Oklahoma State Department of Health

2012 Infection Prevention and Control Manual

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# RECORD OF CHANGES

**OSDH INFECTION PREVENTION AND CONTROL MANUAL**

(This plan is reviewed and updated annually)

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Foreword

Infectious diseases continue to make headline news in the United States. Since the 1980's, when the AIDS epidemic was first recognized, we have become cognizant of other new and emerging infectious diseases. More recently, emerging illnesses such as West Nile virus have been introduced into our country and the spread of the disease has been documented. We have become aware that pathological agents can be used as a weapon, and plans for the prevention and management of a biological attack are ongoing. A primary challenge remains to protect our employees and our clients from pathogens that can be transmitted in the work and clinical settings. This latest revision of the Infection Prevention and Control Manual addresses current issues pertaining to infection control and employee health within settings unique to the Oklahoma State Department of Health. By implementing these guidelines, we can expect to achieve a safer working environment for all.

Terry Cline, Ph.D.
Commissioner of Health
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### Glossary Terms
Occupational Health Program

Health care workers who provide direct services to or who work in the vicinity of persons who may be ill, are at increased risk for acquiring and transmitting infectious diseases. Direct service involves working face to face with clients or having “hands on” contact with clients. Additionally, there are a number of infectious processes that present a possible threat to a health care worker that are vaccine preventable, or have specific indications for post exposure prophylaxis. Because the health and safety of Oklahoma State Department of Health (OSDH) employees is of utmost concern for the agency, an active Occupational Health Program is in place. The Occupational Health Program has two important goals:

To protect clients and employees by
- Facilitating disease detection and treatment
- Eliminating or minimizing occupational exposure to bloodborne pathogens
- Managing exposures to communicable disease
- Promoting a safe environment
- Promoting employee education

To comply with government regulations
- Occupational Safety and Health Administration (OSHA)
- Oklahoma Department of Labor (ODOL)
- Oklahoma Public Health Code

Infection control and safety are both important parts of any Occupational Health Program. Infection control standards serve to provide a safer environment to employees by facilitating prevention, detection and control of communicable diseases within the work setting.

Screening
Tuberculosis (TB)

Employee screening for M. tuberculosis infection status will follow the MMWR December 30, 2005 Guidelines for Preventing the Transmission of Mycobacterium tuberculosis in Health-Care Settings, 2005.
1. **Baseline evaluation for M. tuberculosis infection**: Documentation of baseline M. tuberculosis infection status is required for all new employees and directly observed therapy (DOT) providers at county health departments and for all new central office staff with direct client contact. Baseline evaluation requires either 1) tuberculin skin testing using the Mantoux method or, 2) specific documentation of having a prior positive tuberculin skin test (with date applied and measurement in millimeters of induration) or a positive interferon-gamma release assay (IGRA) with specific type of test (QuantiFERON or T-Spot) and date performed. Specific recommendations for baseline evaluation are as follows:

Perform “two-step” TST baseline testing on individuals with:
- a) no previous TST or IGRA result
- b) single previous negative TST result (documented or not) >12 months before new employment
- c) previous undocumented positive TST or IGRA result
- d) history of BCG vaccination

Perform single-step TST baseline testing* on individuals with:
- a) two or more documented negative TSTs (but most recent TST >12 months before new employment)
- b) single previous documented negative TST result ≤ 12 months before new employment

*The decision to perform a single-step instead of a two-step TST for baseline testing is strictly based on the number and timing of prior documented exposures to the tuberculin antigen (as occurs with tuberculin skin testing) and the immunologic "boost" this provides. Since they require blood collection only, prior IGRA tests do not affect the "single vs. two-step" decision. Both the single-step and the two-step TST are to be performed in accordance with the MMWR December 30, 2005 *Guidelines for Preventing the Transmission of Mycobacterium tuberculosis in Health-Care Settings, 2005* which can be accessed at [www.cdc.gov/mmwr/pdf/rr/rr5417.pdf](http://www.cdc.gov/mmwr/pdf/rr/rr5417.pdf).

Do not perform baseline or subsequent TST on individuals with:
- a) previous documented positive TST or IGRA result
- b) documented completion of treatment for latent TB infection or TB disease
- c) documented ulceronecrotic reaction to a prior TST or documented true anaphylactic reaction to prior TST

**Note:** for individuals “a or b” (immediately above) a symptom screen is all that is required for baseline or subsequent TB screening. For individuals "c" above, contact the TB medical consultant for patient-specific recommendations.

2. **Follow-up (serial) evaluation for M. tuberculosis infection**: Tuberculin skin testing must be performed annually for all county health department employees, DOT providers and for all central office employees with direct client contact, unless a previous positive tuberculin skin test (or positive IGRA) has been documented or a contraindication to TST exists. Employees who consistently work with active TB cases should be tested every 6 months. A single-step TST is all that is ever required. Two-step testing SHOULD NOT be
performed for follow-up testing. If an employee develops symptoms suggestive of tuberculosis, they should be referred to their county health department for evaluation.

3. **Follow-up for an Employee or DOT Provider with a Positive TST** - An employee with an initially positive TST should be referred to a private physician or the county health department for a chest x-ray and medical evaluation. An Incident Report ODH Form 33 should be completed and forwarded to the Safety Officer. The ODH Form 33 can be accessed through Public Folders under Administrative Policy 6-24 or through the Safety Program. The employee should be educated regarding the signs and symptoms of TB, and instructed to notify his/her supervisor if symptoms suspicious of TB occur. An evaluation should then be performed to rule out active TB.

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An employee with a history of a positive tuberculin skin test (TST) and a negative chest x-ray (whether they have taken preventive therapy or not) should not have additional chest x-rays unless the employee develops signs and symptoms suggestive of TB. If the employee is unable to obtain a copy of his/her negative chest x-ray report, a chest x-ray should be performed as a baseline and submitted to the OSDH TB Medical Consultant for evaluation. The employee may choose to be evaluated by his/her private physician. A copy of the negative chest x-ray interpretation should be kept as part of the Employee Medical Record. Annually, the employee should be questioned regarding signs and symptoms of illness using **Tuberculosis Questionnaire, ODH Form 247**.

An employee with a documented positive tuberculin skin test (TST) and history of an abnormal chest x-ray and/or report should be evaluated by the OSDH TB Medical Consultant or a private physician. The OSDH TB Medical Consultant will determine the need for a repeat chest x-ray. These records must be maintained as part of the Employee Health Record.

4. **TB Respirator Fitting** - All employees and DOT providers working with active, suspected or potential TB clients must wear N95 Particulate Filtering Respirators (N95 PFR). Different masks/respirators are indicated for employees and for clients and are NOT interchangeable. Employees must be fitted with an appropriately-sized particulate filtering respirator, which has a National Institute for Occupational Safety and Health (NIOSH) rating of N95 or greater. The PFR respirator used must be capable of forming a seal around the nose and mouth area of the employee’s face. This is documented on **TB Respirator Issuance Record, ODH Form 809**, which is located in Appendix 1-A, and is to be kept as part of the Employee Medical Record. The form does not require a physician signature unless the employee has a medical condition that requires physician evaluation or has difficulty with the test and is referred to a physician for evaluation (OSHA 1910.134.App A). Using the **Annual Respirator Fit Evaluation Form, ODH Form 285**, the employee should be evaluated to determine if there has been gain or loss of 10% or more of body weight, use of dentures, beard/mustache or any facial surgery.

If any of the five questions are answered **YES**, the employee must be refit for an appropriately-fitting N95 particulate filtering respirator. The employee must not be allowed to provide services to a TB client until they have been refitted and have an appropriately-fitting respirator on hand to use.
If the employee provides information in the comments portion of the form that indicate a problem with the respirator that was previously issued to them, the District Nurse Manager (DNM) must address those issues or concerns to a satisfactory resolution before the nurse will be allowed to provide service to a TB client.

If all answers to the questions 1-5 are NO and if no problems or concerns are listed in the “comments” area, it will be presumed that the PFR the employee is currently using is properly fitting and that no further Respirator fit testing is required at that time.

In signing the form, it is understood that the DNM/designee takes responsibility to see that the employee who has indicated the need to have repeat Respirator fit testing performed, will be refitted immediately. If re-fitting is not available immediately, the signature indicates it is understood that the employee is not to provide services to a TB client until they are refit tested and have an appropriately-fitting N95 particulate filtering respirator on hand for use.

Note: It is imperative that health-care workers who are potentially exposed to ill clients (nurses, technicians, office staff, DOT providers, physicians, etc) understand several key points about what are commonly called “masks”. There are two DISTINCT categories of “masks”: 1) the “disposable surgical/procedure mask”, and 2) the “N95 particulate filtering respirator”. These terms are used consistently throughout this manual.

“Disposable surgical/procedure masks” are: a) worn by healthcare workers to protect themselves from large splashes of blood, respiratory secretions, etc (Standard Precautions and Droplet Precautions), b) worn by healthcare workers during sterile procedures to protect patients from infectious agents carried in the healthcare worker’s mouth or nose, and c) placed on coughing, ill or potential ill patients to block the dissemination of infectious respiratory secretions from the patient to others.

“N95 particulate filtering respirators” (N95 PFR or simply PFR) look like masks but are technically called “respirators”. They are required by OSHA and recommended by the CDC to be worn by healthcare workers having contact to patients with suspected or confirmed tuberculosis or other airborne transmitted disease (SARS, pandemic influenza, measles, smallpox, etc). “Particulate filtering respirators” are also called “N95 masks, TB protection masks, respirator masks and respirators”. They require fit testing and are re-useable. THESE DEVICES SHOULD NEVER BE PLACED ON AN ILL OR POTENTIALLY ILL PATIENT. They are to protect the wearer from airborne particles, NOT to prevent the spread of infectious secretions from a patient to others.

5. TB Contact- If an employee has unprotected contact to an active, untreated TB case, a tuberculin skin test (TST) should be administered immediately (unless tested within the previous month) and repeated 3 months after the exposure. If the employee is a previous TST reactor, they should be questioned regarding signs and symptoms of illness using Tuberculosis Questionnaire, ODH Form 247 rather than receiving a TST. Should the employee become symptomatic, they should be evaluated by collecting three (3) sputum specimens for acid-fast bacilli (AFB) smear and culture and obtaining a PA and lateral chest x-ray. Submit the chest x-rays to the OSDH TB Medical Consultant for
interpretation. An Incident Report, ODH Form 33, must also be completed and routed appropriately.

Immunizations
Guidelines for Vaccination of Employees

The following vaccines are required for employees whose job duties place them at risk, and for those who cannot provide proof of adequate previous vaccination or immunity as documented by medical record or laboratory testing. Vaccines are to be made available without charge to all employees deemed to be at risk. These guidelines are also applicable for contract, seasonal or temporary employees. Any employee not in compliance with these guidelines should be placed in only low risk areas (i.e., away from direct client contact).

1. **Rubella** - Proof of immunity or one dose of a Rubella containing vaccination (MR or MMR vaccine) is required for all county health department personnel and all Central Office personnel who have direct client contact. Birth before 1957 is considered acceptable evidence of immunity to Rubella except for those female employees who can become pregnant. Pregnancy is a contraindication to vaccinating with Rubella.

2. **Rubeola** - Required for all county health department personnel and all Central Office personnel who have direct client contact, were born in 1957 or after, and who do not have one of the following: Documentation of physician-diagnosed measles disease; written documentation of two doses of measles-containing vaccine (MMR is the preferred vaccine); or, a blood test showing measles immunity. Pregnancy is a contraindication to vaccination against rubeola.

3. **Mumps** - Proof of immunity or one dose of Mumps vaccine (MMR vaccine) is required for all county health department personnel and all Central Office personnel who have direct client contact. Birth before 1957 is considered acceptable evidence of immunity to Mumps. Pregnancy is a contraindication to mumps vaccine.

4. **Hepatitis B** - Employees at risk for Hepatitis B infection include those who are ‘reasonably anticipated’ to have routine blood exposures in the normal course of their work. **Appendix 1-C** details the potential types of exposures and personnel who may be at risk of these exposures. Employees at greatest risk include:
   a. Those with daily exposure to blood or blood products by venipuncture.
   b. Those exposed to blood or blood products in high-risk areas (i.e., STD clinics).
   c. Laboratory and dental personnel with frequent contact to blood, blood products or other body fluids.

**Within 10 days of employment**, employees at risk must document their hepatitis B vaccination status on page 3 of ODH Form No. 807 (Occupational Health Record, Employee Screening Record, and Hepatitis B Vaccination Status). This form is available to central office employees through the Occupational Health Nurse. County health department employees should receive this form as a part of the New Employee Packet or through their local District Nurse Manager.
Note that training on the risk of infection with bloodborne pathogens must have been provided prior to the date of the employee’s declination. Employees who provide documentation of previous infection with hepatitis B (anti-HBc positive) have no need for vaccine.

Documentation of an anti-HBs titer that is greater than or equal to 10mIU/ml will be accepted as proof of immunity to Hepatitis B. Nonresponders to a previous complete Hepatitis B vaccination series should receive a second complete Hepatitis B vaccine series. Following the second series, those who continue to be nonresponders should be considered susceptible to Hepatitis B viral (HBV) infection, and should be counseled regarding precautions to prevent HBV infection and the need to obtain Hepatitis B immune globulin (HBIG) prophylaxis for any known exposure to hepatitis B surface antigen (HbsAg) positive blood. Testing for vaccine response is not available through OSDH Public Health Lab. County health department Administrators may choose to contract with a lab of their choice for (anti-HBs) vaccine response testing for their local employees for whom they administer the hepatitis B vaccinations, though this testing is not required. In the event that an exposure should occur, the employee may be tested at that time if no documentation exist confirming adequate titer.

5. Varicella (chickenpox)- All county health department personnel and Central Office personnel with client contact should be questioned regarding history of chickenpox. Those persons who do not have a reliable history of chickenpox disease, serologic evidence of disease, one dose of varicella vaccine on or after the first birthday prior to the 13th birthday, or two doses of varicella vaccine separated by at least 28 days on or after the 13th birthday, should be vaccinated against Varicella.

The following vaccinations are strongly recommended for employees:

1. A. Tetanus-Diphtheria- After primary immunization, a tetanus-diphtheria booster is recommended for all persons every 10 years. Primary immunization of adults consists of three doses of adult tetanus-diphtheria toxoid (TD); 4-5 weeks should separate the first and second doses, with the third dose given 6-12 months after the second.

1. B. Tetanus-Diphtheria and Pertussis (Tdap) Adacel- A single dose of Adacel vaccine may be used to replace a single dose of Td for booster immunization against tetanus, diphtheria and pertussis in adults 19 through 64 years of age. Tdap vaccination is recommended for adults who have close contact with infants.

   For female employees who are pregnant, the ACIP recommends vaccination with Td during pregnancy.

2. Influenza- Influenza vaccination is the most effective method for preventing the infection and transmission of influenza. The ACIP recommends influenza vaccination amongst health-care personnel (HCP) to be one of the measures of a patient and community safety quality program. All health-care personnel are encouraged to receive annual vaccination against influenza.
3. **Rabies**: Rabies vaccine may be indicated for persons in high-risk groups, such as veterinarians, animal handlers and certain laboratory workers.

**Immunocompromised Employees**

Immunocompromised individuals may be susceptible to infections of various types. Due to their weakened or depressed immune systems, they may have a more severe course of infection. Individuals may be immunocompromised for various reasons such as chemotherapy or irradiation for a neoplasm, medication use after an organ transplant to prevent rejection, long-term steroid therapy or Human Immunodeficiency Virus (HIV) infection.

Employees known to be immunocompromised should be placed in a location that will minimize potential for exposure to infectious disease. In addition, it is important to ensure that they are protected as much as possible through immunization. However, no immunizations should be administered to an immunocompromised employee without a direct order from the employee’s physician.

**Health Education and Counseling**

**Annual Bloodborne Pathogen Training**

The OSDH must ensure that all employees with potential for occupational exposure to blood or body fluids participate in training programs. This training is essential to OSHA compliance. The programs must be provided at no cost to the employee, during work hours, with material appropriate to the education, literacy and language of the employee. It is the employees’ supervisor’s responsibility to see that the training is provided within 10 days of employment and within one year from the initial previous training. All employees must receive training annually, with additional training if changes are made that affect the employee’s occupational exposure. The training is to be documented on the OSHA training record, ODH form N47, which is located in public folders. The completed sign in sheet is to be faxed 405.271.3539 to Training, Education & Development Division of OSDH for filing.

To locate ODH Form N47 on Public Folders, click on Safety Program; Forms; ODH Form N47

The Employee Training Record (Appendix 1-D) is optional to be completed by the employee’s supervisor or designee. The OSHA Training Record (N47), which documents the names and titles of attendees, the date of the training, course content, and the name of the trainer must be kept for a period of 3 years.

**Annual TB Training and Counseling**

All county employees requiring annual TB skin testing will receive annual TB training regarding TB infection, transmission and control provided by their division. A review of TB epidemiology for their county will occur. The training will include: a review of county health department TB control procedures, TB suspect client handling, respiratory isolation use and TB Respirator usage requirements for employees, clients and family members. Training in any new or revised TB control procedures will be given.
Counseling regarding TB risk factors and TB infection shall be available on a one-on-one basis to any county health department employee from the TB nurse or the DNM. This shall include specific job-related risks. Known immunocompromised employees shall be counseled by the DNM regarding the risk of exposure to active TB.

**Occupational Illness and Injury Reporting**

**Incident Reporting**

The ODH Form 33 is located on IRENE in the Forms section under Human Resources. An Incident Report, ODH Form 33, should be initiated and faxed to the Benefits Division of the Human Resource Office at 405-271-3933 as soon as possible, and no later than 72 hours following the occurrence, completed with all required information and signatures. This form can be accessed on Public Folders. The form can be completed electronically, printed and signed; or you may print the form and complete hand written, and signed. This official report is necessary to file for worker’s compensation benefits for post exposure follow-up. After all required signatures and information are obtained, a copy of the completed and signed incident report must be faxed to the Benefit Division of the Human Resource Office at 405-271-3933. The original completed Incident Report will be maintained at the County Health Department or Service Area of the occurrence.

Authorization for Medical Attention, ODH Form No. 343G, should be completed by the supervisor and faxed to the treating provider at the time that it becomes evident that medical evaluation or treatment is required following a work related injury or illness. This form is available on IRENE in the Forms section under Human Resources.

The Oklahoma Department of Labor (ODOL) requires each public sector employer to maintain and post a record of certain injuries and illnesses. The OSDH Agency Benefits Division of Human Resources maintains these records and distributes a Site OK Form 300 – Log of Work-Related Injuries and Illnesses to each OSDH satellite location and County Health Department annually, prior to February 1st of each year. The OK Form 300 A – Summary of Work-Related Injuries and Illnesses shall be posted during the period of February 1 through April 30 at the central OSDH Office First Floor Safety Bulletin Board, and at each individual OSDH satellite location and County Health Department Safety Bulletin Boards.

The OK Form 300 and OK Form 300 A shall be retained in the central OSDH Office, individual satellite locations and County Health Departments for five (5) years. The original OK Form 300 and OK Form 300 A are kept in the central OSDH Human Resources, Benefits/Workers’ Compensation office. OSHA and DOL require the preservation and maintenance of employee medical and exposure records for at least the duration of employment plus thirty (30) years.
Contract Agencies/Employees

Contract Agencies

When a contract agency is utilized to provide services at a county health department or central office location and the service offered places the contract employee at risk of exposure to bloodborne pathogens, the contract agency must provide documentation of training and hepatitis B vaccination for those employees as required by the OSHA standard on bloodborne pathogens.

Contracts with agencies providing services which place their employees at risk where such services are offered directly by the contracting agency (i.e., community-based organizations) must include a statement of intent to meet the requirements of the OSHA standard on bloodborne pathogens.

Contract Employees

In the event an individual is contracted (not through an agency), the individual must document:

1. having received training on bloodborne pathogens.
2. having been vaccinated against hepatitis B, immunity to hepatitis B or refusal to take hepatitis B vaccine.

Alternately, the county health department may offer such training and vaccination before the employee begins work.

Post-exposure Treatment for Contract Employees

Follow-up and treatment for contract employees who sustain an occupational risk exposure at an OSDH facility is the responsibility of the contracting agency or contract employee. However, the county health department administrator or central office service chief should ensure that follow-up is being provided. Student nurses are not considered contract employees; the responsibility is between the school and the student for testing.

*Follow-up and treatment for nursing students who sustain an occupational risk exposure at an OSDH facility is the responsibility of the student and/or their school of nursing.
Protection from Bloodborne Pathogens
Personal Protective Equipment

To locate the Job Specific PPE list see Safety Program; Safety Manual; Job Specific Protective Equipment

OSHA standards require employers to provide protective equipment (PPE) when employees are at risk of exposure to bloodborne pathogens, but also when there is risk to encounter hazards that are capable of causing injury by absorption, inhalation or physical contact. This equipment includes protection for eyes, face, head and extremities, protective clothing, respiratory devices and protective shields and barriers. A lab coat/jacket is required for all client contact but is not considered PPE. The equipment is to be maintained in a sanitary, reliable condition.

Safety Devices

<table>
<thead>
<tr>
<th>To locate the Retractable Safety Syringe Policy on Public Folders, click on Safety Program; Safety Manual; Retractable Safety Syringes</th>
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<tbody>
<tr>
<td>On December 1, 2004, OSHA published revisions to the Bloodborne Pathogens Standard in the Federal Register. At the mandate of the ODOL, OSDH Safety Committee has worked to meet these requirements, by evaluating and implementing appropriate engineering controls and work practice controls used are outlined in the Exposure Control Plan. An agency wide memorandum was processed, which has become the directive for safety device use by OSDH employees. This policy is located on Public Folders and is in Appendix 1-E.</td>
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Employee Medical Records

Employee medical records must be kept in a locked, secured cabinet, separate from all other records. Employee medical records are kept by the agency for 30 years following termination of the employee. The employee has a right to access his/her medical record upon request. Employee medical records are to be maintained in accordance with the Administrative Procedure 6-32 Employee Exposure and Medical Records.
Management of Occupational Exposure to Bloodborne Pathogens

A n occupational exposure incident refers to a specific eye, mouth, other mucous membrane, non-intact skin, or parenteral contact with blood/bloodborne pathogens or other potentially infectious materials that results from the performance of an employee’s job duties. Potentially infectious body fluids include blood, semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, peritoneal fluid, pericardial fluid and amniotic fluid. Feces, nasal secretions, saliva, sputum, sweat, tears, urine and vomitus are not considered potentially infectious unless they contain visible blood.

Percutaneous and non-intact skin exposures are defined as the introduction of blood or other potentially infectious body fluids directly through the skin (i.e., puncture or cut by sharp contaminated objects or introduction of blood or potentially infectious body fluids on areas where skin integrity is compromised).

Mucous membrane exposures are defined as the introduction of blood or potentially infectious body fluids directly onto the mucous membranes of the eyes, nose or mouth.

Management Plan (See Appendix 2-K)

Treatment of Exposure Site

Employees who sustain an occupational exposure (as defined above) should immediately address the exposure site.

1. Wounds and skin sites that have been in contact with blood or body fluids should be washed with soap and water.

2. Mucous membranes that have been in contact with blood or body fluids should be flushed using an eyewash station. Please refer to Section 3 for Eyewash Station Requirements.
No evidence exists that using antiseptics for wound care or expressing fluid by squeezing the wound further reduces the risk of bloodborne pathogen transmission; however, the use of antiseptics is not contraindicated. The application of caustic agents (i.e., bleach) or the injection of antiseptics or disinfectants into the wound is not recommended.

**Reporting an Exposure**

County health department employees who sustain an occupational exposure should **immediately report** to the DNM, Coordinating Nurse or Lead Nurse. Central office staff who sustains an occupational exposure should immediately call the Occupational Health Nurse at (405) 271-4479. If the source client is present in the clinic, the client should be requested to remain in clinic until plans for follow-up have been quickly assessed. This will facilitate obtaining additional blood samples on the source client if needed.

A Post-exposure Counseling Check Sheet may be used to assist the person responsible for managing the exposure. This form is located in **Appendix 2-A**.

**The ODH Form 33 is located on IRENE in Forms under Human Resources.**

An Incident Report, ODH Form 33, should be completed and faxed to the Benefit Division of the Human Resource Office at 405-271-3933 as soon as possible, and no later than 72 hours following the occurrence. This form can be accessed on IRENE.

There are two versions of the form available, one to be electronically completed, and one for manual completion. Either one is appropriate in the case of an occupational exposure. This official report is necessary to file for worker’s compensation benefits for post exposure follow-up. After all required signatures are obtained, the completed report must be faxed to the Benefits Division of the Human Resource Office at 405-271-3933. The original is maintained at the County Health Department.

The employee’s supervisor should provide the employee with an **Authorization For Medical Attention, ODH Form 343G**, at the time that it becomes evident that further medical evaluation is required.

The **Occupational Exposure Report, ODH Form 811**, should be completed and is to be kept as part of the Employee Medical Record. This form is available through the local DNM or the Occupational Health Nurse.

When an employee has sustained an exposure, consultation for management of the exposure is available from the agency Occupational Health Nurse, 405-271-4479.
Testing

1. Testing- Testing of the exposed employee and source client for HIV, Hepatitis C, ALT and/or Hepatitis B is indicated. Regardless of the potential risk, any exposed employee has the right to request or decline testing. If an employee declines testing after an exposure, that needs to be documented on the ODH 811, Exposure Report and on the Incident Report. The Oklahoma Public Health and Safety Code, 63 O.S., 1992, Section 1-502.3 allows for testing available blood of the source client and release of the results without the client’s consent when a written report of an exposure has been made. However, the source client should be informed of the intent to test and the rationale for testing. Source Client Information located in Appendix 2-C, should be reviewed with the source client during the postexposure counseling session.

