WHAT IS MEDICAL BIOCHEMISTRY?

70% of medical treatment decisions rely on laboratory test results. Medical biochemistry is the hub of the diagnostic process and provides information invaluable to every other medical discipline. Changes in a wide range of analytes, in blood and other body fluids, are associated with various pathologies. It is our role to detect these deviations, and to oversee the use of biochemical tests for screening, diagnosis, prognosis, and management of diseases.

THE RESPONSIBILITIES OF A MEDICAL BIOCHEMIST INCLUDE:

- Advising clinicians on the appropriate laboratory tests for the workup of a particular clinical problem, and on the interpretation of test results, especially for complex, highly specialized tests.
- Investigation of anomalous results incongruent with the clinical picture.
- Directing the operation of a clinical laboratory, ensuring that tests are being performed accurately, reported correctly, and communicated to the ordering physicians effectively.
- Evaluation of the latest technology and development of new lab tests.
- Diagnosing and managing patients in specialized metabolic clinics (e.g. lipodystrophy clinics).
- Participating in clinical research and medical education.

WHAT IS THE UBC MEDICAL BIOCHEMISTRY RESIDENCY TRAINING PROGRAM LIKE?

The UBC Division of Medical Biochemistry offers a strong and varied program leading to eligibility for Royal College certification in both medical biochemistry/pediatrics and internal medicine.

Residents will complete 3 years of internal medicine/pediatric training, followed by 2 years of laboratory medicine training. The final 2 years of residency are designed to allow trainees to become experts in all aspects of biochemistry testing, and to become proficient in the operation and management of clinical laboratories. Rotation will be primarily based at the Vancouver teaching hospitals.

The last 2 years of training emphasize:

- Biochemical test interpretation, and consideration of analytic and ethical reasons for anomalous test results.
- Analytical techniques with regard to test principles and method design, evaluation.
- Involvement in a longitudinal basic sciences, clinical or epidemiology research project.
- Maintenance of clinical skills by taking part in inpatient diabetes general endocrine clinic.

WHERE CAN I FIND MORE INFORMATION?

If you are interested in learning more about the specialty, and/or would like to set up an elective, please contact the UBC medical biochemistry residency program director:

Dr. Andrea Mattman
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604.875.8190

You can also visit our website at:
http://pathology.ubc.ca/residents/

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On average, one position is available at UBC per year. However, alternative arrangements may be made for exceptional candidates.

WHO SHOULD CONSIDER MEDICAL BIOCHEMISTRY?

We are looking for applicants with:

- An interest and background in biochemistry/chemistry from undergraduate/postgraduate studies.
- An aptitude for laboratory and clinical medicine.
- The ability to communicate effectively, both verbally and in writing.
- The ability to work well with others.
- Strong technical and leadership potential.

MISSION STATEMENT

Interpretation of abnormal results and the resultant diagnosis are based on a range of factors, including the patient’s age, medical history, and symptoms. A result which may be simple to interpret in one patient may be challenging in another patient who is taking multiple medications and has a number of co-morbidities.

Analyser reports calcitonin of 2.64 ng/ml. Medical biochemist says...

25 µM “Is the clinical context, the weight of evidence reasonable?”

56 µM “Is this test in the normalised range of multiple laboratories?”

100 µM “Is this higher than normal values of a population of healthy individuals?”

68 µM “The history of this patient is interesting, but could be wrong information.”

70 µM “They haven’t checked this patient’s \( 1 \text{ mg} \) in the past, could this be wrong?”

74 µM “Outpatient. It’s not necessarily a sign of cancer – could be an AIDS patient.”