Infection Control Is Not Optional: Dental Practitioners Need to Be Involved

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Discuss the Principles of Infection Control
Review Standard Precautions
Review How This Can Be Achieved in a Dental Practice

What Happens When We Ignore the Principles of Microbiology and Infection Control?

- Diseases are transmitted
- People get sick and some may die
- Careers can be ruined

Meningitis Cases with Fungal Infections Linked to Steroid Injections

- CDC and FDA have confirmed the presence of a fungus identified as Exserohilum rostratum in unopened medication vials of preservative-free methylprednisolone acetate.
- As of October 23, 2013, a total of 751 patients have CDC been infected with fungal meningitis, joint and other infections in 20 States with 64 reported deaths.
  - Exserohilum rostratum confirmed in all but two clinical specimens.
  - Of the other two patients, one has been found to be infected with Aspergillus fumigatus and one with Cladosporium.

Outbreak of Extended-Spectrum β-Lactamase–producing Klebsiella oxytoca Infections Associated with Contaminated Handwashing Sinks

- Between 10/2006 and a total of 66 patients acquired K. oxytoca.
- New cases continued to occur despite reinforcement of infection control practices, prevalence screening, and contact precautions for colonized/infected patients.
- Cultures from handwashing sinks in the intensive care unit yielded K. oxytoca with identical pulsed-field gel electrophoresis patterns to cultures from the clinical cases.
- No infections occurred after implementation of sink cleaning three times daily, as well as sink drain modifications, and an antimicrobial stewardship program.

http://www.cdc.gov/hai/outbreaks/meningitis-map-large.html#casecount_table
Carbapenem-Resistant Enterobacteriaceae Containing New Delhi Metallo-Beta-Lactamase in Two Patients

Aims: U.S. and international efforts to control carbapenem-resistant Enterobacteriaceae (CRE) are critical to protect public health. In the United States, carbapenem-resistant CRE (CR-CRE) were recently detected at a dental facility in Oklahoma. The objective of this investigation was to determine the source of these infections and assess risk factors.

Methods: A case of CR-CRE infection at this dental facility was identified in April 2012. All CRE strains were characterized by multilocus sequence typing. Patient medical records were reviewed for risk factors.

Results: Two patients were infected at this facility. Both patients had received multiple dental treatments, but there were no reports of CR-CRE transmission.

Conclusions: This outbreak was likely caused by CRE transmission from colonized nurses to patients. Improved infection control practices are needed to prevent future outbreaks.

Invasive Group A Streptococcus Infections Associated With Liposuction Surgery at Outpatient Facilities Not Subject to State or Federal Regulation

Objective: To describe an outbreak of invasive group A Streptococcus (GAS) infections among persons undergoing liposuction at 2 outpatient cosmetic surgery facilities not subject to state or federal regulation.

Methods: A prospective, observational cohort study was conducted in 2012.

Results: Among 66 subjects who underwent liposuction, 13 cases of invasive GAS were identified (incidence rate, 20% [13 of 66]). Two cases were confirmed by culture and 11 were confirmed by molecular testing. All confirmed cases had necrotizing fasciitis and 57% went on to amputation.

Conclusions: Invasive GAS infections associated with liposuction were more common than previously reported. Improper infection control practices caused the transmission of GAS.}

HIV Test Urged for 7,000 Oklahoma Dental Patients March 28, 2013

- The Oklahoma Board of Dentistry said inspectors went to the practice after a patient with no other known risk factors tested positive for both HCV.
- Inspectors found multiple sterilization issues including cross-contamination of instruments and the use of a separate, rusty, set of instruments for patients who were known to carry infectious diseases.
- Investigators also found that the autoclave hadn't been checked in six years.
- The dentist is suspected of using single vials of medications on multiple patients and allowing unlicensed individuals to perform procedures that would require licenses, such as administration of intravenous medications.

Of the 3,122 patients tested by 04/16/13, 57 tested positive for HCV and 3 tested positive for HBV and at least 3 positive for HIV.

