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ICE Health Service Corps (IHSC)
Enforcement and Removal Operations
U.S. Immigration and Customs Enforcement

Infectious Disease Public Health Actions Guide: Management of Varicella and Herpes Zoster

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Foreword

This *Infectious Disease Public Health Actions Guide: Management of Varicella and Herpes Zoster in IHSC-Staffed Medical Clinics* supplements the following IHSC Directive:

- IHSC Directive: 05-06, *Infectious Disease Public Health Actions*.

This Guide explains concepts, assigns responsibilities, and details procedures for the management and control of varicella and herpes zoster.

The intended audience is IHSC-staffed facilities supporting health care operations in ICE-owned or contracted detention facilities.

I. Overview

A. Purpose

This guide assists health staff implement public health actions to manage varicella and herpes zoster and describes the procedures and resources to implement infection prevention and control measures.

B. Responsibilities

Health Services Administrator (HSA), Facility Healthcare Program Manager (FHPM), and Infection Prevention Officer (IPO)

- Overs and implements infection prevention and control activities.
- Oversee contact and outbreak investigations.
- Ensure reporting of detainees/residents with varicella to the health department in accordance with local and state laws.
- Ensure health staff receive orientation and annual training.
- Report detainees/residents with varicella to the health department in accordance with local and state laws.
- Coordinate contact and outbreak investigations

Medical Providers

- Oversee the clinical management of detainees/residents diagnosed with varicella or herpes zoster.
- Report detainees/residents with varicella to the health department or notify the compliance officer for reporting the patient to health department in accordance with local and state laws.

Health Staff

- Implement infection prevention and control measures to stop or limit the spread of varicella and herpes zoster.
- Adhere with national guidelines, regulations, and standards.

Public Health Safety and Preparedness (PHSP) Unit staff

- Provide technical guidance to IHSC staff on varicella and herpes zoster infection prevention and control activities.

- Review and update this Guide and IHSC Directive 05-06, *Infectious Disease Public Health Actions*.
- Monitor contact investigation and cohorting tracking information..
- Conduct surveillance for detainees/residents with varicella and herpes zoster diagnosed in IHSC-staffed medical clinics.

IHSC Infectious Disease Consultant and Infectious Disease Advanced Practice Provider (APP)

- Provide clinical guidance related to clinical management and public health actions for the management of varicella and herpes zoster at the request of the medical provider or headquarters staff.

C. About Varicella

Varicella (chickenpox) is the disease that results from primary infection with the varicella zoster virus (VZV). It is a highly contagious disease that causes a blister-like rash with itching, tiredness, and fever. Varicella most commonly causes an illness that lasts about 5–10 days.

Transmission

Varicella is transmitted from person to person. It is spread by direct contact with a persons who has either varicella or the herpes zoster virus (causes shingles) by airborne spread via respiratory secretions or aerosolized fluid from skin lesions. Exposure occurs through close contact with an infectious person, such as close indoor contact (e.g., in the same room) or face-to-face contact. Experts differ in their opinions about the duration of contact needed to contract varicella; some suggest five minutes and others up to one hour. All experts agree that significant exposure does not include transitory contact.

Incubation Period

The incubation period for varicella is 10-21 days.

Infectious Period

Persons with varicella are considered infectious from one to two days before the rash appears and until all lesions are crusted over. On average, this occurs four to seven days after rash onset. Persons with underlying medical conditions such as cancer, human immunodeficiency virus (HIV)/acquired immune deficiency syndrome (AIDS) have weakened immune systems and are especially likely to have more severe disease. In these cases, the crusting of lesions may take longer. Thus, they may shed the virus from skin lesions for a longer time period.

Signs and Symptoms

Varicella presents as a classic rash which is initially itchy, with fluid-filled blisters that eventually form scabs. The rash may first show up on the face, chest, and back then spread to the rest of the body, usually sparing the palms and soles. It usually takes about one week for all of the blisters to become scabs.

Other typical symptoms that may begin to appear 1-2 days before the rash include:

- High fever.
- Fatigue.
- Loss of appetite.
- Headache.

Though not typical, the most common complication is a superinfection with common skin bacteria such as *Staphylococcus aureus* and Group A *Streptococcus*.

The following individuals are at increased risk of having more severe symptoms and complications, hereafter referred to as "high risk:"

- Infants.
- Pregnant women.
- Persons with health problems or treatment regimens that affect the immune system (e.g., HIV, cancer, transplant patients).

Prevention

The best way to prevent infection with varicella is to receive the vaccine. The vaccine is safe and effective at preventing the disease. Most people who get the vaccine will not get varicella. Varicella vaccination is included in routine immunization schedules in the United States. However, most developing countries do not include varicella vaccination in their national vaccine preventable disease programs.

Most detainees and residents are not previously vaccinated; therefore, the risk of exposure and susceptibility to VZV is greater.

