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SARS CoV2 NAT

The diagnostic test of choice for acute symptomatic COVID-19 disease is nucleic acid testing (NAT) performed on an appropriately collected upper or lower respiratory tract sample.

It is performed using either in-house real-time polymerase chain reaction (PCR) testing which is used across the world to diagnose COVID 19 infection.

The assays used are extremely accurate with a high sensitivity to detect the virus and a high specificity for the virus. The different assays and platforms used across NSWHP have specific indicators of sensitivity and specificity and these are validated by NSW Health Pathology as required by the Australian Standards of NPAAC (National Pathology Accreditation Advisory Council).

PCR testing is regarded as the current standard for diagnosis of COVID-19 infection (see the Australian Government Department of Health's [Therapeutic Goods Administration website](#)) and Public Health Laboratory Network (PHLN) data.

Generally, the number of cycles run by the PCR systems is 45, however this can vary depending on the machine or assay used. Generally the cut-off or threshold is set at a Ct of 40. However as mentioned above this is set by the manufacturer's instructions as well as the validation processes required by all Australian laboratories.