PATHOLOGISTS
LANCET
KENYA (PLK)
Key to diagnostic excellence
Maabara ya Kisasa

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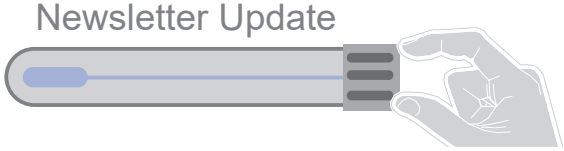
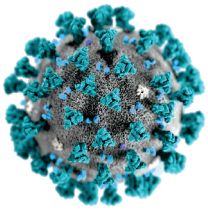
Newsletter Update





Interpretation of COVID-19 RT PCR positive and negative results on sequential samples

RT-PCR for SARS-CoV-2 is a diagnostic test designed for detecting the virus in respiratory samples of symptomatic individuals. It is therefore very specific, so positive results are real. Sensitivity however is lower and false negative results may occur in up to 20% of swabs done, especially in mild or asymptomatically infected individuals.

Referring doctors and patients usually have difficulty in interpreting these results, particularly when performed sequentially on patients, resulting in negative/positive or positive/negative discordances.

Reasons for these discordances include:

1. A positive result followed by a negative one:
   a. NICD recommends that patients who test positive are treated as such and isolated and their contacts traced
   b. A low positive result (ct value 37-40) may be followed by a second negative swab if:
      i. The patient is nearing the end of their infection and has stopped secreting virus
      ii. The second swab wasn't taken from infected epithelium resulting in a false negative result
      iii. The patient is an intermittent secretor and was not secreting virus when the second swab was taken
      iv. The second result was obtained using a less sensitive assay than the first one
2. A negative result followed by a positive one:
   a. The first swab was taken just before virus secretion began
   b. The first swab wasn't taken from infected epithelium resulting in a false negative result
   c. The patient is an intermittent secretor and was not secreting virus when the first swab was taken
   d. The first result was obtained using a less sensitive assay than the second one

The complex viral dynamics of this infection, complicated by the differing sensitivities of assays used by various laboratories, causes result discordances and variable RNA shedding at different times can cause results discordant between different laboratories.

When discordance arise, blame cannot be apportioned to the laboratories involved as all these laboratories have robust quality control measures in place and therefore it is important to interpret the results scientifically while taking appropriate action to prevent spread of infection from those in whom the virus has been detected.

Our PCR Lab at our Main Reference Lab in Nairobi is ISO15189 SANAS Accredited since 2010 and we participate in External Quality Assurance (EQA) for COVID-19 testing

sanas Medical Laboratory
M0462
ISO15189
Accredited Since 2010 to Date ✓
Our Main Laboratory is SANAS Approved