Contents

Foreword by Prof Anup Mohta Preface

vii

| 12 |
|----|
| IX |
| |

SECTION I

| 1. Fluids and Electrolytes in Surgical Patients | 3 |
|---|----|
| Total body water | 3 |
| Composition of fluids | 3 |
| Osmolality | 3 |
| Control of volume | 3 |
| Osmoregulation | 4 |
| Neural mechanism | 4 |
| Hormonal mediators | 4 |
| Normal intake of water | 4 |
| Water and electrolyte exchange | 4 |
| Maintenance requirements | 4 |
| Fluid and electrolyte therapy | 5 |
| Maintenance electrolyte requirements | 5 |
| Postoperative fluid therapy | 5 |
| Concentration changes | 5 |
| Hyponatremia | 5 |
| Clinical features | 6 |
| Diagnosis of hyponatremia | 6 |
| Treatment of hyponatremia | 6 |
| | 7 |
| 2. Nutritional Support | |
| Benefits of nutritional support | 7 |
| Indications of nutritional support | 7 |
| Assessment of malnutrition | 7 |
| Routes of nutritional support | 9 |
| Indications of enteral nutrition | 9 |
| Advantages of nasogastric tube | 9 |
| Parenteral nutrition | 11 |
| Peripheral route | 12 |
| 3. Shock | 15 |
| Definition | 15 |
| Causes of shock | 15 |
| Peripheral failure | 15 |
| Signs and symptoms | 15 |
| Management | 16 |
| Hemorrhage | 16 |
| Stages of hemorrhage | 16 |
| Treatment | 17 |
| Local methods to control hemorrhage | 17 |
| Surgical methods to control hemorrhage | 17 |
| 4. Wound Healing | 18 |
| Definition of wound | 18 |
| Etiology | 18 |
| | |

| Wound healing | 18 |
|---|-----|
| Types of wound | 18 |
| Wound management | 18 |
| Factors affecting wound healing | 18 |
| Classification of wounds | 19 |
| Wound management | 19 |
| Stages of wound healing | 19 |
| Surgeon's role in wound management | 19 |
| 5. Management of Burns | 20 |
| Functions of skin | 20 |
| Management of burns | 20 |
| Stop the burning process | 20 |
| Management of airway and pulmonary problems | 20 |
| Carbon monoxide toxicity | 21 |
| Treatment of carbon monoxide exposure | 21 |
| Cyanide toxicity | 21 |
| Upper airway injury | 21 |
| Impaired breathing from deep chest wall burn | 21 |
| Restoring and maintaining | |
| hemodynamic stability | 21 |
| Degree of burn | 22 |
| Transfer criteria to a burn center | 22 |
| 6. Metabolic Response to Surgery | 24 |
| Energy metabolism | 24 |
| Protein and amino acid metabolism | 24 |
| Homeostatic responses to stress | 24 |
| Mediators of stress response | 25 |
| Inflammatory arm–cytokines | 25 |
| Stress response | 25 |
| Adrenergic-corticoid phase | 25 |
| Anabolic phase | 26 |
| Elective operations | 26 |
| Stress responses | 26 |
| Consequences of malnutrition | 26 |
| Normal postoperative infusion | 26 |
| Metabolic response to trauma/severe | • |
| surgical stress | 26 |
| Determinants of host responses to surgical stress | 26 |
| Metabolic response to trauma/severe | 277 |
| surgical stress | 27 |
| 7. Acute Respiratory Distress Syndrome (ARDS) | 28 |
| Definition | 28 |

| Key features of ARDS | 28 | 12. Amp |
|---|----------|------------|
| Pathophysiology | 28 | Indica |
| Goals of treatment of ARDS | 28 | Wher |
| 8. Post-operative Pulmonary Complications | 29 | Meth |
| Changes occurring during general anesthesia | 29 | 13. Exam |
| Pulmonary collapse | 29 | Class |
| Pulmonary aspiration | 30 | Based |
| Post-operative pneumothorax | 30 | On di |
| 9. Infectious Diseases | 31 | Inspe |
| Tuberculosis | 31 | Edge |
| Primary routes of spread | 31 | Floor |
| Pathology | 32 | Palpa |
| Stages of infection | 32 | Regio |
| Clinical presentations | 32 | - |
| Approach in management | 32 | 14. Ingro |
| Investigations | 33 | Defin |
| Treatment | 33 | Predi |
| Indications for surgery | 33 | Patho |
| Tubercular epididymo-orchitis | 33 | Prese |
| Clinical features | 33 | Mana |
| Investigations | 33 | 15. Steril |
| Anatomical basis of presentation of cold | | Steril |
| abscesses at various sites | 34 | Meth |
| From cervical vertebrae | 34 | Disin |
| From thoracic vertebrae | 34 | Comr |
| From lumbar vertebrae | 34 | |
| Tetanus | 34 | 16. Scrul |
| Pathology | 35 | Aims |
| Signs and symptoms | 35 | Micro |
| Treatment | 35 | Theat |
| Gas gangrene | 36 | Areas |
| 10. Madura Foot | 38 | Food |
| Causative organisms | 38 | Scrub |
| Clinical features | 38 | Gowr |
| X-ray | 38 | Glovi |
| Treatment | 38 | Once |
| 11. Diabetic Foot | 39 | At the |
| Definition | 39 | 17. Fund |
| Incidence | 39 39 | Minir |
| Pathophysiology | 39 | Techr |
| Clinical features | 39 | Acces |
| Ischemic features | 39 | Pneu |
| Investigations | 40 | Orien |
| Management | 40 | Limit |
| | | |

| 12. | Amputations | 41 |
|-----|---|----|
| | Indications | 41 |
| | When the limb is | 41 |
| | Methods of amputation | 42 |
| 13. | Examination of an Ulcer | 43 |
| | Classification of ulcer | 43 |
| | Based on stage of healing | 43 |
| | On duration | 43 |
| | Inspection | 43 |
| | Edge | 44 |
| | Floor | 44 |
| | Palpation | 45 |
| | Regional examination | 45 |
| 14. | Ingrowing Toe Nail | 46 |
| | Definition | 46 |
| | Predisposing factors | 46 |
| | Pathology | 46 |
| | Presentation | 46 |
| | Management | 46 |
| 15. | Sterilization and Disinfection | 47 |
| | Sterilization | 47 |
| | Methods of sterilization | 47 |
| | Disinfection and cleaning | 48 |
| | Common methods of disinfection | 48 |
| 16. | Scrubbing, Gowning and Gloving Technique | 50 |
| | Aims and objectives | 50 |
| | Microorganisms on skin | 50 |
| | Theatre etiquettes | 50 |
| | Areas of the operative suite (traffic patterns) | 51 |
| | Food/drink | 51 |
| | Scrubbing | 51 |
| | Gowning procedure | 51 |
| | Gloving procedure | 51 |
| | Once gowned and gloved | 51 |
| | At the end of the sterile procedure | 51 |
| 17. | Fundamental Principles of Laparoscopy | 52 |
| | Minimally invasive surgery – today | 52 |
| | Technology used | 52 |
| | Access techniques | 53 |
| | Pneumoperitoneum | 53 |
| | Orientation | 53 |
| | Limitations of instruments | 53 |

