

Role of case carts in sterile management

Roskilde Hospital in Denmark has realised the many benefits of implementing case carts with Getinge's T-DOC instrument management system for delivery of sterile equipment to the operating room

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In 2005, Roskilde Hospital introduced a new concept for delivering sterile articles to the operating department – called case carts – in connection with an upcoming renovation of their operating rooms (OR).

Manager of the central sterile supply department (CSSD), Cherry Kuhlmann, had first seen case carts in operation during a visit to Auckland City Hospital, in New Zealand. It became clear that case carts would provide a rational and lean way to handle logistics between the CSSD and OR. Furthermore, this would offer a great improvement on the traditional time-consuming practice of personnel from the CSSD depositing the instruments for the OR, and then OR personnel having to find the various items for a specific operation, which resulted in unnecessary handling.

In connection with the upgrading and renovation of the operating rooms to high technology theatres, many factors had to be incorporated into the planning because the number of depot areas had to be minimised to allow more room for the operating theatres. This challenge was mandatory and so case carts, which contained all the sterile items required for a specific operation, were introduced.



In 1996 Roskilde Hospital purchased an electronic system for stock management (called ILS), and in 1997 Roskilde CSSD purchased the modular sterile supply management and traceability solution T-DOC from Getinge. Basic T-DOC functionality was first purchased, ensuring traceability and gaining control of the instruments throughout their lifespan in terms of safety, availability and expenditures. Over time, more modules were purchased and finally, in 1997, T-DOC's OR- and Stock functionalities were introduced in order to ensure on-time delivery and correct instruments in the case carts.

Preparing for roll-out

Before roll-out of the case cart set-up, there were conditions that had to be met:

an extension of approximately 220m² to the CSSD was required; design and purchasing of 50 stainless steel carts; purchasing and installation of a cabinet washer disinfectant; the purchasing and implementation of T-DOC functionality; and the interfacing between ILS and T-DOC. These conditions were compiled, including an overview of the costs, and presented to the Director of the hospital. After approval, the alterations were carried out between 2006 and 2007.

In the design of the new OR, architects needed to incorporate room for emergency case carts, walkthrough cupboards between the theatres and the adjoining corridors for the planned operations, and a minimal depot for intraoperative instruments. The IT

department and Getinge were involved in all stages, because T-DOC and scanners were to be installed in every theatre.

During and after the alterations, the CSSD, OR and surgeons decided the contents of the case carts for each particular type of operation. In the beginning, many of the OR staff and the doctors were dubious that the case carts would contain everything required for the operation. Using T-DOC reports to find out what equipment and instrumentation was actually used were undertaken during 2008, and this information then helped to define the exact contents. A very close dialogue between the CSSD and the OR was of utmost importance.

Findings

There are several surgical specialties using the Central OR, and implementation was carried out for one specialty at a time, to allow each to become comfortable with using the new case cart concept. Implementing case carts introduced new roles in the CSSD: one for transfer and return of case carts; and one for packing case carts according to the scheduled operations. All scheduled operations are defined in T-DOC and are used for planning and ensuring on-time delivery of the case carts.

The work flow for these processes is shown in Figure 1. These include:

- Full electronic traceability of instruments linked to the individual patient, according to national standards
- In the unfortunate event of contamination, the source and involved parties can be identified quickly and efficiently
- The actual cost per patient treatment is now available
- Increased turnover due to less waste of factory-made sterile goods
- The new case cart concept has resulted in shorter turnaround times in the OR, resulting in more patients being treated and higher hospital turnover
- Improved infection control, as the responsibility for correct storage of sterile products is in one place – in the CSSD

