American Red Cross

Empower GROUP O CARE

O+ O-

David C. Mair MD

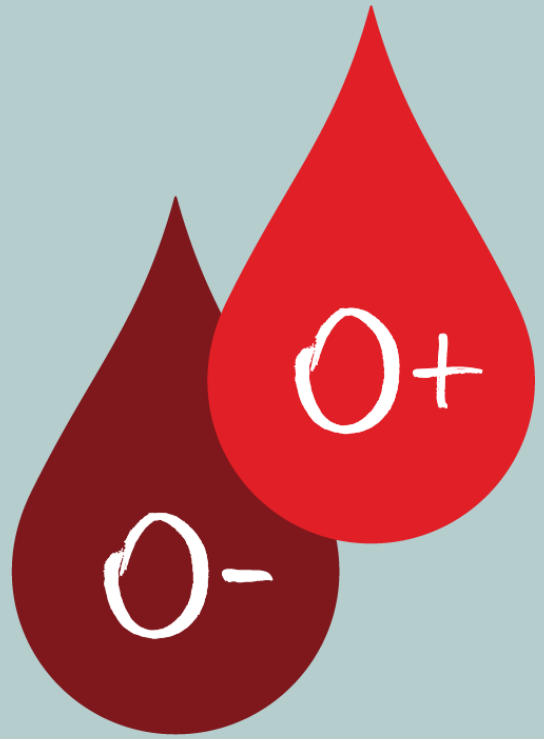
American Red Cross

American Red Cross

Empower GROUP O CARE

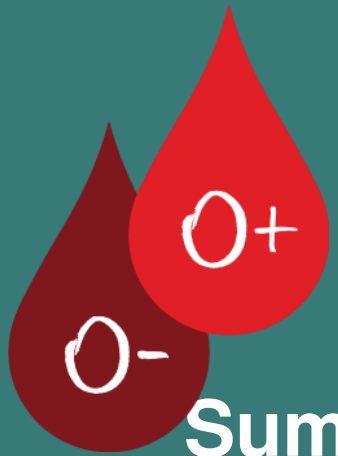
A Program designed to **strengthen blood supply resiliency by advancing sustainable stewardship practices**.

Through education and awareness, we promote responsible use of O-negative and O-positive blood to ensure these vital resources are readily available for patients when needed.



Purpose:

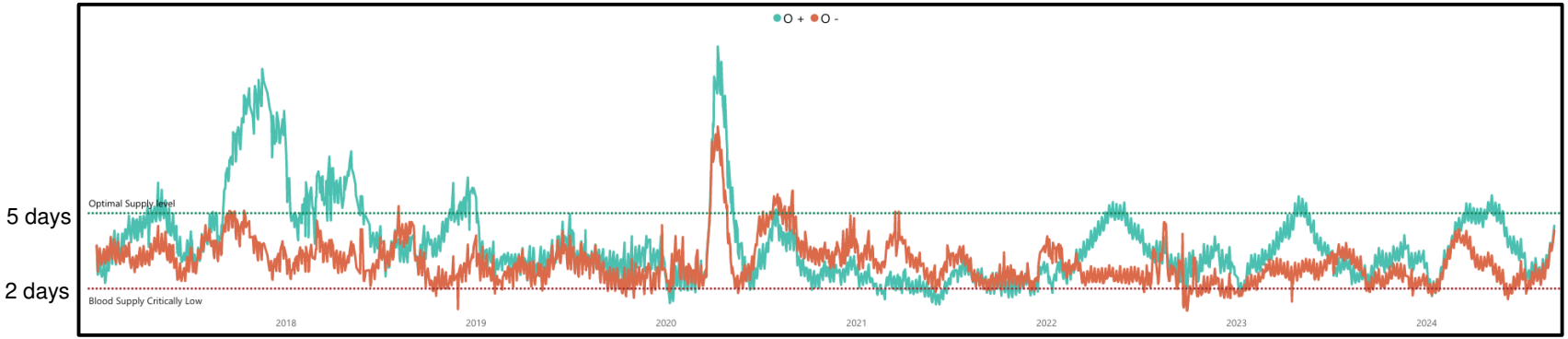
- ***Summarize*** national trends in supply and hospital utilization of O negative red blood cells
- ***Examine*** O negative overuse as a contributor to O negative shortages
- ***Review*** industry guidance on use of Group O red blood cells
- ***Discuss*** strategies hospitals can employ to reduce overutilization of O negative red blood cells
  - Explain the safety of using O positive units for O negative patients
  - Kn**O**w Where Your **O**'s G**O**
- ***Describe*** efforts by the American Red Cross to stabilize O negative red blood cell supply
  - We want to partner with you

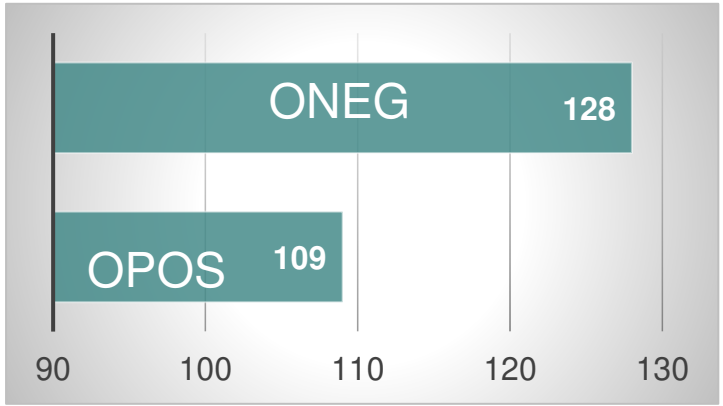


Summarize national trends in supply & hospital utilization of O-neg red blood cells (RBCs)

Rationale For Change

O- Shortages are More Common than O+





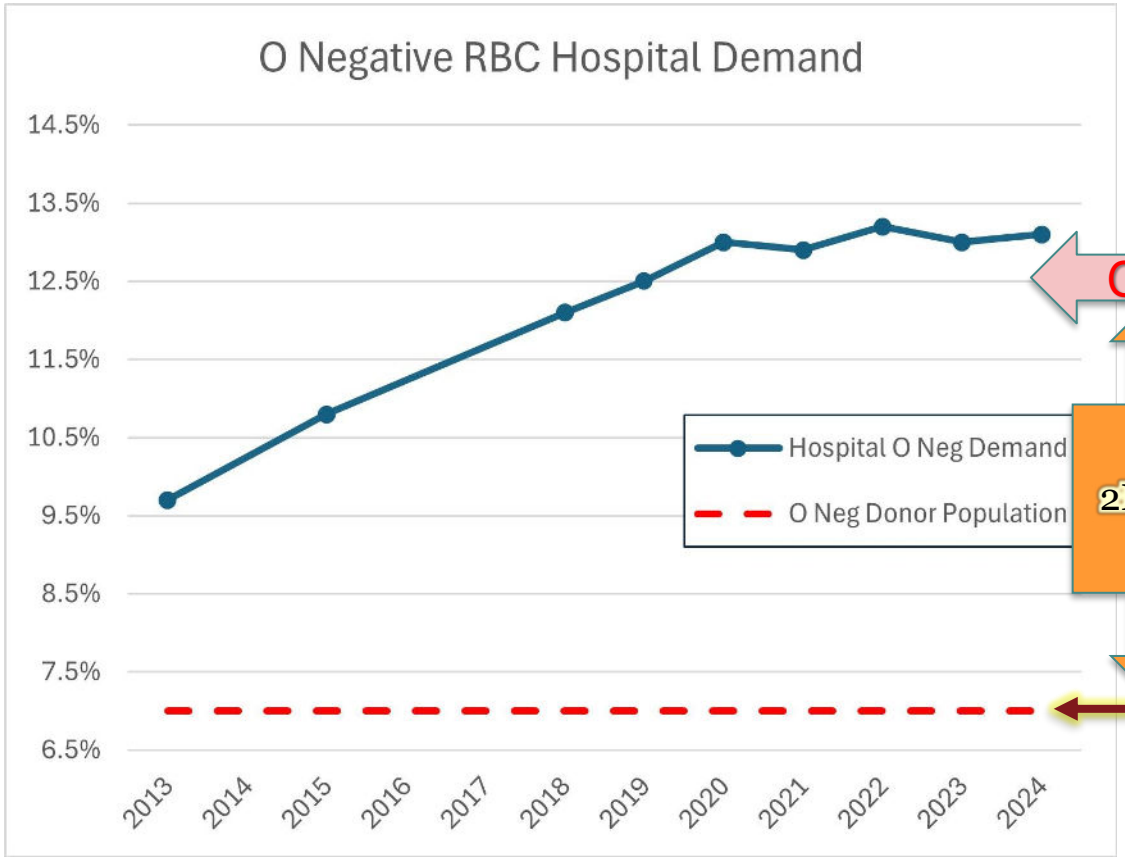
Days Spent in Critical Shortage (2017-2024)

