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It's how we treat people.

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MedStar Bloodless Medicine and Surgery Programs

Managing Obstetrical Patients Declining Blood Transfusion

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Agenda

- Brief Introduction to MedStar's Bloodless Medicine and Surgery Programs (BMSP) and MedStar International Training Center (MITC) for Bloodless Medicine
- Bloodless Medicine and Surgery Pillars (Basic Principles)
- Bloodless Medicine and Surgery Program Instructions of the Patient Worksheet
- Obstetrical Patient Declining Blood Products – When and What (Teamwork and Communication)

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Disclosure Statement

- I have no financial interests or relationships to disclose.

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MedStar Facilities OB-L&D with Bloodless MedSurg Program Access

- MedStar Franklin Square Medical Center
- MedStar Harbor Hospital
- MedStar Montgomery Medical Center
- MedStar Georgetown University Hospital Washington, DC
- MedStar Washington Hospital Center

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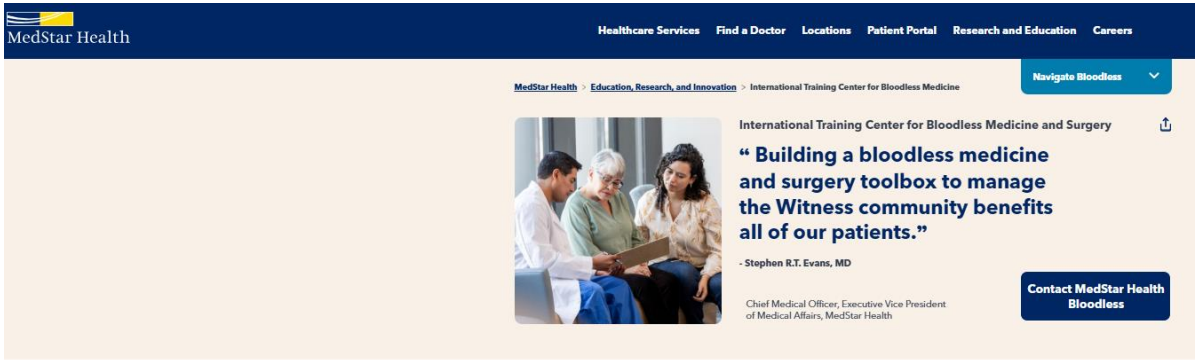
MedStar Health International Training Center for Bloodless Medicine



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Bloodless Medicine and Surgery Pillars (Principles)

Minimize Blood Loss

Ensure that patient loses as little blood as possible during course of treatment

Optimize Tissue Oxygenation

Use techniques that help deliver oxygen to vital organs and help body efficiently utilize oxygen it already has

Manage Anemia

Address clinical symptoms associated with low hemoglobin levels before, during, and after surgery

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MedStar Prenatal Strategies

- New OB labs with CBC and ferritin level
- Begin oral iron supplementation early
- Refer to Hematologist in the 2nd trimester (screen for IDA) for iron infusion as indicated
  - Ferritin <30 or Iron Saturation <20%)
  - Liberal IV iron to encourage RBC production and improvement of anemia

Request Bloodless Medicine and Surgery Program Consult

- Declines blood products
  - Religious or non-religious reasons
- Patient declines blood products at New OB Nurse Interview
- Declining blood products when admitted for observation or presenting for delivery (patient previously unknown declining blood)

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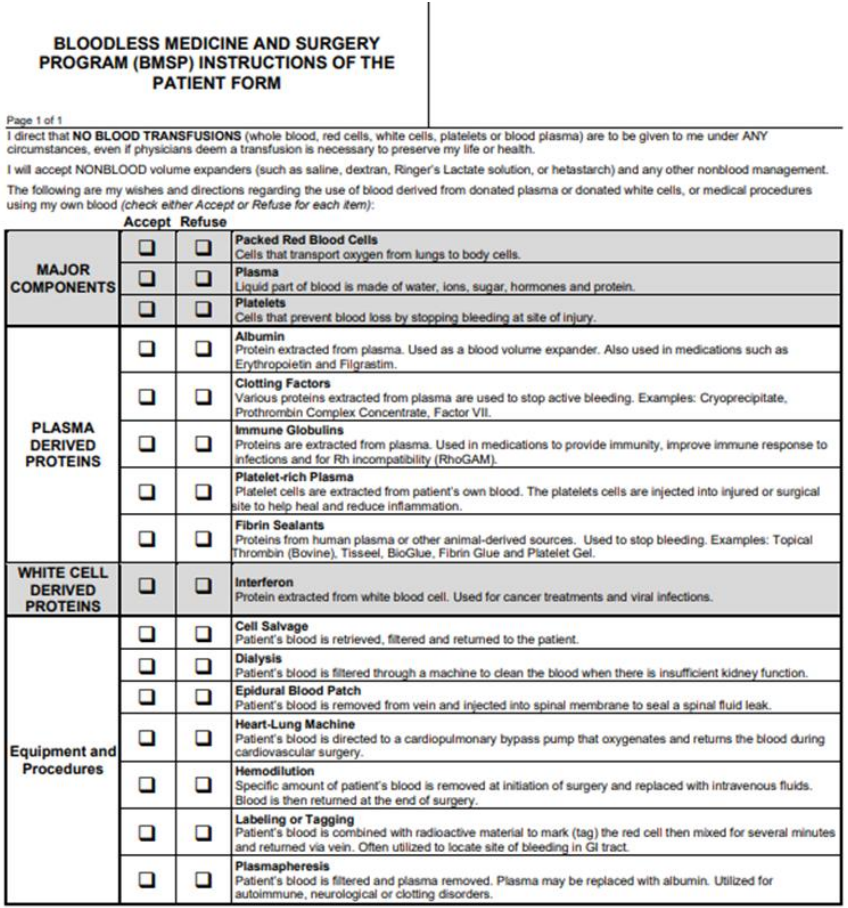
BMSP Instructions of the Patient Form

