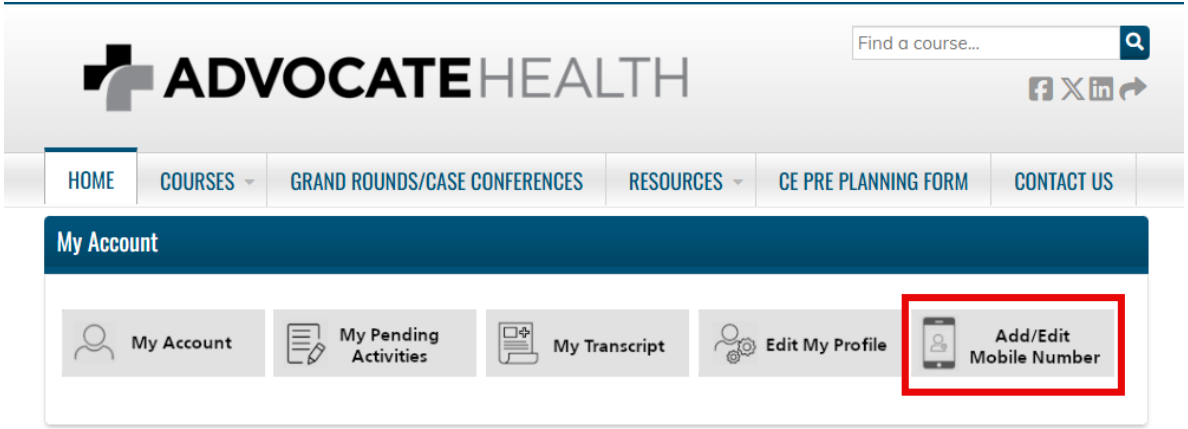
Claim CE credit by TEXTING the code after the activity.

What you need to do:
Ensure your mobile number is linked to your profile.



ADVOCATE HEALTH

Welcome to the January 2026 Nursing Grand Rounds
Empowering Nurses in Patient Blood Management: Every Drop Counts!

This is a Microsoft Teams Meeting with Contact Hours

- Focus is on the presenters with all participants muted
- Participants are encouraged to post questions/comments in the "Q&A" They will be addressed during the Q & A session at the end
- Details about evaluation and contact hours will be provided at the end
  - REMINDER – now a text code process – make sure your cell number is updated in the CE Learning platform in order to receive CEs
- Session is recorded and will be available as a digital self-learning module with continuing education credit on the CE Learning platform
- Please visit the Nursing Grand Rounds webpage for direct links.

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ENTERPRISE NURSING GRAND ROUNDS

Did you Bring a Friend?

TODAY ONLY!!! For every friend you bring, all attending today's live session, your name will be entered in a raffle to win a $25 Advocate Teammate Store Gift Card.
Winner will be announced on Monday, 1/19 after verifying attendance.

Entry form link is in the Q & A or scan the QR code

Disclosure:

None of the planners or presenters for this educational activity have relevant financial relationships to disclose with ineligible companies

IPCE Designation and Accreditation

Accreditation Statement
In support of improving patient care, Advocate Aurora Health is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team.

Credit Statement(s)

American Nurses Credentialing Center (ANCC)
Advocate Aurora Health designates this live activity for a maximum of 1.0 ANCC contact hours. Nurses should claim only the credit commensurate with the extent of their participation in the activity.

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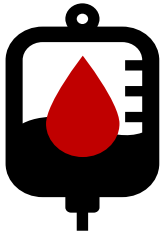
Learner Objectives



At the end of this session, learners should be able to:

1. Identify strategies for early detection and management of anemia to optimize patient outcomes.
2. Apply Patient Blood Management (PBM) practices in nursing care to minimize unnecessary transfusions, including single-unit transfusions and reassessment protocols.
3. Demonstrate the nurse's role in PBM through assessment, communication, and advocacy for safe, patient-focused transfusion practices.
4. Evaluate clinical and safety risks of allogeneic blood transfusions and integrate bloodless medicine principles for patients who decline blood components.

AUDIENCE POLL

Which division and care environment are you attending from?

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Advocate Health Care | Atrium Health | Aurora Health Care | Wake Forest University School of Medicine

Now part of ADVOCATEHEALTH

Empowering Nurses in Patient Blood Management: Every Drop Counts

Laura Yau, MSN, RN – Charlotte Area
Chandler Purser, BSN, RN, BMTCN – Georgia Area
Bobbi Jo Tutterow, MSN, RN – Wake Area
Beth Halperin, BSN, RN - Midwest

Nursing Grand Rounds 01.15.2026

Presentation Overview

- **Blood Transfusions are Liquid Organ Transplants**

Laura Yau, MSN, RN, ACCNS-AG

Chandler Purser, BSN, RN, BMTCN

- **Anemia is NOT "Normal"**

- **Bloodless Medicine Care**

Bobbi Jo Tutterow, MSN, RN

Beth Halperin, BSN, RN

- **The RN's Role in Safe Transfusion Practice**

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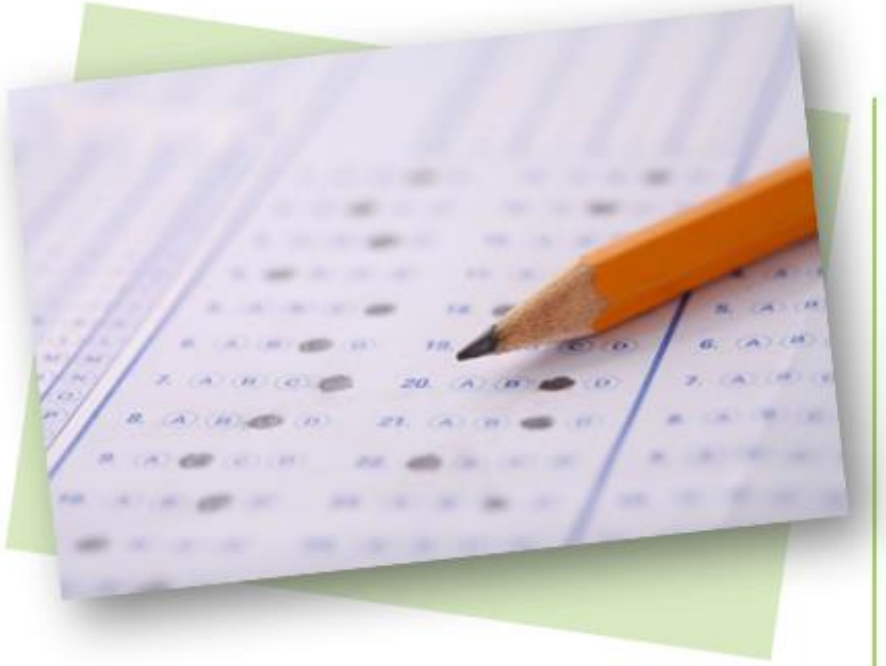
Blood Transfusion is a Transplant

Laura Yau, MSN, RN, ACCNS-AG

Charlotte Area



AUDIENCE POLL

Word cloud: Name a risk of blood transfusion.

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Blood Transfusion = Liquid Transplant

<u>Each</u> unit of blood is a new "transplant" of foreign tissue and cells causing its own independent impact on the recipient

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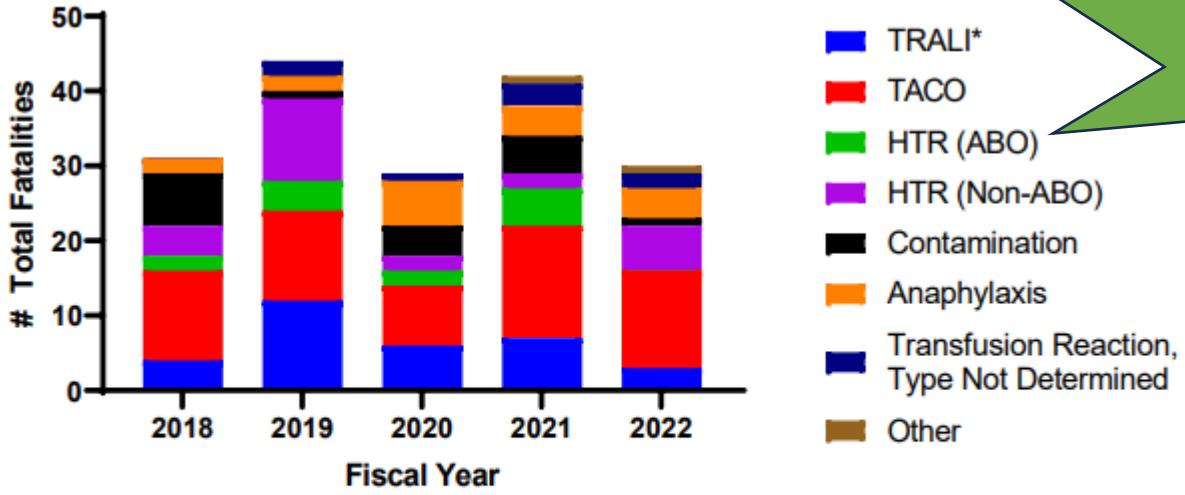

30 Transfusion associated fatalities reported to FDA in 2022

Figure 1: Transfusion-Associated Fatalities by Complication, FY2018 – FY2022

Note: FY2018-FY2022 only includes cases with an imputability of *definite, probable*, or *possible*
*FY2018-FY2022 numbers combine both *TRALI* and *Possible TRALI* cases

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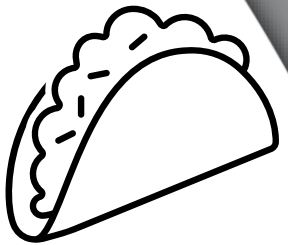
Transfusion Associated Circulatory Overload (TACO)



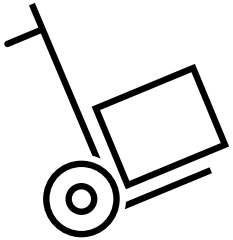
Causes the highest percentage of reported transfusion related fatalities

- 13 fatalities in 2022 = 44% of reported fatalities

Symptoms within 12 hours of transfusion:

- Respiratory distress and/or Pulmonary edema
- Elevated BNP
- Cardiovascular system changes
- Evidence of fluid overload

Transfusion Related Acute Lung Injury (TRALI)



Fatal reaction

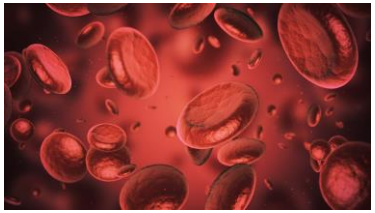
- 3 fatalities in 2022 = 10% of reported fatalities

Symptoms within 6 hours of transfusion[2]:

- Acute lung injury
- Hypoxemia
- Radiographic evidence of bilateral infiltrates
- No evidence of left atrial hypertension (i.e. circulatory overload)

