

# Contents

<b>1</b>	<b>Suturing Techniques in Robot-Assisted Partial Nephrectomy (RAPN)</b> .....	<b>1</b>
	Hannah Van Puyvelde and Ruben De Groot	
<b>2</b>	<b>Resection Techniques Robotic-Assisted Partial Nephrectomy</b> .....	<b>7</b>
	Sophie Knipper, Ruben De Groot, and Alexandre Mottrie	
<b>3</b>	<b>Clamping Techniques for Partial Nephrectomy</b> .....	<b>9</b>
	Ruben De Groot, Pietro Piazza, Rui Farinha, and Alexandre Mottrie	
<b>4</b>	<b>Robotic Retroperitoneal Partial Nephrectomy</b> .....	<b>15</b>
	Joseph Hon-Ming Wong, Peng-Fei Shao, and Jeremy Yuen-Chun Teoh	
<b>5</b>	<b>Robotic Partial Nephrectomy</b> .....	<b>31</b>
	Riccardo Campi, Selcuk Erdem, Onder Kara, Umberto Carbonara, Michele Marchioni, Alessio Pecoraro, Riccardo Bertolo, Alexandre Ingels, Maximilian Kriegmair, Nicola Pavan, Eduard Roussel, Angela Pecoraro, and Daniele Amparore	
<b>6</b>	<b>Pushing the Boundaries in Robot—Assisted Partial Nephrectomy for Renal Cancer</b> .....	<b>43</b>
	Charles Van Praet, Pieter De Backer, Riccardo Campi, Pietro Piazza, Alessio Pecoraro, Alexandre Mottrie, Andrea Minervini, and Karel Decaestecker	
<b>7</b>	<b>Perioperative Surgical Complications in Robotic Partial Nephrectomy</b> .....	<b>63</b>
	Riccardo Tellini, Giovanni Enrico Cacciamani, Michele Marchioni, Andrea Minervini, and Andrea Mari	
<b>8</b>	<b>Renal Robotic Surgery for Lefties: Left-Handedness in Upper Tract Robotic Surgery</b> .....	<b>79</b>
	Mylle Toon, Challacombe Ben, Uvin Pieter, and Mottrie Alexandre	

- 9 Training with New Robots and How to Transition from One System to the Next in Renal Cancer Surgery** ..... 87  
Kenneth Chen, Kae Jack Tay, John Shyi Peng Yuen, and Nathan Lawrentschuk
- 10 New Robots and How this has Changed Operative Technique in Renal Cancer Surgery** ..... 99  
Christopher Soliman, Marc A. Furrer, and Nathan Lawrentschuk
- 11 Use of Indocyanine Green (ICG) During Robotic Surgery for Renal Cancer** ..... 111  
Geert De Naeyer, Carlo Andrea Bravi, and Alexandre Mottrie
- 12 3D Virtual Models and Augmented Reality for Robot-Assisted Partial Nephrectomy** ..... 119  
E. Checcucci, P. Verri, G. Cacciamani, S. Pulliatti, M. Taratkin, J. Marengo, J. Gomez Rivas, D. Veneziano, and F. Porpiglia
- 13 Open Partial Nephrectomy: Current Status in the Minimally-Invasive Surgery Era** ..... 135  
Riccardo Campi, Selcuk Erdem, Onder Kara, Umberto Carbonara, Michele Marchioni, Alessio Pecoraro, Riccardo Bertolo, Alexandre Ingels, Maximilian Kriegmair, Nicola Pavan, Eduard Roussel, Angela Pecoraro, and Daniele Amparore
- 14 Decision-Making for Patients with Localized Renal Masses** ..... 145  
Riccardo Campi, Selcuk Erdem, Onder Kara, Umberto Carbonara, Michele Marchioni, Alessio Pecoraro, Riccardo Bertolo, Alexandre Ingels, Maximilian Kriegmair, Nicola Pavan, Eduard Roussel, Angela Pecoraro, and Daniele Amparore
- 15 Management of Localized Renal Masses: The European Association of Urology (EAU), American Urological Association (AUA) and American Society of Clinical Oncology (ASCO) Guidelines' Perspective** ..... 151  
Riccardo Campi, Selcuk Erdem, Onder Kara, Umberto Carbonara, Michele Marchioni, Alessio Pecoraro, Riccardo Bertolo, Alexandre Ingels, Maximilian Kriegmair, Nicola Pavan, Eduard Roussel, Angela Pecoraro, and Daniele Amparore

