CONTENTS

SECTION 1 History, Anesthesia and Basic Surgical Principles and Training

Chapter 1. History of Pediatric Urological Reconstructions 3
Duncan R Morhardt, David A Bloom

Chapter 2. Ethical Consideration in Pediatric Surgical Reconstructions 9
Mindy B Statter, Peter Angelos

Chapter 3. Special Anesthetic Consideration in Infants Toddlers 17
Annie Amin, Igor Tkachenko

Chapter 4. Postoperative Pain Control and Regional Anesthesia 23
Ashish Gupta, Andrew Wuenstel

Chapter 5. Recent Advances on Long-term Effects of Anesthesia on Children 30
Roshan Patel, Zheng Xie

Chapter 6. Fluid, Electrolyte Balance and Parenteral Nutrition 39
Sudhir Sriram, Jaideep K Singh

Chapter 7. Basic Surgical Principles of Pediatric Surgery 50
Nikunj K Chokshi, Mark B Slidell

Chapter 8. Plastic Surgical Principles: Skin Flaps/Tissue Transfer/Myocutaneous Flaps in Consideration of Urological Reconstructions 60
David H Song

Chapter 9. Surgical Scars, Prevention, Excisions and Revisions 67
Lydia Willimas, Russell R Reid

Chapter 10. Basics of Instrumentation, Suture Material and Equipment for Open Surgery 73
Gursev Sandlas

Chapter 11. Surgical Training in 21st Century (Role of Simulation/Inanimate Models) 77
Thomas G Leffler, Alison C Keenan, Patrick H McKenna

Chapter 12. Role of Simulation in Current Era of Surgical Training 86
Prasad Patki, Srivathsan Ramani

SECTION 2 Fetal Urology

Chapter 13. Clinical Embryology of Urinary and Genital Tracts 93
Caroline Kuhn, Callum F Ross

SECTION 3 Male Genital Reconstruction

Chapter 14. Anatomy of Penis and Neural Innervation in Respect to Hypospadias and Epispadias Reconstructions 123
Natalija Kovacevic, Yegappan Lakshmanan

Chapter 15. Surgical Reconstructions of Distal Hypospadias: The University of Chicago Experience 129
Nimrod S Barashi, Mohan S Gundeti

Chapter 16. Two-stage Repair of Proximal Hypospadias 142
Christopher Long, Mark R Zaontz

Chapter 17. Different Methods of Repair for Chordae Corrections without Hypospadias 152
Marcos Perez-Brayfield, Ramphis A Morales-López

Chapter 18. Inconspicuous Penis: Different Surgical Approaches 162
Nathalie Webb, Ashish Jiwane, Juan I Bortagaray

Chapter 19. Repair of Urethral Diverticulum Congenital and Acquired 174
Matthew D Timberlake, Micah A Jacobs

Chapter 20. Redo Hypospadias Repair 179
Lisieux Eyer de Jesus, João Luiz Pippi-Salle

Chapter 21. Redo and Secondary Procedures in Adolescent Adult Life Hypospadias 188
Moneer K Hanna, Adam S Howie

Chapter 22. Preputioplasty in Hypospadias Repair 201
Amilal Bhat, Vikash Singh Tomar, Mahakshit Bhat

Chapter 23. Penile Torsion 207
Amilal Bhat, Mahakshit Bhat, Vikash Singh Tomar

Chapter 24. Scrotoplasty in Penoscrotal Transposition in Hypospadias 223
Amilal Bhat, Gordhan R Chaudhary, Akshita Bhat

Chapter 25. Urethroplasty and Urethral Reconstructions for Trauma in Pediatric Patients 229
Joseph J Pariser, Richard A Santucci

Chapter 26. Duplex Urethra Repairs 241
MS Ansari, Ankur Bansal, Ashwin P Sekhar, Priyank Yadav

Chapter 27. Male and Female Epispadias Repair 247
Alexander Cho, Pankaj Mishra, Imran Mushtaq

Chapter 28. Radical Soft Tissue Mobilization 263
Marc-David Leclair, Sébastien Faraj

Chapter 29. Male Bladder Exstrophy Repair: Different Approaches 266
Matthew C Kasprenski, John P Gearhart

