






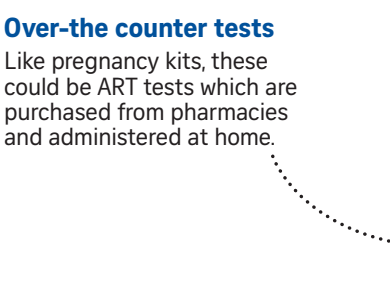




Testing for the virus

A variety of Covid-19 tests – with the latest being over-the-counter test kits – are now under Singapore's belt, allowing fast, extensive, easy and accurate tests to be conducted as the nation raises its game to fight the virus. **Cheryl Tan and Clara Chong** report.

 Test and brief description	 Cost	 Time taken	 Ease of use	 Accuracy	 Other details
<p>Reverse transcription polymerase chain reaction test (RT-PCR)</p> <ul style="list-style-type: none"> Swab test from the nose or back of throat, or from sputum. Looks for genetic sequences of Covid-19. 	<ul style="list-style-type: none"> Over \$150 to \$200 for pre-departure testing. If you have been advised by your doctor to take a swab test, this will be free. 	<p>A few hours</p>	<p>Requires the use of specialised lab machines.</p>	<ul style="list-style-type: none"> Gold standard for testing. Sensitivity rate (ability to detect those who are positive): more than 93 per cent 	<ul style="list-style-type: none"> Very uncomfortable. An average of over 55,000 PCR and ART tests were carried out each day in the second half of May.
<p>Antigen rapid test (ART)</p> <ul style="list-style-type: none"> Some involve using a nasal swab from the lower part of the nose. Looks for proteins on the surface of the virus called antigens. 	<p>As low as \$10.</p>	<p>20 to 30 minutes</p>	<ul style="list-style-type: none"> Deployment is very flexible because it is a handheld device and can be done en masse with many people being swabbed at the same time. ARTs have been rolled out to almost all the public health preparedness clinics that are providing the "swab and send home" service and all polyclinics. To expand testing capacity, the Government is hoping to deploy them to private GPs as well. 	<ul style="list-style-type: none"> Not as accurate as PCR tests, but able to pick up infections early. Sensitivity rate: 82 per cent 	<ul style="list-style-type: none"> Those with acute respiratory symptoms are required to take an ART test on top of a PCR test to allow for faster detection of cases. Used heavily for pre-event testing.
					
<p>Breathalyser</p> <p>No swabbing; just blowing into a mouthpiece or cartridge.</p>	<p>Estimated to be around \$25.</p>	<p>1 minute</p>	<p>Involves some equipment.</p>	<p>Silver Factory Technology reported that its breathalyser has a sensitivity rate of over 95 per cent and specificity of more than 99 per cent when compared with PCR kits.</p>	<p>Used at the Causeway and the airport.</p>
					
<p>Over-the counter tests</p> <p>Like pregnancy kits, these could be ART tests which are purchased from pharmacies and administered at home.</p>	<p>Price to be confirmed.</p>	<p>ART usually takes 20 to 30 minutes</p>	<p>Ease of use to be confirmed.</p>	<p>ART tests typically have a sensitivity rate of 82 per cent.</p>	<ul style="list-style-type: none"> People who are worried about Covid-19 and wish to put their mind at ease, such as front-line workers who may wish to test themselves daily. Will be simple to use and not so uncomfortable.
<p>Wastewater testing (far right)</p> <ul style="list-style-type: none"> Detects the presence of the virus at a location. This can then be followed up with clinical tests. Frequency of sample collection varies from site to site and depends on the purpose of surveillance. 					<p>Locations islandwide that have had their wastewater surveyed include the four water reclamation plants, workers' dormitories, nursing homes and hostels.</p>
<p>Pooled testing</p> <ul style="list-style-type: none"> One PCR test on a group of suspected cases. If the pooled test yields a positive result, all the people in the group will be tested individually to fish out the Covid-19 case. 					<p>Usually conducted in dormitories to get a sense of the prevalence rate of Covid-19 there.</p>