CDC Confirms Hepatitis C Transmission In Oklahoma Dental Office

As you may be aware, there is top-tier news coverage (Associated Press, ABCNews.com and CNN) about a confirmed case of patient-to-patient hepatitis C transmission linked to improper infection control practices in an Oklahoma oral surgeon’s office. The transmission is described as “patient to patient” because improper infection control procedures caused the virus to be passed from one patient to another.

Yesterday, the Oklahoma State Department of Health and Tulsa Health Department published an interim status report of findings related to their ongoing investigation of this oral surgeon’s infection control practices. The report included confirmation of the first documented patient-to-patient transmission of hepatitis C virus associated with a dental setting in the United States. These findings were also independently confirmed by the Centers for Disease Control and Prevention (CDC) through genetic-based testing of patient specimens.

American Dental Association-Press Release 03/19/13
Arkansas Department of Health Recommending Blood Tests for Some 100 Patients of Arkansas Dentist April 9, 2013

- (Little Rock) – The Arkansas Department of Health (ADH) has begun contacting about 100 patients (ages ranging from 14-22 years) treated by Dr. William Jarrod Stewart at six dental clinics around the state between November 20, 2011, and February 20, 2012.
- Based on information received from the U.S. Drug Enforcement Administration, ADH has concluded that some of the drugs used by Dr. Stewart may have been contaminated with infectious material.
- At this time, only patients who received IV medicines (directly into a vein) from Dr. Stewart from 11/20/2011-02/20/2012, may be at risk.

Pennsylvania Department of Health is advising patients of a York County dentist that they might be at risk for infection.

- In April, the state’s board of dentistry temporarily suspended the license of Dr. Jacqueline A. Marcin, D.M.D., after an investigation found that her practice did not properly sterilize some of its equipment.
- The state’s department of health is recommending HBV, HCV and HIV testing for Marcin’s current and former patients.
- Those patients may have undergone dental procedures performed directly by Marcin such as fillings, tooth extractions and denture fittings.

Dentist in Springettsbury, PA Put Patients at Risk for HBV, HCV & HIV April 2013

- The Pennsylvania Department of Health is advising patients of a York County dentist that they might be at risk for infection.
- In April, the state’s board of dentistry temporarily suspended the license of Dr. Jacqueline A. Marcin, D.M.D., after an investigation found that her practice did not properly sterilize some of its equipment.
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- Those patients may have undergone dental procedures performed directly by Marcin such as fillings, tooth extractions and denture fittings.

Unsafe Injections at an Oral Surgeon’s Offices - 2012

- Between September 1999 and June 2011, syringes and needles were re-used for multiple patients to give intravenous (IV) medications, including sedation.
- The IV medications were given during oral and facial surgery procedures.
- Needles and syringes were used repeatedly, often days at a time.

More Suspensions, PA Board of Dentistry

- June 13, 2014
- A complaint filed by a prosecuting attorney for Pennsylvania’s Department of State resulted in the temporary suspension of the dental license of Dr. Vincent J. Paczkoskie, whose practice was located in Shamokin, PA, Northumberland County.

"The continued practice of dentistry by Vincent J. Paczkoskie, DDS, is “a clear danger to the public health and safety.”

Northumberland, PA, June, 2014

- Dr. Paczkoskie did not adhere to dental standard-of-care practices and failed to follow the CDC infection-control recommendations.
- Specifically, the investigators found no evidence biological spore testing since June 2013.
- He also had only one handpiece onsite and could not answer basic questions about the autoclave, including time and temperature setting, last date of service, last date of use, and other sterilization fundamentals.

Pennsylvania Department of Health
http://www.dos.state.pa.us/portal/server.pt/community/disciplinary_actions/12528

Northumberland, PA, June, 2014

- Other issues included a lack of proper instrument scrubbing before disinfection and insufficient time allowed for cold sterilization before reusing an instrument.
- He also did not properly dispose of medical waste and investigators found no active contract in place for the removal of it from his office.
- Used needles were poorly disposed of as well.

