Lab Dept: Microbiology/Virology

Test Name: ENTEROVIRUS RNA DETECTION PCR, OTHER SOURCES

General Information

Lab Order Codes:	ENTP
Synonyms:	Enterovirus RT PCR; PCR for Enterovirus; Coxsackievirus; Echovirus; Hand, Foot and Mouth Disease
CPT Codes:	87498 – Enterovirus, amplified probe technique
Test Includes:	Detection of enterovirus by Real-Time Polymerase Chain Reaction (PCR)/RNA Probe Hybridization

Logistics

Lab Testing Sections:	Microbiology/Virology Sendouts
Referred to:	Mayo Medical Laboratories (MML: LENT)
Phone Numbers:	MIN Lab: 612-813-6280 STP Lab: 651-220-6550
Test Availability:	Daily
Turnaround Time:	1 - 3 days
Special Instructions:	Requisition **must** state **specific site of specimen** and **date/time of collection.**

Specimen

Specimen Type:	Body Fluid (Pericardial, Peritoneal, Pleural), Respiratory; Swab (Dermal; Eye; Rectal; Genital; Nasopharyngeal; Throat; Nasal or Urethral)
Container:	Body Fluid: Sterile container Swab: BBL culture swab

Collection:	**Other Sources**: Specific to site with sterile technique as directed by physician **Note:** Rectal swabs must have NO VISIBLE stool. Volume: Body Fluid: 0.5 mL (Minimum: 0.3 mL) Respiratory specimen: 1.5 mL (Minimum: 1 mL)
Special Processing:	Lab staff: Do Not centrifuge. Send specimen (Body fluid) or swab, refrigerated. Maintain sterility and forward promptly. The high sensitivity of amplification by PCR requires the specimen be processed in an environment in which contamination of the specimen not likely.
Sample Rejection:	Specimen submitted in a non-sterile or leaking transport container; improperly labeled specimen; insufficient volume; samples exposed to repeated freeze/thaw cycles; prolonged transport time; improper storage conditions. If an unacceptable specimen is received, the physician or nursing station will be notified.

Interpretive

Reference Range:	Negative A positive result indicates the presence of enterovirus RNA in the specimen.
Significant Finding:	Positive: All positive results will be called to the physician or nursing unit.
Limitations:	A negative result does not rule out the possibility of enterovirus infection in the CNS. This assay may detect virus from a variety of specimen types in asymptomatic individuals. This assay should only be used for patients with a clinical history and symptoms consistent with enterovirus infection, and must be interpreted in the context of the clinical picture. This test should not be used to screen asymptomatic patients. This is a qualitative assay and results are reported as either negative or positive for targeted enterovirus RNA.
Methodology:	Real-time reverse-transcription laboratory-developed PCR assay, viral nucleic acid is extracted by the MagNA Pure automated instrument (Roche Applied Science) from specimens, followed by amplification and detection on the Roche LightCycler 2.0 instrument. This PCR assay has been optimized to detect a target sequence in the polyprotein region. Primers amplify a 193-bp product.

Additional Information:

- Proper handling and storage is very important to prevent the destruction of the target RNA by RNases that can be introduced by human hands. Gloving is recommended when handling these specimens. Storage at -70º C also helps stabilize the nucleic acid.
- The enterovirus group includes the polioviruses, echoviruses, coxsackievirus A and coxsackievirus B.
- During the summer and the fall, enteroviruses account for over half of the cases involving infants seen in the emergency room presenting with a fever and no other symptoms. More than 90% of community-acquired cases of viral meningitis are caused by coxsackievirus serotypes B2 and B5, and echoviruses 4,6,9,11,16, and 30.

References:

Mayo Medical Laboratories May 2020

Updates:

7/7/2015: Added information or additional specimen sources (Body fluid, Respiratory, Swab)
5/26/2020: Removed respiratory specimens as possible sources for testing.
6/16/2020: Updated sources. CSF now performed internally.