In the event that source blood has not been drawn and the source client refuses to allow blood to be drawn, contact the Occupational Health Nurse at (405) 271-4479 for consult. If indicated, a court order can be obtained to allow blood to be drawn. However, before going to that extent, a careful review of the circumstances would need to be made by the Occupational Health Nurse, OSDH State Health Officer or designee and OSDH Legal Services.

a. Test Requisitions-

OSDH currently has a contract in place with a contract lab for Hepatitis B & Hepatitis C testing. The lab requisition must be marked identifying the specimens as “Occupational Health” when submitting the specimens. The ICD 9 code: V15.85 is the code for exposure to potentially hazardous body fluids. This code must be added to the lab requisition when submitting “Occupational Health” exposure lab specimens. A separate Specimen Referral Log should be kept in a folder in the same locked file cabinet as the Employee Medical Records. Only the persons with authorized access to the Employee Medical Records should have access to and document on this form.

Human immunodeficiency virus (HIV) testing of both the exposed employee and the source client is performed by the OSDH Public Health Laboratory Service. Do not enter the employee information into the Public Health Oklahoma Client Information System (PHOCIS) computer program. A manual copy of the Public Health Laboratory (PHL) requisition must be completed for the employee specimen. All PHL requisitions related to occupational exposure must indicate “Occupational Health”. Send HIV test specimens with appropriate ODH requisition forms to:

Oklahoma State Department of Health
Public Health Laboratory
1000 N.E. 10
PO Box 24106
Oklahoma City, Ok 73117
b. **Blood Specimen Collection**

**Hepatitis**- One full serum separator tube per person is sufficient to complete testing for both Hepatitis B and Hepatitis C. The blood should be spun down and the tube should be clearly labeled with the donor name, date of specimen collection, name of test requested and clinic site number. Specimens should be carefully packaged to prevent leakage or breaking. The outer package must be labeled as biohazardous.

Hepatitis B and Hepatitis C lab specimens for employees and source clients associated with an occupational exposure are to be sent to the contract lab for processing. The exposure source should be tested for the surface antigen (HbsAg) and the employee should be tested for surface antibodies (HbsAb).

**HIV**- One full serum separator tube should be drawn for HIV testing. The blood should be spun down and the tube should be clearly labeled with the donor’s name, date of specimen collection, name of test requested and clinic site number. Specimens should be carefully packaged to prevent leakage or breaking. The outer package must be labeled as biohazardous.

A manual copy of the requisition should be copied from the Public Health Laboratory Resource Manual for use on occupational exposures. **The requisition for such test should not be printed from the computer in order to protect the employee’s confidentiality.**

Before submitting the specimen, the lab requisition **must** be marked as an Occupational Health test at the top of the page on the right-hand corner. This alerts the lab personnel to the reason for the manual requisition. CompSource should be listed in the insurance section of the form to ensure proper billing to worker’s comp.

c. **Release of Test Results**

Health Insurance Portability and Accountability Act of 1996 (“HIPAA”) apply to all parties in an exposure testing situation. Only those persons directly involved in the exposure incident are to be informed of test results. This normally would include only the source client, the exposed employee and whomever the employee designates such as the DNM or designee.

Source client test results may be released to the exposed employee, the DNM, designee and Occupational Health Nurse without the expressed written consent of the source client per Oklahoma state law requiring documentation of occupational exposures.
Exposed employee test results are not to be released to any person or facility, other than the Occupational Health Nurse, DNM or designee without the expressed written consent of the employee (OSHA: CFR 1910.1030 (h. Medical Records). It is not necessary for source client name, code number or test results to be released on worker's compensation claims in order for the claim to be processed. Claims related to seroconversion of the exposed employee would necessitate release of source client test results, but **not** source client name.

d. **Filing of test results**-

The exposed employee’s test results are to be kept as part of the Employee Medical Record. The source client’s test results are not to be filed in the Employee Medical Record. A separate folder, which contains source client test results, should be kept in the same locked cabinet as the Employee Medical Record.

**Exposure Evaluation for Counseling**

In order to counsel the exposed employee regarding the risk of contracting a communicable disease following the exposure, the DNM or designee, should evaluate the exposure based on the type of body substance involved and the route and severity of the exposure.

**Percutaneous injuries**- Injuries resulting from solid needles or superficial injuries are considered **LESS SEVERE**. Injuries resulting from large bore hollow needles, deep punctures, and visible blood on the device or a needle used in a client’s artery or vein is considered **MORE SEVERE**.

**Mucous membrane exposures**- Consider volume of fluid involved. A few drops poses **LESS RISK** than a major blood splash.

**Skin exposures**- Follow-up is indicated only if there is evidence of compromised skin integrity (i.e. dermatitis, abrasion, or open wound).

**Human bites**- Follow-up should be provided to both the person bitten and the person who inflicted the bite when the bite results in a blood exposure.

**Source Client Evaluation**

The person whose blood or body fluid is the source of an occupational exposure should be evaluated for HIV, hepatitis C (HCV), and/or hepatitis B (HBV) infection as indicated. If the HBV, HCV, and/or HIV infection status of the source is unknown, the source should be informed of the incident and tested for serologic evidence of infection.
Tests to be requested for the source client may include:

- HbsAg: Hepatitis B surface antigen
- anti-HCV: Hepatitis C antibody
- HIV-EIA: Human Immunodeficiency virus antibody

If the exposure source is unknown or cannot be tested, information about where and under what circumstances the exposure occurred should be assessed for likelihood of transmission of HIV. Testing of needles or other sharp instruments implicated in an exposure is not recommended.

Information to consider when evaluating an exposure source would include previously documented laboratory tests, presence of clinical symptoms of HIV and history of recent (within previous three months) possible exposure to HBV, HCV, and HIV (i.e., injection drug use, or sexual contact with a known positive partner). Appendix 2-D includes information to assist in assessing risk factors.

**Management and Follow-up of Potential Exposure to HBV**

Following an exposure, the Hepatitis B vaccination status and the vaccine response status (if known) of the exposed person should be reviewed. If the exposed employee has had a previous titer (anti-HBs) with a response equal to or greater than 10 mIU/mL then there is no need to test for Hepatitis B surface antigen. If the vaccination and antibody response status of the exposed employee is unknown then a (HbsAb) Hepatitis B surface antibody (qualitative) test needs to be done at the time of exposure. A summary of Hepatitis B prophylaxis recommendations is located in Appendix 2-E. Adequate antibody response following Hepatitis B vaccination is defined as an anti-HBs response of equal to or greater than 10 mIU/mL.

- A “qualitative” Hepatitis B Surface Antibody Test is acceptable if the processing lab can verify that an “immune” response represents an antibody response of 10 mIU/ml or greater.

The vaccinated employee is referred to as a **known responder** (anti-HBs equal to or greater than 10 mIU/mL), **non-responder** (anti-HBs less than 10 mIU/mL after two complete series of Hepatitis B vaccine), or **response unknown** (anti-HBs result unknown).

When Hepatitis B Immune Globulin (HBIG) is indicated for a non-responder or employee with an unknown response, the county health department should determine the most expedient resource to secure it. The county health department may consult with the Occupational Health Nurse to determine the need and possible resources. HBIG should be administered as soon as possible after exposure (preferably within 24 hours), but may be administered up to 7 days post exposure.
In the case of an exposed employee who is a known responder, testing the source for HbsAg is not necessary. Appendix 2-F includes information to share with the employee who is exposed to HbsAg positive or high-risk clients.

Management and Follow-up of Potential Exposure to HCV

Currently, no data exists which shows that either Immune Globulin (IG) or use of antiviral agents is effective in preventing HCV. Rather, postexposure management for persons potentially exposed to hepatitis C virus is aimed at achieving early identification of chronic disease and, if present, referral for evaluation of treatment options.

Testing for the employee exposed to an HCV-positive source should include:
- Initial baseline anti-HCV and ALT
- 6 months post-exposure anti-HCV and ALT

Confirmatory testing should be performed on all positive anti-HCV results.

Management and Follow-up of Potential Exposure to HIV

The county health department employee who sustains an exposure should be evaluated immediately by the DNM or designee and blood should be collected for baseline HIV testing. The employee’s baseline blood sample may be tested immediately or held for up to 90 days. The employee has the right to refuse HIV testing and follow-up.

If the source person is seronegative for HIV and denies symptoms of acute viral illness (fever, rash, myalgia, fatigue, malaise or lymphadenopathy), baseline testing or further HIV follow-up of the exposed employee is not necessary, but should be made available if the exposed person is concerned.

Recommended follow-up for potential exposure to HIV is based on current Centers for Disease Control (CDC) guidelines. Recommended HIV prophylaxis is based on results of the source blood testing. These recommendations are located in Appendix 2-G and 2-H.

Health department employees who sustain an exposure to a source person with HIV infection or a source person with clinical evidence of AIDS or symptoms of HIV infection should:

1. Be counseled regarding the risk of transmission and the potential efficacy of postexposure (PEP) medications. Postexposure evaluation and treatment with PEP meds may be obtained at either the employee’s private physician or through the local emergency room, depending on resources available in that particular county. It is important to note that evaluation and
treatment should not be delayed when indicated. When the employee is referred for postexposure evaluation and treatment, the employee should take the following items:

a. Copy of “Updated U.S. Public Health Service Guidelines for the Management of Occupational Exposures to HIV and Recommendations for Postexposure Prophylaxis” MMWR, September 30, 2005/54(RR9);1-17.

*A copy of this document can be accessed at http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5409a1.htm. Print a copy of this document to have on hand, which can be used by the physician when evaluating the need for PEP.

A copy of “Notice to Readers”: Updated Information Regarding Antiretroviral Agents used as HIV Postexposure Prophylaxis for Occupational HIV Exposures”, MMWR. December 14, 2007/56(49);1291-1292. This document can be accessed at http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5649a4.htm.

b. Copy of the OSDH Referral Policy: Postexposure Prophylaxis

Appendix 2-I.

2. Be advised to seek medical evaluation for any acute febrile illness occurring within 12 weeks of exposure. Acute illness, particularly if characterized by fever, rash, myalgia, fatigue, malaise or lymphadenopathy, may be indicative of recent HIV infection.

3. Follow recommendations for preventing transmission of HIV until subsequent testing rules out HIV transmission to the employee. Appendix 2-J includes information for the employee who is exposed to HIV positive or high-risk clients.

The employee who is exposed to HIV should receive HIV-EIA testing at:

- baseline, 6 weeks, 12 weeks and 6 months

Extended HIV follow-up testing should be performed at 12 months for employees who become infected with HCV following exposure to a source that is coinfect with HIV and HCV.
Infection Prevention Practices

As early as 1977, recommendations were published regarding isolation precautions used in healthcare settings to prevent spread of disease. Many changes have followed, and the current document is the “Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings 2007”, created by the Healthcare Infection Control Practices Advisory Committee (HICPAC), a federal advisory committee that advises and develops guidelines Centers for Disease Control and Prevention (CDC) and the Secretary of the Department of Health and Human Services (HHS) regarding health care infection control and prevention. This revision addresses home care and ambulatory care settings for the first time as well.

As of 2008, the terminology has evolved from “infection control” to “infection prevention”, as the priority has shifted to preventing the occurrence of healthcare-associated infections. Additionally, the Association for Professionals in Infection Control and Epidemiology (APIC) announced that infection control professionals would now be referred to as “infection preventionists.” The latest HICPAC guideline divides precautions into three categories. **Standard Precautions** are based on the principal that all blood, body fluids, secretions, excretions (except sweat), nonintact skin, and mucous membranes may contain contagious infectious agents. Standard precautions are used with all clients regardless of known disease status. Standard precautions include Respiratory Hygiene/Cough Etiquette, Safe Injection Practices and Infection Control Practices for Special Lumbar Puncture Procedures.

When Standard Precautions cannot completely interrupt the route of transmission of a known or suspected agent, the expanded **Transmission-Based Precautions** are used. There are three types of Transmission-Based Precautions: Airborne Precautions, Droplet Precautions, and Contact Precautions. Since many infections require laboratory confirmation, certain clinical syndromes and conditions are sufficient to warrant implementation of Transmission-Based Precautions while confirmatory tests are pending. This application of Transmission-Based Precautions is referred to as **Syndromic/Empiric Precautions**.

**Standard Precautions**

Use Standard Precautions for the care of all clients.

1. **Hand hygiene**- Includes both hand washing and use of alcohol-based products to be used without water. Perform appropriate hand hygiene immediately before and after client contact. Perform hand hygiene after touching blood, body fluids, secretions, excretions, mucus membranes, nonintact skin, wound dressings, or inanimate objects in the immediate vicinity of the patient. Perform hand hygiene
immediately after gloves are removed. It may be necessary to perform hand hygiene between tasks and procedures on the same client to prevent cross-contamination of different body sites.

- **Handwashing:** Hands that are visibly soiled should be washed using either plain or antimicrobial soap and water. Wet hands with running water. Apply soap and thoroughly distribute over hands. Vigorously rub hands together for a minimum of 15-30 seconds, covering all surfaces of the hands and fingers. Rinse well and dry with an unused, dry towel or air dryer. Turn off faucet using dry towel. Avoid recontamination of hands on sink, sink components, or bathroom door handle after washing.

- **Alcohol-based hand product (such as gel, rinse, or foam) method:** May be used when hands are not visibly soiled. Apply a 60-95% ethanol or isopropanol alcohol based hand gel to the palm of one hand. Rub hands vigorously together, covering all parts of the hands until dry (usually about 30 seconds). Follow the manufacturer's recommendations regarding the volume of product to use. Because appropriate use of these products require less time, all OSDH sites should consider having this method available to improve hand-hygiene adherence. Alcohols are flammable; therefore, insure all alcohol has evaporated after using alcohol-based hand products, and store these products away from high temperatures or flames.

- **Home visitors:** It is recommended that home visitors carry liquid soap, paper towels and alcohol-based hand product for the purposes of hand hygiene, based on availability of running water. As stated above, hands that are visibly soiled should be cleaned using soap and water and dried well with paper towels.

Wash hands with soap and water or perform hand hygiene using alcohol-based hand product prior to weighing/measuring or other examination of infants and children in order to promote good hygiene and prevent the spread of bacteria.

After completing the home visit, the home visitor should use the alcohol-based hand product before entering his/her vehicle.

**Washing hands with either plain or antiseptic-containing soap and water after use of an alcohol based hand product is not necessary and is not recommended, because it may contribute to dermatitis. Washing hands with soap and water after 5-10 applications of gel has been recommended by certain manufacturers for aesthetic purposes.**

In order to maintain hand skin health, CDC recommends implementation of a routine schedule for applying lotions or creams. Avoid use of oil or petroleum-based hand lotions or creams which adversely affect the integrity of latex gloves and can contribute to latex sensitivity/allergy. Information should be solicited from the manufacturer regarding potential interactions with gloves.
Antimicrobial-impregnated wipes or towelettes are not as effective as alcohol-based hand rubs or antimicrobial soap, and water for hand hygiene purposes, and **should not** be used as a substitute for hand hygiene in client care settings.

2. **Fingernails and Artificial Nails** - The subungual area (situated beneath the nail of a finger) of the hand harbors high concentrations of bacteria. Healthcare workers who wear artificial nails are more likely to harbor gram-negative pathogens on their fingertips than those who have natural nails, both before and after handwashing. Therefore, artificial fingernails are discouraged in the clinical setting. All fingernails (artificial or natural) should be **less than 1/4 inch long** to reduce the colonization of the subungual area with bacteria. Freshly applied nail polish does not increase the number of bacteria recovered from periungual skin, but chipped nail polish may support the growth of larger numbers of organisms on fingernails.

3. **Gloves** - Wear gloves when touching blood, body fluids, secretions, excretions and contaminated items. Care must be taken to ensure that any hand jewelry does not interrupt the integrity of the gloves. Jewelry can cause tears in gloves and therefore it is recommended that jewelry be kept to a minimum when working in a client care environment. Gloves should be worn for specimen collection, cleaning and disinfecting client care equipment and environmental surfaces, handling contaminated personal protective equipment or clothing, or handling medical waste containers. Put on clean gloves just before touching mucous membranes and nonintact skin. Take care to avoid contaminating clean areas when wearing gloves.

Change gloves between tasks and procedures on the same client after contact with potentially infectious materials. Change gloves immediately if torn or the integrity of the glove is compromised. Remove gloves promptly after use, before touching noncontaminated items and environmental surfaces, and before going to another client. Perform appropriate hand hygiene immediately, because gloves can develop unnoticed holes or tears during use and hands may be contaminated. Wear the appropriate glove size to achieve a good fit. Latex sensitivity or latex allergy can develop following repeated exposure or use of latex items such as gloves, especially among healthcare workers. For this reason, the National Institute of Occupational Safety and Health (NIOSH) has these recommendations to minimize latex exposure (see reference section for document):

- Use nonlatex gloves when appropriate
- Use powder-free latex gloves with reduced protein content
- Wash hands thoroughly after removing gloves
- Use non-oil-based hand lotions or creams to avoid glove deterioration
- Thoroughly and frequently clean areas contaminated with latex-containing dust
- Recognize the symptoms of latex allergy: rash, hives, flushing, respiratory symptoms, asthma and shock.
- If you develop latex sensitivity or allergy, avoid contact with latex, notify your supervisor and consult a physician.
4. **Mask, Eye Protection, Face Shield**- Wear a “disposable surgical/procedure” mask and eye protection or a face shield to protect mucous membranes of the eyes, nose and mouth during procedures and activities that are likely to generate splashes or sprays of blood, body fluids, secretions and excretions. Select appropriate items as indicated by the task being performed. Examples of situations in which full-face protection would be indicated include culturing for pertussis, performing emergency OB-GYN exams, assisting in emergency childbirth or rendering first aid to a severely bleeding client. Full-face protection is indicated if it is reasonably anticipated that the client may cough in the face of the employee during collection of respiratory specimens. **WARNING:** Care must be taken when performing sharps procedures due to the reduced field of view when wearing protective masks or respirators. Visibly or suspected contaminated face protection must be changed whenever wet and between each client.

It is recommended that home visitors carry in their bag that is taken into the home a minimum of two disposable surgical masks. If the client is coughing, the home visitor should don a mask to protect himself or herself against droplet transmission. Under these circumstances, the visit may be completed as scheduled.

5. **Lab Coat/Jacket**- Wear a cloth or fluid resistant lab coat/jacket to protect skin and to prevent soiling of clothing during procedures and activities that are likely to generate splashes or sprays of blood, body fluids, secretions, or excretions. General work clothes (i.e., uniforms, pants, shirts or blouses) are not intended to function as personal protective equipment. Remove a soiled lab coat/jacket as promptly as possible, minimizing contamination. If contaminated with blood or body fluids, the lab coat/jacket must be promptly replaced with a clean lab coat/jacket. Refer to Guidelines for the Work Setting, Management of Contaminated Non-disposable Lab Coats and Other Laundry in this section.

6. **Footwear**- Sandals, open-toed shoes, shoes with holes that expose the feet (including Crocs™), or shoes with open backs are not to be worn in any laboratory or client care areas in accordance with OSHA Bloodborne pathogen standard 1910.1030(d)(3)(i) and OSHA Personnel Protective Equipment Regulation 1910.132. OSHA interpretation of the use of Crocs™ brand shoes states that when a risk of foot injuries due to falling or piercing objects (such as needles) would be an environment which could cause foot injury and protective foot ware would be required.

7. **Equipment/Environmental Control**- Handle equipment that is soiled with blood, body fluids, secretions or excretions in a manner that prevents skin and mucous membrane exposures, contamination of clothing and transfer of microorganisms to one’s self, other clients and environments. Contaminated needles and other contaminated sharps shall not be bent, recapped or removed. The current directive from OSHA, CPL2-2.69 at XIII.D.5 states, “removing the needle from a used blood-drawing/phlebotomy device is rarely, if ever, required by a medical procedure. Because such devices involve the use of a double-ended needle, such removal clearly exposes employees to additional risk, as does the increased manipulation of a contaminated device.” In order to prevent potential worker exposure to the contaminated hollow bore needle at both the front and back ends, it is required that vacutainer holders with retractable technology be utilized for
phlebotomy procedures. All vacutainer tube holders are to be considered single use and discarded after each use.

Ensure that reusable equipment is not reused for the care of another client until it has been cleaned and reprocessed appropriately. Use PPE appropriately when cleaning contaminated equipment. Ensure that single-use items are discarded properly. Follow Guidelines listed in Section 4 for decontamination and cleaning of equipment and environment.

8. Occupational Health and Bloodborne Pathogens- All procedures involving blood or other potentially infectious materials shall be performed in such a manner as to minimize splashing, spraying, spattering and generation of droplets of these substances. Never recap used needles. Do not remove used needles from disposable syringes by hand, and do not bend, break or otherwise manipulate used needles. Immediately place used disposable syringes and needles in an appropriate puncture-resistant container that is labeled or color-coded [in accordance with CFR 1910.1030(d)(2)(vii)(B)], which should be located as close as practical to the area in which the items were used. Specimens of blood or other potentially infectious materials shall be placed in a container that prevents leakage during collection, handling, processing, storage, transport or shipping.

9. Eyewash Station Requirements- Eye wash stations must be provided in work areas where the eyes and body may be exposed to any injurious material or material containing bloodborne pathogens to provide immediate use in accordance with OSHA 1910.151 (c). An eyewash station must provide a controlled flow of water to both eyes simultaneously at a velocity low enough not to injure the user. It must deliver at least 3 gallons per minute for 15 minutes at a minimum of 30 psi (pounds per square inch) of flow pressure. It must be large enough to provide room for the eyelids to be held open with the hands while the eyes are in the stream of water. Emergency eyewash stations must be located where employees can easily access them, in a well-lighted area identified with a sign. It should be located in an area that requires no more than 10 seconds for employees to reach or approximately 100 feet. Activate weekly to flush the line, verify proper operation, and record on log.

10. Respiratory hygiene/cough etiquette- is included in Standard Precautions to address spread of undiagnosed transmissible respiratory infections. The components of respiratory hygiene/cough etiquette include (1) education of employees, clients and visitors regarding appropriate cough etiquette; (2) posted signs in appropriate languages describing the concepts; (3) source control measures such as appropriate use of a tissue, prompt disposal of used tissues, use of “disposable surgical/procedure” masks on coughing clients; (4) hand hygiene after contact with respiratory secretions or items/surfaces contaminated with respiratory secretions; and (5) spacial separation, ideally >3 feet of symptomatic persons from others while in common areas such as waiting rooms.

11. Safe injection practices- include the basic aseptic techniques for the preparation and administration of injectable medications. These include use of sterile, single-use, disposable needles and syringes for each injection given and preventing contamination of medication and equipment. Use single-dose vials whenever possible. Do not administer medications from single-dose vials or ampules to
multiple patients or combine leftover contents for later use. If multidose vials must be used, both the needle and syringe used to access the multidose vial must be sterile. Store multidose vials in accordance with the manufacturer's recommendations; discard if sterility is compromised or questionable.

**Transmission Based Precautions**
See Table in Appendix 3-A for Type and Duration of Precautions to Use for Selected Infections and Conditions.

1. **Airborne Precautions** - In addition to Standard Precautions, use Airborne Precautions for clients known or suspected to be infected with microorganisms transmitted by airborne droplet nuclei, which remain suspended in the air over long distances. Examples include measles, chickenpox, tuberculosis, and possibly influenza and SARS. Such clients are priority clients and should be seen immediately. If the airborne infection isolation room is being used and other clients present to the clinic with signs and symptoms of an airborne transmissible disease, they should be given priority and the TB Nurse/nurse should be notified and see them as soon as possible. Alternately, these clients may be, sent outdoors to wait. Occasionally, the client may need to be interviewed and examined outdoors. These clients should be considered potential flight or communicable disease risks if they do not adhere to instructions. Airborne droplet nuclei remain suspended in air and are dispersed widely by air currents indoors, but are diluted and destroyed by natural sunlight, making them much less likely to be a communicable disease risk outdoors.

- In the clinic setting, place the client in the airborne infection (negative airflow) isolation room. Keep the room door closed. Alternately instruct the client to remain outdoors in a designated location.
- Provide the client with a “disposable surgical/procedure” mask and instruct him/her regarding respiratory hygiene and cough etiquette. Provide tissues, waste container, and access to hand hygiene products.
- Healthcare worker should wear an N95 particulate filtering respirator when entering the room or home. See Section 6 for additional guidelines for working with clients with tuberculosis.
- Susceptible persons should not enter the room or the home of clients known or suspected to have measles or varicella if other immune caregivers are available. Due to difficulties in confirming definite immunity, the HICPAC guideline does not have a recommendation for health care workers who are immune or have been adequately vaccinated against measles or varicella, and are caring for a client who is infected or suspected with measles or varicella. The type of respiratory protection for immune healthcare workers is also an unresolved issue in the guideline. Therefore healthcare workers presumed to be immune should wear N95 respirators when caring for clients with suspected or confirmed measles or varicella.

2. **Droplet Precautions** - In addition to Standard Precautions, use Droplet Precautions for a client known or suspected to be infected with microorganisms transmitted by large particle droplets, which are spread through close respiratory or mucous membrane
contact with respiratory secretions. The client can generate droplets during coughing, sneezing, talking, or singing. Examples of such illnesses include *Haemophilus influenzae* type b, *Neisseria meningitidis*, Diphtheria, Pertussis, Pneumonic plague, Streptococcal (group A) pharyngitis, pneumonia, Scarlet fever, Influenza, Mumps and Rubella.

Instruct clients suspected to have an illness spread by large droplets on the use of Respiratory Hygiene/Cough Etiquette.

- Keep client separated from other clients. Place into an exam room as soon as possible. If delayed, place a “disposable surgical/procedure” mask on the client and place him/her 3-6 feet from others.

- Wear a disposable surgical/procedure mask when entering the client’s room. In the home setting, in situations where the visit cannot be rescheduled, use a disposable surgical/procedure mask when working within 3-6 ft. of the client.