Pennsylvania Department of Health
http://www.dos.state.pa.us/portal/server.pt/community/disciplinary_actions/12534
More Suspensions, PA Board of Dentistry

- **June 27, 2014**
  - The dental license of Dr. David Clouser of Montoursville, PA was temporarily suspended by the PA Department of Health following a report from the Pennsylvania Department of State detailing breaches of infection control.

Pennsylvania Department of State, Disciplinary Actions
http://www.dos.state.pa.us/portal/server.pt/community/disciplinary_actions/12528

More Suspensions, PA Board of Dentistry

- According to this report, the Dr. Clouser admitted to not properly sterilizing equipment.
  - He admitted that he and his staff do not send out samples for biological spore testing which assures sterilization is taking place. He did not know when his instruments were last tested.
  - He also admitted he has not been sterilizing metal impression trays or some dental instruments.

Pennsylvania Department of State, Disciplinary Actions
http://www.dos.state.pa.us/portal/server.pt/community/disciplinary_actions/12528

1,750 Had Possible Contact With Technician With Hepatitis C

- Four Maryland hospitals are offering free hepatitis C testing to at least 1,750 patients who may have been exposed to the viral disease by a traveling medical technician, as state officials launch a broad regulatory review in response to the case.

- The testing and review follow the arrest of David Matthew Kwiatkowski in New Hampshire last month. Authorities say he injected himself with stolen narcotics-filled syringes while working at a hospital there and left the contaminated needles to be re-used by unwitting staff in patients, infecting at least 30 people. He has been charged with federal drug crimes.

- The case stoked widespread public health concerns and prompted investigations in several states where Kwiatkowski worked and had contact with thousands of patients. In Maryland, health investigators are looking for potential flaws in the way medical contract workers are regulated and whether better controls over access to narcotics in hospitals are needed.

Andrea K. Walker, The Baltimore Sun, August 12, 2012

Patient-to-Patient Transmission of Hepatitis B Virus Associated With Oral Surgery

- Molecular epidemiologic techniques document pt-to-pt transmission of HBV between 2 outpatient oral surgery patients operated on 161 minutes apart.
  - Index case a 60 year old woman with no traditional risk factors for HBV.
  - Investigation lead to oral surgery procedure
  - Linked to previous patient who was HBeAg + OS office following recommended infection control protocols
  - Mechanism of transmission unknown
  - Suspect cross-contamination

Is this an isolated event or the tip of the iceberg??

West Virginia hepatitis B transmission outbreak involves about 2,000 people, most of whom were low income patients.

Outbreak could possibly extend to five states (WV, VA, MD, PA, NC, & DC).

> 1,500 patients and volunteers were urged to receive HBV testing after receiving or rendering treatment at a free dental clinic in WV after 5 people (3 patients and 2 volunteers) developed acute hepatitis B sometime in November, 2009.

All 5 individuals participated in the Mission of Mercy Dental Clinic in Berkeley County, WV in June, 2009.

Although the origin of the disease remains unclear, testing confirms four people were likely infected by the same source.

CDC has investigated the event and suggested intervention to prevent future outbreaks.

CDC. Healthcare-Associated Hepatitis B and C Outbreaks Reported to the Centers for Disease Control and Prevention (CDC) in 2008-2011.

http://www.cdc.gov/hepatitis/Outbreaks/HealthcareHepOutbreakTable.htm

Multiple procedural and infection control breaches were identified during retrospective investigation; however, sparse documentation did not provide evidence to link specific breaches with infection.

Healthcare-Associated Hepatitis B and C Outbreaks Reported to the CDC 2008-2011

Summary

- 31 outbreaks of viral hepatitis related to healthcare reported to CDC during 2008-2011:
  - Of these, 29 (94%) occurred in non-hospital settings.
  - One in an outpatient dental setting

The cause of these transmissions: Breaches of infection control!!

