

Principles of Asepsis

Hi, my name is Renee Anderson and this video is about the principles of surgical asepsis. We've set up a sterile field for you with a dressing kit to help these principles make sense.

The first principle is that the edges of the sterile field are considered to be contaminated. You can see we've outlined for you the 2.5 centimetre border around the periphery. That area's considered to be contaminated. Anything within the border is considered sterile. When you're handling your instruments the area of the forceps that you touch, if and when you set them down, you set them down within that border. This principle also applies to our cleaning solutions. When you're using a solution that's used amongst multiple patients, you want to clean the lip of the solution in order to clean that edge.

The second principle is a sterile object only remains sterile when touched by another sterile object. So when you're rearranging things in your sterile field you have to make sure that sterile touches sterile. So in which case the sterile tips of this forcep can touch any of these sterile things within my field. If, for instance, I was needing to use a forcep to take out of my sterile field, I would do it in a tip-to-tip fashion and move it toward the place where I'm going to use it that way.

The third principle, only sterile objects may be placed on the sterile field. Sometimes you're going to need to add things into your sterile field and you can do this in a couple

of different ways. Remember your sterile packaging to check for any evidence of contamination, any tears, any punctures, any signs of moisture. When you open your items you can see that they themselves are sitting within their own sterile field. So I can add objects this way by coming close to the sterile field and just quickly putting it in. And then another way would be to carefully open the top, hold those edges back and use my sterilized forceps to touch my sterile gauze and then put them into the field. Sometimes on television and sometimes in real life, you'll see nurses putting objects into the sterile field this way. We don't want to do that. It creates a lot of wind currents which breaks the principles of asepsis. It might look fancy, but it's not best practice.

A sterile object out of the field of vision or an object held below waist level is contaminated. So you'll notice that I'm working with the surface at my waist level. And when I set my sterile field up to work with my patient I'll always want to keep it within my field of vision. Only the top surface of the drape is considered sterile. So everything sitting on top of the table is sterile. If, for example, my sterile drape came over the edge then what I simply need to do is redraw my sterile border to account for this 2.5 centimetres.

When you're wearing sterile gloves you need to keep your hands in front of you and away from your body. Again, because you're trying to maintain sterility of your hands. If you have sterile gloves on that drop below the level of your waist they're considered contaminated. So it's just easy to keep them up and in front of you and in your awareness.

Another principle is prolonged exposure to air can result in a contaminated field. So you want to do things like avoiding activities that create wind currents like laughing, talking, sneezing. You want to minimize the number of people walking into the room. Pulling curtains around the bed is a really good idea for that reason, but it also maintains patient privacy. Sometimes you'll want to actually close the door of the patient's room.

When you're opening the items to be placed on the fields you want to do so close to the field. So what I just showed you about the flying gauze, which some nurses are really talented and can get it into the field, that creates too much wind current and is considered bad practice.

You want to avoid reaching over top of your sterile field. Again, it creates wind currents and there may be skin slough or bacteria that comes off of your body and you don't want to contaminate that to your field. And your sterile field should always be prepared as close as possible to the scheduled time of use. So you don't want to set up a sterile field and use it 20 minutes later.

Another principle is that moisture passes through sterile surfaces. When moisture does pass through sterile surfaces it draws micro organisms from unsterile surfaces by capillary action. So when you set up your sterile field you want to do so on a dry surface and if you've cleaned your surface with some kind of antiseptic product you'll want to make sure it's dry before you set up your field. Another way you could contaminate your

field with moisture would be when you're using-- when you're pouring your cleansing solution into your field. You want to do so in a way that you are really careful. If you do happen to get a few splashes, you have to consider how big are they and can you work around that contaminated area.

Nurses do redraw sterile borders all the time. But it's a skill that takes practice. So again, it's going back to the principle.

The last principle we're going to talk about is that liquids flow in the direction of gravity. So when you're using your forceps to hold your moistened gauze, you want to keep your tips down. If my gauze had some saline on it and for some reason I decided to put my tips up, the saline could run down, touch my hand, and then when I invert my forcep to clean my patient's wound, that saline actually is considered contaminated. So you'll want to get in the habit of keeping your tips down all the time.