
Preface

The aim of this book is to demonstrate how to perform gasless single-port retroperitoneoscopic surgeries in urology assisted by a system (RoboSurgeon) that involves the robotization of the surgeon. This surgery achieves four key “no’s”: no high costs, no CO₂, no multiple ports, and no intraperitoneal injury. The adjustable port size and wide direct view ensure safety and ease in learning. Additionally, prophylactic antimicrobial agents are fundamentally unnecessary in the perioperative period.

Laparoscopic surgery offers reduced pain, faster postoperative recovery, and better cosmetic results. Additionally, a master–slave type robot has improved surgical dexterity due to the use of three-dimensional images and multiarticular forceps. The presented surgery may help overcome some of the disadvantages of current minimally invasive surgical techniques (e.g., high costs) while retaining their major benefits.

The RoboSurgeon system consists of three components: a three-dimensional head-mounted display, handheld robot-like devices, and an endoscope manipulation robot. Depending on the conditions, part or all of this system will be used. We would like to emphasize that even without the RoboSurgeon system, gasless single-port-like surgery, in which the port size is somewhat larger, can be performed by following the procedures presented herein.

The surgery described here offers positive responses to the following questions on minimally invasive urological surgeries.

- Is single-port access possible without difficulty?
- Is gasless and single-port access possible?
- Is a retroperitoneal approach combined with the above possible?
- Is robotization of the surgeon conducive to this type of surgery?
- Is the surgery affordable?
- Does the surgery ensure oncologic efficacy and high-quality perioperative results?
- Is avoidance of prophylactic antimicrobial agents possible?
- Is the RoboSurgeon system applicable to various fields of surgery and medical care?

We would like to give a preliminary “yes” response to each of the above questions, although further innovation and improvements are needed to achieve a truly ideal form of minimally invasive surgery.

It is our hope that this surgery, which we have been developing for more than 15 years, may contribute to societies that are now commonly facing issues of super-aging and highly expensive medicine and that our findings may lead to a new direction in urologic surgery. For these purposes, this book is written in a plain and concise manner so as to reach as many readers as possible.

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