POCT

Every Drop Counts: Preserving Blood in the NICU

POINT OF CARE TESTING UNIVERSITY

Statement of Need

The average total body blood volume in a neonate is approximately 70 mL/kg and the estimate for an extremely preterm neonate weighing 850 g is only 60 mL of total blood volume. To compound the problem, preterm infants are subjected to frequent diagnostic blood sampling. In critically ill infants, blood loss due to blood sampling is considered the primary cause of iatrogenic anemia and anemia of prematurity.

Blood test ordering volume has risen in neonates, 5% annually in the past decade, even though there is a growing movement to preserve blood. This movement has resulted from more evidence regarding the neurodevelopmental consequences of pain and distress related to blood draws as well as the need to minimize transfusion-related side effects. While neonatologists and NICU staff understand the objective need to reduce transfusions, few NICUs identify or subsequently modify factors associated with trauma and blood volume loss, such as test frequency, test volume, utilization of point-of-care or capillary testing or tracking blood loss per patient. Many of these factors necessitate input and workflow changes from other areas of the hospital such as the laboratory, IT, and nursing and staff directors. Because all hospitals and NICUs function differently, there is a lack of published recommendations on implementation strategies.

To address these issues, a small number of NICUs have developed and published quality improvement initiatives implemented within their own hospitals to reduce iatrogenic blood loss and transfusions in premature infants. Their strategies consist of varying multifactorial approaches that have resulted in significant reductions in both blood loss and costs. While these initiatives have been successful, many NICU and laboratory staff are unaware of these findings. Awareness and implementation of such strategies and greater mindfulness regarding blood collection methods, amounts, and frequency of testing are needed.

Continuing Medical Education

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Synaptiv designates this educational activity for a maximum of 1 AMA PRA Category 1 Credit(s)™ toward the AMA Physician's Recognition Award. Physicians should only claim credit commensurate with the extent of their participation in the activity.

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Respiratory Therapists – This program has been approved for 1 contact hour of Continuing Respiratory Care Education (CRCE) credit by the American Association for Respiratory Care, 9425 N MacArthur Blvd., Suite 100, Irving, TX, 75063.

Disclosures

This continuing medical education program was supported by Siemens Healthineers.

Content was planned and developed by Medavera, Inc.

There are no additional disclosures for this program.

Learning Objectives

1. Review evidence regarding the need to conserve pediatric blood.
2. Discuss implementation of quality improvement initiatives.
3. Assess alternative strategies such as capillary draws to obtain critical blood results.

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Presenters

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Faculty have no disclosures for this program.

Overview of Presentations

I.	Reducing unnecessary infant blood loss in the pediatric ICU
II.	The movement towards neonatal blood preservation
III.	Quality improvement initiatives
IV.	NICU case report: Blood preservation in a micro-preemie

POCT

Reducing Unnecessary Infant Blood Loss in the Neonatal ICU

Eli Cahan, MD, MSc

No disclosures for this program.

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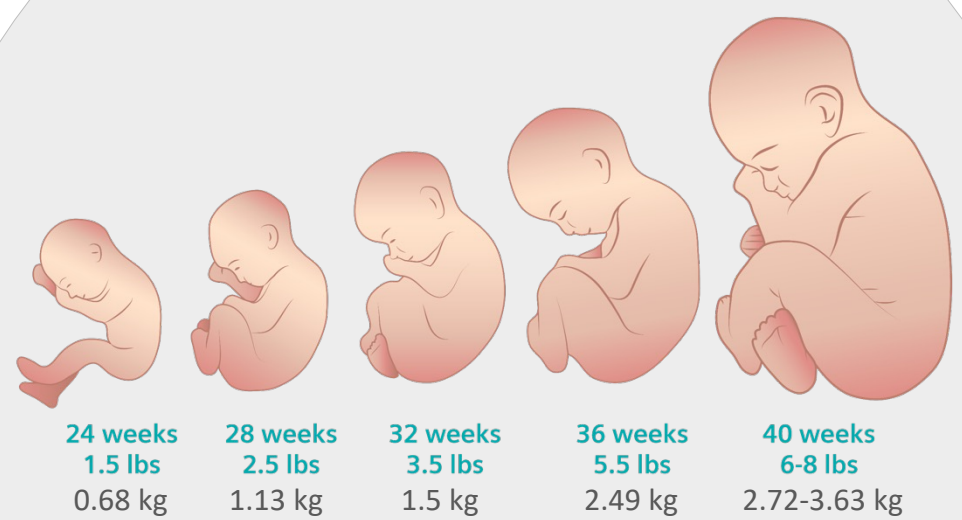
Every Drop Counts

- Nearly 80% of all preterm infants require a blood transfusion in the first month of life.[1]
- Anemia is a symptom – not a diagnosis – and can have multiple physiological causes associated with preterm birth.[2-3]
  - Shortened red blood cell (RBC) life span[2-3]
  - Low erythropoietin levels[3]

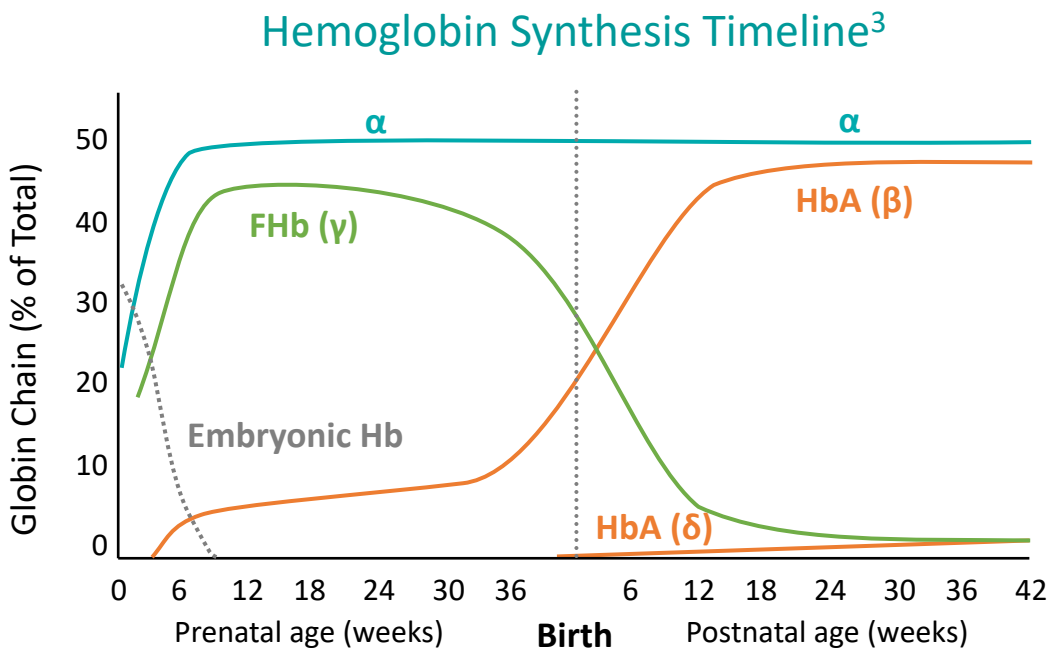


Total blood volume of a preterm neonate is **80-115 mL/kg.**[4]

1. Holzapfel LF, Rysavy MA, Bell EF. *Neoreviews*. 2023 Jun 1;24(6):e370-e376.
2. Counsilman CE, Heeger LE, Tan R, et al. *J Matern Fetal Neonatal Med*. 2021 Aug;34(16):2660-2665.
3. Kollamparambil TG, Carroll W, Rayorth DK. *Paediatrics Child Health*. 2024;34(5):154-159.
4. Proytcheva MA. *Am J Clin Path.* 2009;131(4):560–573.

Neonates Are Not Just Small Adults (or Children)

- Fetal hemoglobin (FHb) is built for the hypoxic intrauterine environment and carries more oxygen than adult hemoglobin (HbA).[1-2]
  - Transition from FHb to HbA begins at 16-18 weeks gestation[1] and continues through the first 12-18 weeks of postnatal life before plateauing[3].
  - Studies postulate that the number of fetal RBCs may be lower due to the presence of RBCs with higher Hb content.[1]
- High FHb is protective against development of retinopathy of prematurity, bronchopulmonary dysplasia, and other oxidative stress-related tissue injuries of prematurity.[2]

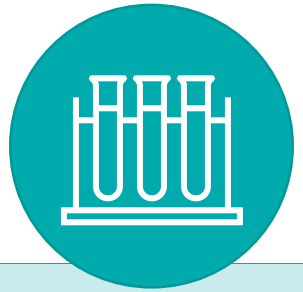


1. Larsson SM, Ulinder T, Rakow A, et al. *Arch Dis Child Fetal Neonatal Ed*. 2023 Nov;108(6):612-616.
2. Pritišanac E, Urlesberger B, Schwaberger B, Pichler G. *Front Pediatr*. 2021 Aug 13;9:710465.
3. Wood WG. *Br Med Bull*. 1976 Sep;32(3):282-7.

Non-Physiologic Factors Can Exacerbate Anemia

Physiologic Contributors[1]

- Shortened RBC life span[1]
- Rapid body growth[1]
- Left shift of oxygen[1] dissociation curve at birth[1]
- Low erythropoietin levels[1]



Non-Physiologic Contributors[1]

- Iatrogenic blood loss via lab draws[1]
- Nutrient deficiency[1]
- Non-laboratory blood loss[1]
- Infections[1]

Neonatal Anemia[1]

80%

of preterm infants receive blood transfusions in their first month.[2]

0.5%

of term infants require transfusions in the NICU.[3]

1. Kollamparambil TG, Carroll W, Rayorth DK. *Paediatrics Child Health*. 2024;34(5):154-159.
2. Holzapfel LF, Rysavy MA, Bell EF. *Neoreviews*. 2023 Jun 1;24(6):e370-e376.
3. Patel RM, Hendrickson JE, Nellis ME, et al. *J Pediatr*. 2021 Aug;235:92-99.e4.