- Phone contact confirming declines blood products (1st statement BMSP Form)
- Email patient education resource packet and BMSP Form
- Meet to complete BMSP Form before delivery
- Email notice of BMSP OB Patient to OB Chair/L&D Manager
- BMSP Binder in L&D Triage (contains: No Blood Product wrist bands, “BMSP” Minimal Blood Draw door signs, BMSP Forms)



BLOODLESS MEDICINE AND SURGERY PROGRAM (BMSP) INSTRUCTIONS OF THE PATIENT FORM

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I direct that **NO BLOOD TRANSFUSIONS** (whole blood, red cells, white cells, platelets or blood plasma) are to be given to me under ANY circumstances, even if physicians deem a transfusion is necessary to preserve my life or health.

I will accept NONBLOOD volume expanders (such as saline, dextran, Ringer's Lactate solution, or hetastarch) and any other nonblood management.

The following are my wishes and directions regarding the use of blood derived from donated plasma or donated white cells, or medical procedures using my own blood *(check either Accept or Refuse for each item)*:

	Accept	Refuse	
MAJOR COMPONENTS	❑	❑	**Packed Red Blood Cells** Cells that transport oxygen from lungs to body cells.
	❑	❑	**Plasma** Liquid part of blood is made of water, ions, sugar, hormones and protein.
	❑	❑	**Platelets** Cells that prevent blood loss by stopping bleeding at site of injury.
PLASMA DERIVED PROTEINS	❑	❑	**Albumin** Protein extracted from plasma. Used as a blood volume expander. Also used in medications such as Erythropoietin and Filgrastim.
	❑	❑	**Clotting Factors** Various proteins extracted from plasma are used to stop active bleeding. Examples: Cryoprecipitate, Prothrombin Complex Concentrate, Factor VII.
	❑	❑	**Immune Globulins** Proteins are extracted from plasma. Used in medications to provide immunity, improve immune response to infections and for Rh incompatibility (RhoGAM).
	❑	❑	**Platelet-rich Plasma** Platelet cells are extracted from patient's own blood. The platelets cells are injected into injured or surgical site to help heal and reduce inflammation.
	❑	❑	**Fibrin Sealants** Proteins from human plasma or other animal-derived sources. Used to stop bleeding. Examples: Topical Thrombin (Bovine), Tisseel, BioGlue, Fibrin Glue and Platelet Gel.
WHITE CELL DERIVED PROTEINS	❑	❑	**Interferon** Protein extracted from white blood cell. Used for cancer treatments and viral infections.
Equipment and Procedures	❑	❑	**Cell Salvage** Patient's blood is retrieved, filtered and returned to the patient.
	❑	❑	**Dialysis** Patient's blood is filtered through a machine to clean the blood when there is insufficient kidney function.
	❑	❑	**Epidural Blood Patch** Patient's blood is removed from vein and injected into spinal membrane to seal a spinal fluid leak.
	❑	❑	**Heart-Lung Machine** Patient's blood is directed to a cardiopulmonary bypass pump that oxygenates and returns the blood during cardiovascular surgery.
	❑	❑	**Hemodilution** Specific amount of patient's blood is removed at initiation of surgery and replaced with intravenous fluids. Blood is then returned at the end of surgery.
	❑	❑	**Labeling or Tagging** Patient's blood is combined with radioactive material to mark (tag) the red cell then mixed for several minutes and returned via vein. Often utilized to locate site of bleeding in GI tract.
	❑	❑	**Plasmapheresis** Patient's blood is filtered and plasma removed. Plasma may be replaced with albumin. Utilized for autoimmune, neurological or clotting disorders.

