**Specialty:** Chemical Pathology (with Metabolic Medicine)

**GMC:** WOS/452

**Deanery sponsoring programme:** West of Scotland

**Postgraduate Dean:** Professor Alastair McLellan

**Responsible Associate Dean/GP Director:** Dr Wilma Kincaid

**Programme Type:**
- Deanery-based or National: National
- Specialty or Sub-specialty: Specialty

**Date of GMC recent approval:** August 2010

**Associated Royal College / Faculty**
Royal College of Pathologists ([www.rcpath.org](http://www.rcpath.org))

**Web address**
[Link](http://www.rcpath.org)

**Curriculum and Associated Assessment System**
[Link](http://www.rcpath.org)

**Date programme information last updated** September 2012

**Recognised Programme Locations and Environments**
This programme involves placements in some or all of these Health Boards and hospitals:

<table>
<thead>
<tr>
<th>West Deanery</th>
<th>North Deanery *</th>
<th>South East Deanery *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glasgow Royal Infirmary</td>
<td>Aberdeen Royal Infirmary</td>
<td>Edinburgh Royal Infirmary</td>
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<tr>
<td>Stobhill Hospital</td>
<td></td>
<td>Western General Hospital, Edinburgh</td>
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<tr>
<td>Gartnavel General Hospital</td>
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<td>Edinburgh Sick Children’s Hospital</td>
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<tr>
<td>Western Infirmary Glasgow</td>
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<tr>
<td>Southern General Hospital</td>
<td>East Deanery *</td>
<td>Ninewells Hospital, Dundee</td>
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<tr>
<td>Yorkhill Children's Hospital</td>
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<tr>
<td>Wishaw General Hospital</td>
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* Trainees based at the North, East and South East Deaneries will rotate to the West to fulfill some training requirements.

**Programme Director**
Dr Peter Galloway

**Contact**
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**Programme Description**

<table>
<thead>
<tr>
<th>1 a. What particular specialty learning opportunities does this program provide e.g. sub-specialty exposure, especially those which are not available elsewhere?</th>
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<tbody>
<tr>
<td>Chemical Pathology (with Metabolic Medicine) is a national training programme. As such, all trainees have exposure to all components of the programme regardless of which centre they are based in. For trainees in some centres, this will involve rotation to other centres (e.g. Glasgow) for experience in some components, e.g. the diagnosis and management of children and adults with inherited metabolic disorders.</td>
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b. How do trainees access these opportunities?

West Deanery:
Trainees are appointed to either the North Glasgow Hospitals Division or South Glasgow Hospitals Division Department of Clinical Biochemistry of NHS Greater Glasgow & Clyde (GG&C) as their base hospital. Both Departments have Medical and Scientific Consultant grade staff, are well equipped and provide extensive analytical and clinical laboratory services to NHS GG&C and other Health Boards in Scotland. Both departments have close links with Glasgow University Medical School. The Royal Hospital for Sick Children is a component of the South Glasgow Hospitals’ Department and all trainees rotate through this Department for training in paediatric clinical biochemistry and paediatric inherited metabolic disorders.

All the consultants involved in training in Chemical Pathology with Metabolic Medicine are involved in direct patient care and thus the programme is able to provide clinical training in Adult and Paediatric Inherited Metabolic Disorders, Diabetes Mellitus, Obesity, Calcium and Metabolic Bone Disease, Lipid Disorders and Cardiovascular Risk Prevention and Nutritional Support.

Trainees rotate to Wishaw General Hospital for 6 months, a modern well equipped and staffed district general within commuting distance from Glasgow.

North Deanery:
Trainees are appointed to NHS Grampian and are based the Department of Clinical Biochemistry, Aberdeen Royal Infirmary. All of the medical consultants are involved in direct patient care: particular areas of activity include the Nutrition Team (provision of parenteral nutrition to inpatients and home parenteral nutrition on an outpatient basis); Lipid/Cardiovascular Risk Clinic; Severe and Complex Obesity Service (including access to bariatric surgery) and Diabetess. The department has good links with the Metabolic Bone Clinic and clinics for children and adults with inherited Metabolic Disorders, and attachments to these clinics will be arranged. Clinical and laboratory experience in inherited Metabolic Disorders will be expanded by rotation to Glasgow.

East Deanery:
Trainees are appointed to NHS Tayside and are based in the Department of Biochemical Medicine at Ninewells Hospital. Both medical consultants are involved in direct patient care in the form of Cardiovascular Risk, Obesity and Diabetes clinics. There are strong links with the endocrine team including the Metabolic Bone Clinic. The Obesity Clinic co-ordinates with surgical and dietetic arms of specialist weight management in the Obesity multi-disciplinary team (MDT); a local programme of bariatric surgery has been supported by NHS Tayside since 2010. Trainees will gain exposure to all aspects of Biochemical Medicine, supplemented as necessary by rotation to specialist units in inborn errors of metabolism. Opportunities also exist for rotation through the Scottish Bowel Cancer Screening Unit which is part of the department.