	TRALI	TACO
Definition	Fluid leakage into alveolar space due to diffuse alveolar capillary damage caused by neutrophils	Volume overload due to rapid transfusion of large volumes of blood products
Presentation	Noncardiogenic pulmonary edema	Cardiogenic pulmonary edema
Risk Factors	Patient-related: Critically ill patients receiving plasma-containing blood products Blood product-related: Plasma containing blood products donated from multiparous females	Patient-related: Older patients with comorbidities, mainly CHF and CKD, or small patients Blood product-related: Massive infusion of blood products, high rates
Symptoms	Increased RR, acute dyspnea, hypoxemia, hypotension. Possible fever	Increased RR, acute dyspnea with features of volume overload: High CVP, Peripheral edema, JVD, hypertension. Occasional fever
Laboratory *Chest radiograph*	Transient Leukopenia, BNP <200 pg/ml, normal EF *Diffuse, bilateral infiltrates*	Unchanged WBC, BNP >1200 pg/ml, low EF *Diffuse, bilateral infiltrates*
Treatment	Supportive (O_2, noninvasive/invasive ventilation), fluids/pressors, not responsive to diuretics	Supportive (O_2, noninvasive/invasive ventilation), responsive to diuretics

Hemolytic Transfusion Reaction



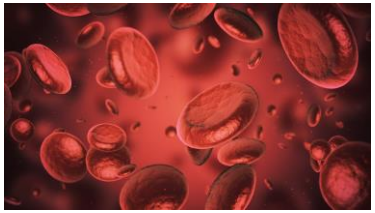
6 fatalities in 2022[1]

Acute (within 24 hours) or Delayed (24 hours to 28 days)

Symptoms of acute:

Signs/Symptoms (Any of below)	And 2 or more lab findings:
Back/flank pain	Decreased fibrinogen
Chills/rigors	Decreased haptoglobin
Disseminated intravascular coagulation (DIC)	Elevated bilirubin
Epistaxis (nosebleed)	Elevated LDH
Fever	Hemoglobinemia
Hematuria	Hemoglobinuria
Hypotension	Plasma discoloration
Oliguria/anuria	Spherocytes
Pain and/or oozing at IV site	Positive direct antiglobulin test (DAT)
Renal failure	Positive eluate

Hemolytic Transfusion Reaction

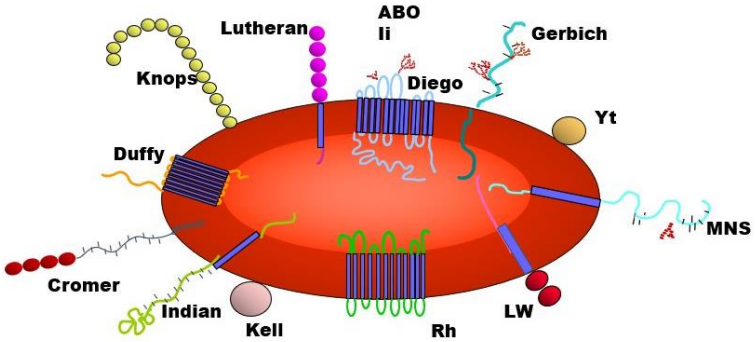


ABO Antigens & Antibodies

	Type A	Type B	Type AB	Type O
Red Blood Cell				
Antigens on RBC	A antigen A	B antigen B	A antigen B antigen A B	No antigens (Universal RBC donor)
Antibodies in Plasma	Anti-B	Anti-A	No Antibody (Universal plasma donor)	Anti-A Anti-B

Used with permission by S. Weiss

Blood Groups on the RBC



Nydegger, U.E. and Flegel, W.A

There are over 300 different red cell antigens that a patient could make an antibody against.

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Allergic Reaction

4 fatalities in 2022 due to anaphylactic reaction

Symptoms of allergic reaction (2 or more within 4 hours of transfusion)

- Conjunctival edema
- Edema of lips, tongue and uvula
- Erythema and edema of the periorbital area
- Generalized flushing
- Hypotension
- Localized angioedema
- Macropapular rash
- Pruritus (itching)
- Respiratory distress; bronchospasm
- Urticaria (hives)

Bacterial Contamination

1 fatality in 2022

Laboratory evidence of a pathogen in the recipient

THE JOURNAL OF AABB

transfusion.org

TRANSFUSION

CASE REPORT

Fatal sepsis associated with a storage container leak permitting platelet contamination with environmental bacteria after pathogen reduction

Emmanuel A. Fadeyi, Stephen J. Wagner, Corinne Goldberg, Thea Lu, Pampee Young, Peter W. Bringmann, Nathaniel M Meier, Andrew M. Namen, Richard J. Benjamin, Elizabeth Palavecino

First published: 08 December 2020 | https://doi.org/10.1111/trf.16210 | Citations: 24

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United States: RBC transfusion utilization is high and often unwarranted

- **12 million** RBC units are transfused annually in the U.S.
- **1 in 10** hospitalized patients who undergoes an invasive procedure is transfused
- **40% to 60%** of transfusions are unwarranted, according to published research studies
- **Variability in care** suggests the decision to transfuse is led by behavior rather than evidence

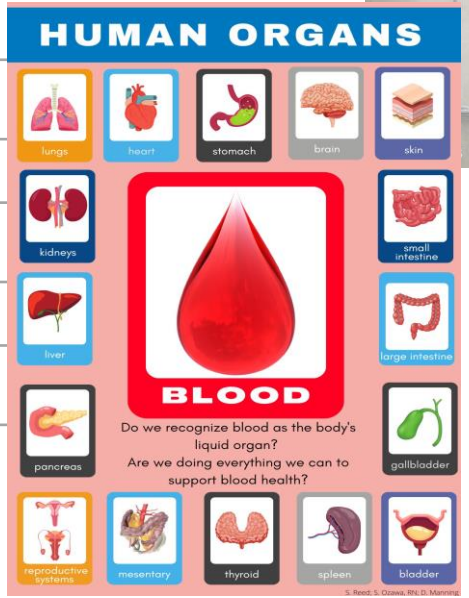
From the Society for the Advancement of Blood Management, *Transfusion Overuse*, 2019.

Why Make Patient Blood Management a Priority?

Blood Transfusion is Not Benign & Transfusion Overuse Is Pervasive

- Transfusion is associated with increased risk of hospital-acquired infection and cancer recurrence (immunomodulation)
- Transfusion is associated with increased cardiac, renal & pulmonary complications (pro-inflammatory, pro-thrombotic)
- Transfusion is associated with increased risk re-bleeding and mortality in GI bleed, cardiac surgery, and critical care

Current evidence has defined a **narrow therapeutic window** for transfusion: **Less IS More**



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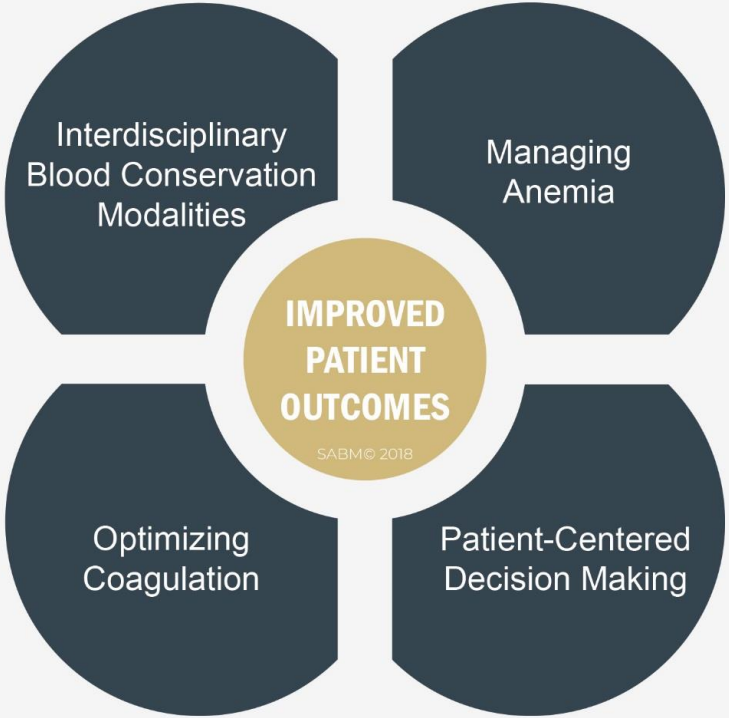
Patient Blood Management



Definition: cPBM is a patient-centered, systematic, evidence-based approach to improving patient outcomes by managing and preserving a patient's ***own*** blood, while promoting patient safety and empowerment.

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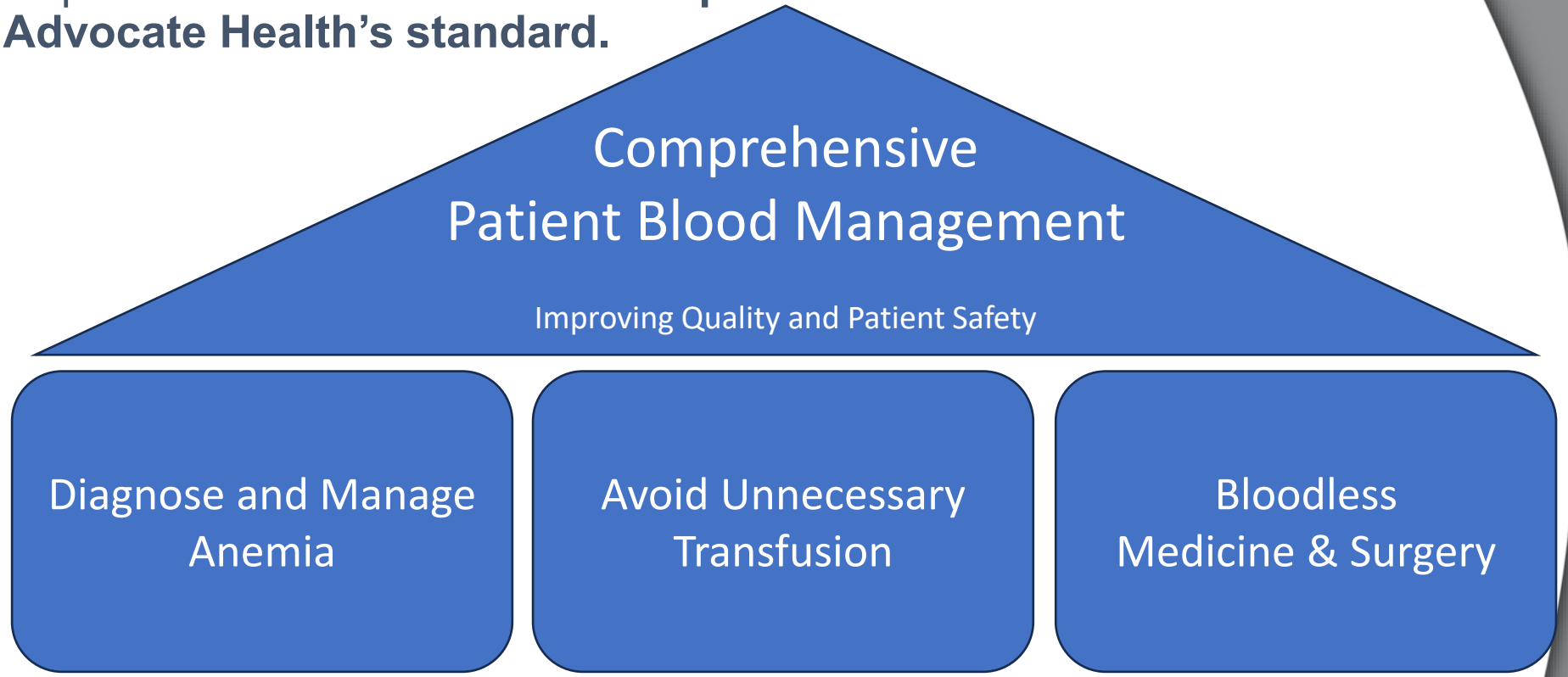
Vision - Make cPBM (Patient Blood Management, Anemia Management and Bloodless Medicine & Surgery) a standard of care for all patients. **It should not be an option but be hardwired as Advocate Health's standard.**