SECTION II

| 18. | Aneurysm | 57 | Epidemiology | 59 |
|-----|---|--------|--|----|
| | Definition | 57 | Histopathological features | 59 |
| | Etiology | 57 | Clinical features | 59 |
| | Clinical features | 57 | Investigations | 60 |
| | Effects of aneurysm | 57 | 20 Berinherel Vessuler Disease (BVD) | 61 |
| | Investigation | 58 | 20. Peripheral Vascular Disease (PVD) | 01 |
| | investigation | 00 | Risk factors for PVD: Framingham heart study | 61 |
| 19. | Thromboangitis Obliterans (Buerger's Diseas | se) 59 | Outcomes in PVD patients | 61 |
| | Historical aspects | 59 | Diagnostic modalities | 61 |
| | Definition | 59 | Initial assessment | 61 |

Contents

| | Intermittent claudication | 61 | | Meth |
|-----|---|----|-----|---------------|
| | PVD etiology | 62 | | Com |
| | Features of lower limb ischemia | 62 | | Ultra |
| | PVD differential diagnosis | 62 | | Surg |
| | Differential diagnosis of intermittent claudication | 62 | | Oper |
| | Location | 62 | | Radi |
| | Critical limb ischemia | 63 | | Endo |
| | Non-invasive investigations | 63 | 23. | Chro |
| | Digital subtraction angiography (DSA) | 65 | | Vario |
| | Suggested algorithm for work-up | 65 | | Poin |
| | Workup: summary | 65 | | Sche |
| | Treatment for PVD | 66 | | Loca |
| 21. | Thoracic Outlet Syndrome (TOS) | 67 | | Auso |
| | Sites of obstruction can be at various locations | 67 | | How |
| | Causes of TOS | 67 | | Subc |
| | Anatomy | 68 | | |
| | Presentation | 68 | 24. | Nerv |
| | Examination | 68 | | Neur |
| | Investigations | 68 | | Struc |
| | Management | 68 | | Resp |
| 22. | Varicose Veins | 70 | | Freq Etiol |
| | Varicose veins types | 70 | | Path |
| | Short saphenous vein | 71 | | Clini |
| | Varicose veins | 71 | | Tine |
| | Mechanism of valves | 71 | | Class |
| | Pathology | 71 | | Sedd |
| | Presentation | 71 | | Indic |
| | Symptoms | 71 | | Inves |
| | Complications of venous ulcer | 72 | | Treat |
| | Examination | 72 | | Carp |
| | Investigations | 72 | | Brack |
| | Treatment | 72 | | Bracl |
| | Conservative management | 72 | | |
| | Conservative management includes | 72 | 25. | Soft |
| | Sclerotherapy | 72 | | Stagi |
| | | | | |

| Method of compression sclerotherapy | 72 |
|--|----|
| Complications | 72 |
| Ultrasound guided foam sclerotherapy | 72 |
| Surgery | 73 |
| Operating steps | 74 |
| Radiofrequency closure | 74 |
| Endo-venous laser therapy | 75 |
| 23. Chronic Venous Insufficiency and | |
| Varicose Veins (CVI) | 76 |
| Points in history | 76 |
| Scheme of examination | 76 |
| Local examination | 76 |
| Auscultation | 77 |
| How to state the diagnosis | 77 |
| Subcategories | 78 |
| 24. Nerve Injuries | 79 |
| Neuron | 79 |
| Structure of peripheral nerve | 79 |
| Response of a nerve to injury | 79 |
| Frequency of nerve injuries | 79 |
| Etiology | 79 |
| Pathophysiology | 79 |
| Clinical | 80 |
| Tinel's sign | 80 |
| Classification of nerve injury | 80 |
| Seddon classification | 80 |
| Indications for surgery | 80 |
| Investigations | 80 |
| Treatment | 80 |
| Carpal tunnel syndrome (CTS) | 81 |
| Brachial plexus injuries (upper lesions) | 81 |
| Brachial plexus injuries (lower lesions) | 82 |
| 25. Soft Tissue Sarcoma (STS) | 84 |
| Staging | 84 |
| | |

xiii

SECTION III

| 26. Premalignant Conditions of Oral Cavity | 87 | Epidemiology | 89 |
|--|--|--|--|
| Lesions which are definitely premalignant | 87 | Etiology/risk factors | 89 |
| Lesions having higher than normal | 87 | Pathology | 90 |
| incidence of malignancy | 87 | Staging | 90 |
| Lesions having doubtful association | 87 | Mode of spread | 90 |
| Leukoplakia | 87 | Mandible involvement | 90 |
| Sites of leukoplakia | 87 | AJCC stage groupings | 91 |
| Etiology | 87 | Treatment option | 91 |
| Epidemiology | 87 | Stage wise treatment | 91 |
| Pathology Microscopically Warning signs of malignancy in leukoplakia Treatment Erythroplakia Treatment 27. Oral Cavity Cancer Anatomy Factors affecting lymph node involvement in oral cavity cancer | 88 88 88 88 88 88 89 89 | Surgery Mandibular involvement in Buccal Mucosa cancer Chemotherapy 28. Salivary Gland Diseases Development disorder Functional disorders Sialorrhea Xerostomia Obstructive disorders Stone formation (sialolithiasis) | 91 92 93 94 94 94 94 94 94 |

