



**LEGACY
LABORATORY
SERVICES**

STANDARD SURGICAL BLOOD ORDER (SSBO)

A standard surgical blood order (SSBO) schedule is used to better manage the utilization of blood products. The following list of procedures includes recommended order levels for adults and pediatrics used at Legacy Hospitals. For Type and Screen (T&S), the patient's ABORh is determined, and it is screened for significant antibodies. A Type and Cross (T&C) includes a T&S in addition to crossmatching the specified number of units. For Clot or Hold Only (BB Hold), a specimen is drawn from the patient and held in Blood Bank up to three days pending further orders.

The SSBO is used by describing the procedure in the order and the special needs of the patient, if applicable, e.g. "SSBO, Prostatectomy, use autologous blood". The Blood Bank then determines what testing is indicated and how much blood is needed. If the physician orders a different number of units to be crossmatched than the SSBO recommends, defer to the physician's request.

Legend for use with the following table:

T&S	=	Group/Type and antibody Screen
C	=	Cells (Red Cells)
XM	=	Crossmatch
Clot Only	=	Clot to Hold optional . If ordered, send to the Blood Bank
0	=	No Blood Bank Specimen needed

NOTE: All orders and specimens are maintained in Blood Bank for three days.

ADULTS

SURGICAL SPECIALTY	OPERATION	UNITS
Cardiac Surgery CS	Aortic Valve Replacement	3C XM
CS	Coronary Artery Bypass	3C XM
CS	Coronary Artery Bypass Graft	3C XM
CS	Coronary Revascularization	3C XM
Cardiac/Thoracic CT	Lobectomy (Pulmonary Resection)	2C XM
CT	Lung Biopsy	T&S
CT	Mediastinoscopy	T&S
CT	Mediastinotomy	3C XM
CT	MVR, Mitral Valve Replacement	3C XM
CT	Open Heart - AVR	3C XM
CT	Open Heart - Coronary Resvascularization	3C XM
CT	Open Heart - MVR	3C XM
CT	Open Heart CABG	3C XM
CT	Open Heart or Repair Post-Open Heart Bleed	3C XM
CT	Pericardial Window, Drainage	2C XM
CT	Pericardiotomy	2C XM
CT	Pleural Biopsy (Open)	T&S
CT	Pneumonectomy (Pulmonary Resection)	2C XM
CT	Post Open Heart Bleed	3C XM

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SURGICAL SPECIALTY	OPERATION	UNITS
CT	PTCA High Risk	T&S
CT	Pulmonary Resection, Lobectomy	2C XM
CT	Pulmonary Resection, Pneumonectomy	2C XM
CT	Sternotomy	T&S
CT	Streptokinase	Clot Only
CT	Thoracotomy (Open Pleural or Lung Biopsy)	T&S
General Surgery GS	Abdominal Exploration	T&S
GS	Adrenalectomy	2C XM
GS	Anal or Rectal Fistual Exploration	0
GS	Anterior Colon Resection	2C XM
GS	Antrectomy	T&S
GS	A-P Repair	T&S
GS	A-P Resection	2C XM
GS	Augmentation Mammoplasty	0
GS	Axillary Node Dissection	T&S
GS	Bowel	T&S
GS	Bowel Obstruction	T&S
GS	Bowel Resection	T&S
GS	Breast Biopsy	0
GS	Brush Biopsy	0
GS	Cholecystectomy Laparoscopic	0
Gs	Cholecystectomy, Common Duct Exploration	T&S
GS	Closure of Decubitus Ulcer, Ischial pressure sore	T&S
GS	Colectomy	T&S
GS	Colectomy & Ileostomy	T&S
GS	Colon Resection	T&S
GS	Colon Resection, Anterior	T&S
GS	Colostomy	T&S
GS	Colostomy Closure	T&S
GS	Colostomy Revision	Clot Only
GS	Colporrhaphy	T&S
GS	Colpotomy	T&S
GS	Common Duct Exploration	T&S
GS	Cystectomy, Abdominal	T&S
GS	Debridement (including Decubitus ulcer)	T&S
GS	Decubitus Ulcer Closure, Repair	0
GS	Esophageal Resection, Esophagectomy	3C XM
GS	Esophagectomy	3C XM
GS	Evacuation of Hematoma	T&S
GS	Excision of Hemangioma/Lymphangioma	T&S
GS	Excision of Rectal Lesion	0
GS	Exploration of Esophagus	T&S
GS	Fistual Repair	0
GS	Flap Closure	T&S
GS	Gallbladder Removal	T&S
GS	Gastrectomy	T&S
GS	Gastric Bypass	0
GS	Gastric Stapling	T&S
GS	Gastrojejunostomy	T&S

