Instituto Português da Qualidade

PORTUGUESE INSTITUTE FOR QUALITY
Rua António Gião, 2
2829-513 CAPARICA
PORTUGAL
Tel (+ 351) 21 294 81 00 E-mail: ipq@ipq.pt
Fax (+ 351) 21 294 81 01 URL: www1.ipq.pt

The role of IPQ and LVC in the covid situation

The unprecedented conditions that Public Health Institutions are experiencing due to COVID-19 pandemic crisis has forced Hospital Administrations to take measures outside the usual work practices in order to manage new challenges, namely the need to postpone the deadlines of maintenance and calibration of equipment with critical use, mainly syringe pumps and peristaltic pumps. These practices might be necessary to preserve the patient care since all available equipment will be necessary and there is no possibility to send it to a calibration laboratory during this crisis. However, this situation can cause serious unidentified dosing errors due to the lack of metrological performance of the pumps according to manufacturer or user specification. Ultimately it can lead to adverse incidents, morbidity and mortality.

It is therefore recommended to perform internal verifications of the relevant and critical equipment, using appropriate methods that can be applied in a clinical environmental. To assist maintenance officers of hospitals to implement an in situ fast accuracy tests, IPQ has developed an explanatory video related to the verification of syringe pumps using a measuring cylinder and a stop clock (volumetric method). This video is available in https://youtu.be/yumLVNTwGmk

Also, a case study related to drug delivery devices and covid situation in hospitals has also been developed by the EMPIR project MeDDII, which IPQ is coordinating. This case study is available in the webpage of the project at www.drugmetrology.com.

Another situation is related to the clinical laboratories that are now performing on a daily basis a vast number of diagnostic tests using piston pipettes for the handling of the samples. In pandemic situations the analytical laboratories may not have the time to send the pipettes to a calibration laboratory and that means that the operational status of the pipette is not verified, so that the diagnostic test result may not be reliable and there is a large probability of having false positive or false negative results. Therefore, it is very important to advice on how to perform internal verifications of the pipettes. The volume subgroup of EURAMET TC F has developed a webinar describing how to perform internal verification of piston pipettes. The development of this webinar was coordinated by IPQ and will be available soon at EURAMET website.

The National metrology laboratories can therefore provide expert metrological and clinical physics advice regarding issues related to infusion risks to prevent the incorrect use of drug delivery devices and piston pipettes.