

Urine collection brought up to date

Urine collection has changed little over the past centuries; now, however, vacuum technology is set to improve the situation for patients and the laboratory, as Colin Freeman explains.

Urinalysis is undoubtedly one of the very oldest laboratory tests, first used by the Babylonians in 4000 BC, then developed by the ancient Greek physician Hippocrates in 500 BC, who studied its colour and appearance to help diagnose a patient. Since these ancient times, scientists in the 18th, 19th and 20th centuries have brought urine microbiological diagnosis out of the dark ages, culminating in present-day high-throughput platforms that dramatically reduce time spent on urinalysis, as well as other conventional microbiological methods of testing.

It is a shame, then, that urine sampling techniques have not seen the same levels of advance in the UK. In fact, some might question if a 2-cm wide universal container is any improvement at all, bearing in mind urine collection is mostly a self-sampling technique, often asked of sick or elderly patients. So, is spillage or contamination waiting to happen? Now, there is a modern urine collection system that will provide full compliance with the latest urinalysis analysers and also synergy with patients.

The aptly named Vacutest uses evacuated primary sampling tubes,

compatible with most if not all urinalysis workstations, and enables urine to be collected easily and safely from the patient into a 6-cm wide-mouth container (three times the diameter of a standard 30-mL universal container), and from there sampled straight into the appropriate analyser tube for direct or further analysis in the laboratory. Figure 1 shows an evacuated tube 'docked' with the special cap of the specimen, while Figure 2 shows the collection device 'straw' used to transfer urine from conventional specimen containers to the primary tube.

No fuss, no mess

The system provides a minimal risk of contamination and a much happier environment for urinalysis laboratory staff compared to a typical urine

preparation bench. The wide-mouth container allows much easier and more accurate sampling, for men, women, children and the elderly; thus, a cleaner specimen is sent to the laboratory.

The evacuated tubes are filled – on at the hospital ward, in the laboratory or at the GP surgery – and sent to the laboratory for testing. So, no more leaking universals or dripping Pasteur pipettes, simply a safe, patient- and laboratory-friendly, step-reduction method to bring urinalysis, at long last, into the 21st century.

You would be forgiven for comparing this to blood testing, where 30 years ago syringes and needles were the norm, until evacuated tubes emerged. Using an evacuated blood collection system proved easier and more comfortable for the patient, as well as saving time, waste and significantly reducing contamination risk. Nowadays, phlebotomists everywhere would be rightly horrified if asked to go back to the ancient syringe and needle sampling method. The same will undoubtedly become true of Vacutest as more and more pathology laboratories adopt the principles of evacuated urine collection and the benefits it can bring, not only for patients but also pathology laboratory itself. With infection control guidelines becoming more and more important in clinical pathology laboratories, there is help at hand.

PiP



Fig1. The 120-mL specimen pot with tube *in situ*.



Fig 2. The collection device 'straw' used to transfer urine.

For more information and samples of the Vacutest system, contact Elkay by email (sales@elkaylabs.com) or visit the company's website (www.elkaylabs.com).