HEALTH HOLDING

HAFER ALBATIN HEALTH CLUSTER
MATERNITY AND CHILDREN HOSPITAL

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1. PURPOSE:

1.1 To ensure that all healthcare workers are determined physically and psychologically free from any health problems that may affect their work performance.

1.2 To monitor the health status of all healthcare workers, who have been exposed to blood borne and other infectious disease.

2. DEFINITONS:

2.1 Employee Health Program: It is the hospital program to ensure the physical and mental health of the employee and to follow and monitor their health status and their protection from any hospital acquired Infection.

3. POLICY:

3.1 The definition of an employee will significantly influence the eligibility of persons for medical assessment and care in the Employee Health Service. Volunteers, casual staff and contract trades people are not usually considered employees. However, there are situations in which such persons are included in the Employee/Occupational Health programs for infection prevention and control purposes.

3.2 Assist in the provision of a safe working environment for patients and staff.

3.3 All employees have a baseline screening for hepatitis B, hepatitis C, HIV, and tuberculosis (TB).

3.4 The immune status of newly hired HCWs against hepatitis B, measles, mumps, rubella, COVID-19, and varicella are determined by documented vaccination, serological evidence of immunity, documented clinical / laboratory evidence of disease with life long immunity). Appropriate vaccine(s) are administered to those who are susceptible.

3.5 The influenza vaccine is administered annually to targeted HCWs as per MOH recommendations.

3.6 Newly hired HCWs are screened for tuberculosis upon contracting with Purified Protein Derivative based Tuberculin Skin Test (PPD-based TST). The test is repeated annually for those who are non-reactive and PPD-based TST conversion rates are monitored and calculated.

3.7 Implement system for reporting, follow up, and management of sharp or needlestick injuries and of blood/body fluid exposures.

3.8 Reporting is active and ongoing (i.e., reliable reports of sharp or needlestick injuries and blood/body fluid exposures are sent through approved national platform or other approved reporting system in a timely manner).

3.9 The Employee health clinic team regularly monitors different types of HCWs exposure and recommend corrective actions to prevent recurrence, e.g., devices with safety mechanisms (self-sheathing needles-retractable needles and scalpels ... etc.).

3.11 Updated medical records (or copies) are available for all HCWs of supportive services (i.e., kitchen, laundry, housekeeping, waste management ...etc.)

3.12 The screening, immunization, and post exposure management data are kept in HCWs medical records.

3.13 Regular training activities for employee health program.(an active annual education and training plan for the employee health program targeting healthcare worker)

3.14 Exposed health care workers are isolated when needed (either home isolation in staff accommodation or in their home or in identified rooms at the hospital).

4. PROCEDURE:

4.1 Employee Occupational Health Program

4.1.1 The employee health clinic services shall include

4.1.1.1 Pre-employment assessment and screening.

4.1.1.1.1 All employees must have a baseline screening for Hepatitis B, C, HIV and tuberculosis.

4.1.1.1.2 Tuberculin Skin Test and Prophylaxis.

4.1.1.1.3 Newly hired staff are screened for tuberculosis upon contracting with PPD test, and the test is repeated annually for those who are nonreactive PPD conversion rates are calculated.

4.1.1.1.4 Assist administration in the hiring and/or assigning of employees to work that is suitable to the employees' capabilities.

4.1.1.2 Immunization

4.1.1.2.1 The immune status of newly hired staff against Hepatitis B, Measles, Mumps, Rubella, and Varicella is determined by serological testing. Appropriate vaccines(s) is administered to those who are susceptible.

4.1.1.3 Medical Advice and Treatment

4.1.1.3.1 Post Exposure Management for Healthcare Workers

4.1.1.3.2 Provide treatment and medical advice to individual employees and act as a resource for employees to obtain care.

4.1.1.3.3 There is follow-up and management of exposure to open pulmonary TB, chickenpox, measles, mumps, and rubella.

4.1.1.3.4 There is follow-up and management of blood and body fluid exposure for

4.1.1.3.5 Monitor and investigate infectious diseases, potentially harmful infectious exposures and outbreaks of infections among HCWs.

4.1.1.4 Counselling

4.1.1.4.1 All screening, immunization, and post exposure management data are kept in staff medical records.- Respiratory Fit Test for N95 mask

4.1.1.4.2 Antibody testing (titre)

4.1.1.4.3 It shall be ensured that all illness which is communicable shall be investigated and managed appropriately to prevent cross infection

4.1.1.4.4 The employee health clinic shall create and maintain a progressive record filing for all employees.

4.1.1.4.5 All new healthcare workers are required to undergo a preemployment physical inventory and physical/medical examination prior to commencement of work. Mandatory screening shall be required for all employees to determine baseline and exposure status.

4.1.2 Response to the health problems of the employees through direct treatment (e.g. staff clinic) or referral.

4.1.3 Employees with any health problems should be treated in the employees clinic only.

4.1.4 Periodic medical evaluation of staff members.

4.1.5 Screening for exposure and lor immunity to infectious diseases.

4.1.6 Staff preventive immunizations.

4.1.7 Management of exposure to blood borne pathogens and other work related conditions.

4.1.8 Measure to reduce occupational exposures and hazards, including the use of .PPE, stress management and ergonomics.

4.1.9 Staff education to the risks within the hospital environment as well as on their specific job related hazards (e.g. lifting techniques, safe use of medical devices, and detecting ,assessing and reporting risks).

4.1.10 Documentation and management of staff incidents (e.g. injuries and illnesses, taking Corrective actions, and setting measures in place to prevent recurrences).

4.1.11 There is appropriate record keeping and management (e.g. employee health records that are filed separately.

4.2 Pre-Employment:

4.2.1 An employee opens a file then proceeds to employee health clinic. Initial evaluation is performed by a licensed physician designated by the hospital. Newly hired staff should open personal file in the employees clinic with the following documents:

4.2.1.1 Employees health history form

4.2.1.2 Copy of all medical reports that was done at the time of contract

4.2.1.3 Copy of medical fitness form

4.2.1.4 Iqama copy

4.2.1.5 Passport size photograph

4.2.3 Health inventory is done initially to serve as a baseline to determine any future work related problems or exposure to infectious diseases. At the time of contract renewal the following documents have to be placed

4.2.3.1 Copy of medical fitness form

4.2.3.2 Copy of all medical reports done at the time of contract renewal

4.2.3.3 Copy of employees vaccination status form

4.2.4 History of any conditions that may predispose the healthcare worker in acquiring or transmitting infectious disease.

4.2.5 History of exposure to tuberculosis, hepatitis, dermatologic conditions chronic draining of open wounds and immuno-deficient conditions that may either increase the likelihood of transmitting diseases to patients or unusual susceptibility to infection.

4.3 Pre-employment screening to be done, which includes the following:

4.3.1 Hepatitis B

4.3.2 Hepatitis C and Human Immunodeficiency Virus (HIV)

4.3.3 Tuberculin Skin Test (TST).

4.3.3.1 Varicella (Chickenpox)

4.3.3.2 Send screening request signed by the physician to the laboratory to avoid non acceptance of request.

4.3.3.3 Test results are generated through the computer, physician decides the employee status & schedules follow-up as needed.

4.4 Tuberculin skin Test: Tuberculin skin testing can be done anytime in relation to the administration of these vaccines. A tuberculin test that was improperly administered or not read within the recommended time period can be repeated at any time selecting a site on the other arm.

4.4.1 Reading:

4.4.1.1 After TST, the new hired is to return after 2-3 days to have the skin test read for induration.

4.4.1.2 If skin test causes a reaction with greater than 10 mm induration, no additional skin testing is required.

4.4.1.3 If the skin test develops no induration or an induration area is less than 10mm, employee will return no earlier than seven (7) days and not later than 21 days to receive second dose (1-3 weeks).

4.4.1.4 Chest x-ray is required only for those employees who have a significant TST with an induration of greater than 10mm.

4.4.1.5 Classification of initial TST reaction:
-Interpret > 5mm induration as positive for Household contacts with infectious tuberculosis cases.

4.4.1.6 Persons with abnormal chest x-ray suggesting old healed tuberculosis.

4.4.2 Medical risk factors (i.e., diabetes mellitus, alcoholism and drug abuse).

4.4.2.1 From high prevalence areas for tuberculosis.

4.4.2.2 From areas of low socioeconomic status.

4.4.2.3 Residents and staff of long term care facilities (e.g., jails and prisons).

4.4.2.4 Children younger than 4 years of age.

4.4.2.5 Persons who inject drugs whose HIV status is negative.

4.4.2.6 Interpret >15mm indurations' as positive for:

4.4.2.7 No risk factors

4.4.2.8 Living in areas with no TB.

4.4.3 Those with negative TST who undergo repeated skin testing (e.g. HCW) with an increase in reaction size 10mm within a 2 year period is considered a skin test conversion indicative of recent exposure to Tuberculosis and further evaluation required.

4.4.3.1 Response to screening:

4.4.3.1.1 If the initial TST is significant (greater than 10 mm indurations') or if a second skin test is done and the reading is significant (reaction changes from greater than 10 mm with an increase of at least 6 mm) and the chest film is negative, the employee will be referred to employee health clinic.

4.4.3.1.2 Healthcare worker to be informed about their risk of developing active

4.4.3.1.3 3 Investigate clinically and chest X-ray to be done to rule out TB disease.

4.4.3.1.4 Counsel on issues pertinent to receiving prophylaxis therapy.

4.4.3.1.5 Those who refuse treatment for Latent TB infection should be followed up and instructed to seek medical advice if they manifest signs and symptoms suggestive of active TB disease.

4.4.3.1.6 Chemo-prophylactic preventive therapy initiated only when active TB has been excluded.

4.4.3.1.7 If the skin test and chest film are both significant on pre-employment testing, the employee will be placed immediately on isolation and is to be referred to. If diagnosis of active TB

disease has been made, the new hire will be delayed in starting work until the following criteria have been met.

4.4.3.2 Diagnosis of active TB has been ruled out by medical evaluation, or if active TB disease is diagnosed, treatment is initiated & the new hire will be determined non-infectious when all three (3) criteria below are met.

4.4.3.2.1 Has had three (3) consecutive negative AFB sputum smears taken for three consecutive days (one specimen must be taken early Morning).

4.4.3.2.2 Had completed at least two (2) weeks of multi-drug anti-Tuberculosis therapy (if AFB sputum smear was positive).

4.4.3.2.3 Exhibits clinical improvement.

4.4.3.2.4 If second (TST) reading is negative, the person maybe cleared for hire and is classified as uninfected and a subsequent positive reaction is likely to represent a new exposure infection.

4.4.3.3 Subsequent Annual Screening:

4.4.3.3.1 Employees having a previous negative TST will be retested annually.

If an employee's TST becomes significant, the employee will be referred to the employee health clinic for follow —up, whether or not a documented situation of exposure to an infected patient or fellow employee occurred during the last year interval.

4.4.3.4 HIV-Human Immuno-deficiency virus

4.4.3.4.1 Determine the baseline status of the source patient.

4.4.3.4.2 Screen the HCW first week post exposure.

4.4.3.4.3 Sero negative HCW is retested in 6 weeks, 12 weeks & 6 months post exposure.

4.4.3.4.4 Advice HCW to seek medical evaluation with the employee health clinic for any acute febrile illness within 12 weeks post exposure.