- **O negative supplies have not experienced optimal levels since 2021, an anomaly associated with strong donor turnout during the pandemic**

AABB weekly-blood-supply-report 9/5/24

Red Cross O Negative Hospital Demand

Steadily Increasing Over the Past Decade



Avg O negative **patient population** is **6.9%**

Collections @ 12.5%

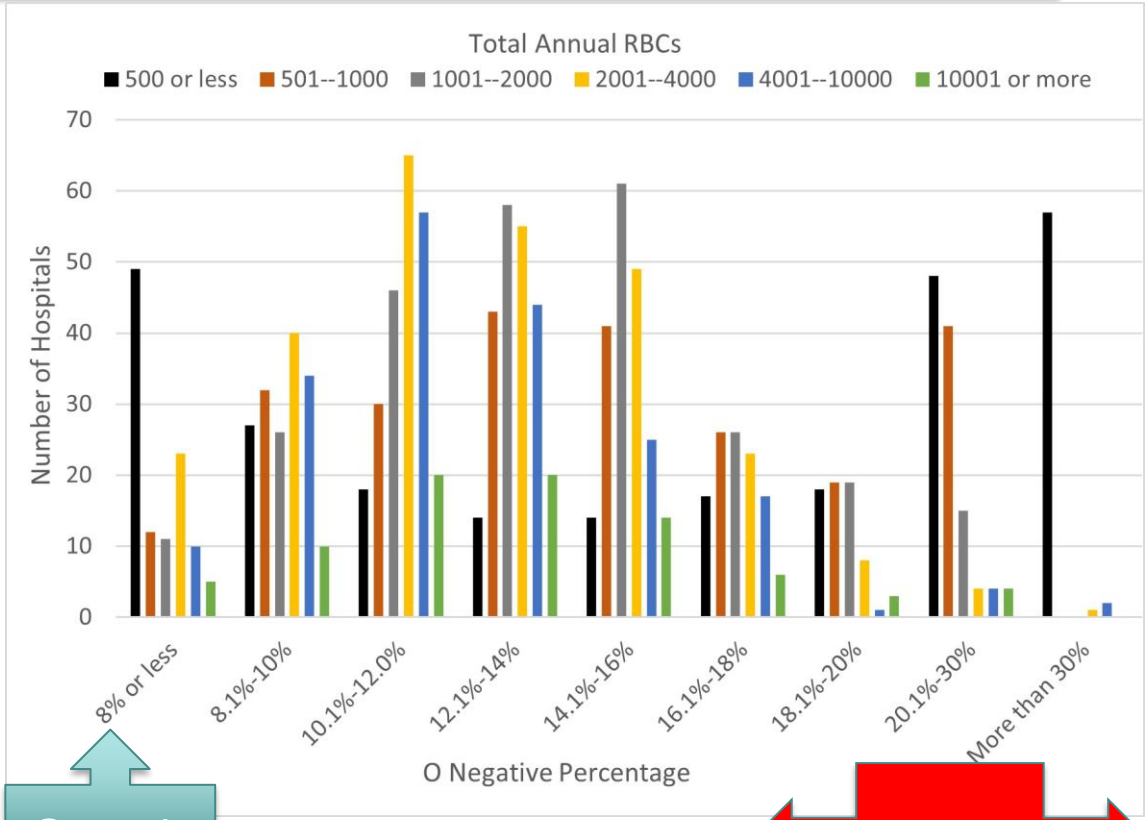
2RBC

12-month O negative **distributions** are **13.2%**

Resulting in near constant **O negative shortage**

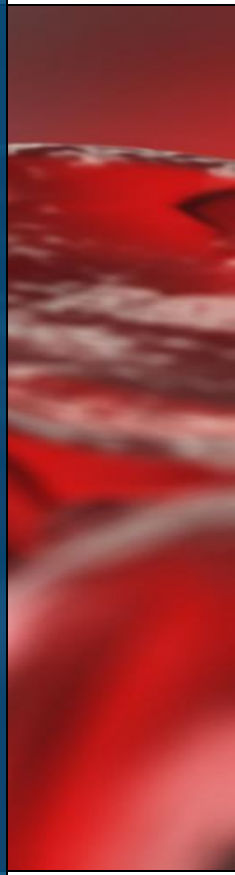
O Negative Distributions

- **ARC data shows that significant variation**
  - **Whether analyzed by hospital size, hospital type (trauma, pediatrics, general hospital, etc.)**
  - **We always find some hospitals with low O negative utilization rates (less than 8%!), some with high rates**



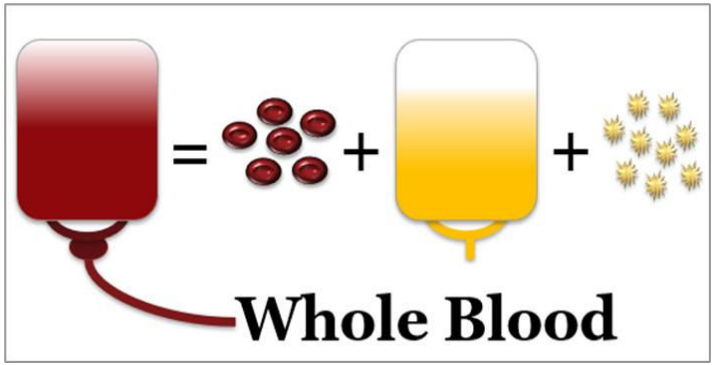
American Red Cross

Cold-Stored Low Titer O Whole Blood



What is LTOWB?

- LTOWB is whole blood product collected from a single group O donor
- Allows transfusion of all components simultaneously to one patient
- Primary indication is for treatment of **bleeding emergencies in adult trauma patients**



LTOWB

- Blood inventory challenges at a forward operating base

Source: U.S. Air Force photo by Staff Sergeant Christopher Boitz

Source: U.S. Air Force photo by Senior Airman Sandra Welch

Early success of DC Fire and EMS Whole Blood program saves lives

September 26, 2024 Iain Hoey

DC Whole Blood program achieves 91.8% survival rate for non-cardiac arrest patients

'It's going to save lives' | Grady EMS now performing blood transfusions in the field

Grady EMS Quick Response Vehicles started carrying donor blood on March 17.

