



AP015

Paediatric Cardiology & Congenital Heart Disease • Poster Presentation

PREVENTING THE PREVENTABLE: HOW ROUTINE EQUIPMENT CHECKS SAFEGUARD CATH LAB OUTCOMES

Salaudeen Aishah Olawunmi

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Background: The cardiac catheterization laboratory relies on the optimal performance of complex equipment to ensure safe and effective cardiovascular procedures. Equipment malfunction can result in procedural delays, compromised patient safety, increased radiation exposure, and workflow disruption. Although corrective maintenance is performed by biomedical engineers, routine equipment inspection by the cath lab team, including the cardiac physiologist, plays a vital role in identifying faults early and ensuring procedural readiness.

Methodology: This presentation reviews routine equipment inspection practices within the cardiac catheterization laboratory, drawing on current recommendations, quality assurance principles, and practical experience from a tertiary cardiac centre. It highlights daily pre-procedure checks of fluoroscopy systems, hemodynamic monitoring equipment, pressure transducers, defibrillators, temporary pacing systems, and radiation protection devices, while outlining the cardiac physiologist's role in equipment readiness, fault recognition, documentation, and prompt escalation.

Results: Routine equipment inspections improve procedural preparedness by facilitating early detection of equipment deficiencies, reducing unexpected downtime, minimizing procedure cancellations and delays, and enhancing patient and staff safety. The adoption of structured inspection checklists also promotes standardization, multidisciplinary communication, and a proactive approach to quality assurance within the cardiac catheterization laboratory.

Conclusion: Routine equipment inspection is a fundamental patient safety practice rather than solely a maintenance activity. Cardiac physiologists are uniquely positioned to contribute to equipment readiness through systematic pre-procedure checks and timely reporting of abnormalities. Implementing standardized inspection protocols can strengthen quality assurance, improve workflow efficiency, and support better clinical outcomes in cardiac catheterization laboratories.

Keywords: Cardiac catheterization laboratory; Cardiac physiologist; Equipment inspection; Quality assurance; Patient safety; Workflow efficiency.