Tools for Root Cause Analysis

Methods to Prevent Breaches in Infection Control for the Dental Practice
Objectives: What you will learn today

- Understand how Root Cause Analysis (RCA) will help you to prevent system failures
- Identify what is Root Cause Analysis (RCA)
- Understand the current healthcare landscape and why there is a focus on patient safety
- How to transform the culture from reactive to proactive (preventive)
- How to implement risk reduction strategies to address quality of care and patient safety
In the news….

Healthcare-Associated Infections (HAIs) kill nearly 100,000 Americans each year and…

Costs U.S. Hospitals $4 billion - $29 billion annually to combat

Source: TJC News Release; Washington, D.C., 9/10/2010
WSJ: March 28, 2011 *The Secret to Fighting Infections*
In the news…

Dayton VA Medical Center

- Dentist failed to change latex gloves and sterilize dental instruments properly between patients

- Two patients tested with serologic factors for hepatitis B and a third for hepatitis C indicating a past or new history of the virus.

In the news.............

• Autoclave failure in mobile unit

• Dental School sued by patient who was informed by the school that instruments used during treatment had not been properly cleaned.
Scope of the Problem

Top Compliance Issues for Surgery Practices:

1. The practice reduces the risk of infections associated w/ medical equipment & supplies
2. The practice identifies risks for transmitting infections
3. Compliance with hand hygiene guidelines
Infection Control Practices in ASCs:

- 67.6% had at least 1 lapse in infection control
- 19.4% did not practice proper hand hygiene or complied with use of PPE
- 28.4% were not compliant with equipment processing

Note: Many Ambulatory Surgery Centers (ASCs) include dental surgery departments

Source: Infection Control Assessment of Ambulatory Surgical Centers, Schaefer, M. Etal; JAMA. 2010; 303(22): 2273-2279
Can it happen in your practice?

Most common causes of infection control breaches:

- **Human error**
- **Failure to comply with recommended protocols**

Why?

- **Knowledge deficit**

Source: DENTISTRYTODAY.COM  MARCH 2011
Examples of Reported State Violations in Dental Offices

- Failure to spore test autoclaves weekly
- Improper handwashing
- Lack of appropriate PPE
- Failure to document Hep B vaccination status of staff
- Re-use of single use disposable items
- Improper bagging of instruments
Are you keeping your patients safe?

Patient Safety

Employee Safety
Root cause analysis (RCA) is a class of problem solving methods aimed at identifying the root causes of problems or events.

The primary aim of RCA is to identify the root cause(s) of a problem in order to create effective corrective actions that will prevent that problem from ever recurring.
Root Cause Analysis: Implementation

• The goal of a Root Cause Analysis is to find out
  ➢ What happened?
  ➢ Why did it happen?
  ➢ What to do to prevent it from happening again?
Key elements for RCA

- Focused on systems and processes
- Analysis progresses from special causes in clinical processes to common causes in organizational processes
- Analysis identifies changes that could be made in systems and processes
A comprehensive approach…..

- RCA must be thorough and credible
- Includes leadership and staff
- Internally consistent
- Explains all findings
- Use relevant literature to support decisions
- Identifies changes that reduce risk
- Identifies an action plan with accountability by staff
Process to Action

Focused on systems
- Internally Consistent
- Explains all findings

Leadership & Staff

Action Plan

Change that reduces risk
Root Cause Analysis: Techniques

- Causal factor tree analysis
- Change analysis
- Fault tree analysis
- Fishbone diagram
- Pareto analysis
- Scatter diagram
Root Cause Analysis: Basic Steps

- **PROBLEM**
- **ANALYSIS**
- **SOLUTIONS**
Root Cause Analysis: Example

**Process:**
- Instrument Recirculation
  1. Instruments to sterilization area
  2. Ultrasonic
  3. Autoclave
  4. Store wrapped instruments

**Problem:**
- What? Instruments opened
- When? Prior to patient treatment
- Where? Operatory drawer to tray

**Analysis:**
- Why did this occur?
- Possibility for Cross-Contamination

**Solutions:**
- Action Plan to Improve Process:
  Add storage cabinets in operatories for bagged instruments
Example – Fault Tree Analysis

Cross-contamination due to improper storage of instruments

- **Dental Team Personnel**
  - Adequate staffing?
  - Lack of knowledge?
  - Lack of skills?
  - Stress?
  - Motivation?

