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EARLY COVID-19 DETECTION PROGRAMMES:

How to ensure the safety of your students and faculty members to keep your educational institution open.

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The world may be slowly returning to a new kind of normal, but it looks like Covid-19 will be a part of our lives for the foreseeable future. This means that schools need to do everything in their power to keep students, teachers, administrators, and support staff healthy and safe.

One of the best ways to do this is through regular testing. But, how do you know which method is right for your educational institution, especially since there are so many different tests available and so much scientific jargon to wade through?

As a global Covid-19 testing solutions leader, we have already performed more than 25 million SARS-Cov-2 related tests worldwide. Our team of scientists and health experts works with schools like yours to identify and introduce long-term solutions for early detection and consistent monitoring, allowing you to keep your students and staff safe and learning together in a thriving classroom environment.

We understand how difficult choosing the right test for your students and faculty can be. **To help you, we've put together this helpful information guide** that breaks down the most popular COVID-19 testing methods available. This will help you determine which testing methods match your needs, both today and in the future.*

What types of tests are available?

PCR

PCR tests are the most sensitive and accurate tests on the market. These tests can detect if someone has Covid, even if they are asymptomatic.

POOLED TESTING

Uses the same technology as PCR testing, essentially pooling samples from multiple individuals rather than testing for the virus individually, and performs a single test on the whole batch.

ANTIBODY

These are also known as serology tests and are designed to be performed on asymptomatic individuals.

RAPID ANTIGEN DETECTION TESTS (RADT)

RADT tests monitor for an active virus in individuals or groups.

*Not all tests are available in every country. Please call your local Eurofins sales rep to learn about what options are available for you.

PCR

Considered the gold standard of testing, PCR tests are the most sensitive and accurate tests on the market. These tests can detect if someone has Covid, even if they are asymptomatic. It can also identify multiple variants, including the Delta-variant and potentially any new mutations that may arise.

There are essentially **two types of PCR test:**

1 **REAL-TIME (RT) PCR** | This identifies the virus at the earliest infection stage by extracting RNA from individual biological samples. In the laboratory, we then undertake a reverse transcription of RNA into DNA which detects the virus.

ANALYTICAL SENSITIVITY

99%

TESTING METHOD
Deep nasal and throat swab, saliva collection

WHO CAN TEST
Healthcare workers

WHEN TO TEST
Between *three* days before the start of symptoms and the third week *after* symptoms appear.

BENEFITS

An approximate turnaround time of one hour

Highly sensitive and reliable when performed during an active infection

Pinpoint who has the virus

CONSIDERATIONS

Expensive equipment and laboratory expertise are required

Only able to test for an active virus, not for Covid antibodies

2 REAL-TIME RT-PCR EXTRACTION-FREE (ALSO KNOWN AS DIRECT OR FAST PCR)

This test allows for the detection of an active virus without the additional RNA extraction process.

ANALYTICAL SENSITIVITY
98%

TESTING METHOD
Deep nasal and throat swabs
Saliva collection

WHO CAN TEST
Healthcare professionals only

BENEFITS

Fast turnaround times

No requirement for viral RNA extraction kits or equipment

Can be scaled to meet your needs

Able to provide larger samples to be processed at a time

CONSIDERATIONS

High cost

Not as accurate as RT PCR tests

Pooled Testing

This testing method uses the same technology as PCR testing, essentially pooling samples from multiple individuals rather than testing for the virus individually, and performs a single test on the whole batch. If the test comes back positive, each pool is then divided into smaller groups to identify the infected individual.

TESTING METHOD

Deep nasal and throat swabs
Saliva collection

WHO CAN TEST

Healthcare professionals only

BENEFITS

An effective method for testing larger numbers of individuals at one time

Cost-effective

Eases the burden on laboratories

Generates faster results

CONSIDERATIONS

Potentially counter-productive if there are too many infected individuals in the pooled sample

IDEAL FOR

Testing large numbers of people with relatively low rates of the virus

Antibody

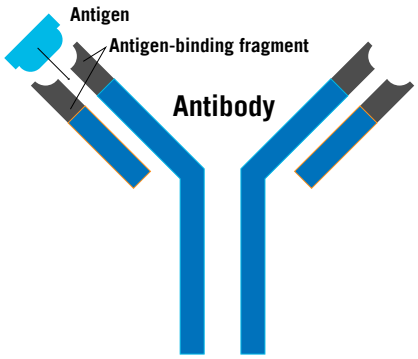
Also known as serology tests, these tests are designed to be performed on asymptomatic individuals. They detect an individual's immune antibody response to the virus, identifying if someone previously had it. Antibody tests have the same sensitivity as a rapid antigen detection test. They are valuable to society as they help us understand the extent of the virus spread in a community.