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SURGICAL SPECIALTY	OPERATION	UNITS
GS	Gastrotomy	0
GS	Groin Lymph Node Dissection	T&S
GS	Hemangioma Excision	T&S
GS	Hematoma Evacuation	T&S
GS	Hemorrhoidectomy	0
GS	Hepatectomy	6C XM
GS	Hernia Repair (Ventral, Umbilical, Inguinal)	0
GS	Hernia, Hiatal	T&S
GS	Hickman Catheter	0
GS	Ileal Conduit	T&S
GS	Ileostomy	T&S
GS	Intra-Abdominal Mass Resection	T&S
GS	Ischial Sore Debridement	T&S
GS	Ischial Sore Repair, Closure	T&S
GS	Liver Biopsy, Open	T&S
GS	Lymphadenectomy, Pelvic	T&S
GS	Lymphangioma Excision	T&S
GS	Lysis of Adhesions	T&S
GS	Marlex Repair	Clot Only
GS	Mastectomy	Clot Only
GS	Mastectomy, Modified Radical	Clot Only
GS	Mastectomy, Simple, Subcutaneous	Clot Only
GS	Myocutaneous Flap	T&S
GS	Needle Biopsy	0
GS	Nerve Exploration	0
GS	Nerve Transplant	0
GS	Nerve Transposition or Reanastomosis	0
GS	Pancreatectomy	2C XM
GS	Panniculectomy	T&S
GS	Parathyroidectomy	T&S
GS	Pelvic Lymphadenectomy	T&S
GS	Pelvic or Lymph Node Dissection	T&S
GS	Perforated Ulcer Repair	T&S
GS	Perineal Biopsy	0
GS	Pheochromocytoma	2C XM
GS	Pilonidal Cyst	0
GS	Pressure Sore Closure (Ischial Sore)	T&S
GS	Pressure Sore Debridement	T&S
GS	Pubectomy	T&S
GS	Pyloroplasty	Clot Only
GS	Rectal Fistula	0
GS	Reduction Mammoplasty	T&S
GS	Repair of Perforated Ulcer	T&S
GS	Repair of Rectal Prolapse	Clot Only
GS	Resection of Intra-Abdominal or Retroperitoneal Mass	2C XM
GS	Resection of Pelvic Mass, Tumor	2C XM
GS	Retroperitoneal Exploration	2C XM
GS	Retroperitoneal Mass Resection	2C XM
GS	Rotational Skin Grafts	T&S