American Red Cross

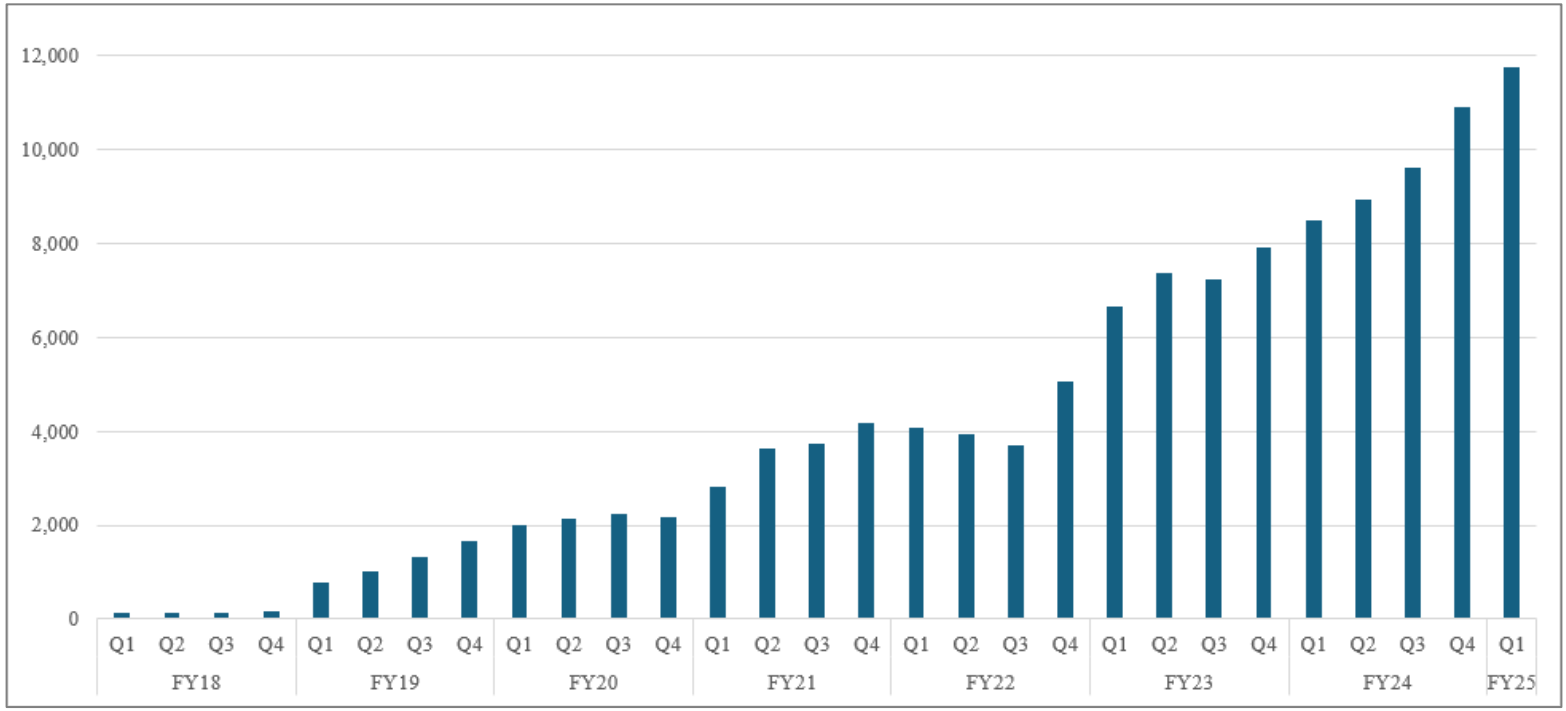
https://fireandsafetyjournalamericas.com/early-success-of-dc-fire-and-ems-whole-blood-program-saves-lives/

https://www.11alive.com/article/news/local/grady-ems-now-performing-blood-transfusions-in-the-field/85-f8be7e72-539c-4ced-8f77-e4d1df611009

Specifications for LTOWB

- Group O positive
- 500 ml, collected in CPD
- TRALI mitigated, aspirin-free donors
- Cold-stored at 1-6°C without agitation
- 21-day shelf life, 5 days fresh
- Low-titer for anti-A and anti-B (1:200)
- Leukoreduced with platelet-sparing filter
- TRALI mitigated from aspirin-free donor

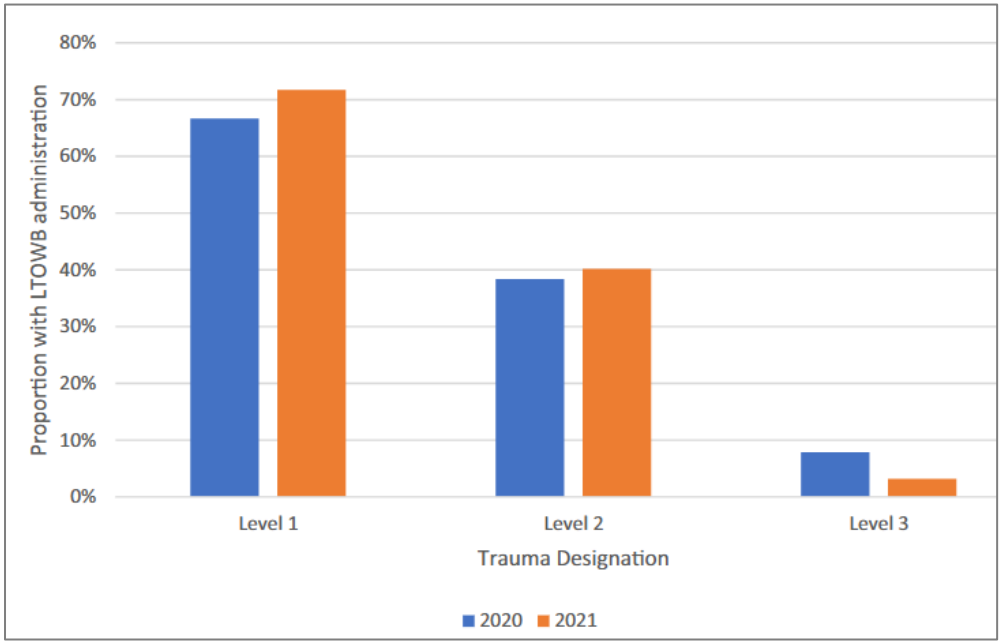
LTOWB Distributions Over Time



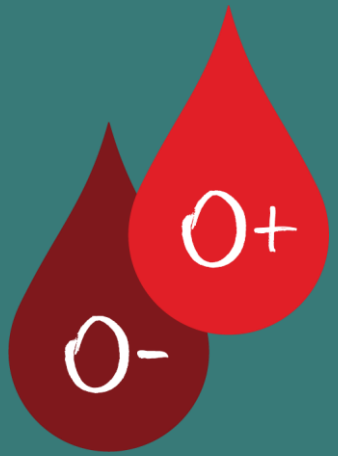
American Red Cross

LTOWB Growth

- In 2021, 72% of Level I trauma centers and 40% of Level II Trauma centers reported LTOWB administration
  - American College of Surgeons Trauma Quality Improvement Program (TQIP) database



Schauer SG, et al. A survey of low titer O whole blood use within the trauma quality improvement program registry. Transfusion. 2024;64:S85–S92.



Examine O-neg overuse as a contributor to O-neg shortages

Examining O Negative Overuse

Recent studies indicate a shortage of O negative blood product, stems from **significant overuse** when the type was not required for transfusion.

GROUP Study[1]: 43.2% O negative units given to non-O negative recipients.

Stanford Study[2]: 67% O negative units transfused to non-O negative recipients.

Optimus Study[3]: 44.5% O negative transfusions could have used O positive.