Blood Draws Are One of the Top Causes of Iatrogenic Anemia in Neonates

In preterm infants, postnatal blood sampling can result in a

58% depletion of blood volume

in the first two weeks.[1]

Preterm infants on average suffer

40.4 mL/kg

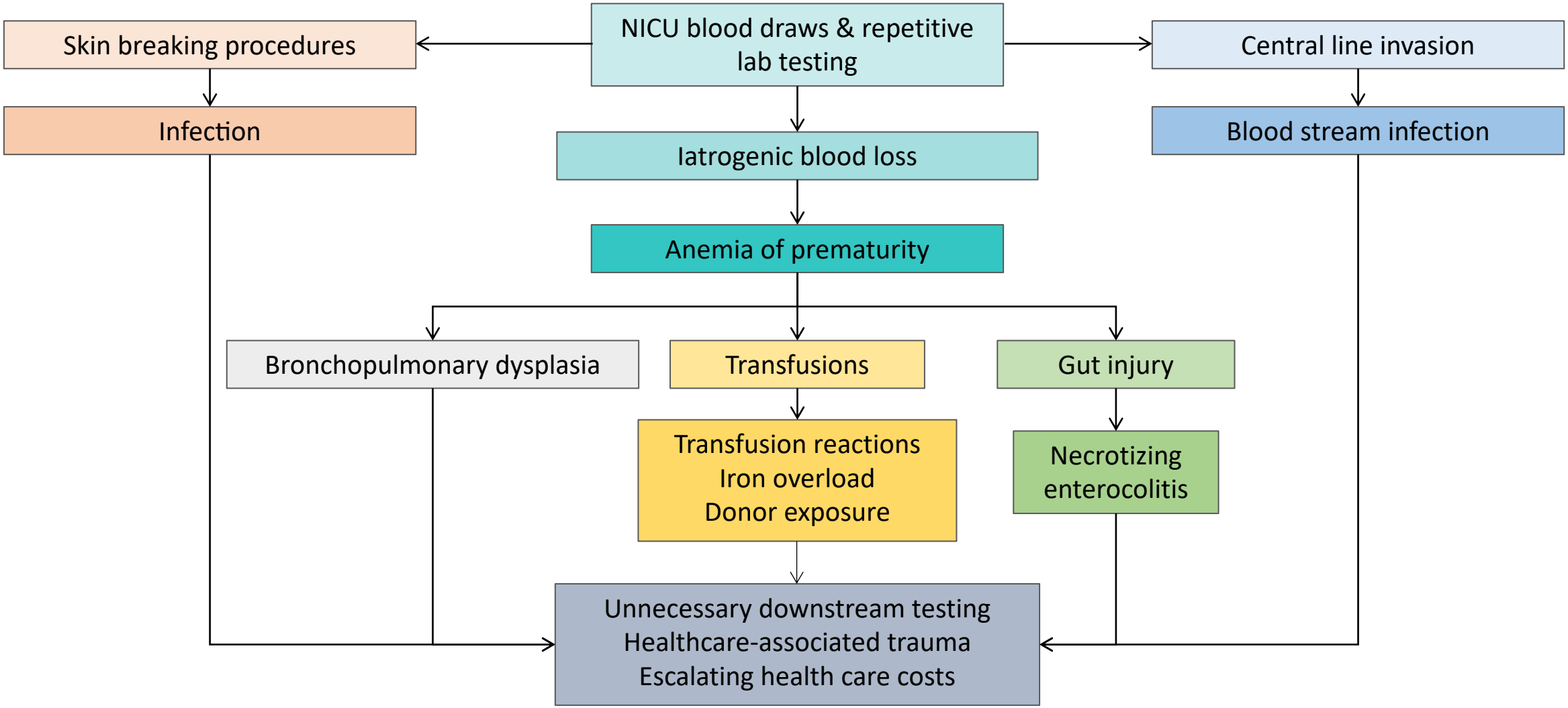
aggregate blood loss

in the first 14 days in the NICU.[1]

- Every **4-6 hours**[2]: glucose, blood gases, electrolytes, lactate, hemoglobin
- Every **24 hours**[2]: serum bilirubin, metabolic panels, magnesium, phosphorus

1. Hellström W, Forssell L, Morsing E, Sävman K, Ley D. *Acta Paediatr*. 2020 Apr;109(4):679-687.
2. UC Davis Health. https://health.ucdavis.edu/media-resources/pediatrics/documents/pdfs/clinical-guidelines/Small-Baby-Admission-Guideline.pdf. Accessed 28 January 2026.

Iatrogenic Blood Loss Leads to Increased Morbidity and Healthcare Costs



Sharma M, Bowman E, Zheng F, et al. *Pediatrics*. 2024 Oct 1;154(4):e2024065921.

POCT

The Movement Towards Neonatal Blood Preservation

The Movement Towards Neonatal Blood Preservation Is About More Than Just Reduction in Blood Draws

Blood Product Shortages[1]

Neurodevelopmental Consequences of Trauma, Pain, and Distress[1-2]

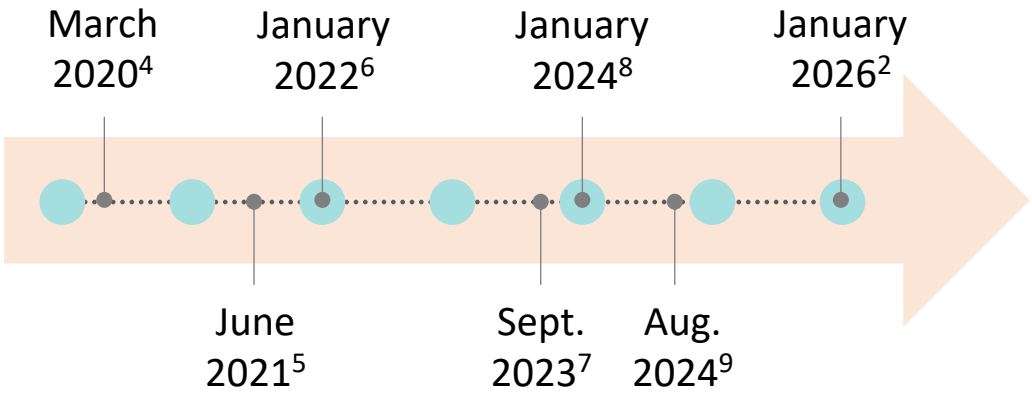
Avoidable Blood Loss and Transfusion Reactions[1]

1. Cahan Eli. American Academy of Pediatrics. https://publications.aap.org/journal-blogs/blog/30271/Preserving-Blood-in-Premature-Infants-The-Savings. Published September 20, 2024. Accessed 5 March 2026.
2. van Rens MFPT, Hugill K, Francia ALV, et al. *Nurs Crit Care*. 2024 Nov;29(6):1672-1679.

The COVID-19 Pandemic Accelerated the Movement Towards Neonatal Blood Preservation

- Early in the COVID-19 pandemic, a 50% reduction in blood supply has taxed the U.S. healthcare system.[1-3]
- Shortages have occurred regularly since.
  - January 20, 2026: American Red Cross issued a severe blood shortage warning stating that the national blood supply fell 35% over the past month.[2]
- Pandemic shortages led to implementation of Patient Blood Management protocols throughout the country.[3]
  - Started with surgeons optimizing for blood loss during surgical procedures[3]
  - Now extended to other areas of healthcare, including the NICU[3]

Severe Blood Shortages Continue to Occur Regularly at the Red Cross[2,4-9]



1. Cahan Eli. American Academy of Pediatrics. https://publications.aap.org/journal-blogs/blog/30271/Preserving-Blood-in-Premature-Infants-The-Savings. Published 20 September 2024. Accessed 5 March 2026.
2. American Red Cross. https://www.redcross.org/about-us/news-and-events/press-release/2026/red-cross-declares-shortage-after-blood-supply-falls-35-.html. Published 20 January 2026. Accessed 30 January 2026.
3. Saillant NN, Kornblith LZ, Moore H, et al. *Ann Surg*. 2022 Apr 1;275(4):641-643.
4. American Red Cross. https://www.redcross.org/about-us/news-and-events/press-release/2020/american-red-cross-faces-severe-blood-shortage-as-coronavirus-outbreak-threatens-availability-of-nations-supply.html. Accessed 7 March 2026.
5. American Red Cross. https://www.redcross.org/local/california/los-angeles/about-us/news-and-events/press-releases/donors-urgently-needed--red-cross-still-facing-severe-blood-shor.html. Published 28 June 2021. Accessed 7 March 2026.
6. American Red Cross. https://www.redcrossblood.org/local-homepage/news/article/red-cross--national-blood-crisis-may-put-patients-at-risk.html. Published 11 January 2022. Accessed 7 March 2026.
7. American Red Cross. https://www.redcross.org/about-us/news-and-events/press-release/2023/red-cross-announces-national-blood-shortage.html. Published 20 September 2023. Accessed 7 March 2026.
8. American Red Cross. https://www.redcross.org/about-us/news-and-events/press-release/2024/red-cross-declares-emergency-blood-shortage-calls-for-donations-during-national-blood-donor-month.html. 7 January 2024. Accessed 7 March 2026.
9. American Red Cross. https://www.redcross.org/about-us/news-and-events/press-release/2024/red-cross-national-blood-inventory-plummets-in-july-declares-emergency-blood-shortage.html. Published 18 August 2024. Accessed 7 March 2026.