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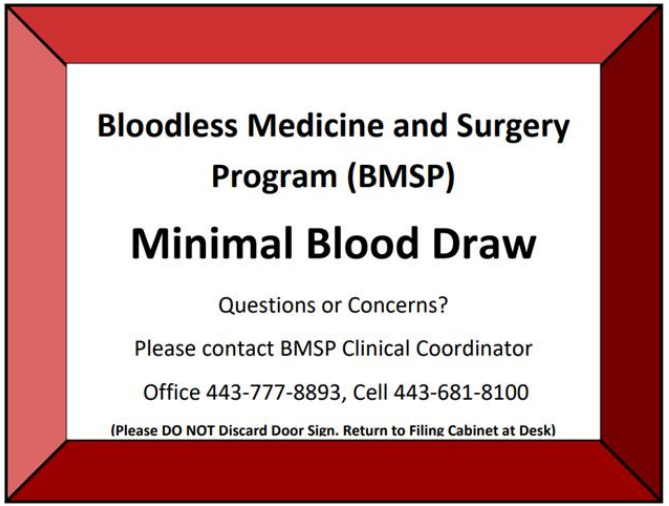
BMSP Communication and Visual Cues

BMSP RN will:

- Have patient complete BMSP Instructions of the Patient Form
- Apply “No Blood Products” wrist band
- Place BMSP “Minimal Blood Draw” door sign
- Initiate Bloodless Medicine Order Set
- “No Blood Products” Problem
- Email Blood Bank and Phlebotomy
- Message Provider BMSP Patient
- Daily rounds, BMSP progress notes and recommendations as indicated

L&D RN will do these when BMSP RN not available or off office hours:

- Call BMSP RN for phone consult
- Have patient complete BMSP Instructions of the Patient Form
- Apply “No Blood Products” wrist band
- Place “Minimal Blood Draw” door sign



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Bloodless Medicine and Surgery Program (BMSP)

Cesarean Birth and Postpartum Hemorrhage (PPH)

I. General Non-blood Management Principles

A. Evaluate for critical anemia: address signs and symptoms of hypoperfusion

B. Formulate plan of care to minimize blood loss and treat anemia.

C. Discuss with the patient concerning non-blood alternatives (i.e. albumin, clotting factors, etc.)

D. Low Threshold for progression of care from observation/fluid replacement to mechanical hemostasis. Consider 2nd MD, imaging studies as part of immediate evaluation, and return to OR without delay for definitive surgical intervention

II. Peripartum Anemia Management

Prepartum

A. Labs to assess: CBC, Retic Hg, Iron Sat, Ferritin

1. IV Iron Replacement (First Line Treatment)
   a. If Iron Saturation < 20%, s.Ferritin <100 , Ret.-He <26 pg then begin IV Iron replacement 500mg
2. Consider with caution ESA , if acceptable to patient
   a. Indicated only if Hg <10 Gm/dL following IV Iron supplementation.
   b. Epoetin alfa (Procrit) 600 IU/kg x 1 per week or Darbepoetin Alfa (Aranesp) 300 mcg every 2 weeks

Postpartum

A. Labs to assess as above

B. Consider with caution ESA as above

C. Minimize blood loss and Restrict diagnostic phlebotomy

1. Limit phlebotomy to necessary diagnostic testing
2. Use pediatric blood tubes/minimal blood draw to decrease volume of blood drawn

III. Intrapartum Blood Conservation Strategies

A. Quantitative Blood Loss Estimation preferred or best practice

B. Minimize coagulopathy

1. Keep pH > 7.2
2. Keep body temperature > 35.0ºC
3. Keep Ionized calcium > 1 mmol/l
4. Monitor coagulation factors and supplement as needed

C. Autologous cell salvage – Recommend on stand by/available for all BMSP patients having a Cesarean Birth, if acceptable to the patient

D. Pharmaceuticals

1. Tranexamic acid (TXA) 1g/10 min –Give ASAP after bleeding onset (best given sooner than later). Repeat if bleeding uncontrolled.
2. Cryoprecipitate or Fibrinogen Concentrate supplementation for fibrinogen levels <100 mg/dL or <200 mg/dL & severe perioperative bleeding, if acceptable to the patient.
3. Consider with caution Factor VII, if acceptable to the patient and bleeding continues uncontrolled

ACOG (2015). *Guidance document. Patients Who Decline Blood Products*. Safe Motherhood Initiative. Retrieved 9/26/2017.

Shaylor, R., Weiniger, C., et al. (2017). *National and International guidelines for patient blood management in obstetrics: a qualitative review*. International Anesthesia Research Society. 124(1) 216-232. Retrieved 9/15/2017.

IV.

A. Postoperative Management according to EBP

B. Observation for additional bleeding

C. Consider Hematology consult

NEED ASSISTANCE?

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Questions?

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