1. Sterilization of the Instruments 3
2. Various Types of the Instruments in Common Surgical Practice 5
3. Parts of a Typical Surgical Instrument 7
4. Cutting Instruments 11
   Bard Parker’s Handles (Detachable Handle) 11
   Surgical Blades 11
   Scissors 13
   Mayo’s Scissor 13
   Metzenbaum Scissor 14
   MCindoe’s Scissor 15
   Heath’s Suture Cutting Scissor 16
5. Holding Instruments 17
   Rampley’s Swab (Sponge) Holding Forceps 17
   Uses 17
   Towel Clips (Towel Holding Forceps) 18
   Doyen’s or Mayo’s Towel Clip 18
   Backhaus’s Towel Clip 19
   Hemostatic Forceps (Artery Forceps) 19
   Spencer Well’s Hemostatic Forceps 19
   Mosquito Hemostatic Forceps (Halsted’s) 22
   Kocher’s Hemostatic Forceps 22
   Lister’s Sinus Forceps 23
   Allie’s Tissue Forceps 24
   Babcock’s Tissue Forceps 26
   Lane’s Tissue Forceps 27
   Cord Holding Forceps (Collingwood Stewart’s Ring Bladed Hernia) 28
   Tongue Holding Forceps (Thompson’s) 29
   Duval’s Lung Forceps 29
   Cheatle’s Forceps 30
6. Instruments for Tissue Dissection 31
   Dissecting Forceps 31
   Vascular Forceps 33
   Right Angled Forceps (Lahey’s Forceps) or Mixter Artery Forceps 33
7. Stone Holding Forceps
    Desjardin's Choledocholithotomy Forceps 35
    Pyelolithotomy Forceps 36
    Suprapubic Cystolithotomy Forceps 36

8. Needle Holders

9. Modern Techniques of Suturing
    Skin Stapler 40

10. Retractors
    Langenbach's Right Angled Retractor 41
    Czerney's Retractor 42
    Morris Retractor 43
    Deaver's Curved Abdominal Retractor 44
    Doyen's Retractor 45
    Malleable Retractor 45
    Allison Lung Retractor 45
    Volkmann's Cat's Paw Retractor 46
    Skin Retractor 47
    Single Hook Retractor 47
    Kidney Hilum Retractor 47
    Self-Retracting Retractors 48
    Self-Retracting Retractor (Balfour's Type) With Provision of Third Blade for Attachment 48
    Self Retaining Retractor with two Blades (No Provision for 3rd Blade Attachment) 49
    Mollison's Self-Retaining Mastoid Retractor 50
    Joll's Thyroid Retractor 50

Retractors Of The Oral Cavity (Mouth Gags) 51
    Doyen's Mouth Gag 51
    Jenning's Mouth Gag 52

11. Clamps
    Gastrointestinal Clamps 53
    Doyen's Gastrointestinal Occlusion (Non-Crushing) Clamp 53
    Moynihan's Gastric Occlusion (Non-Crushing) Clamp 54
    Kocher's Gastric Occlusion Clamp 55
    Payer's Crushing Clamp 55
    Intestinal Crushing Clamps 56

Vascular Clamps 56
    Bulldog Vascular Clamp 56
    Satinsky Vascular Clamp 56
    Mayo's Pedicle Clamp 58

12. Miscellaneous Instruments in General Surgery 59
    Kelly's Rectal Speculum (Proctoscope) or Anal Speculum 59
    Brodie's Olive Pointed Fistula Director with Frenulum Slit 60
    Malleable Olive Pointed Probe 61
    Trocar and Cannula 63
Suprapubic Trocar and Canula (Cantue’s) 63
Hydrocele, Trocar and Cannula 64
Yankur’s Suction Cannula 64
Multihole Suction Cannula 65
Kidney Tray 66
Volkman’s Spoon or Scoop 67

13. Instruments In Specialized Surgery 68
   Instruments Used In Thoracotomy 68
   Doyen’s Rib Raspatory 68
   Schomacher’s Rib Shear 69
   Instruments Used In Tracheostomy 69
   Tracheal Dilators 69
   Instruments Used In Neurosurgery (Craniotomy) 70
   Hudson’s Brace/ Burr/ Perforator 70
   Bone Cutter and Bone Nibbler 70
   Horsley’s Dura Mater Separater and Skull Elevator 70
   Dura Separator 71
   Instruments Used In Plastic Surgery 72
   Humby’s Knife with Guarded Blade (Skin Grafting Knife) 72