Neonatal Pain Exposure Can Lead to Lasting Neurological Changes

- Infants born < 32 weeks are at risk for sensorimotor, language, and cognitive deficits and experience higher rates of neurodevelopmental disorders than term infants.[1,2]
- Venipuncture, heel prick sampling, and IV placements are the most common invasive procedures for neonates and are classified as moderately painful procedures.[1,2]
- NICU pain exposure and skin break procedures are positively correlated with developmental deficits.[1,2]
  - Risk increases with number of procedures[1,2]

NICU Pain Exposure[1,2]

- ↓ Decreased weight[1]
- ↓ White matter[1]
- ↓ IQ and cerebellar volume at school age[1]
- ↑ Pain hypersensitivity[2]
- ↑ Social hypervigilance[2]
- ↑ Early healthcare avoidance[2]

NICU Skin Break Procedures[1]

- ↑ Hyperconnectivity within cerebellum[1]
- ↑ Hyperconnectivity between cerebellum and limbic and paralimbic regions of the brain[1]
- ↑ Autism spectrum risk[1]
- ↓ Motor functioning[1]
- ↓ Language scores at 18 months[1]

1. Cook KM, De Asis-Cruz J, Kim J, et al. *BMC Med*. 2023;21:435.
2. van Rens MFPT, Hugill K, Francia ALV, et al. *Nurs Crit Care*. 2024 Nov;29(6):1672-1679.

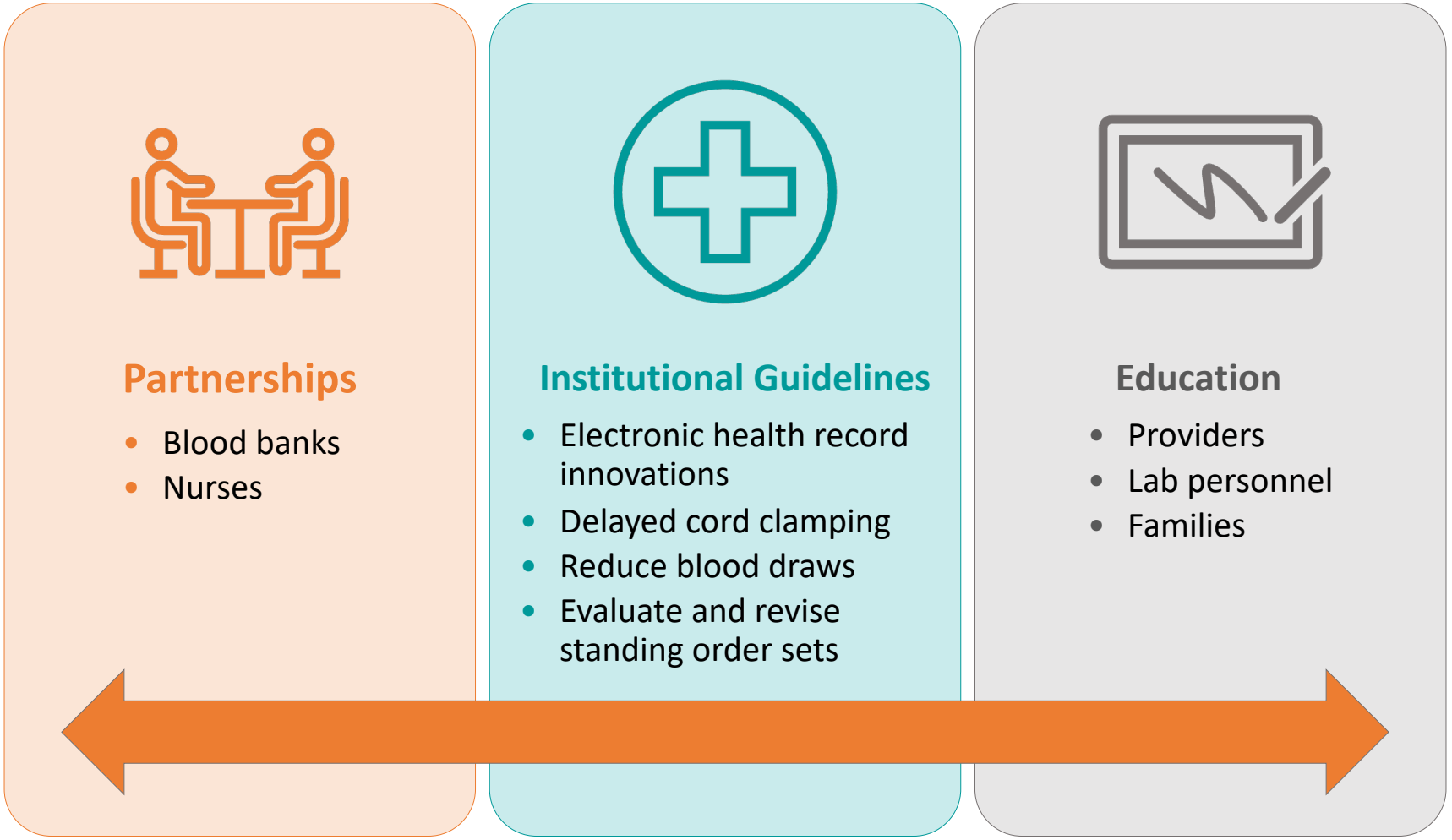
Transfusions and Transfusion Reactions Are Common in NICU Patients

- Excessive blood draws from infants are strongly correlated to the need for transfusions in these patients.[1]
- Risks can include hyperkalemia, hypothermia, glucose fluctuations, and 2,3-diphosphoglycerate decreases that reduce tissue oxygenation.[2]
- Incidence of transfusion reactions can be higher in neonates than adults[3]
  - Allergic reactions[3]
  - Febrile non-hemolytic transfusion reactions[3]
  - Acute and delayed hemolytic transfusion reactions[3]
  - Transfusion-related acute lung injury[3]
  - Transfusion-associated graft-versus-host disease[3]
  - Transfusion-associated necrotizing enterocolitis[3]
  - Alloimmunization posttransfusion purpura[3]

1. Sharma M, Bowman E, Zheng F, et al. *Pediatrics*. 2024 Oct 1;154(4):e2024065921.
2. Shafique MA, Abbas SQ, Habiba U, Mughal A, Fadlalla Ahmad TK, Munir Chaudhary A. *Ann Med Surg (Lond)*. 2024 Jan 23;86(3):1550-1562.
3. Basavarajegowda A, Plakkal N. *Asian J Transfus Sci*. 2023 Jan-Jun;17(1):97-102.

Quality Improvement Initiatives

Multifactorial Quality Improvement Initiatives Cross Many Areas



Partnerships

Innovative blood transfusion strategies to address global blood deserts: a consensus statement from the Blood Delivery via Emerging Strategies for Emergency Remote Transfusion (Blood DESERT) Coalition

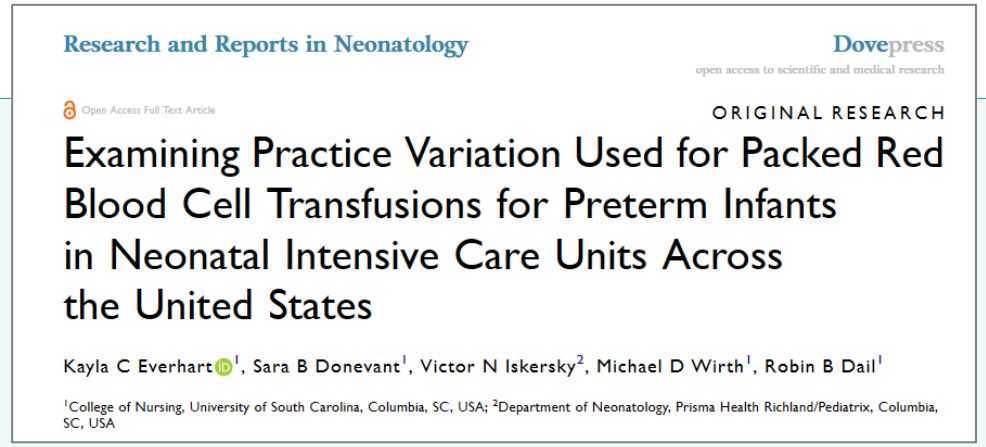
San Diego Blood Bank Is The Primary Blood Provider For Rady Children's Hospital

Rady Children's Hospital San Diego

"San Diego Blood Bank is an integral part of the lifesaving work of Rady Children's Hospital San Diego. Recently, we had a patient with a critical hemolytic anemia situation. The patient developed a clinically significant antibody to a common red cell antigen, and less than one percent of all blood donors have compatible blood. With the dedicated help of SDBB, those units were identified and delivered to save our young patient from any severe organ complications. It was a stressful, tenuous situation, and as reliably as ever, San Diego Blood Bank came through."

