endometriosis as well as strategies for management of iatrogenic pneumothorax.

**Design:** Stepwise demonstration of techniques with narrated video footage.

**Setting:** Diaphragmatic endometriosis has a reported incidence of 0.1-1.5%. Patients may be asymptomatic or present with right upper quadrant abdominal pain, shoulder pain, or chest pain. Treatment may include laparoscopy alone or a combination of laparoscopy and thoracoscopy.

**Patients or Participants:** A 32-year-old female presents with symptomatic diaphragmatic endometriosis.

**Interventions:** The patient elected to undergo laparoscopic resection of diaphragmatic endometriosis. The key principles for safe and effective laparoscopic resection of diaphragmatic endometriosis include:

- Grasping and tenting the endometriotic lesion away from the diaphragm
- Gentle deflection of the liver to improve visualization during the procedure
- Use of the open and spread technique to serially thin and separate the endometriotic lesions from the underlying diaphragm, when possible

The key principles for management of iatrogenic pneumothorax, which may occur with even the most meticulous surgical technique, include:

- Recognition of diaphragmatic injury by visualizing the loss of diaphragmatic tenting
- Communication with the anesthesia team
- Use of the laparoscopic suction irrigator to re-establish the negative pressure within the pleural cavity

**Conclusion:** Patients undergoing open myomectomies had 8.15 times the risk of vascular complications (aOR 8.15, 95% CI 7.01, 9.47). This large association seemed driven largely by peri-operative transfusions (aOR 8.36, 95% CI 7.18, 9.74), though risk of VTE/PE was also significantly increased (OR 2.95, 95% CI 1.49, 5.81) when investigated separately. Patients undergoing open myomectomies were also more likely to be readmitted (aOR 1.52, 95% CI 1.19, 1.94) and undergo reoperation (aOR 1.84, 95% CI 1.27, 2.67) within 30 days of surgery.

**Plenary 5: Fibroids (2:00 PM — 3:00 PM)**

2:04 PM

**30-Day Incidence of Complications and Readmission after Myomectomy**

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**Study Objective:** To determine whether open compared to minimally invasive myomectomy cases is associated with an increased risk of 30-day incidence of post-operative complications.

**Design:** Retrospective cohort study of prospectively collected surgical quality data.

**Setting:** American College of Surgeons National Surgical Quality Improvement Program (NSQIP) database.

**Patients or Participants:** Patients undergoing elective myomectomy for uterine leiomyomas from 2012 to 2018 were eligible. Surgery not performed by a gynecologist or with malignancy were excluded.

**Interventions:** N/A.

Measures and Main Results: A total of 20,278 patients were identified as myomectomy cases. Fifty-eight percent (n=11,742) were classified as open surgery and the remaining 42% underwent laparoscopic/robotic surgery. Patients undergoing open myomectomies were more likely to be Black/African American or Unknown Race (both p<0.01), have hypertension requiring medication (p<0.01), have clean wound status (p<0.01) and ASA classification of 3 or above (p<0.01). Average operative time was longer in laparoscopic myomectomies (164 minutes vs 121 minutes, p<0.01). Multivariable logistic regression was used to estimate the adjusted OR (aOR) and 95% confidence interval (CI) after adjusting for operative year, race, ASA classification, OR time, BMI, and age. Open myomectomies were associated with a significantly increased risk of all post-operative complications. Patients undergoing open myomectomies had 8.15 times the risk of vascular complications (aOR 8.15, 95% CI 7.01, 9.47). This large association seemed driven largely by peri-operative transfusions (aOR 8.36, 95% CI 7.18, 9.74), though risk of VTE/PE was also significantly increased (OR 2.95, 95% CI 1.49, 5.81) when investigated separately. Patients undergoing open myomectomies were also more likely to be readmitted (aOR 1.52, 95% CI 1.19, 1.94) and undergo reoperation (aOR 1.84, 95% CI 1.27, 2.67) within 30 days of surgery.

**Conclusion:** Patients undergoing open myomectomies have a higher incidence of postoperative complications despite shorter operative time. Though post-operative complications are rare, minimally invasive approaches may offer a lower risk and should be considered in appropriate surgical candidates.

**A 6-Step Technique for Smooth Transvaginal Extraction of a Fibroid in Laparoscopic Myomectomy**

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**Study Objective:** In laparoscopic myomectomy (LM), it is necessary to devise a method to extract enucleated fibroids safely, easily, and minimally invasively. In our hospital, we don’t use laparoscopic power morcellation. Before the surgery, we perform an MRI examination on all patients to rule out the possibility of malignancy. Only in cases that are considered benign, we extract enucleated fibroids via colpotomy of the posterior vaginal fornix, using scissors morcellation transvaginally. However, the poor surgical field sometimes makes extraction difficult. To counter these scenarios, we devised a technique for easy transvaginal extraction called the “Crisscross Method”, making a laparoscopic incision into fibroids with a long scalpel.

**Design:** Step-by-step demonstration of the technique.

**Setting:** General hospital in Japan.

**Patients or Participants:** N/A.

**Interventions:** We use a modified diamond trocar placement. After enucleating fibroids and suturing myometrium, we use the following 6-step technique:

1. Grasp and pull the fibroid from the bilateral side and place in a vesicouterine pouch.
2. Remove the trocar from the center abdominal port site and insert a long scalpel.
3. Make several parallel cuts in a vertical direction to the long axis, like an accordion shape. Cut 2-3cm width and deeply into four-fifths.
4. Turn the fibroid over and cut deeply into four-fifths of the center in the long axis direction.
5. Cut the connecting parts alternately to make a long snake-like shape.
6. Perform the colpotomy of the posterior vaginal fornix. Grasp the end of the cut fibroid and feed it into the vagina for extraction.

**Measurements and Main Results:** By using this technique, we were able to extract fibroids easily, even in the cases of huge fibroids, without power morcellation.