3. **Contact Precautions**- In addition to Standard Precautions, use Contact Precautions for clients known or suspected to be infected or colonized with microorganisms that can be transmitted by direct contact with the client or indirect contact with contaminated environmental surfaces or items. Blood and body fluids are important sources of disease-causing organisms potentially spread through contact transmission. Examples include major draining wounds, *Clostridium difficile*, acute viral conjunctivitis, herpes simplex, lice, respiratory syncytial virus (RSV), and shingles (varicella zoster). Examples of chances for indirect contact transmission include hands that are not cleaned after becoming contaminated, patient-care devices that are not cleaned between patients, shared items such as toys among pediatric patients, and instruments that are not correctly cleaned between patients before disinfection or sterilization.

- Wear gloves for all interactions with the client, items belonging to the client or when touching surfaces potentially contaminated by the client. During the course of providing care for a client, change gloves after having contact with infective materials, items or surfaces. Remove gloves before leaving the room and perform hand hygiene immediately.

- Wear a cloth or fluid resistant lab coat/jacket if you anticipate that your clothing will have substantial contact with the client, or if the client is incontinent or has diarrhea, an ileostomy, a colostomy or wound drainage not contained by a dressing. Remove the cloth or fluid resistant lab coat/jacket before leaving the client’s environment. Adequately clean and disinfect equipment according to guidelines in Section 4 prior to use for another client.

**Infection Prevention and Control for Potential Bioterrorism Agents**

As a consequence of the terrorist attacks on September 11, 2001 and the anthrax mail attacks that closely followed during October – November, 2001, public health workers assumed a leadership role in terrorism preparedness and response. It is recommended that all county health department administrators, nurses, and public health specialists familiarize themselves with the following list of potential bioterrorism agents and their respective transmission precautions. These agents cover a broad spectrum of biological pathogens, including bacteria, viruses and toxins. In some instances, it will not be possible for first responders to recognize which disease agent they are initially dealing with, or if it is a biological attack rather than a
naturally occurring disease outbreak. When the agent is unknown, droplet precautions-- at a
minimum--should be exercised when interacting with affected clients until the infecting agent
can be confirmed by laboratory testing at the OSDH Public Health Laboratory or the CDC.

The CDC has categorized potential biological agents of terrorism into the
following three categories:

**Category A** – potential agents include those that cause: anthrax; botulism; plague;
smallpox; tularemia; and viral hemorrhagic fevers. These are high priority agents because
the organisms pose a risk to national security due to the following characteristics:

- Can be easily disseminated or transmitted from person to person
- Result in high mortality rates and have the potential for major public health impact
- Might cause public panic and social disruption
- Require special action for public health preparedness

**Category B** – potential agents or resulting conditions include: Brucellosis; food safety
threats (Salmonella, Escherichia coli, Shigella); Glanders; Q-Fever; Ricin toxin; Staphylococcal
enterotoxin B; Typhus fever; Viral encephalitis (alphaviruses); and, water safety threats
(Vibrio cholerae and Cryptosporidium parvum). These are considered second highest priority
agents due to the following characteristics:

- Are moderately easy to disseminate
- Result in moderate morbidity rates and low mortality rates
- Require specific enhancements of CDC and state health departments’ diagnostic
capacity and enhanced disease surveillance.

**Category C** – potential agents include: emerging infectious disease agents such as Nipah
virus and Hantavirus. These are considered the third highest priority due to the following
characteristics:

- Availability
- Ease of production and dissemination
- Potential for high morbidity and mortality rates and major health impact

The public health work force should employ transmission-based precautions
when handling clients where a bioterrorism event is suspected or confirmed. A
higher level of precautions may be required to safely handle environmental
specimens contaminated with a biological agent. It should also be noted that
human cases of anthrax, botulism and tularemia occur sporadically in our state
from natural exposures. For guidance in these situations, contact the Acute
Disease Service Epidemiologist-on-Call at 405-271-4060. Calls to this number
after business hours, weekends and holidays will be returned within 15 minutes.
### Isolation Precautions for Bioterrorist Agents

<table>
<thead>
<tr>
<th>CATEGORY A - Potential Agents</th>
<th>Standard</th>
<th>Contact</th>
<th>Droplet</th>
<th>Airborne</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Anthrax (<em>B. anthracis</em>), Botulism (<em>C. botulinum</em> toxin), Tularemia (<em>F. tularensis</em>)</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Pneumonic plague (<em>Yersinia pestis</em>)</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Smallpox (<em>Varicella zoster virus</em>)</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>- Viral Hemorrhagic Fevers (VHFs) <em>Marburg, Ebola, or Arenaviruses</em></td>
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<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CATEGORY B &amp; C - Potential Agents</th>
<th>Standard</th>
<th>Contact</th>
<th>Droplet</th>
<th>Airborne</th>
</tr>
</thead>
<tbody>
<tr>
<td>- <em>Brucella spp.</em> (Brucellosis), <em>Salmonella, Escherichia coli, Shigella, Burkholderia mallei</em> (Glanders), <em>Coxiella burnetti</em> (Q-Fever), Staphylococcal enterotoxin B, <em>Rickettsia prowazekii</em> (Typhus fever), alphaviruses (Venezuelan Equine Encephalitis, Eastern Equine Encephalitis), <em>Vibrio cholerae</em> (Cholera), <em>Cryptosporidium parvum</em> (Cryptosporidiosis), Ricin toxin, Nipah virus, and Hantavirus</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

See Table in Appendix 3-A for Type and Duration of Precautions to Use for Selected Infections and Conditions.

### Guidelines for the Work Setting

1. When there is the risk of occupational exposure, the employer shall provide, at no cost to the employee, appropriate protective equipment such as, but not limited to, gloves, gowns, laboratory coats, face shields or disposable surgical/procedure masks and eye protection, and mouthpieces, resuscitation bags, pocket masks or other ventilation devices. Personal protective equipment will be considered “appropriate” only if it does not permit blood or other potentially infectious materials to pass through to or reach the employee’s works clothes, street clothes, undergarments, skin, eyes, mouth or other mucous membranes under normal conditions of use for the duration of time, which the protective equipment will be used [CFR 1910.1030 (d)(3)(i)].
The employer shall **ensure** that the employee uses appropriate personal protective equipment unless the employer shows that the employee temporarily and briefly declined to use personal protective equipment when, under rare and extraordinary circumstances, it was the employee’s professional judgment that in the specific instance its use would have prevented the delivery of health care or public safety services or would have posed an increased hazard to the safety of the worker or co-worker. When the employee makes this judgment, the circumstances shall be investigated and documented in order to determine whether changes can be instituted to prevent such occurrences in the future [CFR 1910.1030 (d) (3) (ii)].

**Use of Personal Protective Equipment/Clothing**—Personal protective equipment and clothing is designed to place a fluid-resistant barrier between the health care provider and the blood or other body fluids of the client. All such equipment and clothing must be provided and maintained by the county health department administration. **Employees are not to take contaminated personal equipment or clothing home under any circumstances or for any purpose, nor are they to wear it outside of the clinic area.**

**Management of Client Specimens**—

- **Handling:** To avoid contamination of environmental surfaces and exposure to the employee, client specimens must be handled with care to prevent breakage, spillage or contamination of outer container. Gloves must be worn. Immediately clean any spills that occur, following guidelines found in Section 4 of this document.

- **Transport and Mailing:** Blood specimens must be collected in the appropriate water tight, sealed tube and placed in a sealed water tight plastic bag. The bag must contain sufficient absorbent material. The bag must be placed in an outer shipping container that is made from fiberboard or equivalent material. The container must be labeled as biohazardous and should state that the package complies with 42 CFR 72.3 (d) of the Postal Regulations. See the Public Health Laboratory Resource Manual for additional instructions.

**Management of Contaminated Non-disposable Lab Coats and Other Laundry**—Gloves and other appropriate protective apparel should be worn by persons handling contaminated clothing. Once contaminated, non-disposable lab coats or any other clinic laundry must be placed in a fluid-resistant container that is red in color and/or marked with the universal biohazard symbol. Washing in hot water in a standard automatic washing machine is sufficient for decontamination. Adding bleach to the wash cycle is not required. Since employees cannot take these items home, the OSDH or County Health Department must ensure the laundry is done on site, taken to a local self-service laundry, or taken to a commercial laundry. Commercial dry-cleaning of fabrics soiled with blood also renders these items free of the risk of pathogen transmission. If a commercial laundry is used, contaminated laundry must be transported in colored or labeled containers or bags as indicated above, and the laundry must be informed if they are receiving contaminated items. It is recommended that only those commercial laundries, which are known to be implementing the OSHA Bloodborne Pathogen Standard, be used. Lab coats that are soiled with dirt and not visibly contaminated by body fluids may be taken home by the employee for laundering.
If clothing becomes contaminated during a home visit, and spare clothing is available, change into clean clothing and carefully place contaminated clothing into a plastic bag. If spare clothing is not available, place a disposable impervious gown over clothing and return home to change into clean clothes, showering if gross contamination occurred. Notify your supervisor as soon as feasible.

6. **Work Areas** Eating, drinking, smoking and personal grooming are prohibited in work areas where there is a reasonable likelihood of occupational exposure. Also, food and drink may not be stored in a refrigerator, freezer, or other container or shelf where any medication or client specimens such as blood or other potentially infectious materials, are stored. A **sign** should be placed on the door of these areas, which indicates that no food or drink is allowed. CLIA regulations may place additional restrictions on management of laboratory specimens. Consult with the Public Health Laboratory, (405) 271-5070 for clarification if needed.
Guidelines for Cleaning, Disinfecting and Sterilizing

Listed below are recommended procedures for management of equipment in county health department clinics, and equipment used in the home setting. In following the recommendations, it should be noted that household bleach solutions are less effective as disinfectants in the presence of high concentrations of protein. Hence it is important to first remove as much body fluid as possible before decontamination. Depending on the degree of contamination, the difficulty penetrating the contaminated area, and the ability of the surface to withstand exposure to bleach solution, a 1:10 to 1:100 dilution of bleach may be used. Contaminated containers or equipment that routinely store client specimens (i.e., centrifuges, freezers or refrigerators holding specimens, etc.) must be labeled as biohazardous using an adhesive biohazard label or a securely attached biohazard tag. Check manufacturer's directions before cleaning equipment. Contaminated equipment, supplies or environmental items that cannot be adequately disinfected should be removed from use, labeled as biohazardous using an adhesive biohazard label or securely attached biohazard tag and processed per manufacturer recommendations.

Product Sterility and Shelf-life

Sterility of a product, either purchased or packaged by OSDH, is event related. Nurses have a responsibility to use guidelines and good nursing judgment when evaluating products and packaging. Products, such as VanishPoint syringes, may contain a shelf-life date. This is usually the date the manufacture guarantees sterility of the product. The Association for the Advancement of Medical Instruments standards summarize product sterility as event related under intact packaging guidelines. Events that may compromise the sterility of a package include:

1. Multiple handling that leads to seal breakage or loss of package integrity,
2. Moisture penetration,
3. Airborne contaminants.

Prior to use, examine the equipment package for evidence of loss of integrity. Discard any single-use devices that have been exposed to floodwaters or have evidence of exposure of uncertain history, even if the packaging and seals appear to be intact.
**Disinfectant Solutions**

1. **1:10 dilution household bleach**- 1 part household bleach to 9 parts water. May be made in quantity for one-week use. Label with expiration date.

2. **1:100 dilution household bleach**- 1 part household bleach to 99 parts water. Must be made daily and discarded at the end of the day to assure effectiveness. 1 oz. household bleach in 3 quarts water makes an actual dilution of 1:97, which is acceptable.

3. **Other solutions**- Any commercial disinfectant labeled as Tuberculocidal when diluted according to manufacturer’s specifications.

4. **1:10 Disinfectant Wipes**- Disposable disinfectant wipes meeting a 1:10 dilution of household bleach are considered an acceptable disinfectant product. Use according to package directions.

Note that there is an association between the excessive use of a phenolic disinfectant and hyperbilirubinemia in newborns. A phenolic product must not be used on surfaces that may come in contact with infants.

**General Area Maintenance**

1. **Office Area**- The area should be kept neat and dust free when possible. Regular vacuuming and/or mopping is recommended. Routine cleaning and disinfection of office equipment, such as the telephone handset and countertops is recommended to help prevent the spread of viruses in office settings.

2. **Client Waiting Areas and Restrooms**- Thorough environmental cleaning of client waiting areas and restrooms should be done routinely with a disinfectant solution. Waiting area floors and items found in the waiting area such as chairs, and tables should be cleaned and disinfected daily. Clients should be encouraged to bring their own toys from home when necessary. Chairs in client waiting areas should be spaced in such a manner as to avoid body contact between seated individuals. Only the client should handle the client’s clothing and outerwear. Devices such as coat trees should not be available in client waiting areas. Optimally, individual outerwear should be kept with the client or placed on wall hooks 12 inches apart. Employee’s outerwear should be managed in the same manner as that of clients. Clients recognized to have a disease spread by contact transmission, such as skin infections or scabies, should be directed to an area away from other clients. For guidelines regarding clients who are coughing, see Section 5 “Guidelines For the Prevention of Respiratory Transmitted Diseases”.

Restroom items such as toilet stalls, sinks and floors should be cleaned and disinfected daily and immediately when visibly soiled.

3. **Work Areas and Equipment Surfaces**- Clinic room tables, countertops, floors and sinks should be cleaned and disinfected daily and immediately when visibly soiled. Equipment used for home visits, such as portable scales, should be disinfected between client visits. After each client clean visible blood and body fluid spills from all exam tables and infant scale pans with detergent and water, then decontaminate
with 1:10 dilution of household bleach solution or an approved disinfectant. Rinse with clean water to prevent damage when household bleach solution is used. Exam table paper must be changed between each client.

Wipe down exam and scale table surfaces, equipment and work surfaces at the end of each day with 1:100 dilution of household bleach solutions or an approved disinfectant after cleaning any visible soiling. Rinse with water to prevent damage when household bleach is used. Wall hooks should be placed in the examination room and clients should be instructed to hang their clothing rather than placing on floor or chair.

Clean visible blood and body fluid spills from all laboratory equipment, surfaces, cabinets and work surfaces with detergent and water. Then decontaminate with 1:10 dilution of household bleach solution or an approved disinfectant solution. Rinse with clean water to prevent damage when bleach is used.

Wipe down laboratory equipment and work surfaces at the end of each day with 1:100 dilution of household bleach solutions or an approved disinfectant after cleaning any visible soiling. Rinse with water to prevent damage when household bleach is used.

4. **Toys**--Toys and other objects that are used by service providers in the assessment and evaluation of clients should be washed with soap and water and rinsed in a dilute bleach solution followed by a fresh water rinse between clients and **at least daily**. Toys mouthed by children should be washed and rinsed as specified above before any other child uses the toy. **Any toy that cannot be easily cleaned** (such as stuffed animals which cannot be machine washed) **must not be shared among children in county health departments**.

5. **Decontamination of Spills** - When cleaning spills the appropriate personal protective equipment (PPE) must be worn to prevent contamination. Wear gloves at a minimum and wear a disposable surgical/procedure mask if fluids may be splashed or aerosolized during cleanup.

   a. **Moist spills**: Absorb the spill with disposable towels. Using a detergent solution, clean the spill site of all visible blood or body fluid. Wipe down with 1:10 dilution of household bleach solution or an approved disinfectant solution. Dispose of all materials used to decontaminate the spill as directed in **Section 5**.

   b. **Dry spills**: If a surface or medical device is contaminated with dried blood or body fluid, remove all of it before disinfection. Following removal, wipe down with 1:10 dilution of household bleach solution or an approved disinfectant solution and rinse.

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**Medical Equipment**

1. **Classification of Medical Equipment** - For the purposes of this section, medical equipment is defined as **critical, semicritical or noncritical**.
a. **Critical:** Enters normally sterile tissue or the vascular system. **All critical medical equipment should be purchased as sterile or be sterilized by steam under pressure.** This category includes surgical instruments, urinary catheters, implants and needles.

b. **Semicritical:** Contacts mucous membranes or nonintact skin. These items must be free of all microorganisms, with the exception of high numbers of bacterial spores. Semicritical items generally require high-level disinfection. Most dental instruments, all instruments used for vaginal exams or procedures and respiratory equipment require **high-level disinfection/sterilization.** Thermometers, however, require only **intermediate-level disinfection.**

c. **Noncritical:** Comes into contact with intact skin. All noncritical medical equipment must be cleaned when visibly soiled. If contaminated with blood or body fluids, contaminated portions of the equipment must be thoroughly cleansed with a disinfectant solution. Examples of noncritical medical equipment include stethoscopes, otoscopes and blood pressure cuffs. These items require **low-level disinfection.**

2. **Methods of Disinfection and Sterilization**

   Used metal speculums are to be placed in soapy water immediately after use. The container must have a lid that seals. A sealable bucket or plastic tote may be used if kept in the clinic room. Open buckets are **NOT** to be utilized in the clinic room.

   • **Sterilization:** A process by which there is complete elimination or destruction of all forms of microbial life. This can be accomplished by autoclaving. Prior to sterilization, the equipment must be thoroughly cleansed to remove all visible body fluids. After cleansing, place equipment in open metal autoclave pans. Autoclavable plastic pans are not effective. Equipment should be autoclaved for the time necessary to achieve and maintain a temperature of $121^\circ C$ and a pressure of 15 psi for 30 minutes or longer. Typically, this will require at least one hour of autoclave time, depending on the type and size of the load.

   • **High-level disinfection:** A process, which can be expected to destroy all microorganisms, with the exception of high numbers of bacterial spores. This can be accomplished by autoclaving.

   Glutaraldehyde should not be used in the county health department. The county health department has the following choices:

   a. Items requiring sterilization may be autoclaved. County health department autoclaves are to be monitored using the guidelines listed in Laboratory Equipment #6: Autoclaves.

   b. County health departments may choose to seek an agreement with a local hospital for autoclave services.
c. County health departments may choose to use disposable speculums in lieu of autoclaving.

- **Intermediate-level disinfection:** A process that inactivates *Mycobacterium tuberculosis*, vegetative bacteria, most viruses and most fungi, but does not necessarily kill bacterial spores. Smooth, hard surfaces can be disinfected with 1:10 household bleach solution or a commercial disinfectant with label claim for tuberculocidal activity. It is highly recommended that thermometer sheaths be used if disposable thermometers are not available. OSHA recommends discontinuing the use of glass mercury thermometers. [http://www.osha.gov/SLTC/etools/hospital/hazards/mercury/mercury.html](http://www.osha.gov/SLTC/etools/hospital/hazards/mercury/mercury.html). Intermediate-level disinfection of glass thermometers can be achieved by soaking in 70%-90% isopropyl alcohol for at least 20 minutes. Do not mix thermometers used for oral and rectal use. Contaminated blood pressure cuffs, stethoscopes, and tourniquets may be disinfected with a 70% alcohol solution.

- **Home visitors:** All equipment that is taken into the home and used on clients must be properly disinfected after each use and before it is returned to the home visitor’s vehicle. Equipment that has not been cleaned and disinfected after use may not be used on other clients.

- **Low-level disinfection:** A process which kills most bacteria, some viruses, and some fungi, but it cannot be relied on to kill resistant microorganisms such as tubercle bacilli or bacterial spores. Low-level disinfection can be accomplished by using a hospital disinfectant without label claim for tuberculocidal activity or a 1:100 dilution of household bleach.

**Laboratory Equipment**

Always follow manufacturer’s instructions for routine cleaning and maintenance of equipment.

1. **Blood Collection Equipment and Supplies—Vacutainer System:** Retractable vacutainer systems should be used for all venipunctures if possible. The entire retractable unit must be disposed of in an appropriate sharps container (see Section 5 for more on sharps disposal). Nonretractable vacutainer systems are never recommended. Retractable Butterfly and syringe units may be used on infants with strict attention to occupational health and safety.

   Fingerstick Lancets: The OSDH requires the use of retractable lancet devices and single-use disposable lancets.

2. **Centrifuges—Whole Blood:** These centrifuges for spinning samples to obtain serum should be operated in an area away from clients and in a closed cabinet or enclosed area to prevent the general air distribution of aerosols should a tube of blood break. Every precaution should be taken to prevent breakage such as using a balance tube with an equal volume of water as the blood sample, across from the specimen.
Should a sample break in the centrifuge, heavy-duty polyurethane gloves must be worn and forceps must be used to remove particles of broken glass. Excess blood in the centrifuge should be removed prior to decontamination. The tube shields or trunnions should be removed and immersed in 1:10 dilution of household bleach for 10 minutes then rinsed with fresh water, dried, and the concave (aqua or black colored) cushion repositioned in the bottom of the shield or trunnion before returning to the centrifuge rotor head. The rotor head and bowl, if the centrifuge has one, should be wiped with 1:10 dilution of household bleach, and then with fresh water to remove the corrosive household bleach solution. Disinfectant wipes as described in Section 4, “Guidelines for Cleaning, Disinfecting & Sterilizing” may be used to wipe the rotor head and bowl, followed by a clear water rinse.

3. **Microscopes**—After contamination, the stage and controls may be wiped off with a suitable cleaning agent followed by a disinfectant or 1:100 dilution of household bleach and followed immediately with a fresh water rinse. The objective lens, eyepieces, lamp and condenser should be cleaned with lens cleanser and lens paper.

4. **HemoCue Machine (Hemoglobin)**—Microcuvettes should be immediately disposed of in an appropriate sharps container following use. The HemoCue machine should be disinfected daily using 1:100 bleach solution. The slide out mechanism arm should be removed and disinfected weekly. At any time, visible blood should be immediately removed and followed by disinfection with a 1:10 bleach solution or an approved disinfectant, then wiped with fresh water.

5. **Autoclaves**—Autoclaves must be monitored according to manufacturer’s recommendations on a routine basis to ensure proper sterilization is being accomplished.

Correct sterilization of any item depends on several factors, mainly thorough cleaning of the item, proper preparation, packaging and positioning of the items in the load, and verification of the correct exposure time and temperature. Follow the manufacturer’s recommendations for placement to insure that steam reaches all surfaces of the items, and allows for effective steam removal to achieve proper drying.

a. Arrange items so that they are not touching other items or the sides or door of the autoclave chamber. Do not overload or crowd items into the chamber.

b. If wrapped and non-wrapped items are being processed in the same load, use time/temperature guidelines for the wrapped items.

c. With each load: use heat sensitive chemical test strips that change color when a temperature of 121° C has been maintained for at least 12 minutes. Any items in a load where the test strip did not change color are NOT considered to be sterile.

d. Weekly or with each load if run less than weekly: perform biological testing using spore (*Bacillus stearothermophilus*) strips or vials per manufacturer’s instructions. Results should be interpreted according to the instructions of
the manufacturer. See Appendix 4-A for options of obtaining supplies and services for biologic monitoring.

e. Documentation: maintain a log book with the following criteria: (See Appendix 4-A for sample Autoclave Monitoring Log):

   i. **Each load:** Record the date, type of items in the load, temperature, pressure, length of cycle, results of chemical indicators, results of biological indicators (when used), and signature of operator. To maintain a temperature of 121°C for 30 minutes or longer will typically require at least one hour of autoclave time, depending on the type and size of the load.

   ii. **At least once each week:** Record the date quality control was performed, the basic content of the load (dental instruments, medical waste, etc.) date, temperature, pressure, length of cycle, signature of operator and the results of the biological monitoring of that load.

f. In the event an autoclave is determined to not be functioning appropriately to achieve sterilization (temperature of 121°C and pressure of 15 psi not maintained for 30 minutes, or failure to pass heat sensitive or biologic monitoring), the materials must not be used and considered unsterile. The autoclave should be removed to a storage area until repaired or labeled as malfunctioning, and the administrative director notified.

g. If the facility rarely or irregularly uses the autoclave, consider establishing an agreement with a nearby hospital (or other licensed healthcare facility) to perform autoclave sterilization. Transport cleaned and wrapped (if appropriate) items to the facility in a closed container and transport autoclaved items back to the health department in a clean closed container.

Records must be kept locally which verify the operating efficiency of autoclaves as monitored by heat sensitive and biologic monitoring methods.

**Dental Instruments and Equipment**

1. **Dental Instruments-** Any item that is used in the mouth and will be reused on another patient is to be cleaned, packaged, and heat-sterilized between uses using FDA-cleared sterilizers. Currently, OSDH dental clinics utilize steam-under-pressure sterilizers (autoclaves). If the item is heat-sensitive, it needs to be cleaned then sterilized by immersion in a liquid chemical cleared by FDA as a sterilant. Instruments need to be thoroughly cleaned prior to sterilization using cleaning equipment such as an ultrasonic. Before sterilization, inspect instruments for cleanliness, then wrap or place them in containers designed to maintain sterility during storage. Patient-care items are categorized as critical, semicritical, or noncritical, depending on the potential risk for infection associated with their intended use. Critical items such as surgical and other instruments that normally penetrate soft tissue or bone (i.e. forceps, scalpels, bone chisels, scalers and surgical burs) must be sterilized after each use or discarded. Semi-critical items touch mucous membranes or nonintact skin and have a lower risk of transmission; because the majority of semicritical items in dentistry are heat-tolerant, they also
should be sterilized by using heat. If a semicritical item is heat-sensitive, it should, at a minimum, be processed with high-level disinfection. Noncritical patient-care items pose the least risk of transmission of infection, contacting only intact skin, which serves as an effective barrier to microorganisms. These should be cleaned with an EPA-registered hospital disinfectant with a tuberculocidal claim. Use of disposable barrier protection of these items might be a preferred alternative.

2. Monitoring- Monitoring of sterilization procedures should include a combination of process parameters, including mechanical, chemical, and biological. Monitor each load with mechanical (time, temperature, pressure) and chemical indicators. Biological indicators (i.e. spore tests) are the most accepted method for monitoring the sterilization process. Biological monitoring should be conducted weekly (or each clinic day if operations are conducted less than weekly). Mail-in monitoring services can be provided from private companies or dental schools. It is recommended that a monitoring log book be maintained.