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SURGICAL SPECIALTY	OPERATION	UNITS
GS	Roux-en-Y	T&S
GS	Sigmoid Resection	T&S
GS	Simple Mastectomy	Clot Only
GS	Skin Flap Closure/Rotational Skin Grafts	Clot Only
GS	Skin Graft with Wide Excision	Clot Only
GS	Skin Graft, Rotational	T&S
GS	Small Bowel Resection	Clot
GS	Splenectomy	2C XM
GS	Stab Wound	T&S
GS	Subcutaneous Mastectomy	0
GS	Sympathectomy	T&S
GS	Vagotomy	T&S
GS	Vascular Cannula Access (Hickman & Tenckhoff Catheters)	0
GS	Wide Excision with Skin Graft	T&S
GS	Appendectomy	0
Head/Neck HN	Excision of Tumor, Facial or Cranial bone	Clot Only
HN	Glossectomy	T&S
HN	Laryngectomy	T&S
HN	Mandibulectomy including Partial	T&S
HN	Meatotomy	Clot Only
HN	Orbital Exploration/Exteneration	T&S
HN	Parotidectomy	Clot Only
HN	Radical Neck Dissection	T&S
HN	Resection of Tumor, Facial or Cranial Bone	T&S
HN	Sinus Exploration (ablation, polyp, tumor removal)	T&S
HN	Soft Palate, Uvula Excision	Clot Only
HN	Thyroidectomy, Parathyroidectomy	Clot Only
HN	Tracheotomy	Clot Only
HN	Tumor Excision, Facial or Cranial Bone	Clot Only
HN	Uvula Excision	Clot Only
Neuro Surgery NS	Cranial Bur Holes	2C XM
NS	Cranioplasty	2C XM
NS	Craniotomy	T&S
NS	Hypophysectomy, Transphenoidal	T&S
NS	Lobectomy (Cranial)	T&S
NS	Lobectomy (Temporal)	T&S
NS	Rhizotomy	T&S
NS	Shunt Revision	Clot Only
NS	Skull Fracture (Reduction)	2C XM
NS	Subdural Hematoma (Drainage), Craniotomy	2C XM
NS	Subdural Implants	T&S
NS	Subdural Implants, Electrode	T&S
NS	Temporal Lobectomy	T&S
NS	Thalamotomy	T&S
NS	Thranphenoidal Hypophysectomy	T&S
Obstetrics-Gynecology OBGYN	Abdominal Cystectomy	0
OBGYN	Aspiration Curettage	0
OBGYN	Conization	Clot Only

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SURGICAL SPECIALTY	OPERATION	UNITS
OBGYN	C-section	T&S
OBGYN	C-section with Hysterectomy	T&S
OBGYN	Cystectomy, Ovarian	0
OBGYN	D&C	0
OBGYN	Delivery (including C-section)	T&S
OBGYN	Ectopic Pregnancy (Exploratory Laparotomy)	T&S
OBGYN	Evacuation Hydatidiform Mole	T&S
OBGYN	Exploration Laparotomy, (ectopic pregnancy)	T&S
OBGYN	Exploratory Laparotomy, Laparoscopy	T&S
OBGYN	Hydatidiform Mole Evacuation	T&S
OBGYN	Hydrosalpingectomy	0
OBGYN	Hysterectomy, Radical	T&S
OBGYN	Hysterectomy, Vaginal or TAH	Clot Only
OBGYN	Hysterotomy	Clot Only
OBGYN	Laparotomy, Laparoscopy	T&S
OBGYN	Lymph Node Dissection, Retroperitoneal, GYN	T&S
OBGYN	Marshall-Marchetti Procedure	Clot Only
OBGYN	Myomectomy	T&S
OBGYN	Ovarian Cystectomy	Clot Only
OBGYN	Ovarian Wedge	Clot Only
OBGYN	Pelvic Exenteration	3C XM
OBGYN	Pelvic Mass/Tumor Resection	T&S
OBGYN	Radical Hysterectomy	2C XM
OBGYN	Rectocele Repair	Clot Only
OBGYN	Salpingectomy	0
OBGYN	TAH, TVA	Clot Only
OBGYN	Tubal Ligation	0
OBGYN	Tuboplasty, Tubal Reconstruction	0
OBGYN	Uterine (Virginal) Suspension	0
OBGYN	Vaginal Reconstruction	T&S
OBGYN	Vulvar Biopsy	0
Orthopedic Surgery OS	Arthroplasty, Hip	2C XM
OS	Arthroplasty, Knee	2C XM
OS	Arthroplasty, Shoulder	2C XM
OS	Arthroscopy	0
OS	Arthrotomy	0
OS	ASIF Femur	T&S
OS	Biopsy of Femur (or other large bone)	T&S
OS	Biopsy of Lesion	0
OS	Bone Graft	0
OS	Cervical Laminectomy	T&S
OS	Closed Reduction	0
OS	Contracture Release	0
OS	Excision of Ossification Hip	T&S
OS	Fractured Hip	T&S
OS	Fusion	T&S
OS	Harrington Rod	2C XM
OS	Hip Biopsy	T&S
OS	Hip Pin	T&S