D. About Herpes Zoster

Herpes zoster, also known as shingles, is caused by the reactivation of VZV in the body. It is the same virus that causes varicella. VZV chronically infects humans and lives dormant for the remainder of the infected person's life. As people age and/or develop a weakened immune system, they may experience an episode of shingles. For example, temporary stressors can weaken the immune system

enough to allow VZV to reactivate. Shingles can occur more than once in a person's life time.

Anyone who has had varicella can develop shingles. However, it more commonly affects the following groups:

- Elderly. The older the individual, the more likely they are to develop post-herpetic neuralgia, a potentially lifelong and debilitating "phantom" nerve pain.
- Persons with health problems or treatment regimens that affect the immune system (e.g., HIV, cancer, transplant patients).

Transmission

A person with shingles can spread the virus when the rash is in the blister phase. A person exposed to a shingles rash and who has never been infected with VZV before will develop varicella, not shingles. The virus is spread through direct contact with fluid from the rash blister or airborne exposure. All shingles patients can spread the virus through the rash blister. Those who are severely immunocompromised are at risk for airborne exposure; this includes people with AIDS or organ transplant recipients. Herpes zoster is less contagious than varicella and the risk of a person with herpes zoster spreading the virus is low if the lesions are covered.

Infectious period

The infectious period for herpes zoster begins at onset of rash and ends after all of the lesions are crusted over to form scabs.

Symptoms

Shingles commonly present as an itchy, sometimes painful rash that affects one side of the body and along nerve pathways that supply the skin (unilateral dermatomal). A general feeling of discomfort or malaise, headache, and severe neuropathic type pain or abnormal sensations may precede the rash.

Other typical symptoms that may begin to appear 1-2 days before the rash include:

- High fever.
- Fatigue.
- Appetite loss.
- Headache.

E. Acronyms

AI – Airborne Infection Isolation.

CDC – U.S. Centers for Disease Control and Prevention.

DFA – Direct fluorescent antibody.

HICPAC – Healthcare Infection Control Practices Advisory Committee.

HIV – Human immunodeficiency virus.

IgG – Immunoglobulin G.

PCR – Polymerase chain reaction.

PPE – Personal protective equipment.

VIS – Vaccine information statement.

VZV – Varicella zoster virus.

VariZIG – Varicella zoster immune globulin.

F. Definitions with Expanded Information

Airborne infection isolation (All) precautions – Isolates patients infected with infectious organisms spread through the air to minimize person to person transmission.

Airborne infection isolation (All) room – A single-occupancy patient-care room, formerly called a negative pressure isolation room. Environmental factors are controlled so the isolation room receives substantial air changes per hour (ACH). ACH for All rooms constructed since 2001 is ≥ 12 . ACH for All rooms constructed before 2001 is ≥ 6 . All rooms are under negative pressure so the direction of air flow is from the outside adjacent space (i.e., the corridor) into the room. All room air is preferably exhausted to the outside, or recirculated if the return air is filtered through a high efficiency particulate air (HEPA) filter.

Airborne transmission – Dissemination of airborne particles that can infect people over time and distance. Airborne particles are droplet nuclei 1 to 5 μm in diameter and associated with coughing or aerosolization of contaminated fluids.

Cohorting – Cohorting is a public health strategy used to house individuals separately as a group based on their infectious or exposure status.

Contact investigation – The process of identifying, evaluating, and treating all persons (contacts) who have sustained a significant exposure to a person with suspected or confirmed infection.

Contagious – When a disease can be transmitted from one living being to another through direct or indirect contact; communicable; infectious; usually microorganisms.

Direct contact transmission – Direct transfer of a microorganism from an infected person to another person.

Disseminated herpes zoster – Appearance of lesions outside the primary or adjacent dermatomes.

Exposure – The condition of being subjected to something in the working environment (noise, dust, chemicals, radiation, infectious agents) that could have an adverse health effect.

Herpes Zoster (Shingles) – Primarily dermatologic disease caused by the reactivation of latent varicella zoster virus.

High efficiency particulate air (HEPA) filter – A filter that is certified to remove $\geq 99.97\%$ of particles $0.3 \mu\text{m}$ in size. HEPA filters are either portable or stationary. These filters are required for All room exhaust ventilation and requires expertise in installation and maintenance.

Incubation period – The interval between exposure to a communicable microorganism and onset of symptoms.

Infection control – Institutional procedures and policies for monitoring and attempting to control the transmission of communicable diseases.

Infectious period – The period during which a person might have transmitted a communicable microorganism to others.

N95 disposable respirator – An air-purifying, filtering-facepiece respirator that is $\geq 95\%$ efficient at removing $0.3 \mu\text{m}$ particles and is not resistant to oil. Education and fit testing is required before wearing a respirator. N95 respirators are used to protect the wearer from exposures in the air; they are not worn by a patient.

