 300-600mg daily. Antioxidant and heavy metal chelator.
- Vitamin C (Liposomal): 2000-4000mg daily. Antioxidant and immune support.
- Milk Thistle (Silymarin): 300-600mg daily. Liver support and glutathione production.
- Dandelion Root: 500-1000mg daily. Supports bile flow and liver detox.
- TUDCA or Ox Bile: 250-500mg daily. Improves bile flow for toxin excretion.
- Magnesium (Glycinate or Malate): 400-800mg daily. Supports detox and bowel motility.
- Methylated B-Complex: Supports methylation pathways critical for mycotoxin processing.
- Selenium: 200-400mcg daily. Supports glutathione peroxidase and thyroid function.

### STEP 3: BINDERS FOR MYCOTOXIN AND PARASITE TOXIN REMOVAL (Ongoing)

Binders are essential for capturing mycotoxins and parasitic endotoxins in the gut before they recirculate. Rotate binders to prevent tolerance and capture different toxin types.

### **Primary Binders:**

- Cholestyramine (prescription): 4g, 2-4x daily. THE gold standard binder for CIRS. Binds bile-soluble mycotoxins. Must be taken 1 hour before or 4 hours after meals, supplements, and medications.
- Welchol (Colesevelam): Alternative prescription binder if cholestyramine not tolerated.
- Activated Charcoal: 500mg-1g, 2-3x daily. Broad-spectrum binder for toxins and gas.
- Bentonite Clay: 1-2 teaspoons daily. Binds aflatoxins and other mycotoxins.
- Chlorella (Broken Cell Wall): 3-5g daily. Binds heavy metals and some mycotoxins.
- Humic/Fulvic Acids: 500-1000mg daily. Broad-spectrum binding and mineral support.
- Zeolite: 500-1000mg daily. Binds heavy metals and some biotoxins.

Binder Rotation Schedule: Use 2-3 different binders daily, rotating every 2-3 weeks. Always take binders 1-2 hours away from meals, supplements, and medications.

### **STEP 4: ANTIPARASITIC TREATMENT (Weeks 4-12)**

Goal: Eliminate parasitic infection while supporting the body through die-off reactions.

#### **Anti-Parasitic Agents:**

- Wormwood (*Artemisia annua*): 300-600mg daily. Broad-spectrum antiparasitic.
- Black Walnut Hull: 500-1000mg daily. Juglone-containing antiparasitic.
- Pumpkin Seed Extract: 500-1000mg daily. Paralyzes intestinal parasites.
- Papaya Seed Powder: 1 teaspoon daily. Carpaine against worms and amoebas.
- Diatomaceous Earth (Food Grade): 1 tablespoon daily. Mechanical removal.
- Neem Leaf Extract: 500-1000mg daily. Broad-spectrum antiparasitic.
- Clove Oil (Eugenol): 200-400mg daily. Targets parasite eggs and biofilms.
- Oregano Oil: 150-300mg daily. Broad-spectrum antimicrobial.
- Garlic Extract (Allicin): 600-1200mg daily. Antimicrobial and biofilm disruptor.
- Ivermectin or Albendazole: Prescription antiparasitics for confirmed helminth infections (requires MD).

#### **Biofilm Disruptors (Critical for Both Mold and Parasites):**

- Interfase Plus (Klaire Labs): 2 caps twice daily. Enzyme blend for biofilm disruption.
- Lactoferrin: 300-600mg daily. Iron chelation disrupts biofilm nutrition.
- EDTA: 500mg daily. Chelates minerals in biofilm matrix.
- Monolaurin: 600-1200mg daily. Disrupts lipid membranes in biofilms.
- NAC: 1200-2400mg daily. Breaks disulfide bonds in biofilm matrix.

### **STEP 5: GUT REPAIR & MICROBIOME RESTORATION (Weeks 8-16+)**

Goal: Heal intestinal lining, restore beneficial bacteria, and rebuild immune tolerance.

### **Gut Repair Supplements:**

- L-Glutamine: 5-10g daily. Primary fuel for intestinal epithelial cells.
- Zinc Carnosine: 75-150mg daily. Mucosal healing and barrier repair.
- Butyrate (Sodium or Calcium-Magnesium): 1-2g daily. Colonocyte fuel and anti-inflammatory.
- Colostrum or Bovine Immunoglobulins: 2-4g daily. Immune support and gut barrier.
- Slippery Elm or Marshmallow Root: 500-1000mg daily. Soothing mucilage for irritated gut.
- Aloe Vera (Inner Leaf): 200-400mg daily. Anti-inflammatory for gut mucosa.
- Quercetin: 500-1000mg daily. Mast cell stabilizer and anti-inflammatory.
- DAO Enzymes: With histamine-containing meals if histamine intolerance is present.

