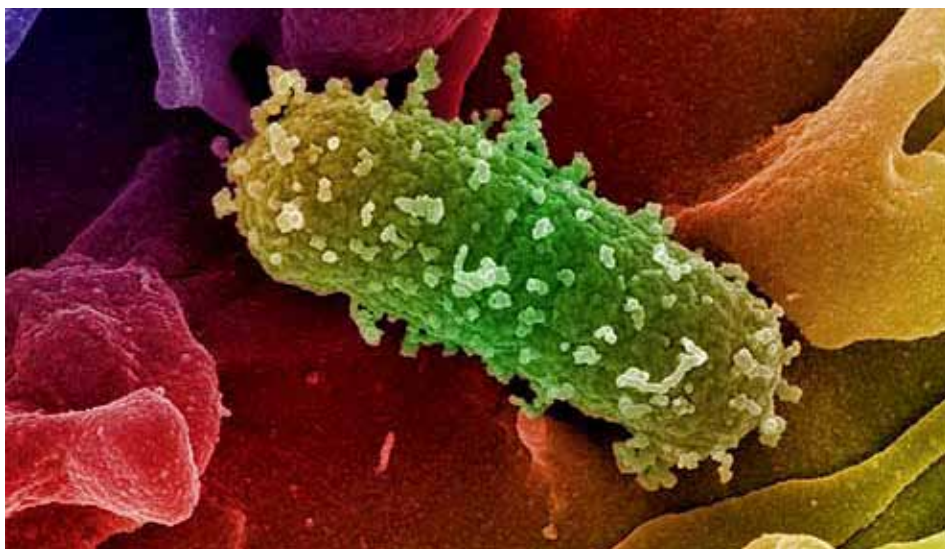




Introducing our new newsletter

Welcome to our new newsletter which aims to update you with what is new at Public Health Laboratory Birmingham. The newsletter will be distributed quarterly.

E. coli VTEC O157 Confirmation Goes Local



From 1st April 2012, the HPA Public Health Laboratory, Birmingham will be taking over from the Gastrointestinal Infections Reference Unit (GIRU) in providing the service for confirmation of presumptive VTEC O157 isolates. This service will be provided for all diagnostic microbiology laboratories in the East and West Midlands. All purified isolates of presumptive (locally confirmed) *E. coli* O157 should be referred

promptly for confirmation. We will be using a real-time PCR assay, detecting the verocytotoxin genes (*vtx1* and *vtx2*), the intimin (*eae*) gene and the *RfbE* gene. Testing will be undertaken Monday to Friday with results being available on the day of receipt. Positive results will be telephoned to the Duty Microbiologist at the referring laboratory. We will submit all confirmed isolates to GIRU for phage typing.

Do you have an adenovirus outbreak?



Adenoviruses are a large group of viruses that are mainly associated with respiratory, enteric and ophthalmic infections in the general population. There are 52 serotypes of adenoviruses and some of these serotypes can cause large outbreaks in hospital wards, boarding schools, day-care centres, nursing homes and military training facilities. In immunocompromised patients particularly stem cell transplant patients certain serotypes are also associated with severe renal, cardiac, hepatic, CNS and disseminated infections.

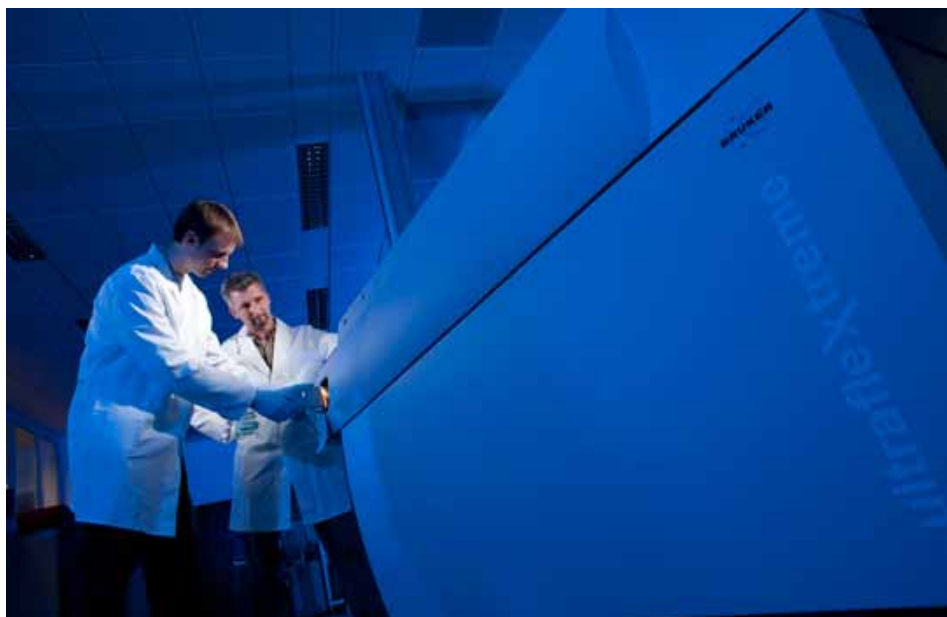
Our laboratory has developed a typing assay for adenoviruses that can differentiate between the different serotypes. The assay relies on sequencing part of the adenoviruses genome amplified directly from clinical samples. The information provided by this assay can be very helpful in managing outbreaks, establishing epidemiological links and in managing infections in vulnerable patients. Our turn-around time for results is expected to be 7 working days and it would be very helpful if cases are discussed with us beforehand so we can make sure results are produced in a timely manner.