ANALYTICAL SENSITIVITY
90.7%

TESTING METHOD
Blood draw and finger prick

WHO CAN TEST
Individuals or healthcare professional

WHEN TO TEST
From the seventh day from the first signs of symptoms



BENEFITS

Low cost

Fast turnaround times (10-30 minutes)

Easy to use

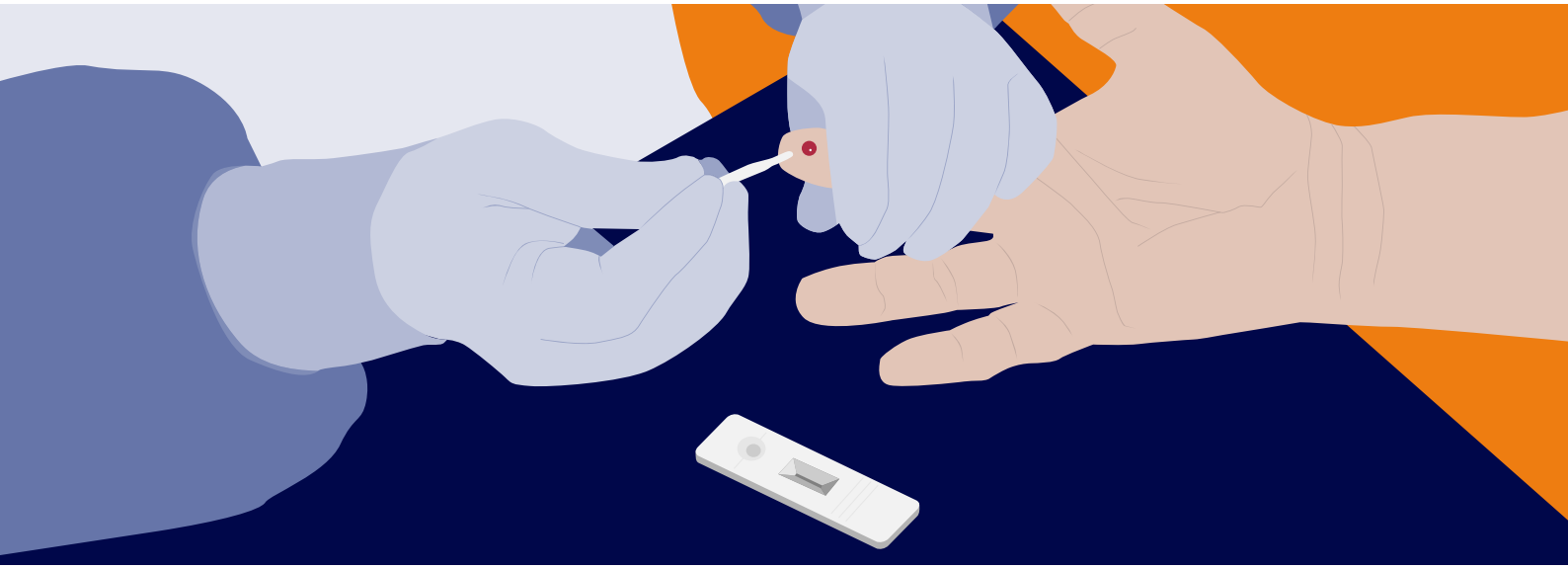
Don't need to be administered within a laboratory

CONSIDERATIONS

Cannot distinguish between an active or a previous infection

A negative antibody test doesn't guarantee that an individual hasn't previously had the virus

If tested too soon after symptoms, it may not provide an accurate result



Rapid Antigen Detection Tests (RADT)

RADT tests monitor for an active virus in individuals or groups. They're most effective when the virus is at its peak. For the most accurate diagnosis, they should be done within 5-7 days of symptoms starting, rather than at the start of any symptoms, as levels of the virus will naturally be lower.