- 16 Active Surveillance and Watchful Waiting in Renal Cancer** ..... 155  
 Riccardo Campi, Selcuk Erdem, Onder Kara,  
 Umberto Carbonara, Michele Marchioni, Alessio Pecoraro,  
 Riccardo Bertolo, Alexandre Ingels, Maximilian Kriegmair,  
 Nicola Pavan, Eduard Roussel, Angela Pecoraro,  
 and Daniele Amparore
- 17 Ablative Therapies in Renal Cancer** ..... 159  
 Riccardo Campi, Selcuk Erdem, Onder Kara,  
 Umberto Carbonara, Michele Marchioni, Alessio Pecoraro,  
 Riccardo Bertolo, Alexandre Ingels, Maximilian Kriegmair,  
 Nicola Pavan, Eduard Roussel, Angela Pecoraro,  
 and Daniele Amparore
- 18 Open Radical Nephrectomy** ..... 167  
 Riccardo Campi, Selcuk Erdem, Onder Kara,  
 Umberto Carbonara, Michele Marchioni, Alessio Pecoraro,  
 Riccardo Bertolo, Alexandre Ingels, Maximilian Kriegmair,  
 Nicola Pavan, Eduard Roussel, Angela Pecoraro,  
 and Daniele Amparore
- 19 Transperitoneal and Retroperitoneal Port Placement** ..... 173  
 Alireza Ghoreifi, Hooman Djaladat, and Andre Luis Abreu
- 20 Robot Assisted Laparoscopy for Renal Cancer: Transperitoneal Versus Retroperitoneal Approach** ..... 185  
 Vidyasagar Chinni, Zein Alhamdani, Damien Bolton,  
 Nathan Lawrentschuk, and Greg Jack
- 21 Robotic Radical Nephrectomy** ..... 213  
 Riccardo Campi, Selcuk Erdem, Onder Kara,  
 Umberto Carbonara, Michele Marchioni, Alessio Pecoraro,  
 Riccardo Bertolo, Alexandre Ingels, Maximilian Kriegmair,  
 Nicola Pavan, Eduard Roussel, Angela Pecoraro,  
 and Daniele Amparore
- 22 Preoperative Setting-Up of Patients Undergoing Robotic Inferior Vena Cava Thrombectomy** ..... 217  
 Raj Kumar, Nima Nassiri, Daniel Park, Vinay Duddalwar,  
 Inderbir Gill, and Giovanni Cacciamani
- 23 Renal Cell Carcinoma with Tumor Thrombus: A Review of Relevant Anatomy and Surgical Techniques for the General Urologist** ..... 227  
 Christian A. Dewan, Joseph P. Vaughan, Ian C. Bennie,  
 and Maurizio Buscarini

**24 Cytoreductive Nephrectomy in Metastatic Renal Cell Carcinoma** ..... 237  
 Roser Vives Dilme, Juan Gómez Rivas, Riccardo Campi, Javier Puente, and Jesús Moreno Sierra

**17 Ablative Therapies in Renal Cancer** ..... 99  
 Christopher Soliman, Marc A. Ferrara, and Daniel Amparo

**11 Use of Indocyanine Green (ICG) During Surgery for Renal Cancer** ..... 111  
 Riccardo Campi, Selçuk Erdem, Onder Karan, Umberto Carbonara, Michele Marchioni, Alessio Pecoraro, Riccardo Bertolo, Alexander Inzels, Maximilian Kriegman, and Goert De Naeyer

**12 3D Virtual Models and Augmented Reality for Partial Nephrectomy** ..... 161  
 E. Chioduci, P. Veri, G. Cacciari, J. Marengo, J. Gomez, J. Gonzalez, Riccardo Bertolo, Alexander Inzels, Maximilian Kriegman, and Daniela Amparo

**18 Open Radical Nephrectomy** ..... 191  
 Riccardo Campi, Selçuk Erdem, Onder Karan, Umberto Carbonara, Michele Marchioni, Alessio Pecoraro, Riccardo Bertolo, Alexander Inzels, Maximilian Kriegman, and Daniela Amparo

**19 Transperitoneal and Retroperitoneal Port Placement** ..... 173  
 Riccardo Campi, Selçuk Erdem, Onder Karan, Umberto Carbonara, Michele Marchioni, Alessio Pecoraro, Riccardo Bertolo, Alexander Inzels, Maximilian Kriegman, and Daniela Amparo

**20 Robot Assisted Laparoscopy for Renal Cancer: Transperitoneal and Retroperitoneal Approach** ..... 181  
 Riccardo Campi, Selçuk Erdem, Onder Karan, Umberto Carbonara, Michele Marchioni, Alessio Pecoraro, Riccardo Bertolo, Alexander Inzels, Maximilian Kriegman, and Daniela Amparo

**21 Robotic Radical Nephrectomy** ..... 213  
 Riccardo Campi, Selçuk Erdem, Onder Karan, Umberto Carbonara, Michele Marchioni, Alessio Pecoraro, Riccardo Bertolo, Alexander Inzels, Maximilian Kriegman, and Daniela Amparo

**22 Preoperative Setting-Up of Patients Undergoing Robot-Assisted Laparoscopy for Renal Cancer** ..... 221  
 Riccardo Campi, Selçuk Erdem, Onder Karan, Umberto Carbonara, Michele Marchioni, Alessio Pecoraro, Riccardo Bertolo, Alexander Inzels, Maximilian Kriegman, and Daniela Amparo

**23 Renal Cell Carcinoma with Tumor Thrombus: A Review of Relevant Anatomy and Surgical Techniques for the General Urologist** ..... 227  
 Christian A. Dewan, Joseph P. Vaughan, Ian C. Bennis, and Maurizio Besciani