

# Infection Prevention and Control in Healthcare Personnel

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HICPAC Meeting

# Core Writing Group Members

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# Organization

- 3 Main Sections:
  - Baseline Infrastructure and Routine Practices
    - Pre-placement immunizations and boosters, Annual testing, Education, etc.
  - Specific Infectious Diseases
    - TB, Hepatitis C, Pertussis, etc.
  - Special HCP Populations
    - Pregnancy, Immunocompromised, Lab, Travelling HCP, Personnel linked to infectious disease outbreaks, Others
- Planned LINKS to content:
  - ACIP, Norovirus, Bloodborne pathogens, etc.

# Identified Research Areas

- Components of an Effective Immunization Program for HCP
- Isolation Precautions
- Specific Infectious Diseases
  - Blood Borne Pathogens
  - Influenza
  - Pertussis
  - MRSA in HCP
  - Group A strep exposure in HCP
  - Tuberculosis
  - Varicella
- Post-travel surveillance in HCP

# Components of an Effective Immunization Program for HCP

- What is the minimally acceptable screening for vaccine preventable/communicable diseases for personnel visiting institutions?
- Do HCP vaccination programs affect patient infection rates, patient mortality, or HCP sick days; and are they associated with adverse events?
- What interventions/components of a HCP vaccination program are associated with increased HCP vaccination rates?

# Isolation Precautions

- Do isolation precautions need to be followed by HCP who are presumed to be immune (vaccinated or previous infection) to an infectious disease?
- What constitutes sufficient evidence to change/downgrade the use of PPE with emerging pathogens?

# Hepatitis B

- In HCP who did not respond to the intramuscular hepatitis B vaccine, does intra-dermal hepatitis B vaccination increase vaccine response rates?
- What is the estimated duration of immunity derived from receiving the hepatitis B vaccination?
- In HCP with documented surface antibody response to hepatitis B vaccination, is there a role for hepatitis B vaccine boosters?

# Hepatitis C

- Does treating acute hepatitis C infection in HCP lead to a better treatment response rate than when treated in its chronic phase?
- What are best practices for monitoring HCP who were exposed to Hepatitis C antibody +, RNA – blood?

# Influenza

- For HCP vaccination programs, does requiring an influenza vaccination declination form increase HCP vaccination rates?
- Which isolation precautions prevent transmission of influenza from patients to HCP?

# Pertussis

- Does vaccination of HCP against pertussis decrease patients infection rates, patient mortality, or HCP sick days?
- Does post-exposure prophylaxis of previously vaccinated HCP decrease the risk of pertussis?
- What is the best antimicrobial for post-exposure prophylaxis of HCP for pertussis?
- What is the best method for monitoring exposed HCP for signs of pertussis?

# MRSA in HCP

- In HCP, what is the best method to determine transient versus persistent colonization with MRSA?
- In HCP, does screening for and decolonizing MRSA affect rates of patient colonization, infection, or mortality?
- In HCP, is culture or NAT more effective for MRSA screening and/or post-decolonization monitoring?
- What is the most effective decolonization regimen for MRSA in HCP?
- In HCP, how soon should post-decolonization monitoring occur to detect MRSA recolonization?

# GAS in HCP

- In HCP exposed to a patient with invasive GAS, does post-exposure prophylaxis decrease the risk of infection?
- Which antibiotic is most effective as post-exposure prophylaxis against GAS (Antibiotics used include PCN's/Rifampin, cephalosporins, macrolides, and clindamycin)?

# Tuberculosis

- In HCP, Is PPD or interferon-gamma release assay (IGRA) more effective for TB screening or post-exposure evaluation?
- In immunocompromised HCP, is PPD or IGRA more effective for TB screening or post-exposure evaluation?
- In BCG vaccinated HCP, is PPD or IGRA more effective for TB screening or post-exposure evaluation?