Risk of Viral Transmission With Sharps Injury From Infected Source

Source

- HBV:
  - HBsAg positive
  - Unvaccinated/Non-responder HCW*
  - Source HBeAg + :       22 to 30%
  - Source HBeAg -:        1.0 to 6.0%
- HCV:                                    1.8%
- HIV:                                      0.3%
- anti-HBs <10 mIU/mL

CDC. Healthcare-Associated Hepatitis B and C Outbreaks Reported to the Centers for Disease Control and Prevention (CDC) in 2008-2011.

http://www.cdc.gov/hepatitis/Outbreaks/HealthcareHepOutbreakTable.htm

New York State Department of Health, UPDATE: HIV Prophylaxis Following Occupational Exposure, October, 2012,


* anti-HBs <10 mIU/mL

Pneumonia Associated With Dental Unit Waterlines


First documented case of disease transmission from a DUWL.

Cultures of DUWL grew 6.2 X 10^4 CFU/L. _Pneumophila_
Patients have been put at significant risk of acquiring infectious diseases from dental practices in CO, OK, AK and PA.

- Oral health practitioners have the moral, legal and ethical responsibility to deliver oral health care in as safe a manner as possible.

Inadequate screening of donated blood in many parts of the world

Rapita

Only about 1 in 5 infants globally receive a birth dose of Hepatitis B vaccine. Unfortunately there is no vaccine available to prevent hepatitis A, but research is being done to develop one.

Causes approximately 350,000 deaths each year.

Especially Asian and African countries.

Oral health practitioners have the moral, legal and ethical responsibility to deliver oral health care in as safe a manner as possible.

Chronic HCV affects an estimated 170 million people worldwide.

- Causes approximately 350,000 deaths each year.

Unfortunately there is no vaccine available to prevent hepatitis C, but research is being done to develop one.

Most infections are associated with inadequate infection control and unsafe injection practices, which are estimated to account for as many as 4.7 million cases of hepatitis C annually.

An estimated 350 million people are living with chronic HBV infection worldwide.

- The virus is a contam in many areas across the world.
- Despite the success of the hepatitis B vaccine:
  - Only about 1 in 5 infants globally receive a birth dose of Hepatitis B vaccine.
  - Necessary to prevent excellent and hepatitis B from spreading it is their condoms.
  - Now, many adults who are at risk for getting hepatitis B remain underserved, including 25% of adults at risk in the U.S.
  - Inadequate screening of donated blood in many parts of the world causes up to 80,000 hepatitis B infections every year.
  - Unsafe injection practices, many of which are linked to injection drug use, may result in as many as 10 million hepatitis B cases annually.
TB, Hepatitis C, HIV Rates - All Higher in Homeless Population

- In the USA:
  - The prevalence of TB among the homeless is an estimated 46 times higher than in the general US population.
  - Hepatitis C prevalence is 4 times higher.
  - HIV prevalence is also elevated.
- In the United Kingdom:
  - TB is 34 times more prevalent.
  - Hepatitis C is 50 times more prevalent.
  - No studies on HIV in the United Kingdom.

Why Is Infection Control Important in Dentistry?

- Both patients and dental health care personnel can be exposed to pathogens.
- Routine contact with:
  - Blood
  - Oral and respiratory secretions
  - Contaminated equipment

Proper procedures can prevent transmission of infections among patients and DHCP.

Infection Control
Is Everyone’s Responsibility!

- It is not rocket science.
- Or black magic.
  - It’s just separating the clinician/patient/staff from the microorganisms in the daily practice of dentistry.

Much of Infection Control is Common Sense

“There is no evidence that diseases are somehow transmitted differently in the dental office than in other health-care settings.”

- Walter W. Bond
Infection Control Timeline

**The 19th Century:**
- The Germ Theory of Disease
- Putting Infection Control into Practice

- Robert Koch (1843-1910)
- Louis Pasteur (1822-1895)
- Ignaz Semmelweiss (1818-1865)
- Joseph Lister (1827-1912)
- Oliver Wendell Holmes, Sr. (1809-1894)

**The 20th Century:**
- The antibiotic era
- Vaccines conquer disease

- Robert Fleming (1881-1955)
- Dental Infection Control Timeline
  - 1842: Founding of First Dental College in the world
    - Baltimore College of Dental Surgery

**Infection Control Timeline**
- 1986: CDC
  - Recommended Infection Control Practices for Dentistry
    - MMWR April 18, 1986;35(15)237-42

  “Dental practitioners are virtually the only health-care providers who routinely place an ungloved hand into a body cavity.”