| | Submandibular stones Parotid lithiasis Non-neoplastic disorders Acute sialadenitis |
|-----|---|
| | Chronic sialadenitis Neoplastic disorders |
| | Incidence |
| | Investigations of salivary gland tumors |
| | Classification of salivary gland tumors (WHO classification 1991-simplified) |
| | Gland wise distribution |
| | Malignancy Clinical classification |
| | Pleomorphic adenoma |
| | Treatment |
| | Warthin's tumor |
| | Oncocytoma |
| | Mucoepidermoid carcinoma |
| | Adenoid cystic carcinoma Acinic cell carcinoma |
| | Adenocarcinoma |
| | Malignant mixed tumors |
| | Squamous cell crcinoma |
| | Undifferentiated carcinoma |
| | Management of the N0 neck |
| | Role of fine-needle aspiration biopsy Cell of origin of tumors |
| | Multicellular theory |
| | Contradictory evidence |
| | |
| 29. | Swellings of Jaw |
| 29. | Swellings of Jaw Anatomical characteristics of jaw bones |
| 29. | Anatomical characteristics of jaw bones Jaw tumor can arise from |
| 29. | Anatomical characteristics of jaw bones Jaw tumor can arise from Classification of jaw swellings |
| 29. | Anatomical characteristics of jaw bones Jaw tumor can arise from Classification of jaw swellings Granulomatous epulis |
| 29. | Anatomical characteristics of jaw bones Jaw tumor can arise from Classification of jaw swellings Granulomatous epulis Myeloid epulis |
| 29. | Anatomical characteristics of jaw bones Jaw tumor can arise from Classification of jaw swellings Granulomatous epulis Myeloid epulis Carcinomatous epulis |
| 29. | Anatomical characteristics of jaw bones Jaw tumor can arise from Classification of jaw swellings Granulomatous epulis Myeloid epulis |
| 29. | Anatomical characteristics of jaw bones Jaw tumor can arise from Classification of jaw swellings Granulomatous epulis Myeloid epulis Carcinomatous epulis Diagnosis Odontogenic cysts Dental or radicular cyst |
| 29. | Anatomical characteristics of jaw bones Jaw tumor can arise from Classification of jaw swellings Granulomatous epulis Myeloid epulis Carcinomatous epulis Diagnosis Odontogenic cysts Dental or radicular cyst Paradental cyst |
| 29. | Anatomical characteristics of jaw bones Jaw tumor can arise from Classification of jaw swellings Granulomatous epulis Myeloid epulis Carcinomatous epulis Diagnosis Odontogenic cysts Dental or radicular cyst Paradental cyst Dentigerous (Follicular) cyst |
| 29. | Anatomical characteristics of jaw bones Jaw tumor can arise from Classification of jaw swellings Granulomatous epulis Myeloid epulis Carcinomatous epulis Diagnosis Odontogenic cysts Dental or radicular cyst Paradental cyst Dentigerous (Follicular) cyst Odontogenic keratocyst |
| 29. | Anatomical characteristics of jaw bones Jaw tumor can arise from Classification of jaw swellings Granulomatous epulis Myeloid epulis Carcinomatous epulis Diagnosis Odontogenic cysts Dental or radicular cyst Paradental cyst Dentigerous (Follicular) cyst |
| 29. | Anatomical characteristics of jaw bones Jaw tumor can arise from Classification of jaw swellings Granulomatous epulis Myeloid epulis Carcinomatous epulis Diagnosis Odontogenic cysts Dental or radicular cyst Paradental cyst Dentigerous (Follicular) cyst Odontogenic keratocyst Odontogenic tumors |
| 29. | Anatomical characteristics of jaw bones Jaw tumor can arise from Classification of jaw swellings Granulomatous epulis Myeloid epulis Carcinomatous epulis Diagnosis Odontogenic cysts Dental or radicular cyst Paradental cyst Dentigerous (Follicular) cyst Odontogenic keratocyst Odontogenic tumors Clinical features of ameloblastoma Treatment of ameloblastoma Adenomatoid odontogenic tumor |
| | Anatomical characteristics of jaw bones Jaw tumor can arise from Classification of jaw swellings Granulomatous epulis Myeloid epulis Carcinomatous epulis Diagnosis Odontogenic cysts Dental or radicular cyst Paradental cyst Dentigerous (Follicular) cyst Odontogenic keratocyst Odontogenic tumors Clinical features of ameloblastoma Treatment of ameloblastoma Adenomatoid odontogenic tumor Related jaw lesions |
| | Anatomical characteristics of jaw bones Jaw tumor can arise from Classification of jaw swellings Granulomatous epulis Myeloid epulis Carcinomatous epulis Diagnosis Odontogenic cysts Dental or radicular cyst Paradental cyst Dentigerous (Follicular) cyst Odontogenic keratocyst Odontogenic tumors Clinical features of ameloblastoma Treatment of ameloblastoma Adenomatoid odontogenic tumor Related jaw lesions Thyroid Gland |
| | Anatomical characteristics of jaw bones Jaw tumor can arise from Classification of jaw swellings Granulomatous epulis Myeloid epulis Carcinomatous epulis Diagnosis Odontogenic cysts Dental or radicular cyst Paradental cyst Dentigerous (Follicular) cyst Odontogenic keratocyst Odontogenic tumors Clinical features of ameloblastoma Treatment of ameloblastoma Adenomatoid odontogenic tumor Related jaw lesions Thyroid Gland A brief history of the thyroid |
| | Anatomical characteristics of jaw bones Jaw tumor can arise from Classification of jaw swellings Granulomatous epulis Myeloid epulis Carcinomatous epulis Diagnosis Odontogenic cysts Dental or radicular cyst Paradental cyst Dentigerous (Follicular) cyst Odontogenic keratocyst Odontogenic tumors Clinical features of ameloblastoma Treatment of ameloblastoma Adenomatoid odontogenic tumor Related jaw lesions Thyroid Gland A brief history of the thyroid History of thyroid surgery |
| | Anatomical characteristics of jaw bones Jaw tumor can arise from Classification of jaw swellings Granulomatous epulis Myeloid epulis Carcinomatous epulis Diagnosis Odontogenic cysts Dental or radicular cyst Paradental cyst Dentigerous (Follicular) cyst Odontogenic keratocyst Odontogenic tumors Clinical features of ameloblastoma Treatment of ameloblastoma Adenomatoid odontogenic tumor Related jaw lesions Thyroid Gland A brief history of the thyroid History of thyroid surgery Anatomy |
| | Anatomical characteristics of jaw bones Jaw tumor can arise from Classification of jaw swellings Granulomatous epulis Myeloid epulis Carcinomatous epulis Diagnosis Odontogenic cysts Dental or radicular cyst Paradental cyst Dentigerous (Follicular) cyst Odontogenic keratocyst Odontogenic tumors Clinical features of ameloblastoma Treatment of ameloblastoma Adenomatoid odontogenic tumor Related jaw lesions Thyroid Gland A brief history of the thyroid History of thyroid surgery Anatomy Embryology |
| | Anatomical characteristics of jaw bones Jaw tumor can arise from Classification of jaw swellings Granulomatous epulis Myeloid epulis Carcinomatous epulis Diagnosis Odontogenic cysts Dental or radicular cyst Paradental cyst Dentigerous (Follicular) cyst Odontogenic keratocyst Odontogenic tumors Clinical features of ameloblastoma Treatment of ameloblastoma Adenomatoid odontogenic tumor Related jaw lesions Thyroid Gland A brief history of the thyroid History of thyroid surgery Anatomy |
| | Anatomical characteristics of jaw bones Jaw tumor can arise from Classification of jaw swellings Granulomatous epulis Myeloid epulis Carcinomatous epulis Diagnosis Odontogenic cysts Dental or radicular cyst Paradental cyst Dentigerous (Follicular) cyst Odontogenic keratocyst Odontogenic tumors Clinical features of ameloblastoma Treatment of ameloblastoma Adenomatoid odontogenic tumor Related jaw lesions Thyroid Gland A brief history of the thyroid History of thyroid surgery Anatomy Embryology Evaluation of thyroid swelling Differential diagnosis Epidemiology |
| | Anatomical characteristics of jaw bones Jaw tumor can arise from Classification of jaw swellings Granulomatous epulis Myeloid epulis Carcinomatous epulis Diagnosis Odontogenic cysts Dental or radicular cyst Paradental cyst Dentigerous (Follicular) cyst Odontogenic keratocyst Odontogenic tumors Clinical features of ameloblastoma Treatment of ameloblastoma Adenomatoid odontogenic tumor Related jaw lesions Thyroid Gland A brief history of the thyroid History of thyroid surgery Anatomy Embryology Evaluation of thyroid swelling Differential diagnosis |