# Varicella

- Which isolation precautions prevent varicella transmission from a patient to HCP?
- Does vaccination of HCP against varicella decrease patient infection, patient mortality, or HCP sick days?
- Does post-exposure prophylaxis of HCP exposed to a patient with varicella decrease the risk for infection?
- Does post-exposure vaccination of previously vaccinated or infected HCP decrease the risk of varicella?

# Post-travel Surveillance

- Should HCP who work in the international community be screened for infectious diseases endemic/epidemic to that country upon return?
- What is the most effective system for post-global work screening of HCP?
- Should symptomatic HCP be prohibited from working upon return until screening test results have been returned?
- Should HCP who have been working in a TB endemic area, receive TB screening upon return?

# Proposed Timeline

- **June 2010** Writing group formed
- **Nov. 2010** Complete existing guideline review
- **Feb. 2011** Key questions finalized and literature search begun
- **June 2011** Literature search finalized  
Abstract/ full text review complete
- **Nov. 2011** Data extracted into evidence tables  
Evidence graded
- **Feb. 2012** Narrative Summaries finalized  
Draft Recommendations Complete  
Complete document draft completed
- **June 2012** Guideline Complete

**TABLE 1. EXISTING GUIDELINES**

<b>Topic</b>	<b>Website</b>	<b>Guideline/Recommendations</b>
General Vaccination	CDC	Recommended Adult Immunization Schedule US (2010)
	IDSA	Clinical Guidelines for Immunization Programs for Infants, Children, Adolescents, and Adults (2009)
	HICPAC	ACIP and HICPAC Recommendations for Immunization of Health-Care Workers (1997)
	Redbook	Immunization in Special Clinical Circumstances: Health Care Personnel (2009) - online
HBV Vaccination	WHO	Position Paper for Hepatitis B Vaccine (2009)
Influenza (Seasonal and Pandemic) Vaccination	ACIP	Recommendations on Prevention and Control of Influenza with Vaccines (2010)
	APIC	Joint Commission: Providing a Safer Environment for Health Care Personnel and Patients through Influenza Vaccination (2009)
		Position Paper for Influenza Immunization of Healthcare Personnel (2008)
	Medline/APIC	Recommendations on Use of Influenza A (H1N1) 2009 Monovalent Vaccine (2009)
		Position Paper for Improving Health Care Worker Influenza Immunization Rates (2004)
	HICPAC/APIC	HICPAC and APIC Recommendations for Influenza Vaccination of Health-Care Personnel (2006)
	SHEA	Revised Position Paper: Influenza Vaccination of Healthcare Personnel (2010)
WHO	Position Paper for Flu Vaccine (2005)	
MMR Vaccination	ACIP	Provisional Recommendations for MMR 'Evidence of Immunity'

		Requirements for Healthcare Personnel (2009)
	WHO	Position Paper for Rubella Vaccine (2000)
Tdap Vaccination	HICPAC	HICPAC and APIC Recommendations for Preventing Tetanus, Diphtheria, and Pertussis Among Adults, Use of Tetanus Toxoid, Reduced Diphtheria Toxoid and Acellular Pertussis Vaccine (2006)
	WHO	Position Paper for Diphtheria Vaccine (2006)
HIV, HBV, and/or HCV	ACOEM	Guidance Statements on HIV and AIDS in the Workplace (2008) - online
	Medline/APIC	Position Paper for Prevention of Device-Mediated Bloodborne Infections to Health Care Workers (1998)
		Position Paper for Hepatitis C Exposure in the Health Care Setting (1998)
	CDC	Updated US PHS Guidelines for the Management of Occupational Exposures to HIV and Recommendations for Postexposure Prophylaxis (2005) - online
		Updated US PHS Guidelines for the Management of Occupational Exposures to HBV, HCV, and HIV (2001)
	Medline	Issues related to human immunodeficiency virus transmission in schools, child care, medical settings, the home, and community. American Academy of Pediatrics. Committee of Pediatric AIDS and Committee on Infectious Diseases. Pediatrics 1999; 104 (2 Pt 1): 318-324.
	Medline/VHPB	HBV, HCV and Other Blood-borne Infections in Healthcare Workers: Guidelines for Prevention and Management in Industrialised Countries. Occup Environ Med 2008; 65: 446-451.
SHEA	Guideline for Management of Healthcare Workers who are Infected with Hepatitis B Virus, Hepatitis C Virus, and/or Human Immunodeficiency Virus (2010)	
Influenza (Seasonal and Pandemic)	ACOEM	Guidance Statements on Seasonal Influenza Prevention in Health Care Workers (2008) - online
	CDC	Guidelines and Recommendations: Prevention Strategies for Seasonal Influenza in Healthcare Settings (2010)
		Interim Guidance on Infection Control Measures for 2009 H1N1 Influenza in Healthcare Settings, including Protection of Healthcare Personnel (2009)