Outbreak – The occurrence of more people with a disease, injury, or other health condition than expected in a given area or among a specific group of persons during a specific period.

Shingles – The common name of the dermatomal rash caused by reactivation of varicella zoster virus.

Significant exposure – Exposure under conditions more likely to result in transmission of infection.

Transmission-based precautions – Precautions that provide additional protections beyond Standard Precautions to interrupt the transmission of pathogens.

Varicella (chickenpox) – An acute infectious disease, usually seen in children aged less than 15 years, caused by the varicella-zoster virus.

Varicella zoster virus (VZV) – The virus that causes varicella and shingles.

II. Clinical Management

A medical provider is responsible for the clinical management of detainees/residents diagnosed with or suspected of having varicella or herpes zoster. HIV testing is recommended for detainees with herpes zoster or a history of herpes zoster. The diagnosis of VZV infection is made or supported by one or more of the following:

- Physical examination to identify the symptoms typical of VZV rash (see Figures 1 and 2), including assessment of the following:
 - Varicella: Lesions that are simultaneously in all stages of development — from vesicles on a red base, to umbilicated pustules, to crusted lesions.
 - Herpes zoster: Unilateral (on one side), dermatomal distribution of a painful vesicular rash.

Figure 1. Varicella rash in a person with a light complexion

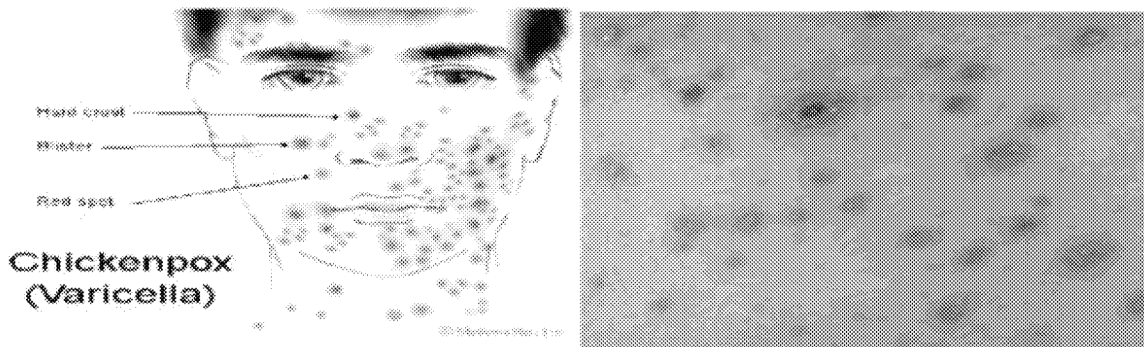
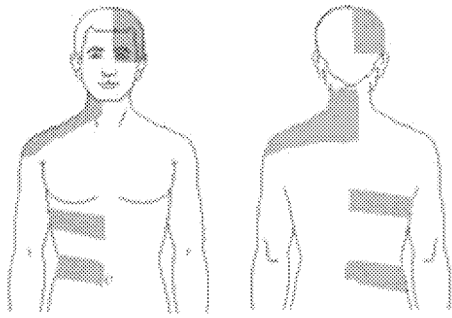


Figure 2. Common presentation of herpes zoster



Most commonly, the rash occurs in a single stripe around either the left or right side of the body. In other occurrences, the rash occurs on one side of the face. In rare occurrences, the rash may be more widespread and look similar to a varicella rash.

- History of exposure to varicella or herpes zoster within the past three weeks, in a susceptible contact.
- Laboratory tests are not routinely required but can be useful for confirmation of the diagnosis, particularly if the presentation is atypical. VZV testing includes the following methods:
 - Rapid VZV identification. Polymerase chain reaction (PCR) or direct fluorescent antibody (DFA) testing is widely available from commercial labs, with results available in several hours. R
 - Viral culture is rarely necessary, and less sensitive than rapid tests above. V
- Health staff should document varicella or herpes zoster diagnoses in the health record using appropriate ICD coding.

For general information about surveillance and reporting please reference 05-06-G-03 *Infectious Disease Public Health Actions Guide: Surveillance and Reporting* located in the [IHSC policy library](#).

III. Herpes Zoster Infection Prevention and Control

Infection control measures for herpes zoster are summarized in Table 1.

Table 1. Transmission-Based Precautions for Herpes Zoster

	Localized^a	Disseminated^b
Immunocompetent	<ul style="list-style-type: none"> • Standard precautions. • Cover lesions. <p>Until lesions are crusted over to form scabs. If lesions cannot be effectively covered, follow contact and airborne precautions.</p>	See immunocompromised.
Immunocompromised	<ul style="list-style-type: none"> • Standard precautions. • Contact precautions. • Airborne precautions. <p>Until disseminated shingles is ruled out, then standard precautions until lesions are crusted over to form scabs.</p>	<ul style="list-style-type: none"> • Standard precautions. • Contact precautions. • Airborne precautions. <p>Until lesions are crusted over to form scabs.</p>

^a Localized herpes zoster has the appearance of lesions in primary or adjacent dermatomes.