**Dental Infection Control Timeline**
- 1990: Florida Dental HIV transmission case
Infection Control Timeline

- **1991**: OSHA
  - Bloodborne Pathogens Standard
- **1993**: CDC
  - Recommended Infection Control Practices for Dentistry, 1993

Infection Control Timeline

- **2003**: CDC
  - MMWR December 19, 2003 Vol. 52/No. RR-17
    - Guidelines for Infection Control in Dental Health-Care Settings, 2003

Infectious Disease Control Objectives

- Almost everything in a healthcare setting can serve as a reservoir and a vector for opportunistic pathogenic organisms.
- This includes but is not limited to:
  - Surfaces,
  - Hands of HCWs,
  - Medical/dental equipment and devices.
Factors that increase the acquisition of infections in any healthcare setting, inclusive of dental, include:
- The persistence of some bacteria and viruses on inanimate objects and surfaces for days, weeks and months,
- The lack compliance with hand hygiene recommendations,
- Breaches in evidence-based infection prevention practices,
- The tendency to cut corners by existing staff,
- The growing volume of patients admitted in acute-care hospitals,
- The growing shortage of healthcare professionals,
- Poor sanitation in healthcare facilities.

Surfaces may play a significant role in the acquisition, persistence and spread of infections.

Clinically important microorganisms that can cause HAIs have been shown to persist in the environment for considerable periods of time.
- Most Gram-positive bacteria can survive for months on dry surfaces.1
- Many Gram-negative species can also survive for weeks to months.1
- Candida albicans can survive up to four months on surfaces.1

Persistence of clinically relevant bacteria on dry inanimate surfaces:1
- Acinetobacter spp. 3 days to 5 months
- Clostridium difficile (spores) 5 months
- Escherichia coli 1.5 hours-16 months
- Pseudomonas aeruginosa 6 hours-16 months
- Serratia marcescens 3 days-2 months
- Staphylococcus aureus 7 days-7 months

- Reduce the number of pathogens in the environment
- Break the chain of infection and eliminate cross contamination
- Treat every patient/instrument as though infectious
  - The same way;
  - Every day;
  - For every patient
- Protect patients/personnel from infection
  - And potential litigation
Wherever it is doable, practical & cost-effective reduce the amount of contamination

Reduce Contamination

Lessen Colonization

Disease

Lower Risk of Transmitting Infectious Disease

Patient-to-HCW

Routes of transmission of bloodborne pathogens

HCW-to-patient

Transmission of Disease

Direct contact with blood or body fluids

Indirect contact with a contaminated instrument or surface

Eyes, nose, or mouth contact with droplets or spatter

Inhalation of airborne microorganisms

Transmission modes

Infectious Disease Risk in Dental Practice

- Dental patients and DHCP can be exposed to pathogenic microorganisms including:
  - Hepatitis B Virus, Hepatitis C Virus*
  - Human Immunodeficiency Virus*
  - Cytomegalovirus (CMV)
  - Herpes simplex virus types 1 and 2
  - Mycobacterium tuberculosis,
  - Staphylococci, streptococci, and other viruses and bacteria that colonize or infect the oral cavity and respiratory tract.

Standard Precautions

- Standard Precautions:
  - Include a group of infection prevention practices that apply to all patients,
    - Regardless of suspected or confirmed infection status,
    - In any setting in which healthcare is delivered.

*Bloodborne Pathogens

http://www.cdc.gov/ncidod/dhqp/gl_isolation_standard.html
Guide to Infection Prevention for Outpatient Settings: Minimum Expectations for Safe Care

- Adhere to Standard Precautions
  - Standard Precautions include:
    - Hand hygiene,
    - Use of personal protective equipment (e.g., gloves, gowns, masks),
    - Safe injection practices,
    - Safe handling of potentially contaminated equipment or surfaces in the patient environment, and
    - Respiratory hygiene/cough etiquette.

