

Textbook of Surgery

As per the latest CBME Guidelines |
Competency Based Undergraduate
Curriculum for the Indian Medical Graduate

is a comprehensive textbook on general surgery. This is one of the earliest textbooks in surgery which follow and emulate the latest Competency Based Undergraduate Curriculum for the Indian Medical Graduate. After reading this book, the students is expected to gain the subject knowledge and competencies as per the CBME Guidelines.

Some chapters like “Basic surgical skills”, “Biohazard disposal”, “Day care surgery”, “Safe surgery” have been specifically added to complete the competencies.

Some chapters like “Pain pathways and pain management”, “Energy sources in surgery”, “Neurogenic Bladder”, “Urinary incontinence”, “Urodynamics”, “Hiccups, Belching, Bloating” have been added keeping the requirements of postgraduate students and practicing surgeons in mind.

Towards the end of the book “A-Z of surgical triads”, “A-Z of surgical triangles”, “A-Z of surgical signs” have also been added. A chapter on the most recent and exciting frontier “Artificial intelligence in Surgery” is very informative. Chapters on medicolegal aspects of practice and communication skills have been also added as per the current needs of medical education.

The book has many illustrations flowcharts, keyboxes and tables for easy assimilation, memorisation and recall.

The textbook is aimed at not only helping the students pass their examinations with high scores but also lend them a solid and strong foundation in surgery.

Kailash R Gindodia MS

is currently Professor and Head, Department of Surgery, ACPM Medical College, Dhule, Maharashtra. He completed his MS in general surgery from the prestigious Grant Medical College and JJ Hospital, Mumbai. He received various scholarships during his undergraduate and postgraduate days. He has presented various research papers in conferences and has to his credit several publications. He has written several books on surgery and is a popular teacher at both undergraduate and postgraduate levels. His other book *Handbook of Surgery*, a companion book of algorithms, flowcharts, instruments and X-rays in surgery, has been published by CBSPD, and e-book *Mindmaps in Surgery* is available on Amazon Kindle.