^b Disseminated herpes zoster has the appearance of lesions outside the primary or adjacent dermatomes.

IV. Varicella Infection Prevention and Control

A. Family Residential Centers

Immunization

Residents arriving at FRCs with active varicella, including residents who are pre-symptomatic, may continually introduce varicella into the family residential center (FRC) population. This presents a risk of transmission. Offering pre- and post-exposure vaccination with education should be the primary strategies for controlling transmission and managing varicella transmission.

- Vaccination is the primary strategy for mitigating varicella transmission in

FRCs. Refer to IHSC Directive 06-05 *Pediatric Immunizations* and OM 15-013 *IHSC Immunization Protocol for ICE Family Residential Centers* for guidance on pediatric and adult immunization schedules located in the IHSC policy library.

Transmission-Based Precautions

- When active varicella is suspected or confirmed, health care personnel must institute airborne (if available) and contact precautions following the 2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings.
- Health staff should don appropriate personal protective equipment for contact with a resident with active varicella or exposed contacts without immunity still within the incubation period; see also the *05-02-G-02 Occupational Health Guide: Personal Protective Equipment Program* and the *05-02-G-01 Occupational Health Guide: Bloodborne Pathogens and Other Potentially Infectious Materials* located in the IHSC policy library.
- The HSA or designee must adjust work schedules and assignments for susceptible or vulnerable staff members that would be at high risk for complications if exposed to and infected with varicella, including pregnant women and individuals with a weakened immune system due to health conditions or therapies.
- Health care personnel must place a surgical mask on the ill resident when in close proximity to others.
- Health care personnel must move the ill residents to a room or area that minimizes contact with other residents, especially non-family members that may not have had previous exposure. This may be an airborne infection isolation (AII) room, if available, or another room with restricted contact to other residents. Transfer to a community hospital may be considered if medically necessary.
- Parents may be placed in a room with an ill child, and children may be placed in a room with an ill parent if the room can accommodate co-habitation and the non- ill family member is not at high risk for complications.
- Health staff must implement standard cleaning and disinfection guidelines. See the Healthcare Infection Control Practices Advisory Committee (HICPAC) Guideline for Disinfection and Sterilization in Healthcare Facilities, 2008.
- It is recommended that residents with varicella not be housed with any immunocompromised persons.

Management of Exposed Contacts

- With open movement in FRCs, residents exposed to varicella, but who are not ill, should not be housed separately.
- IHSC staff should seek consultation by the Regional Clinical Director, IHSC Infectious Disease Consultant, and/or Infectious Disease APP for post-exposure management of identified residents at high risk for complications (i.e., pregnant females, infants, and immunocompromised residents).
- Health staff must remain vigilant for additional residents potentially developing varicella following possible exposures or among recently arrived residents.
- If exposed, non-immune residents must be released or removed, health staff should implement the following prior to release or removal:
 - Educate the resident on their exposure and instruct him or her to seek medical attention if he or she develops symptoms.
 - Give the documentation of relevant medical information, including test results for VZV immunity and documentation of vaccination, if administered.