In case of a positive spore test, remove the sterilizer from service and retest. If the repeat spore test is negative, put back into service. If the repeat spore test is positive, do not use the sterilizer until it has been inspected or repaired. Recall (to the extent possible) and reprocess all items processed since the last negative spore test. Before placing the sterilizer back into service, rechallenge the sterilizer with biological indicator tests in three consecutive empty chamber cycles after the cause of the failure has been determined and corrected. If instruments are to be stored after sterilization, they should be wrapped or bagged before sterilizing, using a suitable wrap material such as muslin, clear pouches, or paper as recommended by the manufacturer of the sterilizer. Following sterilization, the instruments should be stored in the sealed packages in a storage area with limited access, such as a closed cabinet. Event-related storage practices maintain that the contents of the package may be considered sterile unless the package is torn, wet, improperly stored or improperly or excessively handled, or is found to be contaminated. In these events, the contents of the package must be repackaged and resterilized.

3. Dental Handpieces- Dental handpieces, prophy angles and contra angles must be heat sterilized between clients with acceptable methods, which assure internal as well as external sterility. Disposable prophy angles are available and are to be discarded after one use. The manufacturer’s instructions must be followed for proper sterilization of handpieces, prophy angles and contra angles and for the use and maintenance of water lines and check valves. All dental units must have a check valve to prevent infective materials from being aspirated back into the water line. The first step before sterilization is to flush the handpiece with water by running it for 20 to 30 seconds, discharging the water into a sink or container. An ultrasonic cleaner should be used to remove any adherent material, but only if recommended by the handpiece manufacturer. Otherwise, the handpiece should be scrubbed thoroughly with a detergent and hot water. Many manufacturers recommend spraying a cleaner/lubricant into the assembled handpiece before and after sterilization. If in doubt as to whether a handpiece can be sterilized, contact the manufacturer.
4. **Air/Water Syringes and Ultrasonic Scalers** - Units should be flushed as described for handpieces. These attachments should be sterilized in the same manner as the handpieces, or in accordance with manufacturers’ instructions. It is recommended that removable or disposable tips be used for these instruments and discarded after each client use.

5. **Operatory Surfaces** - Countertops and dental equipment surfaces such as light handles, x-ray unit heads, amalgamators, cabinet and drawer pulls, tray tables and chair switches are likely to become contaminated with potentially infectious materials during treatment procedures. These surfaces can be either covered or disinfected. Barrier protection can be provided by covering surfaces with plastic wrap, aluminum foil or impervious-backed absorbent paper. These protective coverings must be changed between clients and when contaminated.

If barriers are not used, surfaces should be cleaned and disinfected between patients by using a low-level EPA-registered hospital disinfectant with an HIV, HBV claim or a high-level tuberculocidal claim. Housekeeping surfaces, including floors, sinks, and related objects are not likely to be associated with the transmission of infection. However, the removal of visible soil and cleaning should be undertaken on a routine basis. Cleaners with germicidal activity may be used. Dental health care providers should wear gloves and other PPE to prevent occupational exposure to infectious agents and hazardous chemicals.

6. **Impressions, Prostheses, Casts, Wax Rims, Jaw Relation Records** - Items such as impressions, jaw relation records, casts, prosthetic restorations and devices, which have been in the client’s mouth, should be properly disinfected prior to shipment to a dental laboratory. These items should be sprayed or immersed with an EPA-registered hospital intermediate-level disinfectant with a tuberculocidal claim when a laboratory case is sent off-site. Impressions must be rinsed to remove saliva, blood and debris and then disinfected. Impressions can be disinfected by immersion in a compatible disinfecting product. Since the compatibility of an impression material with a disinfectant varies, the impression material manufacturer’s recommendations for proper disinfection should be followed. Disinfected impressions, which are sent to the dental laboratory, should be labeled as such in order to prevent duplication of the disinfection protocol.

7. **Special Considerations** - In dental radiology, the potential to cross-contaminate equipment and surfaces with blood or saliva is high if aseptic technique is not practiced. Gloves should be worn when taking radiographs and handling contaminated film packets. Other PPE should be used if spattering of blood or other body fluids is likely. Care should be taken to avoid contamination of the developing equipment by barriers or be cleaned and then disinfected after each patient use with an EPA-registered hospital disinfectant with of low or intermediate-level activity. Digital radiography instruments should be cleaned and ideally heat-sterilized or high-level disinfected between patients. Consult manufacturers regarding appropriate barrier and sterilization procedures for digital radiography sensors and computer components.
Extracted teeth that are being discarded are subject to the containerization provisions outlined by OSHA's bloodborne pathogens standard. OSHA considers extracted teeth to be potentially infectious material that should be disposed in medical waste containers. However, extracted teeth can be returned to patients on request, at which time provisions of the standard no longer apply.


Additional dental infection control information can be obtained from:

1. Guidelines for Infection Control in Dental Health-Care Settings 2003
   MMWR – December 19, 2003/Vo. 52/No. RR-17
2. Organization for Safety and Asepsis Procedures (OSAP)
3. From Policy to Practice: OSAP's Guide to the Guidelines. OSAP, Annapolis, 2004
4. Material Safety Data Sheets (MSDS)

**Emergency Medical Equipment**

1. Resuscitator Bags- Disposable resuscitator bags are recommended, and should be disposed of promptly after use. If non-disposable resuscitator equipment is used, resuscitator bags (i.e., adult and pediatric ambu bags) and pocket resuscitator masks must be cleaned following the manufacturer’s instructions for cold sterilization.

2. Airways, Oxygen, Masks, and Tubing- All disposable equipment should be disposed of after use. Proper disposal of this equipment is covered in Section 5.

3. Mannequins- Students should be told in advance that cardiopulmonary resuscitation (CPR) training sessions will involve “close physical contact” with their fellow students.

   Students should not actively participate in training sessions (hands-on training with mannequins) if they have dermatologic lesions on hands or in oral or circumoral areas, if they are known to be seropositive for hepatitis B surface antigen (HbsAg), if they have an upper respiratory tract infection, if they are known to be seropositive for Human Immunodeficiency Virus (HIV), or if the student has reason to believe that he or she has been exposed to or is in the active stage of any infectious process.

   All persons responsible for CPR training should be thoroughly familiar with hygienic concepts (i.e. thorough handwashing prior to mannequin contact, not eating during class to avoid contamination of mannequins with food particles, etc.) as well as the procedures for cleaning and maintaining mannequins and accessories (i.e., face shield). Mannequins should be inspected routinely for signs of physical deterioration, such as cracks or tears in plastic surfaces, which make thorough cleaning difficult or impossible. The clothes and hair of the mannequins should be washed periodically (i.e., monthly or whenever visibly soiled).

   If more than one CPR mannequin is used in a particular training class, students should preferably be assigned contact with only one mannequin. Each student
should use a disposable face shield specifically designed for use with mannequins. Following this recommendation will lessen the possible contamination of several mannequins by one individual and, therefore, limit possible exposure of other class members.

At the end of each class, the procedures listed below should be followed as soon as possible to avoid drying of contamination on mannequin surfaces:

a. Disassemble mannequin as directed by manufacturer.
b. As indicated, thoroughly wash all external and internal surfaces (also reusable protective face shields) with warm water, detergent and brushes.
c. Rinse all surfaces with fresh water.
d. Wet all surfaces with a 1:10 bleach dilution. This solution must be made fresh at each class and discarded after use.
e. Rinse with fresh water and immediately dry all external and internal surfaces; rinsing with alcohol will aid drying of internal surfaces, and this drying will prevent the survival and growth of bacterial or fungal pathogens.

Each time a different student uses the mannequin in a training class, the individual protective face shield, if used, should be changed. Between students or after the instructor demonstrates a procedure, the mannequin face and inside the mouth should be wiped vigorously with clean absorbent material (i.e., 4’x4” gauze pad) wet with either the bleach solution described above or with 70% alcohol (isopropanol or ethanol). The surfaces should remain wet for at least 30 seconds before they are wiped dry with a second piece of clean absorbent material.

Although alcohol is not a broad-spectrum bacteriological agent, in the context of vigorous cleaning with alcohol and absorbent material, little viable microbial contamination is likely after the cleaning procedure.
Management of Regulated Medical Waste

Regulated Medical Waste Disposal Plan

The following information shall serve as the Oklahoma State Department of Health Regulated Medical Waste Disposal Policy and Plan as required by the Oklahoma Department of Labor Public Employees Occupational Safety and Health Division. The Oklahoma State Department of Health will follow all applicable standards as written from the:

Oklahoma State Department of Labor Public Employees Occupational Safety and Health Division OS Title 40

Occupational Safety and Health Administration Standard 1910.1030 (d)

United States Department of Transportation Title 49 CFR 173.196-197; and, Oklahoma Department of Environmental Quality 27A 252:515-23 for the containment, transporting and disposal of all regulated medical waste.

Definitions

“Commercial regulated medical waste processing facility” means a facility operated as a business for profit that is designed and operated principally for the purpose of processing, including transfer of, regulated medical wastes generated by others. Such facilities shall include those engaged in the processing of regulated medical waste on mobile vehicles at a generator location. (DEQ 252:515-23-2)

“Commercial transporter “means an owner/operator of any vehicle transporting regulated medical waste generated by others. (DEQ 252:515-23-2)

“Contaminated Sharps” means any contaminated object that can penetrate the skin including, but not limited to, scalpels, broken glass, broken capillary tubes, and exposed ends of dental wires. (OSHA 1910.1030(b)

“DEQ” means the Oklahoma Department of Environmental Quality.
“Engineering Controls” means controls (i.e., sharps disposal containers, self sheathing needles, safer medical devices, such as sharps with engineered sharps injury protections and needleless systems) that isolate or remove the bloodborne pathogens hazard from the workplace. (OSHA 1910.1030(b)

“Generator” means the owner/operator of any facility, institution, or business that produces regulated medical waste in any quantity. (DEQ 252:515-23-2)

"MSWLF" means Municipal Solid Waste Landfill; a publicly or privately owned landfill that is/or has received household waste. A MSWLF may also receive other types of non-hazardous solid wastes, such as non-hazardous sludge, NHIW, special waste, and construction/demolition waste.

“OSHA” means Occupational Safety and Health Administration.

"POTW" means Publicly Owned Treatment Works; a wastewater treatment system, as defined at 27A O.S. § 2-6-101, that is owned by a State or municipality for the treatment of municipal or industrial wastewaters.

“Regulated medical waste” means liquid or semi-liquid blood or other potentially infectious materials; contaminated items that would release blood or other potentially infectious materials in a liquid or semi-liquid state if compressed; items that are caked with dried blood or other potentially infectious materials and are capable of releasing these materials during handling; contaminated sharps; and pathological and microbiological wastes containing blood or other potentially infectious materials. (OSHA 1910.1030(b)

“DOT” means United State Department of Transportation

Examples of Regulated Medical Waste Within a County Health Department

- Live and attenuated vaccines that are being discarded.

- Blood and blood products-Discarded waste, human blood and blood products (i.e. serum, plasma) and materials as defined above as regulated medical waste.

- Sharps-Used sharps such as hypodermic needles, syringes, blood collection tubes, broken or unbroken glassware in contact with infectious items, including slides and cover slips.

- Items contaminated with blood or other human body fluids, which would drip freely or would release such materials if compressed. Items caked with dried blood or body fluids that are capable of releasing these materials, such as filter paper.

- Discarded feminine hygiene products used to absorb menstrual flow does not meet the definition of regulated waste. These items should be discarded in the regular waste receptacles that have been properly lined with a plastic bag.
• Discarded waste material contaminated with excretions, exudates, and secretions from clients with highly communicable diseases.

• Material, which, in the determination of the communicable disease nurse presents a significant danger of infection because it is contaminated with infectious agents.

**Disposal of Regulated Medical Waste**

Immediately, or as soon as possible after use, contaminated medical waste shall be placed in appropriate containers as follows:

1. **Sharps**

   • Must be placed in puncture-resistant, rigid containers immediately after use.

   • Containers must be red in color, labeled with the universal biohazard symbol and closable.

   • Containers must be located as close as possible to the use area, preferably within arm’s reach of the user.

   • Containers must not be placed on the floor, or in an area that is within the reach of small children.

   • Containers must be considered full when between 1/2 to 2/3 filled and must be securely closed and stored for final disposal at that time.

   • Under no circumstance should needles or lancets be recapped or otherwise manipulated by hand and must not require transport to another room for disposal in a sharps container.

2. **Regulated medical waste other than sharps** must be placed in a fluid-resistant, closable container or bag colored red and/or labeled with the universal biohazard symbol. Plastic bags should be constructed of either polyethylene or polypropylene and should be impervious and tear resistant. These bags should be capable of being closed off, tied or sealed.

3. **The disposal of the following is prohibited in a municipal solid waste landfill, a municipal solid waste receptacle or a municipal solid waste transfer station**- any quantity of regulated medical waste as defined above under the OSHA 1910.1030(b) (definitions above) “Regulated Medical Waste”.

4. **Liquid regulated medical wastes**-may not be discharged into the collection system of a Publicly Owned Treatment Work (sewer) within the generating facility.
**Storage of Regulated Medical Waste in a County Health Department Prior to Final Disposal**

Bagged regulated waste must be kept in secondary fluid-resistant, rigid containers (such as garbage cans or corrugated boxes) with closable tops while in the clinic setting. Reusable containers must be disinfected on a regularly scheduled basis and when visibly contaminated.

Sharps containers do not require a secondary container unless observed to be leaking or unless the integrity of the container has been compromised (indented, cracked, etc.).

At the end of each day or completion of clinic, regulated medical waste bags must be removed from secondary fluid-resistant container by appropriate health department personnel with annual bloodborne pathogen training and placed in box provided by the state contracted commercial transporter. These bags must be securely closed, placed in a box and locked in a storage room, which has limited access, this room must be labeled as biohazard. Contracted cleaning personnel are not to handle regulated medical waste and are to be made aware of the process and hazard.

Care must be taken to ensure that storage rooms are free of rodents and other disease vectors and are protected against precipitation.

Stored regulated medical waste must be maintained in a non-putrescent state, using refrigeration if necessary.

**Options for Final Disposal of Regulated Medical Waste**

OSDH must contract with a commercial regulated medical waste transportation and disposal company approved for operation by the Oklahoma Department of Environmental Quality. A contract for regulated medical waste transportation and disposal is available to county health departments. The company under contract provides containers for packaging and collection of full containers. An approved regulated medical waste tracking form must be received from the contracted commercial transporter every time waste is transferred from an OSDH facility. This form must be filed and maintained at the generating OSDH site or county health department. Proof of final destruction documentation must accompany the invoice to the OSDH. All documentation associated with disposal of regulated medical waste will be retained by the agency according to the records disposition schedule.

**Transportation of Untreated Regulated Medical Waste by County Health Department Personnel**

Waste products generated during clinic at outlying sites, i.e. offsite flu clinics and health fairs, must be handled as follows:

- Each vehicle used for transport of biomedical waste must be equipped with disinfectant, disposable absorbent towels, heavy latex or rubber utility gloves, a dust pan and small hand broom, and extra biohazard waste bags and labels for use in the event of contamination of the vehicle or a roadside spill.
- Waste must be transported only in enclosed vehicle cargo-carrying compartments. In other words, it must not be placed on passenger seats or transported in the open bed of a truck. The use of a snap-on or tie-down cover over the bed of a truck would be a sufficient enclosure.

- Personnel responsible for transporting biomedical waste must have been trained on bloodborne pathogens and offered hepatitis B vaccination in accordance with Section 1 of this manual.

- Reusable secondary containers used in the transport of biomedical waste must be routinely disinfected after transport is completed, and must be disinfected as soon as possible after visible contamination has occurred.

- In the event of contamination within the vehicle cargo-carrying compartment, the compartment must be disinfected as soon as the compartment is emptied.

- In the event that regulated medical waste is spilled onto the roadside during transport, clean up and removal becomes the responsibility of the county health department generating the waste, and must be immediately and thoroughly disinfected. All contamination of transporting vehicle, environment, or personnel will be reported to the administrator of the health department transporting the waste.
Guidelines for the Prevention of Respiratory Transmitted Diseases in the Clinic Setting

Certain communicable diseases are transmitted from person-to-person through the spread of respiratory secretions. These secretions are released as either large or small droplets. Large droplets generally contaminate people and surfaces within 3 – 6 feet of the source, while airborne droplets float on air currents for up to several hours. Examples of diseases spread by large droplets are mumps, rubella, pertussis, bacterial meningitis, and influenza. During certain procedures, large droplets can become aerosolized. Diseases such as tuberculosis, varicella (chickenpox) and measles are spread through small airborne droplets. This chapter pertains to prevention of transmission of all airborne diseases.

People in the health department who may be at risk of becoming ill include personnel, clients and visitors. People who are at risk of severe illness or serious complications include pregnant women who are not immune to rubella, and immunocompromised persons at risk for varicella, TB or other respiratory infections.

To interrupt or prevent the spread of respiratory diseases in the clinic setting, the following guidelines are recommended.

Note: A discussion concerning “Types of Masks” can be found in Section 1, “Screening” following the “TB Respirator Fitting” sub-section.

Management of Client Waiting Areas

If the physical plant permits, schedule clinics and/or designate specific waiting areas in a manner that will limit potential exposure to respiratory diseases. Ideally, this would mean separate waiting areas for well and for sick clients.

Clients should be discouraged from bringing young children to family planning and prenatal clinic visits. If a client visiting these clinics is accompanied by an ill child, efforts should be made to avoid exposure of other clients to the ill child (i.e., see client first, or have client and child wait in an area at least 3 – 6 feet from others).

A client requesting evaluation for upper respiratory symptoms or who presents with severe respiratory symptoms, along with a fever or rash should be given a client mask and
immediately be removed from general client waiting areas and placed in the isolation room. Alternately, the client may be removed to an outside location, away from others.

Clients with symptoms of a mild respiratory illness (i.e., common cold) should be seated in an area 3 – 6 feet away from others while waiting, and encouraged to cover their mouth and nose with disposable tissues when coughing or sneezing. Disposable tissues and hand hygiene resources should be made available for clients to use while in the clinic.

**Prevention of Tuberculosis Infection**

Transmission of tuberculosis (TB) in health care settings may occur, both from clients who have unrecognized disease and clients who have not received sufficient therapy to make them non-contagious. The following methods, utilized together, will greatly reduce the risk of transmission of TB infection to uninfected individuals:

- The appropriate use of disposable surgical/procedure masks and respirators by health department employees, TB clients and family members
- Respiratory isolation room utilization
- Compliance to OSDH TB control procedures

**Tuberculosis Control Respirators- N95 Particulate Filtering Respirators**

Specialized respirators worn while sharing air space with a TB case or suspect case provide protection against TB transmission. Additional protection is provided when a “disposable surgical/procedure mask” is worn by the client until non-contagiousness criteria have been met.

1. **Respirators for employee and directly observed therapy (DOT) provider use—**

   - Mask fit check- N95 Particulate Filtering Respirators (PFR) worn by employees require fit testing which must be documented before client contact by the health care worker occurs. If the PFR is ill fitting, air will preferentially flow through the gaps, allowing the mask to function more like a funnel than a filter, thus providing virtually no protection. Facial size and shape will determine which size and type of PFR the employee will require. Employees and DOT Providers designated as needing to wear a PFR must be evaluated for medical conditions which could become aggravated as a result of wearing the Respirator (see Appendix 1-A, ODH Form #809).

   - If a nurse seeing a TB client has not been fitted with an N95 Particulate Filtering Respirator, she/he must see the client outdoors. The client must be down wind and in a confidential area. The TB client must wear a disposable surgical/procedure mask.
• Annual evaluation - Employees and DOT Providers shall be evaluated annually to determine if their previously fitted PFR is still appropriate. Evaluation shall consist of questioning the employee to determine if any of the following have occurred: gain or loss of 10% or more of their body weight, the use of dentures, a beard or mustache, or any facial surgery. The results of this evaluation should be documented on Progress Note, ODH Form #285. This is then kept as a part of the employee medical record.

• Respirator check - The following should be checked each time before wearing a Particulate Filtering Respirator: straps, strap clasps or attachment points to Respirator, metal nose band, structural integrity of the material, rubber face gasket (if any) and rubber gasket in exhaust valve (if any). The wearer should also insure the PFR is the brand and size for which s/he was fit tested.

• Wearer fit-check - An N95 PFR must be fit-checked each time it is worn. A tight face seal must be obtained by pulling the straps tight. If the straps cannot be pulled tight enough to secure a face seal, obtain a new one of the same type and size.

• N95 PFR replacement/disposal - The N95 PFR should be replaced in accordance with manufacturer recommendations and when:
  
a. Straps lose elasticity or strap clasps break.
  
b. It becomes wet (i.e., secretions, sputum), crushed or punctured.
  
c. The exhaust valve gasket (s) or face seal gasket (if applicable) becomes frayed, cracked or light can be seen through it.
  
d. The metal nose band cracks or no longer provides a tight fit.
  
e. It becomes difficult to breathe through, loses its shape or becomes punctured.
  
f. It does not require special disposal procedures and can be discarded in the ordinary trash.
  
g. N95 PFRs should be discarded when employee no longer works with TB clients or leaves agency employment.

• N95 PFR storage - Store in a paper bag, away from direct sunlight or heat when not in use. Storage in a plastic bag will retain moisture. The user’s name should be written on one of the straps each time a new Respirator is obtained.

2. Respiratory Protection For Client and Family Usage - Disposable surgical/procedure masks for client use are for the purpose of controlling the dissemination of exhaled TB germs. “Surgical masks” meet this criterion. Disposable surgical/procedure masks designated for client use are worn to control the production of droplet nuclei made
when an infectious client coughs, sneezes, speaks or laughs. Clients should never wear N95 Respirators.

**Respiratory Isolation Room**

The goal of air ventilation (engineering controls) is the adequate removal of contaminated air from the TB isolation room. Appropriate ventilation minimizes the potential for TB infection transmission by dilution and removal of infectious droplet nuclei. Infectious TB laden droplet nuclei released into room air can be eliminated or reduced in number by maintaining negative room air pressure and forcibly removing air directly outdoors. The county health department respiratory isolation room must be able to maintain negative air pressure and 12 air exchanges per hour.

1. *Negative Air Pressure*- Air must flow into the respiratory isolation room from the doorway and not out of it for the room to be under negative pressure. A negative air pressure differential can only be maintained in a closed room. A close fit of doors and windows must be maintained. The door must contain sufficient space between the bottom of the door and the floor or alternatively, a vent (grille) in the door, to allow air to flow into the room.

2. *Air Removal (Exhaust Fan)*- A respiratory isolation room must be equipped with an exhaust fan which will provide at least twelve (12) exchanges in room air per hour. This can be accomplished by installing exhaust fans in the ceiling or wall venting air directly outside.

   a. Calculating air changes per hour- The following formula will assist in determining air changes per hour (ACH) where \( Q = \) the exhaust airflow in cubic feet per minute and \( V = \) the volume of the room in cubic feet. \( ACH = \frac{Q}{V} \times 60 \).

   b. Inspection documentation- **Documentation of the respiratory isolation room's negative pressure, utilizing a smoke or tissue test, must be performed and documented in writing on the Negative Pressure Isolation Room Test Log, ODH form # 293 See Appendix 5-E.** County health departments (CHDs) with isolation rooms used 0-3 times per month for TB should perform this inspection monthly. County health departments (CHDs) with rooms used weekly to daily for TB should perform this test daily. If negative airflow cannot be documented, potentially contagious TB clients should be seen outdoors until negative airflow can be re-established. Testing of the respiratory isolation room documenting 12 air exchanges per hour should be performed periodically.

   c. Downtime between clients- When the respiratory isolation room is utilized for the care of a TB client who has not yet met non-contagiousness criteria, the room should not be used for at least ten (10) minutes (enough time has elapsed to provide at least one exchange of room air).

3. **Recommendation for respiratory isolation room construction**

   a. Contact OSDH Architectural Consultant (405) 271-6785, before beginning to construct or retrofit a TB isolation room.
b. Remove the return air duct if the room selected has one. For new construction
do not install return air ducting.

c. If the room contains a suspended ceiling, it should be replaced with a solid
material to keep air from entering or leaving the room. For new construction
install a solid ceiling.

d. The lighting should be a sealed surface type fixture.

e. Normal undercutting of a 36” wide door by ½” to ¾” is recommended. A grille,
when necessary, may be used only when allowed by the building and/or fire
code.

f. The exhaust air vent in the room must be located as far away from the door as
possible.

g. Exhaust from TB isolation room shall terminate outside the building away from
air intake vents, persons, and animals, in accordance with applicable federal, state
and local regulations on environmental discharges. Exhaust ducts should be
located 25 feet away from sidewalks, doors, windows or any HVAC fresh air
intake into a facility. Wind blowing over a facility may create a turbulent
recirculation zone that can cause exhausted air to re-enter the building. Exhaust
flow should be discharged above this zone.

h. The exhaust fan must be sized to ensure at least twelve air exchanges of the room
per hour plus an airflow volume that exceeds the supply airflow by 10%. The
exhaust switch must be switched separately from the lighting and located on the
outside of the isolation room.

i. The door to the isolation room must be posted with a permanent sign
designating the room as a respiratory isolation room. Anyone entering must wear
an appropriate TB control Respirator during and for ten minutes after the room
is occupied by a respiratory client.

j. A side and top view of a typical isolation room can be found in Appendix 5-A.
The county health department Respiratory Isolation Room Report can be located
in Appendix 5-B.

**Ultraviolet Irradiation**
The use of germicidal ultraviolet (UV) radiation is not a required protective measure for
county health departments. If germicidal ultraviolet irradiation is utilized, consult current
CDC and manufacturer recommendations regarding the installation, cleaning and
maintenance of these fixtures. Documentation of maintenance records must be
maintained with isolation room records.