4.4.3.5 Healthcare worker undergoes counseling during the orientation period to be educated about infection risk related to the performance of healthcare activities.

4.4.3.5.1 Counseling includes immunization status, medical treatment, health concerns in the kingdom or international travel.

4.4.3.5.2 Work restrictions and management of job-related illness and exposure

4.4.3.5.3 If susceptible employees contract a serious infection that is potentially transmissible or are exposed to an illness that leads to a period during which infection may be spread, the hospital's responsibility is to prevent the spread of infections to patients and other personnel which may sometimes require that these persons be excluded from direct contact.

4.4.3.5.4 Encourage all employees to report their illness or exposure as soon as possible.

4.5 Health problems in employees:

4.5.1 In case of any health problems the employee will take consultation to the employees clinic and get treated appropriately.

4.5.2 In case of specialty consultation the doctor in the employees clinic can give consultation to the other specialties.

4.5.3 Employees will avail sick leave if indicated and based on the severity of illness.

4.5.4 If inpatient admission is needed through proper channel procedure will be carried out

4.5.5 If the staff avails sick leave, the copy of the sick leave form should be placed in the personal file.

4.5.6 Establish and maintain accurate and confidential medical records of employees.

4.6 Periodic medical evaluation of staff members:

4.6.1 Medical evaluation of all staff members is done annually.

4.6.2 During the renewal of their contract, all employees should get the medical examination done and submit the employees vaccination status form with report to the employees clinic.

4.6.3 Identify any infection risk related to employment and institute appropriate preventive measures.

4.7 Screening for exposure and/or immunity to infectious diseases

4.7.1 As a part of medical evaluation, all employees are tested for infectious diseases such as hepatitis B,hepatitis C and HIV.

4.7.2 Immunity to infectious disease such as hepatitis B is checked by doing Antibody titre for hepatitis B surface antigen. Titre testing to be done compulsorily if taken hepatitis B vaccine in the past.:

4.8 Staff preventive immunizations:

4.8.1 All staff vaccinated annually for seasonal influenza.

4.8.2 Hepatitis B vaccination is done based on the titre report.

4.8.3 For employees who will participate in Hajj duty meningococcal vaccine is given every 5 years once.

4.8.4 For all vaccines the employees health clinic is approached by the employees of the hospital.

4.8.5 Assess and determine the immune status and immunization requirements of employees for vaccine-preventable diseases and institute the appropriate measures.

4.9 Management of exposure to blood borne pathogens and other work related conditions:

4.9.1 Any employee exposed to blood borne pathogens by needle stick injury/body fluid exposure will report to the shift head and employees clinic and is followed up by employees health nurse for post exposure management.

4.9.2 Assist in the prevention and control of occupationally acquired infections and hazards, particularly those related to hospital work.

4.10 Measure to reduce occupational exposures and hazards, including the use of PPE, stress management and ergonomics.:

4.10.1 All newly hired staff as a partofthe orientation program are educated about prevention of needle stick injuries and body fluid exposure.

4.10.2 Educate all staff of prevention of needle stick injury and blood fluid exposure, use of Appropriate PPE and reassured staff in stressful conditions such as outbreak, exposure to blood borne pathogens.

4.10.3 During daily rounds staff are assessed for their efficiency in their departments by direct observation and indirect by reporting from infection control link nurses.

4.11 Staff education to the risks within the hospital environment as well as on their specific job related hazards (e.g. lifting techniques, safe use of medical devices, and detecting assessing and reporting risks).

4.11.1 Staff are educated on safe use of medical devices by following proper cleaning ,disinfection methods to prevent fornite borne infections.

4.12 Documentation and management of staff incidents (e.g. injuries and illnesses, taking Corrective actions, and setting measures in place to prevent recurrences).

4.12.1 All incidents of needle stick injuries are documented and educated on prevention of such incidences.

4.12.2 There is appropriate record keeping and management (e.g. employee health records that are filed separately. Employees health records are filed in the employees clinic.

4.13 Exceptional circumstances may allow some potential employees to start work before the completion of all medical assessments. However, continued employment or recontracting is dependent on the successful completion of all necessary tests for medical clearance / annual employee health evaluation.

4.13.1 Advise and instruct all potential employees of the pre-employment medical requirements.

4.13.2 The employee will be given a pre-employment package that depends on the status of hiring
(i.e., international hire, local hire, or locum position).

4.13.3 It is expected from laboratory that pre-employment package is expedited at the earliest to have an early medical clearance.

4.13.4 Depending on the hospital policies, it is recommended that upon arrival, all employees shall have repeat testing for HIV, Hepatitis B (HBV), Hepatitis C (HCV), Hepatitis A (HAV), rubella IgG, measles IgG, varicella IgG and syphilis. In addition, any missing tests that are required will be performed at that time.

4.13.5 All employees shall have a baseline Tuberculin skin test (TST) or Interferon-gamma release assay (IGRA) test such as the QuantiFERON-TB (QFT).

4.13.6 All potential employees must fill out the pre-employment form with the assistance of a medical doctor.

4.13.7 All potential employees must fulfill the requirements outlined on the pre-employment physical examination form.

4.13.8 Details of the employee's medical results and final clearance will be documented.

4.13.9 The completed pre-employment history form, the physical examination form, and the official (original) copies of laboratory and other test reports will form the basis of a medical record chart for each employee.

4.13.10 All newly recruited employees will commence Clinical Service (issuing their badges) only after clearance from the Infection Prevention and Control Department.

4.13.11 Employees arriving from Ethiopia, Eritrea, Kenya, Somalia, Djibouti, Thailand, Vietnam, Sudan, Nepal, Nigeria, Chad and South Africa shall have, in addition to the above, HIV testing regularly, as a requirement for recontracting or continuing work.

4.14 **Immunization Guidelines For Healthcare Workers. See appendices 7.1**

4.14.1 Optimal vaccination of HCWs can prevent the transmission of certain diseases, and prevention is more cost effective than case management and outbreak control.

4.14.2 All live vaccines should be given on the same day or separated by at least 1 month.

4.14.3 In addition to immunization, all HCWs should be oriented regarding:

4.14.3.1 Hand hygiene

4.14.3.2 Modes of disease transmission

4.14.3.3 The importance of presenting themselves to employee health when they suspect an infectious disease may be present (e.g., rash, fever).

4.14.3.4 TB control measures

4.14.3.5 The importance of cooperating with the Infection Prevention and Control Department.

4.14.3.6 The importance of complying with standard precautions.

4.14.3.7 The importance of screening and immunization.

4.15 **WORK RESTRICTIONS FOR INFECTED HEALTHCARE WORKERS.**

4.15.1 The system for categorizing recommendations is as follows:

4.15.1.1 Category IA: Strongly recommended for all hospitals and strongly supported by well-designed experimental or epidemiologic studies.

4.15.1.2 Category IB: Strongly recommended for all hospitals and reviewed as effective in the field,representing a consensus of hospital Infection Control Practices Advisory Committee members on the basis of strong rationale and suggestive evidence, although definitive scientific studies have not been performed.

4.15.1.3 Category II: Suggested for implementation in many hospitals. Recommendations may be supported by suggestive clinical or epidemiologic

studies, a strong theoretic rationale, or definitive studies applicable to some but not all hospitals.

4.15.1.4 No recommendation or unresolved issue. Practices with insufficient evidence or consensus regarding efficacy exists.

4.15.2 Summary of suggested work restrictions for healthcare personnel exposed to or infected with an infectious disease of importance in healthcare settings.See appendices 7.2

4.16 PREGNANT HEALTHCARE WORKERS

4.16.1 The occupational acquisition of infection is of special concern to pregnant HCWs because some infections, such as CMV, rubella, and parvovirus, can have severe effects on the fetus.

4.16.2 HCWs planning on becoming pregnant should be reassured with emphasis on practicing standard precautions when dealing with patients.

4.16.3 Female HCWs of childbearing age should be advised regarding the performance of pre-pregnancy screening tests during their pre-employment physical evaluation and should be offered the appropriate vaccines.

4.16.4 The pregnant healthcare worker: pertinent facts to guide the management of occupational exposures to infectious agents. See appendices 7.3

4.17 HEPATITIS A IMMUNIZATION FOR HEALTHCARE WORKERS

4.17.1 In endemic areas, the HAV vaccine is recommended for:

- 4.17.1.1 Persons residing in institutions
- 4.17.1.2 Food handlers
- 4.17.1.3 Municipal workers
- 4.17.1.4 Healthcare workers
- 4.17.1.5 Day-care staff and children
- 4.17.1.6 Homosexually active males
- 4.17.1.7 Injecting drug users
- 4.17.1.8 Persons with chronic liver disease
- 4.17.1.9 Travelers to countries with high rates of Hepatitis A.
- 4.17.1.10 Patient who are on lifelong therapy with clotting factors

4.17.2 The HAV vaccine is contraindicated in those with known hypersensitivity to any of the vaccine components, such as alum and phenoxyethanol.

4.17.3 The effect of the HAV vaccine on pregnancy and lactation has not been assessed.

4.17.4 Pre-vaccination Testing and Counseling

- 4.17.4.1 Screen for HAV antibodies in employees to ensure adequate protection against HAV for prior immunity.
- 4.17.4.2 Offer inactivated HAV vaccination to those who are non-immune.
- 4.17.4.3 Exclude from immunization those for whom the vaccine is contraindicated.
- 4.17.4.4 Educate employees on modes of transmission, which are mainly fecal-oral and waterborne routes, homosexual activity (for males), and intravenous drug use.
- 4.17.4.5 Explain the risks of foregoing immunization to all employees who refuse HAV immunization.

4.17.5 Vaccine Administration

- 4.17.5.1 Give 2 doses of the inactivated HAV vaccine to all relevant persons 6 to 12 months apart for a full immunization regimen.
- 4.17.5.2 AVAXIM®
  - 4.17.5.2.1 Two doses 6 to 12 months apart, with 1440 ELISA units per dose, IM in the deltoid muscle.
  - 4.17.5.2.2 Second (booster) dose, 6 to 12 months after the primary dose, of 1440 ELISA units IM in the deltoid.
- 4.17.5.3 HAVRIX®
  - 4.17.5.3.1 Pediatric dose • Two doses should be given, 6 to 12 months apart, with 720 ELISA units per dose, IM in the deltoid muscle (for patients aged 12 months to 18 years).

4.17.5.3.2 Adult dose • Two doses should be given 6 to 12 months apart with 1440 ELISA units per dose, IM in the deltoid muscle (for patients aged ≥ 19 years).

4.17.6 Post-immunization Serologic Testing. Not indicated.

4.18 HEPATITIS B IMMUNIZATION FOR HEALTHCARE WORKERS

4.18.1 Evidence for immunity to HBV is needed for all HCWs at risk of exposure to blood or body fluids

4.18.2 All new HCWs will be tested for Hepatitis B immunity, unless a reliable document on immunity status can be provided

4.18.3 HCWs are considered immune to HBV if they have a documented anti-HBs level >10 mIU/L at any time in the past. Even if the level had dropped afterwards they would still be considered immune, and will not need any further doses. The drop in titer is known as anamnestic response.