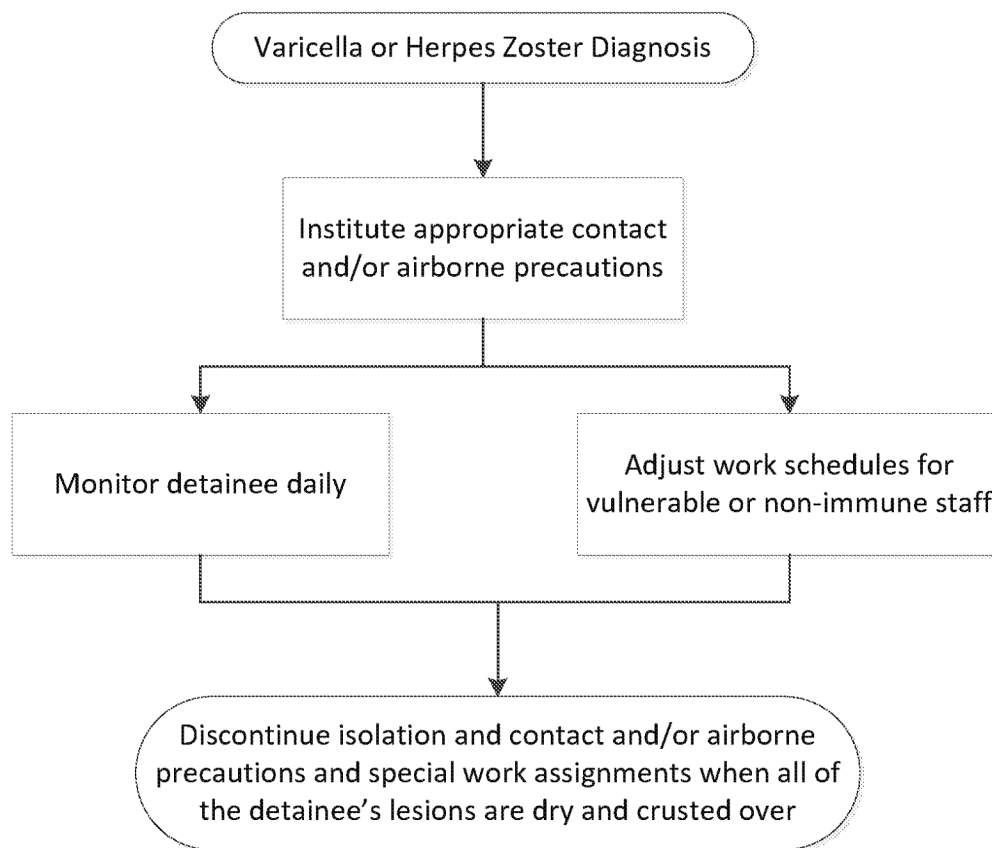
B. Adult Detention Facilities

Transmission-Based Precautions

- When active varicella is suspected or confirmed, health care personnel must institute airborne (if available) and contact precautions following the 2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Health Care Settings. See also Figure 3.
- Health staff should don appropriate personal protective equipment for contact with a detainee with active varicella or exposed contacts without immunity still within the incubation period; see also the 05-02-G-02 *IHSC Occupational Health Guide: Personal Protective Equipment Program* and the 05-02-G-01 *IHSC Occupational Health Guide: Bloodborne Pathogens and Other Potentially Infectious Materials* located in the IHSC policy library.
- The HSA or designee must adjust work schedules and assignments for susceptible or vulnerable staff members that would be at high risk for complications if exposed to and infected with varicella, including pregnant women and individuals with a weakened immune system due to health conditions or therapies.
- Health care personnel must place a surgical mask on the ill detainee when in close proximity to others.

- Health care personnel must move the ill detainees to a room or area that minimizes contact with other detainees. This may be an All room, if available, or another room with restricted contact to other detainees. Transfer to a community hospital may be considered if medically necessary.
- Health staff must implement standard cleaning and disinfection guidelines (See the HICPAC Guideline for Disinfection and Sterilization in Healthcare Facilities, 2008.)
- It is recommended that detainees with varicella not be housed with any immunocompromised persons.

Figure 3. Varicella and Herpes Zoster Infection Control Measures



Management of Exposed Contacts

A medical provider is responsible for the overall management of susceptible contacts. Health staff should identify detainees that may have had a significant exposure to a detainee with varicella or herpes zoster. Table 2 provides guidance on establishing significant exposures.

Table 2. Establishing Significant Exposure During the Infectious Period

Disease Exposure	Significant Exposure
Varicella	At least one-hour exposure, including any of the following: <ul style="list-style-type: none"> • Contact with nasopharyngeal secretion or lesions, or • Face-to-face interaction, or • Sharing indoor airspace* during the infectious period
Uncomplicated herpes zoster	Direct contact with lesions or secretions
Disseminated herpes zoster	At least one of the following: <ul style="list-style-type: none"> • Contact with lesions or secretions, or • Sharing indoor airspace*
Disseminated or localized herpes zoster in an immunocompromised person	At least one of the following: <ul style="list-style-type: none"> • Contact with lesions or secretions, or • Sharing indoor airspace*

*Sharing indoor airspace refers to being within three feet, such as in the same 2-4 bed ward, or in an adjacent bed in a large ward

- For purposes of recommending cohorting with restricted movement, health care staff may consider a detainee’s self-report during the individual health assessment (i.e., prior to exposure) of having a positive history of varicella as a predictive indicator of presumptive immunity if the detainee is healthy, not immunocompromised, does not have HIV, and is not pregnant. History of varicella self-reported during the individual health assessment should be documented in the detainee’s medical record. A detainee self-report of unknown history or of no history of varicella is not similarly predictive of positive or negative presumptive immunity.
- Health care personnel may consider documented immune status of contacts among detainees with a significant exposure. Evidence of presumptive immunity to VZV includes the following:
 - Documentation of varicella or herpes zoster vaccination
 - Documentation of varicella vaccination includes 2 doses of vaccine

