Directorate of Laboratory Medicine

Presenting…

The Clinical Sciences Laboratory Centre

Providing a modern comprehensive Pathology Service for the populations of Greater Manchester and beyond

Clinical Sciences Building 1
Clinical Sciences Building 2

Artists Impression of Clinical Sciences Building 3 (due to open 2009)

A continuing development of a ‘Laboratory Village’ to accommodate corporate modern technologies and a continuous analytical service
About the Directorate of Laboratory Medicine (DLM)

The Directorate of Laboratory Medicine is a single, managed unit within the Trust with a Clinical Director, Corporate Support Team and Clinical and Business Managers.

The strategic planning is for a composite, patient focused service operating from a substantially single-site ‘Laboratory Village’ creating a more efficient organisation based on shared equipment and technology.

The key aims and objectives of the Directorate of Laboratory Medicine are to provide:

- Integrated children’s and adult analytical and diagnostic services;
- A safe, modern, appropriate and comfortable environment;
- A service, which is comprehensive, interpretative, accredited and appropriate, and responsive to user needs;
- Appropriate education and training to all staff and students;
- A quality lead and managed service;
- Fully operating services within all the provisions of Clinical Governance;
- Conditions to initiate, facilitate and undertake research and development;
- Full cooperation with Universities and other appropriate bodies to strengthen research.

The Clinical Sciences Buildings are located in the South West corner of the CMMC site and comprise:-

**CSB1** - commissioned during 1994 providing modern accommodation for Histopathology and a large Mortuary, Clinical Research and service and university departments of Microbiology and Virology. A university student teaching area and museum is provided on the ground floor.

**CSB2** - erected during 2002, houses Autolab (providing 24hr rapid blood analyses and blood transfusion products), the Manchester Cytology Centre (incorporating the cytology departments of Christie Hospital and MRI), the Manchester Cytology Training Centre and the Manchester Medical Microbiology Partnership (comprising an amalgamation of the service and university departments of Microbiology and Virology from CMMC, Christie Hospital, PHLS and South Manchester University Hospital Trust).

**CSB3** - planning is in an advanced stage for an extension to CSB2 that will complete the consolidation of all laboratory disciplines within the Trust.

Further information can be obtained from the Directorate website [www.manlab.co.uk](http://www.manlab.co.uk)
- Continuous Pathology Processing 24/7
- Over 5 million test results per year
- Rapid turnaround times
- Fully robotic Biochemistry and Haematology analysers
- Numerous blood parameters provided from one sample on two analysers
- Immunoassay units included
- Automated coagulation analysers
- Automated blood group and antibody testing
- Increased specimen throughput
- STAT service in all areas
- Over 30,000 units of blood cross-matched per annum

From this…

…to this (July 2003)
Clinical Research

- Liver and Islet Cell service work and research performed
- Trust, Regional and supra-regional assay service
- Assessment of partial hepatic functions
- Non-invasive assessment of hepatic fibrosis (P111NP)
- Oxidant stress in liver disease
- Clinical trials of new treatments in liver disease
- Assessment of pancreatic beta cell function
- Measurement of immuno-reactive insulin

DLM Client Services Centre

- Main Visitor Reception
- Hospital and GP liaison
- Results ‘hot-line’
- Courier service to GP surgeries and health centres
- Report printing and distribution
- User guides and information
Electron Microscopy Suite

- Enhanced, refurbished and equipped to provide a Unified Electron Microscopy Service
- Clinical, Public Health and Academic service
- Diagnostic ultrastructural analysis
- Fully integrated with Histology, Microbiology and Virology

Transmission Electron Microscope with digital imaging system

Microsporidian
approx 2.5 x 1.5 µm

Helicobacter pylori
approx 5 x 0.5 µm

Glomerular capillary loop
approx 500 nm thick
Immunology

1
2
3
4
5
6
7
8
9
- Comprehensive service to MRI, SMH, REH & GPs
- Gynaecological pathology tertiary referral centre
- Ophthalmic pathology tertiary referral centre
- Comprehensive renal biopsy service
- Immunocytochemistry and muscle biopsy service
- Developing molecular biotechnology
- Mortuary service for Trust & City deaths
- Facilities for GMP forensic autopsies
- Integration with Bereavement Centre
- Comprehensive museum and student teaching facilities
Manchester Cytology Centre &
Manchester Cytology Training Centre

- Largest fully integrated Cytology unit in the country
- Processing about 114000 cervical smears annually
- Dedicated fine needle aspirate service
- Centre for Liquid Based Cytology (LBC) and wart virus testing.
- State of the art facilities
- At the forefront of the introduction of new techniques;
- The Manchester Cytology Training Centre is situated in custom-built accommodation on the ground floor. Delegates attend from laboratories and clinics throughout the NW Region and UK

---

Smear screening
Group discussion
LBC Preparation

Conventional Smear, x10 mag
LBC Smear, x10 mag

---

From this...
...and this...
...to this (Sep 2002)
• Unified microbiology service for Central Manchester and Manchester Children’s University Hospitals NHS Trust, University Hospital of South Manchester, Christie Hospital and other Trusts across NW Region

• Comprehensive Bacteriology repertoire, including specialist respiratory and enteric services.

• Rapid TB Culture

• Meningococcal Reference Unit – nationally appointed specialist reference centre (http://www.hpa.org.uk/cfi/other_ref_labs/mru1.htm)

• Vaccine Evaluation Unit

• Large Virology laboratory providing reference services for the North West of England and specialist testing for the UK

• Extensive Molecular Diagnostic laboratories containing state of the art equipment for Rapid Polymerase Chain Reaction (PCR) assays for bacterial, fungal and viral pathogens and sequencing facilities for genotyping and resistance monitoring.

• Major focus for training of Medical Microbiologists

FE500 Pre-analytical Analyser

Automated Viral Serology

Culture plates

Sensitivities

Random Access Serology

Blood culture instrumentation