

## Specimen Collection Protocols for Varicella-Zoster Virus Testing

For video instructions on Varicella specimen collection from CDC, please follow this link: <http://www.cdc.gov/vaccines/vpd-vac/varicella/surv-collect-virus-spec.htm>

**PCR.** To make a laboratory diagnosis of VZV infection using polymerase chain reaction (PCR) method, the presence of the virus DNA should be demonstrated in tissues, vesicular fluid or crusts from lesions. We recommend the following methods for the collection of specimens for PCR testing; collection on glass slides tends to provide a better specimen, particularly in the case of mild disease as commonly occurs with breakthrough infection in vaccines. As noted below, scabs generally contain sufficient viral DNA for amplification and as such are also useful specimens.

### *Polyester Swab Method:*

1. A sterile needle should be used to unroof the top of the vesicle.
2. A sterile swab is then used to vigorously swab the base of the lesion, applying enough pressure to collect epithelial cells without causing bleeding, and collect vesicular fluid (collection of infected epithelial cells in the base of the lesion is important because they usually contain a significant amount of virus). We recommend swabs made from synthetic fibers, such as polyester (it is difficult to elute virus from cotton swabs and wooden sticks usually absorb extraction buffer and inhibit PCR).
3. Place swab into empty tube directly. **DO NOT PLACE TRANSPORT MEDIUM INTO THE TUBE; THE SPECIMEN MUST BE KEPT DRY.** Avoid contamination by placing each swab directly into individual tubes and labeled (the tubes must be resistant to breakage).

### *Glass Slide Method:*

1. Rake the edge of the slide over the selected lesion to disrupt it.
2. Press the flat surface of the slide against the opened lesion, rocking it back and forth several times (with young children, it may be less stressful if you ask them to help with this).
3. Air-dry the specimen.
4. Ship in a container that protects against breakage. Cardboard mailers are the only container we've found that permit glass slides to pass through the mail unscathed. Plastic slide mailers have never worked well.

### *Crusts (scabs)*

Crusts are also suitable for PCR detection of VZV DNA. Scabs should be at least 2 mm in size. Crusts can be transferred directly into breakage-resistant snap-cap or screw top tubes.

*Specimen Requirements/Handling and Shipment*

Document specimen description and source. Use sealed container following diagnostic sample shipping regulations. Dried specimens for PCR can be stored at ambient temperature indefinitely, although we prefer to receive specimens as soon after collection as possible. Do not refrigerate or freeze dry specimens intended for testing by PCR. Specimens can be mailed by regular post unless a result is urgently required.

In rare cases involving severe complications or death, other types of specimens (e.g., biopsied tissue, cerebrospinal fluid, peripheral blood, etc.) may be sent to the National VZV Laboratory for PCR testing.