

**Disclaimer:**  
This is to be used as a guide only. We make every effort to provide quality information, however we do not provide any guarantees, and assume no legal liability or responsibility for the accuracy, currency or completeness of the information.  
You should obtain advice relevant to your circumstances, from your state health department and health professional responsible for testing.

# *OnSite* COVID-19 Antigen Rapid Test

# COVID 19 Ag RAPID TEST

Rapid antigen testing is a tool to help detect COVID-19 in people without any symptoms of the virus. Rapid antigen tests have been used internationally and in some Australian industries for some time to test employees for COVID-19 with no symptoms. This is particularly important in the context of the Delta variant which The World Health Organization (WHO) has called “the fastest and fittest.”

Rapid tests aim to help to curb the pandemic by quickly identifying the most contagious people, who might otherwise unknowingly pass on the virus. There are currently 3 testing options to detect COVID which will be covered in more detail;

- Rapid Antigen Tests
- Rapid antibody tests
- PCR tests

There are several testing strategies which use rapid antigen tests. Evidence is demonstrating that serial antigen testing regularly during the week, will almost always identify COVID-19 during the infectious period, and thus significantly reduce disease transmission in the workplace.

## Key Points

- If you had the original coronavirus strain you would infect an average of 2.5 other people. If you have the Delta variant you would infect an average of 3.5 or 4 other people..
- Introducing antigen testing strategies in high consequence industries breaks the chain of transmission by staff who are asymptomatic

# WHO-TESTING OVERVIEW

What kind of COVID-19 tests are available? What are antigens and antibodies? What about the accuracy of these tests?



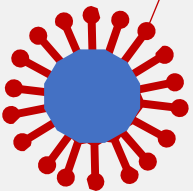
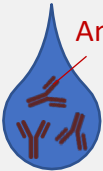
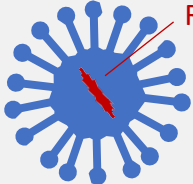
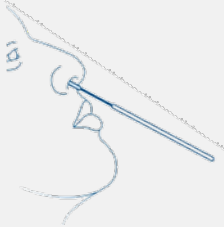

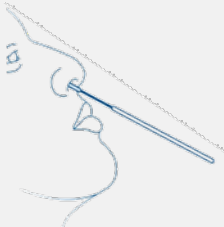


Anita – link [here](#)