4.18.4 HCWs at risk for occupational HBV exposure with no documented immunity at any time in the past are considered none immune regardless of the documentation of immunization and shall be immunized as outlined in this policy.

4.18.5 Pre-vaccination Testing

4.18.5.1 Screen all new HCWs for HBsAg and anti-HBs to verify HBV immune status.

4.18.5.2 Provide Hepatitis B immunization to those HCWs who are non-immune for Hepatitis B, i.e., those with anti-HBs < 10 mIU/L, unless they provide documentation of a completed vaccination series and anti-HBs levels > 10 mIU/L 1 to 2 months post-vaccination.

4.18.5.3 Explain the risks of non-immunization to all HCWs who refuse immunization and have them sign a disclaimer form if they refuse immunization.

4.18.6 Administration of the Vaccine

4.18.6.1 Give three doses of Hepatitis B vaccine with the second and third doses at 1 and 6 month intervals, as recommended by the manufacturer (as per package insert).

4.18.6.2 Use a 22 to 25 gauge needle, at least 1 to 1.5 inches long. Administer 1.0 ml intramuscularly (IM) into the deltoid muscle. Do not administer in the gluteal region; if this has been done, the dose should be repeated.

4.18.7 Post-vaccination Serological Testing

4.18.6.7.1 To ensure adequate seroconversion and protection: • One to two months after completing the series, the vaccine level of anti-HBs is expected to be > 10 mIU/L, and this value should be checked in any HCW with patient exposure.

4.18.8 Non-responders to the First Series of Vaccination. If anti-HBs levels are <10 mIU/L 1 to 2 months post-vaccination, take the following steps:

4.18.8.1 A full second series of 3 doses should be given.

4.18.8.2 One month after completing the second series, the vaccine level of anti-HBs is expected to be > 10 mIU/L, and this value should be checked in any HCW with patient exposure.

4.18.8.3 If the HCW remains anti-HBs-negative, then he/she is considered a non-responder and should be counseled accordingly.

4.18.9 Counseling Non-responders

4.18.9.1 If all of the above measures were taken and the HCW remains anti-HBs-negative, no further doses should be given.

4.18.9.2 The importance of standard precautions and policy should be stressed to the HCW

4.18.9.3 The HCW should receive an HBsAg test; if positive, he/she should receive counseling as mentioned above. Professional duties should be reviewed along with appropriate referrals.

4.18.9.4 HBsAg-negative HCWs who fail to seroconvert should receive HBIG if exposed to HBsAg-positive blood products or body fluid.

4.19 VARICELLA IMMUNIZATION FOR HEALTHCARE WORKERS

4.19.1 Evidence for immunity to Varicella Zoster virus (VZV) is needed for all HCWs at risk of exposure patients with chicken pox.

4.19.2 All HCWs need to be tested for VZV immunity, unless a reliable document on immunity status or reliable evidence for receiving 2 doses of the VZV vaccine can be provided. Or a history
from a reliable source can verify the HCW did have VZV infection in the past. This is important since other diseases may mimic VZV infection.

4.19.3 A history of varicella infection is not considered reliable evidence of being immune and a serological test is needed.

4.19.4 The VZV vaccine is a live attenuated vaccine and shall not be offered to immunocompromised
individuals. Those who are non-immune will be provided the VZV vaccine unless there is a medical contraindication.

4.19.5 Pre-vaccination Counseling

4.19.5.1 Advise all HCWs about the seriousness of Varicella infection transmitted to patients, especially the following:

4.19.5.1.1 Elderly patients / Neonates / Immunocompromised patients / Transplant patients

4.19.5.2 Reliable evidence of immunity to VZV is needed; if not available, test HCWs for their serological status for varicella antibodies. A HCW who is found to be immune will require no further action, and the results of varicella serology should be documented in the employee's medical records.

4.19.5.3 Provide the vaccine to those who are found to be non-immune; unless medically contraindicated.

4.19.5.4 Documentation of two previous vaccine shots will preclude any further immunization.

4.19.6 Vaccine Administration

4.19.6.1 The varicella vaccine is not 100% protective.

4.19.6.2 Defer vaccination for at least 5 months following blood or plasma transfusions or the
administration of immunoglobulin (including VZIG) because passively acquired antibodies may inactivate the vaccine.

4.19.6.3 Administer the varicella vaccine (Oka/Merck) as a 0.5ml subcutaneous dose in the outer aspect of the upper arm (deltoid). Give the second dose 4 weeks later.

4.19.6.4 Do not administer immunoglobulin (including VZIG) concurrently with the vaccine or for 2 weeks after vaccination.

4.19.6.5 Avoid the use of salicylates for 6 weeks following vaccination. Avoid immunoglobulin administration for 2 months unless it outweighs the benefits of immunization.

4.19.6.6 Avoid getting pregnant for 1 month after each shot.

4.19.7 Complications of the Vaccine

4.19.7.1 Some HCWs may develop papular or vesicular skin lesions at the injection site following vaccination. These lesions should be covered with a bandage, and the person should be allowed to work. However, the employee should not be allowed to work with immunocom- promised patients. There should be a daily evaluation in the Employee Health Clinic for dissemination of lesions for up to 21 days after the vaccination.

4.19.7.2 Some HCWs may develop disseminated papular or vesicular skin lesions following vaccination. These persons should be removed from work until all lesions have dried and crusted over.

4.20 **Management of Selected Airborne and Droplet Infectious Disease Exposures In Healthcare Workers**

4.20.1 The infection control surveillance clinic will assess HCWs for exposure, prophylaxis, treatment, and work exclusion and will notify Infection Control of the actions taken. When the Employee Health Clinic is closed, HCWs should seek medical attention in the Emergency Room. Expert consultation may be obtained from Infection Preventionist (IP) or the Infectious Disease Consultant on call during weekends and holidays.

4.20.1.1 Management of the following conditions is outlined:

4.20.1.1.1 Varicella (Chickenpox) and shingles
4.20.1.1.2 Measles
4.20.1.1.3 Rubella
4.20.1.1.4 Mumps
4.20.1.1.5 Mycobacterium tuberculosis
4.20.1.1.6 Meningococcal meningitidis (Neisseria meningitidis)
4.20.1.1.7 Pertussis

4.20.2 MANAGING VARICELLA (CHICKENPOX) or SHINGLES EXPOSURE

4.20.2.1 Incubation period: Usually 14-16 days; range, 10-21 days; up to 28 days in persons who have received varicella zoster immunoglobulin (VZIG).

4.20.2.2 Exposure criteria

4.20.2.2.1 Varicella :A household contacts, face-to-face contact for more than 5 minutes with an infected person without wearing a surgical mask, or direct contact with vesicle fluid without wearing gloves

4.20.2.2.2 Shingles: Direct contact with vesicle fluid without wearing gloves.

4.20.2.3 Period of communicability:

4.20.2.3.1 Varicella :Affected persons are most contagious 1-2 days before and shortly after vesicles appear. Transmission can occur up to 5 days after onset of rash. Immunocompromised persons may be contagious as long as new vesicles are appearing.

4.20.2.3.2 Shingles: Affected persons are most contagious from 24 hours before the first vesicle appears and up to 48 hours after the final vesicle appears.

4.20.2.4 Employee health

4.20.2.4.1 Assess immunity: HCW is susceptible unless he or she has a history of varicella or has serological evidence of immunity. Consider checking varicella IgG antibody titer to determine the immune status of the HCW.

4.20.2.4.2 For vaccination of HCWs against VZV, refer to ICM–VI-08 Varicella Immunization for Healthcare Workers.

4.20.2.5 Work restrictions

4.20.2.5.1 Exposed: From days 1-7 of exposure no restrictions is required. HCW should be excluded from duty on day 8th after 1st exposure through day 21st of last exposure (28th day if VZIG was given after the last exposure).

4.20.2.5.2 Infected:HCW may return to work after all lesions have crusted over.

4.20.2.6 Prophylaxis

4.20.2.6.1 Consider giving VZIG to non-immune, immunocompromised persons or pregnant women within 96 hours of exposure.

4.20.3 MANAGING MEASLES EXPOSURE

4.20.3.1 Incubation period: Usually 8-12 days; range, 7-21 days.

4.20.3.2 Exposure criteria: Spending time in a room with an infected person without wearing a respirator. If air is recirculated, spending time in the area supplied by the air-handling system while an infected person was present or within 1

hour after the person's departure. Contact with nasal or oral secretions from an infected person or items contaminated with these secretions without wearing gloves.

4.20.3.3 Period of communicability:From 4 days before the rash appears to 4 days after the rash appears, but transmission is minimal by 2 to 4 days after the rash appears

4.20.3.4 Employee health: Assess immunity; an HCW is susceptible unless he or she was born before 1957, provides serological evidence of immunity, or has two documented doses of measles vaccine.Obtain blood for IgG antibody titers as needed. For staff who have not received two doses of measles vaccine, consider initiating or completing the vaccine series.

4.20.3.5 Work restrictions

4.20.3.5.1 Exposed: From days 1-4 no restrictions required. From days 5 to 21 for a single exposure or day 5 of the first exposure through day 21 of the last exposure the HCW either must not work or must have no direct patient contact or must only work with immune persons away from patient care areas.

4.20.3.5.2 Infected: HCW may return to work 4 days after developing a rash.

4.20.3.6 Prophylaxis: Consider giving susceptible HCWs the vaccine within 3 days or IG within 6 days of exposure to modify severity of infection; vaccine or IG given after exposure does not change work restrictions.

4.20.4 MANAGING RUBELLA EXPOSURE

4.20.4.1 Incubation period: Usually 16-18 days; range, 14-21 days.

4.20.4.2 Exposure criteria: Contact within 3 feet of an infected person without wearing a mask; contact with nasopharyngeal secretions from an infected person or items contaminated with these secretions without wearing gloves; contact with nasopharyngeal secretions or urine from an infant with congenital rubella without wearing gloves.

4.20.4.3 Period of communicability: From 7 days before the rash to 7 days after the rash appears; up to 1 year for infants with congenital rubella

4.20.4.4 Employee health: Assess immunity; an HCW is susceptible unless he or she was born before 1957, provides serological evidence of immunity, or has one documented dose of rubella vaccine. Obtain blood for IgG antibody titers as needed. For staff who has not received two doses of rubella vaccine, consider initiating or completing the vaccine series.

4.20.4.5 Work Restrictions

4.20.4.5.1 Exposed: From days 1-6 no restrictions required. From 7th day after the 1st exposure through the last exposure on the 23rd day, the HCW either must not work or must have no direct patient contact or must only work with immune persons away from patient care areas.

4.20.4.5.2 Infected: HCW may return to work 7 days after developing rash.

4.20.4.6 Prophylaxis: None; the rubella vaccine does not prevent infection after exposure. IG does not prevent infection.

4.20.5 MANAGING MUMPS EXPOSURE

4.20.5.1 Incubation period: Usually 16-18 days; range, 12-25 days.

4.20.5.2 Exposure criteria: Being within 3 feet of an infected person without wearing a mask; contact with saliva or items contaminated with saliva from an infected person without wearing gloves.

4.20.5.3 Period of communicability: Patients are most communicable 48 hours before the onset of illness, and continue until 5 days after the onset of parotitis.