Universal/Standard Precautions

- More than PPE
  - Begins when the patient enters the operatory
  - Ends when the last instrument has been rendered non-infectious

Standard Precautions

- The cornerstone of infection control
- Should be used for every patient contact regardless of infectious status.
- Apply to contact with:
  - Blood
  - All body fluids
    - Secretions, and excretions
      - Except sweat
    - Regardless of whether they contain blood
  - Non-intact skin
  - And mucous membranes.

Immunizations

Over 42,000 Americans (42,000 adults and 308 children) die each year from vaccine preventable disease(s) and/or their complications.


Impact of Vaccines in the 20th & 21st Centuries

<table>
<thead>
<tr>
<th>Disease</th>
<th>20th Century Annual Morbidity</th>
<th>2007 Morbidity</th>
<th>Percent Decrease</th>
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</thead>
<tbody>
<tr>
<td>Smallpox</td>
<td>46,364</td>
<td>0</td>
<td>100</td>
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<tr>
<td>Diphtheria</td>
<td>173,865</td>
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<td>100</td>
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<td>Pertussis</td>
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<td>10,454</td>
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<td>Tetanus</td>
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<td>Polio (paralytic)</td>
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<td>100</td>
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<tr>
<td>Measles</td>
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<td>&gt;99.3</td>
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<td>Mumps</td>
<td>122,209</td>
<td>800</td>
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<tr>
<td>Rubella</td>
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<td>Congenital rubella</td>
<td>823</td>
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<td>100</td>
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<tr>
<td>H. influenzae (&lt;&gt;1yr)</td>
<td>20,000 (est)</td>
<td>202</td>
<td>99</td>
</tr>
</tbody>
</table>

Sources:

Are We Going Back to Pre-Vaccination Disease Levels??
On March 2, 2011, the Minnesota Department of Health (MDH) confirmed measles in a Hennepin County resident aged 9 months.

As of April 1, investigation of contacts and heightened surveillance had revealed a total of 13 epidemiologically linked cases in Hennepin County residents.

Of those cases, 11 were laboratory confirmed, and two were in household contacts of confirmed cases and met the clinical case definition for measles.


288 cases of measles were reported to the CDC in the USA between 01/01/14 & 05/29/14.

This is the largest number of measles cases in the USA reported in the first five months of a year since 1994.

Nearly all of the measles cases this year have been associated with international travel by unvaccinated people.

The current increase in measles cases is being driven by unvaccinated people, primarily U.S. residents, who were infected abroad through the virus then spreading to others in communities where many people are not vaccinated.

MMWR: April 8, 2011 / 60(13);421

Recommended Vaccinations for HCWs

- All HCWs, including DHCWs, should be vaccinated against:
  - Influenza (annually)
  - Hepatitis B
  - 3 shot series
  - Measles, mumps, rubella
  - MMR
  - Tetanus, diphtheria, pertussis
  - DPT, DTP and DTwP
  - Varicella

Dentistry involves up close and personal contact with multiple patients over the average day.

Are you up to date on your vaccinations???


Exposure to Mumps During Air Travel in the USA, April 2006

- IDPH has identified two persons who had mumps diagnosed and were potentially infectious during travel on nine different commercial flights involving two airlines during March 26 - April 2, 2006.
- Persons on those flights who have symptoms consistent with mumps within 21 days of travel should be evaluated for mumps by a health-care provider.
- Health-care providers should remain vigilant for mumps among persons with parotitis or other salivary gland inflammation. Cases of suspected mumps should be reported immediately to public health officials.

http://www.cdc.gov/mmwr/pdf/wk/mm6013.pdf

If you could see the germs, you’d wash your hands.

New Hand Hygiene Video Offered by NEJM

- The New England Journal of Medicine is featuring a 14-minute hand hygiene video as part of its Videos in Clinical Medicine:

Contamination of Healthcare Workers’ Hands With Clostridium difficile Spores After Caring for Patients With C. difficile Infection

Objective:
- We determined the percentage of healthcare workers’ (HCWs) hands contaminated with C. difficile spores after caring for patients with C. difficile infection (CDI) and risk factors associated with contamination.

