Background: Endoscopic diagnostics and therapeutics are increasingly replacing invasive surgical procedures. Cleaning and disinfection of endoscopes and endoscopic accessories is complex and must be performed according to manufacturer specifications. Breaches in endoscope reprocessing can expose patients to bloodborne pathogens. The Minnesota Department of Health (MDH) investigated breaches in endoscope reprocessing. From 5/2010-9/2011, seven endoscope reprocessing breaches were reported from 5 healthcare facilities. Breaches involved various endoscope types (cystoscope, hysteroscope, colonoscope, gastroscope) and were recognized through identification of blood in the scope after reprocessing, detection of a cluster of bacterial infections post-endoscopic procedure, or observation/audit of technician practices. To assist future breaches, we developed an endoscope breach assessment tool and list of reprocessing deficiencies.

Methods: From 5/2010-9/2011, seven endoscope reprocessing breaches were reported from five healthcare facilities. All breaches resulted in patient notification and were recognized through identification of blood in the scope after reprocessing, detection of a cluster of bacterial infections post-endoscopic procedure, or observation/audit of technician practices. Consultation with a state health department who can engage the Centers for Disease Control and Prevention (CDC), providing consultation, and facilitating laboratory testing as indicated.

Results: From 5/2010-9/2011, seven endoscope reprocessing breaches were reported from five healthcare facilities. The endoscope type, manufacturer, and use varied (Table 1). Breaches that resulted in patient notification were due to improper AER connector due to incorrect manufacturer instructions and staff training/practice changes to ensure patient safety. Infection preventionists (IPs) and/or health departments should be familiar with national endoscope reprocessing practices. To assist future breaches, we developed an endoscope breach assessment tool and list of reprocessing deficiencies. All healthcare facilities that perform endoscopic procedures should replicate the Minnesota investigation and consultation with health departments.

Conclusions: The Minnesota investigation was invaluable in facilitating a thorough reprocessing breach investigation. IPs should be aware that state health departments can contribute to the investigation by engaging CDC, providing consultation, and facilitating laboratory testing as indicated.

Table 1. Summary of Endoscope Reprocessing Breaches Reported, Minnesota, 2010-2011

<table>
<thead>
<tr>
<th>Facility Type</th>
<th>Use</th>
<th>Breaches Reported</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambulatory surgical center</td>
<td>1</td>
<td>F/A/ISO</td>
</tr>
<tr>
<td>Outpatient clinic</td>
<td>1</td>
<td>F/A/ISO</td>
</tr>
<tr>
<td>Hospital</td>
<td>5</td>
<td>F/A/ISO</td>
</tr>
</tbody>
</table>

REFERENCES

- Lindsey Lesher, Aaron DeVries, Richard Danila, Jane Harper; Minnesota Department of Health, St. Paul, MN

Figure 1. Endoscope Reprocessing Methods

1. Pre-Clean
2. Rinse
3. Leak Test
4. Dry
5. Sterilize
6. Dry
7. Store
8. Clean
9. Prevent microbial growth

- CDC.
- Center for Disease Control and Prevention (CDC). http://www.health.state.mn.us/divs/idepc/dtopics/infectioncontrol/scope/dry/yellow/figure_1.html

Figure 2. Endoscope Assessment Tool

- MDH Department of Health, St. Paul, MN

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