The 3 Equal Pillars of Blood Management

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Transfusion Guidelines

Atrium Health

Atrium Evidence-Based Transfusion Recommendations

RED BLOOD CELLS

• Active bleeding independent of hemoglobin	
Hgb <7 g/dL	• Signs or symptoms of anemia unresponsive to management without transfusion • Stable ischemic heart disease and signs or symptoms of anemia unresponsive to management without transfusion • Acute upper gastrointestinal hemorrhage • Sepsis • Marrow suppression due to chemotherapy and/or radiotherapy
Hgb <7.5 g/dL	• Undergoing cardiac surgery • Bone marrow suppression or bone marrow failure AND long-term transfusion dependency whose anemia cannot be managed with erythropoiesis-stimulating agents and/or intravenous iron

Hgb <8.0 g/dL	• Acute coronary syndrome or evidence to support the need for increased O_2 delivery indicated by any of the following
	  • Tachycardia and/or hypotension unresponsive to pharmacologic therapy
	  • New EKG changes
	  • Recurrent chest pain
	  • Acute respiratory failure, inadequate cardiac output, or inadequate oxygenation despite optimal ventilatory support

• Sickle cell disease – review ASH 2020 guidelines or consult hematology	

PLASMA

In a non-bleeding patient IV Vitamin K is the first-line therapy. In a bleeding patient, PCC is the first-line therapy. If PCC or Vitamin K is unavailable or contraindicated, follow the guidelines below.

INR >3.0	• Paracentesis for liver disease – Viscoelastic testing recommended

INR >2.0	• LOW bleeding risk procedures for example
	  • Emergent surgical intervention
	  • For a full list, see complete Adult Transfusion Guidelines

INR >1.7	• Epidural placement or removal • Surgery involving the neuroaxis • Large-bore tunneled CVC insertion with clinical and laboratory evidence of coagulopathy • Intracranial hemorrhage
INR >1.5	• HIGH bleeding risk procedures for example • For a full list, see complete Adult Transfusion Guidelines
• Massive Transfusion Protocol • Plasma exchange in Thrombotic Thrombocytopenic Purpura (TTP) • Hemorrhage and PTT > 50 seconds due to factor deficiency for which no factor concentrate is available (rule out heparin and anti-phospholipid antibody before considering plasma transfusion)	

Full guidelines and references available in Policy Tech

PLATELETS

THRESHOLD	CLINICAL SCENARIO
	PROPHYLACTIC
PLT ≤ 10 x10^3/uL	• Hypoproliferative thrombocytopenia (marrow failure or suppression)
PLT ≤ 20 x10^3/uL	• Hypoproliferative thrombocytopenia (marrow failure or suppression) and presence of minor bleeding or additional risk factors for bleeding
	PERI-PROCEDURAL

PLT ≤ 20 x10^3/uL	• LOW bleeding risk procedures for example
	  • Endoscopy or bronchoscopy without biopsy
	  • Central line placement
	  • Paracentesis or thoracentesis
	  • For a full list, see complete Adult Transfusion Guidelines

PLT ≤ 30 x10^3/uL	• Vaginal delivery

PLT ≤ 50 x10^3/uL	• HIGH bleeding risk procedures for example
	  • Arterial interventions: > 7-F sheath, aortic, pelvic, mesenteric, CNS
	  • Percutaneous or endoscopic solid organ biopsies
	  • General surgery and gynecological surgery (including C-sections)
	  • For a full list, see complete Adult Transfusion Guidelines

PLT ≤ 80 x10^3/uL	• Epidural catheter insertion or removal
PLT ≤ 100 x10^3/uL	• Neurosurgery or retinal surgery
	THERAPEUTIC
PLT ≤ 50 x10^3/uL	• Post-surgical or post-procedural bleeding • Significant Non-procedural related bleeding • Massive transfusion protocol
PLT ≤ 80 x10^3/uL	• Cardiac surgery with unexpected bleeding
PLT ≤ 100 x10^3/uL	• Neuraxial bleeding

CRYO

FIB <200 mg/dL	• Ongoing hemorrhage in obstetrical, trauma, and cardiothoracic surgery
FIB <125 mg/dL	• In acute promyelocytic leukemia
• Massive transfusion protocol • Congenital fibrinogen deficiency and bleeding • Factor VIII and Factor XIII deficiency with bleeding when specific factor concentrates are not available. Hematology consult recommended • vWD with bleeding or prior to urgent invasive procedure when specific concentrates are not available or DDAVP is contraindicated or unavailable	

These are recommendations for transfusion decision making and are not a substitute for clinical judgement. Not all patients who meet the criteria in these recommendations will require transfusion, other appropriate therapies must be considered. In certain clinical circumstances, transfusion of a blood component may be appropriate outside of these recommendations. The decision to transfuse is a clinical decision based on real-time assessment of the patient. There may be additional factors to consider when making transfusion decisions in the outpatient settings. In all circumstances, the indication for transfusion and supporting data should be documented in the medical record.

:ALTH

WHEN THERE IS A NEED FOR TRANSFUSION
LESS is MORE

WHAT YOU NEED TO KNOW

1 NOT 2

Transfuse the minimal amount of RBC units followed by a clinical assessment for the need of additional transfusions

7 NOT 8

Transfuse RBC at Hgb less than 7.0 g/dl in stable patients

Atrium Health

Comprehensive Patient Blood Management Program

Sharing Transfusion Practice Data

Red Blood Cell Metric Scorecard

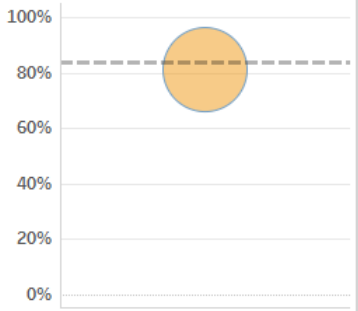
Date Range: **9/1/2025 - 11/30/2025**

Favorable | Caution | Unfavorable | No Target

% Single Unit Tx

81%

Target > 84%

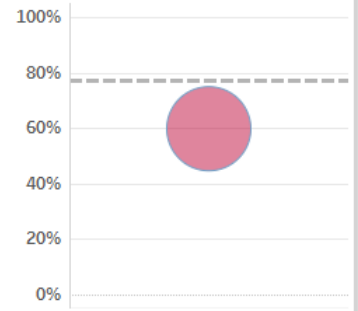


2025 Q3	81%
2025 Q2	80%
2025 Q1	80%
2024 Q4	78%

% Units Hgb < 7

60%

Target > 77%

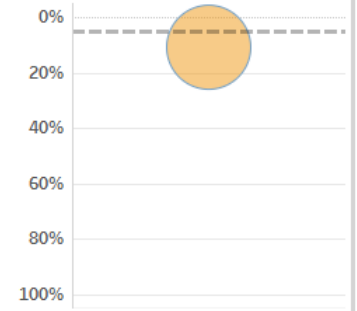


2025 Q3	59%
2025 Q2	59%
2025 Q1	60%
2024 Q4	58%

% Units Hgb ≥ 8

11%

Target < 5%

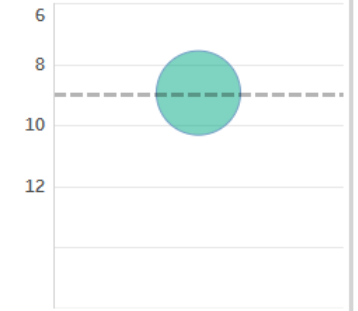


2025 Q3	11%
2025 Q2	11%
2025 Q1	11%
2024 Q4	12%

Avg Pre Tx Hgb

6.9

Target < 7 g/dL

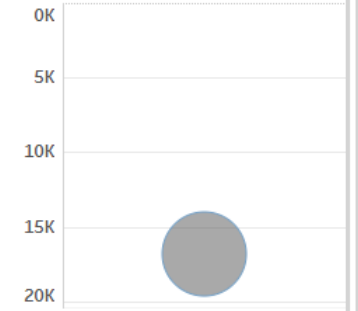


2025 Q3	6.9
2025 Q2	6.9
2025 Q1	6.9
2024 Q4	7.0

Tx'd Units

16822

No Target



2025 Q3	16277
2025 Q2	16739
2025 Q1	17282
2024 Q4	17228

Facilities: **All**
Specialties: **All**
Patient Types: **All**
Provider Groups: **All**
Providers: **All**

Sharing Transfusion Practice Data

Red Blood Cell Hemoglobin Facility Ranking (Rank 1-20)

% Single Unit Tx
81%
Target > 84%

% Hgb < 7
60%
Target > 77%

% Hgb ≥ 8
11%
Target < 5%

Avg Pre Tx Hgb
6.9
Target < 7 g/dL

Transfused Units
16,822
No Target

Date Range: **9/1/2025 - 11/30/2025**

Min Tx's 13 — 3,956

% HGB < 7 | % HGB ≥ 7 < 8 | % HGB ≥ 8

Facility	Tx'd Units	% SUT	% HGB < 7	% HGB ≥ 7 < 8	% HGB ≥ 8
Navicent Peach Medical Center	53	79%	94%	6%	
Floyd Cherokee Medical Center	13	70%	90%	10%	
Floyd Polk Medical Center	27	57%	87%	13%	
Navicent Baldwin	169	77%	87%	11%	
Atrium Kings Mountain	23	53%	85%	15%	
Navicent The Medical Center	2,072	85%	78%	17%	5%
Floyd Medical Center	681	84%	75%	20%	5%
Atrium University City	486	72%	72%	21%	7%
Wake Forest High Point	735	88%	68%	24%	7%
Atrium Lake Norman	114	69%	68%	25%	7%
Atrium Mercy	375	81%	64%	29%	7%
Atrium Union	424	73%	63%	31%	6%
Atrium Cleveland	496	74%	61%	32%	6%
Wake Forest Lexington	194	93%	61%	26%	13%
Atrium Cabarrus	1,512	79%	58%	30%	12%
Atrium Pineville	961	80%	58%	29%	13%
Wake Forest Davie Medical Center	54	92%	57%	38%	6%
Atrium Lincoln	291	59%	56%	35%	10%
Atrium Anson	42	68%	54%	31%	14%
Wake Forest Baptist	3,466	90%	54%	34%	12%
Atrium Union West	153	72%	53%	41%	7%
Wake Forest Wilkes	205	84%	51%	29%	20%
Atrium Carolinas Medical Center	3,956	75%	48%	36%	16%
Atrium Stanly	171	71%	47%	40%	13%
Atrium Levine Children's Hospital	149	61%	19%	12%	69%