| | | 1 |
|-----|--|------|
| | Hands | 108 |
| | Eye disease | 109 |
| | Neck | 109 |
| | Investigations | 109 |
| | Findings suggestive of malignancy | 110 |
| | Fine needle aspiration cytology of thyroid | 110 |
| | Nuclear medicine - thyroid scan | 110 |
| 31. | Benign Thyroid Disease | 112 |
| | Toxic Multi-nodular goitre | 112 |
| | Graves' disease | 113 |
| | Toxic adenoma | 113 |
| 32. | Thyroid Malignancies | 114 |
| | Epidemiology | 114 |
| | Aetiology | 114 |
| | Histopathology | 114 |
| | Papillary carcinoma | 114 |
| | Follicular carcinoma | 114 |
| | Medullary carcinoma | 115 |
| | Anaplastic carcinoma | 11:5 |
| | Treatment | 115 |
| 33. | Hyperparathyroidism | 116 |
| | Types | 116 |
| | Clinical features | 116 |
| | Investigations | 116 |
| | Radiology | 116 |
| | Management | 116 |
| | Multiple endocrine neoplasia | 117 |
| | Men type I | 117 |
| | Men type II | 117 |
| 34. | Evaluation of a Patient with Neck Mass | 118 |
| | Embryology | 118 |
| | Brachial system | 118 |
| | Thyroid gland | 119 |
| | Triangles of the neck | 119 |
| | Investigations | 120 |
| | Nodal mass workup in the adult | 120 |
| | Primary tumor | 120 |
| | Lymphoma | 121 |
| | Salivary gland tumors | 121 |
| | Carotid body tumor | 121 |
| | Lipoma | 121 |
| | Neurogenic tumors | 121 |
| | Congenital and developmental mass | 121 |
| | Inflammatory disorders | 121 |
| 35 | Penetrating Neck Trauma | 124 |
| | Types of weapons | 124 |
| | Guns | 124 |
| | Anatomy | 124 |
| | Neck exploration – incisions | 125 |
| | Incidence | 125 |
| | Mortality | 125 |
| | Initial management | 125 |
| | Signs of injury | 125 |
| | Management of the stable patient | 125 |
| | Management of vascular injuries | 126 |
| | Management of esophageal injury | 126 |

| | | Contents |
|-----|---|-------------------|
| | Management of laryngeal/tracheal injury Points to remember | 126 126 |
| 36. | Lymphadenopathy Definition | 127 127 |
| | Pathological basis of lymph node enlargement Broad categories of lymph- | 127 |
| | adenopathy can be summarized Important points in history | 127 127 |
| | Physical examination Lymph nodes of the head and neck | 127 |
| | and the regions that they drain Axillary lymph nodes and the structures | 128 |
| | that they drain Inguinal lymph nodes and the structures | 129 |
| | that they drain | 129 |
| | Generalized lymphadenopathy | 130 |
| | Nodal character and size Diagnosis and management | 130 130 |
| | Lymph node biopsy | 130 |
| 37. | Breast: Anatomy and Benign Diseases | 131 |
| | Anatomy | 131 |
| | Architecture of the breast | 131 |
| | Blood supply | 131 |
| | Venous drainage | 132 132 |
| | Lymphatic drainage Investigations of breast diseases | 132 |
| | Triple assessment of a lump | 132 |
| | Nipple discharge | 132 |
| | Management of nipple discharge | 132 |
| | Breast abscess | 133 |
| | Etiology | 133 |
| | Clinical features | 134 |
| | Treatment | 134 |
| | Incision and drainage | 134 |
| 38. | Breast Cancer | 135 |
| | Incidence | 135 135 |
| | Risk factors Pathology | 135 |
| | Pathology Ductal carcinoma <i>in situ</i> | 135 |
| | Lobular carcinoma <i>in situ</i> | 135 |
| | High risk group for development of breast can | |
| | Stellate type invasive ductal carcinoma | 136 |
| | Circumscribed type invasive ductal carcinon | |
| | Genetic factors | 136 |
| | Histopathology of breast cancer | 136 |
| | Diagnosis | 136 |
| | | |

| | NM classification | 136 |
|-------|--|-------|
| | letastatic work up | 137 |
| | ole of MRI in breast cancer | 137 |
| | hemoprevention by tamoxifen | 137 |
| P | rognostic factors | 138 |
| T | reatment | 138 |
| Α | ppropriate surgery | 138 |
| L | ocally advanced breast cancer | 139 |
| 39. E | mpyema Thoracis | 140 |
| D | efinition | 140 |
| | riteria for diagnosis of empyema | 140 |
| St | tages in empyema | 140 |
| | listorical perspective | 140 |
| G | raham's principles of treatment for empyema | 141 |
| T | ypes of empyema | 141 |
| E | tiology | 141 |
| 0 | rganisms | 141 |
| | linical stages | 141 |
| С | linical features | 141 |
| С | omplications | 141 |
| | vestigations | 141 |
| | iagnosis | 141 |
| | lanagement | 141 |
| | rinciple of management | 142 |
| | rainage of empyema | 142 |
| | ube thoracostomy | 142 |
| | trapleural streptokinase | 142 |
| | ideo assisted thoracoscopy | 142 |
| | e-expansion of the lung and obliteration | |
| | of the space | 142 |
| | horacoplasty | 142 |
| 40. T | horacic Trauma | 143 |
| | ife threatening chest trauma | 143 |
| | itial management of a case of chest trauma | 143 |
| | racture of the ribs | 144 |
| | ncomplicated rib fracture | 144 |
| | ail chest | 144 |
| | raumatic hemothorax | 144 |
| | | 145 |
| | raumatic pneumothorax | |
| | ension pneumothorax | 145 |
| | linical signs and symptoms of tension | 1 4 5 |
| | oneumothorax | 145 |
| T | reatment of tension pneumothorax | 145 |
| | reatment of simple pneumothorax | 145 |
| | pen pneumothorax | 145 |
| | reatment of open pneumothorax | 146 |
| Ir | idications of inserting a chest tube in chest trauma | 146 |

