

## Strategy for laboratory diagnosis of food borne parasitic infections

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Laboratory diagnosis of food borne parasitic infection should be based on multi-pronged strategy. Starting from the basics; most common modality is visual inspection of the agent, microscopy based techniques are most common and easily available in the regions where the parasitic infections are common i.e. under developed or developing countries. Microscopic observation of stool specimen for the parasitic ova or cyst may help us identify the etiologic agent.

Immunoassays have been mainstay for diagnosis of systemic parasitic diseases like cysticercosis & Echinococcosis. Development of assays using synthetic peptides have made assays more specific & sensitive.

Advent of molecular techniques, especially PCR & real time PCR have enabled us to identify the agents with higher sensitivity and in greater detail. Molecular techniques can help us differentiate *Entamoeba histolytica* from non pathogenic *Entamoeba dispar* & *E. moshkovskii*, thus saving large number of patients from treatment. Molecular assays have also been deployed in detection of parasites in sewage.

Loop mediated amplification assays can be used to detect the parasites with greater sensitivity and specificity. Development of assays on this platform will help us in deploying these tests in resource limited settings.

Tests based on Luminex platform & micro-array based techniques can help us in screening large number of parasitic agents in single assay run. Newer approaches like detection of cell free parasitic DNA can help us detect schistosomiasis from urine specimen with a higher sensitivity.