GROUP Study attributes top reasons for overuse to:

- emergency transfusion
- unit near expiration
- meet antigen negative requirement

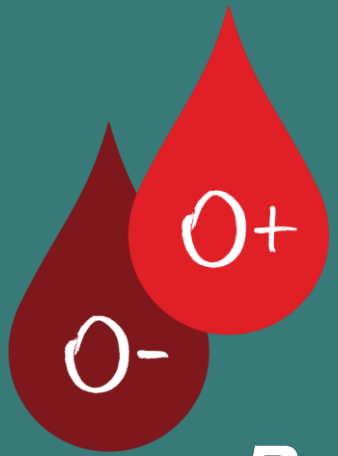
1. Zeller MP, Barty R, Aandahl A, et al. An international investigation into O red blood cell unit administration in hospitals: the Group O Utilization Patterns (GROUP) study. Transfusion2017;57:2329-37
2. Virk MS, et al. Optimizing O-negative RBC utilization using a data-driven approach. Transfusion. 60:4. Apr 2020: 739-746.
3. Dunbar NM, Yazer MH, for the BEST Collaborative. O– product transfusion, inventory management, and utilization during shortage: The OPTIMUS study. Transfusion 2018;58: 1348-55.

Summary on O Negative Overuse

- O negative red blood cells are in **chronic short supply** **and must be reserved for O negative patients.**
  - **Especially ♀ of Child Bearing Potential (CBP)**
- Less than **7% of the population is O negative** and declining as the U.S. population becomes increasingly more diverse
- The **demand for O negative blood is nearly double the patient population**

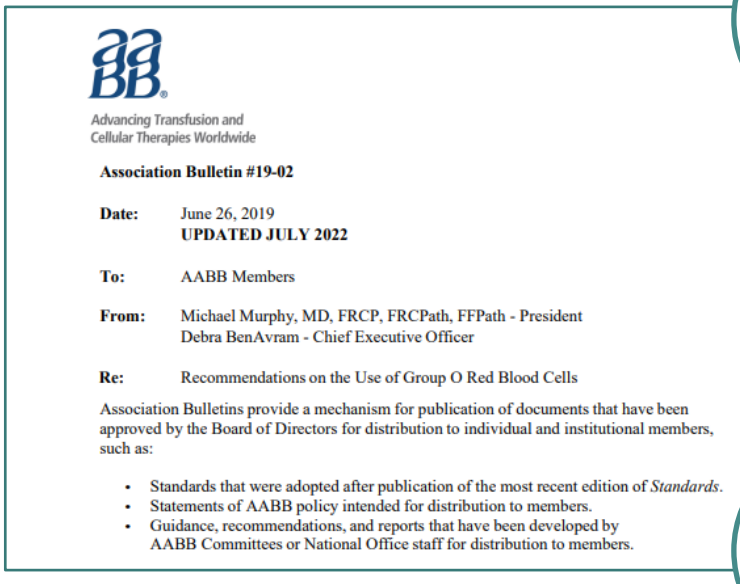
Unsustainable !

O negative Patient & Donor



Review industry guidance on use of Group O red blood cells

AABB Best Practice Guidelines- Key Recommendations for TS



Advancing Transfusion and Cellular Therapies Worldwide

Association Bulletin #19-02

Date: June 26, 2019
UPDATED JULY 2022

To: AABB Members

From: Michael Murphy, MD, FRCP, FRCPath, FFPath - President
Debra BenAvram - Chief Executive Officer

Re: Recommendations on the Use of Group O Red Blood Cells

Association Bulletins provide a mechanism for publication of documents that have been approved by the Board of Directors for distribution to individual and institutional members, such as:

- Standards that were adopted after publication of the most recent edition of *Standards*.
- Statements of AABB policy intended for distribution to members.
- Guidance, recommendations, and reports that have been developed by AABB Committees or National Office staff for distribution to members.

O-neg RBCs should be reserved for 3 cohorts of females of CBP

1. Group O Rh(D)-negative,

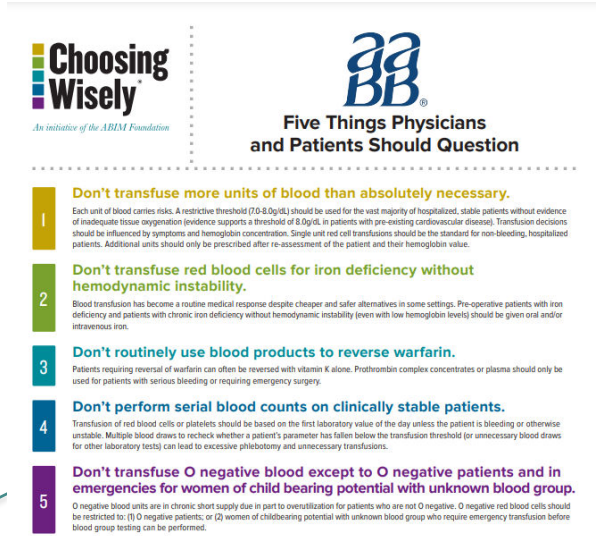
2. Rh(D)- negative requiring transfusion when type-specific blood is unavailable

3. Unk. blood type who require RBCs before completion of pretransfusion testing

https://www.aabb.org/docs/default-source/default-document-library/resources/association-bulletins/ab19-02.pdf

Choose Wisely Campaign

The American Board of Internal Medicine's *Choosing Wisely* campaign incorporated AABB recommendations on O negative use. The campaign was designed to help physicians and patients engage in conversations to reduce the overuse of tests and procedures.



Choosing Wisely
An initiative of the ABIM Foundation

AABB
Five Things Physicians and Patients Should Question

1 **Don't transfuse more units of blood than absolutely necessary.**
Each unit of blood carries risks. A restrictive threshold (7.0-8.0g/dL) should be used for the vast majority of hospitalized, stable patients without evidence of inadequate tissue oxygenation (evidence supports a threshold of 8.0g/dL in patients with pre-existing cardiovascular disease). Transfusion decisions should be influenced by symptoms and hemoglobin concentration. Single unit red cell transfusions should be the standard for non-bleeding, hospitalized patients. Additional units should only be prescribed after re-assessment of the patient and their hemoglobin value.

2 **Don't transfuse red blood cells for iron deficiency without hemodynamic instability.**
Blood transfusion has become a routine medical response despite cheaper and safer alternatives in some settings. Pre-operative patients with iron deficiency and patients with chronic iron deficiency without hemodynamic instability (even with low hemoglobin levels) should be given oral and/or intravenous iron.

3 **Don't routinely use blood products to reverse warfarin.**
Patients requiring reversal of warfarin can often be reversed with vitamin K alone. Prothrombin complex concentrates or plasma should only be used for patients with serious bleeding or requiring emergency surgery.

4 **Don't perform serial blood counts on clinically stable patients.**
Transfusion of red blood cells or platelets should be based on the first laboratory value of the day unless the patient is bleeding or otherwise unstable. Multiple blood draws to recheck whether a patient's parameter has fallen below the transfusion threshold (or unnecessary blood draws for other laboratory tests) can lead to excessive phlebotomy and unnecessary transfusions.

5 **Don't transfuse O negative blood except to O negative patients and in emergencies for women of child bearing potential with unknown blood group.**
O negative blood units are in chronic short supply due in part to overutilization for patients who are not O negative. O negative red blood cells should be restricted to: (1) O negative patients; or (2) women of childbearing potential with unknown blood group who require emergency transfusion before blood group testing can be performed.

