

Lexogens COVID-19 Mass Screening test

How mass screening works and why is it so efficient?

The mass screening involves testing a population, or a group of people such as all the employees of a company.

By doing it regularly (we recommend every three days), one can spot individuals who have been infected but are not infectious yet (the incubation period last between 3 and 14 days). These infected individuals can self-isolate and go through quarantine before becoming infectious and endangering the people around them (family, colleagues, etc.). This not only stops the spread of the disease but also allows infected individuals to be treated very early thus, improving recovery. Furthermore, it becomes unnecessary for close contacts (K1) of the infected individual to undergo quarantine (Figure 1).



Figure 1 | Mass testing can stop the spread of COVID-19 by identifying infected persons before the onset of symptoms. TOP: In an individual testing scheme persons are tested when they already start to show symptoms. Their quarantine comes too late, since they could have already infected other people (family, colleagues, etc) when they did not yet show symptoms. BOTTOM: In contrast, regular mass testing identifies infected persons before the onset of symptoms but when they are already infectious. In many cases, these will also not show symptoms later on. Their quarantine not only prevents the spread of the infection but also enables an early treatment of the infected persons themselves, and extensive quarantine measures can be avoided.

Why mass screening was not implemented so far or just sporadically in some countries?

This testing was not possible before for technical reasons and due to the high cost of tests. With the new Lexogen assay based on Next Generation Sequencing (NGS) technology, millions of people can be easily and quickly screened regularly, at a very low cost. NGS technology is the game changer making it easy and affordable.

What are the benefits of implementing mass screening as a preventive measure?

1 – for everyone’s comfort and health

- Mass screening reduces the number of infected people and the death toll.
- Ensures a safe working environment and reduces stress for employees.
- Lets people live normally.

2 – for the economy

- With these preventive measures, it is possible to maintain schools, hospitals, and elderly homes open while providing safe workspaces and more serenity for everyone (pupils, parents, teachers, patients, healthcare workers, etc.).
- Governments can avoid lockdowns and keep economic and social activities up and running to ensure a continuous revenue stream for companies and for the country.
- Reducing the dramatic negative impact of the pandemic on the EBIT of companies and GDP of countries (for instance, Austrian GDP dropped by 12.1% in 2nd quarter of 2020 due to the lockdown measures, corresponding to a gap more than 10 billion Euros).

What are the benefits of implementing mass screening to follow-up infected people?

The period of quarantine could be managed more precisely and adapted to each individual. Infected people who are not infectious anymore could be back to work before the end of the current long quarantine period without endangering their colleagues or customers. This is particularly important for the activity of self-employed workers and small companies, but every day saved on unnecessary sick leave has also a strong impact on the social security debt.

More comfort for patients and easier to handle

Most PCR and antigen tests require an invasive nasopharyngeal sampling, which can be very painful according to individuals and which requires a “professional” for collection. The Lexogen NGS mass screening assay works with gargle samples. Patients can self-collect their sample at home (Figure 2) by simply gargling a solution of water with a pinch of cooking salt (physiological saline) and spitting in a collection tube to be deposited in a lab for analysis. This saves a tremendous amount of time, pain and money... there’s no reason to keep doing painful COVID nasal swab tests!

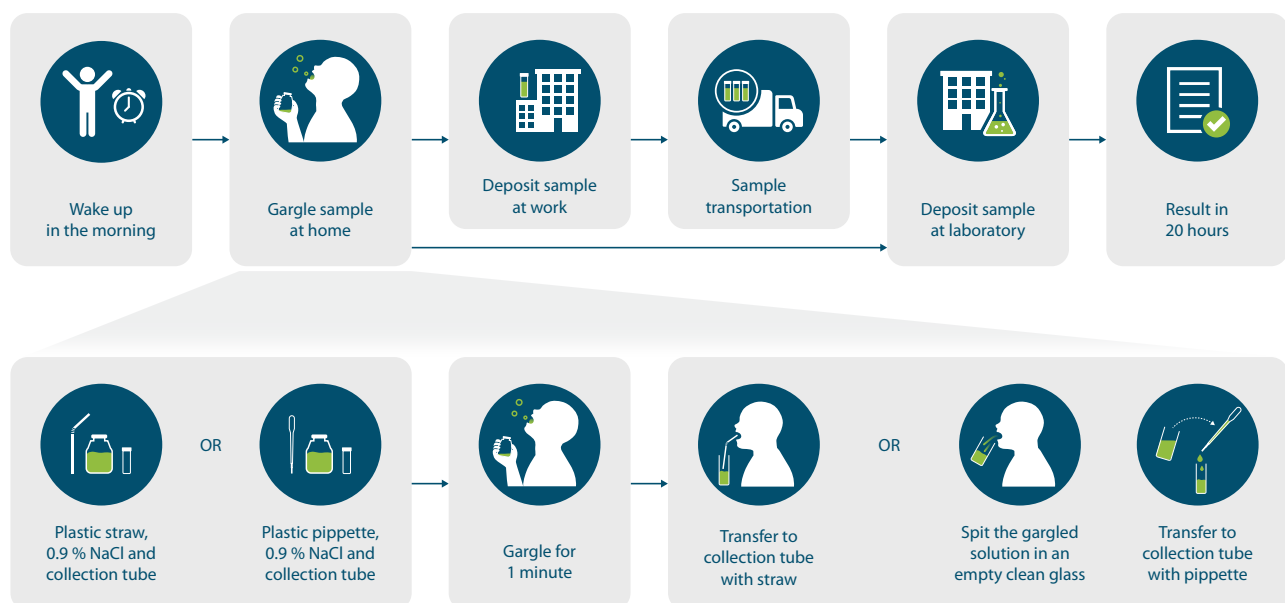


Figure 2 | Workflow of Lexogen’s convenient over-night SARS-test: Gargle first thing in the morning and deposit the sample, e.g. at work. The samples are then transferred to a laboratory for analysis with results provided in time before the start of the next work day. The gargling solution can be transferred to the collection tube by using a straw or by first spitting into a clean glass and subsequent pipetting.