— DENISE MALICKI, M.D., PH.D. RADY CHILDREN'S HOSPITAL—SAN DIEGO

- Blood banks partner with a diverse range of national organizations[1-2]
  - Advocacy[1-2]
  - Public awareness for donation and shortages[2]
  - Innovation in collection and distribution[1]



Research and Reports in Neonatology

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ORIGINAL RESEARCH

Examining Practice Variation Used for Packed Red Blood Cell Transfusions for Preterm Infants in Neonatal Intensive Care Units Across the United States

Kayla C Everhart[1], Sara B Donevant[1], Victor N Iskersky[2], Michael D Wirth[1], Robin B Dail[1]

[1]College of Nursing, University of South Carolina, Columbia, SC, USA; [2]Department of Neonatology, Prisma Health Richland/Pediatrix, Columbia, SC, USA

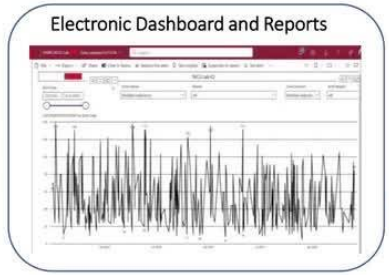
- Nurses are the front line[3-4]
  - Nurses do blood draws and give transfusions[3-4]
  - Most likely to keep track of volume depletion[3-4]
  - Role in clinical advocacy and best practices[3]

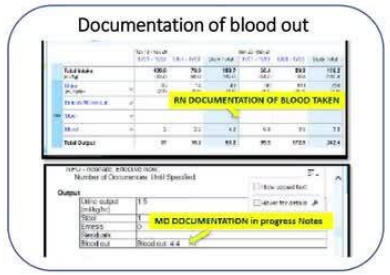
1. Raykar NP, Raguveer V, Abdella YE, et al. *Lancet Glob Health*. 2024 Mar;12(3):e522-e529.
2. San Diego blood Bank. https://www.sdbbfoundation.org/impact. Accessed March 6, 2026.
3. Everhart KC, Donevant SB, Iskersky VN, Wirth MD, Dail RB. *Res Rep Neonatol*. 2022;12:43-48.
4. Sharma M, Bowman E, Zheng F, et al. *Pediatrics*. 2024 Oct 1;154(4):e2024065921.

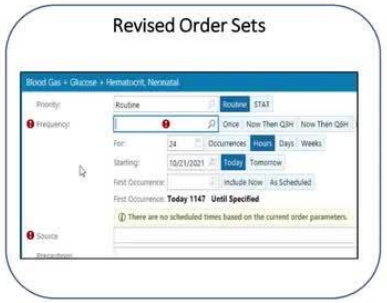
EHR Innovations

- Information displayed directly within electronic health records (EHR)[1,2]
- Removal or modification of default lab order sets[1,2]
- Information displayed at point of order entry and within order sets to track blood lost per test and per patient over time[1]
- Electronic dashboards linked to monitor blood tests and transfusions[2]
  - Data compared to baseline or at specific time periods[2]
  - Blood volume taken[2]
  - Frequency[2]
  - Subcategories for weight, day of life, gestation, time period, ordering physician[2]

EHR Dashboard[1]



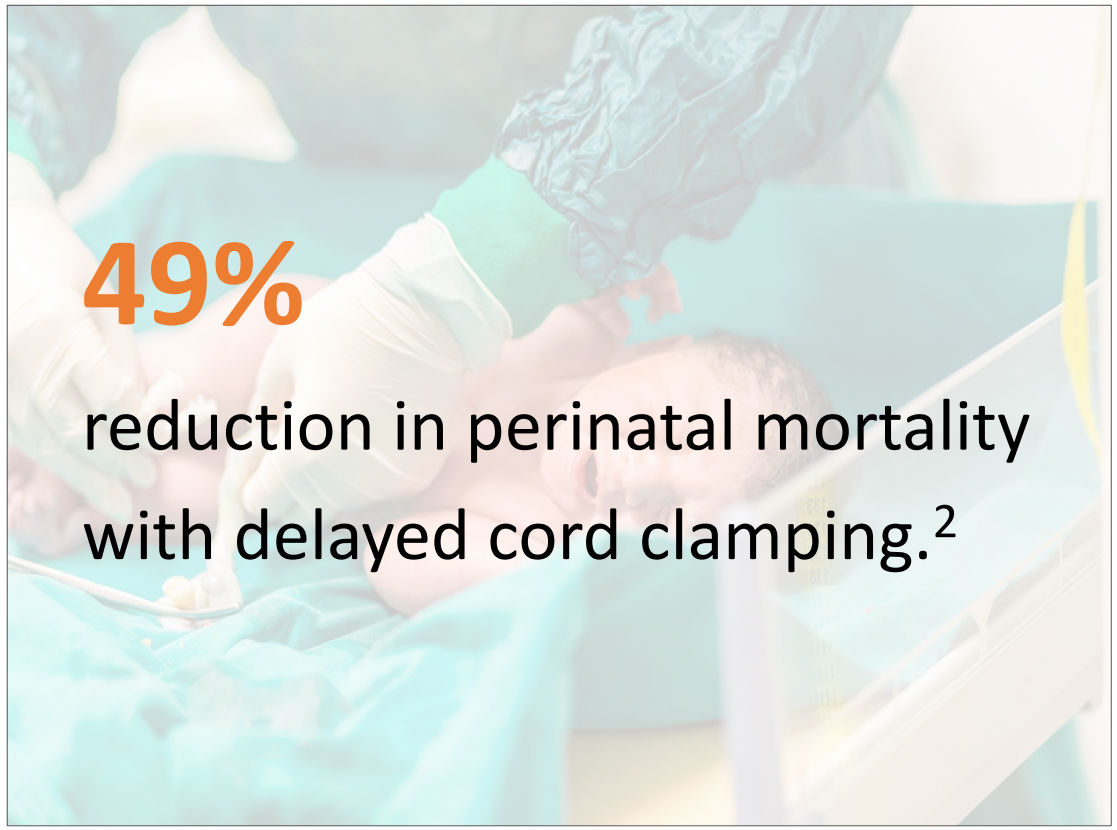




1. Sharma M, Bowman E, Zheng F, et al. *Pediatrics*. 2024 Oct 1;154(4):e2024065921.
2. Klunk CJ, Barrett RE, Peterec SM, et al. *Pediatrics*. 2021 Jul;148(1):e2020000570.

Delayed Cord Clamping and Cord Milking Recommended When Possible

- In October 2025, the American Academy of Pediatrics and American Heart Association updated the Neonatal Resuscitation Program.[1]
  - Recommended cord management plan as first step after birth.[1]
  - Recommended deferred cord clamping of ≥ 60 seconds for newborn infants who do not require resuscitation.[1]
  - Recommended umbilical milking as alternative for infants ≥ 35 weeks who remain non-vigorous despite stimulation.[1]
- Delayed cord clamping improves transitional circulation and iron stores and decreases need for transfusion in preterm infants.[1]
- Delayed cord clamping decreases rates of hypoxic-ischemic encephalopathy as well as need for therapeutic hypothermia in terms infants.[1]



1. American Academy of Pediatrics NRP 9th Edition Updates. October 2025. https://www.aap.org/en/pedialink/neonatal-resuscitation-program/nrp-9th-edition-updates/. Accessed 2 February 2026.
2. Cahan Eli. American Academy of Pediatrics. https://publications.aap.org/journal-blogs/blog/30271/Preserving-Blood-in-Premature-Infants-The-Savings. Published 20 September 2024. Accessed 5 March 2026.

Reducing Iatrogenic Blood Losses From Blood Draws

1 Reduce number of tests[1-2]

- Utilize instruments that test multiple analytes from a single sample[3]
- Consider tests on patient status, not standing orders[1-2]

2 Reduce frequency of tests[1-2]

- Not all tests need to be run every 2-6 hours or every day[1-2]
- Consider frequency on patient status, not standing orders[1-2]

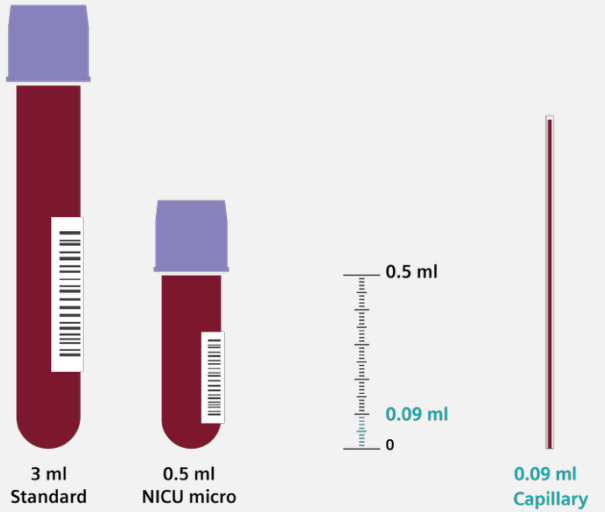
3 Reduce amount of blood volume per test[1-3]

- Capillary-based tests can use significantly less volume, as little as 0.09 µl for tests like blood gasses[3]

4 Use point-of-care and capillary tests when possible[2-3]

- Often use less volume[3]
- At bedside or near-patient[2-3]
- Some devices include multiple analytes from a single sample[3]

Use of capillary or other low-volume tests reduces blood loss per test[3]



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3. Chan Poon KTC, Li L, Pittman R, et al. *Pediatrics*. 2024 Aug 1;154(2):e2023063728.