**CAUTION: UV RADIATION CAN CAUSE INJURY TO EYES AND SKIN**
**High Efficiency Particulate Air Filters (HEPA)**

It is not recommended that HEPA filtration units be used in county health departments for the prevention of transmission of TB infection.

**Sputum Specimen Collection**

Most sputum specimen collection should be done at home. However, if sputum collection is needed during a clinic visit, it must be done either outdoors or in the isolation room.

If performed in the isolation room, the client shall be instructed to stand/sit directly in front of the exhaust fan when producing the specimen. If the location of the exhaust fan prevents direct access by the client, sputum collection shall be performed outside.

The health care worker must wear an approved TB Respirator.

When high-risk procedures, such as sputum collection, occur in the isolation room, time must be allowed for at least four air exchanges (20 minutes) to occur before the next client enters the isolation room.

Sputum specimens must be checked before shipping to ensure the AFB smear and culture form includes the appropriate data and the date of specimen collection.

**Written Tuberculosis Control Plan**

Each county health department must maintain a site-specific written tuberculosis control plan. A review of the control plan with all county health department employees should occur annually. Copies of the written control plan must be available to all county health department (CHD) employees. Appendix 5-D contains a framework for the development of such a plan.

**Pandemic Influenza**

Summary of Infection Control Recommendations for Care of Patients with Pandemic Influenza. See Appendix 5-F.
Infection Prevention and Control Guidelines for Clients Presenting with Rash Illnesses

Rash illnesses of greatest concern in ambulatory care clinics are those most highly contagious, specifically rubella, rubeola (measles) and varicella (chickenpox). Although the occurrence of these diseases is greatly reduced as a result of successful vaccination programs, promptly recognizing and taking action when these diseases occur is vital in preventing further transmission.

Rashes can have many causes including bacteria, viruses, allergies, medication reactions, contact sensitivity, insect bites and other medical conditions. Some specific potentially contagious causes include:

**Bacteria:**
- Streptococcus (scarlet fever)
- *Staphylococcus aureus*
- Legionella
- Meningococcus

**Viruses:**
- Cytomegalovirus (CMV)
- Epstein-Barr virus (mononucleosis)
- Erythema infectiosum (Fifth disease)
- Exanthem subitum (Sixth disease, roseola infantum)
- Flavivirus (dengue)
- Hepatitis B
- Herpes virus 6 and 7
- Human parvovirus B19 (erythema infectiosum)
- Monkeypox
- Respiratory syncitial virus (RSV)
- Rubella
- Rubeola (measles)
- Varicella (chickenpox)
- Variola (smallpox)
Note: Some parasites such as scabies (mites) and insects such as lice (Pediculus sp.) may cause a rash presentation. These infestations are spread by direct contact with infected persons. See Chapter 3 for contact precautions.

When the potential exists that a rash is associated with a communicable disease, the priority is to assess the situation and implement infection control measures quickly. Many of the rash illnesses are reportable diseases, so please contact the epidemiologist on call (405-271-4060) when appropriate.

**Terminology**

Erythema: skin redness  
Enanthem: mucous membrane eruptions such as Koplik’s spots in rubeola  
Exanthem: inflamed skin eruptions  
Macule: < 1 cm., flat  
Papule: < 0.5 cm., elevated  
Maculopapular: combination of macules and papules which may become confluent  
Vesicle: tiny (< 0.5 cm.) fluid-filled papule  
Pustule: tiny (<0.5 cm.) pus-filled papule  
Bulla: large (> 0.5 cm.) elevated and fluid-filled  
Coryza: profuse nasal discharge (“runny nose”)  
Koplik’s spots: small red spots with bluish-white centers on the oral mucosa, may be seen in measles prior to rash onset

**Triage**

The goal of triage is to identify the need for interventions such as isolation or use of barrier precautions. The following table does not replace healthcare provider diagnosis, but may assist in identifying contagious rash diseases. Refer to Control of Communicable Disease in Man, 19th Edition 2008 or updated edition for additional information.

<table>
<thead>
<tr>
<th>Cause</th>
<th>Symptoms</th>
<th>Rash</th>
<th>Transmission</th>
<th>Susceptibility</th>
</tr>
</thead>
</table>
| Rubella virus       | Prodrome uncommon in children. Adults may have 1-5 day prodrome of mild fever, HA, malaise, mild coryza and conjunctivitis. Lymphadenopathy may occur 5-10 days prior to rash in post auricular, occipital and post cervical nodes. | Pink macules and papules that develop on forehead and spread inferiorly and to extremities within one day; fading of macules and papules in reverse order by third day. May not appear in up to 50% of clients. | Droplet spread  
Incubation typically 14-17 days  
Communicable 1 week prior to rash appears until 4 days after rash appears. Vaccine will not prevent disease in exposed. | Infants born to immune mothers are protected up to 6 months of age. Single vaccine dose is 98-99% effective. |
| (Rubivirus)         |                               |                               |                       |                                                     |
| Rubeola virus       | Prodromal fever of 101 or higher “Three C’s”: cough, conjunctivitis, coryza  
Koplik’s spots       | Generalized maculopapular rash occurring on 3rd day of symptoms  
Beginns on face, neck and shoulders and spreads centrifugally and inferiorly. Becomes generalized in 3-7 days. | Airborne spread  
Incubation 7-18 days (typically 10)  
Communicable 1 day before prodrome symptoms to 4 days after rash appears. Vaccine given within 72h of exposure may prevent disease. | Infants born to immune mothers are protected for 6-9 months of age. Single vaccine dose is 94-98% effective, 2nd dose is 99%. |
<p>| (measles)           |                               |                               |                       |                                                     |
| Morbillivirus       |                               |                               |                       |                                                     |</p>
<table>
<thead>
<tr>
<th>Cause</th>
<th>Symptoms</th>
<th>Rash</th>
<th>Transmission</th>
<th>Susceptibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varicella virus (chickenpox) Herpesvirus</td>
<td>Sudden onset of slight fever Mild constitutional symptoms</td>
<td>Maculopapular rash occurs within a few hours and progresses to vesicular rash, lasting 3-4 days, then to scabs. Rash pattern is centripedal, beginning on face and spreading to trunk and extremities. “Crops” of rash are noted in different stages simultaneously.</td>
<td>Airborne and contact spread. Incubation 2-3 weeks (usually 14-16 days) after exposure. Communicable up to 5 days (usually 1-2) before rash until lesions are crusted, usually around 5 days. Vaccine given within 3 days of exposure can prevent disease in contacts.</td>
<td>Susceptible persons are potentially contagious between 10-21 days after exposure. Single vaccine is 85-90% effective, and 100% effective in reducing severity of disease.</td>
</tr>
<tr>
<td>Variola virus (smallpox) Orthopoxvirus</td>
<td>Acute onset of fever, headache, malaise, prostration, severe backache, similar to influenza. After 2-4 days, fever falls and rash develops.</td>
<td>Progresses from macule, papule, vesicle, to pustule. Lesions then crust. Distribution is centrifugal, mainly occurring on extremities and head. Rash is present in same stage of development, not in crops.</td>
<td>Airborne and contact spread. Incubation 7-19 days (usually 10-14 days) prior to symptoms</td>
<td>The duration of immunity resulting from the vaccinia vaccine is undetermined, but there is evidence that it protects against fatal or severe disease for decades.</td>
</tr>
</tbody>
</table>

**Methods of Transmission**

*Droplet and Indirect Contact:*
Most respiratory infections are transmitted by large particle droplets, which are expelled during coughing, sneezing, etc. While people within 3 - 6 feet are at risk of direct contact with the droplets, of additional concern is the environment on which these droplets fall. These surfaces become contaminated, and can be picked up indirectly on unsuspecting hands, and become the source of infection in that manner.

*Airborne:*
Some respiratory rash infections (particularly measles and chickenpox) are transmitted by airborne droplets, which are tiny (≤ 5 microns) and float on air currents, therefore negative airflow ventilation rooms and use of N-95 respirators are necessary when these diseases are suspected. Careful and thorough environmental cleaning is essential to interruption of disease transmission.

**Management of Client Waiting Areas**

**Standard Precautions: Respiratory Hygiene/Cough Etiquette**

1. **Post signs** at building entrance or at the reception/registration desk stating that entrants should inform the receptionist promptly if symptoms of a respiratory illness are present. The receptionist will notify a clinic nurse if these symptoms are reported or noticed.
2. **Ensure adequate supplies** such as disposable tissues, wastebaskets, and hand hygiene facilities are accessible to all clients.

3. **Clean and disinfect correctly.** Consistently follow the routine recommendations for amount, dilution and contact time of disinfectants for routine disinfection of common and high contact areas. Cleaning must occur prior to disinfecting. Focus on frequently touched surfaces and those most likely to be contaminated with blood and body fluids. Review routine cleaning and disinfecting procedures during a suspected or proven outbreak.

4. **Facilitate prompt separation of potentially infectious clients,** and give instructions regarding respiratory hygiene/cough etiquette precautions to all clients presenting with a cough. The nurse will evaluate clients presenting with rash and/or respiratory symptoms to determine if expanded precautions are indicated.

### Expanded Precautions: Droplet and Airborne

1. In the presence of the following situations, expanded precautions are indicated.
   a. Unexplained rash
   b. Flu-like symptoms (fever plus cough and/or sore throat)
   c. Increased production of sputum
   d. Fever

2. For suspected illness spread by droplet transmission (such as mumps, rubella, pertussis, bacterial meningitis, and influenza), provide a disposable surgical/procedure mask to the person and instruct them to wear it.
   a. Place the person into an examination room as soon as possible.
   b. If an exam room is not available, locate the patient so that a distance of 3-6 feet is maintained between symptomatic and non-symptomatic patients.
   c. All healthcare workers entering the exam room will wear a disposable surgical/procedure mask or N95 Particulate Filtering Respirator while interacting with the patient.
   d. Wear gloves when entering the room and when touching the client’s intact skin.
   e. Remove PPE at the doorway, and perform hand hygiene each time the room is exited.

3. If an airborne illness is suspected (such as measles, tuberculosis, varicella 
   [chickenpox], smallpox, or during influenza outbreaks), ask the patient to wear a disposable surgical/procedure mask and place him/her into an Airborne Infection Isolation (negative air flow) room as soon as possible. The door to the room must be kept closed. All healthcare workers entering the Airborne Infection Isolation room will wear an N-95 particulate filtering respirator per respiratory program guidelines. Remove PPE at the doorway, and remove the N95 Respirator after leaving the patient room and closing the door.

4. Refer to Section 3 and Appendices 3A, 3B, 5E and 5F for further details regarding infection prevention.
Appendix 1-A

Tuberculosis Control Program
N95 or higher rated Respirator Medical Evaluation Questionnaire
Oklahoma State Department of Health
Tuberculosis Division

The information obtained on this questionnaire will be used to determine if you have a medical condition, which might prevent you from performing assigned duties while wearing a respirator. If necessary, additional testing/evaluation may be required. All medical information is considered confidential. Please Answer All Questions.

Name ___________________________ Age __________ Ht/Wt ___________________________ Today’s Date __________ / __________ / __________
County Health Department ___________________________ Site ___________________________ Supervisor ___________________________

1. When using respirator, I am:
   a. ☐ Performing medical duties
   b. ☐ Escorting client to isolation
   c. ☐ Performing DOT
   d. ☐ Other (specify)

2. Times per week respirator is worn
   a. ☐ Less than 1
   b. ☐ 1-4
   c. ☐ 5 or more

3. Average length of time respirator is worn each time:
   a. ☐ 30 minutes
   b. ☐ 1 hour
   c. ☐ More than 1 hour

Has a doctor ever told you that you had any of the following:

4. Angina ☐ Yes ☐ No
5. Heart Attack ☐ Yes ☐ No
6. Heart Disease ☐ Yes ☐ No
7. Epilepsy or Seizures ☐ Yes ☐ No
8. High Blood Pressure ☐ Yes ☐ No
9. Lung Disease ☐ Yes ☐ No
10. Emphysema ☐ Yes ☐ No
11. Asthma ☐ Yes ☐ No
12. Are you allergic to natural rubber latex? ☐ Yes ☐ No
13. Smoking History
   a. ☐ Smoker
   b. ☐ Ex-Smoker
   c. ☐ Never Smoked

Do you experience any of the following?

14. Are you short of breath at rest? ☐ Yes ☐ No
15. Do you get short of breath when walking? ☐ Yes ☐ No
16. Do you get short of breath at work when not wearing a respirator? ☐ Yes ☐ No
17. Do you get chest pains during certain activities? ☐ Yes ☐ No
18. Do you get chest pains at work? ☐ Yes ☐ No
19. Do you have medical problems, which might interfere with respirator use? ☐ Yes ☐ No
20. Have you had problems wearing a respirator? ☐ Yes ☐ No

List in the space below, medications you are currently taking including herbs. Please explain “yes” answers by number:
______________________________

Employee’s signature: ___________________________ Date: __________ / __________ / __________

********************DO NOT WRITE BELOW THIS LINE********************
☐ Approved ☐ Approved with Restrictions ☐ Denied ☐ More Information Needed ☐ Referred to Physician

Remarks/Restrictions: ___________________________

Licensed health care professional: ___________________________ Date: __________ / __________ / __________

Oklahoma State Department of Health
Tuberculosis Division

TB Mask Issuance Record
ODH Form No. 809
Page 1

(12-08)
TB Respirator Issuance Record

Name ________________________________________________________________

Job Description ______________________________________________________

District Nursing Manager ______________________________________________

Contaminantant: Tuberculosis bacillus

Respiratory Protection Options for Tuberculosis Control:
(Check one)

_____ 3M 6000 series TC 21C-548
_____ 3M 9970 TC 21C-437
_____ 3M Type N95 TC 84A-0006
_____ Other (please list) ______________________________________________

Limitations: _____ Beard _____ Dentures _____ Glasses _____ None

Explain Limitations ____________________________________________________

_____________________________________________________________________

_____________________________________________________________________

Satisfactory Sweetener/Bitter Test: _____ Yes _____ No

Number of puffs required before tasting saccharin/bitrex: _____

Employee Signature: _____________________________________________ Date: ____________

Fit Tester/Approved: _____________________________________________ Date: ____________
TB Respirator Issuance Questionnaire (ODH Form #809) Instructions

**Purpose:** To collect medical information which might prevent performance of duties while wearing a respirator and to document proper fitting of TB respirator.

**Use:** Page 1:

1. Name: Indicate employee name.
3. Today’s date: Indicate date page 1 is completed.
4. County Health Department: Indicate county in which employee is headquartered.
5. Site: Indicate site where employee is headquartered.
7. When using respirator, I am: mark appropriate choice.
8. Times per week respirator is worn: mark appropriate choice.
9. Average length of time respirator is worn each time: mark appropriate choice.
10. Has a doctor ever told you that you had any of the following: Mark all appropriate choices.
11. Smoking history: Mark appropriate choice.
12. Do you experience any of the following: Mark all appropriate choices.
13. List in the space below, medications you are currently taking: List all medications, including prescription and over the counter.
14. Please explain “Yes” answers by number: Explain any “Yes” answers to any of the above listed problems or illnesses. Be specific.
15. Employee’s signature: Employee sign and date.
16. Approved: Mark appropriate approval status.
17. Remarks/restrictions: Explain restrictions listed.
18. Licensed health care professional signature and date.

Page 2:

1. Name: Indicate employee name.
3. Respiratory Protection Options for Tuberculosis Control: Mark appropriate choice.
4. Limitations: Mark appropriate choice/s.
5. Explain Limitations: Describe in detail any limitations, which hinder proper fitting of the respirator.
6. Satisfactory Sweetener/Bitter Test: Mark appropriate choice.
7. Number of puffs required before tasting saccharin/bitrex: Indicate number of puffs required.
8. Employee Signature: Employee sign signature and date.
9. Fit Tester/Approved: Signature of person approving and fitting the respirator.

**Routing:** Maintained in Employee Medical Record. No copies are to be made except by request of employee.
Appendix 1-B

Annual Respirator Fit Evaluation Form

Date: ____________ Employee Name: ____________________________

Employees who may come in contact with Tuberculosis and have been respirator fit should be evaluated at least annually to determine if the respirator size is still appropriate.

The following items are to be evaluated:

1. Weight Change (loss or gain of 10% of body weight) YES NO
2. Changes to dental structures (dentures, dental prosthesis) YES NO
3. Addition or change of facial hair growth YES NO
4. Facial Surgeries YES NO

5. Comments:

6. Respirator Refit Testing required at this time? YES NO

Employee Signature: __________________________________________

District Nurse
Manager/Designee Signature: ____________________________________
Annual Respirator Fit Evaluation Form (ODH Form # 285) Instructions

**Purpose:** The purpose of this form is to provide a comprehensive record that will document those employees who have potential contact with Tuberculosis in the performance of their job duties. The employees are being evaluated annually to determine if there is a need to re-fit test the employee with a properly fitting disposable particulate respirator (DPR).

**Use:** This form is to be completed annually by the employee and the District Nurse Manager (DNM) or her/his designee. Each question should be answered with either YES or NO.

**Employee Signature:** The employee needs to sign their full name. Initials or abbreviations are not an acceptable signature.

**District Nurse Manager/Designee:** The District Nurse Manager (DNM) or her/his designee must sign the form after the employee has completed the form.

**Routing:** Maintained in the Employee Medical Record. No copies are to be made except by request of the employee.
## Employees at Risk

<table>
<thead>
<tr>
<th>Type of Exposure:</th>
<th>Sharps Exposure</th>
<th>Surface Decontamination and Cleaning</th>
<th>Medical/Dental Instruments and Equipment Handling</th>
<th>Specimen Packaging/Mailing</th>
<th>Aerosol or Droplet</th>
<th>Physical Assessment</th>
<th>Human Tissue, Specimen, and Culture Collection</th>
<th>Waste Disposal</th>
<th>Dental Appliance Lab Material Handling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physician</td>
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<td>✓</td>
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<td>Health Facility Personnel</td>
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<td>Jail Inspectors</td>
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<td></td>
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<td></td>
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</tr>
</tbody>
</table>

Occupational Exposure to Blood borne Pathogens
Appendix 1-D

Employee Training Record
(Use of this form is OPTIONAL)

Training Date _____________

Employee Name/Title ________________________________

Date of Employment _________________

Trainer Name/Title ________________________________

☐ Initial

☐ Annual

☐ Supplemental

Course Content:

☐ Tuberculosis and review of County Plan

☐ OSHA Blood borne Pathogens Standard reviewed with an explanation of its contents.

☐ General explanation of the epidemiology, symptoms and modes of transmission of blood borne disease.

☐ Standard Precautions

☐ Exposure Control Plan

☐ Updated changes regarding tasks or procedures that affect employees’ occupational exposure.

☐ ________________________________

(OTHER)

__________________________
Employee Signature

__________________________
Training Coordinator Signature

Revised 2002
PURPOSE:

The Oklahoma State Department of Health (OSDH) must ensure that all employees with potential for occupational exposure to blood or body fluids participate in training programs. This training is essential to Occupational Safety and Health Administration (OSHA) compliance. The programs must be provided at no cost to the employee, during work hours, with material appropriate to the education, literacy and language of the employee. The training must be provided within 10 days of employment and within one year from the initial previous training. All employees must receive training annually with additional training if changes are made that affect the employee’s occupational exposure. This training record is optional. Bloodborne Pathogen Training can be found on OK Train. https://ok.train.org.

USE:

TRAINING DATE: Enter date of training.

EMPLOYEE NAME/TITLE: Enter the employee’s name and job title.

DATE OF EMPLOYMENT: Enter date the employee was hired.

INITIAL TRAINING: Check if this is the initial OSHA training session provided to the employee.

ANNUAL TRAINING: Check if this is the annual training.

SUPPLEMENTAL TRAINING: Check if this is additional training that was indicated due to modifications of tasks or procedures affecting occupational exposure.

TRAINER NAME/TITLE: Enter the name and job title of the person providing the training.

COURSE CONTENT: Check all items addressed in the training session. Enter other topics covered if addressed on blank line.

EMPLOYEE SIGNATURE: Enter signature upon completion of the training.

TRAINING COORDINATOR SIGNATURE: Enter signature of person assigned to ensure that training is accomplished.

ROUTING AND FILING:

This record is optional. The form may be filed in the employee’s convenience file.
Appendix 1-E
Engineered Safety Devices Recommended Memo

MEMORANDUM

July 29, 2005

TO: Administrators
County Health Departments

THROUGH: Stephen W. Ronck, MPH
Deputy Commissioner for Community Health Services

FROM: James M. Crutcher, MD, MPH
Commissioner of Health and
State Health Officer

SUBJECT: Engineered Safety Devices Recommended

The Bloodborne Pathogens Standard of January 2001 continues to be the guideline for clinical practice. The Oklahoma Department of Health Safety Committee has worked diligently to develop an agency-wide policy related to safety syringe/vacutainer holder usage. A committee of employees representing nursing met to evaluate products currently on state contract. The 2005 committee again advised that retractable safety devices are most suited to the needs of the agency in terms of practicality, ease of use and protection offered to the user. Fortunately monies were available for purchasing a significant supply of these devices for the county health departments.

In addition the 2005 team evaluated Magellan non-retractable safety needles to be added to regular luer-lock syringes or pre-filled syringes. It has been determined that these needles may be purchased by the counties for use when needed. Also evaluated were safety butterfly needle blood drawing sets from Smith-Portex. These retractable units have been purchased with state funding and will be shipped to the counties soon.

In calendar year 2004, OSDH employees sustained ten (10) percutaneous injuries and needle sticks as reported by incident reports. Of these 10 incidents, four (4) occurred due to inappropriate use of available safety devices, four (4) were due to poor restraining techniques, one (1) due to malfunction of safety equipment, and one (1) due to RECAPping of a needle. (Recapping of a needle is not an acceptable action) It is estimated that about half of all needle sticks and percutaneous injuries go unreported. (IPINet 1999; CDC 1997; Osborn, et al 1999; NIOSH 1999).

Due to the occurrence of percutaneous and needle stick injuries in situations where safety devices are required for use and the apparent poor decision by staff to not use available safety devices appropriately, nursing staff in the county health department are required to utilize retractable safety devices for administering injections and for performing venipunctures. The nurse may continue to utilize pre-filled syringe/needle units where retractable technology is not available by utilizing the Magellan shielded needle. If a safety feature is present with the pre-filled syringe, it must be utilized or replaced with the Magellan shielded needle.

cc: Joe Mallonee, MPH
Deputy Commissioner for Disease and Prevention Services
Edd D. Rhoades, MD, MPH
Deputy Commissioner for Family Health Services
District Nurse Managers
Larry Hawkins, Chair, Safety Committee

Glen E. Bacon, Jr., MD, President
Jim L. Anderson
Dan H. Fieker, DO

Board of Health
Ann L. Warr, MD, Vice President
Gordon H. Decker, MD
Ron L. Graves, DDS

Ron Outerhoft, Secretary-Treasurer
Haskell L. Brown, Jr., RPh
Barry L. Smith, JD

1000 NE 10th Street
Oklahoma City, OK 73117-1399
www.health.state.ok.us
Appendix 1-F

SEQUENCE FOR DONNING PERSONAL PROTECTIVE EQUIPMENT (PPE)

1. GOWN
   - Fully cover torso from neck to knees, arms to end of wrists, and wrap around the back
   - Fasten in back of neck and waist

2. MASK OR RESPIRATOR
   - Secure ties or elastic bands at middle of head and neck
   - Fit flexible band to nose bridge
   - Fit snug to face and below chin
   - Fit-check respirator

3. GOGGLES OR FACE SHIELD
   - Place over face and eyes and adjust to fit

4. GLOVES
   - Extend to cover wrist of isolation gown

USE SAFE WORK PRACTICES TO PROTECT YOURSELF AND LIMIT THE SPREAD OF CONTAMINATION

- Keep hands away from face
- Limit surfaces touched
- Change gloves when torn or heavily contaminated
- Perform hand hygiene

SECUENCIA PARA PONERSE EL EQUIPO DE PROTECCIÓN PERSONAL (PPE)

1. BATA
   - Cubra con la bata todo el torso desde el cuello hasta las rodillas, las brazos hasta la muñeca y dibiela alrededor de la espalda
   - Aténsela por detrás a la altura del cuello y la cintura

2. MASCARA O RESPIRADOR
   - Asegúrese los cordones o la banda elástica en la mitad de la cabeza y en el cuello
   - Ajustese la banda flexible en el puente de la nariz
   - Acomódate en la cara y por debajo del mentón
   - Verifique el ajuste del respirador

3. GAFAS PROTECTRORAS O CARETAS
   - Colóqueselas sobre la cara y los ojos y ajustela

4. GUANTES
   - Extienda los guantes para que cubran la parte del puño en la bata de aislamiento

UTILICE PRÁCTICAS DE TRABAJO SEGUROS PARA PROTEGERSE USTED MISMO Y LIMITAR LA PROPAGACIÓN DE LA CONTAMINACIÓN

- Mantenga las manos alejadas de la cara
- Limite el contacto con superficies
- Cambie los guantes si se rompen o están demasiado contaminados
- Realice la higiene de las manos
SEQUENCE FOR REMOVING PERSONAL PROTECTIVE EQUIPMENT (PPE)

Except for respirator, remove PPE at doorway or in anteroom. Remove respirator after leaving patient room and closing door.

1. GLOVES
   - Outside of gloves is contaminated!
   - Grasp outside of glove with opposite gloved hand; peel off
   - Hold removed glove in gloved hand
   - Slide fingers of ungloved hand under remaining glove at wrist
   - Peel glove off over first glove
   - Discard gloves in waste container

2. GOGGLES OR FACE SHIELD
   - Outside of goggles or face shield is contaminated!
   - To remove, handle by head band or ear pieces
   - Place in designated receptacle for reprocessing or in waste container

3. GOWN
   - Gown front and sleeves are contaminated!
   - Unfasten ties
   - Pull away from neck and shoulders, touching inside of gown only
   - Turn gown inside out
   - Fold or roll into a bundle and discard

4. MASK OR RESPIRATOR
   - Front of mask/respirator is contaminated — DO NOT TOUCH!
   - Grasp bottom, then top ties or elastic and remove
   - Discard in waste container

PERFORM HAND HYGIENE IMMEDIATELY AFTER REMOVING ALL PPE

SECUENCIA PARA QUITARSE EL EQUIPO DE PROTECCIÓN PERSONAL (PPE)

Con la excepción del respirador, quite el PPE en la entrada de la puerta o en el antecuarto. Quite el respirador después de salir de la habitación del paciente y de cerrar la puerta.