Chapter 30. Circumcision and Meatotomy: Techniques and Other Considerations 281
Stephen R Nold, Mark A Faasse

Chapter 31. Inguinal Hernia and Hydrocele 290
Yolanda Pullin, Juan Manuel Moldes, Pedro-José López E

Chapter 32. Open Inguinal Orchiopexy 297
Stuart O'Toole

Chapter 33. Surgery for Testicular Torsion 305
Gregory Shepherd, Nia Fraser, Manoj Shenoy

Chapter 34. Childhood Reconstruction of Aphallia 311
YJL (Yves) Bodar, Aseem R Shukla

Chapter 35. Phalloplasty: Surgical Techniques 317
Jonathan Kaye, Blake W Palmer, Bradley P Kropp

Chapter 36. Varicocele Ligation: Open Surgical and Different Approaches 330
Rajendra B Nerli, Mallikarjuna Reddy N, Shridhar C Ghagane

Chapter 37. Prostatic Utricle Excision 338
Mohan S Gundeti, Aaron Wallace, Maria Veronica Rodriguez

SECTION 4 Female Genital Reconstruction

Chapter 38. Anatomy of Female Genitalia and Neural Innervation: For Feminizing Genitoplasty 347
Murat Uçar, Selçuk Yücel

Chapter 39. Clitoroplasty and Feminizing Genitoplasty 354
Richard C Rink, Mark P Cain, Martin Kaefer, Adam J Rensing

Chapter 40. Urogenital Sinus Reconstruction 369
Alonso Carrasco Jr, Amanda F Saltzman, Duncan Wilcox

Chapter 41. Cloacal Reconstructions 379
Grace Z Mak, William R Boysen, Mohan S Gundeti

Chapter 42. Vaginoplasty with Buccal Mucosa 390
Rana Kumar, Ciro Andolfi, Mohan S Gundeti

Chapter 43. Vaginoplasty with Intestinal Segments 399
Victoria A Lane, Ramnath Subramaniam

Chapter 44. Cloacal Exstrophy, Bladder Exstrophy and Epispadias Repair: The University of Chicago Experience 408
Maria Veronica Rodriguez, Mohan S Gundeti

Chapter 45. Brief Description of Surgical Steps for Osteotomy in Pediatric Patients for Bladder and Cloacal Exstrophy 428
Noelle Serwaa Boakye Whyte, Robert J Bielski

Chapter 46. Structural Abnormalities of the Hymen and Labia 439
Amber Truehart, Melissa Gilliam

Chapter 47. Urethral Prolapse Surgery in Girls 448
Charlotte Holbrook, Devesh Misra

SECTION 5 Renal Reconstructions

Chapter 48. Renal Anatomy for Surgical Reconstruction 455
Mario Navarrete-Arellano, Francisco Garibay-González

Chapter 49. Pyeloplasty for Ureteropelvic Junction Obstruction including Horseshoe Kidney and Retrocaval Ureter 464
Trudy Kawal, Albert Lee, Aseem R Shukla, Arun K Srinivasan

Chapter 50. Secondary UPJ Management and Redo-Pyeloplasty 476
Deborah L Jacobson, Earl Y Cheng, Bruce W Lindgren

Chapter 51. Renal, Ureteral and Bladder Trauma Reconstruction 494
Prem Nath Dogra, Siddharth Yadav, Prabhjot Singh

Chapter 52. Adrenalectomy 507
Vignesh T Packiam, Arieh L Shalhav

Chapter 53. Ureterocalicostomy 512
Hemant Pathak, Abhijit Patil, Narsing Mane, Chetan Gadekar

Chapter 54. Heminephrectomy for Duplex Kidneys 521
Matthieu Peycelon, Alaa El-Ghoneimi

Chapter 55. Wilms' Tumor Nephrectomy and Management of Intravascular Extension Thrombus 531
Mahmoud M Marei, Ross J Craigie, Tamàs Cserni, Raimondo Maximilian Cervellione

SECTION 6 Ureteral Reconstructions

Chapter 56. Ureteral Reimplantation: Cohen's Procedure 549
Kalpana Patil, Katerina Prodromou