Reducing Blood Clotting in Blood Draws

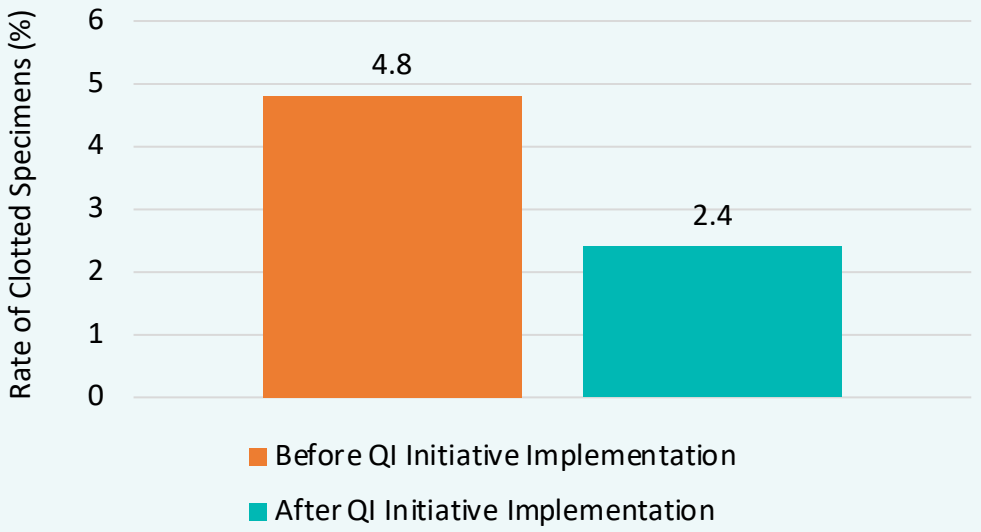
Blood draws are necessary, but sample clotting can lead to repeated sampling and delays in treatment.

Potential Clotting Causes[1]

- Neonatal hemodynamic instability[1]
- Time-to-test[1]
- Specimen handling[1]
- Materials and consumables[1]
- Staff competency and manpower[1]

Quality Improvement Initiatives Reduce Clotted Samples[1]

- Staff training on time-to-test management[1]
- Use of point-of-care (POC) tests[1]
- Improved sample collection pathways[1]
- Review of materials and consumables[1]



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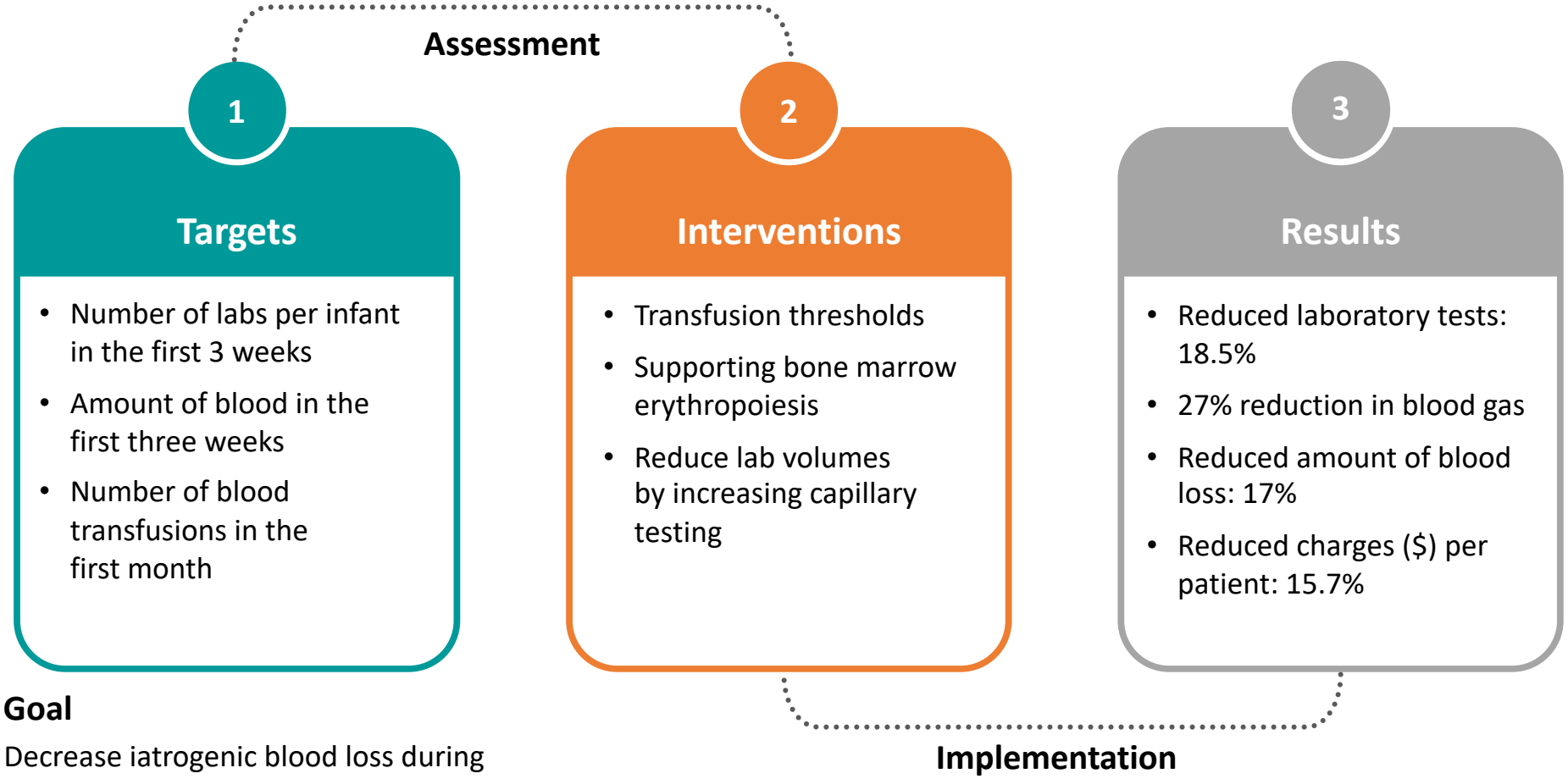
University of Arkansas for Medical Sciences NICU

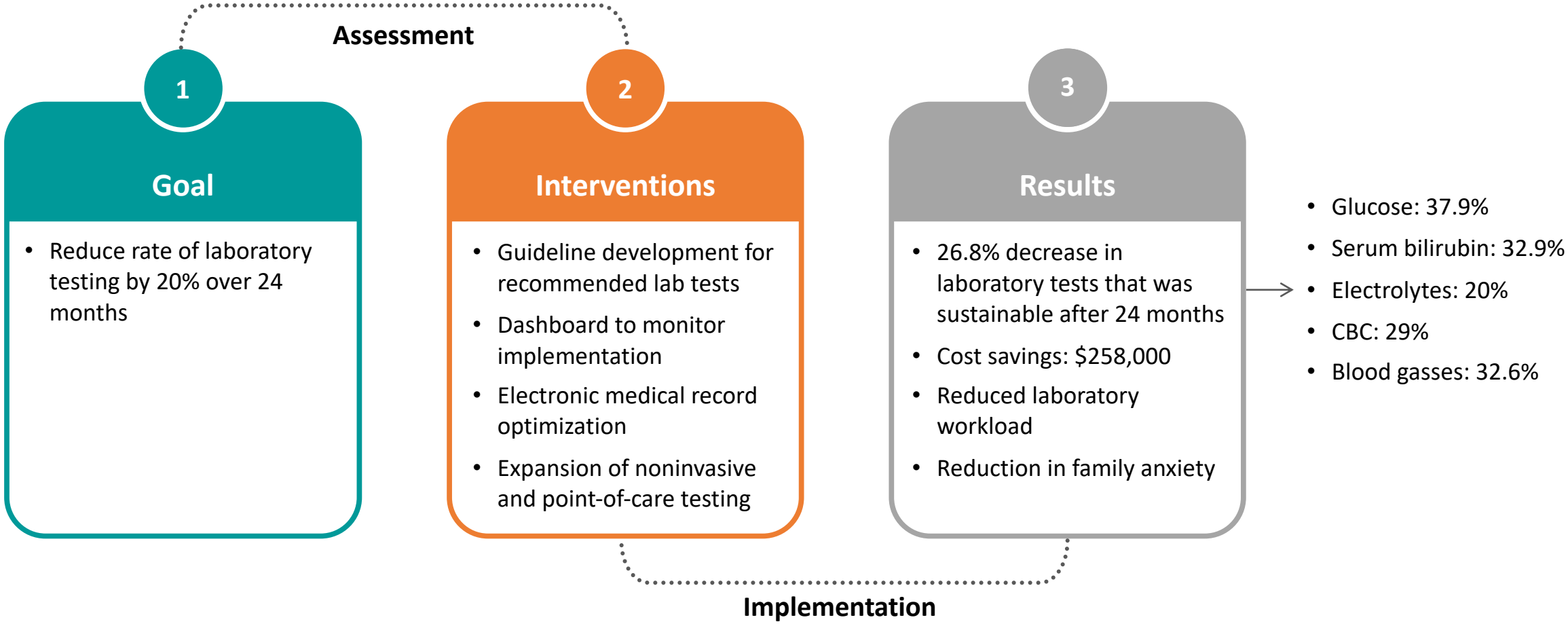


Goal

Decrease iatrogenic blood loss during the first 3 postnatal weeks among very low birthweight infants

