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The art of robotic surgery

By Dennis J. Wright, Special to The Mercury

PHOENIXVILLE — Surgeons Drs. Arthur Martella and Pankaj Kalra are currently spearheading the use of a new minimally invasive surgical system at Phoenixville Hospital. The daVinci Surgical System utilizes robotics to perform surgeries that traditionally required a more invasive approach.

Coronary heart disease is the leading cause of death in the United States and one of the most serious medical conditions of our time. Each year an estimated 166,000 lives are claimed by sudden cardiac death. That's about 455 people each day.

The most widely used approach for treating patients with heart disease is the median sternotomy, which requires the surgeon to open the chest by making a 12-inch incision in the breastbone, exposing the heart and its vessels. In addition to the large scar, there is often a lengthy recovery process and a significant delay before patients can return to normal daily activities. This is considered one of the most invasive and traumatic aspects of open-heart surgery.

A state-of-the-art alternative treatment is robotic surgery using the daVinci Surgical System. Phoenixville Hospital is currently one of only a handful of facilities across the country offering this minimally invasive procedure.

“A number of procedures that could not be performed using traditional minimally invasive surgical technologies can now be performed using the daVinci Surgical System,” said Martella. “By enhancing surgical capabilities at Phoenixville, the daVinci Surgical System helps to improve clinical outcomes and redefine standards of care.”

The surgical system combines superior 3-D visualization with greatly enhanced dexterity through one to two centimeter incisions.

Martella said the system provides increased precision and better visualization than is achievable during open surgery.

“Patients who have undergone cardiothoracic surgery on the daVinci system often experience less blood loss, reduced pain, and faster recoveries,” he said. “We don't break any bones and the recovery time is a lot faster. The incisions used to be seven to eight inches down the chest. Now they are a couple of small incisions.”

With the daVinci system, Martella said he is able to bypass blockages on the anterior and lateral parts of the heart, without the need for a sternotomy. The cardiologist then uses stents to treat any remaining disease.

“We have to be dependent on our staff assistants at the table to be our eyes to some degree,” he said. “There is the capability of converting an operation from robotics to a regular open surgery if necessary.”

Martella said that patients may experience the following benefits such as reduced trauma to the body, reduced blood loss and need for transfusions, less post-operative pain and discomfort, less risk of infection, shorter hospital stay and faster recovery and

return to normal daily activities.

“Their limitations are less than two weeks, which is phenomenal,” he said.

Steve Tullman, CEO, Phoenixville Hospital, said he is excited to see the growth of robotic surgeries at the hospital.

“More robotic surgeries, including prostatectomy and cardiothoracic cases, are performed at Phoenixville Hospital than any other hospital in Chester and western Montgomery Counties,” said Tullman. “Dr. Art Martella and the robotic team could be practicing anywhere across the country, but their choice is to be in a community hospital with advanced technology like Phoenixville.”