Medical Technology and Patient Safety

New York State Department of Health Patient Safety Conference

James P. Keller, M.S.
Vice President
Health Technology Evaluation and Safety

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Re-Introducing

ECRI Institute
The Discipline of Science. The Integrity of Independence.
Company Overview
Who is ECRI Institute?

- ECRI Institute is a nonprofit healthcare research organization
- Our mission is to enable our members to improve patient care
- For 40 years we have dedicated ourselves to applied scientific research to discover which technologies and patient care approaches are best
Health Devices Journal

Guidance Article
The Hazards of Alarm Overload
Keeping Excessive Physiologic Monitoring Alarms from Impeding Care

Typical guidance article on patient safety
Survey of the Landscape

- Wide variety of technologies (disposables to multi-parameter interconnected instruments)
- Increasing complexity of technology
- Poor planning for new technology, which results in poor implementation of technology
- Inadequately trained users
- Lack of standardization
Common Problem – Close to Home
User Error
50 - 70% of Device Accidents

- Pre-use inspections
- Labeling
- Misassembly
- Misconnection
- Improper (“bad”) connection
- Incorrect clinical use
- Incorrect control settings

- Incorrect programming
- Spills
- Abuse
- Inappropriate reliance on automated features
- Failure to monitor
- Maintenance or incoming inspection
- Failure to follow or have preventive procedures

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“Don’t bother undressing. I’ll turn up the power.”
Key Concerns - “Top Ten List”

- Infusion technology
- Ventilators and anesthesia systems
- Patient monitors
- Defibrillators
- Cutting and coagulating surgical devices (e.g., electrosurgical units)
- Heart-lung bypass and circulatory assist devices
- Catheters and needlestick prevention devices
- Trocars and staplers
- Reprocessing of endoscopy instruments
- Magnetic resonance imaging
A Scary User-Related Problem

Spermatic Cord Damage from Electrosurgery
A Serious and High-Profile Problem
An Accident Waiting to Happen!
Dose Error Reduction Systems

- New technology in 2002
- Establishes limits on setting flow rates for infusion pumps
- Significantly reduces risk from overdose
- In 2002 ECRI rated products without dose error reduction as Not-Recommended
- At the end of 2006 all major infusion and PCA pump vendors offered products with dose error reduction features
Monroeville hospital urges 200 colonoscopy patients to get checked for hepatitis, HIV

Colon test infection fears

Thursday, March 31, 2005

By Joe Fahy and Byron Spice, Pittsburgh Post-Gazette

Officials at Forbes Regional Hospital in Monroeville are warning about 200 patients who underwent colon examinations that they may be at risk for infection because the colonoscopes used had not been adequately cleaned.

The risk of infection is extremely low, hospital officials and local and national health authorities said. But certain patients who had colonoscopies at Forbes between Oct. 28 and Feb. 26 nevertheless are being advised to have their
This Issue Has Been Covered Before

February 28, 2003 – Two Years Earlier!

Same Problem
Best Practices for Management of Hazards and Recalls

- Clearly defined roles and responsibilities
- Consistent naming conventions for devices and systems
- Approved and comprehensive sources for information
- Reliable and consistent dissemination of information
- Accountability and follow-through
General Recommendations

- Pay close attention to appropriate technology selection and use
- Establish safety-related device selection criteria
- Plan for user training during technology acquisitions
- Conduct regular ongoing training and check for proficiency
- Plan for new technology at the right time and for the right reasons
Thank you
Questions?