Methods:
- We compared the hand contamination rate among HCWs caring for patients with CDI (exposed group) with that among an unexposed group. Spores of C. difficile were recovered from the hands of HCWs after contact with the hands and clothes of infected patients after patient care. Associations between hand contamination and patient contact were analyzed by bivariate and multivariate analysis.

Results:
- After contact with blood, body fluids or excretions, otherwise, the preferred method of hand hygiene and to a clean

Conclusions:
1. Nearly one-quarter of HCWs have hands contaminated with C. difficile spores after routine care of patients with CDI.
2. Hand contamination is positively associated with exposure to fecal soiling and lack of glove use.

Guideline for Infection Prevention for Outpatient Settings: Minimum Expectations for Safe Care

- Key recommendations for hand hygiene in ambulatory care settings:
  - Before touching a patient, even if gloves will be worn
  - Before exiting the patient’s care area after touching the patient or the patient’s immediate environment
  - After contact with blood, body fluids or excretions, or wound dressings
  - Prior to performing an aseptic task (e.g., placing an IV, preparing an injection)
  - If hands will be moving from a contaminated-body site to a clean-body site during patient care
  - After glove removal

- Key recommendations for hand hygiene in ambulatory care settings:
  - Use soap and water when hands are visibly soiled (blood, body fluids), or after caring for patients with known or suspected infectious diarrhea
    - (Clostridium difficile, norovirus).
  - Otherwise, the preferred method of hand decontamination is with an alcohol-based hand rub!!
Hand Washing Associated With 30% Reduction in the Rate of Diarrhea.

- Diarrhea is a common cause of morbidity and mortality especially in children < 5 yrs and economically deprived countries.
- Hand washing can reduce episodes of diarrhea by 30%.

Cleaning and Disinfection

Environmental Surfaces

No Food or Drink in the Operatory

Dental Operatory
A Place To Do Dentistry
Not A Fashion Statement!
Not A Cafeteria!

Hand Washing Associated With 30% Reduction in the Rate of Diarrhea.

Infection Control and Regulatory Resources for the Dental Office

- OSHA Bloodborne Pathogen Standard
- Guidelines for Infection Control in Dental Health-Care Settings, 2003.
- CDC’s Roles in SHIV Infection Prevention:
  - CDC’s Management of Occupational Exposures to HIV, HCV, and HBV: Recommendations for Healthcare Providers,
  - OSHA’s Bloodborne Pathogen Standard:
  - CDC’s Infection Prevention Checklist for Outpatient Settings: Minimum Expecations for Safe Care, May 2011:
  - CDC’s Infection Prevention Checklist for Outpatient Settings: Minimum Expectations for Safe Care, May 2011:
    - http://www.cdc.gov/mmwr/pdf/rr/rr5217a1.htm
    - http://www.cdc.gov/mmwr/pdf/rr/rr5011a1.htm
  - CDC’s Bloodborne Pathogens Standard:
  - CDC’s Bloodborne Pathogens Standard:
    - http://www.cdc.gov/HAI/pdfs/guidelines/standatds
  - CDC’s Bloodborne Pathogens Standard:

Surface Disinfection Revisited: Improving Healthcare Environmental Cleaning and Disinfection

- Surfaces play a significant role in transmitting HAIs. (See Table 1.)
- Contaminated surfaces increase the rate of diarrhea. (See Table 1.)
- Improved disinfection cleaning decreases acquisition of healthcare-associated pathogens.
- Infection control programs are critical in reducing healthcare-associated infections.
- Improved thoroughness of disinfection cleaning decreases environmental contamination.
- Environmental surfaces are frequently contaminated with healthcare pathogens.
- Contaminated hands.
- Ingesting contaminated food or drink.
- Guideline for the Management of Occupational Exposures to HBV, HCV, and HIV.
- Recent evidence extends the importance of environmental contamination.
- Pathogens in healthcare.
- Improved disinfection cleaning decreases acquisition of healthcare-associated infections.
- Pathogens are transmitted by: hand washing.
- Environmental pathogen strains have been linked to outbreaks.

Questions?

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