The benefits arising from using case carts and T-DOC are manifold and all OR

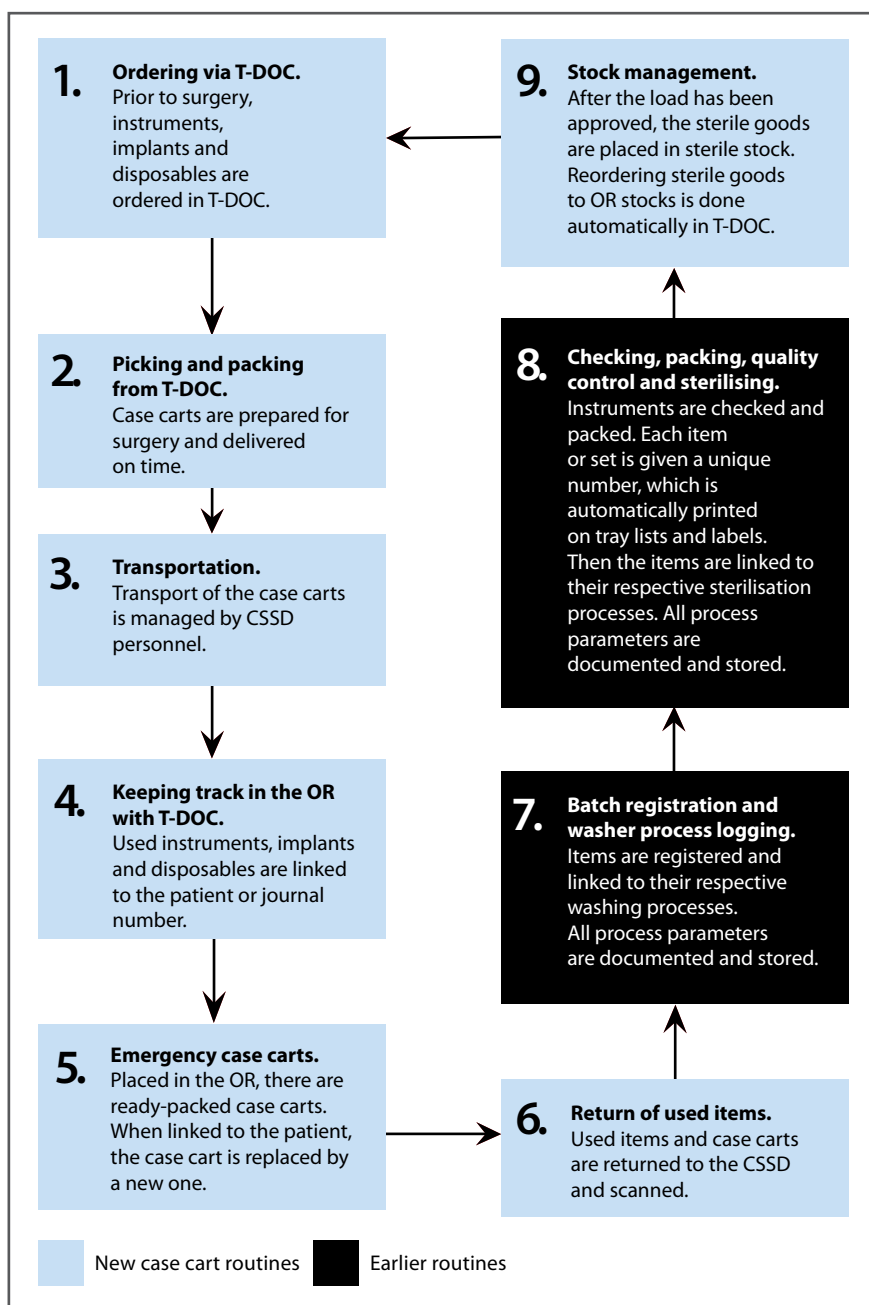


Fig. 1: Work flow processes

staff and surgeons at Roskilde Hospital have welcomed their implementation. Head of OR, Anne Berg, was extremely positive from the outset, and there have been many benefits of introducing the concept for her personnel, including an upgrading of staff competencies.

Senior Specialist Surgeon, Dr Michael Seiersen, has recognised that workflow is smoother with the new system. In addition, staff in the CSSD have been presented interesting challenges (upgrading and expanding their many skills); other departments in the hospital, for example,

day surgery, have introduced the systems; and last, but not least, the system has cemented a closer working relationship between the OR and the CSSD.

In conclusion, the benefits of a case cart system are clear. It saves time and money by appropriately deploying staff and by standardising inventory and instruments, and improves infection control. Use in conjunction with the T-DOC sterile supply management and traceability system allows further optimisation of investments and ensures a high quality level of hospital operations. ♦