Chapter 57. Ureteral Reimplantation: Extravesical 555
Peter Zhan Tao Wang, Antoine Khoury

Chapter 58. Ureterocele Excision and Duplex Ureteral Reimplantation 563
Michelle Lightfoot Gupta, Andrew J Kirsch

Chapter 59. Ureterocele Incision 576
Sang Hoon Song, Kun Suk Kim

Chapter 60. Ureteroureterostomy and Transureteroureterostomy 580
Bryan S Sack, David A Diamond, Richard S Lee

Chapter 61. Transplant Ureter Reimplantation 589
Walid A Farhat, Jessica M Ming

Chapter 62. Reimplantation for Obstructive Megaureter 596
Pankaj P Dangle

Chapter 63. Redo Ureteral Reimplantation, Ureteral Strictures and Replacement 605
Mohan S Gundeti, Mohammad Mahmoud

Chapter 64. Urinary Diversions and Undiversion 615
Harshad M Punjani, Sushil Shivlal Rathi, Himanshu Agarwal

SECTION 7 Prerequisites Prior to Lower Tract Reconstructions

Chapter 65. Urodynamics: A Practical Approach to Bladder Evaluation Prior to Urologic Reconstruction 625
Andrew J Combs

Chapter 66. Preoperative Education, Counseling and Continuity of Care for Children Undergoing Urological Reconstructions 649
Ashley Wilkens, Megan Presutti, Katie Stahoviak

SECTION 8 Bladder, Bladder Neck and Continence Procedures

Chapter 67. Bladder, Bladder Neck, Ureteral Anatomy and Innervations 657
Kentaro Mizuno, Yutaro Hayashi, Yoshiyuki Kojima

Chapter 68. Vesicostomy and Undiversion 665
Deepak Kandpal, Sujit K Chowdhary

Chapter 69. Bladder Neck Reconstruction and Closure 671
Ranjiv I Mathews, Bradley Holland

Chapter 70. Urethral Slings for Urinary Incontinence in Adolescent Patients 683
Melanie A Adamsky, William R Boysen, Sarah F Faris, Gregory T Bales

Chapter 71. Adolescent Redo Reconstructions (Bladder Neck, Augmentation and Scar Revisions) 689
Dan Wood

Chapter 72. Artificial Urinary Sphincter Insertion 696
Paulo Moscardi, Rafael Gosalbez, Miguel Castellan

Chapter 73. Redo Bladder Exstrophy: Tips for Repair 708
Govind Datar

SECTION 9 Reconstruction Involving Gastrointestinal Segments

Chapter 74. Anatomy of Gastrointestinal Tract for Urological Reconstructions 723
Sandesh V Parelkar, Rujuta Shah

Chapter 75. Augmentation Ileocystoplasty 730
Mohan S Gundeti, Logan Beth Galansky

Chapter 76. Appendicovesicostomy: Anterior Wall and Posterior Wall 737
Mohan S Gundeti, Richard J Fantus

Chapter 77. ACE Channel Formation and Alternatives for Bowel Management 744
Molly E Fuchs, Daniel G Dajusta, Venkata Rama Jayanthi

Chapter 78. Catheterizable Channels: Options, Techniques and Complications 753
Richard A Maiman, Anthony J Casale

Chapter 79. An Alternative Method for Creation of Catheterizable Urinary Reservoirs Based on Ileum (Macedo) 761
Antonio Macedo Jr, Marcela Leal da Cruz

Chapter 80. Reconstruction of Cloacal Exstrophy 768
Elizabeth B Roth, Bryan S Sack, Dana A Weiss, Joseph G Borer, Douglas A Canning, John Kryger

SECTION 10 Oncological and Other Reconstructions

Chapter 81. Cystoprostatectomy and Ileal Neobladder Urinary Diversions for Rhabdomyosarcoma of the Bladder and Prostate 779
Jessica H Hannick, Armando J Lorenzo, Martin A Koyle

Chapter 82. Ileocecal and Ileal Bladder Substitution 796
Dipen J Parekh, Alireza Alam

Chapter 83. Continent Anal Reservoirs in Congenital Urological Anomalies 812
Raimund Stein, Nina Huck, Margit Fisch

