Hospital Works Infection Risk Course: Dust Barriers, Work Permits and Patient Protection

5 – 9 April 2027
Geneva

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Programme Summary

Hospital works infection risk is the subject of this one-week training course for executives and heads of facilities, capital projects and infection prevention at strategic level, ending in a project infection control plan for one works package. Building, refurbishment and maintenance work in occupied clinical areas releases dust, moisture and spores that reach vulnerable patients. The programme moves from risk principles to site diagnosis, barrier and permit design, and monitoring, then to a finished plan. Mars Training Centre UK delivers this programme on hospital works infection risk to mixed-organisation cohorts.

The Business Case

Healthcare construction is often carried out beside patients who cannot tolerate dust, spores or disturbed water systems. When project teams, contractors and infection prevention staff work from different assumptions, barriers fail, wards close unplanned and projects overrun. A shared method for rating risk and authorising work lets leaders approve schedules with evidence and show boards that patient protection was planned.

- Hospital-Acquired Infection Exposure: Falls as works are rated, screened and monitored against the patient groups nearby.
- Unplanned Ward Closure: Reduces as barrier failures are caught early and escalated on agreed triggers.
- Project Delay and Rework: Falls as permits and responsibilities are settled before contractors start.

Principles and Evidence Base

- Infection Control Risk Assessment ICRA: A step-by-step method that links the type of construction activity to the patient risk group and the precautions required, applied in Sessions 1 to 3.
- Airborne Transmission Principles: Explain how dust and fungal spores travel between work areas and patient areas, used in Sessions 1 and 2 to judge exposure.
- Permit-to-Work Control: Frames written authorisation, inspection and sign-off of hazardous work, applied in Sessions 3 and 4.

Intended Participants

- Executives accountable for patient safety and for the capital programme of a hospital or health system.
- Facilities and engineering directors who plan and authorise works in occupied buildings.
- Capital project leaders who brief designers and contractors on healthcare construction.
- Infection prevention leads who must assess works and advise on precautions.

Typical settings include public and private hospitals, specialist surgical and cancer centres, health system estates teams and project management consultancies.

Learning Outcomes

1. Participants will be able to classify construction activities and patient risk groups to rate hospital works infection risk.
2. Participants will be able to diagnose weaknesses in a site, its air movement, routes and water systems before work starts.
3. Participants will be able to construct a precaution table that matches dust barriers and ventilation controls to each risk class.
4. Participants will be able to design a work permit process with clear authorisation, inspection and stop-work rules.
5. Participants will be able to prioritise monitoring and escalation actions as works proceed.
6. Participants will be able to justify a project infection control plan to a sponsor and a board.

Programme Structure

Day 1: Hospital Works Infection Risk Principles

Why does building work threaten patients, and who is most exposed?

- Airborne Spore Transmission Principles
- Patient Risk Group Classification
- Construction Activity Type Ranking
- Infection Control Risk Assessment Steps
- Dust and Water Pathway Map

Day 2: Diagnosing Risk on Site

How is the risk from one project rated before work starts?

- Risk Matrix Scoring Method
- Ward and Theatre Adjacency Survey
- Air Pressure and Ventilation Review
- Traffic Route and Waste Path Audit
- Water System Disturbance Check

Day 3: Designing Barriers, Permits and Controls

Which controls match each risk class, and who authorises the work?

- Precaution Level Selection Table
- Dust Barrier and Negative Air Options
- Work Permit Form Structure
- Contractor Induction Content
- Temporary Entrance and Cleaning Rules

Day 4: Monitoring, Phasing and Escalation

How is control confirmed while works continue beside patients?

- Daily Site Inspection Checklist
- Particle and Pressure Monitoring Plan
- Phasing and Patient Relocation Sequence
- Incident Escalation Ladder
- Handover Clean and Release Test

Day 5: Project Infection Control Plan

Do the earlier tools form one plan that a sponsor can approve?

- Applying the Session 2 Risk Scoring
- Testing the Session 3 Permit Form
- Rehearsing the Session 4 Escalation Ladder
- Checking the Session 1 Risk Group Classification
- Completing the Project Infection Control Plan

Methodology

The programme uses a field-style audit built on prepared packs for a ward refurbishment and a theatre extension, each with floor plans, ventilation notes, a contractor method statement and a works schedule. Participants work in small groups, audit the packs, score the risk, draft permits and defend their precautions to peers acting as sponsors and infection prevention staff.

- Suggested activity: Rating a refurbishment beside a transplant ward and choosing the precautions.
- Suggested activity: Rewriting a weak contractor method statement into a permit with stop-work rules.
- Suggested activity: Handling a breached barrier report and deciding who is told and when.

Capstone Output

Each participant completes a project infection control plan for one works package of their choice. It holds the risk rating, a precaution table, the permit process, a monitoring schedule, an escalation ladder and a handover test. The plan is used at work to brief contractors, agree responsibilities with infection prevention staff and support approval of the works programme.

Frequently Asked Questions

Is a hospital works infection risk course suitable for leaders without a clinical or engineering background?

Yes. Hospital works infection risk is taught through templates, scoring tools and prepared cases, not calculations. It assumes experience sponsoring or managing works in a health facility, and no earlier infection prevention or engineering training.

Which method does hospital works infection risk rest on?

Hospital works infection risk rests on the infection control risk assessment method, which links the construction activity and patient group to the precautions needed, with airborne transmission principles and permit-to-work control.

How is the plan from hospital works infection risk used at work?

You use the project infection control plan to brief contractors, set permit and stop-work rules, agree monitoring duties with infection prevention staff and support approval of the works programme.

How does hospital works infection risk differ from a general hospital infection prevention course?

Hospital works infection risk concentrates on dust, spores and water disturbed by building work, while a general infection prevention course concentrates on routine clinical practice such as hand hygiene and isolation.