4.20.5.4 Employee health:Assess immunity; an HCW is susceptible unless he or she was born before 1957, provides serologic evidence of immunity, or has one

documented dose of mumps vaccine. Obtain blood for IgG antibody titers as needed. For staff who has not received two doses of mumps vaccine, consider initiating or completing the vaccine series.

4.20.5.5 Work restrictions

4.20.5.5.1 Exposed: From days 1-11, no restrictions required. Restrict from work day 12th after first exposure through day 25th of last exposure or 5 days after onset of parotitis. The HCW either must not work or must have no direct patient contact, or work only with immune persons away from patient care areas.

4.20.5.5.2 Infected: HCW may return to work 5 days after the onset of parotid gland swelling.

4.20.5.6 Prophylaxis: None; the mumps vaccine is not proven to prevent infection after exposure; mumps IG does not prevent infection.

4.20.6 MANAGING MYCOBACTERIUM TUBERCULOSIS EXPOSURE

4.20.6.1 Incubation period: From 2 to 10 weeks after exposure to detection of positive Tuberculin skin test (TST) or Interferon-gamma release assay (IGRA); the risk of developing active disease is greatest in the first 2 years after exposure.

4.20.6.2 Exposure criteria: Spending time in a room with a person who has active disease without wearing an N95 respirator; packing or irrigating wounds infected with Mycobacterium Tuberculosis (MTB) without wearing an N95 respirator.

4.20.6.3 Period of communicability: Persons whose smears are AFB positive are 20 times more likely to cause secondary infections than persons who are smear negative. Children with primary pulmonary MTB are rarely contagious.

4.20.6.4 Employee health: Obtain baseline TST results by doing 2 step TST if these have not been performed recently and if the HCW was previously negative; perform post-exposure TST test at 8 to 10 weeks; if the TST test result comes out positive prescribe MTB prophylaxis. Positive IGRA result is also an indication for MTB prophylaxis

4.20.6.5 Work restrictions

4.20.6.5.1 Persons whose TST results and IGRA test results are positive

4.20.6.5.2 Infected: Restrict HCWs with active MTB from duty until after they have taken 2 to 3 weeks of effective anti-tuberculosis chemotherapy and they have had 3 AFB-negative sputum samples taken over 8 to 24 hours (one must be an early morning specimen).

4.20.6.5.3 Prophylaxis: Prescribe Isoniazid 300 mg daily for 9 months (or 12 months for HIV-infected persons) and
pyridoxine 20-40 mg daily. Consult with Infectious disease consultant for verification of the most appropriate prophylaxis regimen.

4.20.7 MANAGING MYCOBACTERIUM TUBERCULOSIS EXPOSURE

4.20.7.1 Incubation period: Usually <4 days; range, 1-10 days.

4.20.7.2 Exposure criteria: Extensive contact with respiratory secretions from an infected person without wearing a mask, particularly when suctioning, resuscitating, or intubating.

4.20.7.3 Period of communicability: Persons are infectious until they have taken 24 hours of effective antibiotic therapy.

4.20.7.4 Employee health :Prescribe prophylaxis; educate exposed HCWs about the signs and symptoms of meningitis.

4.20.7.5 Work restrictions

4.20.7.5.1 • Exposed: None

4.20.7.5.2 • Infected: HCW should be restricted from work until they have taken 24 hours of effective antibiotic therapy

4.20.7.6 Prophylaxis: Rifampin 600 mg every 12 hours for 2 days (contraindicated in pregnancy) or Ciprofloxacin 500 mg single dose (contraindicated in pregnancy) or Ceftriaxone 250 mg IM single dose (safe during pregnancy)

4.20.8 MANAGING PERTUSSIS EXPOSURE

4.20.8.1 Incubation period: Usually 7-10 days; range, 5-21 days.

4.20.8.2 Exposure criteria

- Face-to-face contact without wearing a mask for more than 10 min.
- Spending 1 hour in a room with a confirmed case without wearing a mask.

4.20.8.3 Period of communicability: Patients are most contagious during the catarrhal stage; communicability diminishes rapidly after the onset of coughing but can persist for as long as 3 weeks.

4.20.8.4 Employee health: If the HCW has no symptoms, he/she should begin prophylaxis and return to work. If the HCW is symptomatic, he/she should begin therapy and exclude from work until test results are available.

4.20.8.5 Work restrictions Exposed:

4.20.8.5.1 Post-exposure (asymptomatic): No restrictions, prophylaxis recommended.

4.20.8.5.2 Post-exposure (symptomatic): Exclude from duty until 5 days after initiating effective therapy or until the disease is excluded by negative serology and negative nasopharyngeal culture.

4.20.8.5.3 Active: Exclude from duty from the beginning of the catarrhal stage through the 3rd week after the onset of paroxysm or until 5 days after the start of effective antimicrobial therapy.

4.20.8.6 Prophylaxis: The recommended drug is erythromycin (40 mg/kg/day in 4 divided doses, maximum of 2 gm/day) for 14 days (estolate preparation is preferred). Azithromycin or clarithromycin may be tolerated better than erythromycin. If the HCW is allergic to the macrolide group, Cotrimoxazole DS (1 tablet twice daily for 14 days) can be administered.

4.20.9 Varicella or Shingles Exposure: See appendices 7.4

4.20.10 Measles Exposure: See appendices 7.5

4.20.11 Rubella Exposure. See appendices 7.6

4.20.12 Mumps Exposure. See appendices 7.7

4.20.13 Mycobacterium Tuberculosis Exposure. See appendices 7.8

4.20.14 Neisseria Meningitis Exposure. See appendices 7.9

4.20.15 Bordatella Pertussis Exposure . See appendices 7.10

4.20.16 MANAGEMENT OF PEDICULOSIS AND SCABIES EXPOSURE FOR HEALTHCARE WORKERS

4.20.16.1 The Employee Health Clinic (EHC) will assess HCWs who were exposed for prophylaxis, treatment and work exclusion and will notify Infection Control of any actions taken. When the EHC is closed, HCWs should seek medical attention in the Emergency Room. Expert consultation may be obtained from infection preventionists (IP) on weekdays or from the Infectious Disease Consultant-on-call during weekends and holidays.

4.20.16.2 Management of the following conditions is outlined: See appendices 7.11

Scabies

4.20.16.2.1 Incubation period :During 4-6 weeks if no previous infestation; 1-3 days in cases of re-infestation

4.20.16.2.2 Exposure criteria :Direct skin-to-skin contact; minimal direct contact with crusted scabies can result in transmission.

4.20.16.2.3 Period of communicability

- Transmission can occur before the onset of symptoms.
- A person remains infectious until treated.

4.20.16.2.4 Employee health

- Prescribe scabicide for all exposed HCWs.

• Do not use Lindane for pregnant women.

4.20.16.2.5 Work restrictions
• Exposed: No restriction after one application of scabicide
• Infested: Immediate restriction for 24 hours following treatment

4.20.16.2.6 Prophylaxis: Drug of choice: 5% permethrin; alternative drugs: lindane or crotamiton.

4.20.16.3 Pediculosis (Lice)

4.20.16.3.1 Incubation period: 7-10 days

4.20.16.3.2 Exposure criteria:
• Head lice: hair-to-hair contact with an infested person. Sharing of personal items such as hats, helmets, brushes, combs and headsets, or earphones.
• Body lice: contact with the bedding or clothes of an infested person without
• Pubic lice: sexual contact.

4.20.16.3.3 Period of communicability
• As long as lice or eggs remain alive on an infested person, clothing, or personal items.
• Head lice die within 24 to 48 hours after leaving a host.
• Body lice may survive for up to 30 days in a patient's clothing or linen.
• Survival time for lice away from the host ranges between 2 days and 1 month.

4.20.16.3.4 Employee health: Treat HCWs only if infested.

4.20.16.3.5 Work restrictions
• Exposed: No restrictions.
• Infested: Immediate restriction until 24 hours after treatment

4.20.16.3.6 Prophylaxis:Not recommended.

5. MATERIALS AND EQUIPMENT:

5.1 **Forms and Records:**
5.1.1 N/A

5.2 **Materials and Equipment**
5.2.1 N/A

6. RESPONSIBILITIES:

6.1 EHC and Health Care Workers

7. APPENDICES:

7.1 Routine immunizations recommended for healthcare personnel
7.2 Summary of suggested work restrictions for healthcare personnel exposed to or infected with an infectious disease of importance in healthcare settings.
7.3 The pregnant healthcare worker: pertinent facts to guide the management of occupational exposures to infectious agents
7.4 Varicella or Shingles Exposure
7.5 Measles Exposure
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7.7 Mumps Exposure
7.8 Mycobacterium Tuberculosis Exposure
7.9 Neisseria Meningitis Exposure
7.10 Bordatella Pertussis Exposure

7.11 Scabies Exposure
7.12 Pediculosis (Lice) Exposure

8. REFERENCES:

8.1 The-GCC-Infection-Prevention-and-Control-Manual-3rd-Edition.pdf
8.2 Association for Professionals in Infection Control (APIC) and Epidemiology, Inc. (2014). Chapter 99: Parasites. In APIC Text of infection control and epidemiology (4th ed.).
8.3 Centers for Disease Control and Prevention (CDC). 6th edition U.S. Public Health Service guidelines for TB care guide highlights from core curriculum on tuberculosis: what the clinician should know, 2016.
8.4 Saudi Central Board for Accreditation of Healthcare Institutions (CBAHI) Standards 3rd Edition. 1436-2015. Effective 1 January 2016

9. APPROVALS:

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7.1 Routine immunizations recommended for healthcare personnel

Generic name	Dose, route and schedule	Indications	Major precautions and contraindications	Special considerations
Hepatitis B recombinant vaccine	1. Give IM 2. Give 3-dose series (1st dose immediately, 2nd dose in 1 month, 3rd dose 5 months after 2nd dose) 3. Obtain anti-HBs serological testing 1-2 months after 3rd dose	HCWs at risk of exposure to blood and body fluids with no previous evidence of immunity documented.	Precautions: Moderate or severe acute illness, with or without fever History of anaphylactic reaction to common baker's yeast Contraindication: Severe allergic reaction after a previous dose or to any vaccine component. Not contraindicated in pregnancy and may be administered to a pregnant woman who is eligible for it.	HCWs who have ongoing contact with blood and body fluids should be tested 1-2 months after completing the vaccination series to determine serologic response.
Influenza vaccine	One dose of trivalent influenza vaccine (TIV) annually.	All HCWs	Precautions: Moderate or severe acute illness, with or without fever. History of Guillain-Barre Syndrome 6 weeks after previous influenza vaccination. Contraindication Severe allergic reaction to previous dose or any vaccine component (e.g., egg)	No evidence of maternal or fetal risk when vaccine was given to pregnant women with underlying conditions that render them at high risk for serious influenza complications.
MMR vaccine	1. Give SC 2. Give 2 doses of MMR, 4 weeks apart.	For HCWs who have no serological evidence of immunity or prior vaccination HCWs should have a documentation of 2 doses of MMR.	Contraindication: Pregnancy, immunocompromised state* (including HIV-infected persons with severe immunosuppression). History of thrombocytopenic purpura. Recent immunoglobulin administration. Moderate or severe current illness with or without fever History of allergy or anaphylactic reaction to gelatin or neomycin. Pregnancy: Females should avoid getting pregnant for a minimum of 1 month after each shot.	1. MMR is the vaccine of choice if recipients are also likely to be susceptible to rubella and/or mumps 2. Persons vaccinated between 1963 and 1967 with a killed measles vaccine alone, killed vaccine followed by live vaccine, or a vaccine of unknown type should be revaccinated with 2 doses of the live measles vaccine.