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Anemia is NOT “Normal”: Empowering Nurses to Detect, Prevent, and Advocate

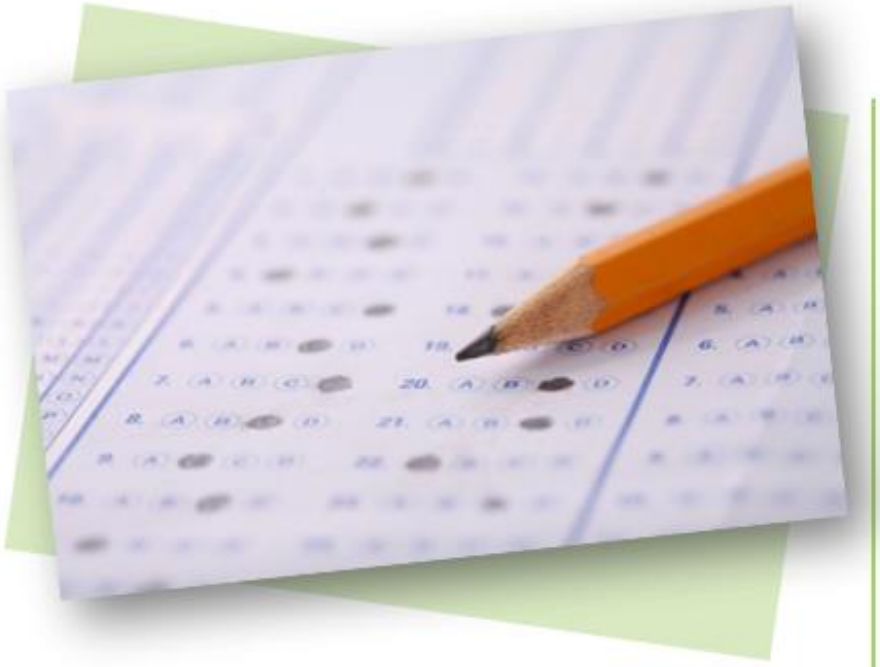
Chandler Purser, BSN, RN, BMTCN

Georgia Area

AUDIENCE POLL

At what hemoglobin level is anemia diagnosed?

- **7g/dL**
- **11g/dL**
- **13g/dL**
- **Unsure**



AUDIENCE POLL

At what hemoglobin level is anemia diagnosed?

Recent literature defines anemia as a hemoglobin **<13 g/dL** for **BOTH** men and women.

Lower values are often deemed "normal," but this is misleading and can be dangerous for patients, leading to suboptimal outcomes.

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SURVEY STUDY ON NURSES' UNDERSTANDING OF ANEMIA MANAGEMENT IN HOSPITALIZED PATIENTS

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BOBBI JO TUTTEROW, MSN, RN, LAURA YAU, MSN, RN, SHERRI OZAWA, MSN, RN

Nurses surveyed across the NC/GA Division overwhelmingly believe anemia negatively impacts patient outcomes, yet many feel that their teams only prioritize anemia in emergencies.

spitalized patients, contributing to adverse outcomes and increased healthcare costs. Nurses play a vital role in the multidisciplinary early. Limited research exists on nurses' knowledge and confidence in managing anemia. Understanding the nurse's knowledge of reness efforts.

outreach aimed to collect more comprehensive feedback, strengthen the reliability of results, and gain deeper insights into nurses' knowledge of anemia management in hospitalized patients.

A total of **1,236** nurses completed the survey.

8 out of 10 nurses believed that anemia **negatively** impacts patients' outcomes.

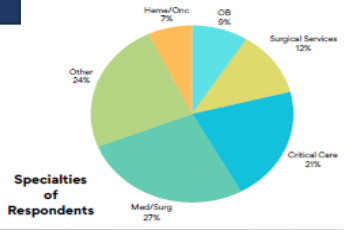
51% of nurses expressed high levels of familiarity with treatment options for anemic patients (aside from transfusions).

23% did **not** feel comfortable discussing additional anemia management options for hospitalized patients with their providers.

On average, surveyed nurses expressed feeling only **moderately confident** in recognizing signs and symptoms of anemia in patients.

88% When asked to identify which Hgb threshold **negatively** impacts patients' outcomes, **88%** of nurses chose a Hgb <7g/dL.

56% of nurses perceived that their multidisciplinary team **does not prioritize anemia** or its management except in emergency situations.



Comments revealed that anemia is typically addressed **only when hemoglobin levels drop below 7 g/dL**. Many respondents emphasized the need for **additional** education on anemia and its management.

CONCLUSION

Nursing professionals demonstrate differing levels of confidence in recognizing the signs, symptoms, and management of anemia. **This highlights the need for enhanced education across inpatient nursing divisions, particularly focusing on the relationship between hemoglobin levels and patient outcomes.** In conclusion, advancing education and prioritizing anemia management within multidisciplinary healthcare teams are **crucial** for **improving** the quality of care for hospitalized patients.

ACKNOWLEDGEMENTS

Thank you to the nursing staff of Mercy and Atrium Health for responding to this survey.

Mercy

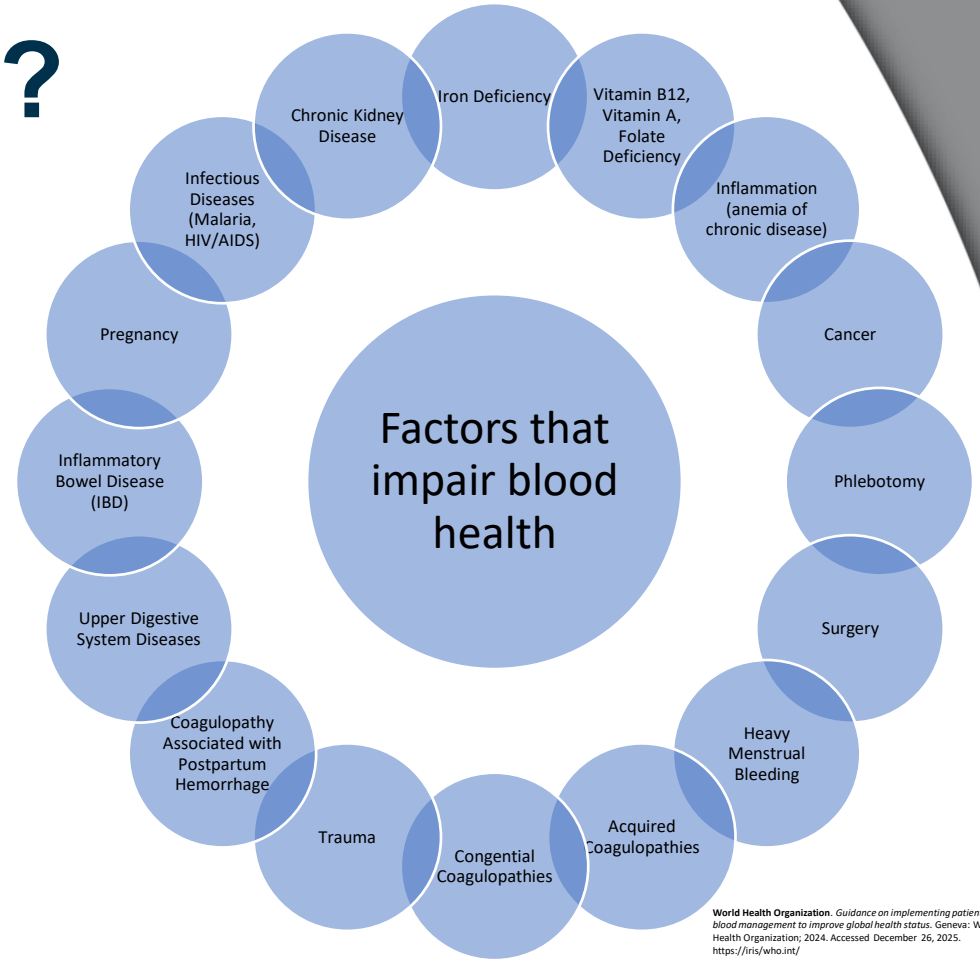
hc1 + ACCUMEN
Healthcare Progress Starts Here

Atrium Health

What i anemia?

- Low he ecreased oxyg es and org
- R s,
- er
- f

Between 35-75% of patients admitted to the hospital develop anemia during their stay, and the prevalence is up to 100% in patients with ICU stays of >7 days. Of those who are anemic when discharged, about half are still anemic up to 12 months later[1].



World Health Organization. *Guidance on implementing patient blood management to improve global health status*. Geneva: World Health Organization; 2024. Accessed December 26, 2025. https://iris/who.int/

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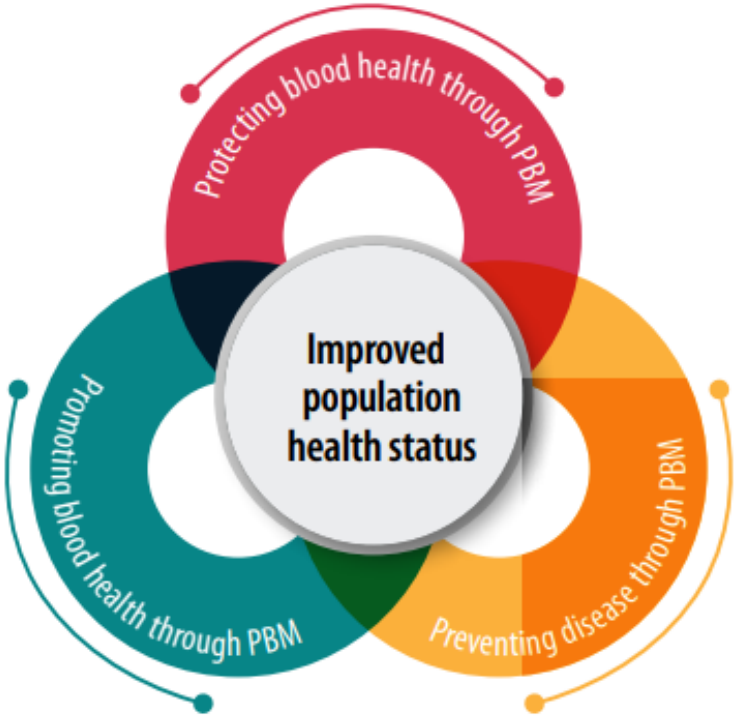
Blood Health…?

- Blood health is the optimal function of individual elements of blood and their associated interactions with all other organ systems.
- **Blood is an organ.**
- It is often treated or viewed as connective tissue, a commodity, a medicine, or a replacement fluid.
- Blood plays a pivotal role in overall human well-being.



Transfused patients may have **higher** hemoglobin but **worse** blood health.