- **Dental Materials & Supplies**
  - Sufficient storage space?
  - Adequate # supplies?
  - PPE compliance?

- **Environment**
  - Orderly workplace?
  - Office design?
  - Infection Control Protocols
  - Sterilization area?

- **Management**
  - Management involved?
  - Lack of communication?
  - Lack of Process?
  - Appropriate staff education and training?
  - Employee involvement?
Identifying Causes, Targeting Solutions

**Causes**
- Hand Hygiene compliance data are not collected or reported accurately or frequently
- Safety culture does not stress hand hygiene at all levels
- Ineffective placement of dispensers or sinks
- Hands full

**Solutions**
- Data provide a framework for a systematic approach for improvement
- Utilize a sound measurement system to determine the real score in real time
- Scrutinize and question the data
- Measure the specific, high-impact causes of hand hygiene failures in your facility and target solutions to those causes
- Make washing hands a habit – as automatic as looking both ways when you cross the street or fastening your seat belt when you get in your car
- Commitment of leadership to achieve hand hygiene compliance of 90+ percent
- Serve as a role model by practicing proper hand hygiene
- Hold everyone accountable and responsible – doctors, nurses, food service staff, housekeepers, chaplains, technicians, therapists
- Provide easy access to hand hygiene equipment and dispensers
- Create a place for everything: for example, a health care worker with full hands needs a dedicated space where he or she can place items while washing hands

Joint Commission Center for Transforming Healthcare

Copyright: The Joint Commission
December 2010 presentation to ADA
Implementing Change

Proactive

Reactive
Elements of a QI Program or Initiative:

1. Continuous monitoring of important aspects of patient care
2. Established criteria to evaluate care
3. Data-driven analysis to identify acceptable or unacceptable trends
4. Adverse event reporting
5. Involves Providers and Staff
Processes and Protocols

*High risk of transmission with breach*

- Surface Disinfection
- Needlestick Policy
- Hazard Communications
- Instrument Recirculation
- Biological Monitoring/Sterilization Assurance
- Anesthesia
- PPE
Education, Training and Evaluation

- Annual Training
- Quality Improvement Initiatives
- Incident Reporting
- Periodic Evaluations
- Self-audits
- Check-lists/Inspections: weekly, monthly
Example: Audit Tool on Hand Hygiene

Hand Hygiene
Practices to be Assessed: Was Practice Performed? Manner of Confirmation

A. All patient care areas have: ☐ Both
  • a. Soap and water available ☐ Yes ☐ Observation ☐ No ☐ Interview
  
  b. Alcohol-based hand rubs available ☐ Yes ☐ Observation ☐ No ☐ Interview

B. Staff perform hand hygiene:
  • a. After removing gloves ☐ Yes ☐ Observation ☐ No ☐ Interview
     ☐ N/A ☐ Both
  • b. After direct patient contact ☐ Yes ☐ Observation ☐ No ☐ Interview
     ☐ N/A ☐ Both
  • c. Before performing invasive procedures (e.g., placing an IV)
     ☐ Yes ☐ Observation ☐ No ☐ Interview
Example: OSAP Checklist

Infection Control Checklist and Risk

✓ Organized around the level of anticipated contact with mucous membranes, blood or saliva contaminated with blood or no anticipated contact with mucous membranes, blood or contaminated saliva.

✓ Assess absence of resources

✓ Adherence to accepted infection control practices; hand hygiene, PPE, immunizations; handling of sharps; management of exposures, reusable and single use patient items; management of medical waste; and dental unit water quality

✓ Strategies for implementing CDC recommendations

Resources


- AAAHC: [http://www.aaahc.org](http://www.aaahc.org)

- IHI: [http://www.ihi.org/IHI](http://www.ihi.org/IHI)


- OSAP: [http://www.osap.org](http://www.osap.org)
Questions?

THANK YOU!