Generic name	Primary booster dose schedule	Indications	Major precautions and contraindications	Special considerations
Quadrivalent Meningococcal conjugate vaccine tetravalent (A,C,Y,W) for HCWs ages 19-54 years **Quadrivalent meningococcal polysaccharide vaccine for HCW age ≥55 years**	One dose in a volume specified by the manufacturer.	HCWs performing or participating in Hajj Clinical and research microbiologist routinely exposed to isolates of Neisseria Meningitidis	Precautions: Moderate or severe acute illness, with or without fever. History of Guillian-Barre syndrome (if not high risk for meningococcal disease)	The safety of the vaccine has not been evaluated among women. It should not be administered during pregnancy unless risk for infection is high.
Tetanus, diphtheria (Td)	Td booster every 10 years following the completion of primary 3-dose series given IM during childhood.	All HCWs	Allergy or anaphylactic reaction to gelatin and neomycin or to any of the vaccine components following a prior dose	
Tetanus-Diphtheria Acellular Pertussis (Tdap)	One-time dose of Tdap to all HCWs younger than 65 years of age. After receipt of Tdap, give Td booster every 10 years	All HCWs regardless of age.	History of hypersensitivity to the vaccine or its components. History of Encephalopathy or Guillain-Barre Syndrome (GBS) less than 6 weeks after previous dose of tetanus containing toxoid. Precautions: Moderate or severe acute illness, with or without fever. The safety of the vaccine in pregnant women has not been determined.	
Hepatitis A vaccine	Two doses of the vaccine 6 to 12 months apart (HAVRIX®, AVAXIM®)	For adults who have no sign of immunity or no previously documented series of 2 shots.	History of anaphylactic hypersensitivity to alum (or for HAVRIX®, the preservative 2-phenoxyethanol). The safety of the vaccine in pregnant women has not been determined.	
Rabies vaccine	Refer to **ICM-IV-07** to **ICM-IV-08**			

Other immunizations recommended for healthcare personnel in special circumstances (modified from ACIP recommendations)

Generic name	Primary booster dose schedule	Indications	Major precautions and contraindications	Special considerations
Varicella-Zoster live virus vaccine	Two 0.5-ml doses SC, 4 weeks apart	For persons who have NO serologic evidence of immunity Or No documentation of vaccination.	Contraindication Severe allergic reaction after a previous dose or to any vaccine component. Anaphylactic reaction to gelatin and neomycin or any of the vaccine components. Immunosuppression due to leukemia, lymphoma, generalized malignancy, immune deficiency or immunosuppressive therapy. Moderate to severe immunodeficiency resulting from HIV infection. **Pregnancy**: Precautions Recent (≤11 months) receipt of antibody containing blood product (i.e. immunoglobulin, whole blood or packed red blood cells) Immunoglobulin should not be given for 3 weeks following vaccination. (specific interval depends on the product) Moderate or severe acute illness, with or without fever.	

HDCV: Human diploid cell rabies vaccine
RVA: Rabies vaccine absorbed
IM: Intramuscularly
SC: Subcutaneously
Hep B: Written documentation of vaccination along with the level of anti-HBs 1-2 months post vaccination is mandatory for HCWs.
* Immunocompromised because of immune deficiencies: HIV infection, leukemia, lymphoma, generalized malignancy, or immunosuppressive
therapy with corticosteroids, alkylating drugs, anti-metabolites, or radiation.

7.2 Summary of suggested work restrictions for healthcare personnel exposed to or infected with an infectious disease of importance in healthcare settings.

Disease/problem	Work restriction	Duration	Category
Conjunctivitis	Restrict from patient contact and contact with the patients' environment	Until discharge ceases	II
Cytomegalovirus infection	No restriction		II
Diarrheal diseases			
Acute stage (diarrhea with other symptoms)	Restrict from patient contact, contact with the patients' environment, or food handling	Until symptoms resolve	IB
Convalescent stage (Salmonella spp.)	Restrict from care of high-risk patients, such as immunocompromised patients	Until symptoms resolve; consult with employee health	IB
Diphtheria	Exclude from duty	Until antimicrobial therapy is completed and 2 cultures obtained ≥24 hours apart are negative	IB
Enteroviral infections	Restrict from care of infants, neonates, and immunocompromised patients and their environments	Until symptoms resolve	II
Hepatitis A	Restrict from patient contact, contact with the patients' environment, and food handling	Until 7 days after the onset of jaundice	IB
Hepatitis B	Refer to specific MOH recommendation in policy ICM–VII-04 *Management of Sharps Injury and Exposure to Blood-borne Pathogens*		
Hepatitis C	Refer to specific MOH recommendation in IPP ICM–VII-04 *Management of Sharps Injury and Exposure to Blood-borne Pathogens*		Unresolved issue
Herpes simplex			
Genital	No restriction		I
Hands (herpetic whitlow)	Restrict from patient contact and contact with the patients' environment	Until lesions heal	IA
Orofacial	Evaluate for need to restrict from care of high-risk patients	Consult with Employee Health	II

Disease/problem	Work restriction	Duration	Category
Measles			
Active	Exclude from duty	Until 4 days after the rash appears	IA
Post-exposure (susceptible personnel)	Exclude from duty	From 5th day after first exposure through the 21st day after the last exposure and/or until 4 days after rash appears	IB
Meningococcal meningitis	Exclude from duty	Until 24 hours after the start of antibiotic therapy	IA
Mumps			
Active	Exclude from duty	Until 5 days after onset of Parotitis	IB
Post-exposure (susceptible personnel)	Exclude from duty	From 12th day after first exposure through 25th day after last exposure or 5 days after onset of Parotitis	II
Pediculosis	Restrict from patient contact	Until treated and observed to be free of adult and immature lice	IB
Pertussis			
Active	Exclude from duty	From the beginning of catarrhal stage through the 3rd week after onset of paroxysms or until 5 days after start of effective antimicrobial therapy	IB
Post-exposure (asymptomatic personnel)	No restriction, prophylaxis recommended; refer to policy ICM – VI-09, *Management of Airborne and Droplet Infectious Disease Exposure in Healthcare Workers* (Chickenpox, Measles, Rubella, Mumps, MTB, *N. meningitis*, Pertussis)		II
Post-exposure (symptomatic personnel)	Exclude from duty	Until 5 days after the start of effective antimicrobial therapy	IB
Rubella			
Active	Exclude from duty	Until 7 days after the rash appears	IA
Post-exposure (susceptible personnel)	Exclude from duty	From the 7th day after first exposure through 23rd day after last exposure and /or until 7 days after rash appears	IB
Scabies	Restrict from patient contact	Until cleared by medical evaluation	IB

Disease/problem	Work restriction	Duration	Category
Measles			
Active	Exclude from duty	Until 4 days after the rash appears	IA
Post-exposure (susceptible personnel)	Exclude from duty	From 5th day after first exposure through the 21st day after the last exposure and/or until 4 days after rash appears	IB
Meningococcal meningitis	Exclude from duty	Until 24 hours after the start of antibiotic therapy	IA
Mumps			
Active	Exclude from duty	Until 5 days after onset of Parotitis	IB
Post-exposure (susceptible personnel)	Exclude from duty	From 12th day after first exposure through 25th day after last exposure or 5 days after onset of Parotitis	II
Pediculosis	Restrict from patient contact	Until treated and observed to be free of adult and immature lice	IB
Pertussis			
Active	Exclude from duty	From the beginning of catarrhal stage through the 3rd week after onset of paroxysms or until 5 days after start of effective antimicrobial therapy	IB
Post-exposure (asymptomatic personnel)	No restriction, prophylaxis recommended; refer to policy ICM – VI-09, *Management of Airborne and Droplet Infectious Disease Exposure in Healthcare Workers* (Chickenpox, Measles, Rubella, Mumps, MTB, *N. meningitis*, Pertussis)		II
Post-exposure (symptomatic personnel)	Exclude from duty	Until 5 days after the start of effective antimicrobial therapy	IB
Rubella			
Active	Exclude from duty	Until 7 days after the rash appears	IA
Post-exposure (susceptible personnel)	Exclude from duty	From the 7th day after first exposure through 23rd day after last exposure and /or until 7 days after rash appears	IB
Scabies	Restrict from patient contact	Until cleared by medical evaluation	IB

Disease/problem	Work restriction	Duration	Category
Zoster Localized zoster with contained/covered lesions	For HCW with at least 1 receipt of varicella vaccine, no work restrictions. For HCW with no doses of varicella vaccine, restrict patient contact.	From 8th day after 1st exposure through 21st day (28th day if varicella zoster immune globulin administered) after the last exposure; if varicella occurs , until all lesions dry and crust, or if only lesions that do not crust (i.e., macules, papules), until no new lesions appear within a 24-hour period.	
Viral respiratory infections, acute febrile	Consider excluding from the care of high-risk patients ++ or from contact with their environment during community outbreaks of RSV and influenza	Until acute symptoms resolve	IB

* Unless epidemiologically linked to the transmission of infection

\+ Those susceptible to varicella and those who are at increased risk of complications due to varicella, such as neonates and immunocompromised persons of any age

++ High-risk patients as defined by the ACIP for complications due to influenza

7.3 The pregnant healthcare worker: pertinent facts to guide the management of occupational exposures to infectious agents

Agent	In-hospital source	Potential effect on fetus	Rate of perinatal transmission	Maternal screening	Prevention
Cytomegalovirus (CMV)	Urine, blood, semen, vaginal secretions, immuno-compromised or transplant patients, dialysis, day care	Classic cytomegalic inclusion disease *5% to10% Hearing loss 10% to 15%	Primary infection 25% to 50% Recurrent infection 52% Symptomatic <5% to 15%	Routine screening not recommended Antibody is not completely protective	Efficacy of CMV immuno-globulin not established No vaccine available Standard Precautions
Hepatitis A (HAV)	Feces most commonly, blood (rarely)	No fetal transmission, transmission may occur at the time of delivery if the mother is still in the infectious phase	None	Routine screening not recommended	Vaccine is a killed virus vaccine and can safely be used in pregnancy Contact Precautions during the acute phase
Hepatitis B (HBV)	Blood, body fluids, vaginal secretions, semen	Hepatitis; early onset hepatocellular carcinoma	HB_eAg positive 90% HBsAg positive 10%	Routine HB_SAg testing is advised.	HBV vaccine during pregnancy Neonate: Vaccine/HBIG at birth Standard Precautions
Hepatitis C (HCV)	Blood, sexual contact	Hepatitis	5% (0 to 25%)	Anti-HCV or HCV RNA routine screening not recommended	No vaccine or immunoglobulin is available Post-exposure treatment with antiviral agents Standard Precautions
Herpes simplex virus (HSV)	Vesicular fluid, oropharyngeal and vaginal secretions	Sepsis, encephalitis, meningitis; mucocutaneous lesions; congenital malformations (rare)	Primary genital 33% to 50% Recurrent genital 1% to 2%	Antibody testing minimally useful Inspection for genital lesions during labor	Chemoprophylaxis at 36 weeks decreases shedding Standard Precautions
Human immuno-deficiency virus (HIV)	Blood, body fluids, vaginal secretions, semen	Acquired immunodeficiency disease syndrome (AIDS) by 2-4 years of age No congenital syndrome	Depends on HIV viral titer If viral titer is <1000, then the rate is 2% If viral titer ≥10,000 then the rate can be up to 25%	Routine maternal screening advised (HIV ELISA, Western blot) If exposed, then testing at 3, 6 and 12 months is recommended	Antiretroviral chemoprophylaxis available for exposure, postnatal chemoprohylaxis for HIV-positive mothers and their infants Standard Precautions

