
SUBJECT: Chickenpox (Varicella) Testing
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To: Health Care Providers
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Whenever possible, please order testing for chickenpox (varicella) in patients with compatible symptoms, even if it is not required to make a clinical diagnosis.

Wellington-Dufferin-Guelph Public Health has noticed an increase in physician-reported chickenpox based on clinical diagnosis (i.e., laboratory testing not performed). Chickenpox (varicella) is a highly contagious disease that spreads easily from person to person through the air and through direct contact with lesions. Chickenpox was a very common childhood illness, though its burden has decreased since the introduction of varicella vaccine.

Laboratory testing is not required to diagnose chickenpox. However, clinical diagnosis is less reliable than it once was given declining incidence rates.¹ The additional certainty that laboratory results provide assist with public health management, such as immunization of a patient's close contacts or follow up with a patient's school or child care. **When making a clinical diagnosis of chickenpox, please still consider ordering varicella testing to assist WDGPH with its follow up.**

Testing for Chickenpox (Varicella)

The preferred testing for varicella is a swab of the lesion fluid (or lesion) for viral PCR testing. Please use a UTM swab/kit (red top with pink fluid).

- For fluid-filled (vesicular) lesions: gently de-roof the lesion and then firmly swab the base.
- In the absence of fluid-filled lesions, pick the crusts of lesions that appear partially crusted over and put them into the transport medium.²
- If only maculopapular lesions are present, swab the base very firmly to ensure an adequate amount of skin cells are collected.²

Please refer to the [Public Health Ontario Laboratory](#) (PHOL) website for more information.

Clinical Features of Chickenpox (Varicella)

In unvaccinated individuals, [clinical manifestations of chickenpox](#) classically include a generalized, pruritic, erythematous vesicular rash that evolves from macules to papules to vesicles that then crust over.³ Lesions may appear in groups (crops) at different stages of development. Fever, chills, myalgia, and malaise typically accompany the rash.

In vaccinated individuals, “breakthrough” infections may occur, but the clinical manifestations are generally more muted. There may be fewer lesions and they may be predominantly maculopapular rather than vesicular.⁴ Fever may not be present, and the course of illness is generally shorter and milder.

Infection Prevention and Control (IPAC) Considerations

Patients with suspected chickenpox should wear a well-fitting mask or respirator (if able) and be separated from other patients in a single room with the door closed. Schedule appointments at the end of the day and have immune health care professionals provide care. All staff should wear N95 masks and if providing direct care, additionally wear a gown and gloves. These airborne and contact precautions should be implemented in your medical setting.⁵

References:

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2. Alberta Health Services. PROVLAB. Sample Type and Collection guidelines for Herpes simplex Virus (HSV) and Varicella zoster Virus (VZV) Testing. Available at: <https://www.albertahealthservices.ca/assets/wf/plab/wf-provlab-guide-pl-hsv-vzv-sample-collection.pdf>
3. American Academy of Pediatrics (AAP). Red Book: 2021–2024 Report of the Committee on Infectious Diseases (32nd Edition). Varicella-Zoster Infections p.831-843.
4. Centers for Disease Control and Prevention (CDC). Chickenpox (Varicella). For Healthcare professionals. Available at: <https://www.cdc.gov/chickenpox/hcp/index.html>
5. Ontario Agency for Health Protection and Promotion (Public Health Ontario), Provincial Infectious Diseases Advisory Committee. [Infection Prevention and Control for Clinical Office Practice](#). 1st Revision. Toronto, ON: Queen’s Printer for Ontario; April 2015.

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