

**MAXIMUM SURGICAL BLOOD
ORDERING SCHEDULE
(MSBOS)
HRPB 2026**

1. ORTHOPAEDIC

Type Of Surgery	GSH	GXM (Unit)
Cervical Spine		
Anterior Discectomy and Fusion	-	2
Anterior Corpectomy and Fusion	-	2
Posterior Laminectomy and Instrumentation	-	2
Thoracic Spine		
Posterior Laminectomy and Instrumentation	-	2
Combined Anterior and Posterior Surgery	-	3
Lumbar Spine		
Posterior Instrumentation Fusion (Including PLIF and TLIF) Single Level without decompression/ MIS surgery	√	-
Posterior Instrumentation Fusion (Including PLIF and TLIF) Single Level with decompression	-	1
Posterior Instrumentation Fusion (Including PLIF and TLIF) Multiple Level	-	2
Combined Anterior and Posterior Surgery	-	3
Sacral Spine		
Posterior Instrumentation Fusion (Including PLIF and TLIF) Single Level	-	1
Anterior Instrumentation and Fusion	-	1
Hand and Microsurgery		
All Hand and Microsurgery (elective)	√	-
Trauma and Fracture Fixation		
Open Reduction and Internal Fixation of Humerus, Clavicle, Shoulder/Upper limb without tourniquet	-	1
Interlocking Nail of Humerus	√	-
Open Reduction and Internal Fixation of Other Bones of Upper Limb (Radius/ Ulna/ Wrist/ Carpal/ Metacarpal/ Phalanges) with tourniquet	√	-
Open Reduction and Internal Fixation of Other Bones of Lower Limb (Tibia/ Fibula/ Ankle/ Tarsal/ Metatarsal/ Phalanges) *uncomplicated primary surgery / with tourniquet	√	-
Revision Surgery of Humerus		1
Revision Surgery of Other Bones of Upper Limb *with tourniquet	√	-
Revision Surgery of Lower Limb	-	2
External Fixation of Upper Limb	√	

Internal and External Fixation of Femur/ Other Bones of Lower Limb *closed reduction ie Nailing		1
Open reduction and plating of lower limb without touniquet	-	2
Open Reduction and Fixation of Acetabular Fracture	-	2
Open Reduction and Fixation of Pelvic Fracture - Anterior - Anterior & Posterior	- -	3 3-4
Close Reduction and K-wiring/ Screw Fixation of All Bones/ Split Skin Graft	√	-
Joint Replacement		
Primary Total Knee Replacement	√	
Revision Total Knee Replacement	-	1
Primary Hip Replacement (including Hemiarthroplasty)	-	2
Revision Hip Replacement	-	3
Shoulder Arthroplasty	-	1
Tumour		
Open Biopsy	√	-
Excision of Benign Tumour	√	-
Excision of Malignant Tumour	-	2*
Sports		
All Sports Procedures	√	-
Others		
Excision Biopsy/ Removal of Implant/ Steroid Injection	√	-

***GXM requirement depends on the attending surgeon and complexity of case.**

2. ADULT SURGERY

Type Of Surgery	GSH	GXM (Unit)
General		
Open Hernioplasty	-	-
Laparoscopic Hernioplasty/ IPOM/ TAPP/ TEP	-	-
Open Hernia Repair/ Mayo's Repair	-	1
Laparoscopic IPOM	-	-
Open Cholesystectomy	√	-
Laparoscopic Cholecystectomy	-	1
Excision Biopsy	-	-
Open Splenectomy	-	2
ERCP & Stenting	-	-
Colorectal	-	
Anterior Resection/ Low Anterior Resection/ Ultra Low Anterior Resection	-	1 - 2
Colostomy	-	1
Closure of Stoma	-	-
Colectomy	-	2
Reversal of Hartmann's	√	-
EUA and Proceed	√	-
Haemorrhoidectomy	-	-
Vascular		
AAA	-	4
AV-Fistula Creation/ Transposition/ Ligation	-	-
Breast and Endocrine		
Breast		
Axillary Clearance Only	-	-
Excision Biopsy	-	-
Wide Local Excision +/- Hookwire Localization +/- Axillary Clearance	√	-
Mastectomy +/- Axillary Clearance	√	-
Mastectomy and Reconstruction	√	-
Microdochectomy	-	-
Breast Conserving Surgery and Perforator Flap +/- Axillary Clearance	-	-
Thyroid		
Hemithyroidectomy	-	-
Neck Dissection	-	1
Total thyroidectomy	√	-
Others		
Adrenalectomy	√	-
Total Parathyroidectomy	-	1
Oesophagus/ Stomach		
Transthoracic Hiatus Hernia (Open/VATS)	√	-

