Robotic prostatectomy is hard to learn but easy to do. Good judgment comes from experience and experience comes from bad judgment. Many surgeons have heard this aphorism and understand its truth. It is self-evident that adequate training can and should take the place of the bad judgment that comes from inexperience. What constitutes an adequate training experience will depend on many factors and is likely to vary from institution to institution. In this chapter, we will discuss our philosophy of and experience with training in robotic surgery at the Vattikuti Urology Institute (VUI). This has developed and evolved over the almost 2400 robotic-assisted procedures, including radical prostatectomy, radical cystectomy, radical and partial nephrectomy, performed by our surgical teams.

Our robotic prostatectomy program began soon after the da Vinci® Surgical System (Intuitive Surgical Inc., Sunnyvale, CA) was approved by the U.S. Food and Drug Administration (FDA) in October 2001. It was one of the first to be developed and was quickly the highest volume program in the world. A brief description of the program’s development and underlying philosophy may prove instructive.

Based on review of historical data from our institution, we felt that radical prostatectomy (RP) achieved a better result in terms of cancer control for most prostate cancer patients. We also felt that some patients chose nonsurgical treatments for their prostate cancer because of concern about potential morbidity associated with the surgery. We were impressed with the development of the laparoscopic radical prostatectomy (LRP) program of Guillonneau and Vallancien at the Institute Mutualiste Montsouris (IMM) in Paris1 and its potential to achieve a less morbid, safer, and more successful outcome. Our institute had rudimentary laparoscopic skills at that time and we felt that in order to safely embark on a program of laparoscopic prostatectomy an intensive mentoring by experts like those at IMM would be necessary.

Led by Dr. Mani Menon, several staff members began intensive training in laparoscopic prostatectomy. This included several visits to IMM by our team to observe cases, as well as 12 one-week visits to the Henry Ford Health System by Vallancien and Guillonneau to proctor LRP cases. The initial cases were performed safely and effectively with the mentor’s help.

After several visits by the IMM team, we leased the da Vinci® robot because we felt it might facilitate our performance of the LRP procedure. The initial experience with the robotic system confirmed this impression. We believed that the robotic system had specific application to LRP. Although our first several cases were challenging, with the help of our mentors during 20 to 30 cases, we were able to establish a technique of robotic-assisted laparoscopic prostatectomy known, at our institution, as the Vattikuti Institute Prostatectomy (VIP) procedure.2

We believe that the robotic system significantly reduces the difficult learning curve of LRP. That is not to say that the robotic system eliminates this curve by any means, but, because of the three-dimensional (3D) visualization and...
“wristed” instruments, it does dramatically decrease the difficulty of complex laparoscopic dissection and suturing. As such, while the LRP learning curve may be in excess of 50 cases, we believe that with proper planning, training, and mentoring, the robotic learning curve may be 20 to 30 cases in many situations.3

7.1. The Current Standard

Since the spring of 2001, we have performed over 2000 VIP procedures. Currently we perform the procedure in an average of 2.5 hours of total operative time, with 30% of cases being completed in less than two hours. Our patients are discharged on postoperative day 1 approximately 95% of the time, and our transfusion rate continues to be less than 2%. Recovery of continence and potency has been excellent and cancer control rates have improved over those we achieved with open radical prostatectomy.4,5 Currently three staff members at the VUI routinely perform the robotic prostatectomy. Each of these surgeons has undergone an extended period of training that will be described below. In addition, residents and fellows at the VUI have extensive exposure to the robotic prostatectomy and are proficient at both assisting and performing all aspects of the procedure (Table 7.1).

7.2. The Decision to Start a Robotic Prostatectomy Program

Our institute performed 120 to 150 radical prostatectomy procedures per year when we began our robotics program in March 2001. An adequate surgical volume that allows for regular performance of the procedure will facilitate a program’s ability to reduce its learning curve. Frequent repetition of the procedure will allow for the entire team to ingrain the fundamentals of robotic setup, anesthesia, patient positioning, port placement, and operative technique. The largest improvements in our operative time occurred when we performed cases on consecutive days. A program without significant volume that performs the procedure irregularly will progress along the learning curve more slowly because the team is more likely to forget certain aspects of the setup and procedure during periods of inactivity, and this may impact the eventual success of a program. While a specific number of cases is not easy to define, an institution performing less than a four or five prostatectomy cases per month may be challenged to develop a successful program. With this in mind, performance of cases several days in a row at the beginning of the program can help to inculcate the principles necessary in all the team members. Without significant volume, the time between cases only further delays the programs achievement of competence.

7.3. The Robotic Team

We organized our team around a primary surgeon and two assistant surgeons. The team was augmented by an anesthesiologist and two operating room nurses. The primary surgeon was the console surgeon for the first 30 to 40 cases performed by the team, while the assistant surgeons were consistent through the initial 50 to 60 cases. During this time the team developed a consistent technique. The team members became familiar with the steps of the procedure by being present for all the cases and by reviewing the video recordings of the procedures as well as the pathologic results. This allowed for transition of additional team members to the console surgeon position. As the team worked together and became more familiar with the robotic system, dramatic reductions in time to system setup, port placement, and operative steps occurred and helped decrease the total operating room (OR) time.

While the robotic system can allow a nonlaparoscopic surgeon to perform complex laparoscopic maneuvers at the console, we feel that at least one of the assistants should have significant previous

**Table 7.1.** The Vattikuti Urology Institute training program.

| Work with nurses and assistants to learn robotic setup and function. |
| Review recordings of the procedures to gain knowledge of procedure. |
| Participate as second patientside assistant (left side) on 30 VIP cases. |
| Participate as primary patientside assistant (right side) on 30 VIP cases. |
| Graduated mentored experience on console from more basic to more complex portions of the procedure over 50 cases. |
| Mentored performance of entire procedures until mastery achieved over 50 cases. |