xv

SECTION IV

| 41. The Adrenal Gland | 149 | Steroid hormones | 150 |
|-----------------------|-----|--|-----|
| History | 149 | Congenital adrenal hyperplasia | 153 |
| Anatomy | 149 | Adrenal insufficiency | 153 |
| Relationships | 149 | Types | 153 |
| Histology | 149 | Diagnosis | 154 |
| Embryology | 150 | Steroid replacement therapy | 154 |
| Adrenal hormones | 150 | Primary hyperaldosteronism (Conn's syndrome) | 154 |

| | Diagnosis | 155 |
|-----|--|-----|
| | Surgery | 156 |
| | Outcome | 156 |
| | Cushing's syndrome | 156 |
| | Management | 157 |
| | Pheochromocytoma | 158 |
| | Clinical features | 158 |
| | Diagnosis | 158 |
| | Molecular genetics | 158 |
| | Perioperative care | 159 |
| | Surgery | 159 |
| | Malignant pheochromocytoma | 159 |
| | Incidentaloma | 160 |
| | Differential diagnosis — causes | 160 |
| | Evaluation | 160 |
| | Management | 160 |
| | Metastasis to adrenal gland | 160 |
| | Adrenalectomy – technique | 160 |
| | Laparoscopic lateral transabdominal | |
| | adrenalectomy | 161 |
| | Complications | 161 |
| 42. | Bladder Outflow Obstruction (BOO) | 162 |
| | Pathogenesis | 162 |
| | Complications | 162 |
| | Clinical features | 163 |
| | Work up of patient with BOO | 163 |
| | Treatment | 163 |
| 43. | Benign Prostatic Hyperplasia (BPH) | 164 |
| | Anatomy | 164 |
| | Incidence | 161 |
| | Etiology | 164 |
| | Anatomical Changes | 165 |
| | Pathophysiology | 165 |
| | Understanding lower urinary tract symptoms | 165 |
| | Patho-physiology of symptoms | 165 |
| | Physical signs | 165 |
| | Investigations for BPH | 166 |
| | Differential diagnosis | 166 |
| | Difficulties in diagnosis and management | 166 |
| | Prostate cancer | 166 |
| | Prostate specific antigen | 166 |
| | Goals of treatment for BPH | 167 |
| | Treatment modalities for BPH | 167 |
| | Surgery | 167 |
| | Pre-operative preparation | 168 |
| | Open prostatectomy | 169 |
| 44. | Prostatitis | 170 |
| | Acute prostatitis | 170 |
| | Chronic prostatitis | 170 |
| | Treatment | 170 |
| 45. | Prostate Cancer | 171 |
| | Incidence/prevalence | 171 |
| | Risk factors | 171 |
| | Screening | 171 |
| | Signs | 171 |
| | Diagnosis | 172 |
| | Clinical staging | 172 |

| | Abdomen and pelvis Staging | 172 172 |
|-----|---|------------|
| | Treatment | 172 |
| 46. | Voiding Dysfunction | 173 |
| | Includes problems of | 173 |
| | Overactive bladder | 173 |
| | 10 Warning signs of bladder control problems | 174 |
| | Investigation Treatment | 174 174 |
| | | |
| 47. | Evaluation for Hematuria | 175 |
| | Definition | 175 |
| | Macroscopic hematuria Microscopic hematuria | 175 175 |
| | Causes of red colored urine | 175 |
| | Microscopic hematuria | 175 |
| | Glomerular hematuria | 176 |
| | FISH – urovysion | 176 |
| | Nuclear matrix protein 22 (NMP22) | 176 |
| | Cystoscopy | 177 |
| 48. | Bladder Carcinoma Management: | |
| | | 178 |
| | Incidence | 178 |
| | Predisposing factors | 178 |
| | Pathology | 178 |
| | Pathological staging | 178 |
| | Grading | 179 |
| | Prognostic indicators predicting to muscle invasion | 179 |
| | Diagnosis Staging | 179 |
| | TNM staging | 180 |
| | Treatment | 180 |
| | Superficial bladder cancer | 180 |
| | Muscle invasive bladder cancer | 180 |
| | Metastatic bladder cancer | 181 |
| | Summary of treatment options for bladder cancer | 182 |
| 49. | Surgical Anatomy of the Kidney and | |
| | Ureter Kidney | 183 |
| | Gross anatomy | 183 |
| | Renal medulla | 183 |
| | Renal cortex Anatomical relations | 183 183 |
| | Anterior relations | 184 |
| | Posterior relations | 184 |
| | Perirenal structures – Gerota's Fascia | 184 |
| | Renal artery | 184 |
| | Brodel's line | 184 |
| | Renal vein tributaries | 185 |
| | Lymphatics Collecting system | 185 185 |
| | Calyceal system | 185 |
| | Renal innervation | 185 |
| | Ureter | 185 |
| | Histology | 185 |
| | Blood supply | 185 |
| | Lymphatics | 186 |
| | Nerve supply Normal constrictions | 186 186 |
| | Anatomical relations | 186 |
| | | 100 |