Chapter 84. Prune-Belly Syndrome: Surgical Treatment 818
Francisco Tibor Dénes

Chapter 85. Testis-sparing and Radical Surgery for Testicular Tumors 832
Alonso Carrasco Jr, Amanda F Saltzman, Nicholas Cost

Chapter 86. Retroperitoneal Lymph Node Dissection for Testicular Tumor in Adolescent 842
Akbar Ashrafi, Mihir Desai, Monish Aron, Hooman Djaladat

SECTION 11 Stones

Chapter 87. Training in Percutaneous Nephrolithotomy 857
Ashish Rawandale-Patil, Lokesh Patni, Parag Gulhane

Chapter 88. Anatrophic Pyelolithotomy 869
Ashish Rawandale-Patil, Arvind P Ganpule, Lokesh Patni, Mohankumar Vijaykumar

Chapter 89. Percutaneous Nephrolithotomy 873
Ashish Rawandale-Patil, Lokesh Patni, Parag Gulhane

Chapter 90. Open Ureterolithotomy for Ureteric Stones 901
Mahendra Jain, Dhananjay Bokare

Chapter 91. Cystolithotomy in Augmented Bladders 905
Parviz Hajiyev, Berk Burgu

SECTION 12 Imaging of Urinary Tract Prior to Reconstruction

Chapter 92. Imaging of Urinary Tract Prior to Reconstruction 915
Emily Blum, Nora G Kern, H Gil Rushton

SECTION 13 Future of Pediatric Urology

Chapter 93. New Understandings in Bladder Wall Hypertrophy and Implications for Tissue Engineering 935
Stephen A Zderic, Jason P Van Batavia

Chapter 94. Role of Basic Science Research/Funding and Entrepreneurship in Pediatric Urology 944
Rodolfo A Elizondo, Chester J Koh

Chapter 95. Global Economic Impact of Neonatal and Pediatric Surgery 949
Briony K Varda, Blake Alkire

Index *955*

VIDEO CONTENTS

Chapter 15. Surgical Reconstructions of Distal Hypospadias: The University of Chicago Experience

Nimrod S Barashi, Mohan S Gundeti

Video 1: Surgical reconstructions of distal hypospadias

Chapter 28. Radical Soft Tissue Mobilization

Marc-David Leclair, Sébastien Faraj

Video 1: Kelly repair

Chapter 42. Vaginoplasty with Buccal Mucosa

Rana Kumar, Ciro Andolfi, Mohan S Gundeti

Video 1: Vaginoplasty using buccal mucosal graft

Chapter 44. Cloacal Exstrophy, Bladder Exstrophy and Epispadias Repair: The University of Chicago Experience

Maria Veronica Rodriguez, Mohan S Gundeti

Video 1: Male epispadias repair

Chapter 50. Secondary UPJ Management and Redo-Pyeloplasty

Deborah L Jacobson, Earl Y Cheng, Bruce W Lindgren

Video 1: Highlights of robot-assisted laparoscopic reoperative pyeloplasty

Chapter 54. Heminephrectomy for Duplex Kidneys

Matthieu Peycelon, Alaa El-Ghoneimi

Video 1: Left partial nephrectomy

Chapter 61. Transplant Ureter Reimplantation

Walid A Farhat, Jessica M Ming

Video 1: Transplant ureteroneocystostomy (UNC)

Chapter 84. Prune-Belly Syndrome: Surgical Treatment

Francisco Tibor Dénes

Video 1: Prune-Belly syndrome

Chapter 86. Retroperitoneal Lymph Node Dissection for Testicular Tumor in Adolescent

Akbar Ashrafi, Mihir Desai, Monish Aron, Hooman Djaladat

Video 1: Mobilization of intraperitoneal contents with an intact peritoneal envelope during extraperitoneal retroperitoneal lymph node dissection (RPLND)

Video 2: Primary robotic retroperitoneal lymph node dissection (RPLND) for stage-IIa nonseminoma

Chapter 89. Percutaneous Nephrolithotomy

Ashish Rawandale-Patil, Lokesh Patni, Parag Gulhane

Video 1: 5-PANG technique

Video 2: 5-PANG technique