Textbook of Surgery

Gindodia



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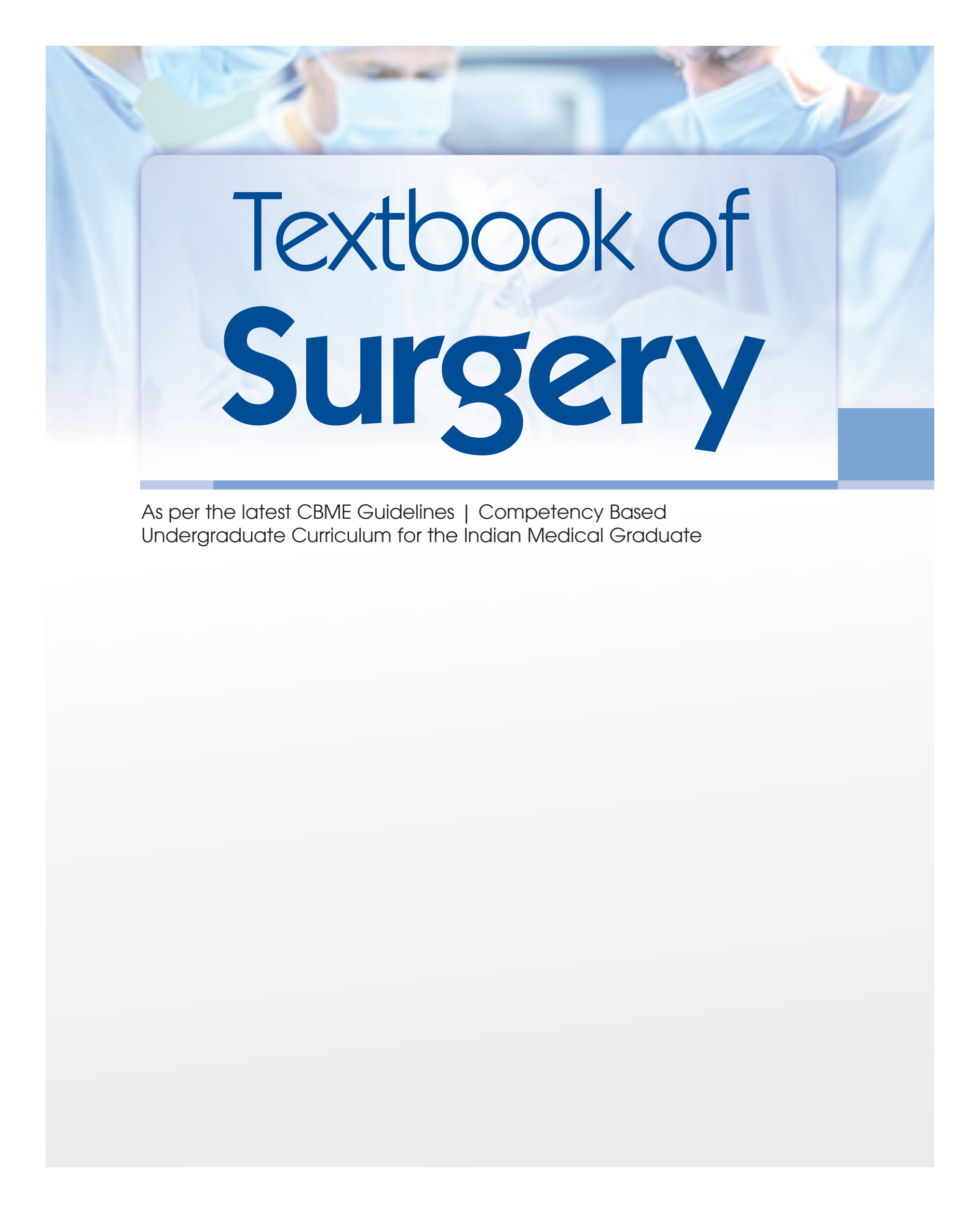
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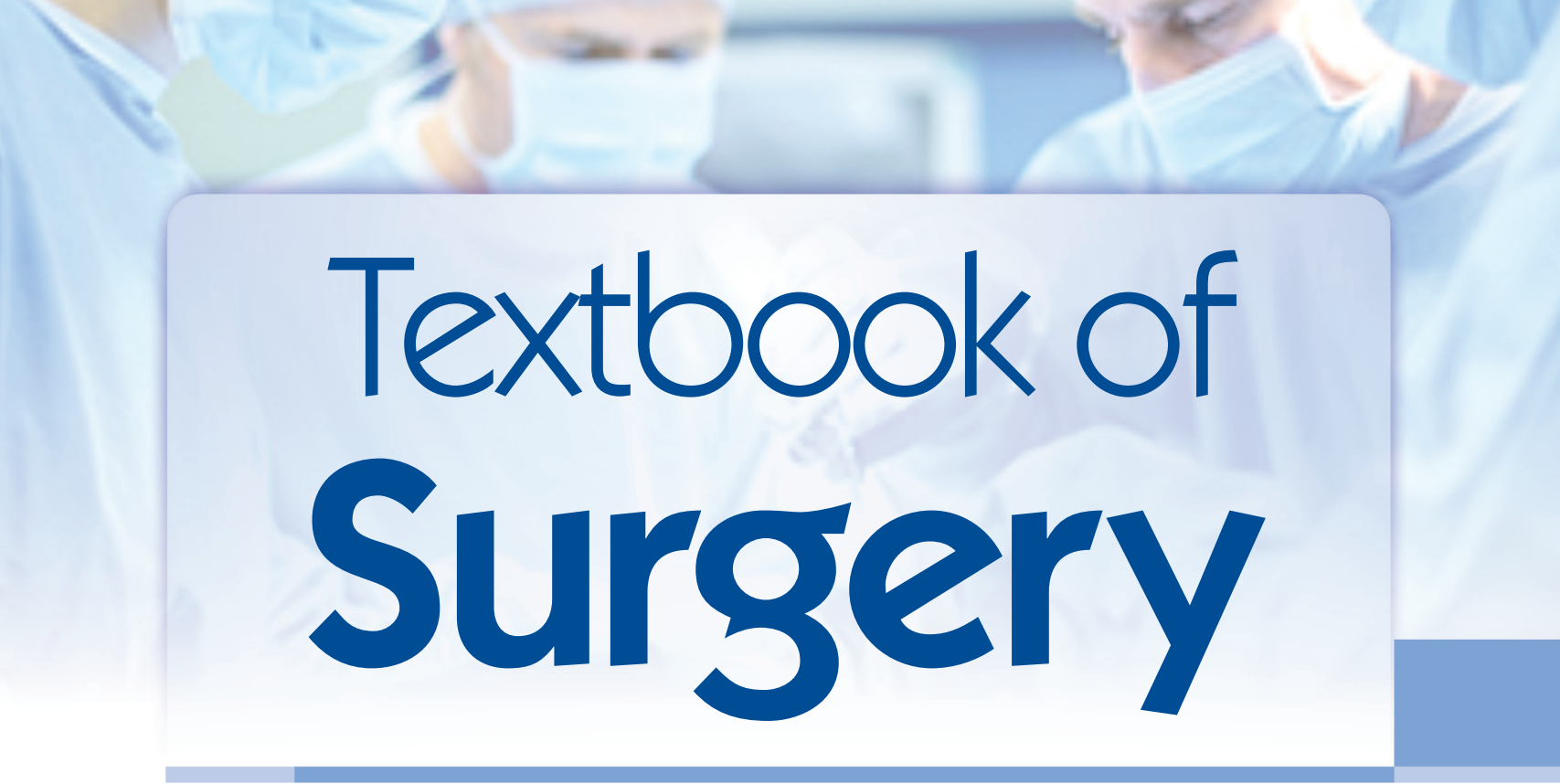
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The background of the cover features a blurred image of surgeons in an operating room, wearing blue scrubs and masks. The text is overlaid on a semi-transparent white box with rounded corners.

