

COLLABORATION BETWEEN IP&C AND OH&S IN PREVENTING AND MANAGING EXPOSURES, ILLNESS AND OUTBREAKS

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REGIONAL INFECTION
CONTROL NETWORKS

Giving Health a Helping Hand

INFECTION PREVENTION AND CONTROL ASPECTS OF OCCUPATIONAL HEALTH



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Outline:

1. Infection Prevention and Control
Objectives for Occupational Health
 2. Elements of Occupational Health
Communicable Disease Control
 3. Policy Template for Surveillance of
Specific Communicable Diseases
 4. Scenarios
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IP&C OBJECTIVES FOR OCCUPATIONAL HEALTH



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An integral part of the Infection Prevention and Control Program

1. Education of Health Care Providers

- principles of infection prevention and control
- personal responsibility for infection prevention and control
- orientation and on-going in-service

2. Collaboration between OHS and IP&C

- developing policies
 - monitoring/investigating exposures
 - investigating outbreaks with respect to HCPs
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IP&C OBJECTIVES FOR OCCUPATIONAL HEALTH



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3. Care for HCPs with work-related infections/exposures
 4. Identification of occupational infection risks → preventive strategies
 5. Cost containment through prevention of infection
 - absenteeism
 - disability
-

OCCUPATIONAL HEALTH COMMUNICABLE DISEASE CONTROL



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1. Medical Evaluation:

before placement (after employment)

- to avoid undue risk to HCP, other HCPs, patients
 - health inventory:
 - immunization and TB skin test status
 - history: predisposing conditions for acquisition/transmission of infection
 - to guide: further immunizations, post-exposure management
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OCCUPATIONAL HEALTH COMMUNICABLE DISEASE CONTROL



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2. Health and Safety Education

- compliance better if rationale understood
 - clear policies, guidelines, procedures
 - risk dependent on job category
 - modify for audience
 - appropriate to education level
 - orientation and on-going
 - understanding of requirement to refrain from patient care activity during acute illness of probable infectious etiology; need to report to OHS (or supervisor)
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OCCUPATIONAL HEALTH COMMUNICABLE DISEASE CONTROL



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3. Immunization

- prevent transmission of infection
 - to health care worker, to patients, to co-workers, to families
 - prevent work restrictions after exposure
 - cost-effective compared to:
 - treatment of cases - outbreak control -furlough
 - mandatory vs voluntary programs
 - follow national/provincial guidelines
 - National Advisory Committee on Immunization (NACI)
 - screening programs: HBV, MMR, varicella
 - **document refusal**
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STRONGLY RECOMMENDED FOR HEALTH CARE PROVIDERS:



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Hepatitis B Vaccine

Influenza vaccine (annually)

Measles/Mumps/Rubella vaccine (MMR)

Varicella vaccine

Tetanus/Diphtheria vaccine (Td); one dose
with acellular pertussis (dTap)

± Polio vaccine

OCCUPATIONAL HEALTH COMMUNICABLE DISEASE CONTROL



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4. Management of Occupational Illness/Exposure

- provide appropriate post-exposure management
 - includes exposures outside facility
 - prompt diagnosis and treatment of occupational infections
 - exclusions from work/patient contact:
 - includes healthcare activity outside facility
 - advise on family/community contact
 - to prevent further transmission
 - non-punitive, to encourage reporting
 - reporting relationships:
 - to Public Health if Reportable Communicable Disease
 - to MOL and WSIB if occupationally acquired
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POST- EXPOSURE PROPHYLAXIS MAY BE INDICATED:

HIV

Hepatitis A

Hepatitis B

Meningococcal disease

Pertussis

Influenza outbreaks

Scabies

Varicella/Zoster

Diphtheria

Rabies

OCCUPATIONAL HEALTH COMMUNICABLE DISEASE CONTROL



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5. Counselling

- risk and prevention
 - illness and adverse outcome
 - management of exposure including risk/ benefit of post-exposure prophylaxis
 - consequences for family, other HCPs, patients
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OCCUPATIONAL HEALTH COMMUNICABLE DISEASE CONTROL



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6. Records/Data Management

- **MAINTAIN CONFIDENTIALITY**
 - laboratory data
 - legislated disclosures: public health, MOL, WSIB
 - know provincial requirements
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POLICIES FOR SELECTED COMMUNICABLE DISEASES



