

Thermostatically controlled autoclaves

Thermostatically controlled autoclaves such as the Prestige Medical (Figure 1) present another issue. The thermostat circuitry should ensure that the temperature is controlled so that pressure never rises to the level at which the safety valve operates. The safety valve can therefore only be checked by disconnecting the temperature regulating circuitry or by removing the valve and using calibrated test equipment. Neither of these can realistically be carried out by school or local authority staff.

This leaves you with the following options:

- Return your autoclave to the manufacturer for checking.
- or
- Employ a company to test your device. Make sure that the check they carry out on the valve involves one of the methods above. It is not sufficient to simply check that its components move freely.
- or
- Send your autoclave to LMP for testing and certification. This will cost £100 per unit.
- or
- If you have more than 6 autoclaves or if your local authority can arrange for a number of autoclaves to be taken to a central location, it should prove cost-effective for you to contact LMP so that they can send an engineer out to test a batch.

We are, of course, happy to hear from other companies who could offer this service.

Contact details

LMP Technical Services, Rockleigh Court, 17 Rock Road, Finedon, Wellingborough, NN9 5EL, UK. Telephone 01933 683810 or e-mail peter@lmp.co.uk, copying in Steve@lmp.co.uk.

Scotland, Singapore and SSERC

At first glance there might not appear to be a great deal of similarity between Scotland and Singapore. Closer inspection reveals some interesting areas of overlap. Both countries have an almost identical population size, are outward looking in nature, and have a passion for education. Scotland and Singapore are proud of their education systems, but both recognise that constant improvements are needed.

Part of SSERC's role is to offer curriculum support to teachers and technicians in the fields of science and technology. To maintain its position, SSERC must look to other education systems. In November 2016, Fred Young, SSERC CEO, visited The Ministry of Education (MOE) and The National Institute of Education (NIE) in Singapore to explore possible collaborative opportunities. Mr Young found a great willingness to share and began to explore opportunities for collaborative work. Students in Singapore recently achieved top rankings in the PISA (Programme for

International Student Assessment) rankings which are organised by the Organisation for Economic Cooperation and Development to measure how effectively students use their knowledge and skills to solve real-world problems. Excellence in Science, Technology Engineering and Maths, (STEM), is currently a major focus for SSERC and so an exploration of the background to these Singaporean achievements could provide some very positive pointers. Both MOE and NIE were very keen to find out more about the ways in which SSERC supports



science and technology teachers and, if possible, allow their own Singaporean teachers and students to experience aspects of SSERC courses.

NIE hosted the first collaborative event with SSERC on 22nd March 2017 in Singapore. Professor Aik Ling Tan, Assistant Dean in charge of professional development at NIE, invited SSERC to run a session for her postgraduate science students prior to their first placement in



schools. The activities which were delivered were similar to those which SSERC uses during our annual Scottish Universities Science School (SUSS).

The Singaporean students engaged immediately in the activities and in their feedback comments such as, 'well done', 'Can we have more of such sessions?' were common. In particular, the students appreciated

the topical nature of the activities and the way in which they were designed to ensure that all pupils would be actively engaged.

Plans are now being developed to invite NIE staff to present at SSERC events and to share their best practice. In time, it is hoped that it might be possible to organise a student teacher exchange between the two countries.

Health & Safety

C. elegans - safety note

C. elegans is widely used as model organism for helminthic parasites. The most common human helminth infection in the UK is threadworms or pinworms (*Enterobius vermicularis*). *C. elegans* therefore is a useful model organism for project work as results can be related to a common infection. Working with *C. elegans* in the school laboratory is more likely to raise issues of sensitivity rather than ethics, although respect for all living things should be observed.

Levamisole acts as an acetylcholine receptor agonist leading to paralysis. Such cholinergic chemicals have largely been removed from sale (e.g. neurotoxic

insecticides). Levamisole is not licensed for human use in the UK although it is available for use in agricultural livestock. Consequently we do not consider it suitable for use in schools.

Preparations containing Mebendazole (Ovex) are available for the treatment of threadworms without prescription from pharmacies. Mebendazole inhibits growth, reproductive capacity, and motility of *C. elegans*. A risk assessment based on the control measures in the patient information leaflet for Mebendazole suitably adapted for laboratory work should be suitable and sufficient to control any risk.