5

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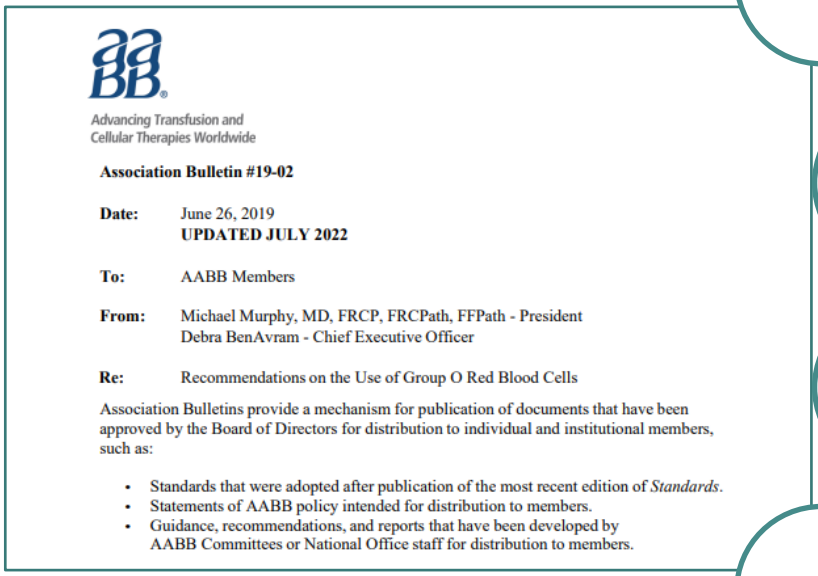
AABB Best Practice Guidelines



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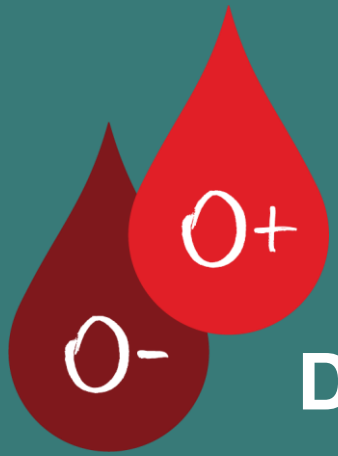
- Hospital transfusion services should closely monitor utilization of O neg inventory,
- Develop policies when to switch to Rh(D)-positive RBCs
- Protocols for expeditious sample collection to switch to type-specific blood
- Policies using Rh+ RBCs during times of critical inventory levels

https://www.aabb.org/docs/default-source/default-document-library/resources/association-bulletins/ab19-02.pdf



Discuss strategies hospitals can employ to reduce overutilization of O negative red blood cells

Is it safe to use O Positive in an emergency?

Evidence supports that administering Rh positive red blood cells or whole blood in emergencies is low risk.

- **Alloimmunization is a risk with any transfusion, even with O negative blood**
- Most patients are Rh positive (85% and increasing)
- In the 15% of patients who are Rh negative, risk of anti-D alloimmunization after Rh positive transfusion is 21-26%[1]
  - Risk is even lower (less than 10%) in immunocompromised marrow and solid organ transplant patients[1]
  - Overall risk of anti-D alloimmunization when using O positive for emergencies is between 3% and 6%, as most patients are Rh positive[1]
- Evidence supports exposure to greater number of Rh-positive units does not increase alloimmunization risk[2]

1. https://www.aabb.org/docs/default-source/default-document-library/resources/association-bulletins/ab19-02.pdf
2. Seheult JN, et al. Rate of D-alloimmunization in trauma does not depend on the number of RhD-positive units transfused: The BEST collaborative study. Transfusion. 2022;62:S135-S192.
3. Selleng K, et al. Emergency transfusion of patients with unknown blood type with blood group O Rhesus D positive red blood cell concentrates: a prospective, single-centre, observational study. Lancet Haematol. 2017 May;4(5):e218-e224.

What if the patient already has anti-D?

- Risk of non-ABO hemolytic reaction after an emergency uncrossmatched transfusion is **very low**
- Non-ABO hemolytic reactions may occur **even with O negative red blood cells** (anti-Jka, anti-K, etc.)
- IgG anti-D causes ***extravascular*** hemolysis, which is usually **mild**

Study	Number of Recipients	Number of Uncrossmatched Erythrocyte Units Issued	Rate of Hemolysis	Rate of New Antibody Formation
Mulay, 2012[17]	1,407	4,144	1/1,407 (0.02%)	7/232* (3%)
Radkay, 2012[6]	218	1,065	1/218 (0.5%)	4/218 (1.8%)
Miraflor, 2011[15]	132	1,570	1/132 (0.8%)	1/132
Goodell, 2010[18]	262	1,002	1/262 (0.4%)	Not reported
Ball, 2009[19]	153	511	0	Not reported
Dutton, 2005[14]	161	581	0	1/161 (0.6%)
Unkle, 1991[20]	135	Not reported	0	3/135 (2.2%)
Lefebre, 1987[21]	133	537	0	Not reported
Schwab, 1986[22]	99	410	0	Not reported
Gervin, 1984[23]	160	875	0	Not reported
Blumberg, 1978[24]	46	221	0	Not reported
Total	2,906	10,916	4/2,906 (0.1%)	16/878 (1.8%)

Incidence of hemolysis and alloimmunization after emergency-release uncrossmatched blood transfusion in civilian centers.
* Denominator includes only patients with a subsequent antibody screen available.

Boisen ML, Collins RA, Yazer MH, Waters JH. Pretransfusion Testing and Transfusion of Uncrossmatched Erythrocytes. **Anesthesiology. 122(1):191-195, January 2015**.

Liver Transplants Protective against Anti-D

TABLE 2 Studies investigating anti-D formation in RhD-negative patients, who underwent liver transplantation and who were transfused with RhD-positive RBCs.

Year of publication	Country	No of patients with follow-up of at least 1 month	No of patients with anti-D	Immunosuppression	Ref.
1989	USA	19	3[a]	cyclosporine, corticosteroids, ALG[b], OKT3	9
1991	Sweden	3	0	not specified	26
1994	Spain	17	0	cyclosporine, corticosteroids, ALG, OKT3	10
2008	USA	15	0	MMF[c], tacrolimus, sirolimus, corticosteroids	11
2016	France	22	2[d]	tacrolimus, basiliximab, cyclosporine, MMF, corticosteroids	13
2020	India	21	0	MMF, tacrolimus, corticosteroids	12
2022	USA	19[e]	0	ATG[f], basiliximab, tacrolimus, MMF, corticosteroids	7
2022	USA	17	0	ATG, basiliximab, tacrolimus, MMF, corticosteroids	14
2024	USA	16[g]	0	ATG, basiliximab, tacrolimus, MMF, cyclosporine, corticosteroids, azathioprine	21
2024	Germany	30	2[e]	basiliximab, tacrolimus, corticosteroids	Our study

[a]Two presumably pre-existing boosted anti-D, no further information about the third patient. Anti-D occurred in patients after LT. Number of patients who underwent other organ transplantations was not specified.
[b]Rabbit antilymphocyte globulin.
[c]Mycophenolate mofetil.
[d]Transient anti-D.
[e]No clear information about the timeline of antibody screening testing after transfusion.
[f]Antithymocyte globulin.
[g]Six further patients underwent other or multiorgan transplantation.

Arora, K., Kelley, J., Sui, D., Ning, J., Martinez, F., Lichtiger, B. and Tholpady, A. (2017), Cancer type predicts alloimmunization following RhD-incompatible RBC transfusions. Transfusion, 57: 952-958.