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1. Purpose

- clearly defined

2. Applicability

- all persons carrying on activity in the health care facility
 - includes employees, physicians, students, volunteers, contract workers
- ensure agencies supplying contract workers or students have policies compatible with institution
- Ontario: Public Hospitals Act, Reg. 965

3. Pre-placement (post-employment)

- baseline history, examination and tests
- immunizations

4. Ongoing Surveillance

- routine, periodic examinations and tests (if any)
-

SURVEILLANCE OF SPECIFIC COMMUNICABLE DISEASES (cont'd)



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5. Exposure

- definition
- follow-up:
 - post-exposure prophylaxis (if any)
 - monitoring for infection

6. Acute Disease

- job restrictions
- return-to-work criteria

7. Evaluation

- analysis of exposures/interventions → prevention/risk reduction
-

POLICIES

– SPECIAL CONSIDERATIONS



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Pregnancy:

- issues:
 - transplacental infections: abortion, congenital anomaly, mental retardation
 - depression of cell mediated immunity: susceptibility to and severity of illness during pregnancy
 - drugs used for treatment or prophylaxis of some infections contraindicated during pregnancy
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COMMUNICABLE DISEASE POLICIES

- SPECIAL CONSIDERATIONS



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Pregnancy (cont'd):

- routine exclusion of women of childbearing age from care of patients with particular infections is not usually necessary:
 - counsel regarding risk of transmission and prevention
 - appropriate immunizations and consistent use of Routine Practices will prevent transmission of most infections
-

COMMUNICABLE DISEASE POLICIES

- SPECIAL CONSIDERATIONS



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Laboratory Personnel:

- remain at high risk for transmission of some infections through aerosolization of specimens and percutaneous injury
 - additional biosafety precautions are required for laboratories
 - specific immunizations and post-exposure prophylaxis may be required for work with or exposure to specific infectious agents
 - need to ensure a high level of knowledge with regard to biohazard and biosafety procedures
-

HEALTHY WORKPLACE



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“Health care workers have a responsibility to their patients and colleagues regarding not working when ill with symptoms that are likely attributable to an infectious disease. This includes staff with influenza-like illness, febrile respiratory illness, gastroenteritis and conjunctivitis.”

- OHA/OMA/MOHLTC Communicable Diseases Surveillance Protocols, Introduction.
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ESSENTIAL REFERENCES



Giving Health a Helping Hand

1. Heymann, Control of Communicable Diseases Manual, 18th edition, 2004, American Public Health Association
 2. Canadian Immunization Guide, 7th edition, 2006, Public Health Agency of Canada
 3. Guide for Infection Control in Healthcare Personnel, 1998, Centers for Disease Control and Prevention, Public Health Service, US Department of Health and Human Services
 4. Prevention and Control of Occupational Infections in Health Care, Health Canada, 2002, CCDR 28S1
 5. <http://www.oha.com>
 - Programs
 - Patient Safety Support Service
 - Communicable Disease Surveillance Protocols
 6. Laboratory Biosafety Guidelines, Health Canada, 3rd ed, 2004
 7. Protection of Laboratory Workers from Occupationally Acquired Infections: Approved Guideline, 3rd ed. CLSI, M29- A3, 2005
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The following two scenarios are fictitious, but are based on true stories.

A Cautionary Tale



- 45 year old male with HIV and rash admitted to medical ward through ER after 2 overnights in hallway
 - Skin lesions treated with topical steroids with marginal improvement
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then...

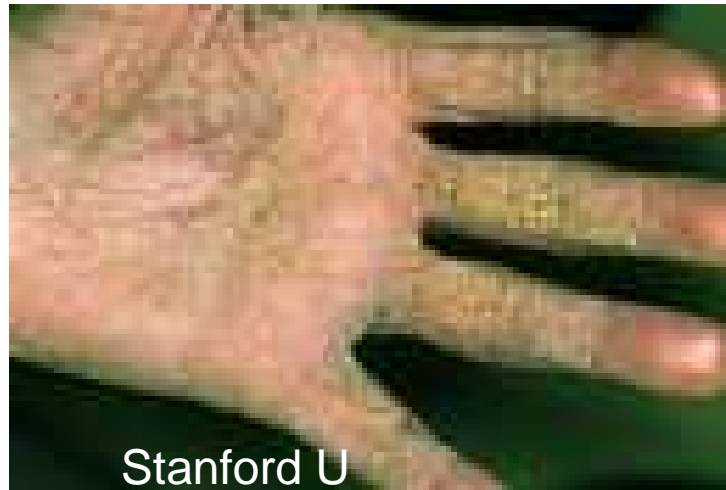


- Transfers to ICU for increasing respiratory distress one week later
- 15 days after that stabilizes and transfers to complex continuing care

HIV patient's rash



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Stanford U

meantime while patient is in ICU..



