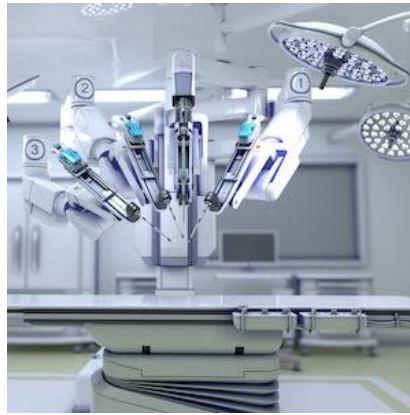




Robotics death 'one-off'?



Robotic assisted surgery is fast becoming a preferred mode of surgery in many hospitals across the globe. Yet, is robotic assisted surgery all it's cracked up to be? We examine the da Vinci Surgical System to find out.

With the da Vinci Surgical System, a cutting edge robot manufactured by the American company Intuitive Surgical and featuring a magnified 3D high-definition system and tiny instruments which are more flexible than the human hand, surgeons can perform operations with enhanced vision, precision and control. This is because the surgical arms can make highly accurate movements inside the incision and remove malignant tissue or tumours. According to the company, "the surgeon is 100% in control of the da Vinci System at all times". The surgery is meant to be not only precise, but also minimally invasive.

"The technique itself feels like driving," said Greg Shaw, consultant urologist and surgeon, who has performed over 500 robotic assisted surgeries at University College Hospital in central London. "But that 3D vision is very immersive. You are getting lots of information and very little distraction and you are seeing inside the patient from 2cm away".

The Robotics Centre at the Mediterranean Hospital in Cyprus uses the robot and claims that it has a myriad of benefits for patients undergoing surgery, including "faster return to normal activities, shorter hospitalization, reduced risk of complications" and lower risk of infection. There is also the aesthetic value of reduced scarring.

However, concerns remain relevant, particularly in the wake of the recent death of a patient who died this month at the Freeman Hospital in the UK from multiple organ failure following heart surgery performed using a da Vinci robot. The coroner concluded that his death was directly linked to the complications arising from the operation. At the same time, the surgeon who had performed the operation admitted that he "could have done with more dry-run training."

See also [Just what is the cost of robotic surgery?](#)

It remains to be seen whether this is just a tragic one-off incident. For now, it seems more likely than not that robots are here to stay, even though the robot is costly and surgeons need adequate training. "Surgery is becoming digitised, from imaging to movement to sensors," said Jaime Wong MD, the consultant lead on the R&D programme at Intuitive Surgical, "and everything is translating into data. The systems have a tremendous amount of computational power and we have been looking at segmenting procedures." According to Wong, these processes will ensure the reduction or elimination of inadvertent injuries in future.

Until now Intuitive Surgical have had the pioneering lead and edge. Yet things are set to change with new competitors on the scene vying for a share of the market. Google has already developed a digital surgery platform and CMR Surgical (formerly Cambridge Medical Robotics) is hoping to launch its innovative system, Versius, this year, a system which is meant to be portable and to boost hospital productivity. According to Martin frost, CEO of the Cambridge company, "The robotic genie is out of the bottle".

Next year Intuitive Surgical are set to introduce their new and innovative Ion™ endoluminal system, Intuitive's new robotic platform for minimally invasive biopsy in the peripheral lung. Like it or not, robots are here to stay. The robotic genie really is out of the bottle.

Source: The Guardian, Lexology, Mediterranean Hospital of Cyprus, da Vinci Surgery, Intuitive Surgical

Image credit: iStock

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