GEORGIA DEPARTMENT OF PUBLIC HEALTH

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Health Update: Varicella

Action Steps:

Local health departments: *Please forward to hospitals and clinics in your jurisdiction*.
Hospitals and clinics: *Please distribute to infectious disease physicians, infection preventionists, emergency department physicians, intensive care physicians, neurologists, radiologists, primary care providers, and pediatricians.*

Summary

The Council of State and Territorial Epidemiologists (CSTE) has updated the standardized surveillance case definition for varicella, effective January 1, 2024. The epidemiology and clinical presentation of varicella have changed since the introduction of routine childhood vaccination against varicella. Clinical diagnosis is especially challenging in cases with mild rashes, few lesions, or no vesicles. Laboratory confirmation of varicella is necessary to understand the true burden of disease and is now routinely recommended. Varicella is reportable in Georgia, and suspect cases should be reported to the Georgia Department of Public Health (DPH).

Background

Varicella is a highly infectious febrile rash illness resulting from infection with the varicella-zoster virus (VZV). Varicella is generally a mild disease, but severe complications can occur in any age group. After primary infection, VZV remains in the body as a latent infection and can later reactivate to cause herpes zoster (shingles).

The introduction of varicella vaccination has led to a sharp decline in varicella cases. Breakthrough varicella (varicella occurring in a vaccinated individual) is usually modified, with fewer skin lesions (<50) that are mostly maculopapular and has a milder presentation. Breakthrough cases represent approximately half of all varicella cases reported to the Centers for Disease Control and Prevention (CDC) through national surveillance in 2019, as well as accounted for approximately half of all varicella cases reported to DPH in 2023.

Given the decline in varicella cases and the modified clinical presentation of breakthrough varicella, clinical diagnosis of varicella can be difficult. Clinical diagnosis is especially challenging in cases with mild rashes, few lesions, or no vesicles. Distinguishing varicella from other rash illnesses or disseminated herpes zoster can also be difficult. Therefore, **laboratory confirmation of varicella is increasingly necessary to understand the true burden of disease and is now routinely recommended**.

Varicella surveillance is necessary to understand changes in disease epidemiology, and to detect and control outbreaks.

Case Definition

Confirmed:
• Meets clinical evidence[1] **AND** confirmatory laboratory evidence[2],
OR
• Meets clinical evidence with a generalized rash with vesicles **AND** confirmatory epidemiologic linkage evidence.

Probable:
• Meets clinical evidence with a generalized rash with vesicles,
OR
• Meets clinical evidence with a generalized rash without vesicles **AND**:
- Confirmatory or presumptive epidemiologic linkage evidence, **OR**
- Supportive laboratory evidence.

OR
• Meets healthcare record criteria **AND**:
- Confirmatory or presumptive epidemiologic linkage evidence, **OR**
- Confirmatory or supportive laboratory evidence.

Reporting

Varicella is a notifiable disease, and suspect cases should be reported to DPH (O.C.G.A. §31-12-2) within 7 days. Call your local District Health Office or the DPH Acute Disease Epidemiology Section at 404-657-2588 during business hours Monday through Friday, or 1-866-PUB-HLTH (1-866-782-4584) after-hours on evenings and weekends.

Laboratory Testing

- Preferred specimens are vesicular swabs and scabs from crusted lesions (scraping of maculopapular lesions can also be used for testing)
- Preferred diagnostic testing method for varicella is reverse transcriptase-polymerase chain reaction testing (RT-PCR)
- Serologic testing is not recommended for varicella confirmation:
  - VZV IgG antibody tests of serum collected at or before the time of rash illness onset could be helpful in distinguishing varicella from disseminated herpes zoster.

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[1] In the absence of a more likely alternative diagnosis:
• An acute illness with a generalized rash with vesicles (maculopapulovesicular rash), OR
• An acute illness with a generalized rash without vesicles (maculopapular rash)
[2] Laboratory Criteria for Reporting
• Positive polymerase chain reaction (PCR) for varicella-zoster virus (VZV) DNA OR
• Positive direct fluorescent antibody (DFA) for VZV DNA, OR
• Isolation of VZV, OR
• Significant rise (i.e., at least a 4-fold rise or seroconversion) in paired acute and convalescent serum VZV immunoglobulin G (IgG) antibody

- VZV IgM antibody tests have poor specificity. IgM antibodies are transiently produced during primary infection, reinfection, or reactivation from latency. Positive IgM result in the presence of varicella-like symptoms can indicate a likely acute VZV infection; however, a positive IgM result in the absence of clinical disease is not considered indicative of active varicella.

It is also important to note that when assessing immunity to varicella, VZV IgG antibody testing should be used (and not VZV IgM testing).

VZV testing is available at commercial laboratories. If testing cannot be done at a commercial laboratory, VZV testing can be completed through DPH.
Detailed specimen collection and shipping guidelines are available at the DPH varicella website, and DPH epidemiologists will facilitate testing at the time of notification.
To coordinate specimen collection and laboratory submission, call your District Health Office or the DPH Acute Disease Epidemiology Section at 404-657-2588 during business hours Monday through Friday, or 1-866-PUB-HLTH (1-866-782-4584) afterhours on evenings and weekends. **Please do not send specimens directly to the Georgia Public Health Laboratory (GPHL).**

Vaccination

Two doses of the varicella vaccine are more than 90% effective at preventing the disease. Two doses of chickenpox vaccine are recommended for children, adolescents, and adults who have never had chickenpox and were never vaccinated. Vaccination is recommended for children at 12 to 15 months of age with a second dose at 4 to 6 years of age. Documentation of two varicella vaccinations or proof of immunity to varicella is required to attend school in Georgia.

Actions Requested of Healthcare Providers:

- Obtain appropriate clinical specimens. Laboratory testing for varicella is recommended for confirmation. (see Laboratory Testing section above)
- Report suspected cases of varicella by calling your local District Health Office or the DPH Acute Disease Epidemiology Section at 404-657-2588 during business hours Monday through Friday, or 1-866-PUB-HLTH (1-866-782-4584) after-hours on evenings and weekends.
- Cases should isolate until all lesions have crusted. If lesions do not crust, then isolation should end when no new lesions have appeared for 24 hours.
- Ensure patients are up to date on their vaccinations according to CDC's recommended schedules for children and adults.

Georgia DPH Contact Information
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