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- ER nurse develops aggravation of underlying eczema and relates this to winter dryness and possibly new soap in the department, although she is trying to increase her use of ABHR
 - Goes to occ health and gets moisturizer
 - Patient who shared room with HIV patient develops itchy rash on his hands and arms
 - Resident diagnoses contact dermatitis as this patient known to work with nickel (quite proud of his diagnosis)
-

next...

- 3 nurses on same medical floor develop itchy rash and blame it on the old recliner they use to catch a few zzzs on night shift break
 - no one knew exactly where it came from and it did look a bit scuzzy and they knew it had to be bedbugs!!
 - The chair gets thrown out
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Ahhhhhgh...



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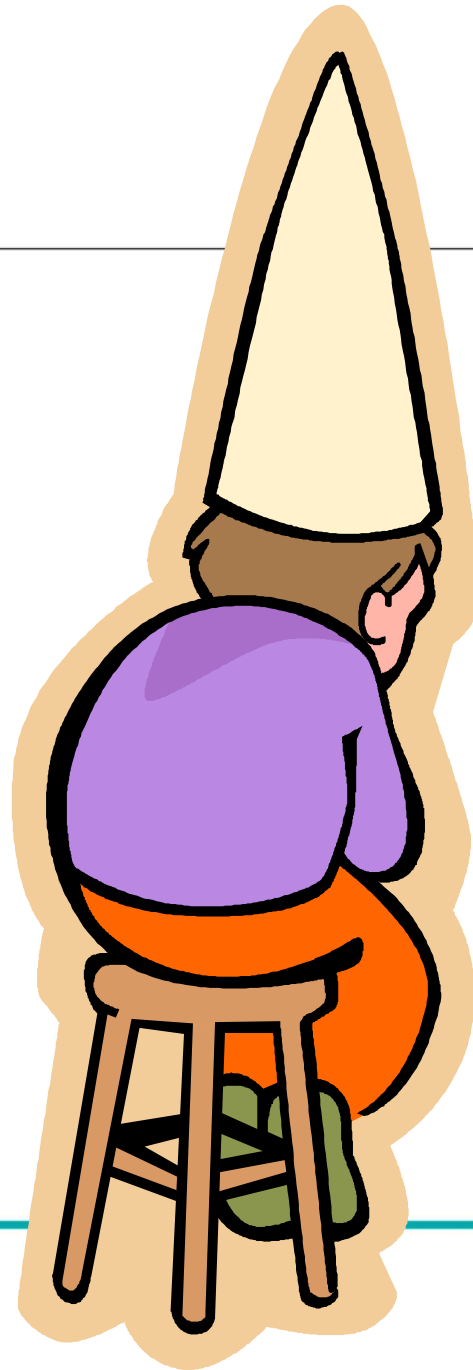
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not so fast!



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Light bulb goes on for ICP



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- 3 nurses with rash and now a patient with rash on same medical floor
- Closer look has some features of usual scabies with volar crease involvement and burrows, and evidence of excoriation



meantime back in Occ Health



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- Several nurses from different floors have presented with dry skin and itchy rashes
 - Initially treated with moisturizers
 - Then suspicion of scabies and treated with 5% permethrin
 - No further followup
 - No heads up to the ICP
 - Total breakdown in communication
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Busy at the lab..



