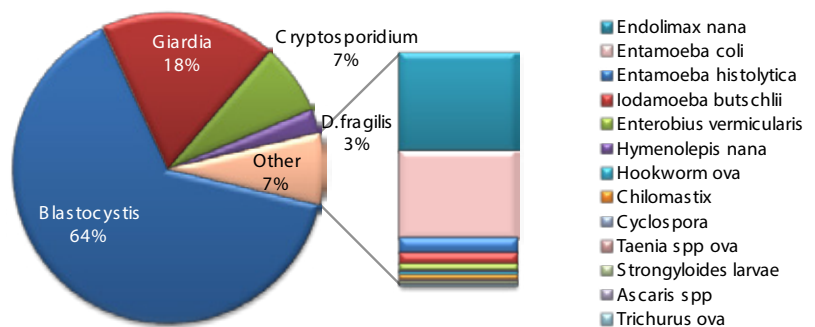


Rapid detection of gastrointestinal pathogens by real-time PCR

10 enteropathogens **AVAILABLE NOW**
 31 enteropathogens **COMING SOON**

At Sonic Healthcare we recognise the future role of real-time PCR as an essential part of your routine test menu. We are developing a NATA accredited 31 test panel that will give you a comprehensive tool to detect all common Australian gastrointestinal pathogens. This includes bacterial enteropathogens, parasites and viruses.



Figures 1 and 2: The range of parasites and bacteria seen at a large Sonic Healthcare laboratory between 2007 and 2012

As a first stage, we have introduced an initial panel of 10 target pathogens that includes:

Five parasites (Figure 1)

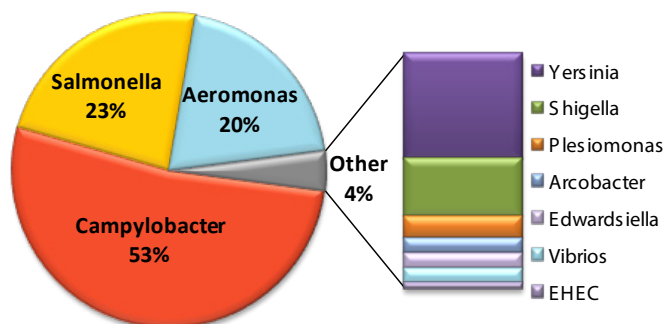
- Blastocystis
- Giardia
- Cryptosporidium
- Dientamoeba fragilis
- Entamoeba histolytica

Five bacterial enteropathogens (Figure 2)

- Campylobacter
- Salmonella
- Aeromonas
- Yersinia
- Shigella

Real-time PCR offers improved turnaround time for bacterial enteropathogens, particularly negative results. These can be available in 24 rather than 48–72 hours. Real-time PCR also has superior sensitivity compared to the classic parasite detection techniques of microscopy, concentration techniques and antigen detection (EIA).

It is important to remember that, despite the benefits of PCR over conventional methods, only those organisms that are designated and tested for can be detected. This is especially important when patients have been overseas. An even greater range of infectious organisms may be present in those who are immigrants, refugees or those who are immunocompromised (Figure 3). These must be requested specifically until the extended 31 enteropathogen panel becomes available.



Requesting procedure for faecal samples

Clinical History	Sample number	Request
Altered gastro intestinal states suggestive of an infectious agent	First sample	M/C/S and PCR
Overseas travel, immunocompromised, refugee or recent migrant	First sample	M/C/S, OCP and PCR
Negative result from initial sample & still symptomatic	Second sample at day 7	OCP and Rota/ Adenovirus

Rapid detection of gastrointestinal pathogens by real-time PCR (contd)

What you need to know about the Faeces PCR test

Bacterial enteropathogens

About 8 to 10% of faecal samples submitted will test positive by PCR for the targeted bacterial enteropathogens. For the present, bacterial culture and sensitivity results will be available on positive specimens. This additional information will usually be available 48 hours after the initial PCR result. Although most episodes of bacterial enterocolitis are self-resolving, antibiotics are occasionally required for treatment. In addition, antimicrobial resistance surveillance is extremely important because of the links of these pathogens with the food chain. The isolates will also be available for typing, thus serving a public health function in identifying and recognising potential foodborne outbreaks.

For MBS purposes, only one specimen can be submitted in a seven-day period for bacterial enteropathogens.

Parasites

PCR testing does not offer substantially improved turnaround times for parasites but is a more sensitive test. If a parasite that is not covered by the PCR testing is suspected, a second sample can be submitted in a 7 day period.

For further information

To discuss a patient, or for further information, please contact Dr Jhumur Roy on 8366 2014.

New 31-panel test will be a first for Australia

At Sonic Healthcare we're recognised nationally for our expertise in delivering advanced diagnostic testing. Our Molecular Genetics team has an active development program focused on improving existing tests and introducing unique assays with specific relevance to Australian conditions. These tests are rigorously evaluated and fully NATA accredited. **Quality is innovation in pathology**