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SURGICAL SPECIALTY	OPERATION	UNITS
OS	Hip Pin Removal	T&S
OS	Hip Prosthesis	T&S
OS	Laminectomy	T&S
OS	Laminectomy, Lumbar	T&S
OS	Microlaminectomy	T&S
OS	ORIF	T&S
OS	ORIF Hip	T&S
OS	ORIF Hip with Screws	T&S
OS	Osteotomy	T&S
OS	Removal of Hip Pin	T&S
OS	Removal of Zimmer Nail	T&S
OS	Shoulder Arthroplasty	2C XM
OS	Soft Tissue Mass Removal	T&S
OS	Spinal Exploration	2C XM
OS	Spinal Fusion	T&S
OS	Total Hip	3C XM
OS	Total Knee	2C XM
OS	Total Shoulder	2C XM
Other	Austin Moore Prosthesis	T&S
Other	Cordotomy	T&S
Other	Delorme Procedure	Clot Only
Other	Electrocorticography	T&S
Other	Modified Stamey	Clot Only
Other	PTFE Graft, Insertion or Removal	T&S
Other	Ripstein Procedure	T&S
Other	Steffe Back Procedure	3C XM
Other	Tenckhoff Catheter	T&S
Plastic Surgery PS	Breast Reconstruction	0
PS	Breast Reconstruction, Augmentation	0
PS	Breast Reconstruction, Reduction	0
PS	Facial Reconstruction (Face lift/scar revision)	0
PS	Mammoplasty	Clot Only
PS	Mammoplasty, Augmentation	Clot Only
PS	Mammoplasty, Reduction	Clot Only
PS	Nasal Septal Reconstruction	T&S
PS	Septal Reconstruction	T&S
Urology U	Bladder Biopsy	0
U	Bladder Fulgeration	0
U	Colpoperineorrhaphy	T&S
U	Cystectomy, Radial (Urology)	2C XM
U	Cystectomy, Partial (Urology)	T&S
U	Cystocele or Rectocele Repair	T&S
U	Cystoscopy with Fulgeration of Bladder Tumor	T&S
U	Cystoscopy/Cystopyelogram	0
U	Lithotomy	T&S
U	Lithotomy, Urethral	Clot Only
U	Lymph Node Dissection, Retroperitoneal, Urologic	2C XM
U	Neocystostomy	Clot Only
U	Nephrectomy	T&S

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SURGICAL SPECIALTY	OPERATION	UNITS
U	Nephroureterectomy	T&S
U	Open Prostate with Possible Radical	2C XM
U	Open Renal Biopsy	T&S
U	Orchiectomy	Clot Only
U	Orchiopexy	Clot Only
U	Partial Cystectomy (Urology)	T&S
U	Peniectomy, Radical	T&S
U	Penile Prosthesis Insertion	Clot Only
U	Prostate Needle Biopsy	Clot Only
U	Prostatectomy	2C XM
U	Prostatectomy, Perineal	2C XM
U	Prostatectomy, Retropubic	2C XM
U	Pyelolithotomy	T&S
U	Radical Cystectomy (Urology)	3C XM
U	Radical Peniectomy	2C XM
U	Radical Prostatectomy	2C XM
U	Renal Biopsy, Open	T&S
U	Retropubic Prostatectomy	2C XM
U	TURP or TURBT	T&S
U	Ureteroureterostomy	T&S
U	Urethral Excision, Urethrectomy	T&S
U	Urethral Implantation	T&S
U	Urethral Lithotomy	Clot Only
Vascular Surgery VS	AAA Repair	3C XM
VS	AAA Resection	4C XM
VS	Amputation	T&S
VS	Amputation Stump Revision	0
VS	Aneurysm Repair-Femoral	2C XM
VS	Aneurysm Repairs	2C XM
VS	Angiography	0
VS	Angioplasty	T&S
VS	Aortofemoral Bypass	2C XM
VS	Aortoiliac Bypass	2C XM
VS	Aortorenal Bypass	2C XM
VS	Arteriogram	T&S
VS	AVR	3C XM
VS	Axillary-Femoral Bypass	2C XM
VS	Bypass Graft, Femoral-Popliteal	T&S
VS	Bypass, Aortofemoral	2C XM
VS	Bypass, Aortoiliac	2C XM
VS	Bypass, Aortorenal	2C XM
VS	Bypass, Axillary-Femoral	2C XM
VS	Bypass, Carotid	T&S
VS	Bypass, Femoral	T&S
VS	Bypass, Femoral-Femoral	T&S
VS	Bypass, -Femoral-Tibial	T&S
VS	Bypass, Ileal-Popliteal	T&S
VS	Bypass, Iliac-Femoral	T&S
VS	Carotid Bypass	T&S

