



Messenger

Novel Coronavirus Laboratory Biosafety

As this issue of the Messenger was drafted, the Centers for Disease Control and Prevention (CDC) have not as yet provided testing reagents to the County of San Luis Obispo Public Health Laboratory (SLOPHL) to detect the novel corona virus (now called COVID-19 by the World Health Organization, WHO). During the distribution of Reverse Transcription Polymerase Chain Reaction (RT-PCR) kits and the subsequent verification process a problem was identified with one probe primer set. CDC scientists devised replacement reagents and will distribute the new formulation to public health Response Network labs this week. In the meantime, the CDC remains the only lab performing the test.

However, among the many guidance documents posted by the CDC is the interim laboratory biosafety guidelines :

<https://www.cdc.gov/coronavirus/2019-nCoV/lab/lab-biosafety-guidelines.html>

Some of the most important points regarding laboratory biosafety are reproduced here. Please bookmark this webpage as guidance is subject to change as more is learned about the novel coronavirus.

The following activities may be performed in BSL-2 facilities using standard BSL-2 work practices:

- **Pathologic examination and processing of formalin-fixed or otherwise inactivated tissues**
- **Molecular analysis of extracted nucleic acid preparations**
- **Electron microscopic studies with glutaraldehyde-fixed grids**
- **Routine examination of bacterial and mycotic cultures**
- **Routine staining and microscopic analysis of fixed smears**
- **Final packaging of specimens for transport to diagnostic laboratories for additional testing; specimens should already be in a sealed, decontaminated primary container**
- **Inactivated specimens (e.g., specimens in nucleic acid extraction buffer)**

The following activities involving manipulation of potentially infected specimens should be, at a minimum, performed as above and in a certified Class II BSC in a BSL-2 facility. Site- and activity-specific risk assessments should be performed to determine if enhanced biosafety precautions are warranted based on situational needs (e.g. high testing volumes):

- **Aliquoting and/or diluting specimens**
- **Inoculating bacterial or mycological culture media**
- **Performing diagnostic tests that do not involve propagation of viral agents in vitro or in vivo**
- **Nucleic acid extraction procedures involving potentially infected specimens**
- **Preparation and chemical- or heat-fixing of smears for microscopic analysis**

Questions?

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