### **Probiotic Restoration:**

- Spore-Based Probiotics (*Bacillus coagulans*, *subtilis*): 2-4 billion CFU. Survive antimicrobial therapy.
- *Saccharomyces boulardii*: 250-500mg daily. Beneficial yeast, supports during antimicrobial phase.
- *Lactobacillus rhamnosus* GG: 10-20 billion CFU. Gut barrier and immune modulation.
- *Bifidobacterium longum*: 5-10 billion CFU. Colon health and butyrate production.
- Prebiotic Fiber (Acacia, Inulin, PHGG): 5-10g daily. Feed beneficial bacteria.

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## **MANAGING DIE-OFF AND HERXHEIMER REACTIONS**

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Mold detox combined with parasitic die-off can produce severe Herxheimer reactions. The body is processing mycotoxins, endotoxins, and inflammatory compounds simultaneously.

### **Die-Off Management:**

- Start LOW and SLOW: Begin with half doses of all antimicrobials and increase gradually over 2-3 weeks.
- Aggressive binder use: Cholestyramine, charcoal, clay, chlorella. Rotate and use consistently.
- Liposomal Glutathione: 1000mg daily. The single most important supplement for mold-related die-off.
- Epsom salt baths: 2-3 cups in warm water, 20-30 minutes, daily during active die-off.
- Infrared sauna: 15-20 minutes, 3-4x weekly (start with 10 minutes if sensitive).
- Coffee enemas: 1-2x weekly to stimulate glutathione-S-transferase and liver detox.
- Lymphatic drainage: Dry brushing, rebounding, or manual lymphatic massage daily.
- Hydration: 3-4 liters of filtered water with trace minerals daily.
- Sleep: 8-10 hours nightly. The lymphatic system clears neurotoxins during deep sleep.

If symptoms become severe, reduce all antimicrobials by 75% and increase binders and glutathione. Contact your practitioner immediately.

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## ADJUNCTIVE THERAPIES FOR CIRS + PARASITE PATIENTS

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- Ozone Therapy: Major autohemotherapy or rectal insufflation can support immune function, oxygenation, and pathogen clearance. Work with a trained practitioner.
  - IV Nutrient Therapy: Myers' cocktail, high-dose vitamin C, or glutathione IVs can support detox and immune function during active treatment.
  - Hyperbaric Oxygen Therapy (HBOT): Increases tissue oxygenation, supports immune function, and can penetrate biofilms. Particularly beneficial for neurological symptoms.
  - Peptide Therapy: BPC-157 (tissue repair), LL-37 (antimicrobial peptide), Thymosin Alpha-1 (immune modulation) can support recovery. Requires prescription and practitioner oversight.
  - Low-Dose Naltrexone (LDN): 1.5-4.5mg nightly. Immune modulation and anti-inflammatory. Particularly helpful for CIRS patients with autoimmune features.
  - VIP (Vasoactive Intestinal Peptide): Nasal spray, prescription. The final step in Shoemaker CIRS protocol. Restores vascular permeability and immune regulation. Only after environment is remediated and MARCoNS is cleared.
  - Neural Retraining (DNRS, Gupta Program): Limbic system retraining can help reduce hypersensitivity and improve symptom tolerance during recovery.
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## LONG-TERM RECOVERY & RECURRENCE PREVENTION

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Recovery from CIRS + parasitic co-infection is a marathon, not a sprint. Most patients require 12-24 months of active treatment followed by ongoing maintenance.

### Keys to Long-Term Success:

- Maintain a mold-free, low-humidity living environment indefinitely.
- Continue HEPA air filtration and regular mold monitoring.
- Quarterly antiparasitic maintenance (1 week of herbs every 3 months).
- Annual mycotoxin and stool testing to catch recurrence early.
- Maintain anti-inflammatory, low-sugar, whole-foods diet long-term.
- Optimize sleep, stress management, and exercise for immune resilience.
- Support methylation, detoxification, and mitochondrial function ongoing.
- Avoid unnecessary antibiotics and medications that disrupt gut flora.
- Consider genetic testing (HLA-DR, MTHFR) to personalize long-term support.
- Build a support network: CIRS and parasitic recovery can be isolating. Connect with others who understand the journey.

The intersection of mold toxicity and parasitic infection represents one of the most complex challenges in functional medicine. But with comprehensive testing, environmental remediation, targeted treatment, and patient persistence, recovery is not only possible. It is achievable. You are

not broken. Your body is responding exactly as it should to an overwhelming toxic and infectious burden. With the right support, it can heal.

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