1. One of the components of the robotic surgery which appears to add considerable time to the overall length of the procedure is “docking.” Can you add any suggestions for shortening the learning curve for surgeons starting out learning robotic surgery with regard to the “docking” procedure?

Response from Dr. Anthony Visco:

   As with most things, practice will improve efficiency. Docking time has been shown to be less than 5 minutes. Obviously, this will be longer and potentially significantly longer during the early part of the learning curve. I would encourage surgeons to practice this in both animate and inanimate training sessions.

Specific tips I would recommend include:

A. Assure the “wings” are open on the robotic arms

B. Confirm that the drape is tightly draped over the distal ends of the robotic arms at the points of trocar attachment

C. Bring the robotic arm to the trocar to prevent the remote center of the robotic trocar from becoming mispositioned.
2. Table repositioning is frequently used during open laparoscopy to enhance visualization during the case. Since repositioning is impossible during robotic cases, what suggestions can you provide to minimize the need for position change during a robotic case?

Response from Dr. Anthony Visco:

It is critical for surgeons to understand that the table position cannot be changed once the robot is docked since the robot is attached to the trocars and the robot and table are not synced. I typically use a moderate amount of Trendelenberg. However, before I dock the robot I confirm that the small bowel is positioned adequately into the upper abdomen and perform any small bowel lysis of adhesions that may be necessary prior to docking the robot. Since obstructed visualization due to bowel is a common reason for position change, assuring that the bowel is adequately positioned prior to docking should help.

3. The lack of tactile feedback appears to be frequent concern for surgeons performing robotic cases, and at times a cause for conversion to an open or conventional laparoscopic procedure. Are you aware of any technological improvements in development which might enhance this aspect of robotic surgery in the future?

Response from Dr. Anthony Visco:

The lack of haptic feedback with the current robotic system is often discussed. I perceived this as a limitation more during the early part of my learning curve. With experience, the enhanced visual 3D feedback mitigates this significantly. Research and development of haptics is exciting for both video gamers and robotic surgeons. It would not surprise me if future generations of robotic surgical systems include haptic feedback.
4. Certainly the high initial cost of the instrument, the need for specially trained assistants, and the possible need for an enlarged operating room will make robotic surgery cost prohibitive for many smaller hospitals in this county. Do you envision these procedures should best be done in centers where a significant volume of cases can be performed, or do you envision a time when these cases are performed in community hospitals everywhere?

Response from Dr. Anthony Visco:

This is a difficult question because the “right answer” is dependent on several factors beyond the size of the hospital. The hospital needs to perform a cost analysis and decide whether it makes sense for them. Specific questions include: are there surgeons across several subspecialties that could utilize the robot; is the case volume adequate both from a cost standpoint and to allow individual surgeons to progress rapidly through their learning curves; and, will there be adequate OR space and trained personnel? It may be a better model to concentrate robotics at centers with high volume, very experienced surgeons, and dedicated robotic staff.

5. What advice can you give to gynecologic surgeons in mid-career who already are accomplished in laparoscopy who may be considering embarking on robotic surgery?

Response from Dr. Anthony Visco:

My simple advice would be: don’t be afraid of evaluating this new technology but also don’t be pressured to adopt it. The fundamental question is always – “what would be the benefit for me or my patients?” The answer will vary by surgeon. The robot may be of value by providing increased autonomy if there is limited or an unpredictable level of skilled bedside assistance, if it allows a surgeon to convert open cases to minimally invasive cases, and if it opens the possibility of performing additional procedures such as myomectomies through minimally invasive approaches.