- Documentation of herpes zoster vaccination includes 1 dose at age 60 or older
 - Laboratory evidence suggestive of immunity (VZV IgG positive)
 - Diagnosis or documented history of varicella disease by a healthcare provider (note: rarely a person can get varicella disease more than once).
 - Diagnosis or documented history of herpes zoster by a healthcare provider (note: rarely a person can have a second or a third episode of herpes zoster).
- If documentation of immunity is not available, or if the detainee does not self-report a positive history of varicella, a medical provider should order serologic titers (Varicella IgG) within 48 hours of exposure for exposed contacts without documented immunity to varicella.
 - Exposed detainees with a positive titer (Varicella IgG) suggestive of immunity can be released from cohorting with restricted movement.
 - It is not recommended to perform serologic titers (Varicella IgG) after vaccination, even if secondary exposures occur.
- A medical provider should evaluate exposed detainees that are immune compromised and/or pregnant with or without a history of varicella or herpes zoster as soon as possible after identification, preferably within 48 hours.
 - Exposed, immunocompromised or pregnant detainees should be housed separately from other exposed, cohorted detainees if possible.
- A medical provider should order isolation of detainees with clinical signs or symptoms.
- All health assessments and laboratory testing results for exposed detainees must be documented in the health record.

Observation

- Health care personnel must perform daily visual inspections on all exposed detainees to identify signs or symptoms of active varicella for 21 days from the time of latest exposure.
- Health care personnel must isolate detainees with clinical signs or symptoms of active varicella.

Cohorting with Restricted Movement

For detainees without reliable documentation suggesting immunity who are directly exposed to a person with active varicella while contagious, the HSA or designee should recommend the following to law enforcement and custody staff:

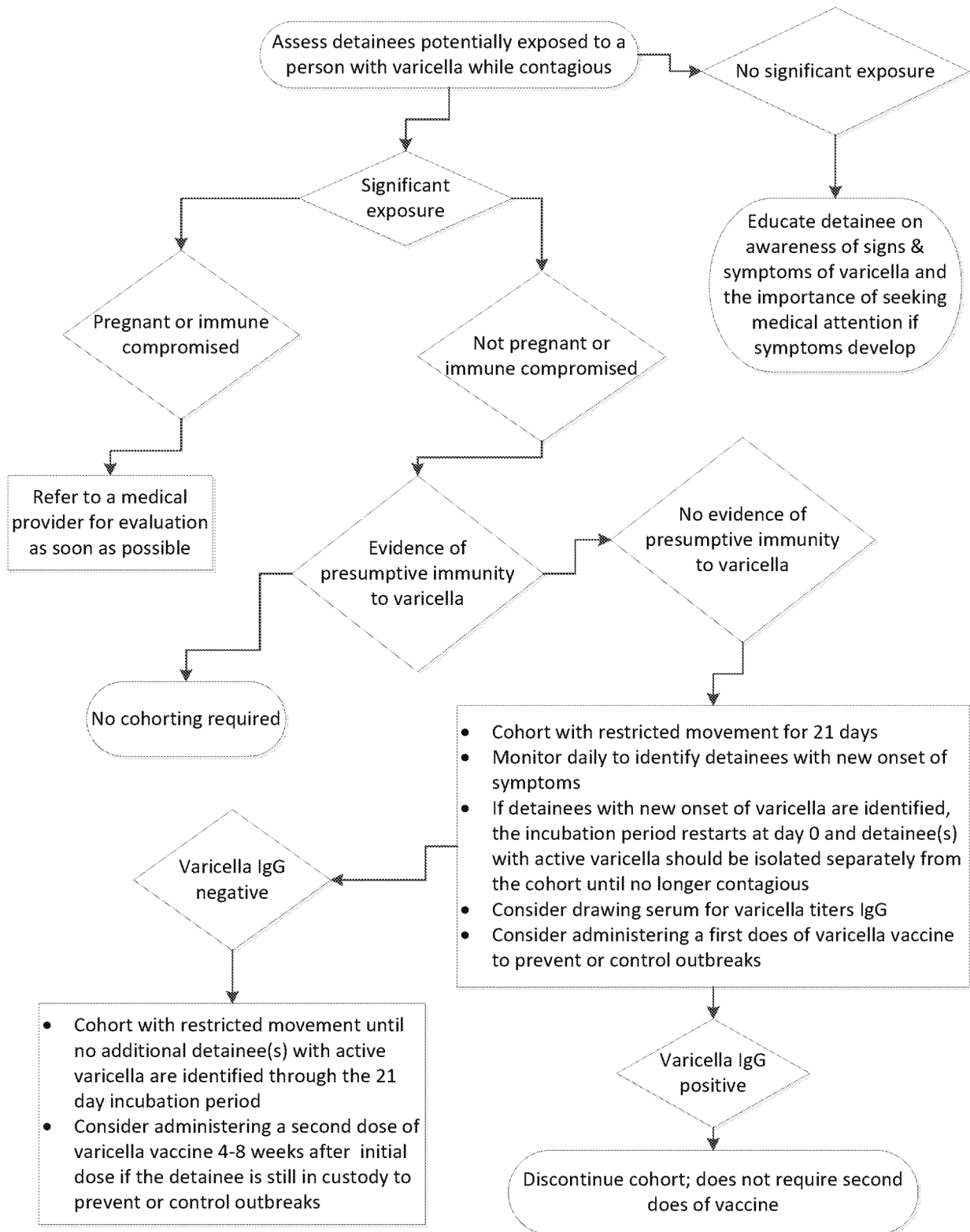
- Maintain social distancing to the extent possible to control the spread of infectious diseases of public health significance.
- Implement cohorting (housing together as a group) with restricted movement for 21 days from the latest exposure to varicella, unless release or removal is unavoidable (see 05-06-G-02 *IHSC Infectious Disease Public Health Actions Guide: Isolation and Management of Detainees Exposed to Infectious Organisms*).
 - If an additional person(s) with varicella disease is identified in the cohorted group, the 21-day period of restricted movement begins again, with the date of latest exposure being day zero and continues until there is a full incubation period without any new disease.
- IHSC does not recommend cohorting or restricted movement for detainees exposed to an asymptomatic person who was exposed to a person with contagious varicella.
- The FHPM or IPO should document cohorted units on the Cohorted Units Weekly Update tracking tool on the PHSP Unit SharePoing page.