Transabdominal Hiatus Hernia (Open/VATS)	√	-
Total Gastrectomy/ Gastric Bypass	-	1
Bariatric Surgery	-	-

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3. PAEDIATRIC SURGERY

Type Of Surgery	GSH	GXM (Unit)
Urology		
Circumcision/ Modified circumcision	-	-
Hypospadias Repair	-	-
Endoscopic Procedure	-	-
Pyeloplasty	√	-
Orchidopexy/ Orchidectomy/ Fowler Stephen	-	-
Hernia/Hydrocele		
Hernia Repair	-	-
Hydrocele Repair	-	-
Colorectal		
Cholecystectomy	√	-
Creation of Stoma/ Stoma closure	√	
Hirschsprung's Disease Definitive Surgery	-	1-2
Anorectal Malformation Definitive Surgery	√	
Cystectomy	√	
KASAI Procedure	-	1-2
Excision of Choledochal Cyst	-	1-2
Oncology		
Tumour Removal	-	1 - 2
Port Removal/ Insertion	-	-
Tissue Biopsy	√	-
Thorax		
Thoracotomy	-	1-2

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4. NEUROSURGERY

Type Of Surgery	GSH	GXM (Unit)
Trauma		
Cranioplasty	√*	-
ICP monitoring	√*	-
Complex craniotomy/ Cranio-fascial repair	-	3
CSF Diversion		
Shunt diversion/ removal	√	-
Ventriculostomy – insertion/ resitting (VSGS, EVD, VP shunt, Endoscopic 3rd ventriculostomy)	√	-
Miscellaneous		
Wound debridement	√	-
Excision of scalp lesion	√	-
Tracheostomy	√	-
Endoscopic Procedures		
Endoscopic CSF leak repair	√	-
Endoscopic transsphenoidal surgery	√	-
Tumour		
IGS guided biopsy	√	-
Craniotomy and tumour debulking		
- Superficial (eg. Convexity meningioma)	-	2
- Vascular/ complex (eg. Haemangioblastoma)	-	4
Skull base (eg. Medial sphenoid wing meningioma)	-	4
Vascular		
Microvascular decompression	-	1
Superficial temporal artery of middle cerebral artery bypass	√	-
Excision of AVM	-	4
Spine		
Cervical Spine		
Posterior laminoplasty/ laminectomy	-	2
Posterior laminectomy and instrumentation	-	2
Anterior discectomy and fusion	-	2
Anterior corpectomy and fusion	-	3
Combined anterior and posterior surgery/ complex spine	-	4
Thoracic Spine		
Posterior laminectomy and instrumentation	-	2
Lumbar Spine		
Posterior instrumentation fusion (include PLIF & TLIF)	-	2*
Long instrumentation complex spine	-	4

Spinal Tumour Surgery		
Posterior instrumentation & tumour resection	-	2 - 4
Tumour excision (Spine)		
- Intradural (eg. Schwannoma)	-	2
- Extradural (eg. Metastasis)	-	2 - 3
Complex tumour (eg. Intradural & extradural tumour)	-	2 - 4