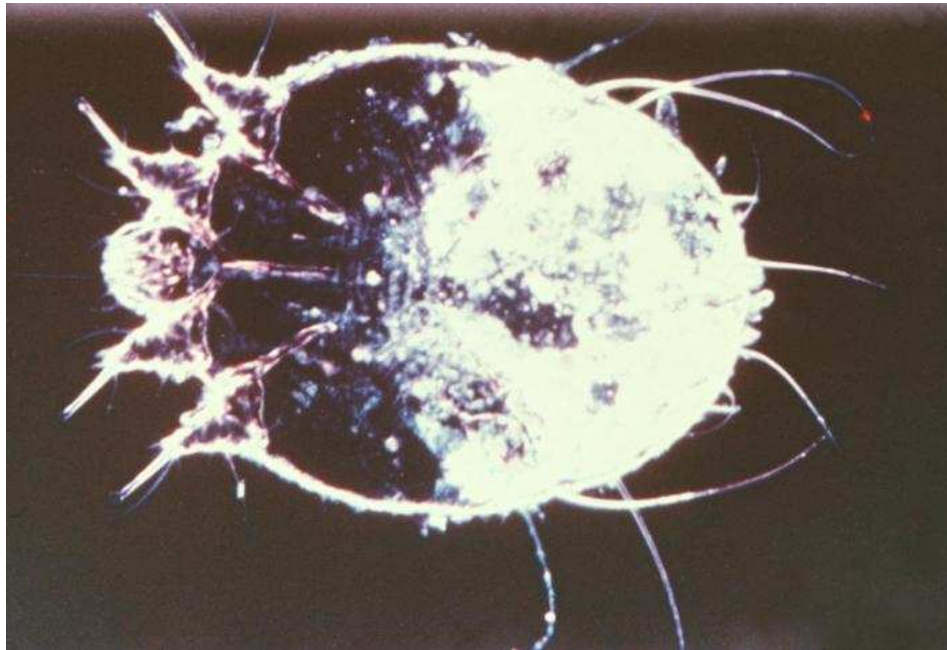
Giving Health a Helping Hand



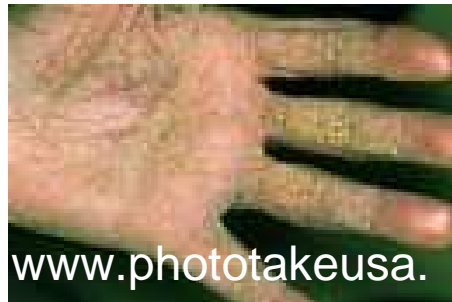
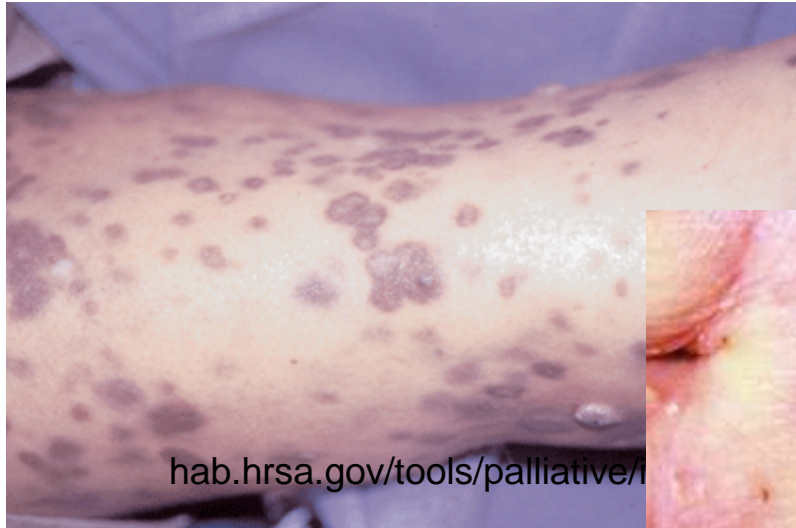
Skin scraping with mineral oil and scalpel blade mixed with a couple of drops of oil on a slide

Can mark the burrow with methylene blue or ink

Scabies mite



Norwegian or Crusted Scabies



and so it continues...



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- Scabies outbreak is finally declared
 - Except now there are 12 nurses and an additional patient on the floor; 4 in ER; 3 in ICU and 2 in complex continuing care
 - 3 nurses have been to their family doctor as their kids now have similar rashes
 - New cases each day
 - 3 months before outbreak is over and ultimately 100 staff and 35 patients treated or prophylaxed
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Fallout

- Huge cost to the institution in time, extensive treatment and prophylaxis
 - Upset patients and staff and families
 - Becomes PR challenge as a patient's family calls the newspaper
 - Could have been avoided with early correct diagnosis
 - **always suspect Norwegian scabies in HIV or otherwise immunocompromised patient**
-

Remember

- Get early accurate lab confirmation for at least initial case
 - Begin early prophylaxis and treatment as necessary with close communication between Occ Health and IP&C
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The Coughing Patient



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The coughing patient

- February 29, 2008
 - 78 year old woman admitted from LTC with one day of new worse cough and fever; has had her annual influenza vaccine
 - Known to have asthma so has background usual cough
 - FRI screen done in ER
 - Put into droplet precautions
 - CXR minor infiltrates; some hyperinflation
 - NPS positive for Influenza B
 - Treated with oseltamivir
-