Agent	In-hospital source	Potential effect on fetus	Rate of perinatal transmission	Maternal screening	Prevention
Influenza	Sneezing and coughing, respiratory tract secretions	No congenital syndrome; influenza in the mother can cause hypoxia in fetus	Rare	None	TIV for all pregnant women during influenza season to decrease the risk of hospitalization for cardiopulmonary complications Droplet Precautions
Measles (Rubella)	Respiratory secretions, coughing	Prematurity, spontaneous abortion, congenital syndrome	Rare	Antibody test	Vaccine Airborne Precautions
Parvovirus B19	Respiratory secretions, blood, immuno-compromised patients	Fetal hydrops, stillbirth; no congenital syndrome	Approximately 25% Fetal death <10%	No routine screening; B19 DNA can be detected in serum, leukocytes, respiratory secretions, urine, and tissue specimens	No vaccine, defer care of immunocompromised patients with chronic anemia Droplet Precautions
Rubella	Respiratory secretions	Congenital syndrome *	90% in the first trimester, 40% to 50% overall	Routine rubella IgG testing in pregnancy Preconception screening recommended	Vaccine+ No congenital rubella syndrome described for vaccine Droplet Precautions Contact Precautions for congenital rubella
Syphilis	Blood; lesions; fluid; amniotic fluid	Congenital syndrome *	10% to 90%, depending on the stage of maternal disease and the trimester at the time of infection	VDRL, RPR++ FTA ABS	Post-exposure prophylaxis with penicillin Standard Precautions Gloves until 24 hrs of effective therapy has been completed for infants with congenital syphilis Contact Precautions when skin and mucous membrane lesions are present

Agent	In-hospital source	Potential effect on fetus	Rate of perinatal transmission	Maternal screening	Prevention
Toxoplasmosis	No human-to-human spread; raw meat, cat feces, unwashed fruits and vegetables	Congenital syndrome*	30% to 50%; rate increases as pregnancy advances, severe disease after primary infection in first trimester	Antibody protects against disease. Routine screening not recommended in the US	Frozen or cooked meat; avoid or glove for contact with cat feces; wash fruits, vegetables, change cat litter at least once every 24 hours
Tuberculosis	Sputum; skin lesions	Neonatal tuberculosis, liver most frequently affected.	Rare	Tuberculin Skin test (TST**) QuantiFERON-TB (QFT) Chest radiograph	INH and ethambutol + rifampin for active maternal disease Airborne Precautions
Varicella-zoster virus	Respiratory secretions, vesicular fluid	Malformations (skin, limb, CNS, eye); chickenpox, zoster	Total 25% Congenital syndrome 2% (0 to 4%)	History, antibody	Vaccine+ or VZIG within 96 hours of exposure if susceptible Airborne Precautions Contact Precautions

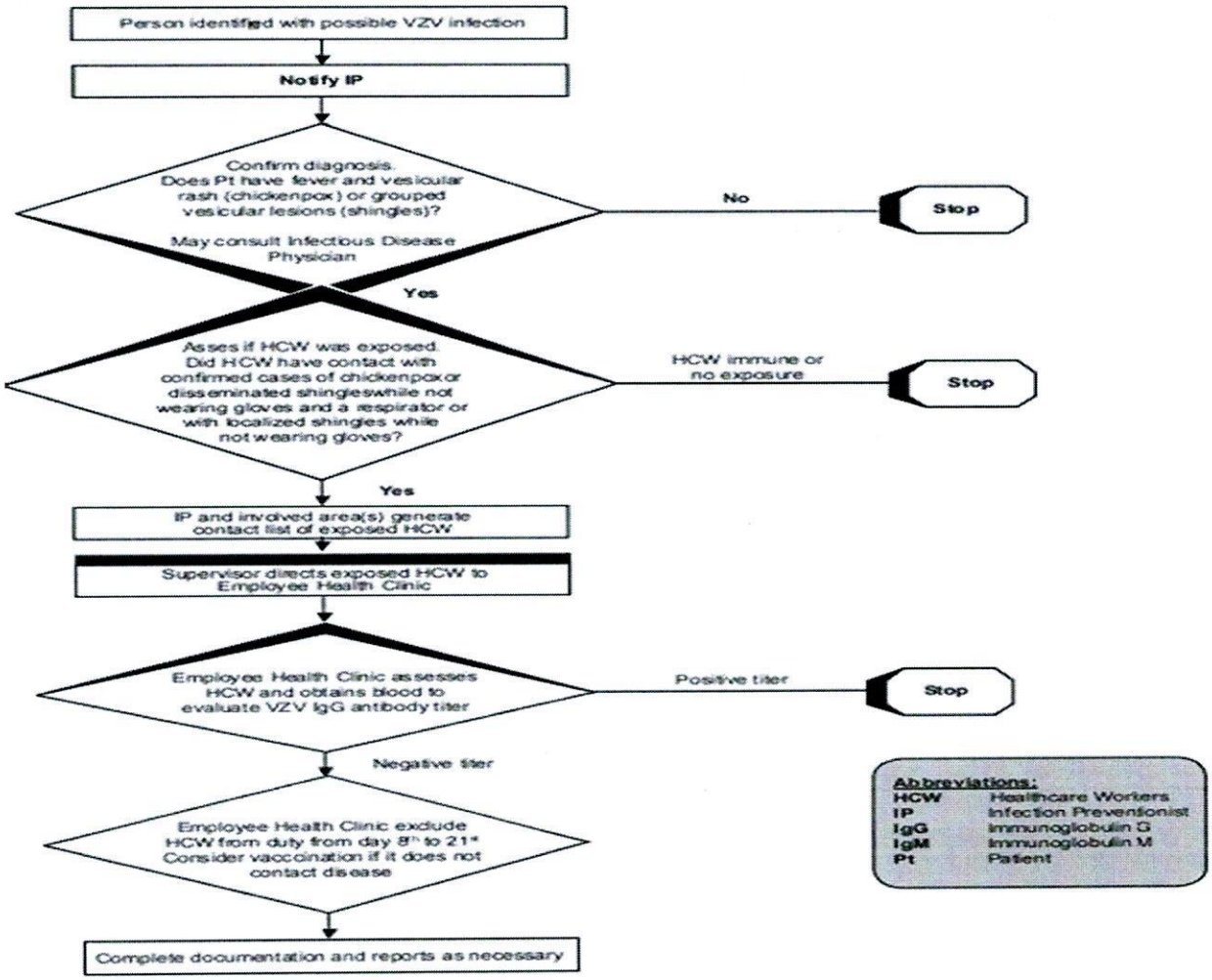
* Congenital syndrome: varying combinations of jaundice, hepatosplenomegaly, microcephaly, CNS abnormalities, thrombocytopenia, anemia, retinopathy, and skin and bone lesions

\+ Live virus vaccines should be given before or after pregnancy

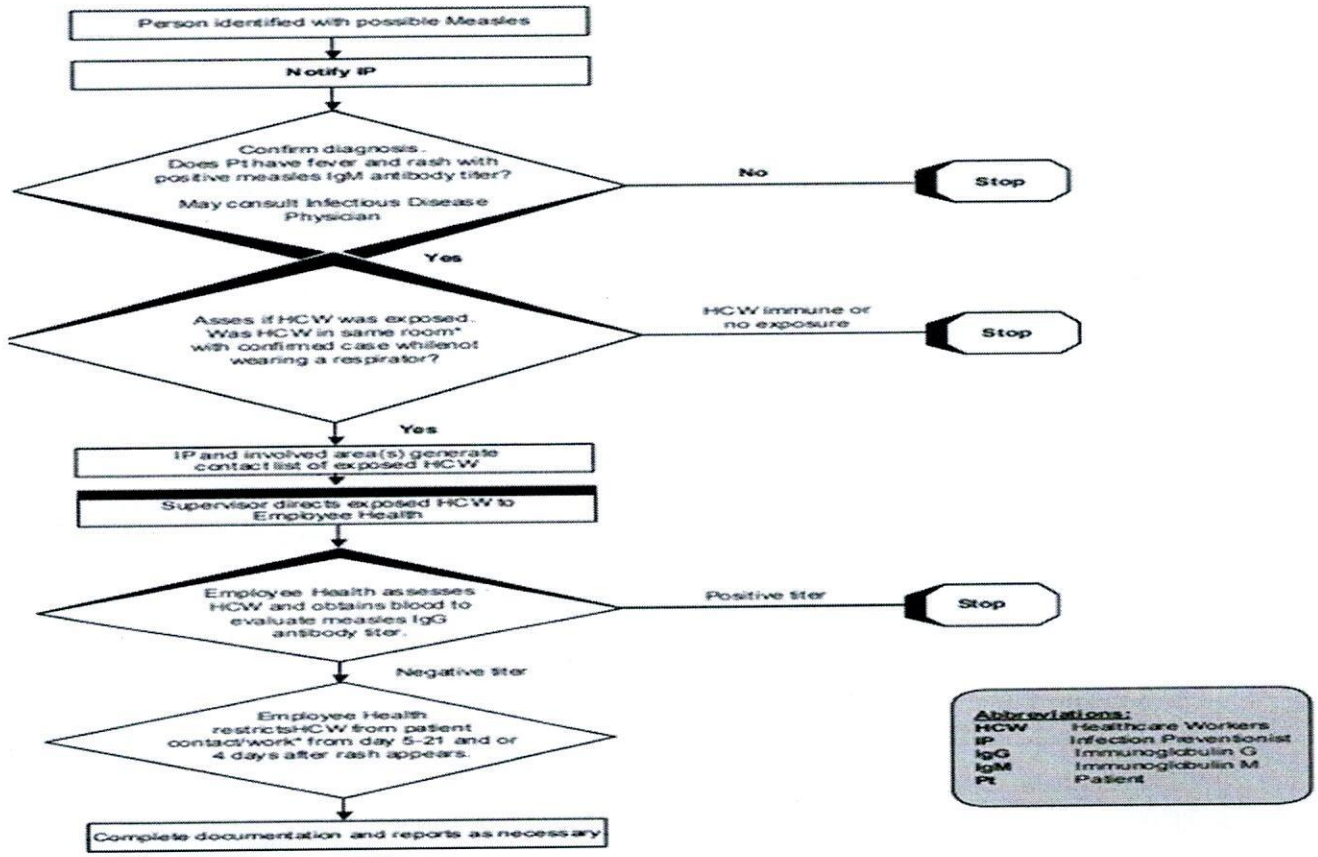
++ VDRL, Venereal Disease Research Laboratory test; RPR, rapid plasma reagin test