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5. OBSTETRIC & GYNAECOLOGY

Type of Surgery	GSH	GXM (UNIT)
Obstetrics		
Caesarean Section: Low Risk	√	-
Caesarean Section: High risk		
-With Anaemia	√	-
-2 Scars	√*	-
-Classical Caesarean Section	-	2*
-Placenta Previa Minor	√*	-
-Placenta Previa Major	-	2*
-Suspected Placenta Accreta Spectrum	-	2-4
High Risk Patient In Labour		
-Grandmultipara	√*	-
-Previous PPH	√*	-
- Trial of VBAC	√*	-
- Overdistended Uterus: Suspected Macrosomic Baby, Polyhydramnios, Multiple Pregnancy	√*	-
Gynaecology		
Minor Gynaecology Cases		
-EUA, Biopsy, Excision, Cervical Cerclage	-	-
-BTL (Open/ Laparoscopic)	-	-
-Diagnostic Hysteroscopy / With Intervention	-	-
-Laparoscopic Dye Insufflation	-	-
-Cystectomy (Open/ Laparoscopic)	-	-
-Oophorectomy (Open/ Laparoscopic)	-	-
-Suction for suspected molar pregnancy	√*	-
Major Gynaecological Cases		
-TAHBSO	√*	-
-TLH +/- BSO	√	-
-LAVH	√	-
-Myomectomy	√*	-
-Vaginal Hysterectomy +/- BSO & +/- Pelvic Floor Repair	√	-
-Colpocleisis	√	-
Gynae-oncology Surgery: Wertheim's Surgery	√*	-
Gynae-oncology Surgery: Laparotomy & Debulking	√*	-
Gynae-oncology Surgery: Vulvectomy	√	-
Gynae-oncology Surgery: Surgery for Uterine Sarcoma	-	2-4

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6. Otorhinolaryngology

Type Of Surgery	GSH	GXM (Unit)
Ear		
Myringoplasty/ Tympanoplasty/ Myringostomy	-	-
Mastoidectomy/ MRM	√	-
Reconstruction Ear Surgery	—	-
Nose		
Septoplasty/ Turbinate Surgery/ RFTVR/ Septoturbinolasty	—	—
Endoscopic Sinus Surgery (FESS)	√	—
Polypectomy	-	-
CSF Leak Repair	-	-
EDCR	—	-
Throat		
Tonsillectomy	√	-
Adenoidectomy	√	-
Adenotonsillectomy	√	-
<u>Uvulopalatopharyngoplasty</u>	-	-
Microlaryngoscopy	-	-
Tongue Tie Release	-	-
Brachial/ Thyroglossal Cyst/ Dermoid Cyst Excision	-	-
Nasopharyngectomy	√	-
Parotidectomy	√	-
Tracheostomy	—	-
Thyroidectomy	√	-
Tracheofistula Excision/ Closure	—	-
Neck Mass Excision	√*	-
Submandibulectomy	-	-
Others		
ENT Tumour Excision	√*	—
Cyst Excision/ Biopsy	-	
Orbital Decompression	√	-
Scope (Direct Laryngoscope, Esophageal Scope, Telebroncoscope)	-	-
EUA	√*	-

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7. Oral & Maxillofacial Surgery

Type Of Surgery	GSH	GXM (Unit)
Surgical Removal of Teeth	-	-
Comprehensive Dental Care/Dental clearance	-	-
Surgical Removal of Plates/ Screws	-	-
Enucleation of simple cyst/excision of tumour	√	-
EUA, Excision Biopsy	-	-
Multiple Odontogenic Tumour / Cyst	-	1
Dentoalveolar surgery in patient with haematological disorders	-	1
Malignant disorder / tumour (intraoral)	-	1-2
Bimaxillary osteotomy (Orthognathic surgery)	√	2
Open reduction internal fixation of mandible	√	-
Facial Injury : Panfacial fractures with polytrauma (Open reduction internal fixation of midface and mandible)	-	2

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