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to

*My family who supported and encouraged me in all my endeavours
My respected teachers who gave me the knowledge and wisdom to perform,
teach and write
My students and my patients who encourage me to keep on learning.*

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Foreword

It is heartening to note that Dr Kailash R Gindodia, Professor and Head, Department of Surgery, ACPM Medical College, Dhule, has authored this book.

Effort is significantly appreciable in as much as it is the end-result of their creative and inquisitive initiative, blended with untiring labour and the single-minded commitment to the cause.

It is indeed an effort to compile all the relevant intellectual inputs on a significantly vital area and render them in such a free flowing manner so that it is easy to understand, decipher and assimilate for the learner, teacher and a professional as well.

Peeping into memory lanes of the yesteryears, it vividly comes into my focused attention the Herculean difficulties which I had to face as an ordinary student of final MBBS in the early 80s where no handy books by Indian authors on surgery were available.

Realistically will have an astonishing effect to the extent that what was dreadful till the previous day will become understandingly lovable subsequent thereto and be extremely helpful in the pre-examination period.

This has been singularly achieved by the author by virtue of his writings which are in easy textual format and are appropriately syntaxed, so as to render the desired grasp and sought after understanding of the subject in a handy but yet in an immaculate manner, which turns out to be the unique feature of this authorship, which makes it look and feel different from the other available reading material on the subject as of now.

The basic format used is based on the **AETCOM** model—**A**ttitude, **E**thics and **C**ommunications skills, as envisaged by MCI and its new avatar NMC. Thus, the topics selected and sequenced are in concurrence with the competency based curriculum.

The present book indeed is a beautiful compilation of various surgical and what we can call parasurgical topics like ethics, pre-, peri- and postoperative anaesthesia, medicolegal issues, surgical audit, biomedical waste, artificial intelligence, telemedicine, etc. The book also deals in regard to the major causes of mortality in our country, i.e. cancer and trauma.

Another significant aspect of this book is the extensive number of charts, clinical photographs, diagrams that have been incorporated, which is bound to facilitate the understanding of the issue in a genuine way.

The language used is easily decipherable and the informational inclusions definitely are bound to satisfy the students and practicing surgeons alike in more.

