The Use of Robotics in Gynecological Surgery

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Dr. Turner: I'm Duncan Turner. I'm an OBGYN practicing in Santa Barbara and I am here today with Dr. Arnie Advincula, who is a professor of gynecological surgery at the University of Michigan. He has taken some time to talk today about robotics in surgery.

Arnie, thanks very much for giving some your valuable time to talk today. I've known you for a couple of years and you have always been at the forefront of laparoscopic surgery, you've been very involved in new technology all along. We want to talk today about robotics, how did you get involved with it, what do you think about it now, and what's its place in gynecological surgery?

Dr. Advincula: That's a great question, and first of all I would just like to thank you for the opportunity to be able to sit here with you and talk about this during this interview. We have been doing robotics for about five and half years now. The main reason for getting into it is the fact that despite doing a lot of minimally invasive surgery or laparoscopy, there are still a lot of procedures that we perform that we either struggle with, or haven’t quite yet transitioned from an open approach to a laparoscopic approach. Five and half years ago when I first saw this technology I initially saw it as a way to potentially transition cases that were being done open to a laparoscopic approach, and also to enhance the things that we do to improve upon potentially our outcomes, and our techniques as we perform these minimally invasive procedures.

Dr. Turner: Now, you are obviously an experienced laparoscopic surgeon and one of our frustrations as laparoscopic surgeons is that our colleagues, most of the OBGYNs, have not accepted laparoscopic surgery as much as we would have thought they should, or we would have liked, because we feel our patients do better with smaller incisions and faster recovery. Is this going to help them, the average OBGYN, perhaps take the leap into laparoscopic surgery? They can all do laparoscopy for tubal ligations and observation and so on, but what about doing real surgery of hysterectomies, myomectomies, and so on, does it make it easier for them?

Dr. Advincula: I definitely believe there is going to be a role for that with this type of technology. I don’t think it is going to be for the masses. I don’t think every gynecologic surgeon is going to necessarily benefit from this type of technology, but I truly believe there are enough gynecologic surgeons out there who do very good work, either abdominally, or vaginally, and even do some basic laparoscopic procedures but just need an additional tool to enhance their abilities. In other words, I really view this as enabling technology. It is going to enable a good number of gynecologists who aren’t doing these more advanced procedures to potentially move into that area and do that. In the right hands, with the right indications and the right procedures, it is going to definitely be a value added benefit, not only to the surgeon, but also to the patients.

Dr. Turner: How does a gynecologist get involved with this? If they do laparoscopic surgery to an extent, they want to get better, they’ve heard from their colleagues that this can essentially make any surgeon a better surgeon because of the precision, and because of the downgraded movements that can occur with the robot. How does the gynecologist get involved with it?

Dr. Advincula: Well, certainly the one thing you want to do is first off identify whether or not you have accessibility to this type of technology. It’s still quite new. It’s definitely new in the area of gynecology, so finding out whether there is accessibility in your hospital would be the first thing. If there is accessibility, if a device does exist, then you need to figure out whether you can actually utilize it and share it with the other surgeons, for example urologists, or cardio thoracic surgeons who may be utilizing it in their practices. Then you need to go and get trained. You need to get certified on a system and go through special training so that you can actually apply it to your practice. See some cases. You can even do that before you get trained just to figure out whether or not it’s something you really want to commit to because there definitely is a high level of
commitment that’s required very early on in order to be successful with this. Then having somebody come out and potentially see you get started with your first few cases. Those are some critical things that surgeons are going to need to do if they are interested in applying this to their practice.

**Dr. Turner:** Would the robot, we have three dimensional imaging, which is different from the normal laparoscopy, does this allow for greater precision for perhaps more advanced procedures, for gyn-oncology and that type of surgery?

**Dr. Advincula:** Absolutely. With your ability to move from a 2D environment with conventional laparoscopy to 3D, you gain back your depth perception, and with the enhanced visualization you start to see structures that you normally would struggle with, with regular laparoscopy or even in open surgery. For example you mention the oncologists, that’s a great application, for example, doing your pelvic lymphadectomy. With the added benefit of the way the instruments articulate and move, you marry those two together and it really does enhance what you would normally get with your regular laparoscopy.

**Dr. Turner:** One of the limiting factors for a lot of laparoscopists is their ability to suture. Because of the articulation that is possible with the robot, this is facilitated, isn’t it?

**Dr. Advincula:** t is. Certainly, in my mind, that is really where the benefit lies in this system; is the ability to perform suture-based procedures much easier. Any time you are doing something that is suture-based or requires fine dissection that is where there is definitely an added benefit. In procedures where you don’t necessarily need to incorporate those types of maneuvers the robot may not necessarily enhance that procedure, but it definitely facilitates suturing.

**Dr. Turner:** One final question, how do the patients feel about that?

**Dr. Advincula:** Our patients, again, we’ve been doing this for the past five and half years, they are just ecstatic about it. One of my main principles behind using the system is my ability to replicate my open surgical technique, and I can do that with the current robotic systems that are available. For my patients I can explain to them that they are getting the same surgery they would get open, it’s just that I do it through smaller incisions. I change the route, but not the procedure and to them that’s very comforting to know that we are not taking any shortcuts. And they are excited about the fact that they get a minimally invasive approach to whatever procedure they are undergoing

**Dr. Turner:** Absolutely. Thanks very much for your time.

**Dr. Advincula:** You’re very much welcome, thank you.

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