

## **JP Drain Removal**

Female1: Hi, Renee. What we're going to do today is we're going to remove a Jackson-Pratt drain line from Mr. Jones here. So what would be some of the things you would do to start with?

Female2: Well, I would make sure that I have an order to remove the drain. And in fact, I do because I've checked the chart. And I've given Julio an analgesic about 40 minutes ago. Drain removal can be uncomfortable. It isn't always. But sometimes it's very uncomfortable. So I strongly encourage patients to take an analgesic beforehand.

F1: What exactly is a drain?

F2: A drain is a device that's used to drain fluids from a surgical site. So in this case Julio has had a bowel resection and the surgeon left a Jackson-Pratt drain in there to drain extra fluid from the operative site. So it's internal. Often it will drain liquid, and it tells the surgeon something about wound healing and what might be happening inside the body.

F1: So what could I expect to see?

F2: Well, it depends on the nature of the surgery. In his case I would expect-- depending on how many days post-op he is, initially post-op you would expect sanguineous drainage which then turns to serosanguinous and then eventually serous drainage. Sometimes if there's a complication inside it might start to drain some fecal type drainage in which case that's a bad thing. And I would want to notify the surgeon.

F1: So Julio, could I just look at your drain here? So this is where you see the

drainage in here.

F2: Right. And if I were to come in and I saw a drain like this, this is a closed wound drain. I know from how these drains function that this one's not actually working. It's not activated. So I would stop to question why is this drain not working. Perhaps the last person that drained this didn't reactivate it. Perhaps something has actually happened to the drain.

F1: So activating means that this should be compressed?

F2: Yeah. I can show you. So part of drain maintenance is to make sure that your drains are functioning properly. So like I said, this is a closed wound drain. It has a lid on the top. All you do is you compress it and then reestablish [the suction].

F1: So it should stay down close like this.

F2: Right, so now this drain is actually functioning, prior to that it wasn't.

F1: Okay and this is sanguineous?

F2: This looks to be fresh blood so I would call this sanguineous drainage.

F1: So the other-- when we talked about wounds and we talked about sanguineous, serosanguinous, serous, purulent, would I see the same things in here?

F2: Not necessarily. Purulent means pus which could mean infection. Ideally we don't want to see purulent drainage coming out of Jackson-Pratt wounds because--

F1: That would be bad.

F2: Yes, it tells you that there's something probably negative happening inside the patient. And you'd want to make sure that the surgeon was aware.

F1: Okay, and what about the amount?

F2: The amount is recorded-- the nurse would want to empty this when it becomes a

third to a half full because it gets quite heavy. And then that's recorded in the patient's clinical record. So if I had an order to remove a drain one of the things that I'm checking is to make sure there hasn't been a drastic change in the amount or the character of the drainage that's been coming out of here.

F1: And a drastic change would be, like, if he'd only been having 10 or 20 mls and then all of a sudden he had 100?

F2: Yes. If in doubt have a conversation with your surgeon.

F1: Okay.

F2: Yes I think that's really smart practice.

F1: Okay, thank you. I see you've gathered all your supplies for doing this drain removal, so can you explain what you've gathered?

F2: Right, so first I would have done some hand hygiene before I collected my equipment and I have cleaned the surface with an antiseptic wipe. So what I've gathered is some clean gloves for removing my old dressing because there's a risk of touching blood or body fluids. And that's part of standard precautions. I've grabbed a dressing kit and I've looked to see what kinds of items are inside. Because that helps me to decide what extra supplies I'm going to need. I've also checked the packaging to make sure that it doesn't appear to have been contaminated. I brought my cleansing solution. We're using normal saline because normal saline is noncytotoxic and its best practice for cleaning surgical wounds. I've brought a stitch cutter because I know I'm removing a drain and drains are often sutured to keep them in place. I've brought some sterile gloves because I'm going to use sterile gloves for the procedure because I have to get

quite close to the wound and I don't want to risk introducing bacteria into the patient causing infection. And then I've brought my outer dressings. I've decided I'm going to use an abdominal pad and some absorbent gauze. I know whenever a drain is removed there often is a little bit of extra drainage for the first 24 hours or so. And finally I've brought some tape to secure my dressing. So I've set up my sterile field and we've used the field with the border outline [to] reinforce to the students what that sterile border means. 'Mr. Jones, I'm ready to take out your drain. Are you ready?'

F1: Yes, I'm ready.

F2: Okay, so I'm just going to remove the tape, so that might just pull on the little hairs a little bit. And when I remove my dressing I'm going to assess the type of drainage, sanguineous, serosanguinous, serous, purulent and how much. Now in this case I don't have any drainage at all. He also has a small gauze near the drain site, and that's very common because often there will be a bit of drainage coming out of that site. I'm going to use some forceps to remove that simply because it's very close to the wound and that's going to help reduce the risk of introducing bacteria into the wound.

F1: What would you do if it was stuck there?

F2: If it was stuck I would gently pull, but if it is pulling too much I would soak the dressing with a little bit of saline to make that removal easier.

F1: And I see you discarded that set of forceps because they were dirty, right?

F2: Yes, right. So the first thing I'm going to do is clean the incision.