1. GUANTES
   - El exterior de los guantes está contaminado!
   - Agarre la parte exterior del guante con la mano opuesta en la que todavía tiene puesto el guante y quíteselo
   - Sostenga el guante que se quitó con la mano enguantada
   - Deslice los dedos de la mano sin guante por debajo del otro guante que no se ha quitado todavía a la altura de la muñeca
   - Quite el guante de manera que acabe cubriendo el primer guante
   - Arroje los guantes en el recipiente de desechos

2. GAFAS PROTECTORAS O CARETA
   - El exterior de las gafas protectoras o de la careta está contaminado!
   - Para quitárselas, tómelas por la parte de la banda de la cabeza o de las piezas de los ojos
   - Colóquelas en el recipiente designado para reprocessar materiales o de materiales de desecho

3. BATA
   - La parte delantera de la bata y las mangas están contaminadas!
   - Desate los cordones
   - Tocando solamente el interior de la bata, pásela por encima del cuello y de los hombros
   - Voltee la bata al revés
   - Doblela o enróllela y deséchela

4. MÁSCARA O RESPIRADOR
   - La parte delantera de la máscara o respirador está contaminada — ¡NO LA TOQUE!
   - Primero agarre la parte de abajo, luego los cordones o banda elástica de arriba y por último quite la máscara o respirador
   - Arroje en el recipiente de desechos

EFFECTUE LA HIGIENE DE LAS MANOS INMEDIATAMENTE DESPUÉS DE QUITARSE CUALQUIER EQUIPO DE PROTECCIÓN PERSONAL
Appendix 2-A

Post-Exposure Counseling Check Sheet, OSDH

Detail on the following information is available in the Infection Control Manual, Section 2.

1. **Complete Occupational Risk Exposure Report Form.**

2. **Make an assessment of source client risk status for HIV, HBV and HCV:**
   a. Inform client of exposure and intent to test, counsel to determine potential risk history.
   b. If need be, review all health department charts of source client for indications of risk *(APPENDIX 2-D).*
   c. Review Source Client Information *(APPENDIX 2-C)* with client.

3. **Provide initial post-exposure counseling to employee:**
   a. Review risk of transmission based on type and degree of exposure and any available information on source client risk status.
   b. Does exposure meet criteria for consideration of anti-retroviral therapy for HIV exposure *(Appendix 2-G, 2-H, 2-I)*?
   c. What testing is indicated for employee, based on hepatitis B vaccination status and risk for HIV transmission?
   d. Have appropriate consent for testing and release of information forms been signed? By law, these forms are **not required** from source client.
   e. Does employee need medical treatment for exposure (i.e., hepatitis B immune globulin, hepatitis B vaccine, tetanus booster)?

4. **Obtain blood specimens as indicated.**

5. **Notify OSDH Occupational Health Nurse of the exposure at 405.271.5180.**

6. **Mail blood specimens to appropriate laboratory per instructions in Section 2 of the Infection Control Manual.**

7. **Once results are received, provide post-test counseling to employee and source client: *”**
   a. Inform appropriate persons of test results.
   b. If HIV or HbsAg test on source client is positive, notify the HIV/STD Service.
   c. If employee HIV test is positive, refer to a physician for medical care and review the recommendations for prevention of transmission in the health care setting (contact HIV/STD Service for latest reference).
   d. As indicated, review post-exposure information sheets with employee *(APPENDIX 2-F, 2-J).*
   e. File all records pertaining to the exposure as indicated in the instructions for that record.
   *NOTE: A 3-part Post-exposure Counseling Guide is available from the HIV/STD Service, (405) 271-4636, and should be reviewed **prior to** releasing HIV positive results.
Appendix 2-B

Occupational Exposure Report Form

DATE REPORT INITIATED: _____/_____/______ COUNTY: __________________________

The filing of this report and all information entered on it are to be held in strictest confidence in conformance with 63 O.S., Supp. 2001, Section 1-502.2.B et seq.

PART I: EXPOSED EMPLOYEE SECTION (please print)

1. Employee Name________________________________________ 2. DOB _____/_____/_____ 3. Job Title________________________________________
4. Clinic of Exposure________________________________________ 5. Date of Exposure _____/_____/_____ 6. Time of Exposure______AM/PM (Circle one)
7. Number of Hepatitis B vaccinations previously received: _____None _____1 _____2 _____3
8. Previously Anti-HBs positive? _____Yes _____No If yes: Result> 10mIU/mL? _____Y _____N _____Unk
9. Description of incident (give specific details): ____________________________________________

PART II: SOURCE CLIENT SECTION

10. Client Known _____ Complete remainder of form
11. Client Unknown_____ Skip Part II

15. Home Address________________________________________ 16. Phone Number_____________________
17. Home finding directions________________________________

18. Indicate if client history includes any of the High or Intermediate Risk categories listed in the OSDH Infection Control Manual,

Section 3. _____Yes _____No _____Unknown

PART III: PHYSICIANS OR DESIGNEE STATEMENT

19. Based on the OSDH Infection Control Manual, Section 3, this ____was) _____(was not) an exposure which has the potential for transmission of a communicable disease such as HIV, HBV or HCV.
20. In my judgement, __________________________(Employee Name) ____does) ____does not) have contraindications to receiving hepatitis B vaccine.
21. __________________________(Physician/Designee Signature) 22. Date _____/_____/_____

PART IV: SUPERVISOR’S STATEMENT

I have reviewed the circumstances and management of this incident and verify that the appropriate follow-up (according to the OSDH Infection Control Manual, Section 3) is being attempted in order to prevent or identify transmission of a bloodborne pathogen.

23. The exposed employee ____agrees) ____does not agree) to follow the recommendations as stated in Section 3 of the OSDH Infection Control Manual.

24. __________________________ 25. __________________________ 26. _____/_____/_____
   Supervisor's Signature Title Date

27. __________________________ 28. __________________________ 29. _____/_____/_____
   Employee's Signature Title Date

Oklahoma State Department of Health Office of Human Resources Occupational Exposure Report Form ODH Form No. 811

2012 Infection Prevention and Control Manual 77
PART V: COUNSELOR'S STATEMENT

30. I have counseled ___________________________(Employee Name) regarding the risk of bloodborne pathogen infection following this exposure and have reviewed with him/her the recommendations for prevention of HIV, HBV and HCV outlined in the OSDH Infection Control Manual.

31. The following persons involved in this incident received pre-test counseling for HIV, HBV and HCV in accordance with OSDH HIV/STD Service guidelines:
   A. Source client: _____ Yes  _____ No  If yes, date counseled _____/_____/_____
   B. Exposed employee: _____ Yes  _____ No  If yes, date counseled _____/_____/_____

PART VI: TESTING

A. SOURCE CLIENT TESTING:
   34. HbsAg: _____ Pos  _____ Neg  _____ Not Done  _____ Refused. If done, date HbsAg drawn: _____/_____/_____
      If not done, specify why:____________________________________________________________________________
   35. HIV:  _____ Pos  _____ Neg  _____ Not Done  _____ Refused. If done, date HIV drawn: _____/_____/_____
      If not done, specify why:____________________________________________________________________________
   36. Anti-HCV:  _____ Pos  _____ Neg  _____ Not Done  _____ Refused. If done, date Anti-HCV drawn: _____/_____/_____

B. EMPLOYEE TESTING:
   38. Anti-HBs (for vaccinated employees only):  _____ > 10 mIU/mL  ______ <10 mIU/mL  _____ Not Done  _____ Refused
      If done, date drawn: _____/_____/_____
   39. HIV: Baseline:  _____ Pos  _____ Neg  _____ Not Done  _____ Refused  Date Drawn: _____/_____/_____
       6 weeks:  _____ Pos  _____ Neg  _____ Not Done  _____ Refused  Date Drawn: _____/_____/_____
       12 weeks:  _____ Pos  _____ Neg  _____ Not Done  _____ Refused  Date Drawn: _____/_____/_____
       6 months:  _____ Pos  _____ Neg  _____ Not Done  _____ Refused  Date Drawn: _____/_____/_____
   40. Anti-HCV: Baseline:  _____ Pos  _____ Neg  _____ Not Done  _____ Refused. If done, date drawn: _____/_____/_____
       6 months:  _____ Pos  _____ Neg  _____ Not Done  _____ Refused. If done, date drawn: _____/_____/_____

PART VII: EMPLOYEE TREATMENT

41. HBIG:  _____ Yes  _____ No  _____ Refused. If yes, date: _____/_____/_____

42. Hepatitis B vaccine:
   Dose 1:  _____ Yes  _____ No  _____ Refused  If yes, date: _____/_____/_____
   Dose 2:  _____ Yes  _____ No  _____ Refused  If yes, date: _____/_____/_____
   Dose 3:  _____ Yes  _____ No  _____ Refused  If yes, date: _____/_____/_____

43. Tetanus:  _____ Yes  _____ No  _____ Refused  If yes, date: _____/_____/_____

44. Specify any other medical treatment for this exposure: ____________________________________________

PART VIII: COMMENTS

______________________________________________________________________________________________
Occupational Exposure Report Form (ODH Form #811) Instructions

**Purpose:** The purpose of this form is to provide a comprehensive record which will document the specific information concerning an occupational exposure to blood or body fluids that might result in infection with bloodborne pathogens, specifically Human Immunodeficiency Virus, Hepatitis B virus and Hepatitis C virus. In addition, the form provides for documentation of the follow-up provided to the exposed employee when such an exposure occurs.

**Use:** This form is to be completed each time an employee sustains a percutaneous, permücosal, or nonintact skin exposure to blood or potentially infectious body fluids (as defined in the Infection Control Manual). The form does not replace the Incident Report (ODH Form #33), but is to be completed in addition to the report.

The form asks for information on blood test results from the individual who is the source of the exposure, and in some cases, from the exposed employee. However, the form is not designed as a consent form. Therefore, an appropriate, signed consent form should be on file for those incidents where blood testing was done.

The form is to be held in strictest confidence in conformance with 63 O.S. Supp; 1988, Section 1-502.1 et. Seq.

Part I:

1. Enter the name of the exposed employee.
2. Enter birthdate of exposed employee.
3. Enter exposed employee’s title or position as it relates to their employment by the State or county.
4. Enter the clinic the source client was attending, if known.
5. Enter date the exposure occurred.
6. Enter time the exposure occurred, by AM or PM
7. Enter total number of hepatitis B vaccine doses the exposed employee had received prior to this exposure.
8. Record whether or not the employee has had a previously positive anti-HBs test result.
9. Enter specific information (as applicable regarding the exposure incident):
   a. What the exposed employee was doing when the exposure occurred (i.e., after drawing blood on a person requesting HIV testing, I was attempting to discard needle into sharps container).
   b. How exposure occurred (i.e., sharps container was full and my hand slipped while forcing the needle into the container).
   c. What part of body was exposed, and the type of exposure (i.e., left index finger was punctured by the needle I was trying to dispose).
   d. Contributing factors to the exposure (i.e., there was no sharps container available in the clinic in which to dispose the needle).

**NOTE:** Documentation of specific action taken by supervisor to ensure appropriate follow-up of exposed employee should be provided on the Incident Report Form, ODH #33. Documentation of time and date supervisor was notified of incident, conversation with HIV/STD Service and resulting decisions, plans, etc. should be clear. The Incident Report should be filed according to current administrative protocol.

Part II.

10. If source client’s name is known, check here and complete the rest of the form.
11. If source client’s name is not known, check here and skip Part II.
12. Enter name or code number of source client.
13. Enter birthdate of source client.
14. Enter sex of source client.
15. Enter current resident address of source client.
16. Enter phone number where source client can be reached.
17. Enter detailed finding directions to residence of source client.
18. Refer to Infection Control Manual

Part III.

This section is to be completed by either a physician or a registered nurse designee.

19. Refer to the Infection Control Manual, Section 3, to determine what constitutes a risk of exposure, and check appropriate line.
20. Review contraindications to receiving hepatitis B vaccine, and check appropriate line.
21. Personal signature of physician or person acting under his supervision.
22. Enter date of signature.

Part IV.

23. After review of the recommendations of the Infection Control Manual, Section 3, with the exposed employee, check whether or not the employee agrees to follow the recommendations as stated.
24. Signature of exposed employee’s supervisor.
25. Title of person whose signature appears on line 24.
26. Enter date information was reviewed with exposed employee.
27. Signature of exposed employee, verifying he/she has received such review from supervisor.
28. Professional title of exposed employee.
29. Enter date same as line 26.

Part V.

This section is to be completed by the designated HIV nurse counselor

30. Enter name of exposed employee.
31. (A) Check whether or not the source client received pretest counseling for HIV/HBV/HCV, (B) Check whether or not the exposed employee received pretest counseling for HIB/HBV/HCV. If counseling was provided, enter date provided.
32. Personal signature of HIV counselor providing counseling.
33. Reflect date counseling was provided.

Part VI.

34. Check HbsAg test result of source client when known, or check lines as appropriate. When indicated, enter date HbsAg was drawn on source client. When applicable, specify why AbsAg testing was not done.
35. Check HIV test result of source client when known, or check other lines as appropriate. When indicated, enter date HIV was drawn on source client. When applicable, specify why HIV testing was not done.
36. Check HCV test result of source client when known, or check other lines as appropriate. When indicated, enter date HCV was drawn on source client. When applicable, specify why HCV testing was not done.
37. List any other tests which may have been performed and the results.
38. Enter test result when known, or check other lines as appropriate. When indicated, enter date anti-HBs was drawn on exposed employee.
39. Check HIV test result of exposed employee when known, or check other lines as appropriate. When indicated, enter date HIV test was drawn.
40. Enter HCV test result when known, or check other lines as appropriate. When indicated, enter date HCV test was drawn.
41. List any other tests which may have been performed and the results.

Part VII.

42. Check “yes” if employee received HBIG. Check “no” if HBIG was not indicated. Check “refused” when HBIG is indicated according to the Infection Control Manual, but employee refuses to receive it. If HBIG is given, enter date given.
43. For each dose, check “yes” if given, “no” if not indicated, or “refused” if indicated according to the Infection Control Manual, but employee refuses the dose. If a dose is given enter date given.
44. Check “yes” if given, “no” if not indicated, or “refused” if indicated according to the Immunization Manual and employee refuses to receive it. If given, enter date given.
45. List any other treatment or medication provided for this exposure.

Part VIII.

Enter any additional comments, decisions, or pertinent data regarding this incident.

Routing: Must be printed on yellow paper, maintained in Employee Medical Record. No copies are to be made except by request of employee.
Appendix 2-C

Source Client Information
Occupational Exposure to Blood or Other Body Fluids

Exposure to blood or certain other body fluids may result in infection with Hepatitis B Virus, Hepatitis C Virus or Human Immunodeficiency Virus. “Exposure means that blood or certain other body fluids from one person gets into the body of another person, for example, when a nurse is stuck with the needle used to draw blood on a client. Testing the blood of both the source client and the exposed person for hepatitis B, hepatitis C and human immunodeficiency virus is helpful in deciding the best medical follow-up for the exposed person.

The venipuncture (blood-drawing) procedure is safe. Bleeding at the puncture site may cause a small bruise or soreness. Very rarely, swelling and large bruises may happen.

The benefits of being tested for hepatitis B, hepatitis C and human immunodeficiency virus are discussed below.

**Hepatitis B:**

Persons infected with hepatitis B virus often have no symptoms of illness, however, they are capable of spreading the virus to others through their blood and certain other body fluids*.

Medical treatment is available which can protect persons who have been exposed to hepatitis B. Hepatitis B immune globulin (HBIG) and hepatitis B vaccine (HBV) will protect most exposed persons from getting infected if given within 7 days of being exposed.

Testing the source client for evidence of hepatitis B (HbsAg) will tell if the exposed person needs treatment.

Hepatitis B virus can cause serious damage to the liver. Persons who are infected with hepatitis B should be under the care of a doctor, even if they feel well. In addition, hepatitis B infected persons can pass the infection on to other members of their family, sexual contacts, and, in the case of a pregnant woman, to her newborn baby. Infected persons can take certain precautions to prevent passing the infection on to others. If you are tested and found to have hepatitis B, you will receive special counseling about this disease from a Public Health Nurse.

*Hepatitis B infected fluids that have been shown to spread infection include blood, semen, vaginal secretions and saliva when it is injected through a human bite.

**Hepatitis C:**

Like Hepatitis B, persons infected with hepatitis C virus often have no symptoms of illness, however, they are capable of spreading the virus to others through exposure to their blood.

There is no medical treatment to prevent a person from getting hepatitis C once they are exposed. Rather, follow up after an exposure is aimed at detecting the early stages of disease in order to get medical care as soon as possible.

**Human Immunodeficiency Virus:**

Human immunodeficiency virus (HIV) is the virus that causes AIDS. A blood test can tell whether or not a person has been infected with HIV. Persons who are infected with HIV may not have any signs of illness or AIDS for many years after they become infected, however, they are capable of passing the virus on to others who are exposed to their blood or certain other body fluids**.

In 1996, a special study by the CDC indicated that treatment with certain medications may prevent transmission of HIV to health care workers exposed on the job. HIV testing of the source client will determine if the exposed health care worker needs to be offered these medications. If you are tested for HIV as a result of this exposure, you will receive counseling from a specially-trained Public Health Nurse. Your test results will be confidential as required by law.

People who are infected with HIV can do many things to keep themselves healthy. They can also do things to protect their close personal contacts from exposure to HIV. Persons who are infected with HIV should be under the care of a doctor.

**HIV-infected fluids that have been shown to spread infection include blood, semen and vaginal secretions.**
Appendix 2-D

HIV/HBV Risk Factor Assessment:
Population Groups and Risk Categories

<table>
<thead>
<tr>
<th>Risk of Positivity</th>
<th>Population Group</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>High Risk</strong></td>
<td>- Men who have sex with men</td>
</tr>
<tr>
<td></td>
<td>- Men who have sex with both men and women</td>
</tr>
<tr>
<td></td>
<td>- Injection drug users</td>
</tr>
<tr>
<td></td>
<td>- Hemodialysis clients (HBV only)</td>
</tr>
<tr>
<td></td>
<td>- Infants born to HIV/HBV infected mothers</td>
</tr>
<tr>
<td></td>
<td>- Persons with clinical/laboratory evidence of infection*</td>
</tr>
<tr>
<td></td>
<td>- Immigrants/refugees from areas of high endemicity for HIV/HBV**</td>
</tr>
<tr>
<td></td>
<td>- Clients in institutions for the developmentally disabled (HBV only)</td>
</tr>
<tr>
<td></td>
<td>- Household contacts of HBV carriers (HBV only)</td>
</tr>
<tr>
<td></td>
<td>- Men or women who trade sex for drugs, money, etc.</td>
</tr>
<tr>
<td></td>
<td>- Hemophiliacs</td>
</tr>
</tbody>
</table>

| Intermediate Risk | - STD clinic clients |
|                  | - Persons with sexual contact to individuals in a high-risk category |
|                  | - Prisoners |
|                  | - Health care providers with frequent exposure to blood (HBV only) |
|                  | - Staff of institutions for the developmentally disabled (HBV only) |
|                  | - Persons with multiple sexual partners |

| Low Risk | - Healthy children and adults with no other identified risk factors |
|          | - Clients in maternal-child health, chronic disease, dental and guidance clinics with no other identified risk factors |
|          | - Health care providers with infrequent exposure to blood |
|          | - Health care providers, regardless of amount of blood |
|          | - Contact (HIV only) |

*Evidence of infection:  (a) **HIV:** reactive HIV antibody test (b) **AIDS:** as documented by a physician and meeting the current CDC definition (c) **HBV:** currently jaundiced and/or HbsAg positive.

**Areas of high endemicity:  (a) **HIV:** Sub-Saharan Africa, Caribbean (b) **HBV:** East Asia, Sub-Saharan Africa, Alaskan Eskimos, native Pacific Islanders.
**Appendix 2-E**  
**Recommended Postexposure Prophylaxis**  
**Hepatitis B Virus**

<table>
<thead>
<tr>
<th>Vaccination and antibody response status of exposed person*</th>
<th>Treatment when source (client) is:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Source HBsAg‡‡ - positive</td>
</tr>
<tr>
<td>Unvaccinated</td>
<td>HBIG+ x 1; initiate HB vaccine series‡</td>
</tr>
<tr>
<td>Previously vaccinated:</td>
<td></td>
</tr>
<tr>
<td>Known responder**</td>
<td>No treatment</td>
</tr>
<tr>
<td>Known non-responder++</td>
<td>HBIG x 1 and initiate revaccination or HBIG x 2ɸ</td>
</tr>
</tbody>
</table>
| Antibody response unknown                                 | Test exposed person for anti-HBs¶  
1. If adequate, **no treatment is necessary  
2. If inadequate, ++ administer HBIG x 1 and vaccine booster | No treatment               | Test exposed person for anti-HBs  
1. If adequate, **no treatment is necessary  
2. If inadequate, ++ administer HBIG x 1 and vaccine booster |

* Persons who have previously been infected with HBV are immune to reinfection and do not require post exposure prophylaxis.

‡ Hepatitis B surface antigen.

+ Hepatitis B immune globulin; dose is 0.06 ml/kg intramuscularly.

‡‡ Hepatitis B vaccine.

** A responder is a person with adequate levels of serum antibody to HbsAg (i.e., anti-HBs ≥ 10 mIU/ml).

++, ** A nonresponder is a person with inadequate response to vaccination (i.e., serum anti-HBs < 10 mIU/ml).

ɸ The option of giving one dose of HBIG and reinitiating the vaccine series is preferred for nonresponders who have not completed a second 3-dose vaccine series. For persons who previously completed a second vaccine series but failed to respond, two doses of HBIG are preferred.

¶ Antibody to HBsAg
Appendix 2-F

Information For Health Care Providers:
Exposure To HbsAg Positive Or High Risk Client

The following information applies to a health care provider when the source client exposing the health care provider has been tested for hepatitis B surface antigen (HbsAg) and is found to be positive or testing was not done and the source is thought to be at high risk.

- Hepatitis B can be easily transmitted by exposure to blood, semen, vaginal secretions and saliva (through a human bite). The risk of transmission in the health care setting after needlesticks to unvaccinated workers ranges from 6 to 30%. Exposures other than needlesticks may carry a lower risk, though still significantly higher than the risk of HIV transmission.

- Hepatitis B vaccine provides longterm protection against hepatitis B infection. Exposed persons who have been vaccinated and developed antibodies will not develop clinical hepatitis or become carriers. The vaccine is safe and effective and should be taken by every health care worker who has routine exposure to blood in their work. The vaccine is offered to you free by the OSDH. If you have not been vaccinated, it is recommended that you be vaccinated now, along with receiving hepatitis B immune globulin.

- If you were vaccinated previously and afterwards had evidence of immunity to hepatitis B (anti-HBs ≥10mIU/mL), you are protected against acquiring hepatitis B infection from this exposure. You need not be concerned about transmitting hepatitis B to anyone in your personal environment, or through your work as a health care provider. However, you may have your blood tested again now for antibodies. If your anti-HBs is less than 10mIU/mL, you should receive a booster dose of hepatitis B vaccine.

- If you are in the process of receiving hepatitis B vaccine but have not completed the series, you should receive hepatitis B immune globulin now and complete your vaccination as scheduled. Your risk of becoming infected with hepatitis B from this exposure is very low.

- Persons who are determined to be “non-responders” to hepatitis B vaccine (those who did not develop anti-HBs after the full vaccine series and at least one booster) should receive 2 doses of hepatitis B immune globulin: the first within 7 days of exposure, and the second one month later. This treatment is about 75% effective in preventing hepatitis B infection. The risk of becoming infected is low, but not zero.

- If you were not previously vaccinated and did not receive HBIG (with or without the first dose of vaccine) within 7 days of exposure, you are at risk of acquiring hepatitis B. You should have a baseline HbsAg test now, with repeat testing in 6 months. The minimum incubation period for hepatitis B is 45 days, the maximum is 6 months, and the average is 3 months. You should notify your supervisor and see a doctor immediately if you develop symptoms of hepatitis B within the next 6 months.

- In the event you become infected with hepatitis B following this exposure, persons who have had exposure to your blood, semen or vaginal fluid may need immediate treatment to protect them from infection.

****************************************

The BACK page lists methods to prevent transmission of hepatitis B. If you are at risk of developing hepatitis B from this exposure, you should follow these instructions for the next 6 months.
PREVENTING TRANSMISSION OF HEPATITIS B:
A GUIDE FOR OCCUPATIONALLY-EXPOSED HEALTH CARE PROVIDERS

These instructions should particularly be followed by exposed health care providers who have had an exposure to hepatitis B but were not previously vaccinated or are vaccine non-responders and did not receive HBIG (with or without vaccine) within 7 days of the exposure. The instructions should be followed for 6 months after the exposure date.

Preventing transmission of hepatitis B to personal contacts:

- During sex, avoid exposing your partner to your semen, vaginal fluid or blood.

- Use a condom every time you have sex. Anal sex and sex during menstruation are particularly “risky” and should be avoided. Learn about using condoms correctly and make them an enjoyable part of sex.

- If you are bleeding, take care of your own wound whenever possible. If that is not possible, make certain your helper is wearing gloves and washes their hands immediately after caring for you. If your blood spills on the floor or any other surface, wipe it up with paper towels and then disinfect the area with a solution of one part household bleach to 9 parts water.