Illustrative photographs of various instruments and X-rays make very useful companion for facing the practical examinations.

Thus, the efforts of author to cover the entire gamut of general surgery from head to toe is really praiseworthy. The overall contents of this book are Glocal—Global in context with an Indian flavour. Hence, it would prepare Indian medical graduates to convert into international medical graduates!

Creative contributions of such a magnitude are not just an end-result of a passionate day dreaming, but are consequence of a deep-rooted commitment and the quest to bring out the best. I have every reason to believe that this book would not only be handy, readable, informative, useful, purposive and relevant to the requirements of students and teachers in the subject of surgery but would also be of significant consequence to the surgical students, residents and teachers in India and abroad.

I unhesitatingly record my sense of appreciation for the authors for their diligent efforts which would be validated exclusively by the appreciation that it would evoke from amongst its readers.



Dr Ravi Wankhedkar

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Past President, SAARC Medical Association
Past President, Indian Medical Association

Preface

This book is born out of my desire to have a comprehensive textbook on general surgery. Recently, the National Medical Commission announced the new curriculum. As per the new curriculum it is now Competency Based Undergraduate Curriculum for the Indian Medical Graduate. The commission desires that the competency should be further subdivided into specific learning objectives (SLOs) which when learnt can make a person proficient in the desired competency. This is my humble effort to write this book, as per the new pattern, so that the Indian Medical Graduate (IMG) shall be competent enough, in surgery, after reading this book.

Some chapters, like 'Basic surgical skills', 'Biohazard disposal', 'Principles of day care surgery' and principles of safe surgery' are added to complete the competencies.

Some chapters like 'Pain pathways and pain management', 'Energy sources in surgery', 'Neurogenic Bladder', 'Urinary incontinence' and 'Urodynamics' are added keeping the postgraduate students in mind.

My anaesthesia colleague has taken special efforts to write good detailed chapters on anaesthesia topics.

Towards the end of the book 'A-Z of surgical triads', 'A-Z of surgical triangles', 'A-Z of surgical signs' are also added. A chapter on the most recent and exciting frontier of 'Artificial intelligence in surgery' is very informative. A chapter on 'medicolegal aspects of practice' has also been added. Algorithms for palliative care of the terminally ill have been taken from EBM of Tata Memorial Hospital, Parel, Mumbai. I sincerely express my appreciation and gratitude to them.

In compiling this book I have consulted various authoritative books and publications on surgery. I have mentioned them in "resource materials". Some materials like photographs, tables and flowcharts, may have been taken from these sources with permission. I sincerely express my appreciation and gratitude to all of them. Without their contribution this Herculean task would not have been possible.

Hope this book serves the budding undergraduates but also shall be a great help to the postgraduate students and a reference book for the practitioners.

Constructive criticism and suggestions are always welcome to improve the future editions.

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Acknowledgements

I am happy to bring out this first edition of *Textbook of Surgery*. This is my first book and I have been lucky to get help and support from many. I sincerely thank all of them for all their help in bringing out this book.

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Dr Nimesh Verma MS, Additional Professor, General Surgery, Government Medical College, Surat, for reviewing a few chapters and his able guidance.

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I express my acknowledgement, appreciation and gratitude to the various resources which were consulted in the writing of this book. Some images, tables and flowcharts or algorithms are taken from these resources and we express our gratitude for the same. The list of resources are mentioned the end of the text of the book.

I also thank my residents, Dr Jagruti, Dr Durga, Dr Nirav and Dr Mayur for their time to time help in writing this book. A special mention of my undergraduate student Mr Mohammad Usman for his help with his computer soft skills.

I am indeed indebted to my publishers CBS Publishers & Distributors for presenting my efforts in the form of a good book.