F1: Which incision are you going to clean first?

F2: I'm going to clean the surgical wound. So there's some inconsistency in the literature about which is considered more clean than the other [the incision or the drain site]. So I want to kind of judge the angles of the body and remembering the principle that fluid flows in the direction of gravity, I would want to clean the first thing in a way that it's not going to be contaminated after I clean the second thing. So in this case his abdomen's pretty flat. I'm just going to go ahead and clean the incision first. One swipe down the center and discard. And that last edge. I accidentally dropped my gauze outside of my garbage. I don't want to go and retrieve that. Remembering the principle of sterile to sterile, if I were to use my forceps to retrieve it I would contaminate my forceps.

F1: Is there any risk of cross-contamination because you're using both forceps to make your little saline balls there.

F2: That's an interesting point and it does come up. The thing is it's only contaminated with the patient's own bacteria. In which case it means it's very safe. So now my incision is cleaned and dried. Now I'm just going to clean around the drain site.

F1: So is that the reason why you can use the same forceps, you know, for cleaning the clean wound first and then around the wound that you consider more dirty?

F2: That's another interesting point and it's inconsistent in the literature if drain sites are considered dirtier than incisions. What we have to think about is all of the skin is colonized with the same bacteria. If it was visibly dirtier, for example, if there was purulent drainage coming from the drain site then you as the nurse might think okay, that looks dirtier. I think I'm going to clean that second. In which case

you can use-- after you've used a forcep on the cleaner incision then you would use it on the drain site. But if you think the drain site is dirtier you wouldn't want to come back to the incision.

F1: For sure.

F2: So now everything is clean and dried. Now I have to cut the suture that's securing the drain site. And I simply do that by holding up on the drain itself and I can see that I have a simple interrupted incision [she meant suture] and I'm just going to cut the one edge. And then just gently lift out so that the suture material is free. Now the suture cutter is a sharp so I want to be careful with how I discard that. I'm just going to put it on the edge of my field. I know it's contaminated but I want to make sure that I remember that it's there and don't bundle [it] up [in] my garbage at the end and end up cutting myself. Next I'm going to use sterile gloves to remove the drain. And it will make sense when I show you what I do. I know that I need sterile gauze to do this procedure, so I'm going to reach with my sterile hands into my sterile field to grab these. Now at this point the purpose of the sterile gloves is because I need to get real close [to] the patient's wound. And I want to make sure that I don't introduce any bacteria to him. My left hand is going to be my counter pressure. I'm going to contaminate my right hand. So 'Mr. Jones, I want you to take a deep breath'.

F1: Renee, what's the literature about the actual Jackson-Pratt being primed or not primed? Do you have to take that off?

F2: When you pull it out? Yes, the literature's inconsistent about that too. Some nurses will open the drain and get rid of the suction and some will leave it on. So

again, there's no literature to say what best practice is.

F1: So what are we going to teach? Probably taking it off?

F2: Okay. All right, so 'Mr. Jones, I'm going to remove your drain. I want you to take a deep breath in and you might feel some pulling'.

F1: I'm ready.

F2: And now I have the drain and I'm just going to put it into the garbage. Remember my right hand is considered contaminated and my left hand is still considered sterile.

F1: Now would we be concerned about the end of that drain? Would we be looking to see how much came out or would I be concerned about that one?

F2: Right. So with this particular model it doesn't accurately show you what a Jackson-Pratt drain looks like. But you would always want to look at the end of the drain. If anything looks unusual, you would want to report that. Likewise, if you're pulling the drain and you give a significant amount of pull and the drain doesn't move, you'll want to stop. Sometimes what happens is the patient's abdominal muscles will clamp down and really hold onto that drain. And if you just maintain your pressure and get the patient continue breathing sometimes the drain will actually slide out. Once in my practice I've seen that not happen and the surgeon actually had to come [and] remove the drain himself and the drain actually broke and the patient had to go back for surgery. So I'm just holding a little bit of pressure. There may be a little bit of fresh bleeding. There may not be. At this point I always quiz students what would you do if all of a sudden there was a hemorrhage and the answer would be to apply pressure and call for help.

But I've never seen that happen.

F1: Do you ever put a steri-strip on top of that?

F2: Never because the purpose of the drain was to drain the fluid. So if you closed the top edges of the wound you're holding any fluid in there that should be coming out.

F1: And from this point then we would--

F2: So I'm going to just leave that dressing there and I'm going to apply my outer dressing at this point. So I'm going to take off my gloves.

F1: Making sure the blue line's on the outside.

F2: You bet. 'How [are] you doing, Mr. Jones?'

F1: That felt funny.

F2: Yes, sometimes it does smart for a couple of minutes after, but you will probably find that you're going to become comfortable really quick. Oh, Wendy, I should mention to you, some nurses will write the date and time that they've changed the dressing on the tape. The literature suggests that that's a good idea and that way nurses know how frequently the dressings are being changed. That will also be documented in the patient's chart.

F1: But I remember being told too, that we don't write it on here and you don't use the sharpies because that [ink] can actually get into the dressing.

F2: Yes, you could introduce felt into the patient's wound.