- Be careful to dispose of any blood-contaminated articles (menstrual pads, bandages, etc.) in plastic bags that are securely tied and leak-resistant.

- Do not share with others any personal items which may have your blood on them, including toothbrushes and razors. Do not share needles used for any purpose, including tattooing, ear piercing, drug use, or administering medication.

Preventing transmission of Hepatitis B in other situations:

- Donation centers ask that you refrain from donating blood, body organs, sperm, or breastmilk for 12 months after this exposure.

- Be careful to avoid exposing any client for whom you are caring to your blood. Measures should be taken to prevent injuring yourself while performing any procedure in which your blood may come into contact with the mucous membranes, surgical wound, or non-intact skin of your client.
## Appendix 2-G

### HIV Postexposure Prophylaxis for Percutaneous Injuries

#### TABLE 1. Recommended HIV postexposure prophylaxis (PEP) for percutaneous injuries

<table>
<thead>
<tr>
<th>Exposure type</th>
<th>HIV-positive, class 1*</th>
<th>HIV-positive, class 2*</th>
<th>Source of unknown HIV status†</th>
<th>Unknown source§</th>
<th>HIV-negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less severe†</td>
<td>Recommend basic 2-drug PEP</td>
<td>Recommend expanded ≥3-drug PEP</td>
<td>Generally, no PEP warrants; however, consider basic 2-drug PEP** for source with HIV risk factors††</td>
<td>Generally, no PEP warranted; however, consider basic 2-drug PEP** in settings in which exposure to HIV-infected persons is likely</td>
<td>No PEP warranted</td>
</tr>
<tr>
<td>More severe§§</td>
<td>Recommend expanded 3-drug PEP</td>
<td>Recommend expanded ≥3-drug PEP</td>
<td>Generally, no PEP warranted; however, consider basic 2-drug PEP** for source with HIV risk factors††</td>
<td>Generally, no PEP warranted; however, consider basic 2-drug PEP** in settings in which exposure to HIV-infected persons is likely</td>
<td>No PEP warranted</td>
</tr>
</tbody>
</table>

* HIV-positive, class 1 — asymptomatic HIV infection or known low viral load (e.g., <1,500 ribonucleic acid copies/mL); HIV-positive, class 2 — symptomatic HIV infection, acquired immunodeficiency syndrome, acute seroconversion, or known high viral load. If drug resistance is a concern, obtain expert consultation. Initiation of PEP should not be delayed pending expert consultation, and, because expert consultation alone cannot substitute for face-to-face counseling, resources should be available to provide immediate evaluation and follow-up care for all exposures.

† For example, deceased source person with no samples available for HIV testing.

§ For example, a needle from a sharps disposal container.

‡ For example, solid needle or superficial injury.

** The recommendation "consider PEP" indicates that PEP is optional; a decision to initiate PEP should be based on a discussion between the exposed person and the treating clinician regarding the risks versus benefits of PEP.

†† If PEP is offered and administered and the source is later determined to be HIV-negative, PEP should be discontinued.

§§ For example, large-bore hollow needle, deep puncture, visible blood on device, or needle used in patient’s artery or vein.
## Appendix 2-H

### HIV Postexposure Prophylaxis for Mucous Membrane Exposures and Nonintact Skin Exposures

<table>
<thead>
<tr>
<th>Exposure type</th>
<th>HIV-positive, class 1†</th>
<th>HIV-positive, class 2†</th>
<th>Source of unknown HIV status§</th>
<th>Unknown source¶</th>
<th>HIV-negative</th>
<th>No PEP warranted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small volume**</td>
<td>Consider basic 2-drug PEP††</td>
<td>Recommend basic 2-drug PEP</td>
<td>Generally, no PEP warranted</td>
<td>Generally, no PEP warranted</td>
<td>No PEP warranted</td>
<td></td>
</tr>
<tr>
<td>Large volume¶¶</td>
<td>Recommend basic 2-drug PEP</td>
<td>Recommend expanded ≥3-drug PEP</td>
<td>Generally, no PEP warranted; however, consider basic 2-drug PEP†† for source with HIV risk factors§§</td>
<td>Generally, no PEP warranted; however, consider basic 2-drug PEP†† in settings in which exposure to HIV-infected persons is likely</td>
<td>No PEP warranted</td>
<td></td>
</tr>
</tbody>
</table>

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* For skin exposures, follow-up is indicated only if evidence exists of compromised skin integrity (e.g., dermatitis, abrasion, or open wound).
† HIV-positive, class 1 — asymptomatic HIV infection or known low viral load (e.g., <1,500 ribonucleic acid copies/ml). HIV-positive, class 2 — symptomatic HIV infection, AIDS, acute seroconversion, or known high viral load. If drug resistance is a concern, obtain expert consultation. Initiation of PEP should not be delayed pending expert consultation, and, because expert consultation alone cannot substitute for face-to-face counseling, resources should be available to provide immediate evaluation and follow-up care for all exposures.
‡ For example, deceased source person with no samples available for HIV testing.
† For example, splash from inappropriately disposed blood.
** For example, a few drops.
†† The recommendation “consider PEP” indicates that PEP is optional; a decision to initiate PEP should be based on a discussion between the exposed person and the treating clinician regarding the risks versus benefits of PEP.
§§ If PEP is offered and administered and the source is later determined to be HIV-negative, PEP should be discontinued.
¶¶ For example, a major blood splash.
Appendix 2-I

Referral Policy: Postexposure Prophylaxis
Following Occupational Risk Exposures To HIV, OSDH 2002

On July 29, 2001, the Centers for Disease Control published updated U.S. Public Health Service Guidelines for the Management of Occupational Exposure to HBV, HCV and HIV and Recommendations for Postexposure Prophylaxis. The Public Health Service states that the recommendations should be implemented in consultation with persons having expertise in antiretroviral therapy and HIV transmission. Changes in drug regimens may be appropriate, based on factors such as the probable antiretroviral drug resistance profile from the source client; local availability of drugs; and medical conditions, concurrent drug therapy, and drug toxicity in the exposed worker. In the opinion of the Oklahoma State Commissioner of Health, only a licensed physician has the expertise to initiate and monitor the combination antiretroviral therapy currently recommended.

I. OSDH employees who sustain occupational risk exposures to HIV, as described below, should be informed that the Public Health Service (CDC) recommends antiretroviral therapy be initiated or at least offered, depending on the degree of risk. These employees should be immediately referred to the physician of their choice for consult and initiation of antiretroviral therapy as indicated.

RISK EXPOSURES FOR WHICH IMMEDIATE REFERRAL FOR POSTEXPOSURE PROPHYLAXIS CONSULT AND THERAPY SHOULD BE MADE:

Percutaneous, Mucous Membrane, and Increased Risk* Skin exposures to:

A. blood from an HIV positive source
B. fluid containing visible blood, other potentially infectious fluid†, or tissue from an HIV positive source
C. blood or fluid containing visible blood, other potentially infectious fluid or tissue from an untested source suspected to be HIV positive or known to be at high risk for HIV. In this situation, known and available source clients should be tested for HIV as soon as possible.

II. A copy of the MMWR of July 29, 2001, titled “Updated U.S. Public Health Service Guidelines for the Management of Occupational Exposures to HBV, HCV and HIV and Recommendations for Postexposure Prophylaxis” is to be given to every employee referred for antiretroviral consult and therapy. The employee should share the copy with their physician.

III. The employee’s personal physician may contact the Occupational Health and Safety Nurse at (405) 271-5180. The receptionist or operator should be informed that the call is urgent and relates to an occupational exposure to HIV by an OSDH employee. The Oklahoma State Epidemiologist on call, may also be contacted for antiretroviral consult by the employee’s personal physician. The Oklahoma State Epidemiologist can be reached through the office at 405/271-4060. They will then contact or refer to OUHSC, if needed.

*Increased risk skin exposures are those which involve a high titer of HIV, prolonged contact, an extensive area, or an area in which skin integrity is visibly compromised.

†Other potentially infectious fluids include semen, vaginal secretions, cerebrospinal, synovial, pleural, peritoneal, pericardial, and amniotic fluids.
Appendix 2-J

Information For Health Care Providers:
Exposure To HIV Positive Or High Risk Client

The following information applies to a health care provider when the source client exposing the health care provider has been tested for HIV and is found to be positive.

While transmission of HIV after occupational exposures may occur, it is important to remember that it occurs very rarely. Current estimates indicate that seroconversion to HIV occurs in only 0.3% (less than 1 in 300) of occupational needlestick exposures. The majority of health care workers who have developed HIV infection after occupational exposures have sustained deep needlestick injuries, or other percutaneous injuries.

BEING EXPOSED TO HIV DOES NOT MEAN YOU WILL BECOME INFECTED WITH HIV. Infection with HIV is dependent on a number of contributing factors, including the type and duration of exposure, the amount of virus that enters the body, individual host immune factors, and probably other unknown factors.

Information from CDC (MMWR) 6/29/01) indicates that post-exposure antiretroviral therapy may prevent HIV transmission following occupational risk exposures. You should immediately discuss the CDC information with your physician.

For your own protection, you should have an HIV antibody test done now (as a baseline), and at 6 weeks, 3 months, and 6 months after your exposure. Health care workers who have developed HIV following an exposure have tested positive for HIV within 6 months of the exposure.

If, as a result of your occupational exposure, you become infected with HIV, the virus will be in your blood and body fluids before your antibody test becomes positive.

The information on the BACK provides you with instructions on how to prevent transmission of HIV. You should follow these instructions carefully until you have completed your post-exposure HIV antibody testing.
These instructions should be carefully followed until you have completed your post-exposure HIV antibody testing.

**Preventing Transmission of HIV to Personal Contacts:**

- During sex, avoid exposing your partner to your semen, vaginal fluid, or blood.

- Use a condom *every time* you have sex. Anal sex and sex during menstruation are particularly “risky” and should be avoided. Learn about using condoms correctly and make them an enjoyable part of sex.

- Do not become pregnant or get someone else pregnant (HIV can be passed from a mother to her baby).

- If you are bleeding, take care of your own wound whenever possible. If it is not possible, make certain your helper is wearing gloves and washes their hands immediately after caring for you. If your blood spills on the floor or any other surface, soak up the blood with paper towels and then disinfect the area using a solution of one part household bleach to 9 parts water.

- Be careful to dispose of any blood-contaminated articles (menstrual pads, bandages, etc.) in plastic bags that are securely tied and leak-resistant.

- Do not share with others any personal items which may have your blood on them, including toothbrushes and razors. Do not share needles used for any purpose, including tattooing, ear-piercing, drug use or administering medication.

**Preventing transmission of HIV in other situations:**

- Donation centers request that you refrain from donating blood, body organs, sperm, or breastmilk for 12 months after your exposure.

- Be careful to avoid exposing any client for whom you are caring to your blood. Measures should be taken to prevent injuring yourself while performing any procedure in which your blood may come in contact with the mucous membranes, surgical wounds, or non-intact skin of your client.
**Appendix 2-K**

**EXPOSURE**

- **Employee**
  - Cleanse site
  - Notify immediate supervisor, DNM, Administrator, (Nursing Service)
  - Draw Blood
    - HIV (PHLab, manual requisition)
    - Hepatitis C (Contract lab)
    - Hepatitis B (if response is not known, or non-responder) (Contract lab)
  - Incident Report (ODH # 33)
  - Give results & counsel
  - Refer to private physician, as necessary (ODH # 10M)
  - Schedule for follow-up testing
  - Assure follow-up
  - Filing of paper work:
    - Employee Health Record

- **Client**
  - Cleanse site
  - Draw Blood
    - HIV (PHLab, manual requisition)
    - Hepatitis C (Contract lab)
    - Hepatitis B (if employee is non-responder or response is unknown) (Contract lab)
  - Occupational Exposure Form (ODH # 811)
  - Give results & counsel
  - Refer to private physician as necessary
  - Filing of paperwork:
    - Individual client folder in Health Record drawer

Filing of paperwork:
Employee Health Record
## Appendix 3-A

### Type and Duration of Precautions Needed for Selected Infections and Conditions

<table>
<thead>
<tr>
<th>Infection/Condition</th>
<th>Precaution Type</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abscess</td>
<td>Contact</td>
<td>Duration of illness</td>
</tr>
<tr>
<td>Draining, major (No dressing or dressing does not contain drainage adequately)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Draining, minor (Dressing contains Drainage adequately)</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Acquired immunodeficiency syndrome</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Adenovirus infection, infants and young children</td>
<td>Droplet/Contact</td>
<td>Duration of illness</td>
</tr>
<tr>
<td>Anthrax</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Cutaneous</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Botulism</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Brucellosis</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Candidiasis</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Cat-scratch fever</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Chancroid</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Chickenpox (Varicella)</td>
<td>Airborne/Contact</td>
<td>Until all lesions are crusted</td>
</tr>
<tr>
<td>Chlamydia trachomatis</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Conjunctivitis</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Genital</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Respiratory</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Clostridium</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>C. botulinum</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>C. difficile</td>
<td>Contact</td>
<td>Duration of illness</td>
</tr>
<tr>
<td>C. perfringens</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Congenital rubella</td>
<td>Contact</td>
<td>Until 1 yr of age, unless cultures are negative</td>
</tr>
<tr>
<td>Conjunctivitis</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Acute bacterial, Chlamydial, Gonococcal</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Acute viral (acute hemorrhagic)</td>
<td>Contact</td>
<td>Duration of illness</td>
</tr>
<tr>
<td>Cough, unknown etiology</td>
<td>Airborne</td>
<td>Duration of illness</td>
</tr>
<tr>
<td>Cytomegalovirus</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Neonatal or immunosuppressed</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Decubitus ulcer, infected</td>
<td>Contact</td>
<td>Duration of illness</td>
</tr>
<tr>
<td>Major (no dressing, or dressing does not contain drainage adequately)</td>
<td>Contact</td>
<td>Duration of illness</td>
</tr>
<tr>
<td>Minor (Dressing covers and contains drainage adequately)</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Diarrhea of unknown etiology (diapered and incontinent adults and children)</td>
<td>Contact</td>
<td>Duration of illness</td>
</tr>
<tr>
<td>Infection/Condition</td>
<td>Precaution Type</td>
<td>Duration</td>
</tr>
<tr>
<td>---------------------------------------------</td>
<td>-----------------</td>
<td>---------------------------------------------------------</td>
</tr>
<tr>
<td>Diphtheria</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cutaneous</td>
<td>Contact</td>
<td>Until two cultures taken 24 hr. apart are negative</td>
</tr>
<tr>
<td>Pharyngeal</td>
<td>Droplet</td>
<td>Until two cultures taken 24 hr. apart are negative</td>
</tr>
<tr>
<td>Endometritis</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Enterobias</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Enteroviral infections</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adults</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Infants and young children</td>
<td>Contact</td>
<td>Duration of illness</td>
</tr>
<tr>
<td>Epiglottitis, due to <em>Haemophilus influenzae</em></td>
<td>Droplet</td>
<td>Until 24 hr. after initiation of therapy</td>
</tr>
<tr>
<td>Epstein-Barr virus (including infectious mononucleosis)</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Fever, unknown etiology</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Food poisoning</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td><em>Clostridium perfringens</em> or <em>welchii</em>, Staphylococcal</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Furunculosis-staphylococcal (infants and young children)</td>
<td>Contact</td>
<td>Duration of illness</td>
</tr>
<tr>
<td>Gangrene</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Gastroenteritis</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Campylobacter</em> species (diapered or incontinent children &lt;6 yr. old)</td>
<td>Contact</td>
<td>Duration of illness</td>
</tr>
<tr>
<td>Cholera (diapered or incontinent Children &lt;6 yr. old)</td>
<td>Contact</td>
<td>Duration of illness</td>
</tr>
<tr>
<td><em>Clostridium difficile</em></td>
<td>Contact</td>
<td>Duration of illness</td>
</tr>
<tr>
<td>Cryptosporidium species (diapered or incontinent children &lt;6 yr. old)</td>
<td>Contact</td>
<td>Duration of illness</td>
</tr>
<tr>
<td><em>Escherichia coli</em> - Enterohemorrhagic 0157:H7 (diapered or incontinent adults and children)</td>
<td>Contact</td>
<td>Duration of illness</td>
</tr>
<tr>
<td><em>Giardia lambia</em> (diapered or incontinent children &lt;6 yr. old)</td>
<td>Contact</td>
<td>Duration of illness</td>
</tr>
<tr>
<td>Rotavirus (diapered or incontinent adults and children)</td>
<td>Contact</td>
<td>Duration of illness</td>
</tr>
<tr>
<td><em>Salmonella</em> species (diapered or incontinent children &lt;6 yr. old)</td>
<td>Contact</td>
<td>Duration of illness</td>
</tr>
<tr>
<td><em>Shigella</em> species (diapered or incontinent adults or children)</td>
<td>Contact</td>
<td>Duration of illness</td>
</tr>
<tr>
<td><em>Vibrio parahaemolyticus</em></td>
<td>Contact</td>
<td>Duration of illness</td>
</tr>
<tr>
<td><em>Yersinia enterocolitica</em> (diapered or incontinent children &lt;6 yr. old)</td>
<td>Contact</td>
<td>Duration of illness</td>
</tr>
<tr>
<td>Gonococcal ophthalmia neonaturnum</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Gonorrhea</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Hantavirus pulmonary syndrome</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td><em>Helicobacter pylori</em></td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Hepatitis, viral</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Type A (Diapered or incontinent clients)</td>
<td>Contact</td>
<td>Until 2 wks after onset</td>
</tr>
<tr>
<td>Infection/Condition</td>
<td>Precaution Type</td>
<td>Duration</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>----------------</td>
<td>--------------------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>of symptoms</td>
</tr>
<tr>
<td>Type B-HbsAg positive</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Type C and other unspecified non-A,</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>non-B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type E</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Herpes simplex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Encephalitis</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Neonatal</td>
<td>Contact</td>
<td>Duration of illness</td>
</tr>
<tr>
<td>Muco-cutaneous, disseminated or</td>
<td>Contact</td>
<td>Duration of illness</td>
</tr>
<tr>
<td>primary, severe</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Muco-cutaneous, recurrent (skin, oral</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>genital)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Herpes zoster (varicella-zoster)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Localized in immunocompromised</td>
<td>Airborne/Contact</td>
<td>Duration of illness</td>
</tr>
<tr>
<td>client, or disseminated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Localized in normal client</td>
<td>Standard</td>
<td>Duration of illness</td>
</tr>
<tr>
<td>Histoplasmosis</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>HIV</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Impetigo</td>
<td>Contact</td>
<td>Until 24 hrs. after</td>
</tr>
<tr>
<td></td>
<td></td>
<td>initiation of therapy</td>
</tr>
<tr>
<td>Infectious mononucleosis</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Influenza</td>
<td>Droplet</td>
<td>Duration of illness</td>
</tr>
<tr>
<td>Kawasaki syndrome</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Legionnaires’ disease</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Leptospirosis</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Lice (pediculosis)</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Listeriosis</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Lyme disease</td>
<td>Standard</td>
<td></td>
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<tr>
<td>Malaria</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Measles (Rubeola)</td>
<td>Airborne</td>
<td>Duration of illness</td>
</tr>
<tr>
<td>Meningitis- Aseptic, bacterial, fungal,</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Listeria monocytogenes, Pneumococcal,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>viral</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Haemophilus influenzae, Neisseria</td>
<td>Droplet</td>
<td>Until 24 hr. after</td>
</tr>
<tr>
<td>Meningitis</td>
<td></td>
<td>initiation of therapy</td>
</tr>
<tr>
<td>Meningococcal pneumonia</td>
<td>Droplet</td>
<td>Until 24 hr. after</td>
</tr>
<tr>
<td></td>
<td></td>
<td>initiation of therapy</td>
</tr>
<tr>
<td>Molluscum contagiosum</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Mumps</td>
<td>Droplet</td>
<td>For 9 days after onset of</td>
</tr>
<tr>
<td></td>
<td></td>
<td>swelling</td>
</tr>
<tr>
<td>Multidrug-resistant organisms, infection or colonization</td>
<td>Contact</td>
<td>Until off antibiotics and culture negative</td>
</tr>
<tr>
<td>Gastrointestinal or Respiratory</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pneumococcal</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Skin, wound, or burn</td>
<td>Contact</td>
<td>Until off antibiotics and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>culture negative</td>
</tr>
<tr>
<td>Mycobacteria, nontuberculosis (atypical)</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Infection/Condition</td>
<td>Precaution Type</td>
<td>Duration</td>
</tr>
<tr>
<td>----------------------------------------------------------</td>
<td>-----------------</td>
<td>--------------------------------------------</td>
</tr>
<tr>
<td>Pulmonary or Wound</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mycoplasma pneumonia</td>
<td>Droplet</td>
<td></td>
</tr>
<tr>
<td>Necrotizing enterocolitis</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Parainfluenza virus infection, respiratory in infants and young children</td>
<td>Contact</td>
<td></td>
</tr>
<tr>
<td>Parvovirus B19</td>
<td>Droplet</td>
<td></td>
</tr>
<tr>
<td>Pertussis (whooping cough)</td>
<td>Droplet</td>
<td></td>
</tr>
<tr>
<td>Pinworm infection</td>
<td>Standard</td>
<td></td>
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<tr>
<td>Plague</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bubonic</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Pneumonic</td>
<td>Droplet</td>
<td>Until 72 hrs. after initiation of therapy</td>
</tr>
<tr>
<td>Pneumonia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adenovirus</td>
<td>Droplet/Contact</td>
<td>Duration of illness</td>
</tr>
<tr>
<td>Bacterial, Chlamydial, Fungal, Pneumococcal, <em>Pneumocystis carinii</em>, Pseudomonas</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td><em>Haemophilus influenzae</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adults</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Infants and children</td>
<td>Droplet</td>
<td>Until 24 hrs. after initiation of therapy</td>
</tr>
<tr>
<td>Meningococcal, mycoplasm</td>
<td>Droplet</td>
<td>Until 24 hrs. after initiation of therapy</td>
</tr>
<tr>
<td>Streptococcus, group A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adults</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Infants and young children</td>
<td>Droplet</td>
<td>Until 24 hrs after initiation of therapy</td>
</tr>
<tr>
<td>Poliomyelitis</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Psittacosis (ornithosis)</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Rash illness of unknown etiology</td>
<td>Airborne/Contact</td>
<td>Duration of illness</td>
</tr>
<tr>
<td>Rabies</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Respiratory infectious disease, acute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adults</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Infants and young children</td>
<td>Contact</td>
<td>Duration of illness</td>
</tr>
<tr>
<td>Reye’s syndrome</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Rheumatic fever</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Rickettsial fever, tickborne (Rocky Mountain Spotted Fever, tickborne Typhus Fever)</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Ringworm</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Ritter’s disease (Staphylococcal Scalded Skin Syndrome)</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Rocky Mountain Spotted Fever</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Roseola infantum</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Rubella (German measles)</td>
<td>Droplet</td>
<td>Until 7 days after onset of rash</td>
</tr>
<tr>
<td>Scabies</td>
<td>Contact</td>
<td>Until 24 hrs. after initiation of therapy</td>
</tr>
<tr>
<td>Infection/Condition</td>
<td>Precaution Type</td>
<td>Duration</td>
</tr>
<tr>
<td>---------------------</td>
<td>----------------</td>
<td>----------</td>
</tr>
<tr>
<td>Shingles (See Herpes Zoster)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staphylococcal disease (<em>S. aureas</em>) Skin, wound or burn</td>
<td>Contact</td>
<td>Until 24 hrs. after initiation of therapy</td>
</tr>
<tr>
<td>Major (no dressing or dressing does not contain drainage adequately)</td>
<td>Contact</td>
<td>Until 24 hrs. after initiation of therapy</td>
</tr>
<tr>
<td>Minor (dressing covers and contains drainage adequately)</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>MRSA, skin wound or burn</td>
<td>Contact</td>
<td>Until off antibiotics and culture negative</td>
</tr>
<tr>
<td>Pneumonia</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Scalded skin syndrome</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Toxic Shock syndrome</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Streptococcal disease (group A streptococcus) Skin, wound, or burn</td>
<td>Contact</td>
<td>Until 24 hrs. after initiation of therapy</td>
</tr>
<tr>
<td>Major (no dressing or dressing does not contain drainage adequately)</td>
<td>Contact</td>
<td>Until 24 hrs. after initiation of therapy</td>
</tr>
<tr>
<td>Minor (dressing covers and contains drainage adequately)</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Endometritis (puerperal sepsis)</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Pharyngitis in infants and young children</td>
<td>Droplet</td>
<td>Until 24 hrs. after initiation of therapy</td>
</tr>
<tr>
<td>Pneumonia in infants and young children</td>
<td>Droplet</td>
<td>Until 24 hrs. after initiation of therapy</td>
</tr>
<tr>
<td>Scarlet fever in infants and young children</td>
<td>Droplet</td>
<td>Until 24 hrs. after initiation of therapy</td>
</tr>
<tr>
<td>Streptococcal disease (group B streptococcus) Neonatal</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Streptococcal disease (not group A or B)</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Syphilis</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Tetanus</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td><em>Tinea</em> (fungus infection, ringworm)</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Toxoplasmosis</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Trench mouth (Vincent’s angina)</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Trichinosis</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Trichomoniasis</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Tuberculosis</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Extrapulmonary, draining lesion</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Meningitis</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Pulmonary, confirmed or suspected</td>
<td>See Section 5</td>
<td></td>
</tr>
<tr>
<td>Skin test positive with no evidence of current pulmonary disease</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Tularemia, lesion or pulmonary</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Urinary tract infection</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Varicella (see chickenpox)</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Viral disease- Respiratory</td>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Whooping cough (pertussis)</td>
<td>Droplet</td>
<td>Until 5 days after initiation of therapy</td>
</tr>
<tr>
<td>Infection/Condition</td>
<td>Precaution Type</td>
<td>Duration</td>
</tr>
<tr>
<td>--------------------------</td>
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<td>------------------------</td>
</tr>
<tr>
<td>Wound infections</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Major (no dressing or dressing does not contain drainage adequately)</td>
<td>Contact</td>
<td>Duration of illness</td>
</tr>
<tr>
<td>Minor (dressing adequately covers drainage)</td>
<td>Standard</td>
<td></td>
</tr>
</tbody>
</table>

Table adapted from

Appendix 3-B

Respiratory Hygiene/Cough Etiquette

To contain respiratory secretions, all persons with signs and symptoms of a respiratory infection, regardless of presumed cause, should be instructed to:

- Cover the nose/mouth when coughing or sneezing.
- Use tissues to contain respiratory secretions.
- Dispose of tissues in the nearest waste receptacle after use.
- When tissues are not available, cough or sneeze into your sleeve.
- Perform hand hygiene after contact with respiratory secretions and contaminated objects/materials.