Certain Hematologic Malignancies??Protective?? against Anti-D

TABLE 2. Univariate logistic regression results

Variable	No. (%) Total, N = 545	Nonresponders, N = 469	Responders, N = 76	OR	95% CI	p value*
Diagnosis†						
Acute leukemia	137 (25.14)	128 (93.43)	9 (6.57)			
Myeloproliferative neoplasms	22 (4.04)	21 (95.45)	1 (4.55)	0.68	0.01-5.36	1.0000
Plasma cell disorders/myeloma	30 (5.50)	25 (83.33)	5 (16.67)	2.71	0.66-9.93	0.1792
Lymphomas	91 (16.70)	90 (98.90)	1 (1.10)	0.16	0.00-1.18	0.0868
Carcinomas, melanomas, sarcomas	235 (43.12)	182 (77.45)	53 (22.55)	4.13	1.93-9.87	< 0.0001
MDS	30 (5.50)	23 (76.67)	7 (23.33)	4.28	1.22-14.4	0.0216

* The overall p value for diagnosis is 0.0009.
† Exact logistic regression models.

Arora, K., Kelley, J., Sui, D., Ning, J., Martinez, F., Lichtiger, B. and Tholpady, A. (2017), Cancer type predicts alloimmunization following RhD-incompatible RBC transfusions. Transfusion, 57: 952-958.

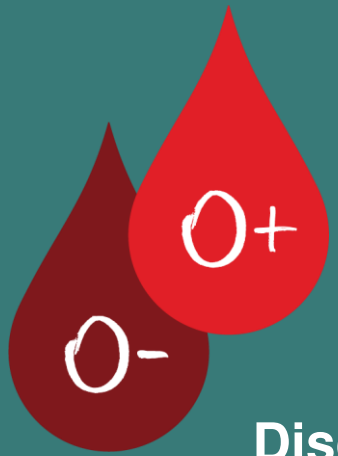
What about Females of Childbearing Potential?

Addressing concerns for potential risk of Hemolytic Disease of the Fetus and Newborn (HDFN) with future pregnancy

The risk of fatal HDFN after Rh positive transfusion in an RhD negative female of childbearing potential has been estimated to be ~0.3%

Developing policies to follow up and educate Rh negative females of childbearing potential after Rh positive transfusions can help to ensure proper care for future pregnancies

- Yazer MH,, et al. It is time to reconsider the risks of transfusing RhD negative females of childbearing potential with RhD positive red blood cells in bleeding emergencies. Transfusion. 2019;59:3794–9.
- Malone JR. Ethical considerations in the use of RhD-positive blood products in trauma. Transfusion. 2024;64:S4–S1.

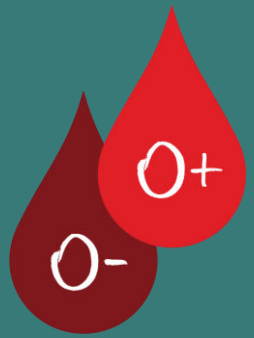


Discuss strategies hospitals can employ to reduce overutilization of O negative red blood cells:

KnOw Where Your O's GO

O Negative Tip: Know Where Your Os Go

Benchmark data are not widely available to guide hospitals in what is appropriate group O Rh(D)-negative usage.



Hospitals should routinely conduct group O audits to better understand usage patterns, identify potential overutilization of Group O blood and develop policies for appropriate usage for their institution.

How to Perform an O Negative Audit

Start by evaluating all O negative units transfused to non-O negative patients during a defined timeframe that makes sense for your hospital.

How many units were transfused to non-O negative recipients?

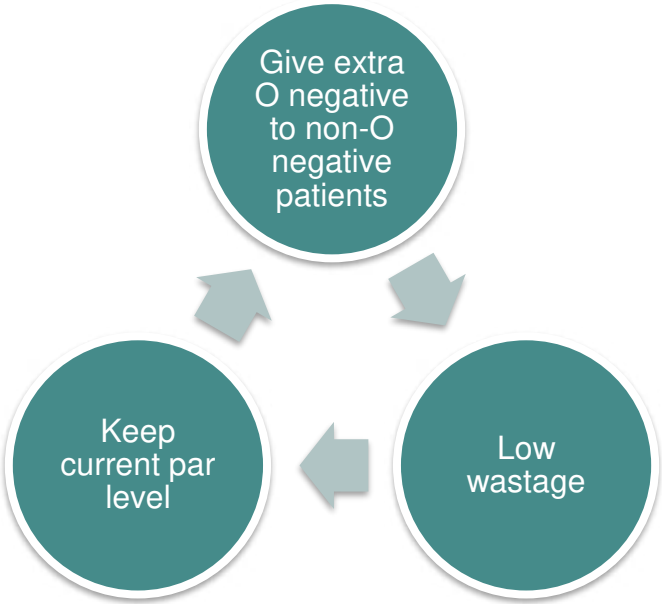
Were there any situations where another type could have been used?

O Negative Tip: Know Where Your Os Go

O negative audits are a great way to better understand utilization patterns and identify potential ways to reduce O negative rates

- **Low O negative expiration rates do not tell the whole story**
  - Routinely transfusing non-O negative patients with short-dated O negative units is a form of wastage

Cycle of Overutilization



1. Optimizing O-negative RBC utilization using a data-driven approach. Transfusion. 60:4. Apr 2020: 739-746.
2. Hirani R, Wong J, Diaz P, et al. A national review of the clinical use of group O D– red blood cell units. Transfusion 2017;57:1254-61.

PATIENT BLOOD MANAGEMENT

Optimizing O-negative RBC utilization using a data-driven approach

Mrigender S. Virk[1,2] *David Lancaster,*[3] *Thinh Quach,*[2] *Albert Lim,*[2] *Elaine Shu,*[3] *Geoffrey Belanger,*[3] *and Tho D. Pham*[1,2,3]

TRANSFUSION 2020;60;739–746

The study found that shorter dated O negative units were more likely to be given to non-O negative recipients.

- Number of units transfused later in shelf-life correlated with inappropriate O negative RBC usage (O negative into Non-O negative patients = ONiNON)
- Gradually reducing O negative inventory levels successfully reduced late and inappropriate O negative transfusions
- O negative patients were not impacted
  - No increase in ad-hoc O negative orders

PATIENT BLOOD MANAGEMENT

Optimizing O-negative RBC utilization using a data-driven approach

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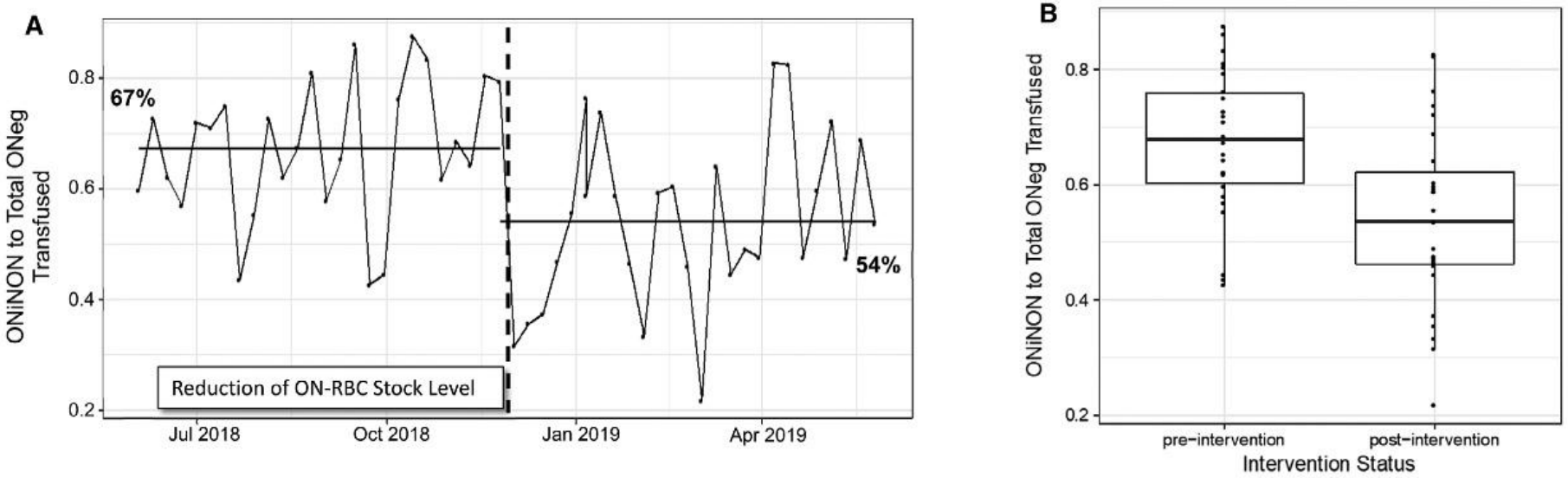