World Health Organization. *Guidance on implementing patient blood management to improve global health status.* Geneva: World Health Organization; 2024. Accessed December 26, 2025. https://iris/who.int/

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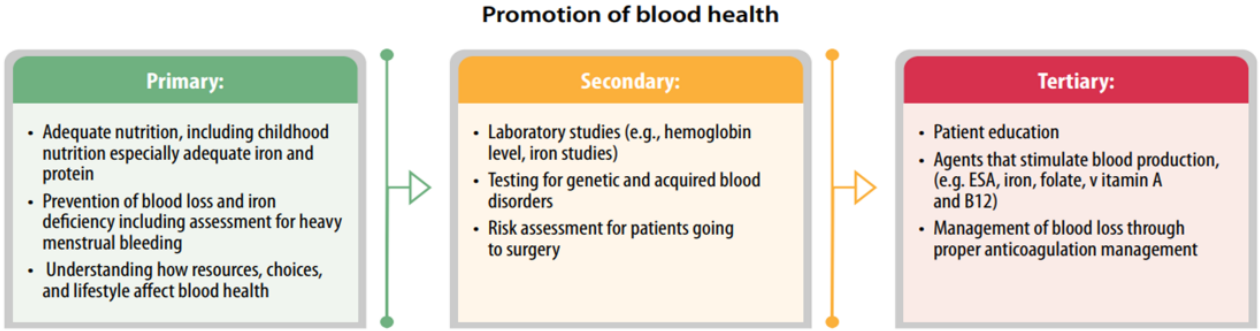
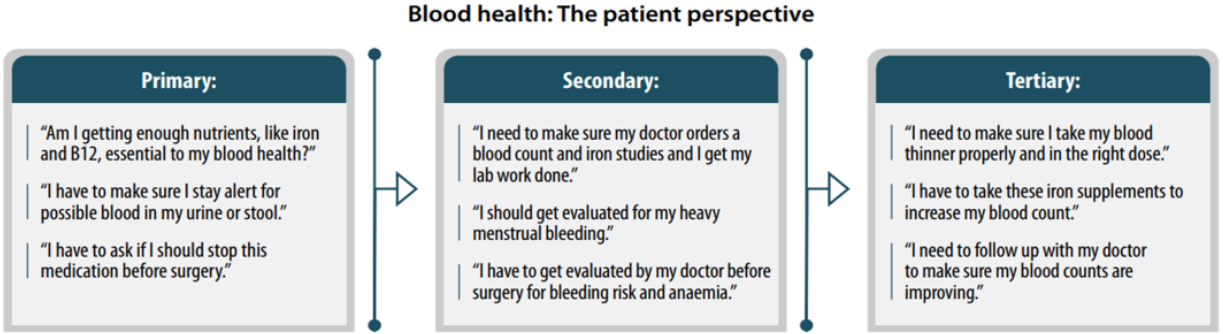
Public Health & Blood Health Promotion

World Health Organization





Ask yourself: does the current landscape of healthcare **effectively** promote blood health?

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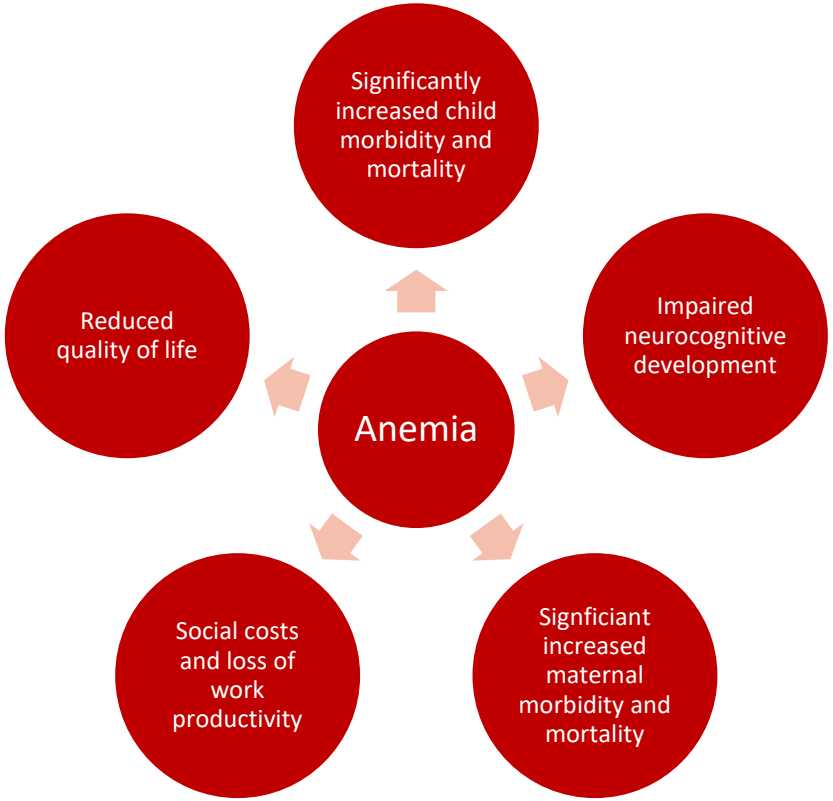
The Impact of *Poor* Blood Health



- **More than 3 billion individuals are affected by iron deficiency anemia, blood loss and coagulopathy[2].**
- This has profound macro-economic, public health and patient-level consequences[2].
- Impaired blood health has a **disproportionate impact** on women's health, maternal health, and fetal, neonatal, and children's health[2].
- Poor blood health during childhood and adolescence has many underrecognized consequences, and it exacerbates morbidities and comorbidities of older adults[2].
- **A transfusion is NOT a cure for anemia, and it does not improve overall blood health.**

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Anemia Should NOT be Normalized

- Anemia is common, but it is **NOT** benign.
  - Anemia is associated with **increased** morbidity, mortality, longer hospital stays, delayed healing, and higher healthcare costs.
- Anemia is a manifestation of an underlying disorder, **NOT** a diagnosis itself. Normalizing it risks missing treatable causes and perpetuating harm.

Even mild or asymptomatic anemia should be investigated and managed. Do not dismiss anemia as "normal."

So… anemia and poor blood health are bad, but as an RN, what can I do about it?

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Anemia Management
-Identify anemia and the type
-Manage symptoms
-Monitor hemoglobin response to treatment
-Prepare and monitor transfusion when indicated

Blood Health Promotion
-Prevent blood loss & iatrogenic anemia
-Support nutrition and hematopoiesis
-Reduce unnecessary transfusions
-Promote long-term self-management
-Support chronic disease control and equity

Nursing Impact Zone
-Patient education (cause, treatment, prevention)
-Lab and blood conservation
-Root-cause advocacy
-Transfusion stewardship and informed choice
-Monitoring response and preventing recurrence

The Core Relationship

Anemia management treats the problem; blood health promotion is about the overall well-being of an essential organ system.

Nurses operate in the space where both happen at the same time.

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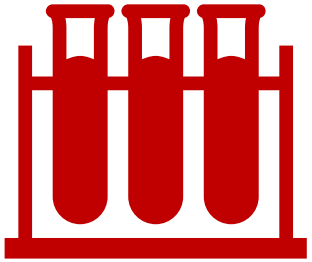
The Nurse's Role Blood Health & Anemia Management



Early detection & assessment

Patient advocacy

Education

Collaboration

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The Nurse's Role in Blood Health Promotion

INpatient Strategies

Prevent Iatrogenic Anemia
- Use pediatric/low volume tubes when possible
- Bundle lab draws; avoid unnecessary daily/serial labs
- Closed-loop sampling devices: implement devices that return waste blood to the patient, especially for arterial lines

Early Identification of Blood Disorders
- Monitor trends in labs rather than single values
- Assess for signs and symptoms of anemia, thrombocytopenia and coagulopathy
- Promptly escalate abnormalities to providers

Transfusion Safety and Stewardship
- Ensure evidence-based transfusion thresholds are followed
- Perform accurate patient identification and blood component verification
- Education and auditing: regularly train staff and audit practices to reinforce blood conservation.

Bleeding and Clot Prevention
- Assess anticoagulant use, bleeding risks, and fall risk
- Monitor surgical sites, drains, stool/urine for bleeding

Nutrition Support
- Collaborate with dieticians to support iron, B12, folate intake
- Ensure patients with anemia receive appropriate supplements
- Collaborate with interdisciplinary team to optimize blood health through pharmacologic modalities when patients aren't eating well

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The Nurse's Role in Blood Health Promotion

OUTpatient Strategies

Screening and Early Detection
- Encourage routine CBCs for high-risk groups (older adults, pregnant patients, those with CKD, women with heavy menstrual bleeding)
- Screen for anemia symptoms and work with surgeons/OB-GYN to optimize patients prior to procedures (or delay elective procedures until hemoglobin has improved)

Nutrition and Lifestyle Education
- Teach patients about iron-rich foods
- Encourage vitamin C with iron intake
- Educate on limiting substances that impair absorption (tea, calcium, PPIs)

Medication and Supplement Education
- Teach correct iron administration
- Monitor for side effects (constipation, GI upset, or nonadherence)

Chronic Disease Management
- Support patients with sickle cell disease, thalassemia, hemophilia, autoimmune disorders

Public Health and Advocacy
- Educate patients on recognizing bleeding, potential blood clot formation, and symptoms of anemia and emphasize reporting it to providers
- Address health disparities affecting anemia