** TST, Tuberculin Skin Test

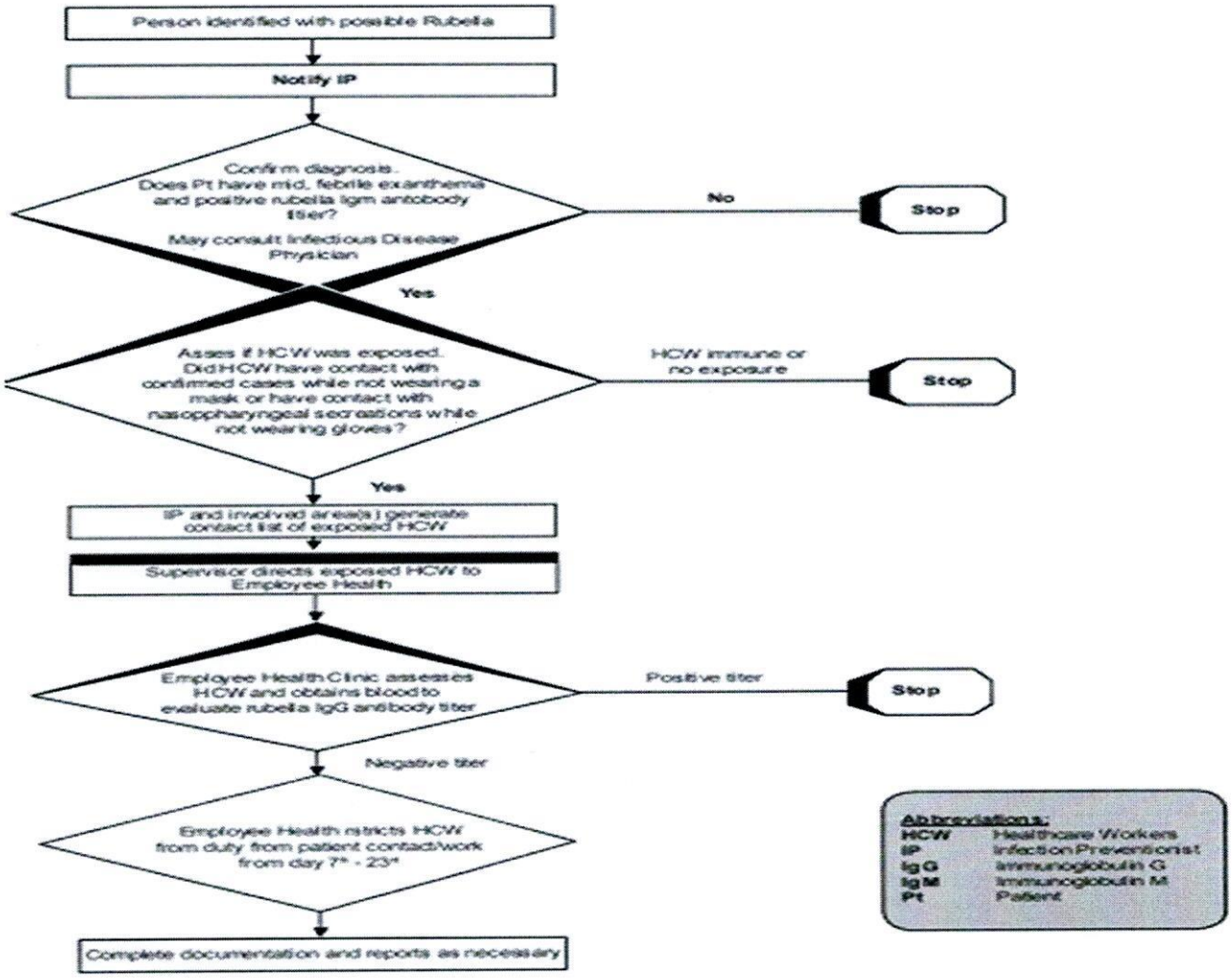
7.4 Varicella or Shingles Exposure



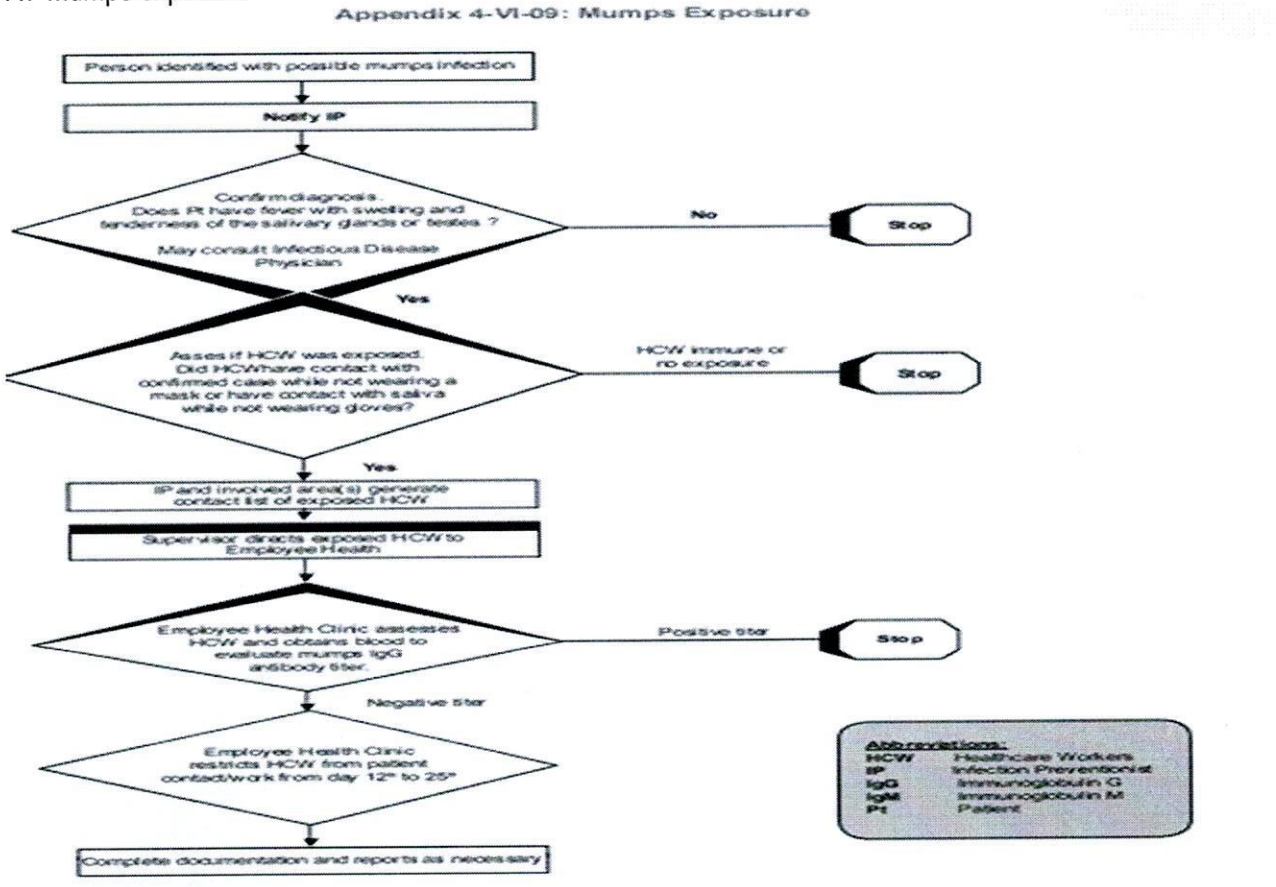
7.5 Measles Exposure



7.6 Rubella Exposure

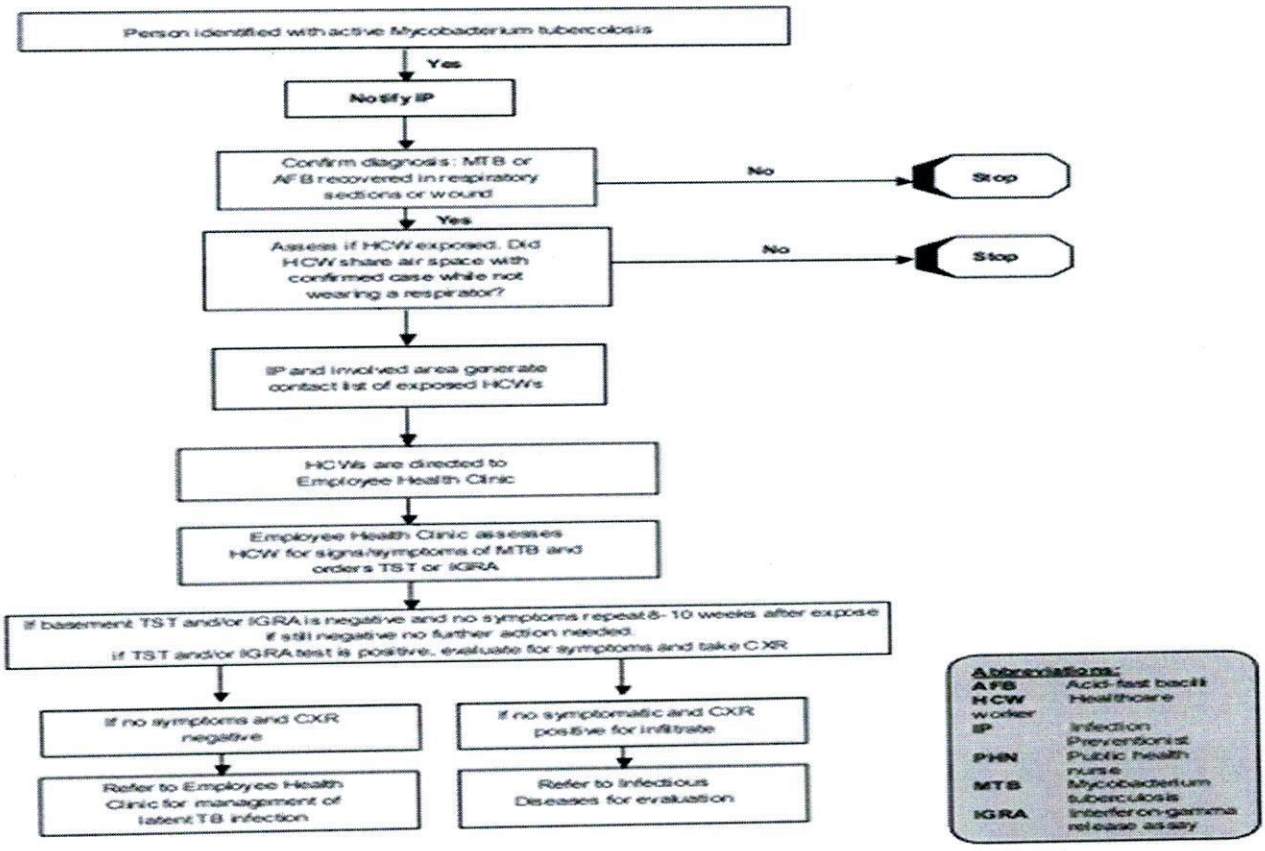


7.7 Mumps exposure



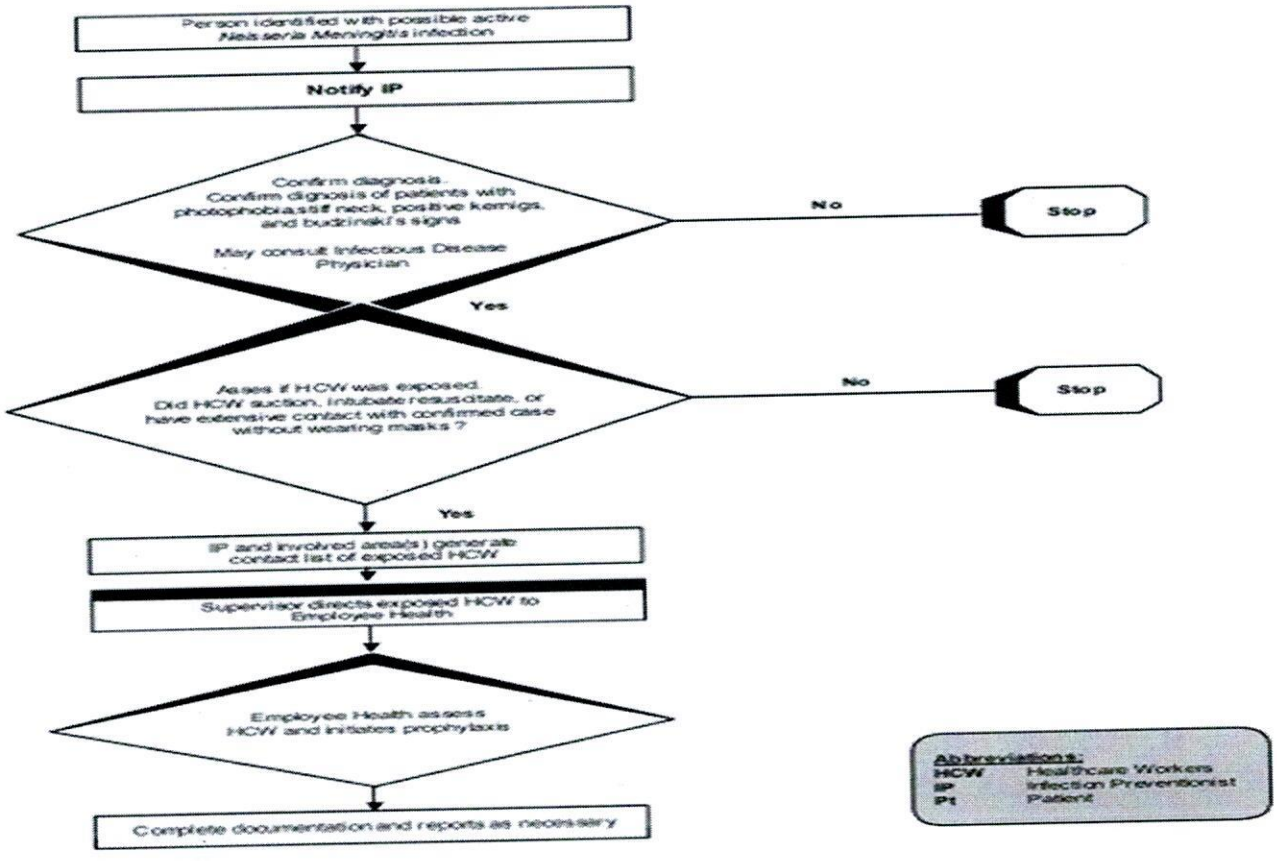
7.8 Mycobacterium Tuberculosis Exposure