	IDSA	Clinical Practice Guidelines for Seasonal Influenza in Adults and Children – Diagnosis, Treatment, Chemoprophylaxis, and Institutional Outbreak Management (2009)
MRSA	HICPAC	Management of MDRO in Healthcare Settings (2006)
	Medline/BSAC, HIS, and ICNA	Revised guidelines for the control of MRSA infection in hospitals (1998)
	Redbook	Summaries of Infectious Diseases: Staphylococcal Infections (2009) - online
Pertussis	ACOEM	Policies and Position Statement on Pertussis Vaccination of Health Care Workers (2006) - online
	Redbook	Summaries of Infectious Diseases: Pertussis (2009) – online
Tuberculosis	ACOEM	Guidance Statements for Protecting Health Care Workers from Tuberculosis (2008) - online
	CDC	Updated Guidelines for Using Interferon Gamma Release Assays to Detect <i>Mycobacterium tuberculosis</i> Infection* (2010)
	Medline/ACOEM	Guidelines for protecting health care workers against tuberculosis. Journal of Occupational and Environmental Medicine 1998; 40 (9): 765-767. – online
Viral Respiratory Infections	WHO	Interim Guidelines for Infection Prevention and Control of Epidemic and Pandemic Prone Acute Respiratory Diseases in Health Care (2007)
Travel Medicine	IDSA	Guideline for The Practice of Travel Medicine* (2006)
	Redbook	Immunization in Special Clinical Circumstances: International Travel* (2009) - online
	WHO	International Travel and Health* (2010)
Other Infection Control	ACOEM	Guidance for Occupational Health Services in Medical Centers (2008)
	HICPAC	Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings (2007)
		Guideline for Infection Control in Health Care Personnel (1998)
	Medline	Canada Communicable Disease Report. Prevention and control of occupational infections in health care. An infection control guideline. (2002)
Medline/APIC/SHEA	Friedman C. Requirements for infrastructure and essential activities of	

		infection control and epidemiology in out-of-hospital settings: a Consensus Panel report. AJIC 1999; 27 (5): 418-430.
	Medline/SHEA	Scheckler WE. Requirements for infrastructure and essential activities of infection control and epidemiology in hospitals: a consensus panel report. SHEA. AJIC 1998; 26 (1): 47-60.
	Redbook	Recommendations for Care of Children in Special Circumstances: Infection Control for Hospitalized Children, 1) Occupational Health and 2) Isolation Precautions (2009) – online
	WHO	Practical Guidelines for Infection Control in Health Care Facilities (2004)

The following websites were searched: ACIP, ACOEM, APIC, CDC, HICPAC, IDSA, Medline, NGC, PAHO, PIDS, Redbook, SHEA, WHO

\*The guidelines give general recommendations, but do not specifically address the healthcare worker

-online = pdfs not available; available online

# Next Steps

- Complete review of existing guidelines to inform further key question development
- Continue to identify existing guidelines to which we need to LINK
- Ongoing monthly conference calls