South East Deanery:
Trainees are appointed to NHS Lothian and are initially based at the Department of Clinical Biochemistry, Royal Infirmary. Both medical consultants are involved in direct patient care, in the Lipid and Diabetes Clinics. Links are also established with the Hypertension Clinic and the obesity service, which provides bariatric surgery for this region. Trainees will rotate to the Western General Hospital where the Department provides a range of laboratory activities complementary to those at the Royal Infirmary. Clinical links are established here with the metabolic unit and the metabolic bone clinic. Paediatric laboratory training is provided at the Royal Hospital for Sick Children and there are outpatient clinical services for both children and adults with inherited metabolic disorders.

2a. What opportunities are there for research, audit and teaching?

West Deanery:
There are good opportunities for research. Within the past five years four trainees have been encouraged to and have taken the opportunities available locally to do PhDs or MDs. There is an active locally organised postgraduate teaching programme for ST trainees and ST trainees are expected to partake in undergraduate teaching to medical students attending Glasgow University Medical School. There are ample opportunities to undertake audit which is actively encouraged.
The department has a high level of research activity and enjoys good links with the Health Services Research Unit at the University of Aberdeen. Trainees will carry out a research project as part of FRCPath, and interested trainees may have opportunities to carry out further research towards a PhD or MD. The department actively contributes to teaching for each year of the undergraduate medical curriculum of the University of Aberdeen and trainees are encouraged to be involved in this. There are many opportunities for audit activity.

**East Deanery:**
The department has a portfolio of research interests in biological variation, reflex/reflective testing and the application of record-linkage methodology to laboratory medicine, the latter reflecting a well-established productive collaboration with the Medicines Monitoring Unit in Tayside. Excellent opportunities exist locally for trainees to compete for Wellcome Trust and MRC funded PhD programmes.

**South East Deaneries:**
The department is active in research and maintains close and productive links with a number of clinical departments. Trainees will carry out a project as part of their FRCPath and will be encouraged, if appropriate, to pursue research towards a PhD or MD. Department members are active in teaching at various levels of the undergraduate medical curriculum. There are many opportunities for audit arising from both the laboratory and clinical activities of the department.

**b. How do trainees access these opportunities?**

All trainees have time allocated to enable them to participate in the above.

**3 a. How are rotations on hospital sites organised?**

**West Deanery:**
Trainees spend their initial 18 months at their base hospital. This is usually followed by 6 months at Wishaw General Hospital. The trainees then usually rotate for six month to North or South Glasgow, depending upon which is their base hospital, and rotate to The Royal Hospital for Sick Children. The timing of these two rotations can vary but will be completed in the first 42 months of the training programme. The Trainees then return to their base hospital. Glasgow is a compact city and trainees do not need to move their residence during the training programme.

**North Deanery:**
Trainees are based in the Department of Clinical Biochemistry, Aberdeen Royal Infirmary. Most clinics are currently held at the nearby Woolmanhill Hospital in the city centre, although there are plans to move these clinics to Aberdeen Royal Infirmary in the next few years. The department is also responsible for the multidisciplinary laboratory at Dr Gray’s Hospital, Elgin, and there will be opportunities to spend some time there. In Year 3 of the rotation, trainees will spend some time in Glasgow in order to obtain additional specialist experience in the laboratory and clinical aspects of inherited metabolic disorders.

**East Deanery:**
Trainees are based primarily in the Department of Biochemical Medicine in Ninewells Hospital. There is also a laboratory at Perth Royal Infirmary and trainees will rotate through this as appropriate. Further training to meet specific needs will be arranged with external units.

**South East Deanery:**
Trainees spend at least their first 18 months at the Royal Infirmary. Following which, in discussion with the trainee regarding their training needs, they will spend appropriate amounts of time at the Western General Hospital, the Royal Hospital for Sick Children and St John’s Hospital. Further training can be arranged as appropriate and, historically, trainees have spent brief periods in Aberdeen to obtain further specialist training in nutrition. The duration of all of these placements can vary to suit individual training needs.
**b. Which hospitals are involved?**

**West Deanery:**
Glasgow Royal Infirmary, Gartnavel General Hospital Glasgow, Southern General Hospital Glasgow, The Royal Hospital for Sick Children Glasgow, Victoria Infirmary Glasgow, Wishaw General Hospital.

**North Deanery:**
Aberdeen Royal Infirmary, Woolmanhill Hospital (Aberdeen), Dr Gray’s Hospital (Elgin), with rotation to Glasgow for additional specialist experience in inherited metabolic disorders as above.

**East Deanery:**
Ninewells Hospital, Perth Royal Infirmary, King’s Cross Hospital. Rotation to Glasgow for additional training in inborn errors as above.

**South East Deanery:**
Royal Infirmary, Western General Hospital, Royal Hospital for Sick Children, St John’s Hospital (Livingstone), with rotation to Aberdeen for specialist experience in nutrition.

**c. What degree of choice is there for trainees?**

**West Deanery:**
There is a limited degree of flexibility regarding the timing of rotations. Trainees are appointed to North Glasgow or South Glasgow according to the vacancies that exist at the time of appointment with trainees having the option to choose according to their ranking at appointment if there are vacancies on both to be filled.