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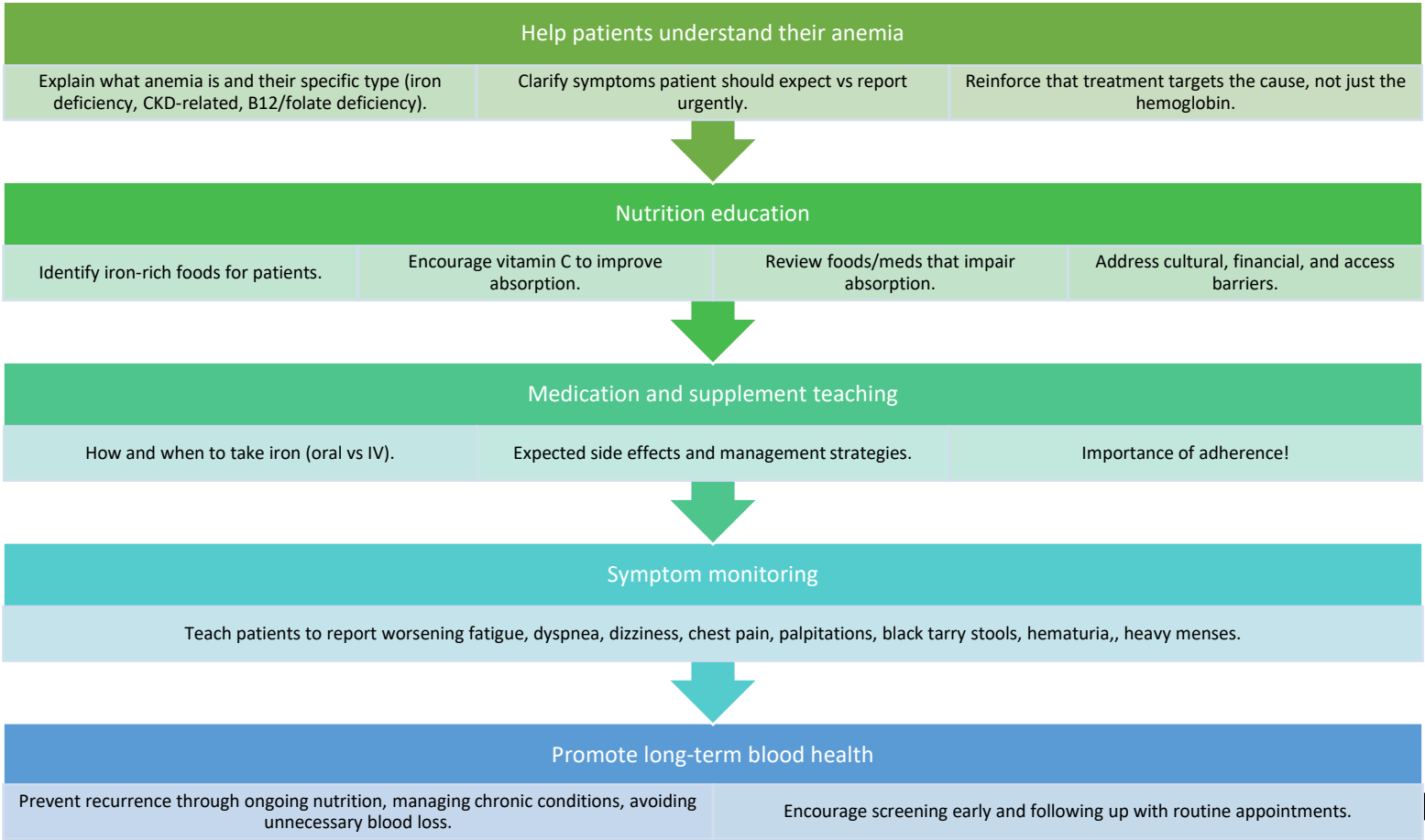
Anemia Management & Education

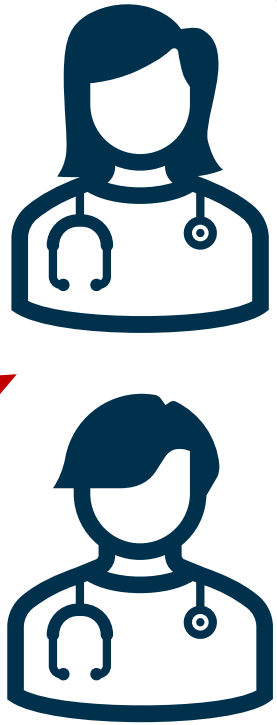


Nurses translate **anemia management** into **patient action**.

Education improves adherence, prevents recurrence, and reduces unnecessary transfusions.

TEHEALTH

- **Collaboration is key.**
- Discuss preferences and wishes with patients.
  - Ensure that providers have sufficiently explained the risks, benefits, and alternatives to patients during the informed consent process for blood components.
- Work with providers and multidisciplinary team to explore non-transfusion treatment options (PO/IV Iron, B12, folate supplementation, erythropoiesis-stimulating agents).
- Participate in Patient Blood Management (PBM) Committees and initiatives to improve practice and outcomes.



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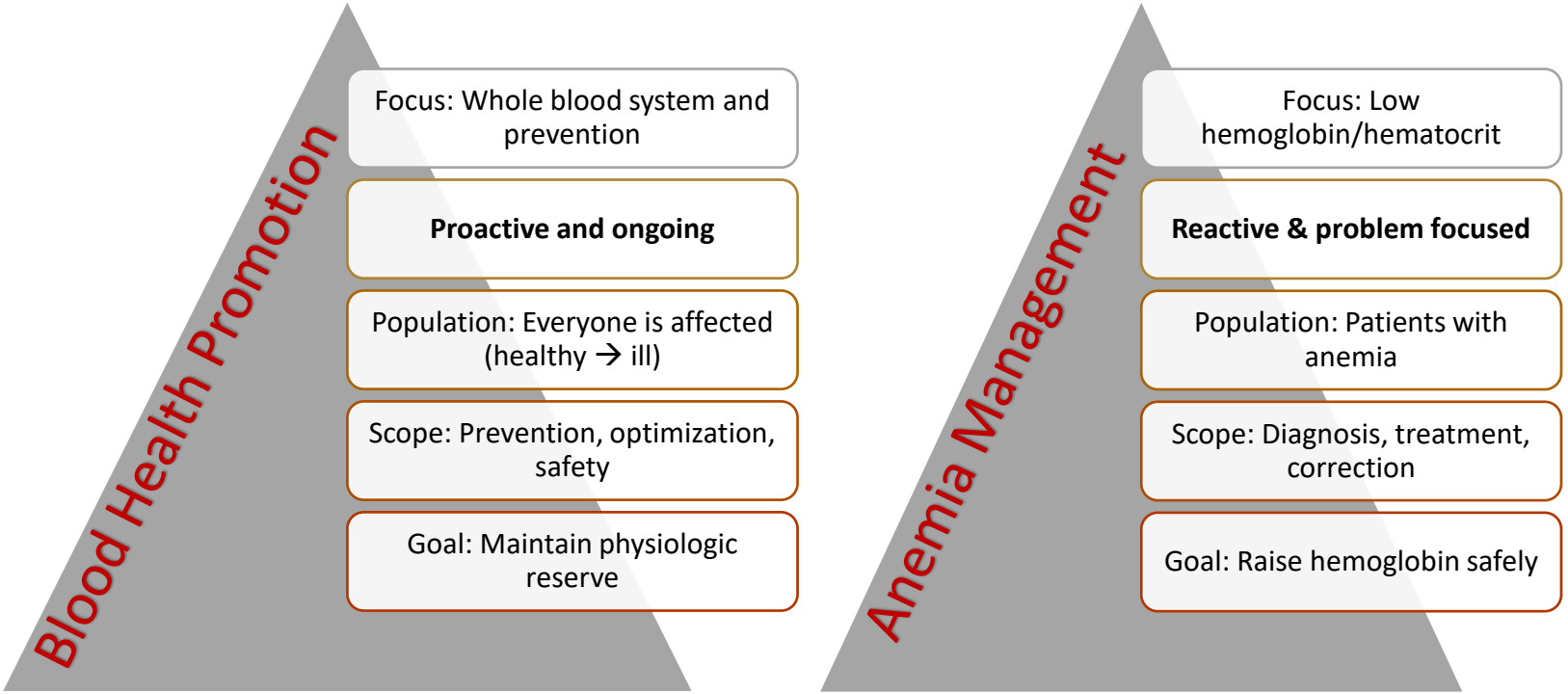
Big-Picture Difference



Both are essential!

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Practical Takeaways

You make a difference!

- Do **NOT** normalize anemia: investigate and treat even mild cases.
- Advocate for early detection and management: use evidence-based guidelines for anemia screening and treatment.
- Minimize iatrogenic anemia: reduce unnecessary blood draws, use of blood-sparing techniques, and educate the team.
- Empower patients: provide education, respect preferences, and ensure informed choice.
- Engage in PBM: participate in committees, policy development, and continuous improvement.

Healthier patients!

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1. **World Health Organization**. *The urgent need to implement patient blood management: Policy brief.* Geneva: World Health Organization; 2021. Accessed December 26, 2025. https://apps.who.int.iris/handle/10665/346655
2. **World Health Organization**. *Guidance on implementing patient blood management to improve global health status.* Geneva: World Health Organization; 2024. Accessed December 26, 2025. https://iris/who.int/

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Bloodless Medicine

Bobbi Jo Tutterow, MSN, RN

Wake Area

Jehovah’s Witness (JW)

Jehovah's Witnesses believe that a human must not sustain his life with another creature's blood, and they recognize no distinction "*between taking blood into the mouth and taking it into the blood vessels.*" It is their deep-seated religious conviction that Jehovah will turn his back on anyone who receives blood transfusions.

“Only flesh with its life, its blood, *you must not eat*.” Genesis 9:4

“Just be firmly resolved not to eat the blood, because the blood is the life, and you must not eat the life.” Deuteronomy 12:23

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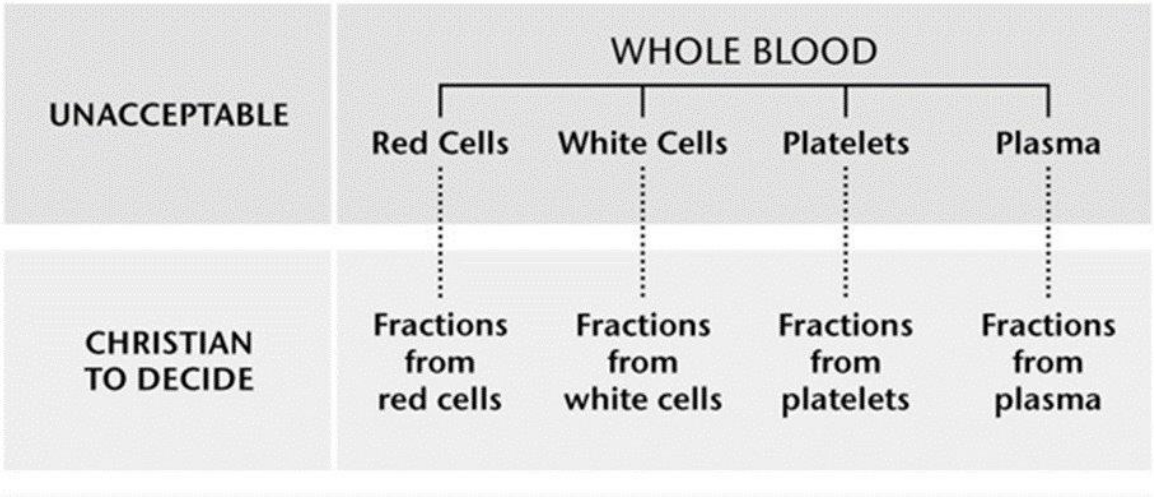
Unacceptable vs. Individual Decision



Clotting factors = proteins in the blood to control clotting (factors I,VIII, XIII

Blood fractions = proteins found in the blood plasma (anti-venoms; immune globulin)

Albumin = protein found in the plasma, produced in the liver

Healthcare Team Response

- Be prepared for the challenges of treating no blood patients
- Be aware of blood alternatives
- **Have respect for the patient's autonomy and human rights even if this amounts to death for lack of blood transfusion**

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Position on Medical Treatment

- They are cooperative with medical professionals
- It is not their intent to exercise the right to die
- All forms of medical treatment are acceptable with the exception of blood transfusions

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Common Theme for JW Patients

- Loss of confidence in the medical system
- Feelings of mistrust between the patient and the healthcare team
- Fear and anxiety
- Discord between patient and the healthcare team

Healthcare Team Response

"It may be tempting to engage a patient refusing blood in debate. However, this casts the clinician into an adversarial role … An alternate approach involves serving as the patient's advocate, with the focus on *finding the best possible therapy* within the boundaries of the patient's religious beliefs and comfort zone (i.e., values and preferences)."