5 mins duration

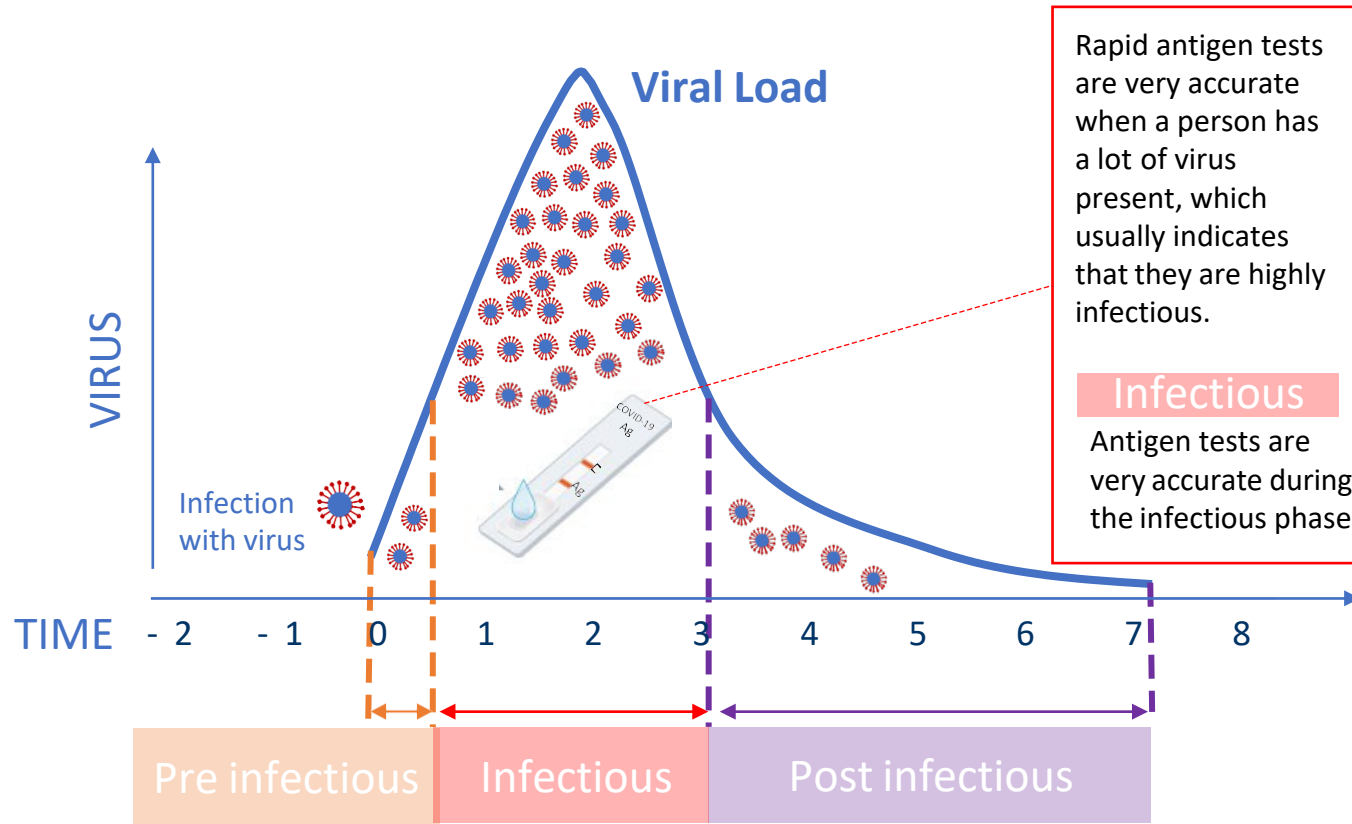


# COVID 19 TEST TYPES

<https://www.nature.com/articles/d41586-021-00332-4>

	Rapid Tests		Laboratory Based Tests
	Onsite Rapid Antigen Test	Antibody Rapid test	PCR – Nucleic Acid test
How the test works	 <p><b>Surface antigens</b> Antigen tests detect proteins in the surface of the virus. These proteins are consistent across the variations of concern like the Delta variant</p>	 <p><b>Antibodies</b> Detects antibodies that are produced against the virus by the immune system</p>	 <p><b>RNA</b> Detects the genetic material of the virus known as RNA</p>
How is the sample taken	 <p>Nasal swab, 3 cm into both nostrils – rotating the swab 2-3 times against the nasal wall.</p>	 <p>Small blood sample from a finger prick administered via a lancet blood sampler</p>	 <p>Nasopharyngeal swab by clinical staff, both nose and throat are swabbed</p>
How accurate is the test	Very accurate if the virus is present in high concentrations. May not detect very early infections.	Accurate in detecting if you have had the virus and have cleared it. This test does not detect active infection.	Very accurate regardless of how much virus is present and can detect early infection and detect virus for several weeks after a person has cleared the infection.
Time	15 mins 	15 mins 	24-72 hours
Who can do the test	Health professional or self-collected under the supervision of a health professional	Health professional	Health professional and lab technicians

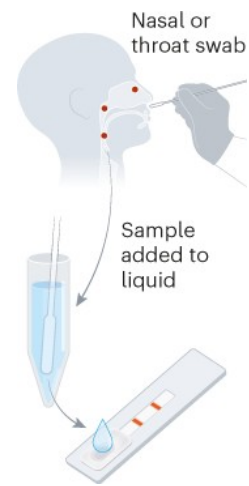
# COVID 19 Ag RAPID TEST



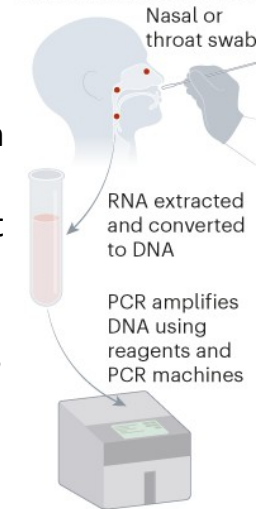
Rapid antigen tests are very accurate when a person has a lot of virus present, which usually indicates that they are highly infectious.

