Implementing Robotic Surgical Training: Thoughts from the French Academy of Surgeons


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On November 13, 2015, a panel of experts in robotic surgery met at the Académie Nationale de Chirurgie (ANC) in Paris to discuss training in robotic surgery. The meeting was moderated by Professor Michel Huguier and the speakers included:

- Professor Rolland Parc, Conseil de l’Ordre des Médecins
- Professor Jacques Marescaux of IRCAD (the institute for research into cancer of the digestive system), Strasbourg
- Professors Jacques Hubert and Laurent Bresler of the School of Surgery at Nancy
- Professors Xavier Cathelineau and Guy Vallancien of the École Européenne de Chirurgie (European surgical training centre), Paris
- Professor Jacques Belghiti from the HAS (the French national health authority)
- Dr Denis de Valmont from the insurance company SHAM
- Dr Yves Allioux of the Caisse Nationale d’Assurance Maladie (CNAM)

The full day session included discussions and presentations on the current status of robotic training in France as well as an overview of the adoption and current state of robotic surgery in a number of key specialties from Urology to Thoracic.
Their group identified some fundamental needs:

1. Training requirements should be based on the established protocols for training in surgical robotics (drawn up by the teams from Nancy, France)
2. It is essential to anticipate the arrival of new robotic platform
3. It would not be helpful to increase the number of training centers. What is required would be several centers of excellence who are well equipped in platforms and personnel, with good reporting systems or registers.

The guiding principles of modern computer-assisted surgery, and thus of robotic surgery, should be the following:

1. It is assumed that the clinicians should know how to operate and be competent in their surgical specialty
2. Surgeons need to become familiar with the all aspects of the computer-assisted system
3. Success will only be achieved through partnership with the manufacturers
4. However, maintaining professional ethics and independence and avoiding all conflicts of interest is essential
5. Being able to justify scientifically the evolution of treatment approaches thus being able to satisfy financial policymakers, and to defend surgeons against whom the HAS starts disciplinary proceedings.

Conclusions from the discussions:

The training in robotic surgery currently provided by the manufacturers is not a legally binding qualification. Their only obligation, as with any equipment manufacturer, is to explain to the purchaser how their product works. This training, according to published literature, is generally too short, and does not include any assessment of surgeons’ ability to use these robot systems. The responsibility of monitoring this training should, therefore, fall to the scientific societies and the universities in partnership with the manufacturers, and should include the evaluation of teams who will be tasked with these, using these new technologies. Training in robotic surgery can be provided by both public or private institutions, bearing in mind that it requires a substantial investment in equipment. It appears that university budgets alone will not be enough to meet this investment, and that public institutions could enter into partnerships with the private sector to meet the demand.

Robotic surgery is put into practice by surgeons and their teams, and their training should cover 5 areas:

1 – Surgical training is the remit of the existing schools of surgery

2 – Basic training in the use of a “robot” is common to all specialties that plan to use the system. It should be validated by a document certifying that the surgeon attended a course of basic training involving learning about the machine and the relevant techniques, with time on a simulator and on the robot in “dry lab” and “wet lab”. This stage of training should finish with an assessment

3 – In robotic surgery the surgeon is removed from the operative field, and there is, therefore, a loss of visual communication with the rest of the team. This makes training of the other members of the surgical team (team training) indispensable

4 – The clinical training specific to each specialty and procedure will be carried out in centers that have robots and having “proctors” (“Advanced Courses”)

5 – Surgical practice involves lifelong learning, which requires that the surgeon maintain his skills throughout his or her career. The question of re-certification, like that imposed on aircraft pilots following a period of inactivity or when they don’t practice their skills on a regular basis, does not currently exist in medicine. It is likely that in future the development of simulators will enable surgeons in these situations to refresh or maintain their technical skills.