(Crookston, 2013)

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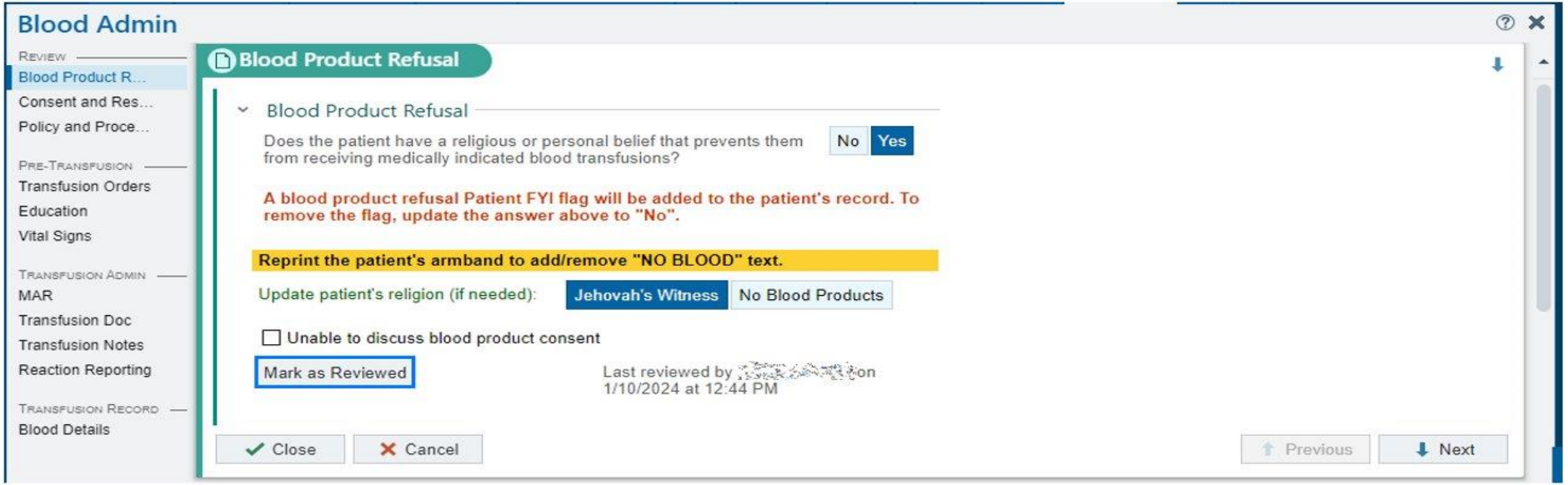
Documenting Patient's Wishes Regarding Blood Products

NOTE: This is not the patient's consent for blood. This is intended to be documented/reviewed every visit and allows for the healthcare team to be aware of the patient's wishes across encounters.



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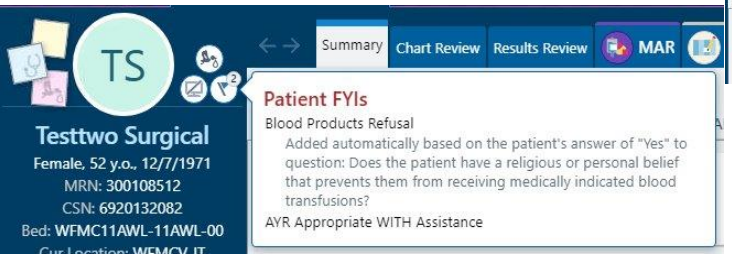
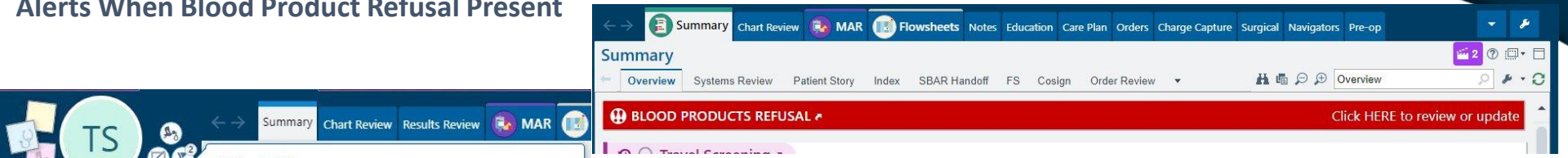
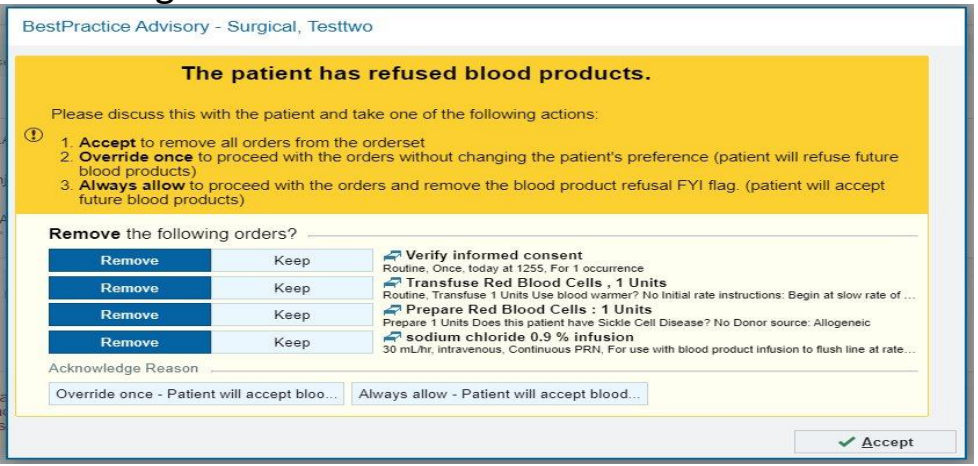
Alerts When Blood Product Refusal Present



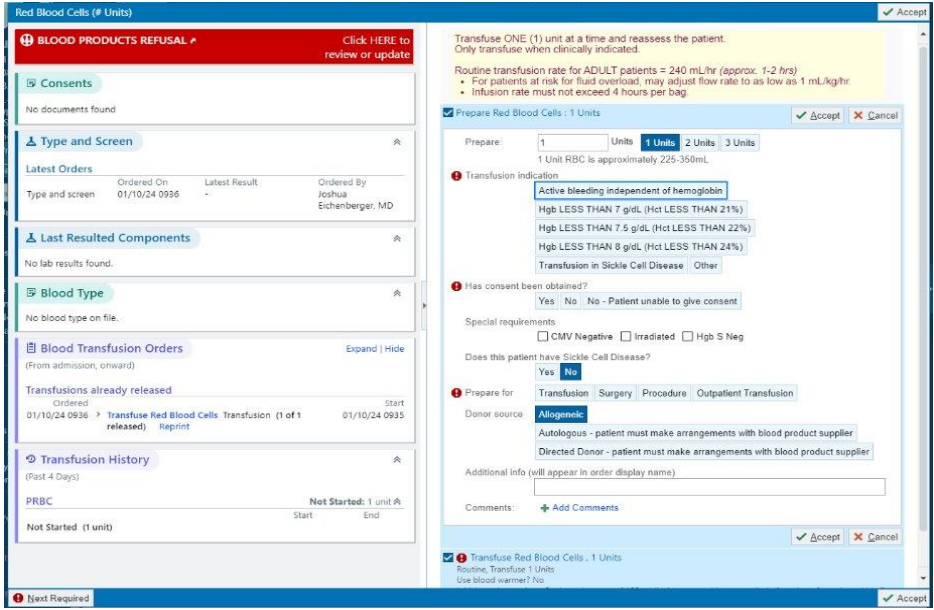
FYI Flag “Blood Products Refusal”



Banner near top of Patient Summary “Overview”



BPA when attempted to order blood product(s)



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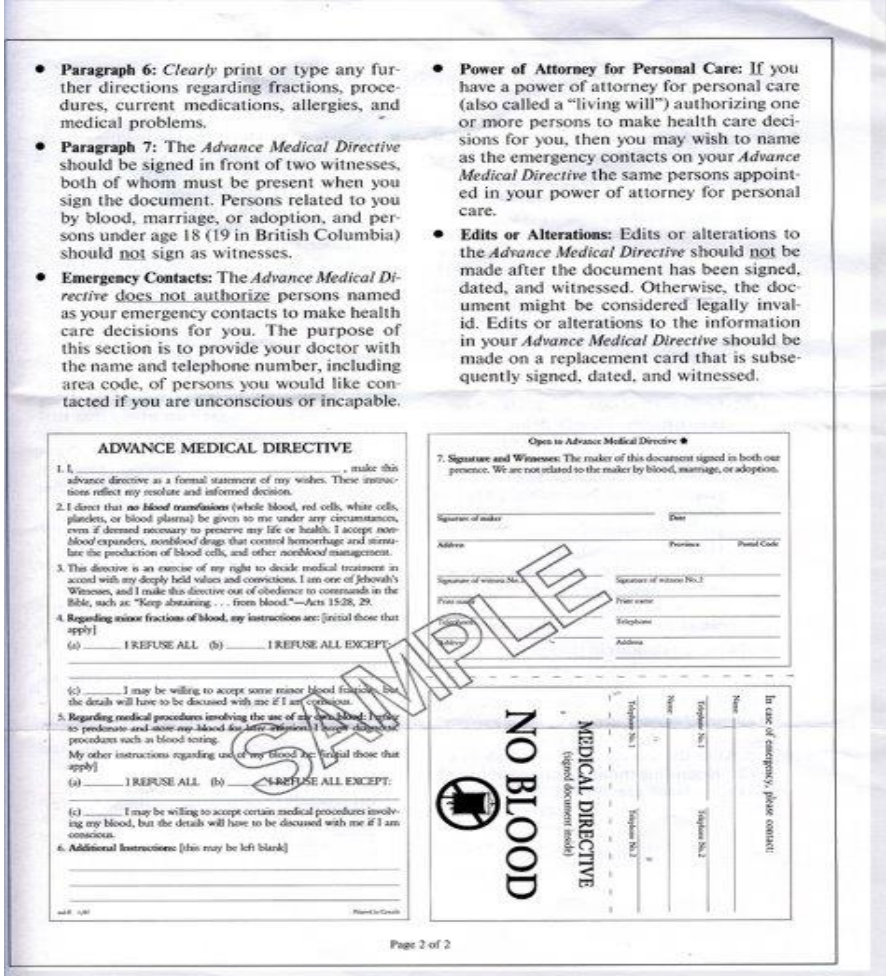
“No Blood” Card

“I direct that no blood transfusions (whole blood, red cells, white cells, platelets or plasma) be given to me under any circumstance, ***even if deemed necessary to preserve my life or health...”***



- **Paragraph 6:** *Clearly* print or type any further directions regarding fractions, procedures, current medications, allergies, and medical problems.
- **Paragraph 7:** The *Advance Medical Directive* should be signed in front of two witnesses, both of whom must be present when you sign the document. Persons related to you by blood, marriage, or adoption, and persons under age 18 (19 in British Columbia) should not sign as witnesses.
- **Emergency Contacts:** The *Advance Medical Directive* does not authorize persons named as your emergency contacts to make health care decisions for you. The purpose of this section is to provide your doctor with the name and telephone number, including area code, of persons you would like contacted if you are unconscious or incapable.
- **Power of Attorney for Personal Care:** If you have a power of attorney for personal care (also called a “living will”) authorizing one or more persons to make health care decisions for you, then you may wish to name as the emergency contacts on your *Advance Medical Directive* the same persons appointed in your power of attorney for personal care.
- **Edits or Alterations:** Edits or alterations to the *Advance Medical Directive* should not be made after the document has been signed, dated, and witnessed. Otherwise, the document might be considered legally invalid. Edits or alterations to the information in your *Advance Medical Directive* should be made on a replacement card that is subsequently signed, dated, and witnessed.

