

A microscopic view of red blood cells, showing their characteristic biconcave disc shape. The cells are scattered across the frame, with some in sharp focus and others blurred in the background. The overall color palette is a range of reds, from deep maroon to bright orange-red.

# **WHAT IS PATIENT BLOOD MANAGEMENT?**

**BY: Mansoureh Ajami  
PhD of Hematology**

# WHAT IS PATIENT BLOOD MANAGEMENT?

## PUBLIC DESCRIPTION

### **Patient Blood Management**

(PBM) is the scientific use of safe and effective medical and surgical techniques designed to prevent anemia and decrease bleeding in an effort to improve patient outcome.



# WHY PATIENT BLOOD MANAGEMENT?

- Ensures that the decision to transfuse blood is made with careful attention to the risks and benefits for each individual.
- Informs patients and encourages their participation in transfusion decisions.
- Uses state-of-the-art techniques to avoid the need for blood transfusion.
- Minimizes unnecessary sources of blood loss.
- Uses advance planning to build blood counts before procedures.

A background image showing a microscopic view of red blood cells, which are biconcave discs, floating in a dark red fluid. The cells are scattered across the frame, with some appearing more prominent than others. The overall color palette is a range of reds, from deep maroon to bright red.

# WHY PATIENT BLOOD MANAGEMENT?

- Reduces unnecessary hospital & patient care costs.
- Improves patient safety by minimizing exposure to blood.
- Can reduce the risk of hospital-acquired complications and infections.

# WHY PATIENT BLOOD MANAGEMENT?

- To decrease complications associated with transfusion

Adverse Event	Approximate Risk Per-Unit Transfusion of RBCs
Febrile reaction <sup>11</sup>	1:60 <sup>a</sup>
Transfusion-associated circulatory overload <sup>12,13</sup>	1:100 <sup>b</sup>
Allergic reaction <sup>14</sup>	1:250
Transfusion-related acute lung injury <sup>15</sup>	1:12 000
Hepatitis C virus infection <sup>16</sup>	1:1 149 000
Hepatitis B virus infection <sup>17</sup>	1:1 208 000 to 1:843 000 <sup>c</sup>
Human immunodeficiency virus infection <sup>16</sup>	1:1 467 000
Fatal hemolysis <sup>18</sup>	1:1 972 000

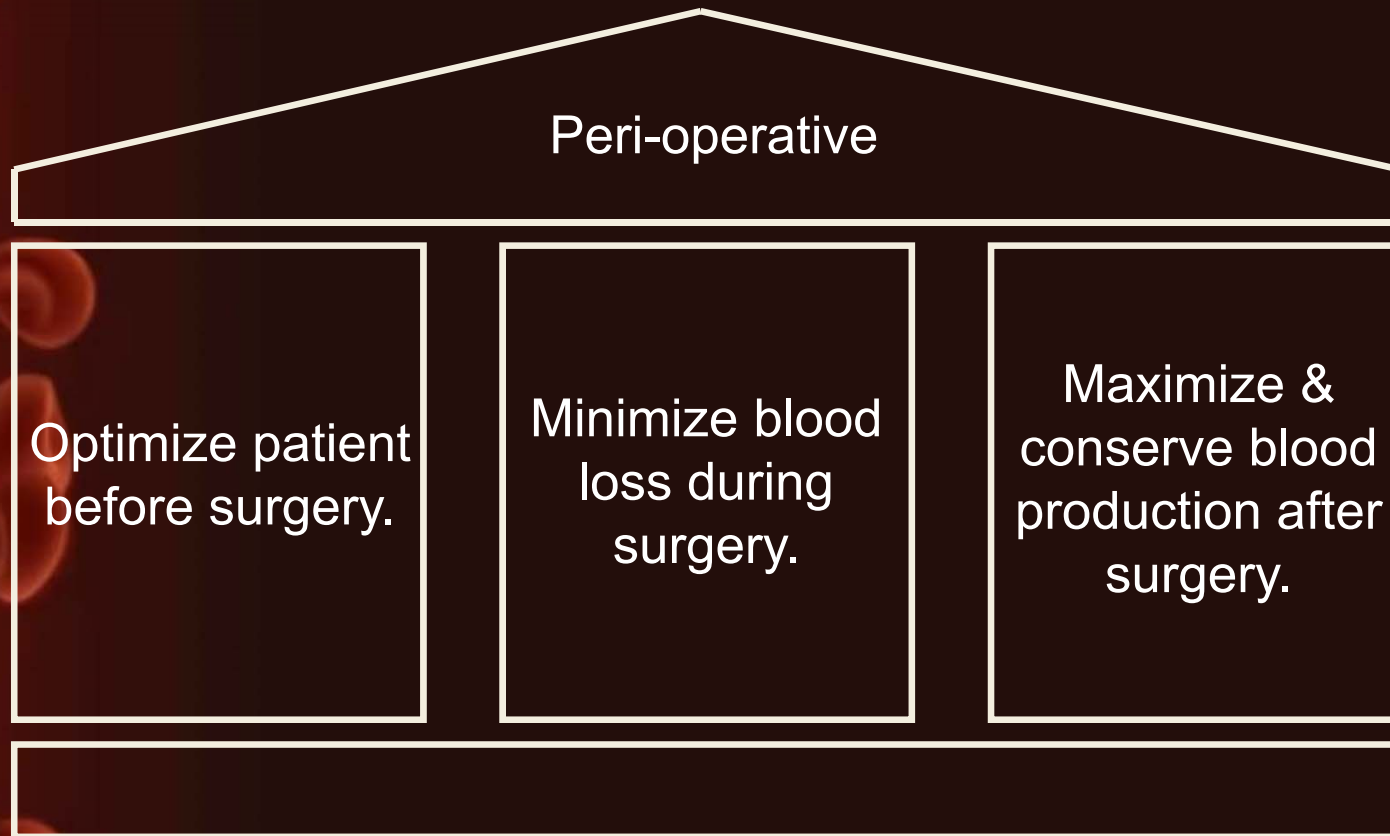
Clinical Practice Guidelines From the AABB Red Blood Cell Transfusion Thresholds and Storage. Evidence review 2016