Fig. 4. Change in percent of O-neg RBCs transfused to non-O-neg patients (ONiNON) pre and post intervention. (A) line graph with weekly average points, (B) box-whisker plot representation. 67% versus 54%, p = 0.00352, Wilcox rank sum test.

O Negative Transfers

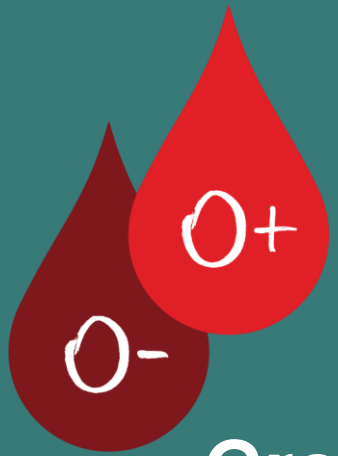
Short date transfers can be another source of wastage.

- Transferring short-dated units to a hospital partner that is more likely to be able to use them may be a good stewardship practice *in some cases*
- High transfer rates may also contribute to high wastage rates at the transfer partner if they can't be used for O negative patients
- Transfers should not be considered a substitute for right-sizing O negative inventory

Expand your audit to include O negative transfers and whether they were transfused to O negative patients at the receiving hospital

Common O Negative Audit Findings

O Negative Transfusions	Potential Intervention
Emergency/MTP: Female of childbearing potential with unknown blood type	None needed
Routine: O Negative patient, Rh negative patient	None needed
Emergency/MTP: Male or female beyond childbearing potential with unknown blood type	1. Does your hospital have SOPs that allow use of O positive for these patients? • If so, are staff on all shifts familiar with the policies? 2. Sample SOPs are available by request
Routine: Non-O Negative patient, unit nearing expiration	O⊖ par level/inventory level may be too high: consider gradually ⇓ O⊖ orders & monitoring
Routine: Non-O negative patient, clinical physician required O negative unit	Physician education is needed. We can help provide journal articles, AABB best practice guidelines, or educational presentations by request



Group O Red Blood Cell Supply is a shared responsibility

What are we (ARC)doing about this?

Group O Red Blood Cell Supply Initiative

a shared responsibility

Fixed Site Expansion

- Donors have confirmed a preference for fixed site collections over mobiles.
- Enhanced capacity to meet type-specific product goals, through improved collections predictability.

Donor Recruitment and Retention

- Increased donor satisfaction, frequency, and retention through improved drive predictability, & site comfort.

Find New & Innovative Ways to Touch Donors

STYLE The New York Times

Want This Snoopy T-Shirt? You'll Have to Pay in Blood.

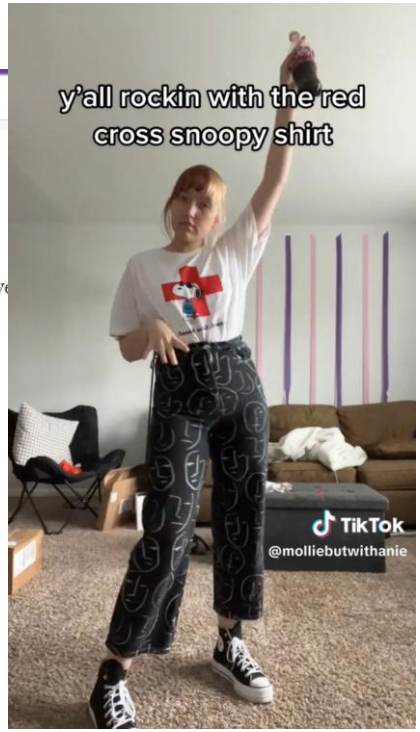
The Red Cross teamed up with "Peanuts" for an April blood drive and a T-shirt promoting the campaign has become an unexpectedly hot commodity online.

Give this article

"I was like, I need this shirt," she said.

Cristina Perez, a college student in Pennsylvania, was one of many social media users who booked a blood-donation appointment after seeing the tie-in T-shirt in an online video.


By Callie Holtermann and Madison Malone Kircher



American Red Cross

Group O Red Blood Cell Supply Initiative

a shared responsibility

Power Red Growth

- Optimizing the number of units collected at each donation.
- Attracting right type donors,
  - 2RBC donations are ideal for A negative B negative & Group O donors.
  - Offsets a declining and changing donor base.

Diverse Donor Initiatives

- As the population in the United States changes, the Red Cross is building a more diverse blood supply through outreach and engagement
  - (e.g. Black/African American and Latino Community.)
- Provide more type-specific antigen-negative units.

Group O Red Blood Cell Supply Initiative

a shared responsibility

- Fixed Site Expansion
- Power Red Growth
- Diverse Donor Initiatives
- Donor Recruitment and Retention
- Reliable Distribution Targets
- Hospital Education