Documentation upon release or removal

If asymptomatic, exposed, non-immune detainees must be released or removed, health staff should implement the following prior to release or removal:

- Educate the detainee on their exposure and instruct him or her to seek medical attention if he or she develops symptoms.
- Give the documentation of relevant medical information, including test results for VZV immunity and documentation of vaccination, if administered.

Figure 4. Varicella Exposure Management in Adult Detention Facilities



V. Varicella Contact Investigations

A varicella contact investigation involves identifying, evaluating, and managing all persons (contacts) who have sustained a significant exposure to a person with varicella. A contact investigation may be required to help control transmission of varicella within the facility and between facilities. Contact investigations are not usually required for exposures to uncomplicated, localized herpes zoster; contact investigations may be recommended for exposures to disseminated herpes zoster or exposures to localized herpes zoster among immunocompromised detainees. Health staff should report contact investigations to the PHSP Unit staff.

For more information refer to 05-06-G-01 *IHSC Infectious Disease Public Health Actions Guide: Contact and Outbreak Investigations* and Strategies for the Control and Investigation of Varicella Outbreaks Manual, 2008.

A. Purpose

Contact investigations are performed to:

- Halt transmission
- Identify additional people with varicella disease
- Initiate appropriate medical intervention
- Prevent the development of varicella disease among recently infected contacts

B. Initiating Contact Investigations

Health staff should initiate a contact investigation as soon as a detainee is diagnosed with varicella. This allows for prompt identification of significant close contacts to prevent transmission. Health staff should document relevant laboratory, treatment, and risk factor information for exposed detainees using a contact investigation tracking tool and as appropriate, in the health record.

C. Education

Health care personnel should educate exposed contacts about varicella and herpes zoster, and inform them of the voluntary and confidential nature of a contact investigation.

Health care personnel educate staff about the potential for an outbreak or the current outbreak and encourage everyone to maintain a high index of suspicion for varicella when providing medical care and evaluation.

D. Collaborations

Health staff should collaborate with local or state health departments to conduct contact investigations, if needed. Health departments have expertise in conducting contact investigations and may be used as a resource for determining the scope of the contact investigation and management of exposed contacts.

Obtain information from the ill detainee(s) regarding places where they stayed during the infectious period prior to arrival at the facility so that the health department or other entities can investigate those potential exposures.

E. Surveillance

Health staff should maintain a high index of suspicion for varicella in the facility to identify additional people with varicella, detect an outbreak, and implement control measures in a timely manner. Health staff must notify the PHSP Unit of known or suspected transmission within the facility. Health staff must also notify the health department in accordance with local and state regulations.

VI. Varicella Outbreak Investigation

Prompt identification, investigation, and control of varicella outbreaks is important. See 05-06-G-01 *IHSC Infectious Disease Public Health Actions Guide: Contact and Outbreak Investigations* and Strategies for the Control and Investigation of Varicella Outbreaks Manual, 2008 for additional guidance.

A. Steps for management of varicella outbreaks

Steps for managing possible varicella outbreaks might occur simultaneously or in a different order than listed below.

1. Confirm the occurrence of an outbreak

- The occurrence of ≥ 5 people with varicella with an epidemiologic link defines an outbreak. The following guidance is used to establish epidemiologic links:
 - A known epidemiologic link is established as follows:
 - One of the ill detainees named the other as a contact during one of the ill detainee's infectious period, or
 - The two detainees were at the same place at the same time during one of the ill detainee's infectious periods.