ADVANCE MEDICAL DIRECTIVE

1. I, _____, make this advance directive as a formal statement of my wishes. These instructions reflect my resolute and informed decision.
2. I direct that **no blood transfusions** (whole blood, red cells, white cells, platelets, or blood plasma) be given to me under any circumstances, even if deemed necessary to preserve my life or health. I accept non-blood expanders, nonblood drugs that control hemorrhage and stimulate the production of blood cells, and other nonblood management.
3. This directive is an exercise of my right to decide medical treatment in accord with my deeply held values and convictions. I am one of Jehovah's Witnesses, and I make this directive out of obedience to commands in the Bible, such as: “Keep abstaining . . . from blood.”—Acts 15:28, 29.
4. **Regarding minor fractions of blood, my instructions are:** [initial those that apply]
(a) _____ I REFUSE ALL (b) _____ I REFUSE ALL EXCEPT: _____
(c) _____ I may be willing to accept some minor blood fractions. But the details will have to be discussed with me if I am conscious.
5. **Regarding medical procedures involving the use of my own blood:** Purging as predonate and store my blood for later treatment. I accept diagnostic procedures such as blood testing.
My other instructions regarding use of my blood are: [initial those that apply]
(a) _____ I REFUSE ALL (b) _____ I REFUSE ALL EXCEPT: _____
(c) _____ I may be willing to accept certain medical procedures involving my blood, but the details will have to be discussed with me if I am conscious.
6. **Additional Instructions:** [this may be left blank]

Open to Advance Medical Directive ●

7. **Signature and Witnesses:** The maker of this document signed in both our presence. We are not related to the maker by blood, marriage, or adoption.

Signature of maker _____ Date _____
Address _____ Province _____ Postal Code _____
Signature of witness No.1 _____ Signature of witness No.2 _____
Print name _____ Print name _____
Telephone _____ Telephone _____
Address _____ Address _____

NO BLOOD
MEDICAL DIRECTIVE
(signed document inside)

In case of emergency, please contact:
Name _____ Telephone No.1 _____ Telephone No.2 _____
Name _____ Telephone No.1 _____ Telephone No.2 _____

SAMPLE

Page 2 of 2

ADVOCATE HEALTH

Major Components			**Red Blood Cells** Cells that transport oxygen from the lungs to the body cells ***Must complete Blood Transfusion Consent form if patient accepts RBC.**
			Fresh Plasma Liquid part of blood made of water, ions, sugar, hormones and protein ***Must complete Blood Transfusion Consent form if patient accepts fresh plasma.**
			Platelets Cells that prevent blood loss by stopping the bleeding at the site of injury ***Must complete Blood Transfusion Consent form if patient accepts platelets**
	Accept	Refuse	
Plasma Derived Proteins			**Albumin** Protein extracted from plasma. Used as a blood volume expander. Also used i medications such as erythropoietin and neupogen. ***Examples: 5% and 25% Albumin*** **Clotting Factors** Various proteins extracted from plasma used to stop active bleeding. ***Exampl prothrombin complex concentrate (FEIBA), prothrombin complex concentrat (Kcentra), Recombinant fibrigen (Riastap), factor VIIa (Novoseven), cryoprecipitate*** **Immunoglobulins** Proteins extracted from plasma used to provide immunity, improve immune response to infections and Rh incompatibility (RhoGam). ***Examples: Rh Immu globulin***
			Platelet Gel Autologous Platelet rich plasma, centrifuged from the patient's blood and applied to surg sites to reduce bleeding and enhance healing. **Sealants** Proteins from plasma. Used to stop bleeding. ***Examples: pharmacy carries topical recombinant thrombin (Recothrom), WF stock Tisseel, Gel foam, BioGlue,*** *Fibrin Glue, and Autologous Platelet Gel.*
	Accept	Refuse	
White Blood Cell Derived Proteins	Accept	Refuse	**Interferon** Protein extracted from white blood cells. Used for cancer treatments and vira infections. *Examples:* ***Interferon alfa-2b (Intron A)***
Equipment and Procedures			**Cell Salvage (saver)** Patient's shed blood is retrieved, filtered and returned in a closed loop proces generally during a surgical procedure.

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Equipment and Procedures		**Epidural Blood Patch** Patient's blood is removed from the vein and injected into spinal membrane to seal a spinal leak.
		Heart-Lung Machine Patient's blood is directed to a cardiopulmonary bypass pump that oxygenates and returns the blood during cardiovascular surgery. **Hemodilution (ANH)** Specific amounts of patient's blood is removed at initiation of surgery and replaced with intravenous fluids. Blood is then returned in a closed loop process at the end of the procedure.

Patient or Legal Representative Signature:_____Date: _____Time:_____am pm

Witness Signature:_____Date: _____Time:_____am pm
(*Witness only needed if patient unable to sign)

I have personally explained the above information to the patient or the patient's legal representative:

Reviewer Signature: _____Date:_____Time: _____am pm

Interpreter Signature / ID #:_____Date:_____Time: _____am pm

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Nursing's Role in Safe Transfusion Practice

Beth Halperin, BSN, RN

Illinois and Wisconsin Division

From *'Notes on Nursing'*

"Let whoever is in charge keep this simple question in her head:

Not, how can I always do this right thing myself, but how can I provide for this right thing to be always done?"

Florence Nightingale, 1859

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High Reliability Organizations

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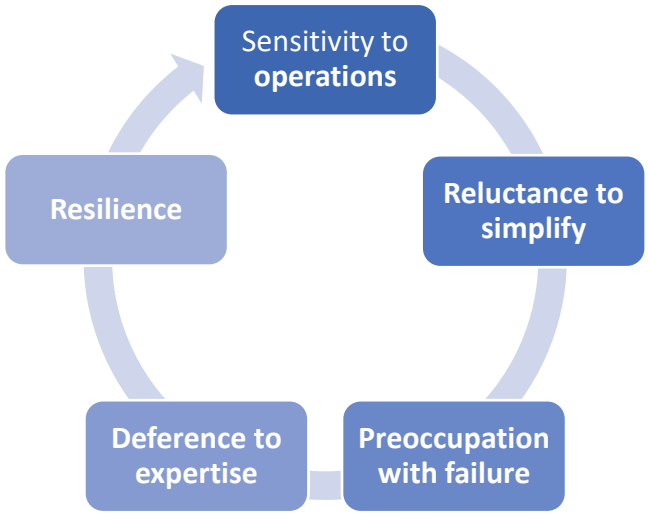
HRO's Create Safety

- These organizations perform risky, dangerous, complex tasks every day in difficult, unforgiving environments
- Manage to do so safely – almost all the time – without hurting anyone, or failing operationally
- Share five characteristics or organizational values
    - •Sensitivity to operations
    - •Reluctance to simplify
    - •Preoccupation with failure
    - •Deference to expertise
    - •Resilience



Both Nursing Leaders and Direct Care Nurses Create Safety

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Last Chance to Prevent Error

Pre-transfusion testing → Medical Decision to Transfuse → Dispense the correct product from the Blood Bank → Safe Administration at the bedside

- The players: Lab, Physician, Transfusion Service, Nursing
- **The Nurse at the bedside is the last link in the Transfusion Process**
  - The last chance to create safety:
    - Catch errors / wrong transfusions
    - Detect Transfusion Reactions

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The Leadership Cascade: Creating Clarity about the Mission

Nursing Leadership's Role

What HRO Leaders Think	What You See and Hear
Challenge the status quo	"We can do better – act on knowledge
Inspire a shared vision; communicate it	"It's not just a transfusion…it's a transplant" "Seven is the new ten, one is the new two"
Build teams; enable others to act	"We are in this together" "How do we get the message across in this unit?"
Model the way, walk the talk	"Transfusion safety is job one and I expect us to act that way"
Encourage their people with visible signs of support; advocate for their teams	If challenged: "My teams put transfusion safety first" Remove obstacles; challenge others to join in the 'we can do better' movement

The Leadership Jigsaw

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Direct Care Nurses

- Nurses must receive the same educational message physicians receive
- Nursing must support and participate in the development of Patient Blood Management Committees
- Provide input on policies and procedures that address blood product transfusions administration and signs and symptoms of transfusion reaction.
- Build accountability by audits of nursing transfusion practice

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Acting on Knowledge

- A nurse working on a medical surgical unit was caring for a 50 year old man who had been admitted for a suspected pneumonia
- The physician wrote an order for 2 units of packed red cells
- *“He doesn’t look like a 7 to me”*
- Checked the labs – Hgb was 11 grams
- Called the physician to check the order
- Physician agreed – ‘cancel the transfusion’

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Final thoughts…

- Start with ‘why’: Communicate the link between blood product use and Patient Safety
- Nurses should receive the same educational message as physicians
- Communicate the message everywhere – make the message easy to remember
- Nursing leadership should support the direct care nurse’s role in safe transfusion practice

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Claiming Credit

1. Text code GULNUY to (414) 219-1219

2. You will also receive a reminder email within 24 hours with instructions on how to claim your credit

3. To fully claim credit, go to “MY ACTIVITIES/Pending Activities” tab to complete evaluation and/or assessment

Texting the code alone will not give your credit. You will need to go online.

Please direct any related IPCE questions to cme@aah.org

ADVOCATE HEALTH

Nursing Grand Rounds

February 19th 2026

3-4 pm Central
4-5 pm Eastern

Sponsored by Enterprise NGR Committee & System Nursing Research

Elevating CPR Mastery Using RQI Approach

Presenters:

Julia Reynolds, MSN, RN, NE-BC
Advocate Center for Life Support Education

Kelley Sava, MS, APN, CPNP-PC
Advocate Simulation Program

Steven Cuzmenco, MSN, RN, NPD-BC, CCRN-CMC, CV-BC
Advocate Center for Life Support Education

Overview:

In the United States, only 25% of patients survive an in-hospital cardiac arrest. High-quality CPR is the single highest determinant of survival from cardiac arrest. Resuscitation Quality Improvement (RQI) methodology offers a new standard of care that shifts resuscitation practice from course completion to everyday competence. This program will feature experts who will share details about how they are improving care and outcomes across the enterprise.

Scan here to register and receive an email with calendar invite **or** join day of

Registration on the CE Learning Platform: **Click here to Register**

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