Infection control in ambulatory care

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Medical Director, Infection Control
What we’re talking about

• What kinds of outpatient health care settings
• What is infection control and prevention in the ambulatory setting (highlighting differences between the acute hospital setting and ambulatory care)?
• Trends in the future
“Infection control is the discipline concerned with preventing nosocomial or healthcare-associated infection, a practical (rather than academic) sub-discipline of epidemiology. It is an essential, though often under-recognized and under-supported, part of the infrastructure of health care. **Infection control and hospital epidemiology are akin to public health practice, practiced within the confines of a particular health-care delivery system rather than directed at society as a whole.**”

--https://en.wikipedia.org/wiki/Infection_control
- 675,000 adult and pediatric patients
- 2.2 million visits a year
- 42 practice locations
- 750 physicians
- 6,800 employees
Components of infection control

• Prevention
• Preparedness
• Surveillance
• Management

• For all of these
  – Policies, procedures, consultation in individual cases, coordinating larger response when necessary
Prevention

• Cleaning, disinfection, sterilization
• Hand hygiene
• TB control program
• Transmission-based precautions
• Vaccines for patients
• Immunity/vaccines for staff
• Antibiotic stewardship
• Blood borne pathogens program
潔手技巧 搓手20秒

1. 手掌 Palm
2. 手背 Back of hands
3. 指隙 Between fingers
4. 指背 Back of fingers
5. 拇指 Thumbs
6. 指尖 Finger tips
7. 手腕 Wrists

Hand Hygiene Technique Rub hands for 20 seconds
TRANSMISSION-BASED PRECAUTIONS

CONTACT
- Wounds
- Multi-drug resistant bacteria
- Diarrhea

AIRBORNE
- TB
- Varicella
- Measles

DROPLET
- Influenza
- Mumps
- Respiratory Diseases

STANDARD PRECAUTIONS
Blood, all body fluids, secretions, excretions, nonintact skin, mucous membranes
Standard Precautions

Are everyday practices that prevent potential exposure to hazardous germs: urine, feces, blood, saliva, nasal discharge, eye discharge, and injury or tissue discharges. Cleaned up immediately, as follows:

- **Remove objects** of blood or blood-containing body fluids and injury or tissue discharges. Then clean and disinfect the area.
- **Wear gloves** in these situations. Avoid exposing open skin sores or mucous membranes to blood or blood-containing body fluids or to injury and tissue discharges.
- **Clean floor/objects**, and or mop/rinse them with sanitizing solution. Wring the mops as dry as possible and hang to dry.
- **Place blood-contaminated material** and diapers in a plastic bag secured with a knot.
- **Wash your hands** properly even if you wore gloves. Wash your hands after drying tears or wiping discharge from the nose or mouth.
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Preparedness

• All hazards disaster preparedness
  – Infectious outbreak/pandemic plan
• Everyday possible infectious exposure preparedness
Incident command system
Pandemic flu plan

• Supply stockpile established
• Plans to increase care
  – Acuity
  – Volume
  – Triggers for when this may be necessary
  – Managing staff with illness or ill family members
• Vaccine/medication distribution plan
Everyday infectious exposure preparedness

- Transmission-based precautions
- Recognition
  - Fever and rash (Measles, varicella, meningococcemia)
  - Severe, prolonged or paroxysmal cough (TB, pertussis)
  - Ad hoc: e.g. international travel (Ebola, MERS)
- Moving the patient, PPE use, HEPA filter
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SUSPECT AND ACUTE MEASLES IS AN URGENT PUBLIC HEALTH CONCERN

