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Guide | Healthcare

Prove It Before You Trust It:

A Guide to Weapons Detection Performance Testing in Healthcare

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Weapons inside a healthcare facility can lead to violent outbursts, staff injuries, and disruptions in care. For hospitals and clinics committed to protecting patients and staff, weapons detection technology must be more than a checkbox—it must work.

That's why performance testing is essential before choosing a solution. This guide provides a step-by-step approach to evaluating detection systems in a healthcare environment and ensuring the technology you deploy delivers the protection you need.

Why Performance Testing Matters

Workplace violence in healthcare is rising—and so are the risks from concealed weapons. The detection solution you select must identify real threats without slowing down operations or compromising patient trust.

Performance testing ensures:

- Real-world threats can be reliably detected.
- The system supports care delivery and patient flow.
- Your investment meets internal safety expectations and regulatory standards.

If a detection system doesn't work for your specific environment, it's not a solution—it's a vulnerability.

STEP 1
DEFINE THE GOALS OF YOUR DETECTION SYSTEM

Before testing technology, get clear on what you're trying to achieve and how success will be measured.

Key questions:

- What threats are we trying to detect?
- What is our risk tolerance, and who decides that?
- Will screening create any perception issues for patients or visitors?
- How does detection align with our physical, operational, and cultural safety plans?

Weapons detection must support:

- Physical security (hardware/software)
- Operational security (policies and procedures)
- Cultural security (staff participation and buy-in)

STEP 2
DESIGN A TESTING PROTOCOL THAT REFLECTS REAL RISK

Use a structured process to evaluate whether a system detects the types of weapons and concealments likely to be encountered in your facility.

Create a Threat Matrix

Include real-world items such as:

- Bladed weapons: folding knives, razors, machetes.
- Firearms and components: handgun parts, compact pistols, shotguns.
- Common items: tools, lighters, vape pens.

Define Carry/Concealment Scenarios

Test each item from various locations:

- Waistband, underarm, ankle, pockets.
- Bags, backpacks, food containers.
- In both parallel and perpendicular orientations to the system.

Test and Record

- Use a clean testing subject (no metal) to walk through the system with one item at a time.
- Vary sensitivity levels and record whether each item was detected.
- Capture data in a centralized worksheet.

STEP 3
EVALUATE THE RESULTS

Once testing is complete:

- Analyze detection success by item, concealment location, and sensitivity level
- Compare results against your acceptable risk threshold
- Engage stakeholders—clinical, legal, risk, HR, security—to review findings
- Identify whether detection thresholds should vary by location (e.g., ED vs. outpatient)

Use these insights to select a vendor, develop training, and plan deployment with confidence.

STEP 4
CONSIDER LEGAL AND OPERATIONAL IMPACTS

Weapons detection can intersect with patient rights, legal standards, and operational policies—especially in emergency settings.

Compliance Note:
When screening patients entering emergency departments, ensure compliance with the Emergency Medical Treatment and Labor Act (EMTALA). Patients must receive a medical screening exam and stabilizing treatment regardless of screening compliance. Your policies should support safety without delaying care or violating access rights.

Also consider:

- Visitor and outpatient entry policies
- How contraband is handled (amnesty, confiscation, denial of entry)
- Signage that sets expectations:
- "Entry into this facility constitutes consent to reasonable limited search. If you are experiencing a medical emergency or are in labor, you have the right to receive a medical screening, stabilizing treatment, and, if necessary, transfer."

FINAL THOUGHT: DON'T SKIP THE PROOF

Weapons detection only works if it detects weapons. With healthcare safety on the line, performance testing is your opportunity to confirm that a solution meets your facility's needs—before you commit to a purchase or rollout.

At Metrasens, we believe your detection system should be as dependable as your staff. That's why we encourage healthcare leaders to validate real-world performance—so you can deploy with confidence and protect what matters most.

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