The background of the slide features a dark red gradient with several red blood cells scattered across it, particularly concentrated on the left side. The cells are depicted in a realistic, slightly blurred style, showing their characteristic biconcave shape and reddish-orange color.

# PBM CONSERVES BLOOD SUPPLY

- Predictable drops in donations during:
  - Busy summer vacation months.
  - Holiday seasons / 3-day weekends.
  - Bad weather or disaster situations.
- Changing perception of social responsibility among new generations of donors.

# PBM IN SURGERY



# PBM SURGICAL STRATEGIES

## Optimize patient before surgery.

- ✓ Assess patient fitness for surgery.
- ✓ Anemia Identification and Correction.
- ✓ Correct bleeding disorders.
- ✓ Assess medications and herbs that increase bleeding.
- ✓ Use of Preoperative Autologous Blood Donation(PAD)

Adapted from Goodnough LT, et al. *Transfusion*. 2003;43:668-676.



# PBM SURGICAL STRATEGIES

## Minimize blood loss during surgery.

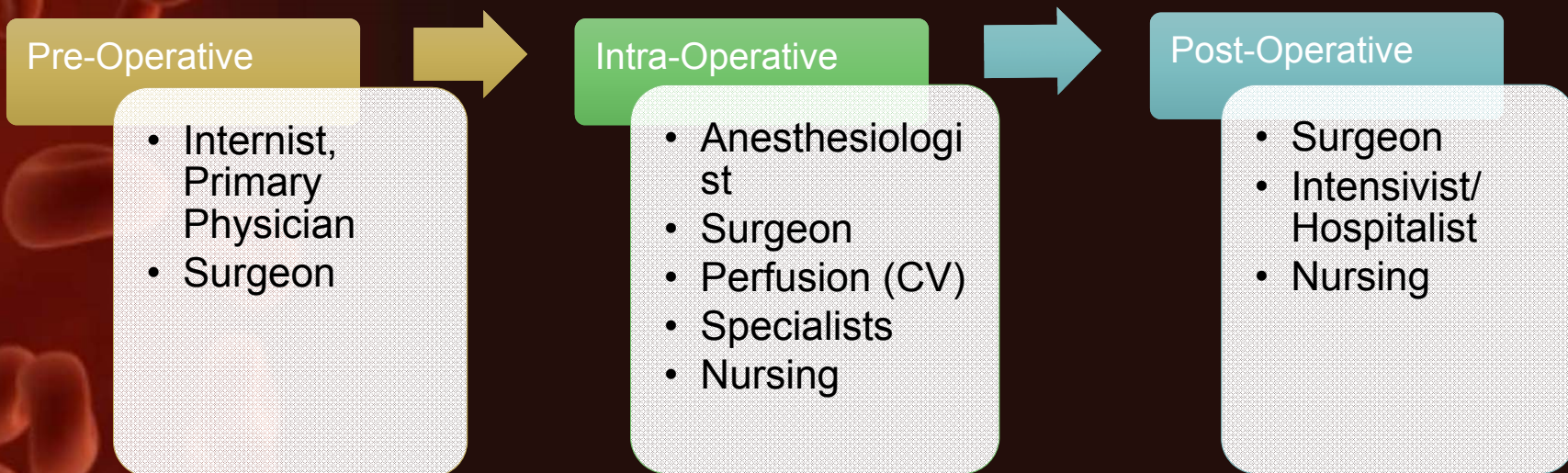
- ✓ Precise surgical technique.
- ✓ Surgical devices that control bleeding.
- ✓ Drugs that control bleeding.
- ✓ Minimally invasive technology.
- ✓ Anesthesia & fluid management.
- ✓ Blood salvage.
- ✓ Patient position during surgery

# PBM SURGICAL STRATEGIES

**Maximize & conserve blood production after surgery.**

- ✓ Monitor and correct bleeding.
- ✓ Tolerance of permissive anemia.
- ✓ Increase patient blood production.
- ✓ Minimize blood sampling.

# PBM PROGRAMS: A TEAM APPROACH



PBM Programs are more successful when everyone works together:

- ✓ Administration
- ✓ Physicians
- ✓ Nurses
- ✓ Patients

A hospital-based philosophy that  
*every drop of blood counts*

The background of the slide features a dark red gradient with a pattern of semi-transparent, glowing red blood cells scattered across the left and bottom portions. The text is overlaid on this background.

# **PBM PROGRAMS: ADMINISTRATIVE AND CLINICAL ESSENTIALS**

- Physician leadership and expertise.
- Core patient blood management team.
- Hospital-wide blood conservation policy and protocols.
- Continuing education for physicians and nursing.