| | Contents | | | xvii |
|--|----------|----|--|-------|
| 50. Hydronephrosis | 187 | | Iatrogenic strictures | 205 |
| Adverse effects of hydronephrosis | 187 | | Classification | 205 |
| Causes | 187 | | Management | 205 |
| Bilateral obstruction | 188 | | Complications | 206 |
| Pelvic ureteric junction (PUJ) Obstruction | 188 | | Clinical presentation | 206 |
| Pathophysiology | 188 | | Investigations | 206 |
| Primary PUJ obstruction | 188 | | Management | 206 |
| Symptoms | 188 | | Bulbar urethral injuries | 206 |
| Investigations | 189 | | Drawbacks of railroading | 207 |
| Treatment | 190 | | Extravasation of urine | 207 |
| The pre-operative drainage of the system | 190 | | | |
| Goals of treatment | 190 | 56 | Undescended Testis | 208 |
| Open pyeloplasty | 190 | | Definition | 208 |
| | | | Development of testis and its descent | 208 |
| 51. Management of Renal Calculi | 192 | | Classification | 209 |
| Renal colic | 192 | | Differential diagnosis | 209 |
| Facilitation of stone passage | 192 | | Incidence | 209 |
| Active stone removal | 192 | | Diagnosis | 209 |
| Percutaneous stone extraction | 193 | | HCG stimulation test | 210 |
| Complications | 195 | | Radiological investigations | 210 |
| Open surgery | 195 | | Diagnostic laparoscopy | 210 |
| Indications | 195 | | Complications of UDT | 210 |
| Operative procedures | 195 | | Treatment | 210 |
| 52. Malignant Neoplasms of the Kidney | 196 | | Hormonal treatment | 211 |
| Classification | 196 | | Surgical treatment | 211 |
| Renal cell carcinoma (RCC) | 196 | | Follow-up and outcome | 211 |
| | 196 | 57 | . Testicular Cancer | 213 |
| Pathology Clinical presentation | 190 | 57 | | |
| Prognostic factors | 197 | | Epidemiology | 213 |
| Robson's staging of RCC | 197 | | Risk factors | 213 |
| | 197 | | Classification-Histological | 213 |
| AJCC stage grouping | 197 | | Testicular tumor and molecular biology | 214 |
| 5 year survival | 197 | | Presentation | 214 |
| Investigations Treatment | 197 | | Differential diagnosis | 214 |
| | 198 | | Natural history | 215 |
| Laparoscopic radical nephrectomy | 198 | | Work-up | 215 |
| Locally invasive RCC | 198 | | Radical orchiectomy | 215 |
| Metastatic RCC | | | Staging | 216 |
| Gene therapy of RCC | 199 | | Primary tumor (T) | 216 |
| Chemotherapy Unotherapide terms are | 199 | | Regional lymph nodes (N) | 216 |
| Urothelial tumors | 199 | | Principles of treatment | 217 |
| Diagnosis | 199 | | Seminoma | 217 |
| Treatment | 199 | | Histology | 217 |
| 53. Congenital Anomalies of the Kidney | 200 | | Non-seminomatous germ cell tumor (NSGCT) |) 218 |
| Development of kidney | 200 | | Treatment | 218 |
| Classification | 200 | | Toxicity of chemotherapy | 219 |
| Horse-shoe kidney | 200 | | Prognosis | 219 |
| Bilateral renal agenesis | 201 | | Prognostic factors | 220 |
| Hypoplasia | 201 | | Seminoma | 220 |
| Anomalies of differentiation of renal tissue | 201 | | Leydig cell tumor | 220 |
| 54. Genitourinary Trauma | 202 | | Sertoli cell tumor | 220 |
| - | | | Gonadoblastoma | 220 |
| Bladder trauma | 202 | | | |
| Kidney injury | 202 | 58 | . Hydrocele | 221 |
| Classification | 203 | | Clinical examination | 221 |
| Investigations | 204 | | Differential diagnosis | 221 |
| Management | 204 | | Solid swellings of the scrotum | 221 |
| 55. Urethral Injuries | 205 | | Definition | 221 |
| Etiology | 205 | | Primary hydrocele | 221 |
| Traumatic strictures | 205 | | Hydrocele fluid | 222 |

xviii

| 59. | Secondary hydrocele Congenital hydrocele Infantile hydrocele Encysted hydrocele of the cord Clinical features Investigations Complications Management Sclerotherapy Epididymal cyst Spermatocele Hypospadias Definition | 222 222 222 222 222 223 223 223 223 223 223 223 224 224 | Technical aspects Testosterone cream 60. Circumcision Indications of circumcision Steps of circumcision in adults 61. Carcinoma Penis Predisposing factors Premalignant lesions Site of origin Pathology Macroscopic types | 226 226 227 227 227 227 227 228 228 228 228 228 |
|-----|--|--|--|--|
| | Classification Embryology Hypospadias and syndromes Incidence Other association in etiology Associated anomalies | 224 224 224 225 225 225 | Microscopic types Secondary carcinoma of penis Pathways of spread Clinical features Poor prognostic factors Investigations | 228 228 229 229 229 229 229 |
| | Classification Embryology Hypospadias and syndromes Incidence Other association in etiology Associated anomalies History of procedures | 224 224 224 225 225 225 225 225 | Microscopic types Secondary carcinoma of penis Pathways of spread Clinical features Poor prognostic factors Investigations Treatment | 228 229 229 229 229 229 229 |
| | Classification Embryology Hypospadias and syndromes Incidence Other association in etiology Associated anomalies | 224 224 224 225 225 225 | Microscopic types Secondary carcinoma of penis Pathways of spread Clinical features Poor prognostic factors Investigations | 228 229 229 229 229 229 |

| | SECTI | ONV | |
|-------------------------------|-------|--|------------|
| 62. Acute Abdomen | 233 | Management | 240 |
| Acute abdomen | 233 | Operative management | 240 |
| Definition | 233 | 64. Dysphagia | 241 |
| Causes | 233 | Swallowing | 241 |
| Pathophysiology | 233 | Evaluation of dysphagia | 241 |
| Differential diagnosis | 233 | Imaging studies | 241 |
| History | 234 | Differential diagnosis | 242 |
| Pain | 234 | | 243 |
| Drug history | 235 | 65. Esophagus | |
| Anorexia | 235 | Anatomy | 243 |
| Other history | 235 | Investigations for esophagus | 244 |
| Physical examination | 235 | Esophagitis | 244 |
| Systemic examination | 236 | Reflux esophagitis | 244 |
| Some importants named signs | 236 | Clinical features | 244 |
| Surgical myths | 237 | Complications | 244 244 |
| Investigations | 237 | Investigations | 244 244 |
| Radiology | 237 | Management | 244 245 |
| Laparoscopy | 237 | Contraindications to anti-reflux surgery Achalasia cardia | 245 245 |
| 63. Abdominal Trauma | 238 | Clinical features | 245 245 |
| Etiology | 238 | Treatment | 246 |
| Penetrating trauma | 238 | Pathology | 240 |
| Blunt trauma | 238 | Symptoms | 247 |
| Iatrogenic injuries | 238 | Diagnosis | 248 |
| Anatomical considerations | 238 | Treatment | 248 |
| Initial management | 238 | Treatment by tumor location | 248 |
| Primary survey | 238 | , | |
| Abdominal trauma: Examination | 239 | 66. Applied Anatomy and Physiology of Stomach | |
| Investigations | 239 | Parts of the stomach | 249 |
| Peritoneal lavage | 239 | Stomach bed | 250 |
| CT abdomen | 239 | On upper GI endoscopy | 250 |
| Diagnostic laparoscopy | 239 | On ultrasound | 250 |
| Ultrasonography (FAST) | 239 | Histology | 250 |