- A possible epidemiologic link is established as follows:
 - The two ill detainees spent time at the same place around the same time, but the timing was not definite enough to meet the criteria for a known epidemiologic link, or
 - The two ill detainees were in the same geographic area around the same time and shared social or behavioral traits that increased the chances of transmission.
 - Health staff must notify the PHSP Unit staff.
 - Health staff must report to health departments in accordance with local, state, and federal laws.
2. Identify people with varicella
- Laboratory confirmation is recommended for at least three people with varicella disease to confirm an outbreak.
3. Enhance control measures
- Health staff must implement control measures for case management, exposure management, and contact investigations.
 - Health staff should consider enhancing control measures if there is an increase in the number of detainees with varicella in the facility in the absence of an epidemiologic link.
 - Health staff might consider enhanced screening for varicella at intake.
 - A medical provider might consider vaccination to prevent or control outbreaks.
 - A medical provider should consider vaccinating persons without evidence of immunity to varicella if they do not have a contraindication to vaccination, if vaccine is available, and in consultation with the Clinical Director, Regional Clinical Director, or Deputy Medical Director.
 - Medical providers refer to CDC guidelines regarding the safe administration of the vaccine, Varicella Vaccination Information for Healthcare Professionals.
 - Medical providers must be familiar with potential side effects and adverse reactions associated with the varicella vaccine.

- Health care personnel must provide the Vaccine Information Statement (VIS) and appropriate detainee education regarding the vaccine schedule and the vaccine's associated benefits and risks.
 - VISs in multiple languages are available at Vaccine Information Statements (VIS)
- For more information on varicella vaccination and recommendations for use, health care personnel should refer to the Prevention of Varicella: Recommendations of the Advisory Committee on Immunization Practices
- The CDC recommends VariZIG, the only varicella zoster immune globulin preparation available in the United States for postexposure prophylaxis of varicella, for high risk, susceptible contacts within 10 days of exposure. When VariZIG is administered, the incubation period extends to 28 days. Facilities may procure VariZIG directly from the manufacturer: <http://www.ffenterprises.com/>. See also FDA Approval of an Extended Period for Administering VariZIG for Postexposure Prophylaxis of Varicella.
- Health care personnel offer a first dose of varicella vaccine to eligible, non-high risk, susceptible contacts within five days of exposure if available or as recommended by the health department. For adult detainees, health care personnel offer second dose of vaccine 4 weeks after the first dose.

4. Enhance surveillance

- Health staff should implement surveillance for two incubation periods (42 days) after rash onset of the last identified person with varicella.

5. Documentation and reporting

- Health staff should use a tracking tool to document detainees identified with varicella associated with an outbreak.
- Health staff must notify the PHSP Unit of known or suspected transmission within the facility.
- Health staff must also notify the health department in accordance with local and state regulations.
- Health staff document and summarize outbreak findings to inform efforts to prevent and control future outbreaks.
- The HSA or designee should evaluate the outbreak management process and develop plan to prevent future outbreaks.

VII. Workforce Health Considerations

Health staff without verified immunity that have had significant, unprotected exposure are recommended to see their personal healthcare provider for evaluation and management; see also *IHSC Directive 05-02, Occupational Health*, and the *05-02-G-04 Occupational Health Guide: Workforce Health* located in the [IHSC policy library](#).

VIII. Program Monitoring

PHSP Unit staff monitor diagnoses of varicella and herpes zoster using the electronic health record reporting tools. PHSP Unit staff will periodically request information from health staff at IHSC-staffed medical clinics for program monitoring.

IX. Training and Education

A. Health Staff

The HSA or designee must ensure that orientation and annual training that includes the public health actions for the management of varicella and herpes zoster is implemented and documented in accordance with IHSC Directive 01-04 Medical Education and Development.

B. Detainees

Health care personnel must educate detainees diagnosed with varicella or herpes zoster about transmission, risk factors, infection prevention and control, and continuity of care.

X. Privacy and Recordkeeping

Health staff should refer to IHSC Directive 05-06, *Infectious Disease Public Health Actions* for guidance on complying with privacy and recordkeeping procedures.

XI. References and Resources

1. Centers for Disease Control and Prevention, National Center for Immunization and Respiratory Diseases. Lopez AS, Marin M. Strategies for the Control and Investigation of Varicella Outbreaks, 2008.
2. Centers for Disease Control and Prevention. The Pink Book: Course Textbook – 13th Edition, Chapter 21 (Varicella). Atkinson W, Wolfe S, Hamborsky J, eds. Epidemiology and Prevention of Vaccine-Preventable Diseases: Varicella. 2015.

3. Centers for Disease Control and Prevention. Preventing Varicella Zoster Virus (VZV) Transmission from Zoster in Healthcare Settings.
4. Healthcare Infection Control Practices Advisory Committee. 2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings.
5. Healthcare Infection Control Practices Advisory Committee. Guideline for Disinfection and Sterilization in Healthcare Facilities, 2008.
6. Review of the Use of Segregation for ICE Detainees, Policy No. 11065.1, September 4, 2013.