### Infectious

Antigen tests are very accurate during the infectious phase



PCR tests can detect small amounts of virus in the pre infectious, infectious and post infective phase because the PCR magnifies the virus in order to detect it.



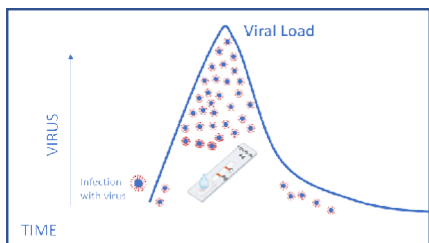
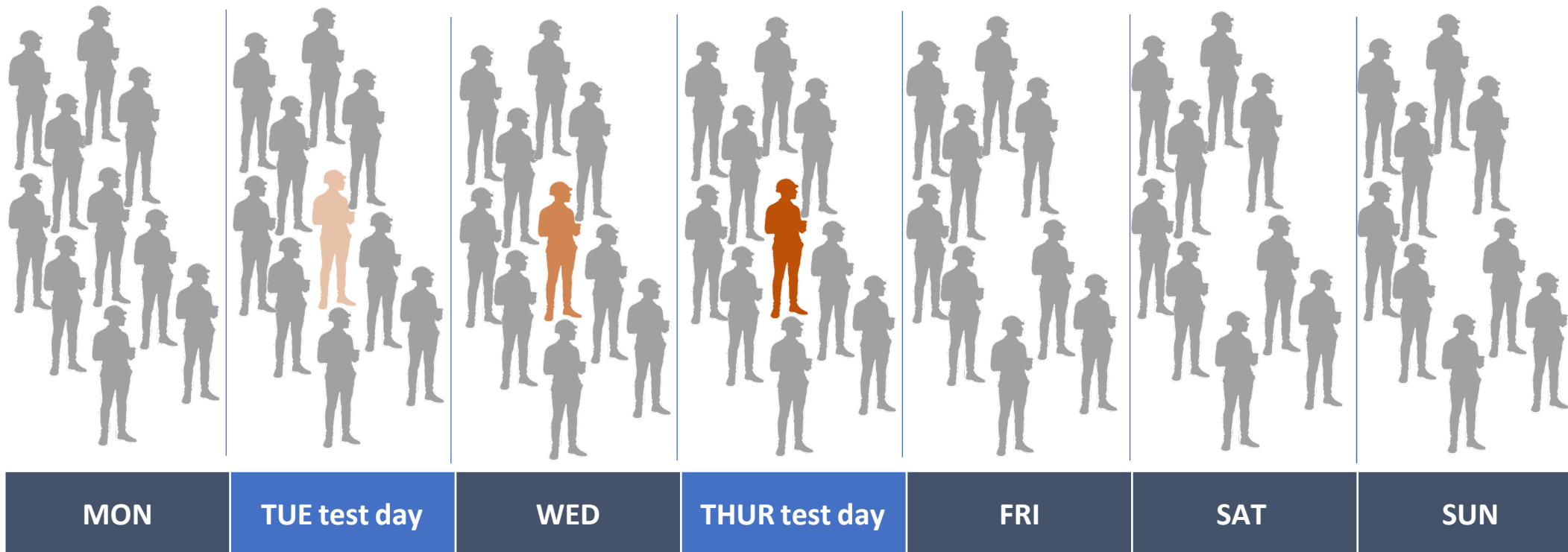
Pre infectious  
Infectious  
Post infectious

PCR tests can be used with great accuracy during any phase

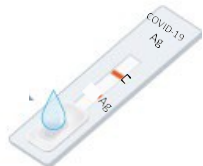
The *Onsite* Antigen rapid test is able to help rapidly identify people who have high levels of virus and subsequently those people who are most likely to be highly infectious to others. People who are at risk of transmitting the virus to others are going to have significant levels of viral particles, these particles is what the rapid antigen tests for. The *Onsite* rapid antigen test allows for early quarantine and isolation from the community, workplace or organisation to occur within 15 minutes of a positive result.