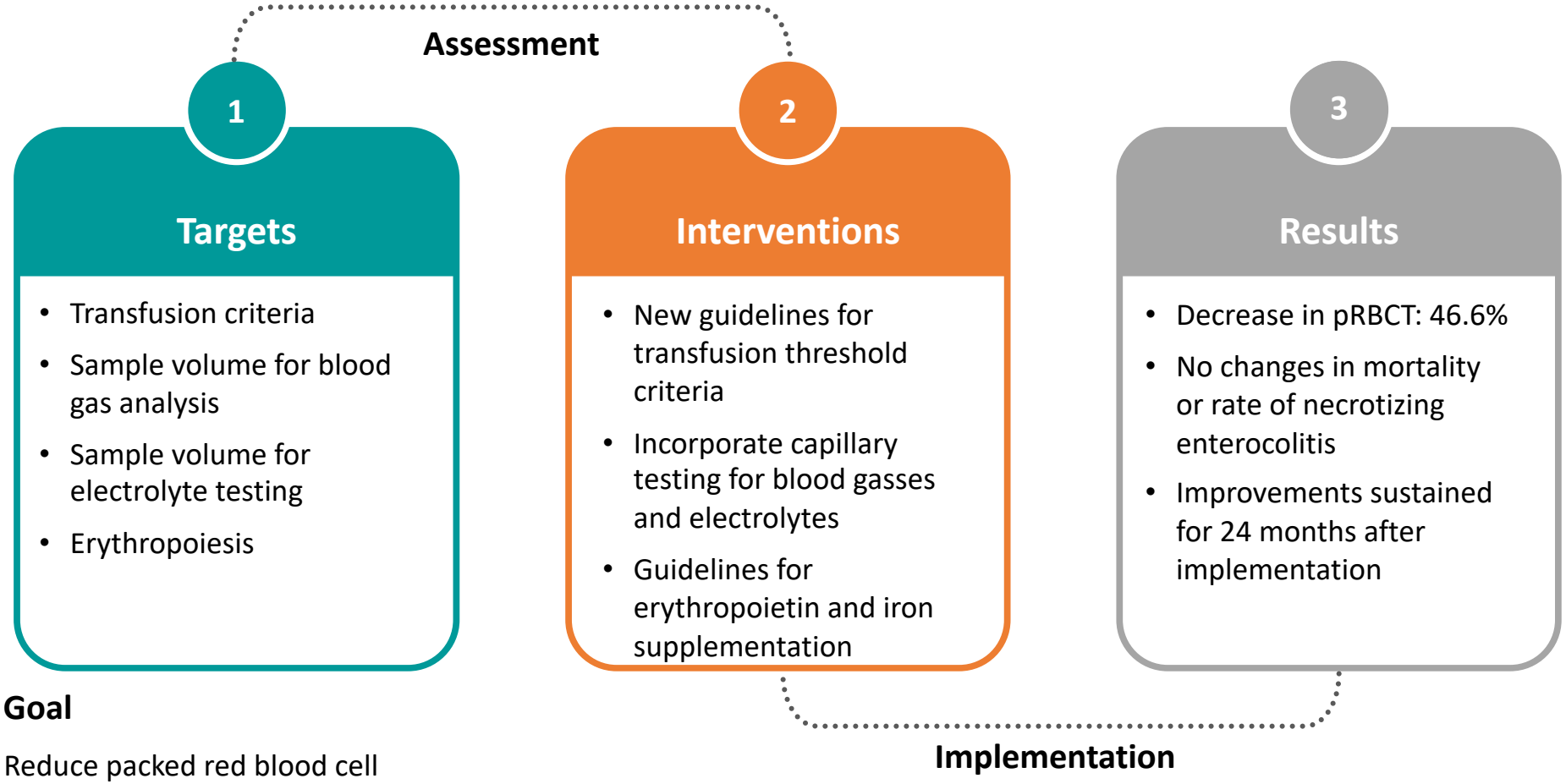
Sharma M, Bowman E, Zheng F, et al. *Pediatrics*. 2024 Oct 1;154(4):e2024065921.

Yale New Haven Children's Hospital NICU



Klunk CJ, Barrett RE, Peterec SM, et al. *Pediatrics*. 2021 Jul;148(1):e2020000570.

Duke University Hospital NICU



Goal

Reduce packed red blood cell transfusions (pRBCT) by 20%

Chan Poon KTC, Li L, Pittman R, et al. *Pediatrics*. 2024 Aug 1;154(2):e2023063728.

Parental Education Impacts on NICU Clinical Management

Increasing parental involvement can improve infant outcomes.[1]

- Retinopathy of prematurity[1]
- Length of stay[1]
- Parental stress and anxiety[1]
- Weight gain velocity[1]
- Neurobehavioral exam scores[1]
- Predominant or exclusive breastmilk intake[1]

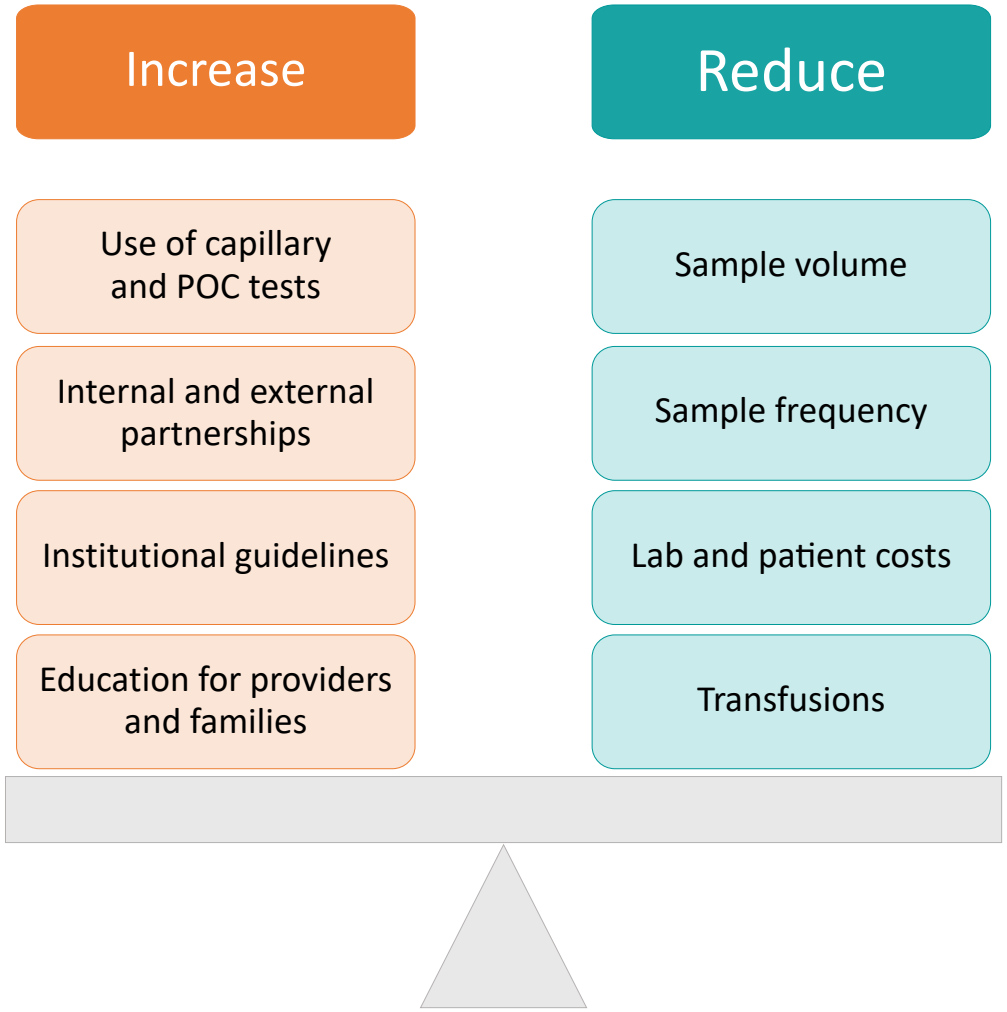
Involving parents in clinical management impacts NICU decisions.[2]

- Blood transfusions[2]
- Steroids[2]
- Patent ductus arteriosus surgery[2]
- Parenteral nutrition[2]
- Other therapies[2]

More research is required to determine if parental education, engagement, and empowerment could reduce unnecessary blood draws in the NICU.

1. North K, Whelan R, Folger LV, et al. *Pediatrics*. 2022 Aug 1;150(Suppl 1):e2022057092O.
2. Bailey SM, Hendricks-Muñoz KD, Mally P. *J Matern Fetal Neonatal Med*. 2013 Aug;26(12):1239-44.

