



## Infectious Disease by Nucleic Acid Testing

### Test Explained

Viral disease cannot be cultured by conventional methods, viral culture in lab is tedious and laborious. Novel method for diagnosis of causative virus, is by RNA or DNA finger print of the causative organism. Infected samples are processed to extract the Nucleic Acid of the pathogen, then it is amplified multiple times using a process called Polymerase Chain Reaction (PCR). Amplified nucleic acid is detected and analyzed by Real Time (RT PCR).

This procedure can be applied for bacteria as well; however, it does not test the sensitivity to different antibiotics. It yields a faster turnaround time for identification

This method allows for faster turnaround and accurate diagnosis. Panels are:

- **Respiratory Panel**

- Adeno Virus
- Covid 19 Virus
- Influenza A
- Influenza B
- Respiratory Syncytial Virus (RSV)
- Rhino Virus
- Streptococcus B Bacteria

These pathogens may cause runny nose, fatigue, headache, sore throat and fever. We test by a nasopharyngeal swab

- **Gastro Intestinal Panel**

- Adenovirus 40/41
- Astrovirus
- Campylobacter
- C. difficile tcdA
- C. difficile tcdB
- Cryptosporidium
- Entamoeba histolytica
- Enterotoxigenic E. coli (ETEC)
- Giardia lamblia
- Norovirus GI/GII

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- Rotavirus A
- Shiga-like toxin producing E. coli (STEC)
- Salmonella
- Shigella/Entero-invasive E.coli (EIEC)
- Yersinia enterocolitica
- Vibrio

These pathogens may cause diarrhea, dehydration, fatigue, fever and abdominal cramps.  
We test by a stool sample collected in a sterile container

- **Sexually Transmitted Disease Panel**

- Chlamydia trachomatis
- Neisseria gonorrhoea
- Trichomonas vaginalis

These pathogens may be asymptomatic, or manifest a discharge, foul odor, itching.  
We test by Urine first catch or vaginal swab

- **Blister Panel**

- Herpes simplex 1 Virus
- Herpes simplex 2 Virus
- Varicella zoster Virus (VZV)

These pathogens result in fever with a painful or itchy oozy blisters then it scabs. Herpes may be around mouth or genitalia. VZV all over the body.  
We test by swabbing the lesion or in blood and testing for the pathogen

- **Blood Viral Panel**

- Hepatitis B Virus
- Hepatitis C Virus
- Hepatitis B & C are transmitted by contact with infected blood or body fluids
- Human Immunodeficiency Virus 1&2 (HIV 1&2)
- HIV is a sexually transmitted disease or by contact with infected blood or body fluids

This panel is recommended in case of accidental needle stick or recent unprotected sexual encounter

We test by detecting the pathogen in blood

- **Methicillin Resistant Staphylococcus aureus (MRSA)**

- Methicillin Sensitive Staphylococcus aureus (MSSA)
- MRSA-MSSA panel is recommended for preoperative screening for orthopedics surgeries
- We test by a nasal swab