| Cor | itents | | X | IX |
|---|-------------|-----|--|-------------|
| Cardiac sphincter | 250 | | Clinical features | 265 |
| Pyloric sphincter | 250 | | Investigations | 265 |
| Blood supply | 250 | | Radiology | 265 |
| Clinical importance | 251 | | Strangulation should be suspected if | 265 |
| Microcirculation | 251 | | Treatment | 265 |
| Nerve supply | 251 | | IV fluid replacement and correction of | |
| Types of vagotomy | 252 | | metabolic abnormality | 266 |
| Lymphatic drainage | 252 | | Early surgery is indicated in case of | 266 |
| Functions of stomach | 252 | 70 | , , , | |
| Tests for gastric acid secretion | 254 | 70. | Obstructive Jaundice: Pathophysiology, Clinical Features and Investigations | 267 |
| 67. Peptic Ulcer | 255 | | Cholestasis | 267 |
| Definiton | 255 | | Obstructive jaundice | 267 |
| Epidemiology | 255 | | Physiological facts | 267 |
| Etiology and pathogenesis | 255 | | Types of biliary tract obstruction | 267 |
| Clinical feature of peptic ulcer | 255 | | Complete obstruction | 267 |
| Clinical examination | 255 | | Intermittent obstruction | 267 |
| Complications of peptic ulcer | 256 | | Chronic incomplete obstruction | 267 |
| Perforation | 256 | | Segmental obstruction | 268 |
| Risk factors | 256 | | Physical effects of obstruction | 268 |
| Clinical features of perforated ulcer | 256 | | Pathophysiology | 268 |
| Physical signs of perforated ulcer | 256 | | Changes in liver blood flow | 268 |
| Management of perforated ulcer | 256 | | Effecton wound healing | 268 |
| Pyloric stenosis | 257 | | Cardiovascular effects | 268 |
| Clinical features | 257 | | Renal failure | 268 |
| Metabolic features | 257 | | Immune system | 268 |
| Investigations | 257 | | Coagulation factor defects | 268 |
| Pyloric stenosis management | 257 | | Biochemical effects | 269 |
| Surgical treatment | 257 | | Alkaline phosphatase | 269 |
| Bleeding peptic ulcer | 257 | | Clinical features | 269 |
| Severity of acute bleeding is assessed by | 258 | | Clinical examination | 269 |
| Adverse clinical factors on outcome | 258 | | Abdominal examination | 269 |
| Bleeding peptic ulcer—endoscopic classification | | | Investigations | 270 |
| for severity of bleeding | 258 | 71. | Portal Hypertension | 271 |
| Diagnosis | 258 | | Background | 27 1 |
| Indication for surgery | 258 | | Embryology | 271 |
| Surgery in bleeding ulcer | 258 | | Anatomy of portal vein | 27 1 |
| 68. Gastric Cancer | 259 | | Physiology | 271 |
| Epidemiology | 259 | | Pathophysiology | 271 |
| Etiology | 259 | | Manifestations of splanchnic vasodilatation | 272 |
| Pathology | 260 | | Mortality/morbidity | 272 |
| Borrmann's classification | 260 | | Sites of collateral circulation | 272 |
| Lauren's classification | 260 | | Clinical features | 272 |
| Intestinal type | 260 | | Causes of portal hypertension | 272 |
| Diffuse type | 260 | | Investigations | 273 |
| Signs and symptoms | 2 61 | | Treatment | 274 |
| Early gastric cancer | 2 61 | | Elective treatment | 274 |
| Pre-operative staging | 2 61 | | Surgical treatment (shunts) | 274 |
| Treatment | 261 | | Devascularization procedures | 275 |
| | | | Liver transplant | 275 |
| 69. Acute Intestinal Obstruction | 263 | | Transjugular intrahepatic | |
| Acute intestinal obstruction | 263 | | Portosystemic shunt (TIPS) | 276 |
| Types | 263 | | Guidelines for management of portal hypertension | |
| Etiology | 263 | | | |
| Pathological types of small gut obstruction | 264 | 72. | Liver Abscess | 277 |
| Management of intestinal obstruction | 264 | | Introduction | 277 |
| Mechanical vs paralytic | 264 | | Types of liver abscess | 277 |
| Level of obstruction | 264 | | Amoebic liver abscess | 277 |
| Pathology and effects of obstruction | 264 | | Clinical features | 278 |

xix

| | Laboratory investigations | 278 |
|-----|---------------------------------------|-----|
| | Imaging | 278 |
| | Diagnostic aspiration | 279 |
| | Complications | 279 |
| | Treatment | 280 |
| | Prognosis | 280 |
| | Pyogenic liver abscess (PLA) | 280 |
| | Etiology | 280 |
| | Pathology | 281 |
| | Clinical presentation | 281 |
| | Diagnosis | 281 |
| | Principles of treatment | 282 |
| | Surgical management | 282 |
| | Prognosis | 282 |
| | Tubercular liver abscess | 282 |
| | Fungal liver abscess | 283 |
| 73. | Gallstone Disease | 284 |
| | Surface anatomy | 284 |
| | Anatomy and physiology | 284 |
| | Mechanism and factors of cholesterol | |
| | gallstone formation | 284 |
| | Gallstones | 284 |
| | Clinical manifestations | 284 |
| | Biliary colic | 285 |
| | Complications | 285 |
| | Investigations | 285 |
| | Management | 285 |
| | Laparoscopic cholecystectomy | 286 |
| | Endoscopic retrograde cholangio | |
| | pancreatography (ERCP) | 286 |
| 74 | Pancreas | 287 |
| 74. | | |
| | Anatomy | 287 |
| | Arterial supply | 287 |
| | Venous drainage | 287 |
| | Lymphatic drainage | 287 |
| | Direct imaging tests | 287 |
| | Tests of exocrine pancreatic function | 287 |
| | Pancreatitis | 288 |
| | Acute pancreatitis | 288 |
| | Incidence | 288 |
| | Etiology | 288 |
| | Pathogenesis | 288 |
| | Pathology | 288 |
| | Epidemiology | 288 |
| | Clinical features | 288 |
| | Diagnosis | 289 |
| | Complications | 290 |
| | Course of disease | 290 |
| | Scoring systems | 290 |
| | Management | 291 |
| | Surgical intervention | 291 |
| | Local complications | 292 |
| | Diagnosis of necrosis | 292 |
| | Surgery for necrosis | 292 |
| | Chronic pancreatitis | 293 |
| | Etiology | 293 |
| | Clinical picture | 293 |
| | Pathogenesis | 293 |