A Balanced Approach Is Required to Reduce Blood Loss in the NICU



POCT

NICU Case Report:
Blood Preservation in a Micro-preemie

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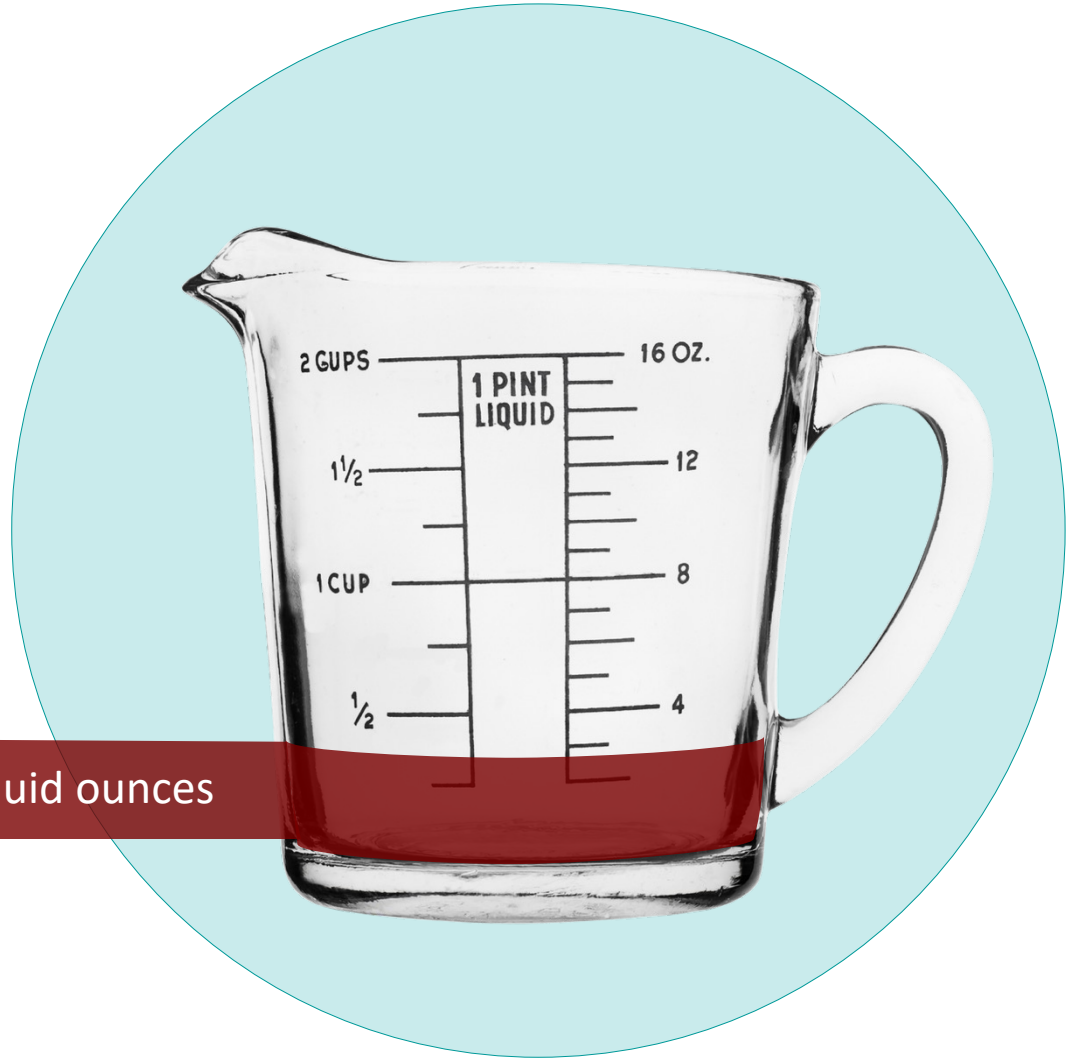
No disclosures for this program.

26-Week Infant

- Infant girl born at 26 weeks + 3 days gestational age
- Weight: 720 grams (1 lb 9 oz)
- Needs full respiratory support at birth due to respiratory distress syndrome
  - Surfactant administration
  - Mechanical ventilation via endotracheal tube (ET)
- Umbilical venous and arterial catheters were inserted for access.

Day 1: Birth

- 26 weeks is about 6 months of pregnancy.
- Size is weight of large grapefruit or small pineapple.
- An infant this size has about 65 – 75 mL of blood in their entire body, or less than 3 fluid ounces.



Day 1: Blood Gas Analysis at Birth

- Initial blood gas at birth demonstrates the need to be placed on a ventilator.
  - Infant is unable to properly maintain adequate gas exchange themselves.
- A small list of the numerous levels received in a blood gas analysis.*
  - Each level is necessary to paint a full picture of the current status of each patient.
  - A full blood gas analysis consists of approximately 8 – 10 specific levels.

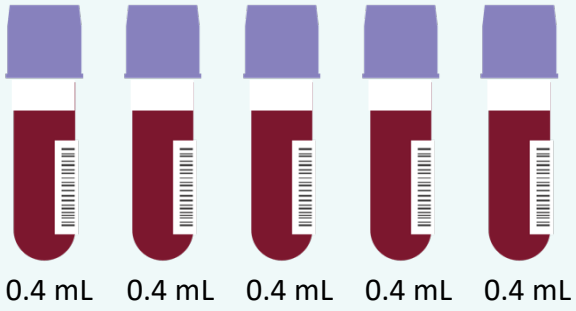
	Patient Value	Normal Limits
pH	**7.19**	7.35 – 7.45
pCO_2	**71**	35 – 45
pO_2	**76**	83 – 90
Base excess	**-3.1**	-2.0 – -3.0
HCO_3	27	21 – 28
Sodium	**134**	136 – 146
Potassium	4.3	3.4 – 4.5
Ionized calcium	**5.5**	4.6 – 5.3

*Blood gasses measured by umbilical artery sample on epoc® Blood Analysis System.

Day 1 - 9: Blood Gas Testing

- 5 blood gas samples within the first day of life.*
- Each sample requires 0.3 – 0.4 mL of blood.
  - Total of approximately 1.5 – 2.0 mL of blood was required for this baby for blood gas sampling alone.
  - This does not include the other labs required for the care and treatment of this baby.
- Labs were obtained via umbilical arterial catheter through day 6 when the catheter was removed.
  - After catheter removal, blood gasses were obtained via capillary every 6 – 12 hours per physician orders.

Day 1 blood loss due to blood gasses



2.0 mL = **3.1 %** of blood volume
only for day 1 blood gas

+

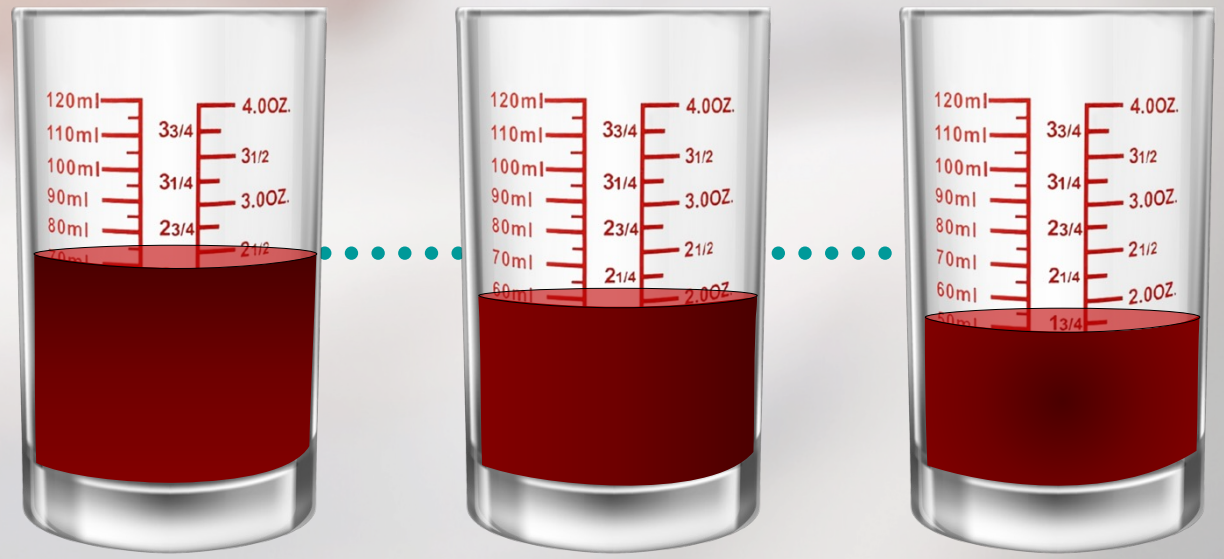
Additional day 1 labs (3 mL)

Total day 1 blood loss:
5 mL or 7 % blood volume

*Blood gasses measured by umbilical arterial sample until day 6 when switched to capillary sampling. All samples measured on epoc Blood Analysis System.

Iatrogenic Blood Loss in Preterm Infants Over Time

- Cumulative iatrogenic blood loss due to laboratory testing in the first month of life is 24.2 mL/kg of birth weight.
- 28.5% of total blood volume over 28 days.
- Preterm infants have more blood draws in the first days and weeks of life and the trend declines over time.



Day 10: Pulmonary Hemorrhage

- On day of life 10, the patient began to have blood-tinged sputum from the ET.
- This finding is extremely dangerous and sadly it indicated a pulmonary hemorrhage.
- During this hemorrhage event, all blood gas samples were taken via capillary.*

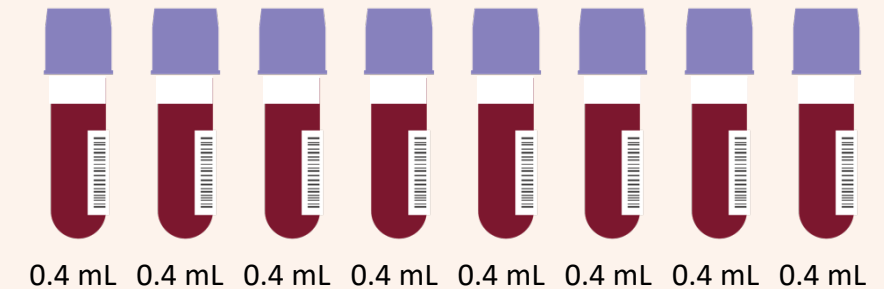
	Patient Value	Normal Limits
pH	**7.13**	7.35 – 7.45
pCO_2	**70**	35 – 45
pO_2	**42**	83 – 90
Base excess	**-7.1**	-2.0 – -3.0
HCO_3	23	21 – 28
Sodium	**134**	**136 – 146**
Potassium	**4.7**	3.4 – 4.5
Ionized calcium	**6.1**	4.6 – 5.3

*Blood gasses measured by capillary sample on epoc Blood Analysis System.

