# Aspergillus Outbreak Prevention During Hospital Renovation

Field Sheet — Immunocompromised Unit Risk, Active Surveillance, Layered Controls & Relocation Thresholds

**Direct Answer (Practitioner Reference):** Demolition and renovation aerosolize Aspergillus spores that are harmless to healthy staff but cause high-mortality invasive aspergillosis in severely immunocompromised patients (allogeneic HSCT, solid-organ transplant, prolonged neutropenia). CDC Environmental Infection Control Guidelines require layered engineering controls (impermeable barriers, construction negative pressure >= -0.01 in. w.g., PE positive pressure + HEPA filtration), active clinical and microbiologic surveillance, 72-hour drying/removal of wet porous materials, and patient relocation whenever barriers cannot be sealed or a severe breach occurs.

| Control Layer | Technical Requirement During Renovation | Failure / Escalation Trigger | Authority |
|---|---|---|---|
| High-Risk Patient Identification | Map allogeneic HSCT, solid-organ transplant, oncology/neutropenic, and ICU units relative to work & HVAC zones | Any unplanned dust, vibration, or air-handling disruption near unit | CDC EICG (2003/2019) |
| Barrier & Pressure Containment | Floor-to-ceiling impermeable barriers; construction negative pressure >= -0.01 in. w.g. (-2.5 Pa); PE rooms positive + HEPA | Loss of negative pressure or torn barrier triggers immediate stop-work | CDC EICG; ASHE ICRA 2.0 |
| Active Fungal Surveillance | Monitor high-risk patients for healthcare-associated airborne fungal disease; review micro/histopath/postmortem data | Any suspected/confirmed case triggers tissue biopsy, culture & strain typing | CDC EICG |
| Moisture & Housekeeping | Wet-wipe / HEPA-vacuum (no dry sweeping); dry or discard wet porous materials (drywall, ceiling tiles) within 72 hours | Standing water or >72h damp porous material requires removal | CDC EICG |

## Patient Relocation Decision Matrix & Surveillance Checklist

| Factor | Keep in Place (Enhanced Controls) | Relocate Immunocompromised Patients (CDC Criteria) |
|---|---|---|
| Barrier Integrity | [ ] Rigid, impermeable, floor-to-ceiling barrier intact and sealed | [ ] Rigid impermeable barrier cannot be sealed or sustained |
| Air-Handling / Pressure | [ ] Continuous negative pressure in work zone + positive PE pressure verified | [ ] Air-handling disruption or severe containment breach compromises unit |
| Dust & Vibration | [ ] Low-dust/vibration work isolated from ceiling plenums above unit | [ ] Heavy demolition/vibration shaking ceiling-plenum dust over high-risk beds |
| Interim Safeguard | [ ] Routine daily checks + wet/HEPA cleaning active | [ ] Deploy portable industrial-grade HEPA units only as interim bridge during relocation |

*Practitioner prep/reference tool based on CDC Guidelines for Environmental Infection Control in Health-Care Facilities (2003/2019) and ASHE ICRA 2.0. Clinical surveillance and relocation decisions rest with Infection Prevention and Medical Leadership.*