Appendix 5-VI-09: Mycobacterium Tuberculosis Exposure



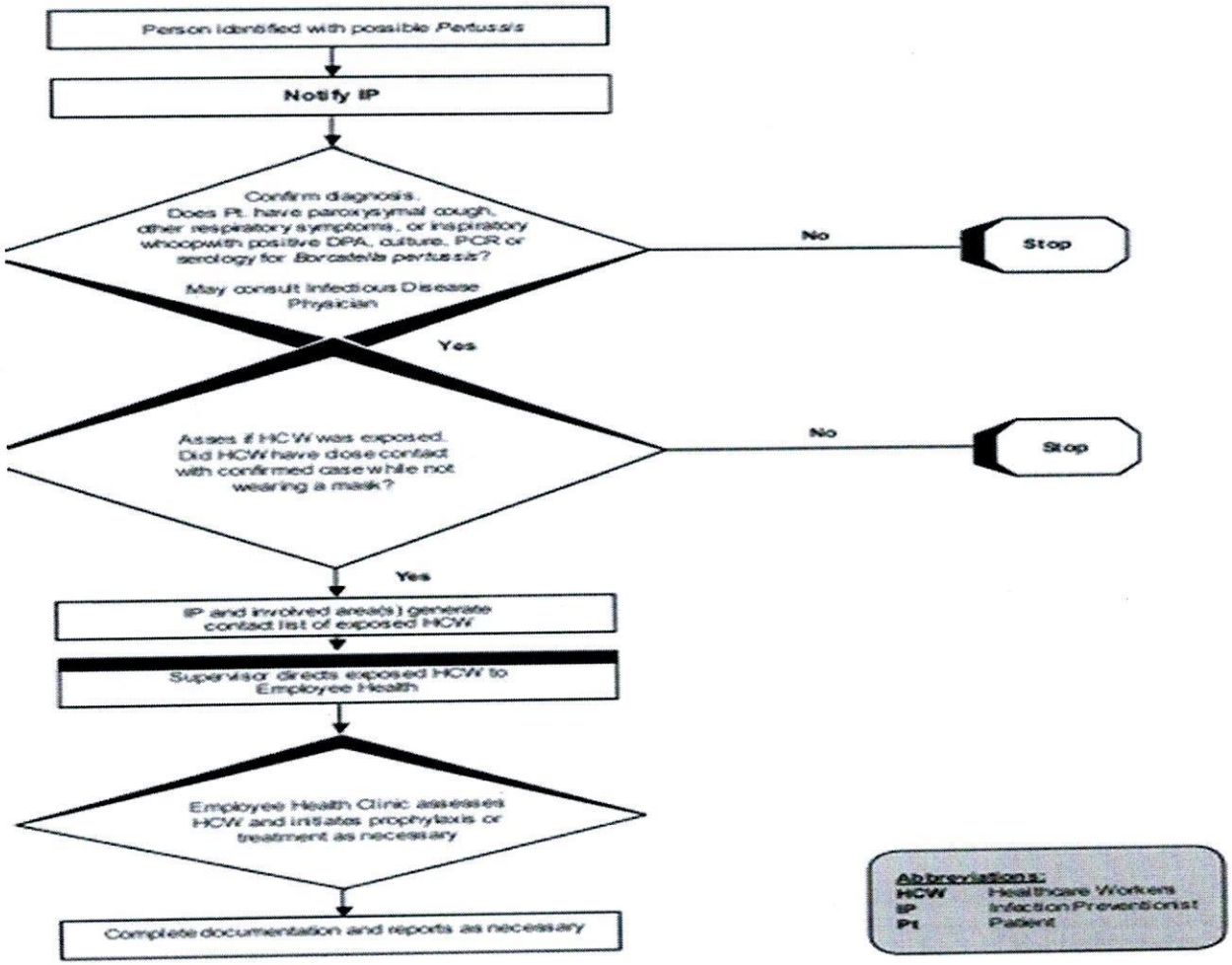
7.9 Neisseria Meningitis Exposure

Appendix 6-VI-09: *Neisseria Meningitis* Exposure

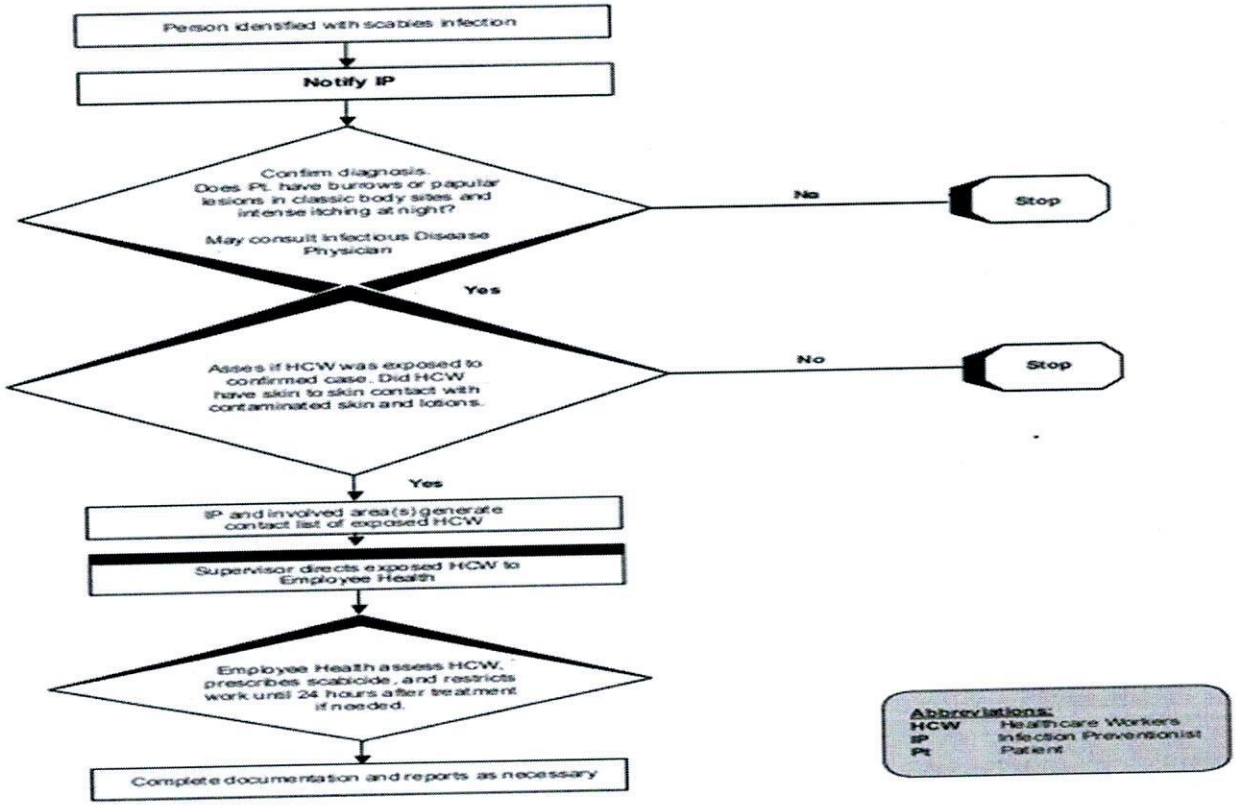


7.10 Bordatella Pertussis Exposure

Appendix 7-VI-09: *Bordatella Pertussis* Exposure



7.11 Scabies Exposure



7.12 Pediculosis (Lice) Exposure