Urology Instruments 73
   Metallic Urethral Bougie 73
   Lister’s Metallic Bougie 73

14. Catheters 77
   Metallic Urethral Catheter for Male 77
   Simple or Plain Rubber Catheter 78
   Foley’s Self-Retaining Balloon Catheter 79
   Silicone Self-Retaining Catheter 81
   Malecot’s Catheter 82

15. Trocar And Cannula 83
   Suprapubic Trocar Cannula (Supracath) 83
   Intercostal Trocar Cannula 83

16. Tubes 85
   Nasogastric Tube (Ryle’s Tube) 85
   Flatus Tube 86
   Tracheostomy Tubes 87
   Suction Tubings 88

17. Drains 90
   Corrugated Rubber Drain/Sheet (CRD) 90
   Suction Drain 91
   Abdominal Drain 92
   Urosac Bag 93

18. Intravenous Cannula And Sets 97
   Intravenous Cannula (Intracath/Vasofix) 97
   Scalp Vein Set 98
### Intravenous Fluid Bottles (Crystalloid Bottles)
- 5% Dextrose Injection 102
- Ringer Lactate Injection 103
- Sodium Chloride Solution 104
- Dextrose Normal Saline 104
- Sterile Water Vial 105

### Syringes And Needles
- Syringes 107
- Hypodermic Needle 108

### Orthopedics Instruments
- Farabeuf’s Raspatory or Periosteum Elevator 113
- Lane’s Bone Levers 114
- Osteotome (Osteo = Bone, Tomy = Cutting) 115
- Chisel 116
- Bone Gouge 116
- Bone AWL or Bradawl 117
- Mallet 118
- Punch 118
- Bone Holding Forceps 118
- Bone Cutting Forceps or Bone Shears 119
- Bone Nibbler or Bone Nibbling Forceps 120
- Volkman’s Spoon or Scoop 121
- Gigli’s Wire Saw 121
- Guide Wire 122
- Hand Drill 122
- T Handle or Chuck Handle for Inserting Guide Wire 123
- Drill Bit Guide 123
- Tap 124
- K-Wire Bender and Cutter 124
- Heavy Duty Plier 124
- Noose Plier 124

### Orthopedics Implants
- Plates 126
- Screws 127
- Prosthesis for Hip Hemiorhplasty 127
- Austin Moore’s Prosthesis (AMP) 128
- Thompson’s Prosthesis 129
- Bipolar Prosthesis 130
- Intramedullary Nails (Im Nails) 130
- Rush Nail 131
- K-Wire 133
- Kuntscher’s Intramedullary Nail (K-Nail) 134
- S-P Nail 135
- Stainless Steel Wire 136
Bohler’s Pin (Steinman) with Rotating Stirrup  136
Steinman Pin  136
Bohler’s Stirrup  136

23. Bandages, Crepe Bandages and Plaster of Paris Bandages  138
Cotton Bandages  138
Cotton Crepe Bandage (Elastocrepe)  138
Plaster of Paris Bandage  139

24. Classification and Description of Suture Materials  143
Classification or Types  143

25. Needles  147

26. Different Types of Suture Materials  149
   Absorbable Suture Materials  149
       Natural Absorbable Suture Material  149
       Synthetic Absorbable Suture Material  151
       Polyglactin 910 Sutures (Vicryl: Trade Name By Ethicon)  151
           Vicryl Rapide Suture  152
   Non-Absorbable Sutures  153
       Non-Absorbable Natural Sutures  153
       Linen and Cotton Thread  155
       Non Absorbable Synthetic Sutures  155
           Nylon  156
           Polypropylene (Prolene: Trade Name of Polypropylene by Ethicon)  157
           Stainless Steel Wire  158

27. Airways  161
       Guedel’s or Oropharyngeal Airway  161
       Nasopharyngeal Airway  162
       Laryngeal Mask Airway (LMA)  162

28. Equipments For Tracheal Intubation  164
       Laryngoscopes  164
       Endotracheal Tubes (Ett)  165
       Connector  167
       Stylet  168
       Magill’s Forceps  168
       Suction Catheter  169

