# A day in the life of a biomedical scientist

Andrew Paluszkiewicz is a biomedical scientist at Nottingham University Hospital Trust (NUH) working in the haematology and blood transfusion departments, which provides a 24/7 service to patients. The two departments perform a vast array of routine and specialized tests to aid the monitoring and diagnosis of conditions such as anaemia, leukaemia, sickle cell disease, haemophilia and other bleeding and clotting conditions, while also providing compatible blood components and products. This is achieved by identifying patients' blood groups and detecting and identifying clinically significant antibodies that could cause a transfusion reaction, and potentially death, if incompatible units are transfused.

**How did you get into biomedical science?**

After taking a broad range of A levels – biology, physics, psychology and sports studies – I realized I had a great interest in how the human body functioned not only in health, but also in disease. I decided to study an Institute of Biomedical Science (IBMS)-accredited BSc in Biomedical Science at the University of Hull, where I studied for three amazing years and graduated in July 2018 with first class honours. From my studies, and from voluntary work placements at Nottingham City Hospital, Kings Mill Hospital and Thermo Fisher Scientific, I discovered that my passion in biomedical science was directed towards the diagnosis and monitoring of diseases rather than the research element of this fascinating area. In October 2018, I gained a position at the NUH as a trainee biomedical scientist in haematology and blood transfusion, qualifying a little over a year later in December 2019 after completing my IBMS registration training portfolio, and was placed on the Health and Care Professions Council (HCPC) register.

**Can you describe a typical day?**

It can be difficult to describe a typical day when providing a 24/7 service; however, each shift normally begins with a detailed handover from the previous shift workers, which might highlight key patients to closely monitor or act on, particular issues encountered or tasks to complete. Other essential tasks include ensuring that the analysers are running effectively by interpreting the results of control materials tested at specific times between patient sample testing.

These above duties are common between the departments; however, each department requires slightly different skills. Within the blood transfusion department, once the patient's blood group has been identified, a biomedical scientist's role will be to perform further testing to identify a patient's antibody and to perform serological cross-matching between the patient sample and blood units donated by the public. These are essential techniques to provide blood for patients for therapeutic reasons, for blood volume replenishment after surgery or in medical emergencies, where rapid testing and provision of blood products can potentially save a patient's life.

In haematology, you are tasked with checking and interpreting a wide range of test results before releasing any result for clinical use. This also includes making sure that the results gathered are a fair depiction of the body's *in vivo* state by checking a sample's integrity, such as ensuring a coagulation sample has not already clotted before testing. Other tasks in haematology include running further diagnostic tests and procedures, and escalating potentially sinister resultants to haematology registrars and consultants to provide a diagnosis or monitor many haematological conditions.

**What do most people not realize about your job?**

What people may not know about working as a biomedical scientist in a blood transfusion laboratory is the amount of interaction you have with different healthcare professionals. I've given talks about my profession to students in the past and I've been asked if this is a lonely profession. I find it very much the opposite. There is a stereotype for working in a laboratory setting that it is you, your computer/analyser and a few samples for company. However, as a biomedical scientist in haematology and blood transfusion, you work closely with clinical chemistry biomedical scientists, haematology registrars and consultants, as well as interacting with nursing staff/porter staff who either deliver or collect products from the laboratory. You also work closely with your own department colleagues to ensure turnaround times are met and to solve complex cases.

**What inspires you about your job?**

What I find inspiring about my job is how intellectually stimulating it is. You always feel there is more to learn; as you do learn, the more questions you generate in your own mind; and the cycle begins again. I find myself in a dynamic setting with brilliantly intelligent scientists surrounding me every day helping save and improve people's lives, and I love the patient-focused care that underpins every action we do. ■

**Job profile**

Biomedical scientists work as members of a team and assist in the delivery of services in several settings, including within hospitals, carrying out the examination of clinical samples and reporting or presenting results as appropriate.

**Qualifications and key skills**

Generally, a strong interest in science, attention to detail and an interest in analytical approaches and good problem-solving skills are required. Qualifications will include a relevant accredited degree and a certificate of competence from the Institute of Biomedical Science (IBMS) as well as registry with the Health and Care Professions Council (HCPC).

**Responsibilities**

These include carrying out all laboratory analyses associated with the post, including reporting results; maintaining appropriate records and documentation; undertaking quality control procedures; and occasionally assisting in the supervision, training and teaching of staff, as well as assisting with the development of new methods and the implementation of new technology.

**Salary and career development**

Starting salaries for biomedical scientists range from £24,000 to £30,000 within the NHS, and with experience and additional training salaries may go up to £30,000 to £37,000, or up to £50,000 for senior biomedical scientists. In order to progress to a more senior level within the NHS, a 3-year NHS scientist training programme (STP) is required.