Healthcare facilities should ensure the availability of materials for adhering to respiratory hygiene/cough etiquette in waiting areas for patients and visitors:

- Provide tissues and no-touch receptacles for used tissue disposal.
- Provide conveniently located dispensers of alcohol-based hand rub.
- Provide soap and disposable towels for hand washing where sinks are available.

Masking and separation of persons with symptoms of respiratory infection

During periods of increased respiratory infection in the community, persons who are coughing should be offered either a procedure mask (i.e., with ear loops) or a surgical mask (i.e., with ties) to contain respiratory secretions. Coughing persons should be instructed to sit as far away as possible (at least 3 feet) from others in common wasting areas. Some facilities may wish to institute this recommendation year-round.
Appendix 4-A

Sample Autoclave Monitoring Log  

Record for each load

<table>
<thead>
<tr>
<th>Date/time</th>
<th>Pressure</th>
<th>Temperature</th>
<th>Contents</th>
<th>Chemical indicator</th>
<th>Biological indicator in load?</th>
<th>Biological indicator result and date</th>
<th>Initials</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Initials Log

<table>
<thead>
<tr>
<th>Initials</th>
<th>Signature</th>
<th>Printed name</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

Biological monitoring of autoclaves must be performed on weekly basis. Quality Assurance forms should be filed at the local county health department.

*Listed below are some resources for obtaining supplies and services for biologic monitoring:

OU College of Dentistry (405) 271-4945
Icon Scientific Co. (817-939-0345)
Appendix 5-A

Isolation Room View

SIDE VIEW OF TYPICAL ISOLATION ROOM

Heat and Air Diffuser

Exhaust through roof extending 7 ft above roof and 25 ft away from any air intake

Door with adequate clearance at bottom or louvered opening.

TOP VIEW OF TYPICAL ISOLATION ROOM

Heat and Air Diffuser

Exhaust hard duct through roof deck with roof mount fan.

10 ft
Appendix 5-B
County Health Department Respiratory Isolation Room Inspection Report

County: ____________________________ City: ____________________________

Address: __________________________________________________________________________________

Telephone: (____) _____-______ Fax: (____) _____-______

Administrator: ________________________________________________________________________________

Room dimensions (feet): Height ____ x Length ____ x Width ____ = Volume ____ ft³

Exhaust fan measured cfm: __________________________

Air supply duct volume measured cfm: __________________________

Roof exhaust fan terminal distance from air intakes: __________________________

Return air ducted or above ceiling plenum: __________________________

ACH = Air changes/hour minimum 12
Q = Exhaust fan measured cfm
V = Room volume

\[ \frac{Q}{V} \times 60 = ACH = \] ______________

☐ No return air duct in room          ☐ Solid ceiling.

☐ Room identified (signage)         ☐ Lighting fixture(s) sealed.

☐ Light(s) and fan switched separately ☐ Exhaust fan switch located outside room

☐ Room arrangement adequate for airflow ☐ Negative pressure maintained

Comments:

____________________________________________________________________________

____________________________________________________________________________

____________________________________________________________________________

____________________________________________________________________________

____________________________________________________________________________

____________________________________________________________________________

____________________________________________________________________________
Appendix 5-C

Annual Review
Minimum Requirements for Tuberculosis Control
Oklahoma State Department of Health
Tuberculosis Division

County Health Department:

Site: ________________________ Administrator: ________________________

Place the date each component was accomplished in the space next to each item number.

1. ______ Written control plan to include the following:
   A. Mechanism for identifying potentially contagious clients
   B. Procedure(s) for protecting employees who direct clients to isolation room
   C. Documented annual employee TB skin testing
   D. Pre-employment TB evaluation
   E. Documented annual TB training
   F. Procedures for identifying employee exposure to TB and criteria for fitting with TB respirators
   G. Evaluation and management of workers with:
      1. A positive skin test
      2. Skin test conversion on repeat testing
      3. Signs and symptoms of TB disease including work restrictions for these employees
      4. Those who experience a documented TB exposure

2. ______ Respiratory (negative pressure) isolation room
   A. Posted as respiratory isolation room
   B. Maintained under negative air pressure
   C. Documentation on file of 12 air exchanges per hour vented directly outside
   D. Documentation of monthly/daily Negative Pressure Isolation Room Test Results
3. Yearly tuberculosis training of employees to include:
   A. TB transmission and pathogenesis
   B. Signs and symptoms of TB
   C. County TB epidemiology
   D. Site-specific TB control protocols and procedures
   E. Proper use, storage, maintenance of personal respiratory
device(s), and hazards associated with wearing such devices

4. Review of Respirator (Mask) Usage
   A. Respirator fitting procedures
   B. Respirator check procedures
   C. Annual Respirator fitting review

5. Documentation of employee TB protection evaluation:
   A. Employee unprotected exposures to TB cases or suspects
   B. Results of annual or every 6 months TB skin testing or any skin
   testing performed because of contact to a case
   C. Results of any medical evaluation of TB infected employee,
   particularly, TST Converters

6. Log and Summary of Occupational Injuries and Illnesses (OK
   300 log) reporting of paid and unpaid employees
   A. TB skin test conversion
   B. Positive TB skin test result found upon employment
   C. Progression from infection to disease

Retain Checklist on file for five years.


Appendix 5-D

County Health Department Written TB Control Plan

The _______________________________County Health Department (CHD) will follow the recommendations for the prevention and control of tuberculosis contained in the Oklahoma State Department of Health Infection Control Manual. The purpose of these recommendations is to prevent the transmission of TB infection to the health care worker.

Plan Responsibility-The County Health Department Area Safety Coordinator ________________ and District Nurse Manager, ____________________________________________

Shall be responsible for ensuring the TB Control Plan is carried out. These individuals shall ensure that TB employee education, medical evaluation, or equipment issuance is documented.

TB Risk Assessment-The District Nurse Manager (DNM) shall on an annual basis review the county incidence of active TB cases, the number of TB cases evaluated and/or treated by the CHD, and any tuberculin skin test (TST) conversion occurring in a CHD employee. The DNM shall attempt to identify evidence of any person-to-person transmission and any problem with any TB infection control procedure.

TB Case Management-Any active TB case or suspect shall be referred to the CHD TB PHN for evaluation and treatment. The TB nurse shall evaluate the client in accordance with standing TB orders and consult, as is necessary, with the client’s private physician or an OSDH TB Medical Consultant for specific orders for tuberculin skin testing, sputum collection, and obtaining chest x-rays.

Therapy of TB suspects and cases shall be initiated after consultation with an OSDH TB Medical Consultant.

CHD TB Suspect and Contagious Case Management-Admission clerks shall identify TB suspects (clients with severe or repeated coughing spells) and contagious TB cases. The clerk shall then put on his/her own TB Respirator, give the suspect or case a ‘client mask’ to wear, take the client to the TB Isolation room, ensure the exhaust fan is turned on and the door is closed and notify the TB nurse of the client’s presence.

Until a client has received two weeks of therapy, and three consecutive negative AFB smear reports have been received, all cases and suspects shall be considered contagious.

Signs must be posted on all facility entrances in English and Spanish, which directs clients seeking evaluation or treatment for tuberculosis and those with a chronic cough to promptly identify themselves to the clerk upon entering the building.

Hospitalized TB Case and Suspect Management-The CHD TB Nurse shall obtain client data on all TB Suspects hospitalized in the county and in hospitals in other counties or states when indicated. This data shall be sent to the OSDH TB Division and consultation with the OSDH TB Nurse Consultant or a Medical Consultant shall occur.
The CHD TB Isolation Room-The CHD TB Isolation Room shall meet requirements as specified in Section 6 of the OSDH Infection Control Manual.

The facility safety officer will ensure isolation room exhaust fans are providing negative air pressure by performing a smoke tube or tissue test of the isolation room each month or daily if used.

The safety officer will maintain documentation of the smoke tube or tissue test in written form.

If the isolation room is not properly functioning, examination of a coughing, potentially contagious, TB client or suspect shall be performed outdoors in the open air.

Respiratory Protection-CHD employees shall receive respiratory protection from TB as specified in Section 6 of the OSDH Infection Control Manual.

Cough-inducing procedures shall be managed as follows:

Nebulized sputum collection, if conducted in the CHD, will be done, in designated Booths, in AFB Isolation rooms.

Following sputum induction, the client shall remain in the isolation room until coughing subsides.

The isolation room shall remain empty with the exhaust fan running for 20 minutes after utilization of the room for sputum collection.

Other procedures, such as, irrigation of TB abscesses shall be carried out utilizing the same guidelines.

TB Training of CHD Employees-CHD employees will receive annual TB training regarding TB infection transmission and control. A review of TB epidemiology for the county with application to the CHD will occur. The training will include: a review of CHD TB control procedures, TB suspect client handling, respiratory isolation use and TB Respirator usage requirements for employees, clients and family members. Training in any new or revised TB control procedures will be given.

CHD TB nurses will attend an annual TB in-service presented by the OSDH TB Division or equivalent, as determined by the DNM in conjunction with the OSDH TB Nurse Consultant.

CHD Employee TB Counseling and Screening-Counseling regarding TB risks of infection shall be available on a one-on-one basis to any CHD employee from the TB Nurse or the DNM. This shall include his/her risk from his/her job or any procedure required by that job.

Known immunocompromised employees shall be counseled by the DNM of the risk that exposure to active TB clients poses to him/her in regard to TB infection and disease.

Tuberculin Skin Testing of Employees-All County Health Department employees and contract employees will receive a tuberculin skin test, utilizing intradermal PPD injection, upon initial employment and annually (unless there is a documented previous positive TST result or a documented contraindication to PPD). Public Health Nurses (PHNs) who evaluate and treat TB cases and employees with frequent contact to TB clients shall be skin tested every six (6) months.
Whenever evidence of infection transmission is identified (TST Conversion) appropriate employees (as determined by the DNM) shall be tested every three (3) months, until evidence of lack of ongoing transmission of TB infection is established.

Employees with documentation of reactive TSTs will be evaluated utilizing a symptom screen annually or every six months, as is appropriate.

Employees who convert a TB skin test will be evaluated for infection and/or disease at the [insert county name] County Health Department, or their private physician, and will be provided treatment free of charge, if recommended.

**CHD Evaluation of TST Conversions and Possible Transmission of TB Within the CHD**

The District Nurse Manager shall investigate any tuberculin skin test conversion occurring in a CHD employee to attempt to identify evidence of any other person-to-person transmission and problems with TB infection control procedures.

Conversion of an employee’s TB skin test from negative to positive will be recorded on the Log and Summary of Occupational Injury and Illnesses, OK Log 300.

CHD TB nurses will coordinate TB control efforts with TB control nurses in other counties, OSDH TB control staff and TB control staff in other states, as is necessary and appropriate.

**Routine Review of the TB Control Plan**

The CHD Safety Officer will yearly conduct a review of the TB control measures utilized to determine compliance with recommendations for the control of tuberculosis in the county health department. The review will consist of verifying compliance with the items listed on the minimum requirements for tuberculosis control checklist. The Annual Review Minimum Requirements for Tuberculosis Control Worksheet can be found in Appendix 5-C of the OSDH Infection Control Manual.
# Appendix 5-E
## Negative Pressure Isolation Room Test Log

Location/Site: ____________________________

<table>
<thead>
<tr>
<th>Date</th>
<th>Negative Air Pressure Present</th>
<th>Smoke (S) Incense (I) Tissue Paper (T)</th>
<th>Nurse/Tester Signature</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes ☐ No ☐ (S) (I) (T)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes ☐ No ☐ (S) (I) (T)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes ☐ No ☐ (S) (I) (T)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes ☐ No ☐ (S) (I) (T)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes ☐ No ☐ (S) (I) (T)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes ☐ No ☐ (S) (I) (T)</td>
<td></td>
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<tr>
<td></td>
<td>Yes ☐ No ☐ (S) (I) (T)</td>
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<tr>
<td></td>
<td>Yes ☐ No ☐ (S) (I) (T)</td>
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<tr>
<td></td>
<td>Yes ☐ No ☐ (S) (I) (T)</td>
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<td></td>
<td>Yes ☐ No ☐ (S) (I) (T)</td>
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<td>Yes ☐ No ☐ (S) (I) (T)</td>
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<td>Yes ☐ No ☐ (S) (I) (T)</td>
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<td>Yes ☐ No ☐ (S) (I) (T)</td>
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<td>Yes ☐ No ☐ (S) (I) (T)</td>
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<tr>
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<td>Yes ☐ No ☐ (S) (I) (T)</td>
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<td>Yes ☐ No ☐ (S) (I) (T)</td>
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<tr>
<td></td>
<td>Yes ☐ No ☐ (S) (I) (T)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Oklahoma State Department of Health
Nursing Service

ODH #293
July 2005
Purpose: The purpose of this form is to document the results of the negative pressure isolation rooms monitoring test.

Use: This form is to be completed after the nurse/tester has performed the negative pressure monitoring test.

Record the date that the test was performed.
Indicate whether or not the test results indicated the room was under negative pressure by answering “yes” or “no”.
Indicate the type of test by circling the (S) Smoke, (I) Incense, or (T) Tissue Paper that appears on the form.
The tester must sign their name indicating they were the person performing the test.

Outcomes: If the outcome of the test of any of the test identifies the room as not having negative pressure present, the room must be closed for clinical services until the problem has been corrected.

Routing: Maintained in a file by either the Area Safety Coordinator or the District Nurse Manager. This record should be readily available upon request of inspection.
## Appendix 5-F
### Infection Prevention Recommendations for Care of Patients With Pandemic Influenza

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>RECOMMENDATIONS</th>
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</thead>
<tbody>
<tr>
<td><strong>Hand Hygiene</strong></td>
<td>Perform hand hygiene after touching blood, body fluids, secretions, excretions, and contaminated items; after removing gloves; and between patient contacts. Hand hygiene includes both hand washing with either plain or antimicrobial soap and water or use of alcohol-based products (gels, rinses, foams) that contain an emollient and do not require the use of water. If hands are visibly soiled or contaminated with respiratory secretions, they should be washed with soap (either non-antimicrobial or antimicrobial) and water. In the absence of visible soiling of hands, approved alcohol-based products for hand disinfection are preferred over antimicrobial or plain soap and water because of their superior microbicidal activity, reduced drying of the skin and convenience.</td>
</tr>
<tr>
<td><strong>Personal protective equipment (PPE)</strong></td>
<td>For touching blood, body fluids, secretions, excretions, and contaminated items; for touching mucous membranes and no intact skin.</td>
</tr>
<tr>
<td><strong>Gloves</strong></td>
<td>During procedures and patient-care activities when contact of clothing/exposed skin with blood/body fluids, secretions, and excretions are anticipated.</td>
</tr>
<tr>
<td><strong>Gowns</strong></td>
<td>During procedures and patient care activities likely to generate splash or spray of blood, body fluids, secretions, and excretions.</td>
</tr>
<tr>
<td><strong>Face/eye protection (e.g., surgical or procedure mask and goggles or a face shield)</strong></td>
<td>Avoid touching eyes, nose mouth or exposed skin with contaminated hands (gloved or ungloved); avoid touching surfaces with contaminated gloves and other PPE that are not directly related to patient care (e.g., door knobs, keys, and light switches).</td>
</tr>
<tr>
<td><strong>Safe work practices</strong></td>
<td>Avoid unnecessary mouth-to-mouth contact; use mouthpiece, resuscitation bag, or other ventilation devices to prevent contact with mouth and oral secretions.</td>
</tr>
<tr>
<td><strong>Patient resuscitation</strong></td>
<td>Handle in a manner that prevents transfer of microorganisms to oneself, others, and to environmental surfaces. Wear gloves if visibly contaminated as well as perform hand hygiene after handling equipment.</td>
</tr>
<tr>
<td><strong>Soiled patient care equipment</strong></td>
<td>Handle in a manner that prevents transfer of microorganisms to oneself, others, and to environmental surfaces; wear gloves (gown if necessary) when handling and transporting soiled</td>
</tr>
<tr>
<td>COMPONENT</td>
<td>RECOMMENDATIONS</td>
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<tr>
<td>---------------------------------</td>
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<tr>
<td>linen and laundry</td>
<td>as well as perform hand hygiene.</td>
</tr>
<tr>
<td>Needles and other sharps</td>
<td>Use devices with safety features when available. Do not recap; bend break or hand-manipulate used needles.</td>
</tr>
<tr>
<td>Environmental and disinfections</td>
<td>Use EPA-registered hospital detergent-disinfectant; follow standard facility procedures for cleaning and disinfection of environmental surfaces; emphasize cleaning/disinfection of frequently touched surfaces (e.g., bed rails, phones and lavatory surfaces).</td>
</tr>
<tr>
<td>Disposal of solid waste</td>
<td>Contain and dispose of solid waste (medical and non-medical) in accordance with facility procedures and/or local or state regulation; wear gloves when handling waste; wear gloves when handling waste containers; perform hand hygiene.</td>
</tr>
<tr>
<td>Respiratory hygiene/cough etiquette: Source control measurers for persons with symptoms of a respiratory infection/ implement at first point of encounter (e.g., triage/reception areas) within a healthcare setting.</td>
<td>Cover the mouth/nose when sneezing/coughing; use tissues and dispose in no-touch receptacles; perform hand hygiene after contact with respiratory secretions; wear a mask (procedure or surgical) if tolerated; sit or stand as far away as possible (more than 3 feet) from persons who are not ill.</td>
</tr>
<tr>
<td>Patient placement</td>
<td>Place patients with influenza in a private room or cohort with other patients with influenza. Keep door closed or slightly ajar. Maintain room assignments of patients in nursing homes and other residential settings and apply droplet precautions to all persons in the room.</td>
</tr>
<tr>
<td>Personal protective equipment (PPE)</td>
<td>Wear a surgical or procedure mask for entry into patient room. Wear other PPE as recommend for standard precautions.</td>
</tr>
<tr>
<td>Patient transport</td>
<td>Limit patient movement outside of room to medically necessary purposes; have patient wear a procedure or surgical mask when outside of room.</td>
</tr>
<tr>
<td>Other</td>
<td>Follow standard precautions and facility procedures for handling linen, laundry, dishes, eating utensils, and for cleaning/disinfection of environmental surfaces and patient care equipment, disposal of solid waste, and postmortem care.</td>
</tr>
<tr>
<td>Aerosol-Generating procedures</td>
<td>During procedures that may generate small particles of respiratory secretions (e.g., endotracheal intubation, bronchoscopy, nebulizer treatment, suctioning, sputum induction) healthcare personnel should wear gloves, gown, face/eye protection, and a fit-tested N95 respiratory or other appropriate particulate respirator.</td>
</tr>
</tbody>
</table>
Bibliography


3. Title 252, Chapter 515, Oklahoma Administrative Code, Department of Environmental Quality; Management of Solid Waste http://www.deq.state.ok.us/rules/515.pdf


7. Updated U.S Public Health Service Guidelines For Management of Occupational Exposure to HIV and Recommendations for Postexposure Prophylaxis. MMWR September 30, 2005/Col. 54, RR-09 http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5409a1.htm


Glossary Terms

**Airborne Precautions** – Precautions designed to reduce the risk of airborne transmission of infectious agents.

**Alcohol-based hand rub** – An alcohol-containing preparation designed for application to the hands to reduce the number of microorganisms on the hands. In the United States, such preparations usually contain 60 percent to 95 percent ethanol or isopropanol.

**ALT** – Alanine aminotransferas. Found predominantly in the liver. Generally most ALT elevations are caused by liver disease. It is quite specific in indicating hepatocellular disease.

**Anti-HBs** – Hepatitis B surface antibody (HbsAb) test. The antibody test that denotes immunity after administration of the hepatitis B vaccination.

**Anti-HCV** – Hepatitis C antibody test. Generally indicates past or current infection.

**Biohazard** – A biological agent, such as an infectious microorganism, or a condition that constitutes a threat to humans, especially in biological research or experimentation.

**Bloodborne Pathogens** – Pathogenic microorganisms that are present in human blood and can cause disease in humans. These pathogens include, but are not limited to, hepatitis B virus (HBV) and human immunodeficiency virus (HIV).

**Contact** – Direct exposure to a contagious disease, usually through close association with an infected individual.

**Contact Precautions** – Precautions that prevent spread of organisms from an infected client through direct (touching the client) or indirect (touching surfaces or objects that have been in contact with the client) contact.

**Contaminated** – The presence or the reasonably anticipated presence of blood or other potentially infectious materials on an item or surface.

**Contaminated Laundry** – Laundry that has been soiled with blood or other potentially infectious materials or may contain sharps.

**Contaminated Sharps** – Any contaminated object that can penetrate the skin including, but not limited to, needles, scalpels, broken glass, broken capillary tubes, and exposed ends of dental wires.

**CLIA** – Clinical Laboratory Improvement Amendments

**Decontamination** – The use of physical or chemical means to remove, inactivate, or destroy bloodborne pathogens on a surface or item to the point where they are no longer capable of transmitting infectious particles and the surface or item is rendered safe for handling, use, or disposal.
DOT Provider – A contact provider who provides Directly Observed Therapy to Tuberculosis clients.

Droplet Precautions – Precautions to prevent the spread of organisms that travel on particles much larger than the droplet nuclei. These particles do not spend much time suspended in the air, and usually do not travel beyond a several foot range from the client. These particles are produced when a client coughs, talks, or sneezes. Examples of disease requiring droplet precautions are meningococcal meningitis (a serious bacterial infection of the lining of the brain), influenza, mumps, and German measles (rubella).

Engineering Controls - Includes safer medical devices, such as sharps with engineered sharps injury protection. Engineering controls includes all control measures that isolate or remove a hazard from the workplace, encompassing not only sharps with engineered sharps injury protections but also other medical devices designed to reduce the risk of percutaneous exposure to bloodborne pathogens.

Exposure Incident – A specific eye, mouth, other mucous membrane, non-intact skin, or parenteral contact with blood or other potentially infectious materials that results from the performance of an employee’s duties.

Hand hygiene – A general term that applies to handwashing, antiseptic handwash, antiseptic hand rub, or surgical hand antisepsis.

Handwashing – Washing hands with plain (non-antimicrobial) soap and water.

HbsAb – Hepatitis B surface antibody test. Denotes immunity after administration of the hepatitis B vaccine.

HbsAb (quantitative) – Hepatitis B surface antibody test. The quantitative portion of the test identifies a positive immune response. An adequate immune response is defined as an anti-HBs response of equal to or greater than 10 mIU/mL.

HbsAg – Hepatitis B surface antigen. Generally indicates active infection by Hepatitis B virus.

HBIG – Hepatitis B immune globulin. Contains a high titer of antibody to hepatitis B surface (HbsAg), providing a passive immunity to hepatitis B surface antigen.

HIV-EIA – Human Immunodeficiency virus antibody test. Generally indicates a current infection.

IG – (IG; gamma globulin) Immune globulin. (IM, IV) Contains human globulin (16.5% IM, 5% IV), which provides passive immunity through the presence of injected antibodies.

Occupational Exposure – Reasonably anticipated skin, eye, mucous membrane, or parenteral contact with blood or other potentially infectious materials that may result from the performance of an employee’s duties.

OSHA – Occupational Safety and Health Administration

PEP – Post exposure prophylaxis (medications).
**Phenolic** – A thermosetting resin

**PPE** – Personal Protective Equipment

**Plain soap** – Detergents that do not contain antimicrobial agents, or contain very low concentrations of antimicrobial agents that are effective solely as preservatives.

**Regulated waste** – Liquid or semi-liquid blood or other potentially infectious materials; contaminated items that would release blood or other potentially infectious materials in a liquid or semi-liquid state if compressed; items that are caked with dried blood or other potentially infectious materials and are capable of releasing these material during handling; contaminated sharps; and pathological and microbiological waste containing blood or other potentially infectious materials.

**Sharps with engineered sharps injury protections** – A nonneedle sharp or a needle devise used for withdrawing body fluids, accessing a vein or artery, or administering medications or other fluids, with a built-in safety feature or mechanism that effectively reduces the risk of an exposure incident.

**Source Individual** – Any individual, living or dead, whose blood or other potentially infectious materials may be a source of occupational exposure to the employee. Examples include, but are not limited to, hospital and clinic clients; clients in institutions for the developmentally disabled; trauma victims; clients of drug and alcohol treatment facilities; residents of hospices and nursing homes; human remains; and individuals who donate or sell blood or blood components.

**Standard Precautions** – An approach to infection control. According to the concept of Standard Precautions, all human blood and certain human body fluids are treated as if known to be infectious for HIV, HBV, and other bloodborne pathogens.

**Transmission – Based precautions** – Precautions designed for clients documented or suspected to be infected/colonized with highly transmissible or epidemiologically important pathogens for which additional precautions beyond Standard Precautions are needed to interrupt transmission.

**Tuberculocidal** – Disinfectant product that is effective in destroying Mycobacterium tuberculosis.

**Visibly soiled hands** – Hands showing visible dirt or visibly contaminated with proteinaceous body substances (i.e., blood, fecal material, urine).

**Work practice controls** – Controls that reduce the likelihood of exposure by altering the manner in which a task is performed (i.e. recapping of needles).