ANALYTICAL SENSITIVITY
92.6%

TESTING METHOD
Deep nasal and throat swabs, nasal swabs

WHO CAN TEST
Healthcare professionals only

WHEN TO TEST
In the week *after* the first day of symptoms

BENEFITS

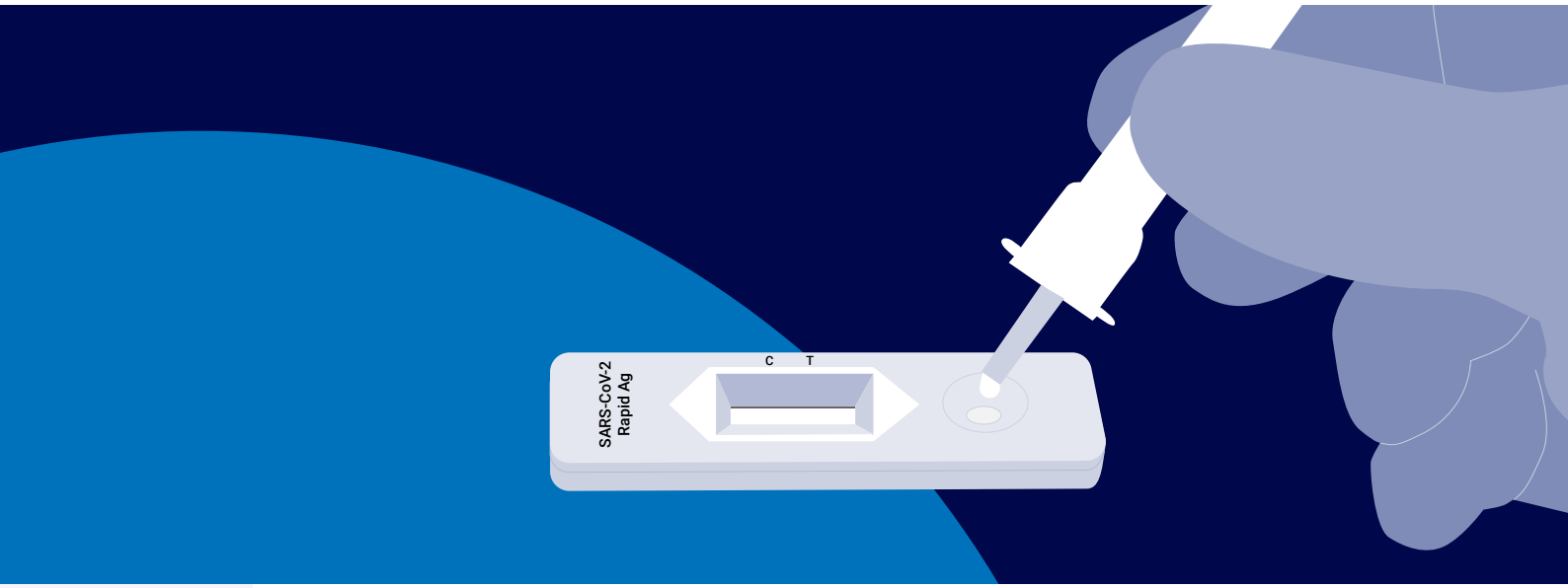
- Fast turnaround times (between 10 and 30minutes)
- Cost-effective and easy to use
- No specialised equipment or expertise is required
- Can be stored and transported at room temperature
- Can detect the virus in highly infected individuals
- Can be used to screen large numbers of individuals

CONSIDERATIONS

- Lower test accuracy
- Can only be administered one sample at a time
- Can be costly if you need to mass-test a lot of people
- Chance of a false-negative result
- Chance of false-positive
- Repeat testing and ongoing PCR tests are needed

IDEAL FOR

- Remote settings
- Closed or semi-closed communities
- Point of care and time-critical settings



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