

## Robotic Splenectomy: What is the Real Benefit?

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Published online: 15 August 2014  
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The advancement of technology may take one of several forms. Some products are a result of ongoing quest to solve existing problems—a gradual evolution of previous, more primitive versions. Other products create a revolution, by inventing a new category and providing capabilities we didn't even know we needed, but now can't live without (the iPhone comes to mind). Another type of invention includes extremely sophisticated technologies that nevertheless fail to provide a real advantage over the existing tools. Some may call them “white elephants.”

Is robotic surgery such an elephant?

Robotic surgery promised an easy-to-use platform to perform difficult surgical tasks with greater accuracy. Intuitively, this should translate to better surgical care. Yet, the ultimate criterion by which we should measure the usefulness of a surgical tool—the eventual clinical outcome—was found to be surprisingly difficult to demonstrate, even after several years of widespread robotic integration into the clinical surgery world. Yes, safe (despite some rare mishaps...) and feasible (despite humongous costs)—we know this already, but we are still waiting for hard data to show that the surgeon's ease and fun-to-use experience is translated into a real advantage to the patient.

It may be that the robot's advantage is less pronounced than initially seemed, but this doesn't mean that there are no significant advantages in some specific situations, and all we need now is to find the problems that the robot is here to solve. In this issue of the *World Journal of Surgery*, Giza et al. [1] suggests such situation, with their impressive

experience with splenectomy—more than 400 splenectomies performed over almost 18 years. With more than 200 laparoscopic and nearly 80 robotic splenectomies retrospectively analyzed, they managed to define “simple” vs. “difficult” splenectomies and show that the assistance of the robotic system in difficult splenectomies translated into shorter operating time and five times less blood loss. Conversion rate was lower in the robotic surgery group, but postoperative complication rate was no different. It may be sensible to assume that shorter operations with less bleeding would result in better postoperative outcome, but we have no real support for this hypothesis in this study.

So, despite having a nice study showing “some” advantage in “some” of the cases of splenectomy, I am not sure that such a retrospective analysis provides a good enough reason to switch to robotic surgery, if you're doing it well enough laparoscopically. We will continue to wait for data, and wait for future (and cheaper, and less cumbersome) versions of “vision and motion-enhancing systems” (as this is what essentially the da Vinci system is).

In case you already own such a machine, please continue to use it, and try to define its real role in modern surgery. At the same time, you will continue to please your management by justifying the costly purchase and satisfy the public who is eager to undergo “surgery of the future.”

### Reference

1. Giza DE, Tudor S, Purnichescu-Purtan RR, Vasilescu C (2014) Robotic splenectomy: what is the real benefit? *World J Surg*. doi:10.1007/s00268-014-2697-6

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