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Ministry of Science & Technology

Innovative Patient-Friendly Saline Gargle RT-PCR Testing Method, thanks to NEERI Nagpur



in

Saline Gargle, No Swab, Simple, Fast, Economical

“Get Result within 3 Hours, Suitable for Rural and Tribal Areas”

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Nagpur, May 27, 2021

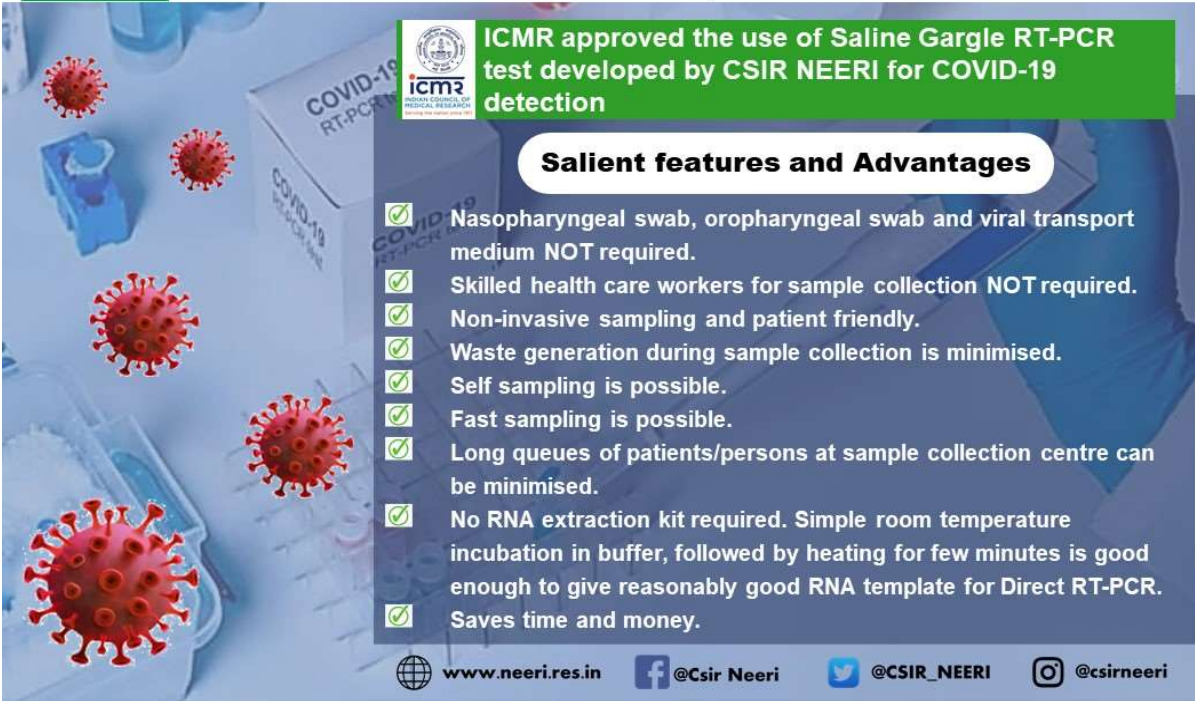
Ever since the outbreak of the COVID-19 pandemic, India has been making multiple strides in augmenting its testing infrastructure and capacity. Scientists of Nagpur-based National Environmental Engineering Research Institute (NEERI) under Council of Scientific and Industrial Research (CSIR) have achieved another milestone in this journey, with the development of a 'Saline Gargle RT-PCR Method' for testing COVID-19 samples.



A Method with Numerous Benefits: Simple, Fast, Comfortable, Economical

f The Saline Gargle method offers a bunch of attractive benefits, all rolled into one. It is simple, fast, cost-effective, patient-friendly and comfortable; it also offers instant results and is well-suited for rural and tribal areas, given minimal infrastructure requirements. Speaking to PIB, Dr. Krishna Khairnar, Senior Scientist, Environmental Virology Cell, NEERI says: “Swab collection method requires time. Moreover, since it is an invasive technique, it is a bit uncomfortable for patients. Some time is lost also in the transport of the sample to the collection centre. On the other hand, the Saline Gargle RT-PCR method is instant, comfortable and patient-friendly. Sampling is done instantly and results will be generated within 3 hours.”




in  **CSIR – National Environmental Engineering Research Institute (NEERI)**



ICMR approved the use of Saline Gargle RT-PCR test developed by CSIR NEERI for COVID-19 detection

Salient features and Advantages

- ✓ Nasopharyngeal swab, oropharyngeal swab and viral transport medium NOT required.
- ✓ Skilled health care workers for sample collection NOT required.
- ✓ Non-invasive sampling and patient friendly.
- ✓ Waste generation during sample collection is minimised.
- ✓ Self sampling is possible.
- ✓ Fast sampling is possible.
- ✓ Long queues of patients/persons at sample collection centre can be minimised.
- ✓ No RNA extraction kit required. Simple room temperature incubation in buffer, followed by heating for few minutes is good enough to give reasonably good RNA template for Direct RT-PCR.
- ✓ Saves time and money.

www.neeri.res.in  @Csir Neeri  @CSIR_NEERI  @csirneeri

Patient herself can collect the Sample

#United2fightCorona@CSIR_NEERI has developed 'Saline Gargle #RTPCR Method' for testing #COVID19 samples; you can get the result within 3 hours

Watch Dr. Krishna Khairnar, Senior Scientist, Environmental Virology Cell, NEERI explaining how to use  @IndiaDST@CSIR_IND pic.twitter.com/mxpYTIt7IC

— PIB in Maharashtra IN (@PIBMumbai) May 28, 2021

The method is non-invasive and so simple that the patient herself can collect the sample, explains Dr. Khairnar. “Collection methods like nasopharyngeal and oropharyngeal swab collection require technical expertise; they are also time-consuming. In contrast, the Saline

f Gargle RT-PCR method uses a simple collection tube filled with saline solution. The patient gargles the solution and rinses it inside the tube. This sample in the collection tube is taken to the laboratory where it is kept at room temperature, in a special buffer solution prepared by NEERI. An RNA template is produced when this solution is heated, which is further processed **🐦** for Reverse Transcription Polymerase Chain Reaction (RT-PCR). This particular method of collecting and processing the sample enables us to save on the otherwise costly infrastructural **🗨️** requirement of RNA extraction. People can also test themselves, since this method allows self-sampling.” The method is environment-friendly as well, since waste generation is **✉️** minimized.

in A Boon for Testing in Rural and Tribal Areas

The scientist expects that this innovative testing technique will be especially beneficial for rural and tribal areas where infrastructure requirements can be a constraint. The non-technique has received the approval of the Indian Council of Medical Research (ICMR). NEERI has further been asked to train other testing labs, to help scale up its adoption across the country.

Nagpur Municipal Corporation has given permission to go ahead with the method, following which testing has begun at NEERI, as per approved testing protocol.

“Need to Implement Pan India”

Scientists, researchers and lab-technicians of the Environmental Virology Cell at NEERI have taken painstaking efforts to develop this patient-friendly technique amid surging COVID-19 infections in the Vidarbha region. Dr. Khairnar and his team hopes that the method is implemented at the national level, resulting in faster and more citizen-friendly testing, thereby strengthening our battle against the pandemic.



f DJM/DW/CY/PIB Mumbai

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