Day 10: Pulmonary Hemorrhage Treatment and Monitoring

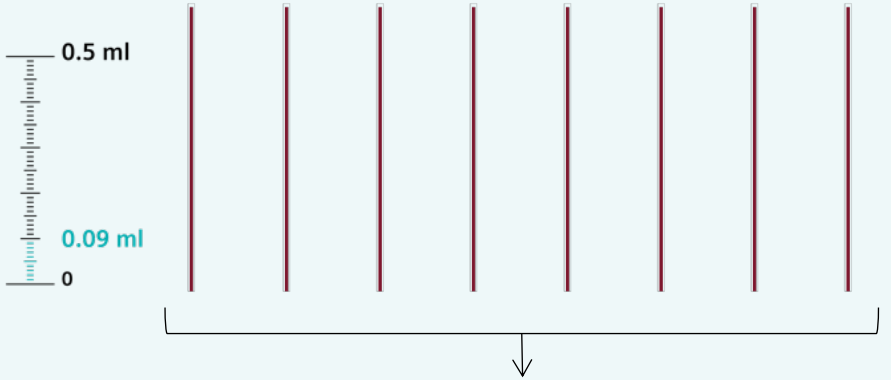
- Patient was placed on a higher level of ventilatory support and given specific medications to assist with excessive bleeding.
  - Several blood product transfusions were required to begin to stabilize the patient.
- On the first day of the hemorrhage the patient required 8 capillary blood gases to stabilize and make necessary adjustments to ventilation.

Day 10 blood loss with standard 0.4 mL blood draw:



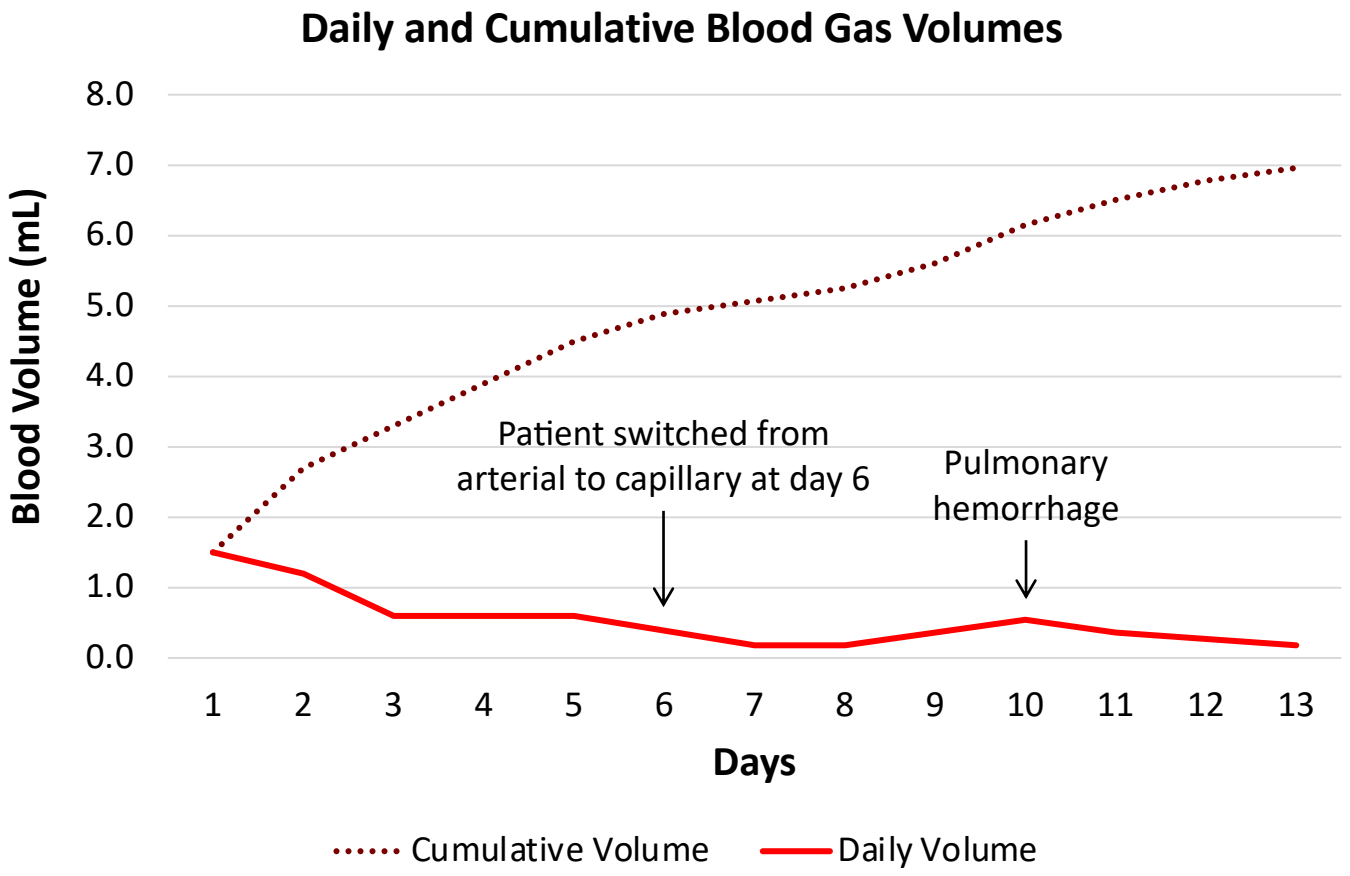
3.2 mL = **4.2 %** of blood volume
only for day 10 blood gas

Day 10 blood loss with capillary draw:



0.72 mL = **0.96 %** of blood volume
only for day 10 blood gas

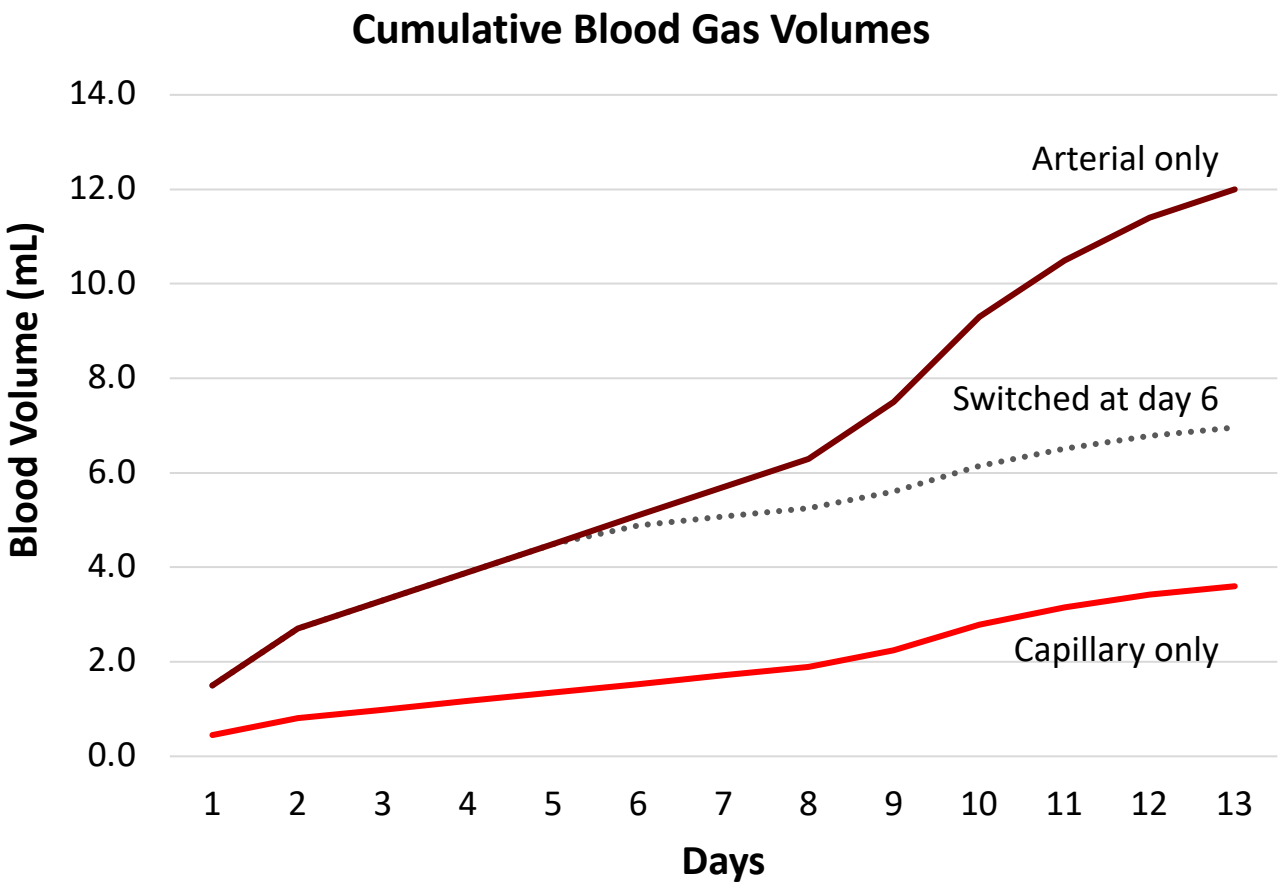
Switch to Capillary Blood Gasses Reduced Amount of Potential Blood Loss



A **total of 7.0 mL** was drawn for blood gasses over 13 days.

9.9 % of infant's blood volume for **blood gasses alone**.

What If Patient Had Arterial or Capillary from Day 1?



Arterial blood gas testing:
12.0 mL blood loss
17.1 % blood volume

Capillary blood gas testing:
3.6 mL blood loss
5.1 % blood volume

12.0 % less
blood volume loss with only capillary blood gasses

Infant Outcome

- Pulmonary hemorrhage was difficult, but patient recovered with standard of care
- Weaned to a low-flow nasal cannula and started PO skills
- Started taking bottles at 3 months
- Scheduled for discharge around normal due date with home oxygen and complete oral feedings
- Expected that home oxygen will not be needed in the coming weeks

Summary

- Detailed blood gas analysis is crucial to maintain appropriate ventilation in any NICU patient requiring supplemental ventilatory support.
- The dangers of too much support are just as dangerous as too little support.
- Utilizing small volumes for blood gas analysis gives needed information while preserving blood supply.

POCT

Q&A

Thank you.