| | Morphology | 293 |
|----|--|-----|
| | Investigation | 293 |
| | Complications | 293 |
| | Treatment | 293 |
| 7 | 5. Mesentry | 294 |
| | Mesenteric lymph adenitis | 294 |
| | Acute non specific | 294 |
| | Tuberculosis of mesenteric lymph nodes | 294 |
| | Mesenteric cyst | 295 |
| | Mesenteric ischemia | 295 |
| | Clinical features | 295 |
| | Diagnosis | 296 |
| | Laboratory | 296 |
| | Radiology | 296 |
| | Treatment | 296 |
| 76 | 6. Spleen Injury | 297 |
| | Etiology | 297 |
| | Traumatic | 297 |
| | Iatrogenic | 297 |
| | Clinical presentation | 297 |
| | Investigations | 298 |
| | Non-operative management | 298 |
| | Indications | 298 |
| | Operative management | 299 |
| | Operations | 299 |
| 77 | 7. Splenectomy | 300 |
| | Functions of spleen | 300 |
| | Indications of splenectomy | 300 |
| | Desirable indications | 300 |
| | Debatable indications | 301 |
| | Complications of splenectomy | 301 |
| | Overwhelming post splenectomy infection (OPSI) | 301 |
| 79 | 3. Inflammatory Bowel Disease | 302 |
| | Pathophysiology | 302 |
| | Etiology | 302 |
| | Pathology | 303 |
| | Clinical features | 303 |
| | Risk of malignancy in IBD | 304 |
| | Differential diagnosis | 304 |
| | IBS (Irritable Bowel syndrome) | 304 |
| | Clinical history (UC) | 304 |
| | Findings on Imaging studies and endoscopies | 304 |
| | Investigations in IBD | 304 |
| | Complications | 305 |
| | Treatment | 305 |
| | Medical treatment | 305 |
| | Anti-inflammatories (aminosalicylates) | 305 |
| | Immunosuppressants | 306 |
| | Antibiotics | 306 |
| | Antidiarrheal agents | 306 |
| | Antispasmodic agents | 306 |
| | Supportive therapy | 306 |
| | Surgical treatment | 306 |
| 79 | 9. Acute Appendicitis and Right Iliac | |
| | Fossa Mass | 308 |
| | Anatomy | 308 |
| | Acute appendicitis | 308 |
| | | |

Contents

| | Types Clinical features Clinical signs | 308 309 309 |
|-----|---|-------------------|
| | Scoring system for appendicitis—Alvarado (MANTREL) score | 309 |
| | Radiological investigations | 309 |
| | Differential diagnosis | 310 |
| | Fate of acute appendicitis | 310 |
| | Treatment | 310 |
| | | 510 |
| | Etiology and management of right iliac fossa mass (RIF) | 310 |
| | Clinical features | 310 |
| | Local examination | 311 |
| | Investigations | 311 |
| | Colonoscopy | 312 |
| | Dynamic spiral CT/virtual colonoscopy | 312 |
| | Image guided FNAC of mass | 312 |
| | Treatment | 312 |
| | Ameboma | 312 |
| | Psoas abscess | 312 |
| | | |
| 80. | Carcinoma Colon | 313 |
| | Incidence | 313 |
| | Pathogenesis | 313 |
| | Etiology and risk factors | 313 |
| | Morphology | 314 |
| | Types | 314 |
| | Clinical features | 314 |
| | Spread of tumor | 314 |
| | Staging | 315 |
| | Investigations | 315 |
| | Treatment | 315 |
| 81. | Rectum–Anatomy and Proctitis | 316 |
| | Mesorectum | 316 |
| | Blood supply | 316 |
| | Lymphatics | 316 |
| | Proctitis | 316 |
| 82. | Rectal Prolapse | 318 |
| | Introduction | 318 |
| | Types | 318 |
| | Factors preventing prolapse | 318 |
| | Etiology | 318 |
| | Clinical features | 318 |
| | Investigations | 319 |
| | Treatment | 319 |
| | Surgical treatment | 319 |
| | Perineal operations | 319 |
| | Abdominal operations | 319 |
| | Resection procedure | 319 |
| 93 | * | 320 |
| 03. | Management of Piles | 320 |
| | Etiology Anal cushions | 320 |
| | Classification | 320 |
| | Grades of hemorrhoids | 320 |
| | Clinical features | 320 |
| | Complications | 320 |
| | Evaluation | 320 |
| | Treatment | 321 |
| | | 041 |

| Infrared photocoagulation Surgical treatment Lower GI bleeding (differential diagnosis) Investigations of lower GI bleeding | 321 321 321 321 |
|--|--|
| 84. Anal Fissure Relevant anatomy Definition Anatomical factors | 322 322 322 322 |
| Precipitating factors Pathology Clinical features Symptoms Signs Differential diagnosis Treatment Operative | 322 322 322 322 323 323 323 323 323 |
| 85. Ano-rectal Abscess Definition Classification Etiology Bacteriology Submucous abscess Pelvi-rectal abscess Presentation Management | 324 324 324 324 324 324 324 324 324 324 |
| 86. Fistula-in-Ano Etiology Usually results from Types Classification Clinical features Investigations Treatment | 325 325 325 325 325 325 326 326 326 |
| 87. Malignant Lesion of the Anus and Anal Car Histological types Incidence Clinical features AJCC staging for anal carcinoma Treatment | al 327 327 327 327 327 327 328 |
| 88. Hernia–An Overview Definition Types of hernias Inguinal hernia Femoral hernia Umbilical hernia Incisional hernia Spigelian hernia Obturator hernia Epigastric hernia Causes of hernias Signs and symptoms Diagnosis Treatment | 329 329 329 330 330 330 330 330 330 330 330 330 33 |
| 89. Ventral Hernia Contents Predisposing factors | 332 332 332 |

xxi

| Various operations for umbilical hernia in adult | 332 | 90 |
|--|-----|----|
| Incisional hernia | 332 | |
| Clinical presentation | 333 | |
| Risk factors | 333 | |
| Etiology | 333 | |
| Prevention of incisional hernias | 333 | |
| Suture characteristics | 333 | |
| Suture techniques | 334 | |
| Prevention of trocar site hernias | 334 | |
| Why incisional hernias should be repaired? | 334 | |
| Classification of Incisional hernia | 334 | |
| The risk factors for recurrence | 334 | |
| Types of incisional hernia repair | 334 | |
| Open mesh repair | 335 | |
| Complications of incisional hernia repair | 335 | |
| 1 | | |

0. Groin Hernia 336 Definition 336 Common presentations 336 Inguinal hernia 336 Examination 336 Differential diagnosis 337 Inguinal anatomy 337 Hernia complications 337 Classification based on operative findings 337 Special types of inguinal hernia 337 Management 337 Operations for groin hernia 338 Laparoscopic repair 338 Herniorrhaphy 338 Femoral hernia 338

SECTION VI

| 91. Common Surgical Operations | 341 | Laparoscopic appendectomy | 343 |
|--|-----|----------------------------|-----|
| Following operations will be described | 341 | Mastectomy | 344 |
| Pre-operative work up | 341 | Inguinal hernia operations | 344 |
| Informed consent | 341 | Laparoscopic repair | 346 |
| Cholecystectomy | 341 | Thyroidectomy | 347 |
| Types | 341 | Indications | 347 |
| Open cholecystectomy | 341 | Steps | 347 |
| Laparoscopic cholecystectomy | 342 | Complications | 347 |
| Appendectomy | 342 | Index | 349 |