29. Equipments For Ventilation  171
       Ambu Bag (Ambulatory Manual Breathing Unit)  171
       Oxygen Reservoir  172
       Non-Rebreathing Valve (Fish Mouth Valve)  172
       Angle (Universal) Connector  174
       Reservoir Bag  174
       Corrugated Antistatic Rubber Tube  175
       Face Masks  175
       Oxygen Mask AND Tubing  176
       ’T’ Piece  178
30. **Equipments For Regional Anaesthesia** 179
   - Spinal Needle 179
   - Epidural Catheter 180

31. **Commonly Used Drugs In Anaesthesia** 183
   - Bupivacaine Hydrochloride in Dextrose Injection (Anawin Sensorcaine Heavy, 5%) 183
   - Bupivacaine Hydrochloride Injection (Anawin 0.5%) 184
   - Lignocaine Hydrochloride and Dextrose Injection (Lox Heavy 5%) 184
   - Lignocaine Hydrochloride (Xylocaine 1% Or 2%) 185
   - Lignocaine with Adrenaline (Lox 2%) 186
   - Lignocaine Hydrochloride Injection (Xylocard 2%) 187
   - Lignocaine Spray 187
   - Lignocaine Hydrochloride Gel (Xylocaine 2% Jelly) 189
   - Adrenaline Tartrate Injection 189
   - Atropine Sulfate Injection 191
   - Glycopyrrolate (Pyrolate) Injection 191
   - Ondansetron 192
   - Hydrocortisone Sodium Succinate Injection 193
   - Dexamethasone Sodium Phosphate Injection (Dexona) 194
   - Furesemide (Lasix) 195
   - Midazolam (Mezolam) 195
   - Diazepam (Calmpose) 196
   - Injection of Etofylline and Theophylline (Deriphyllin) 196
   - Thiopentone Sodium (Thiosol Sodium) 197
   - Ketamine Hydrochloride Injection (Aneket) 198
   - Propofol Injection (Neorof) 199

   **Muscle Relaxants** 200
   - Succinylcholine (Sucol) 200
   - Atracurium/ Pancuronium/ Vecuronium/ Rocuronium 201
   - Atracurium Besylate 201
   - Neostigmine MethyLsulFate 201

   **Inhalational Anesthetic Agents** 202
   - Halothane/Sevoflurane/ Isoflurane/ Desflurane 202
   - Halothane 202
   - Isoflurane 203
   - Sevoflurane and Desflurane 203
   - Introduction 205

32. **Preoperative Preparation of the Patient Prior to Surgical Procedures** 207
   - Preparation of the Operative and Surrounding Area 207

33. **Preparation of the Patient on the Operation Table Prior to the Procedure** 209

34. **Major Operative Procedures** 211
   - Appendicectomy 211
   - Open Appendicectomy 211
## Contents

Laparoscopic Appendicectomy 216  
Treatment of Appendicular Mass 218  
Treatment of Appendicular Abscess 219  
Cholecystectomy 219  
Open Cholecystectomy 220  
Laparoscopic Cholecystectomy 222  
Circumcision 224  
Operations for Repair of Inguinal Hernia 226  
Herniotomy 227  
Operations for Repair of Adult Inguinal Hernia 228  
Primary Tissue Repairs (Inguinal Herniorrhaphy) 229  
Anterior Tension Free Mesh Repair (Hernioplasty) 235  
Patch and Plug Technique 236  
Preperitoneal Repairs 236  
Kuntz Operation (Inguinal Orchiectomy) 238  
Herniorrhaphy Versus Hernioplasty 238  
Laparoscopic Hernioplasty 239  

**Surgeries for Hydrocele** 242  
Repair of Adult (Acquired) Hydrocele 242  
Lord’s Plication of the Sac 243  
Jaboulay’s Eversion of the Sac 244  
Subtotal Excision of the Sac 246  
Vasectomy 247  
Suprapubic Cystolithotomy 248  
Modified Radical Mastectomy: Mrm (Patey’s Mastectomy) 250  
Surgeries for Thyroid Gland 254  

### 35. Minor Surgical Procedures 261  
Incision and Drainage of an Abscess 261  
Insertion of an Intercostal Drain (ICD) 264  
Tracheostomy 265  
Venesection 267  
Excision of the Cyst (Sebaceous OR Dermoid Cyst) 269  
Excision of the Lipoma 270  
Lymph Node Biopsy 271  

### 36. Bedside Procedures 275  
Periurethral Catheterization 275  
Ryle’s Tube (Nasogastric) Insertion 277  
Proctoscopy/Anoscopy 278  
Intravenous Cannula Insertion 279  

Index 281