Clinical progress



- Improves but as she is about to be discharged she falls and sustains hip fracture
- Severe osteoporosis also noted on xray

To the OR



- Total hip arthroplasty
 - Severe osteoporosis noted on xray
 - On review of history has been on longstanding steroids for PMR and also for exacerbations of asthma
 - Post-op to orthopaedic floor
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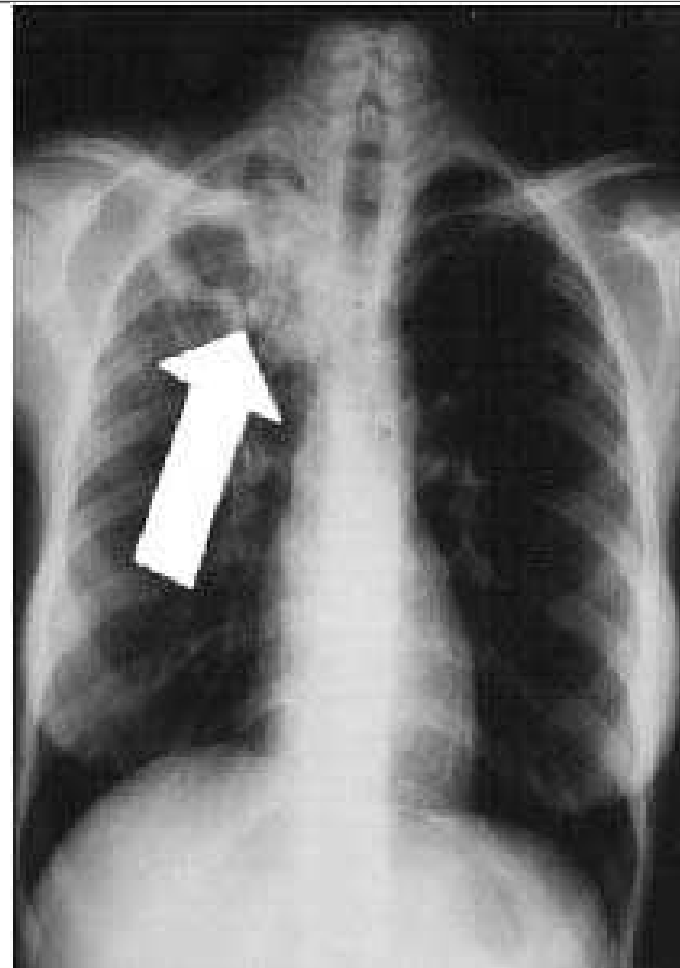
Recovery

- transfer to rehab floor for 8 weeks prior to discharge back to LTC
- Resident asked to see for investigation of cough present essentially since admission and treatment of influenza
- Diagnoses post-infectious cough with aggravation of underlying asthma



Diagnostic investigations

- Repeats CXR and this time small cavitation noted in upper lobe
 - When previous film reviewed again evidence was it had been missed
- Sputa for AFB and culture taken—AFB smear positive
- Patient now put into airborne precautions and OH informed



Occ Health Responsibility



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- Together with IP&C set up contact tracing sheets for various departments patient has been in
 - Public Health is notified
 - Occ Health and IC work together to determine who was actually exposed; IC usually will do chart review to see which staff have signed off care provision
 - Occ Health will work with Charge nurse/manager to determine what staff were on for dates, including house staff, cleaners, etc.
 - Occ Health will then meet with staff and review their own records
 - If previously TST positive staff, monitor for symptoms
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HCW Follow Up



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- Depending on staff review of timing of exposures, if within 2 weeks do baseline TST and follow-up 8 weeks later
 - If 8 weeks has already passed, single TST satisfactory
 - Any conversions are to be reported to local MOH as well as to WSIB if recommendations for treatment are made (ie likely 9 month course INH)
 - Also to be reported to MOL under sub-section 52 of Occupational Health and Safety Act
 - In this case, 2 conversions in rehab staff and one on orthopaedics
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Outcomes



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- Total number of staff tested 189
 - Significant time for ICP to do chart review
 - Significant time to test staff as their charts also needed review and follow-up at 48 to 72 hours required for proper reading of TST
 - 3 staff converted requiring 9 months of treatment with INH
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Lessons Learned



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- Be careful of assumptions regarding cough
 - Almost always you are in trouble because of delay in diagnosis
 - Excellent quick pick-up on the influenza, requiring no prophylaxis of patients and staff
 - Keep your thinking caps on at all times!!
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Thank you



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Central South

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