Behind the Scenes: Sterile Processing Department

(0:01 - 0:17)

One of the most important areas of Mary Goodman Medical Centre is right here. We're in the sterile processing department. It's where all the surgical instrumentation gets cleaned and sterilised for any upcoming surgeries.

(0:17 - 0:36)

Not many people get to see this area, but I'm going to give you an inside look into the sterilisation process. Each day, we see hundreds of different types of instruments that require hundreds of different ways to clean them, and each sterile processing tech must learn these to ensure that the instruments used are safe for the next patient. Instrument reprocessing begins in the decontamination room.

(0:37 - 0:49)

This process begins by soaking and manually cleaning each instrument in a sink filled with a water and detergent mixture. This helps break down and remove the blood and other materials that can be left from surgery. We call this material bioburden.

(0:50 - 1:08)

We use a variety of different types of brushes, syringes, and automated irrigators to remove the remaining bioburden from the instruments. After all the bioburden has been removed from the instruments, we rinse them and move them to the next step in the process, ultrasonic cleaning. With ultrasonic cleaning, we are removing the remaining biofilm that cannot be seen.

(1:09 - 1:28)

Ultrasonic cleaning works by creating ultrasonic waves that travel through the water. These waves create tiny unstable bubbles, and when these bubbles come in contact with the instrument, they implode and remove the remaining biofilm. After all the biofilm has been removed, the instruments are rinsed and prepared for the final step of the decontamination process, mechanical cleaning.

(1:29 - 1:42)

Mechanical cleaning is done in a washer disinfector similar to a high-powered dishwasher. This step removes anything that might be left on the instruments. The washer rack has spray arms that spin and clean the instruments using detergents and high-pressured spraying water.

(1:43 - 1:57)

Each cycle provides a thermal disinfection so the instruments are safe to handle. When the

cycle is complete, we can now inspect and assemble the instruments in preparation for sterilisation. Assembly begins by inspecting each instrument to ensure that they are working appropriately.

(1:58 - 2:18)

We then arrange these instruments into sets that will be used during specific types of surgical procedures. Each set has many types of instruments in common as well as instruments that are unique to a specific surgical procedure, so each sterile processing tech is responsible for learning each instrument and how it works. This provides the surgical staff everything needed to provide excellent care for our patients.

(2:18 - 2:33)

We then prepare the instrument set for sterilisation by placing all the instruments in a mesh basket. The basket is then placed in a specialised container that is designed for sterilisation. Some containers have a sealed hard outer casing and some must be wrapped with a specialised material called blue wrap.

(2:33 - 2:58)

Both types of containers are designed to allow the instruments to be sterilised in the container, and once sterilised, maintain the safety of the instruments while in storage. Sterilisation is done by using different methods, such as steam, vaporised hydrogen peroxide, and a variety of other methods, but the most common instruments that are used in a surgery are sterilised using steam. To make sure the sterilisation process has been effective, we use chemical and biological indicators.

(2:58 - 3:21)

Chemical indicators are placed on the outside of blue wrap or a rigid container and allow us to know at a glance that the instruments have gone through the sterilisation process. They are also placed inside the container with the instruments so the surgical staff knows the instruments were sterilised and safe for use on our patients. The biological indicators help us verify that our sterilisation process is effective enough to kill all the germs that may be on our instruments.

(3:22 - 3:39)

This process helps us know we can provide patients with the best possible care. Once the instrument set has been sterilised, they go into our sterile storage area until they are needed for the next surgical procedure. This area is also the staging area for the next day's surgical procedures as well as potential emergency surgeries.

(3:39 - 3:46)

Once the instruments are ready, we assemble them on a case cart to be sent out for surgery. Be sure to check out mgmc.org for more information.