

This is a video demonstrating the performance of a robot-assisted harvest of a DIEP flap. The patient had a mastectomy and desired a reconstruction. A DIEP flap was decided upon. And a decision was made to use the robot to harvest DIEP flap, as the patient had a BMI of 35. And the robot was docked with two arms set up. And an assist port of 5 millimeters was used.

As can be seen, the inferior epigastric artery was identified. And then a hook was used to hook in a bipolar we use to dissect the inferior epigastric artery all the way inferiorly as well as superiorly until the artery entered the muscle. The meticulous dissection was performed. Small branches were coagulated using bipolar.

The arteries, along with the two veins, were completely dissected. And a spot was chosen to circumstantially dissect the artery and the vein. As can be seen, the vein is gently retreated.

And then, all the branches are taken with a combination of bipolar dissection and some hook electrocautery. Care must be taken to preserve this vessel. And small vessels are meticulously dissected.

The robot greatly helps with the articulation of dissection of this vessel. The vessel, along with the veins, are then encircled, using a vessel loop. And the assist port is used to get some traction on this vessel. Using traction, the rest of the vessel and its little branches are completely dissected all the way inferiorly, And the inferior epigastric artery, along with its veins, are then clipped and divided.

The robot is docked from the side. The patient is elevated with a bump to enable the setup, the trocars that are placed where an umbilical trocar and two trocars on either side, spaced out at a palms-breadth in order to accommodate the robot. As can be seen, certain small vessels are clipped and divided between clips in order to free the inferior epigastric artery.

We believe that is a big advantage, especially in the obese patients, to do this dissection in a minimally invasive fashion, as these patients have been known to have some abdominal laxity after an open exposure, and open harvest of the DIEP flap. The robotic magnification, as well as the articulation, gives a superior approach compared to a laparoscopic harvest. And thereby, this approach was chosen. The rest of the operation was then completed by the local harvest of the DIEP flap, which was dissected out and met the dissection we had performed.

As can be seen, the inferior epigastric artery is then divided between clips. And the flap, along with the vessel, are retrieved where the other team had dissected the flap down. And once this was done, the fascia hole is closed. And then the peritoneum is run with a [INAUDIBLE] to prevent any adhesions. And this completes the procedure.

As can be seen, this would be very, very useful. The patient did well in the postoperative period, and subjectively had less pain compared to the patients who had an open extraction and open harvest of the DIEP flap. The utility of this is probably greater in the obese patients.

As we've seen, a few patients have a lot of laxity in the lower abdomen after harvest of the DIEP. And we field this could reduce the chances of that. The patient has been seen postoperatively and is continuing to do an excellent outcome.