Automating record keeping for sterilisation

By Deborah Thame, BPharm.

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You have all the right equipment, your staff know precisely what they are doing and you are confident that sterilisation in your practice is second to none. Hand in glove with this goes a copious amount of record-keeping to substantiate it. These days, it is not enough to do a job well, it is often necessary to be able to prove that we did the job well. Does it ever seem to you that you are drowning in paperwork? And despite our dreams to the contrary, the more we integrate computers and modern technology into our working lives, the more paperwork we seem to generate. Paperwork that needs to be sorted, filed and stored "for a period not less than that defined by regulatory authorities", which is typically 7 years after the patient turns 18. Shouldn't there be a smarter way to manage sterilisation record-keeping without resorting to lever-arch files and copious amounts of paper stapled together to gather dust and take up expensive space within archive boxes? Let's just pause for a moment to add up how much paperwork we are talking about here.

Daily vacuum test results, daily air removal test results, printouts from every cycle, load content records for every cycle, load and pack tracking records for each item in every cycle, chemical indicator test results, process challenge test results, parametric release records identifying the operator for every cycle, operator training records, biological test results, Installation Qualification, Operator Qualification, Performance Qualification, repair reports, maintenance reports, validation certificate - the list goes on and on (No, this is not an exaggeration; all of this is required under current Australian Standards!). Now apply the math to this, say you do 6 to 12 cycles per day, 6 days a week, 52 weeks a year, perhaps have more than one steriliser? We are looking at a lot of paperwork. Everything related to the steriliser and the sterilisation process that is needed to substantiate the successful sterilisation of any single item processed in any load has to be documented, cross-referenced and stored for seven years. As if the task of sterilising isn't arduous enough, the recordkeeping can be mind-boggling!

As with any important and complex job, good record keeping acts to minimise errors with each critical step being documented and less likely to be missed. And, in the event that you are called upon to prove that the instrument used on Patient A on the first Tuesday in June last year was correctly sterilised, this paper trail, tracking the instrument back to the specific cycle, proving correct completion of the cycle and linking back to your steriliser validation, is critical. We all know that sterilising instruments correctly is vitally important, record-keeping is your means of showing that you did.

Good paper-based systems can be put into place to document, file and store all of this data. The reasons you might decide to automate record keeping are financial (to minimise the cost, both of doing the recordkeeping and storing it); and business risk management (to minimise the risk of something being overlooked in the busyness of a normal day, being able to prove sterilisation). Simply put, there is a business need to implement (or at least research) an automated solution to manage data capture, storage and retrieval. The bigger and busier your practice, the more imperative is this need. Some emerging trends that may provide a transition into electronic record keeping may include the use of digital pen and paper technologies, process documentation software solutions and data loggers.

Automating record keeping

Digital pen and paper technology offers a different approach to automate form filling, storage and retrieval. A technology not currently being applied to sterilisation, it is nonetheless an interesting possibility in the future. The digital pen writes like a normal pen and contains a digital camera with a special optical reader, an advanced image

processing system and a communication unit which makes possible the storage and retrieval of data from form filling. This application works by printing all your paper based forms onto a special paper embedded with a dot pattern (invisible to the eye). The writing is interpreted and digitalised by registering the pen's movement across the paper. Data transfer is simple and in some cases as easy as placing the pen in it's rechargeable holder. From there, all the information from the forms is transferred from the pen to your computer system where they are stored in a digital format. Alternative forms of digital transfer may involve the use of *Bluetooth* devices to transfer the data remotely to your practice computer systems or a USB cable. To date, this expensive pioneering technology has been used for clinical trials, customer service and medical record applications. However, digital pen and papers applications are flexible and could be adapted to automate the form-filling and record keeping required to administer some of the sterilisation record-keeping.

A more holistic approach is using a hygiene *process management* solution. Software has been developed specifically to document the entire cleaning, disinfecting and sterilisation process. It *tracks* and *documents* the entire load throughout the hygiene cycle providing you with real-time visualisation and proof of a successful outcome. Parametric load release is linked to the operator via independent password and all data is saved in a PDF format and stored electronically on a computer system. The system can be used to generate barcode labels for tracking that are linked to the cycle data. Data is easily retrieved whenever required and this system eliminates the time consuming process of completing additional forms, creating bar code labels and attaching print-outs for each load. Currently this software is available in Europe for hospital/commercial applications; however, following normal trends, this will become more affordable in the not to distant future and so available for office-based practice in Australia.

Yet another option is a *data logger* that is connected to the steriliser to electronically store all the sterilisation results and test reports. Data loggers are currently available for many sterilisers available in Australia. The data logger commonly uses flash card technology to store and download data from the steriliser to your computer for long-term storage, eliminating the need for archive boxes full of manual print-outs. While not yet covering all of the practical requirements of the Australian Standards, data loggers are available now and there really isn't any reason why you couldn't be on the road to automating a large part of your records with very little financial outlay.

Technology continues to play an important role in making the work-place more efficient and it is only a matter of time before such innovative applications will be developed that will make the process of electronic sterilisation record-keeping a simple and affordable option.

About the author

Deborah Thame is the co-founder and Managing Director of STS Health. STS Health is a wholly owned Australian company specialising in the distribution and maintenance of small steam sterilisation equipment. If you are interested in other testing and monitoring procedures please contact STS Health for a copy of their Practical Guide to testing and monitoring small steam sterilisers - email info@stshealth.com.au, call (08) 9244-4628 or visit www.stshealth.com.au.