**North Deanery:**
Dependent on other demands on colleagues in the West of Scotland, there is likely to be some degree of flexibility in timing of rotation to Glasgow for further experience in metabolic disorders. Towards the later years of the rotation, it is envisaged that trainees will have completed the minimum required number of clinics in each component and will have the opportunity to develop further in-depth experience in areas of particular interest to the trainee.

**East Deanery:**
As with other Deaneries, the timing of rotations is flexible and the co-ordination of training at national level allows the needs of individual trainees to be met without too much difficulty. Trainees will be given opportunities to gain further experience in specific areas of departmental activity if they wish.

**South East Deanery:**
The timing of laboratory rotations is flexible and a number of relevant clinics are available at more than one site, so can be attended as required. Towards the end of training, trainees will be expected to have completed the numbers of clinics required by the training programme and have the opportunity to develop further specialist interests if desired.

**4. What teaching (e.g. day-release or exam preparation) or learning opportunities (e.g. e-learning, OOPE), are unique to this post or a key feature in the West?**

**West Deanery:**
There is a rolling fortnightly half-day tutorial teaching program for medical ST trainees and science graduates training for careers in Clinical Biochemistry.

**North Deanery:**
The Department of Clinical Biochemistry has a weekly Continuing Professional Development (CPD) programme which is particularly suited to the needs of trainees; further tutorials geared towards specific needs of trainees are
also organised as required. The department is also able to support trainees’ attendance at external training courses and scientific meetings.

**East Deanery:**
Weekly journal clubs, grand rounds and endocrine/diabetes meetings form the backbone of educational activity with a departmental FRCPath study group complementing these. Additional tutorials and teaching are provided as required for specific training needs.

**South East Deanery:**
The Royal Infirmary has a weekly (during term time) programme of department seminars. Further tutorials and teaching are arranged as required to fulfill the training needs of current medical and clinical scientist trainees.

5. **What can trainees expect of their trainers in this post?**

**West Deanery:**
All Trainees will have close day to day contact with their trainers and will be treated as important members of the department.

**North Deanery:**
All Trainees will have close day to day contact with their trainers and will be treated as important members of the department.

**East Deanery:**
All trainees have close daily contact with senior colleagues and will be fully integrated into all departmental activities.

**South East Deanery**
All trainees will have close day to day contact with their trainers and will meet regularly to plan training needs and goals. Trainees are important members of the department and integrated into the clinical and managerial activities of the departments.

6. **What are key markers of success? (e.g. exam pass rates, MD, PhD, papers)**

**West Deanery:**
The West of Scotland programme is highly rated by trainees within the UK. Its trainees have a very high success rate in the FRCPath. Of the current trainees one is about to submit a PhD thesis. Another has in the past year obtained an MD and one has a PhD that she obtained prior to joining the programme. A trainee who completed his training in February 2010 has taken up a consultant post in a teaching hospital and his PhD was conferred by Glasgow University in June 2011.

**North Deanery:**
The Department of Clinical Biochemistry has an excellent publication record: in the past year, a large number of posters have been presented at national and international conferences, including Euromedlab (Berlin), the American Association for Clinical Chemistry (Atlanta, Georgia) and the International Association of Forensic Toxicologists (San Francisco, California). Furthermore, at least 12 scientific papers have been published by the department in the past year. Trainees will be actively encouraged to be involved in research and publication.

**East Deanery:**
Success rates in FRCPath examinations are excellent. Local research opportunities abound and our most recent trainee has recently successfully completed her MD. Presentation at local, regional and national meetings is expected. Trainees will be given opportunities early in their training to prepare projects for publication. The department is represented on the editorial staff of the Annals of Clinical Biochemistry.
South East Deanery:
South East trainees have had a high success rate in the FRCPath. Several recent trainees have come into their posts already holding a PhD, so there have been no recent examples of obtaining a research degree while in post. However, close and productive links are established with a number of clinical units and these give rise to an active publication record in the peer reviewed literature.

Programme Descriptor
Clinical Biochemistry offers the combination of scientific and managerial challenges running a laboratory with ongoing predominantly outpatient clinical care. You will develop highly specific skills in a few areas of clinical practice. You will develop laboratory diagnostic skills to help colleagues appreciate the limitations of tests in all areas of the hospital.
Approach a Consultant Clinical Biochemist and find out how their week works, get a tour of a lab and see what goes on. Find out what different staff groups work in a laboratory and how a medical biochemist role is different. After CMT and MRCP(UK), enter a five year training programme.

How to apply
http://www.scotmt.scot.nhs.uk/

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Specialty Training Committee
Chair: Dr Peter Galloway, Training Programme Director
Members: Dr Peter Galloway – South Glasgow
Dr Maurizio Panarelli – North Glasgow
Dr Peter Rae – Edinburgh
Dr Michael Murphy – Dundee
Dr Kevin Deans - Aberdeen

Quality of Training

GMC Trainee Survey Information (2011) Link