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SURGICAL SPECIALTY	OPERATION	UNITS
VS	Catheterization/Angiography, any vessel	T&S
VS	Embolectomy of Thrombectomy	T&S
VS	Endarterectomy	T&S
VS	Endarterectomy, Left	T&S
VS	Endarterectomy, Left Carotid	T&S
VS	Endarterectomy, Right	T&S
VS	Endarterectomy, Right Carotid	T&S
VS	Endarterectomy, Thrombo	T&S
VS	Enderentostomy	T&S
VS	Exploration/Revision of Amputation Stump	T&S
VS	Femoral Aneurysm Repair	2C XM
VS	Femoral Bypass	T&S
VS	Femoral Revascularization	T&S
VS	Femoral-Popliteal Bypass	T&S
VS	Femoral-Popliteal Bypass Graft	T&S
VS	Femoral-Tibial Bypass	T&S
VS	Ileal-Popliteal Bypass, Reconstruction	T&S
VS	Iliac Femoral Bypass	T&S
VS	Limb Reattachment, Anastomosis, Reanastomosis	T&S
VS	Stump Revision, Exploration	T&S
VS	Thrombectomy	T&S
VS	Thromboendarterectomy	T&S
VS	Vein Stripping	Clot Only

PEDIATRIC

- CT = Clot to hold
H
0 = Transfusion rarely, if ever
-- = Procedure rare in the age group

Surgical Division/Procedures	Volume in cc or number of red cell units					
	Newborn- 3 mos	3 mos- 2 yrs	2-4 yrs	4-8 yrs	8-12 yrs	>12 years
Neurosurgery						
Craino-synostosis, repair	125 mL	250 mL	--	--	--	--
Closure of encephalocele	250 mL	--	--	--	--	--
Repair/closure of menigocele	125 mL	250 mL	1	1	2	2
Craniotomy for tumor	--	2	2	3	3	3
Intraspinal tumor	--	1	1	2	2	3
Revision/insertion of shunt	CTH	CTH	0	0	0	0
Cardiac Surgery						
Cardiopulmonary Bypass	2-4	4	4	5	6	6
Patent Ductus (PDA)	125-250 mL	125-250 mL	1	1	2	2
Coarctation	250 mL	1.5	2	3	4	5
Shunt	125 mL	250 mL	1	1	2	2
Cardiology						
Catheterization	125 mL	250 mL	CTH	--	--	--
Balloon Septostomy/dilation	1	2	--	--	--	--
Maxillo-Facial-Plastic Surgery						
Cleft lip and/or cleft palate	0	0	0	0	0	0