- Community and patient education.

The background of the slide features a dark red gradient with several translucent, 3D-rendered red blood cells scattered across the left and bottom portions. The text is white and bold, providing a high-contrast, professional appearance.

# **PBM :WHAT CAN PATIENTS DO TO IMPROVE THEIR OUTCOMES?**

- Are you willing to investigate low red blood cell count (anemia) and take the time to correct it with iron, vitamins or growth factors before coming to the hospital?
- Are you willing ask your physician about patient blood management strategies early before surgery?
- Are you willing to consider the washing and recycling of your own blood during or after surgery if appropriate?
- Are you willing to ask your physician if minimizing blood draws is right for you?

The background of the slide features a dark red gradient with several translucent, 3D-rendered red blood cells scattered across the left and bottom portions. The cells are shown in various orientations, some appearing to float or move.

# **PBM: WHAT CAN PATIENTS DO TO IMPROVE THEIR OUTCOMES?**

- Choose a doctor who will work with you.
- Know your blood counts.
- Have your doctor explain the risks and benefits of your decision so you can make a choice that's good for you.
- Choose a hospital with a patient blood management program in your area @ [www.sabm.org](http://www.sabm.org).

# PBM REALITIES

- Patient blood management options should be a part of making good health care choices.
- Building up blood counts before surgery may help you to avoid a blood transfusion.
- Sometimes, several patient blood management strategies can be used at the same time to avoid a blood transfusion.
- No single approach (drug, device, technique) is effective for everyone.

# PBM PROGRAMS: WHY HOSPITALS EMBRACE A BLOOD CONSERVATION CULTURE

- Responsive to public concern over blood safety.
- Sustains the blood supply.
- Improved technology, devices and pharmaceuticals.
- Imperative to reducing hospital costs.
- Increases hospital through-put (fast-track).
- Improves physician skills.
- Improves patient care.
- Gives recognition as a “Best Practices” hospital.