# SCREENING SENARIO

Rapid tests detect those who are most infectious but showing the least symptoms. Frequency should be based on disease prevalence in your geographical area. In the example below of a twice weekly screening scenario, a staff member who contracts the virus on Monday after work, will most likely test positive on the scheduled Thursday antigen test. This staff member would otherwise not be tested as they are asymptomatic.



Pre infectious



Staff member may test negative as not enough virus is present for the antigen test

Infectious



Staff member tests positive as significant virus is present and is isolated from the workforce

# COVID 19 Ag RAPID TEST

## How does the test work?

Essentially testing is a 3 step process if staff collect their own samples under the supervision of a health professional.

- 1 The test participant performs their own nasal swab, under the supervision of a trained health professional
- 2 The test participant puts the sample into the tube, mixes it with 9-10 drops of the extraction solution then puts 3 drops of the solution onto the testing device
- 3 Results are read in 15 minutes

If the participant receives a positive test result, they will be immediately notified, and the health professional will direct them get a PCR test at a COVID-19 test centre as soon as possible and follow health department guidelines.

## Key Points

- The *OnSite* COVID-19 Ag Rapid Test has 94.7% sensitivity and 100% specificity, supporting the identification of asymptomatic staff who are in their infectious period.





# CONDUCTING THE TEST

Each box contains 20 testing devices and associated materials. Check the expiry date on the box and ensure it is kept between 2-30°C. Bring all components of the test to room temperature prior to use.

Extraction buffer 5 mL/bottle

Nasal swabs

Nozzle for top of extraction tube, this helps transfer the sample to the testing device

Extraction tube for buffer solution



Onsite COVID\_19 AG Rapid test box with 20 testing devices per box

Extraction tube rack, holds up to 6 samples

Individually sealed foil pouches containing testing device & desiccant

Antigen testing device



# CONDUCTING THE TEST



Anita link [here](#)

OnSite

# INTERPRETING ANTIGEN RESULTS

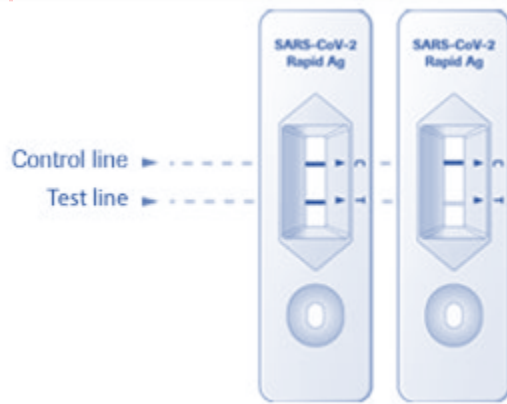
Once the rapid test has been allowed to process for 15 minutes it is ready to be reviewed. The *Onsite* tests have a built in control feature, the C line on the test device. If the C line does not develop after the sample has been applied to the device, the result is invalid and the test needs to be repeated.

Some positive tests may produce a less intense line on the Ag line. It is important to note that any visible line on the Ag line indicates a positive result regardless of the intensity of the Ag test line.

Positive results can be visible as soon as 3 minutes, the full 15 mins is required to read the test.



**POSITIVE**



**POSITIVE RESULT**

If both the C line and the Ag line develop, COVID-19 virus is present in the specimen.

**NEGATIVE**



**NEGATIVE RESULT**

If only the C line develops the test is negative.

**INVALID**



**INVALID RESULT**

If no C line develops, the test is invalid regardless of any line development on the Ag line.

To reduce invalid test results ensure that;

- Store boxes between 2-30°C
- Bring Onsite antigen rapid tests to room temperature before use
- Check expiry date on each testing device
- Avoid exposure of test devices to extreme fluctuations in temperatures

