Day in the life of the Hospital Sterilisation and Disinfectant Unit

Most clinical instruments used during surgery, and outpatient clinics, are reusable. In order to make them safe to be used on different patients, staff in ABM’s Hospital Sterilisation and Disinfectant Units (HSDUs) clean disinfect and sterilize the equipment after every use.

ABM has three HSDUs; Singleton, Morriston and Princess of Wales. Each team consists of assistant and senior assistant technical officers, who work to ensure that the instruments are clean and sterile for each operation and appointment. Delivery and collection assistants are responsible for bringing the items to the HSDU and returning them when they are ready.

Jan Day has been an assistant technical officer at Singleton’s HSDU for 16 years:

“I really love my job. It is so busy, and each day is something different. There is always a lot to learn as equipment is always being updated. You need to learn the names of everything you process, as well as how to take them apart and reassemble them. We work with each other to train and support those who are new. New staff shadow us to learn the process.

“The majority of our work comes from theatre. We clean between 100 and 150 sets of instruments a day, and each one could contain hundreds of different pieces. The challenge is meeting the demands of clinics and theatres to have their equipment ready. We aim to have a 24 hour turnaround.

“At each stage of the cleaning process, we wear protective clothing, including visors, gloves and hats. It prevents us from contaminating the clean instruments, but also keeps us safe when handling dirty equipment.”

Picture: Jan Day, assistant technical officer at Singleton’s HSDU, prepares clinical instruments to be washed

Instruments are tracked as they go through the HSDU process. Each tray has a tracker tag with a tracking number on it, as does each instrument. When the instruments first arrive in the HSDU, they are scanned and entered on the system to show they are there. As each member of staff works with them, they update the record to show where the equipment is. If there is a query, staff can tell at a glance whether something is in the washer or being reassembled.
Jan added: “Each day before we start the cleaning process, we need to test the machines to ensure the machines in the wash room are working correctly. When we are satisfied that they are working correctly, we prepare the instruments.

“First we use a checklist provided by the theatre or clinic to ensure each set is complete and no piece of equipment is missing. Then we inspect the equipment to make sure nothing is broken. Anything which is heavily soiled is pre washed manually or via the ultrasonic. The items are then placed in a basket ready to be put through the washer machines. Larger items are either opened out or dismantled so that every crevice can be cleaned. Once several baskets are ready, we load them into one of the eight washer machines.”

The washer machines have a four stage cycle. The first is a pre wash, on a low temperature between 30 and 35 degrees Celsius, which softens and loosens dirt on the equipment. Then chemically treated water is used to thoroughly clean each instrument. The temperature is also raised to between 40 to 45 degrees Celsius. This is followed by clear water at 90 degrees Celsius to rinse. As the water temperature rises, it becomes hot enough to disinfect the instruments. Finally, hot air is filtered into the washer to dry the items.

Each machine has a small information screen above the door which monitors each wash. Once the machine has finished, staff check the screen to ensure that it has gone through every one of the cycles and no errors have occurred. If everything is ok, they are ready to be taken into the clean room to be reassembled.

HSDUs are designed as a one way system. The washer machines separate the wash room and the clean room and have doors on both sides. The design lessens the risk of recontamination. Staff working in the wash room put the instruments into the machine but once they are clean they do not have any contact with them. The double sided machines mean that the staff working in the clean room that day can take the instruments to reassemble without having to go into the wash room. When the machine is finished, a green light shows, washroom staff will verify the load and inform the clean room staff that they can unload the machine.

Jan said: “Once the baskets are out of the machine, we take them to reassemble the sets of instruments. Each instrument is checked to make sure that it is clean. Anything which isn’t is sent back into the wash room to be put through the washer again. We also print off a fresh checklist to ensure that nothing is missing or broken. If it is, and we can fix or replace it, we will. If not, the clinic or theatre must authorise a new one.

“When we are happy that everything is present, clean and intact, we reassemble the instruments and put the sets back together. The senior assistant technical officer then checks that the set is complete. The sets are wrapped according to specification when they are ready. We do it in such a way that the clinical staff can open them towards their body, so they don’t have to lean over the instruments, avoiding contamination.

“Every week, we also carry out tests to make sure that the instruments are coming out of the machine thoroughly clean. An item is picked at random from each of the washers, and a swab is taken. It is then mixed with a protein gel which reacts if traces of blood are present. If blood is
found, the whole load is put back through the washer and another piece tested. If it fails a second time, the washer has to be checked by an engineer.”

When the staff are completely satisfied that the instruments are completely clean, they send the packages into the auto clave room to be sterilised. The clean room and auto clave room are separated by a double sided hatch, through which the packages are passed, to prevent the staff from entering the room and risking recontamination.

The auto clave room has several oven like machines which reach 134 degrees Celsius. The packages are put in there for an hour, and the high temperature makes the instruments sterile. Once they are finished in the auto clave room, the process is complete, and the instruments are ready to be returned to their clinical areas.

Staff work on a rota, spending time in the different areas, ensuring they are fully trained in all aspects of the role.