Kailash R Gindodia

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SU27.8	Demonstrate the correct examination of the lymphatic system	Clinics, DOAP	

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Abdomen			
SU28.1	Describe pathophysiology, clinical features, Investigations and principles of management of hernias	55	488
SU28.2	Demonstrate the correct technique to examine the patient with hernia and identify different types of hernias	56	507
SU28.2	Demonstrate the correct technique to examine the patient with hernia and identify different types of hernias	55	488
SU28.3	Describe causes, clinical features, complications and principles of management of peritonitis	58	516
SU28.4	Describe pathophysiology, clinical features, investigations and principles of management of intra-abdominal abscess, mesenteric cyst, and retroperitoneal tumors	59	521
SU28.5	Describe the applied anatomy and physiology of esophagus	61	542
SU28.6	Describe the clinical features, investigations and principles of management of benign and malignant disorders of esophagus	61	542
SU28.7	Describe the applied anatomy and physiology of stomach	62	570
SU28.8	Describe and discuss the aetiology, the clinical features, investigations and principles of management of congenital hypertrophic pyloric stenosis, peptic ulcer disease, carcinoma stomach	62	570
SU28.8	Describe and discuss the aetiology, the clinical features, investigations and principles of management of congenital hypertrophic pyloric stenosis, peptic ulcer disease, carcinoma stomach	63	589
SU28.9	Demonstrate the correct technique of examination of a patient with disorders of the stomach	62	570
SU28.10	Describe the applied anatomy of liver. Describe the clinical features, Investigations and principles of management of liver abscess, hydatid disease, injuries and tumors of the liver	65	604
SU28.11	Describe the applied anatomy of spleen. Describe the clinical features, investigations and principles of management of splenic injuries. Describe the post-splenectomy sepsis—prophylaxis	68	723
SU28.12	Describe the applied anatomy of biliary system. Describe the clinical features, investigations and principles of management of diseases of biliary system	66	659
SU28.13	Describe the applied anatomy of small and large intestine	69	730
SU28.14	Describe the clinical features, investigations and principles of management of disorders of small and large intestine including neonatal obstruction and short gut syndrome	69	730
SU28.15	Describe the clinical features, investigations and principles of management of diseases of appendix including appendicitis and its complications	72	794
SU28.16	Describe applied anatomy including congenital anomalies of the rectum and anal canal	76	840
SU28.17	Describe the clinical features, investigations and principles of management of common anorectal diseases	73	800
SU28.18	Describe and demonstrate clinical examination of abdomen. Order relevant investigations. Describe and discuss appropriate treatment plan	56	507
SU29.1	Describe the causes, investigations and principles of management of Hematuria	Clinics, DOAP	
SU29.1	Describe the causes, investigations and principles of management of Hematuria	76	840
SU29.2	Describe the clinical features, investigations and principles of management of congenital anomalies of genitourinary system	78	853
SU29.3	Describe the Clinical features, Investigations and principles of management of urinary tract infections	80	867
SU29.4	Describe the clinical features, investigations and principles of management of hydronephrosis	81	874
SU29.5	Describe the clinical features, investigations and principles of management of renal calculi	82	884
SU29.6	Describe the clinical features, investigations and principles of management of renal tumours	83	892
SU29.7	Describe the principles of management of acute and chronic retention of urine	84	899
SU29.8	Describe the clinical features, investigations and principles of management of bladder cancer	85	904
SU29.9	Describe the clinical features, investigations and principles of management of disorders of prostate	85	904
SU29.9	Describe the clinical features, investigations and principles of management of disorders of prostate	89	936
SU29.10	Demonstrate a digital rectal examination of the prostate in amannequin or equivalent	Skill lab, DOAP	
SU29.11	Describe clinical features, investigations and management of urethral strictures	90	947
SU30.1	Describe the clinical features, investigations and principles of management of phimosis, paraphimosis and carcinoma penis	90	947
SU30.2	Describe the applied anatomy clinical features, investigations and principles of management of undescended testis	91	958
SU30.3	Describe the applied anatomy clinical features, investigations and principles of management of epididymo-orchitis	91	958
SU30.4	Describe the applied anatomy clinical features, investigations and principles of management of varicocele	91	958
SU30.5	Describe the applied anatomy, clinical features, investigations and principles of management of hydrocele	91	958
SU30.6	Describe classification, clinical features, investigations and principles of management of tumours of testis	92	967