Group O Red Blood Cell Supply Initiative

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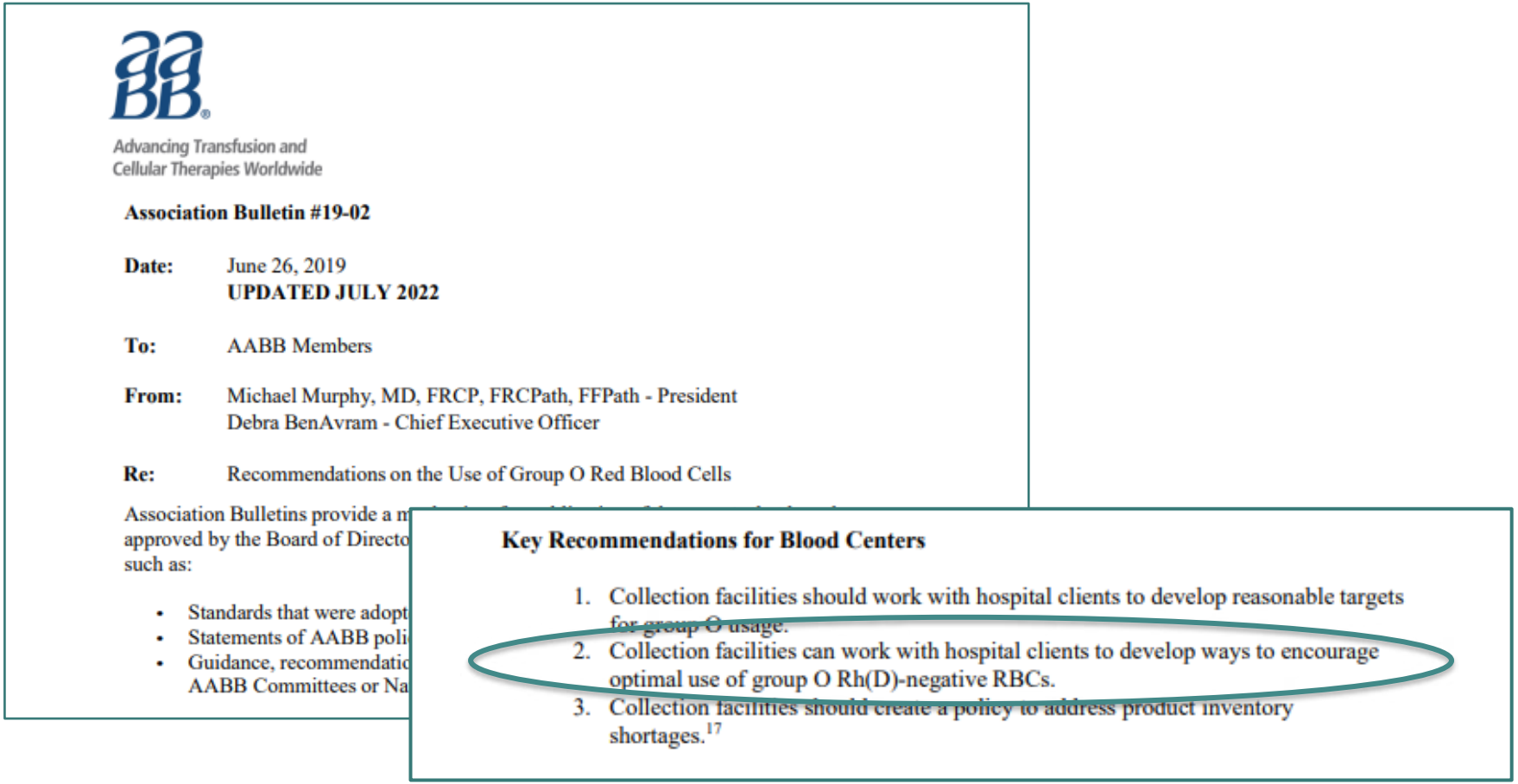
Empower GROUP O CARE

AABB Best Practice Guidelines



Advancing Transfusion and
Cellular Therapies Worldwide

Association Bulletin #19-02

Date: June 26, 2019
UPDATED JULY 2022

To: AABB Members

From: Michael Murphy, MD, FRCP, FRCPath, FFPath - President
Debra BenAvram - Chief Executive Officer

Re: Recommendations on the Use of Group O Red Blood Cells

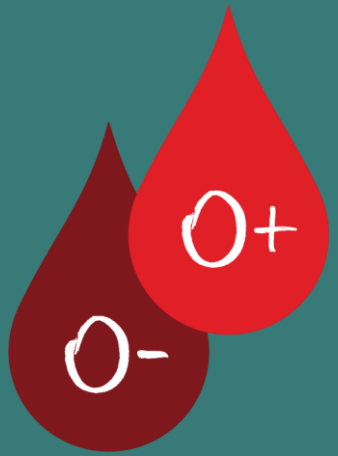
Association Bulletins provide a n
approved by the Board of Directo
such as:

- Standards that were adopt
- Statements of AABB poli
- Guidance, recommendatio
AABB Committees or Na

Key Recommendations for Blood Centers

1. Collection facilities should work with hospital clients to develop reasonable targets for group O usage.
2. Collection facilities can work with hospital clients to develop ways to encourage optimal use of group O Rh(D)-negative RBCs.
3. Collection facilities should create a policy to address product inventory shortages.[17]

https://www.aabb.org/docs/default-source/default-document-library/resources/association-bulletins/ab19-02.pdf



Empower Group O Care Resources

Empower Group O Care Ongoing Education

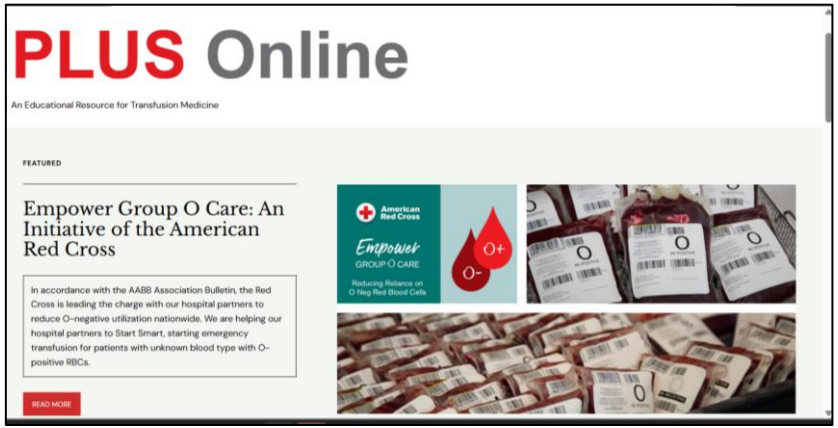
Next up on SUCCESS®

May 15, 1:00pm CST

***Empower* Group O Care:**
Gaining Insights Through
Group O Auditing

American Red Cross | SUCCESS®

Success Online



https://redcrossplus.blog/

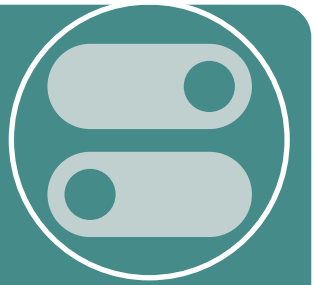
Continued outreach and support will be provided through (See above) &:

- Red Cross Medical Office
- Hospital Newsletter
- Business Reviews
- **RedCrossBlood.org**

Evidence-Based *Empower* Group O Modules

Start Smart

- Evidence-based guidance to start with O positive for emergency transfusions in adult males and females beyond childbearing potential with unknown blood type



Switch Sooner

- Policies on when to transition O negative patients or females of childbearing potential with unknown blood type to O positive to avoid depleting O negative inventory

Know Where Your Os Go

- Tools and resources to conduct group O audits to better understand utilization patterns, and find ways to reduce O negative rates

Safe Choices

- Examining the risks of using O positive RBCs for emergency transfusion, including females of childbearing potential and patients with anti-D

Right Type Focus

- Guidance for implementing routine practices to order type-specific antigen-negative units in advance of a transfusion

These resources are available to enable hospital Group O education.
Empower Group O Care Poster
Group O Stewardship Tip 3: Know Where Your O's Go
Group O Red Cell Citation List and Overview
AABB Bulletin
Sample policies and procedures are available upon request. Contact your Red Cross Medical Director for more information.

Full Resource Library on RedCrossBlood.org/HPRG

American Red Cross

Empower GROUP O CARE

O+ O-

Everyone Plays a Part

Every hospital using 1 *less* O negative unit
***equals* more units available for the patients that need it most.**

Facts in Review

- O negative population in the U.S is 6.9% and declining
- Fewer people donate blood today than in the past
- An estimated 85% of all hospital patients are Rh positive
- Most trauma patients are male
- Less than 5% of patients with Sickle Cell disease are O negative
- As most patients are Rh positive, the overall risk of anti-D alloimmunization is 3 – 6% when using O positive for emergencies
- A transfusion should never be withheld from a bleeding patient

We must work together to reduce our reliance on O negative blood and safely use O positive blood for emergency transfusions.

Red Cross Staff @ Your Disposal

Thank you

Kurt Domeier
kurt.domeier@redcross.org

American Red Cross

David C. Mair MD
David.Mair@redcross.org

ARC Physician on Call:

- Weekdays 8 AM-5 PM:
  - 888-611-5652
- Weekday Evenings 5 PM-8 AM, Weekends & Holidays :
  - 888-908-6618