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Surgical Division/Procedures	Volume in cc or number of red cell units					
	Newborn- 3 mos	3 mos- 2 yrs	2-4 yrs	4-8 yrs	8-12 yrs	>12 years
LeFort Osteot. Maxillary advancement	--	--	--	2	2	2
Cranioplasty and Frontal Orbital advancement w/cranial bone graft	--	3	3	4	5	5
Osteot. and midface advancement	--	--	--	5	6	6
Closure of oronasal fistula 2/iliac bone graft	--	--	--	3	4	4
Excision of multiple vascular regions	--	--	--	CTH	CTH	CTH
Excision of single of multiple nevi	--	0	0	0	0	
Revision of complete cleft lip, palate and nose deformity	--	--	--	0	0	0
Closure of oronasal fistula w/bone graft	--	--	0	0	0	0
Revision of scar/keloid	--	0	0	0	0	0
Cosmetic surgery	--	--	0	0	0	0
Ophthalmology						
All procedures - including enucleation	--	0	0	0	0	0
Genito-Urinary Surgery						
Reconstruction, ureteral reimplantation	--	--	--	4	4	4
Upper pole nephroureterectomy	250 mL	1	1	1	2	2
Orchidopexy	--	CTH	CTH	0	0	0
One stage hypospadias repair	--	CTH	CTH	CTH	--	
Cysto./bilateral ureteral implants	--	--	CTH	CTH	CTH	CTH
Cysto./urinary deviation	--	2	2	2	3	4
Correction of penil torsion	--	CTH	CTH	--	--	
Correction of chordae and torsion	--	CTH	CTH	--	--	--
Orthopedic Surgery						
Excision of osteoid osteoma - spine w/fusion	--	--	1	1	--	2
Excision of osteoid osteoma - other areas	--	--	0	0	0	0
Femoral osteotomy w/Wagner nail	--	1	1	2	2	3
Calcaneal osteotomy w/staples	0	0	0	0	0	0
Harrington Rod-spine fusion	--	--	--	4	5	6
Spine fusion-without rod	--	--	--	2	2	2
Removal of A-O pltes	--	--	0	0	0	0
Muscle-tendon transfer w/staples	--	--	--	0	0	0
Triple arthrodesis	0	0	0	--	--	--
Closed intramedullary rodding-femur	0	0	0	0	2	2
Removal of K-wires	--	--	0	0	0	0
Resection of aneurismal bone cyst with graft	--	--	CTH	CTH	CTH	CTH

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Surgical Division/Procedures	Volume in cc or number of red cell units					
	Newborn- 3 mos	3 mos- 2 yrs	2-4 yrs	4-8 yrs	8-12 yrs	>12 years
Open hip(s) reduction	--	CTH	CTH	CTH	--	--
Osteoarthritis/myelitis - aspiration and debridement	CTH	CTH	CTH	CTH	CTH	CTH
General Surgery						
Repair of imperforate anus	250 mL	1	--	--	--	--
Ing. herniorrhapy/bilateral	--	250 mL	1	1	1	2
Pectus carinatum	--	--	CTH	CTH	CTH	CTH
Pectus excavatum	--	--	CTH	CTH	CTH	CTH
Splenectomy	--	--	1	1	2	2
Colectomy	--	--	--	--	2	2
D&C	--	--	--	--	CTH	CTH
Excision of thyroglossal duct/branchial cleft cyst	0	0	0	0	0	0
Small bowel resection	250 mL	1	2	3	3	3
Laparotomy - intestinal obstruction	250 mL	1	2	3	3	4
Spleno-renal shunt	--	--	--	4	6	6
Ladd's procedure	--	1	CTH	CTH	CTH	CTH
Cholangiogram/Kasai procedure	250 mL	500 mL	--	--	--	--
Closure of ileostomy	--	1	1	1	2	2
Cholecystectomy/common duct exploration	--	--	1	1	CTH	CTH
Nissen Fundoplication	--	--	1	1	1	CTH
Esophageal Dilatation	--	CTH	CTH	1	0	0
Colostomy closure	--	1	1	2	2	2
Repair of diaphragmatic hernia	250 mL	--	--	--	--	--
Nephrectomy (bilateral)	--	--	1	1	2	2