- Call MDPH epidemiologists at 617-983-6800 to:
  - Vet the signs and symptoms and seek approval for State lab testing.
  - Report suspect case to MDPH. For sites within Boston proper, Boston Public Health can be notified at 617-534-5611.
- Rubeola (Measles) IgM Serology and Rubeola (Measles) Virus Culture are the recommended diagnostic tests and should be carried out by the State Lab.
- For viral culture, NP swabs should be transported in BD Universal Viral Transport Media (VTM).
- Complete the State Lab Specimen submission form for each test ordered. In EPIC, go to LETTERS and download DPH Form Rubeola (Measles) IgM, letter# 28218.
- The lab will arrange transport.
- If there are additional clinical questions, page the ID Physician on-call (for HMVA staff, refer to the SharePlace on-call schedule) or your local ID consultant (other groups).
- If there are operational questions about reporting to public health, precautions or managing exposures, call Infection Control (x88311 within HVMA, 617-559-8311 outside) during regular business hours.
Patient Name: XB, YELLA [71277323]
Sex: Unknown
DOB: 09/26/2012

PCP: NON ATRIUS PCP
Center: NON-ATRIUS SITE

Types of orders made on 10/13/2015: LAB

Order Date: 10/13/2015
Ordering User: KRUSKAL, BENJAMIN [7186]
Encounter Provider: Epic Md, Provider [27]
Authorizing Provider: Kruskal, Benjamin, MD [P825]
Department: WTIN [111801]

Order Specific Information
Order: RUBEOLA (MEASLES) IG M FOR ACUTE DISEASE [CPT(R): 86171] Order #:
219180818 Qty: 1 FUTURE
Priority: Routine
Resulting Agency: NVNA
Future Order Information
Expires on: 02/10/2016
Expected by: 10/13/2015

Associated Diagnoses
R21 Rash

Priority: Routine Class: Normal
Resulting Agency: NVNA
Future Order Information

Atrius Health
Surveillance

• Electronic health record tools: alerts
• Regulatory compliance
  – Notifiable disease reporting
    • ESP system: collaboration between DPH, HPHC/HMS DPM, and Atrius: automated reporting of commonest diseases
  – OSHA blood/body fluid report
• Useful for QI, targeting education
  – STI (including Expedited Partner Therapy)
  – enteric (including C. diff)
  – Flu
  – TB
Sample flu dashboard from week ending 1/4/2015
Weekly report of possible incident active TB cases

Any prescriptions for isoniazid+ rifampin OR ethambutol OR pyrazinamide in patients who have not had that drug within the past year

<table>
<thead>
<tr>
<th>MRN</th>
<th>Ordering date</th>
<th>Location</th>
<th>Medication</th>
</tr>
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<tbody>
<tr>
<td>XXXXXXXXXX</td>
<td>10/1/15</td>
<td>Peabody</td>
<td>Ethambutol</td>
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<tr>
<td>XXXXXXXXXX</td>
<td>10/1/15</td>
<td>Peabody</td>
<td>Isoniazid</td>
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Management

• Communicable disease exposures
  – Especially MMRV, meningococcal disease, pertussis, TB

• Blood/body fluid exposures

• Breach of appropriate cleaning/disinfection/sterilization, medication handling, etc

• Contagious outbreak/potential outbreak
Organizational questions

• Where does IC fit in org chart?
  – Infectious disease
  – Quality and safety
  – Employee health

• Appropriate staffing ratios?
  – Inpatient
    • Infection control practitioner 1 FTE/100-200 occupied beds
    • Physician: 1 FTE/300 beds
  – Background: nurse vs med tech vs ???
  – Outpatient ratios?????
Trends

• Increased metric reporting including HAI
  – Currently, mostly inpatient, e.g. NNIS—CLABSI, CAUTI, VAP
  – Likely some versions coming to ambulatory
  – Burdensome
  – Leverage existing databases?

• Consolidation

• More care delivered in ambulatory settings
  – Challenges in tracking nosocomial infections from source to presentation
• More care delivered in ambulatory settings
  – Challenges in tracking nosocomial infections from source to presentation
  + leverage existing databases (and correlate across them)
  = Detection of Postoperative Surgical-Site Infections: Comparison of Health Plan-Based Surveillance With Hospital-Based Programs

Atrius Health
Questions?

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