Modernisation of the Health Protection Agency Service

As an integral part of Laboratory Medicine, the Health Protection Agency is delighted to be working in partnership with Heartlands Hospital to modernise the pathology building and the agency's leading laboratory service for the Midlands region. The new facility will be purpose built to include a new blood sciences department, acute bacteriology department and a multidisciplinary molecular services department. This is due to be completed and operational by April 2013.



Investing in new technology



Identification of organisms within microbiology has relied on phenotypic methods, including growth on specific media, Gram staining and morphological and biochemical characteristics. This identification is time consuming and costly, requiring specialist staff. In order to optimise patient care there is the need for more rapid identification. Matrix-assisted laser desorption ionization-time of flight mass spectrometry generates protein fingerprint signatures from whole

bacterial cells and by comparing these to reference spectra a bacteria can be rapidly identified. MALDI-TOF is being introduced into our routine service, providing an accurate high throughput identification system. Obtaining full identifications at earlier time points will potentially enable us to influence clinical care. **If you have an isolate that you can not speciate using standard methodologies we are able to provide an identification service.**

Decreased turnaround time for TB diagnosis



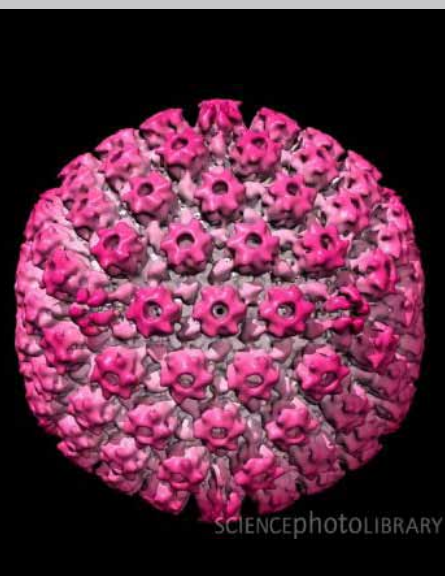
We have introduced the Cepheid GeneXpert MTB/RIF test for detection of *Mycobacterium tuberculosis* complex DNA and rifampicin resistance-conferring mutations in specimens, and this will replace, and improve, our service for the direct detection of MTB DNA. It is worth re-stating that culture remains the most sensitive test, particularly for smear negative samples, and a negative test for direct detection, by any method, is not a rule-out test.

Introduction of the GeneXpert MTB/RIF test offers:

- Same day detection of *Mycobacterium tuberculosis* from smear positive and smear negative sputum specimens or concentrated tissue sediments, rather than once weekly testing.
- Rapid-screening for potential multi-drug resistant TB, by routine inclusion of a test for rifampicin resistance mutations.

Regional GUD PCR testing – now available

We provide a Regional Genital Ulcer Disease (GUD) PCR testing service with a very quick turnaround time and competitive price. We currently perform this multiplex test every second day, depending on the number of requests received. Our multiplex GUD PCR tests for HSV-1, HSV-2, *H. ducreyi* and syphilis, differing from others in that it provides distinction between HSV-1 and 2 which are still the most common pathogens found in these samples. The PCR is more expensive than our standard HSV genital ulcer PCR (please contact our lab for an individual price which will differ depending on volume and contract).



We advocate requesting it in all cases where patients present with an atypical genital ulcer or even a typical syphilis chancre since the PCR has been shown to detect early syphilis infection where the serology is not yet positive. We also provide a clinical advice service with the test and are happy to discuss the interpretation of the PCR result in clinically difficult cases such as neurosyphilis and congenital syphilis where we feel that the test has a role to play. The genital swabs should be sent to us in VTM / CTM. We do not accept the special collection tubes used for CT/GC on the big analysers such as GenProbe, BD ProbeTec or Roche since they already contain a lysis buffer which interferes with our PCR.



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