Technology Solutions for Early Detection

of Hemorrhage in Pregnant Patients

Bridging the Gap: Caring for Rural Georgia Moms

2025 INAUGURAL CONFERENCE

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Disclaimers

The Maternal aRMOR device has not yet entered into the FDA approval process and is not being marketed or sold.
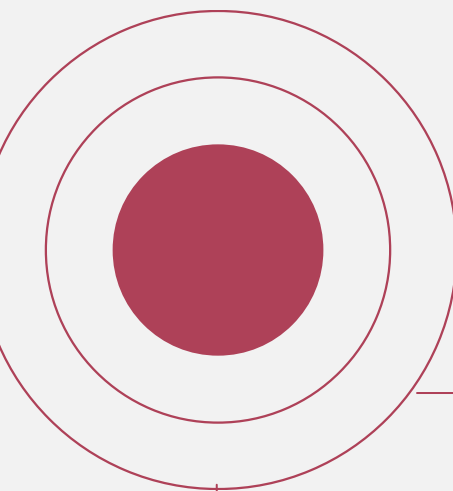
Hemorrhage

The leading cause of maternal death…

- >14 million cases worldwide

- >5% of US Births

- 3x more deadly for black mothers

- $1.8B in US healthcare cost

…is 90% preventable.

References 1-6

Early bleeding is often SILENT.

Blood Volume Loss	Body's Response	Treatment
< 500mL (10%)	**Compensation** vitals normal	uterine massage, medications 10 IU Oxytocin: **$10**
< 1000mL (15%)		
<1500mL (25%)	**Shock** tachycardia / hypotension	blood transfusion, surgery Hysterectomy + 2wk in ICU: **$100,000**

References 6-11
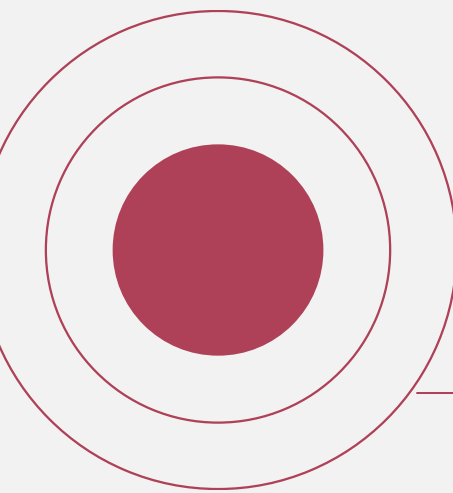
Compensation masks bleeding.
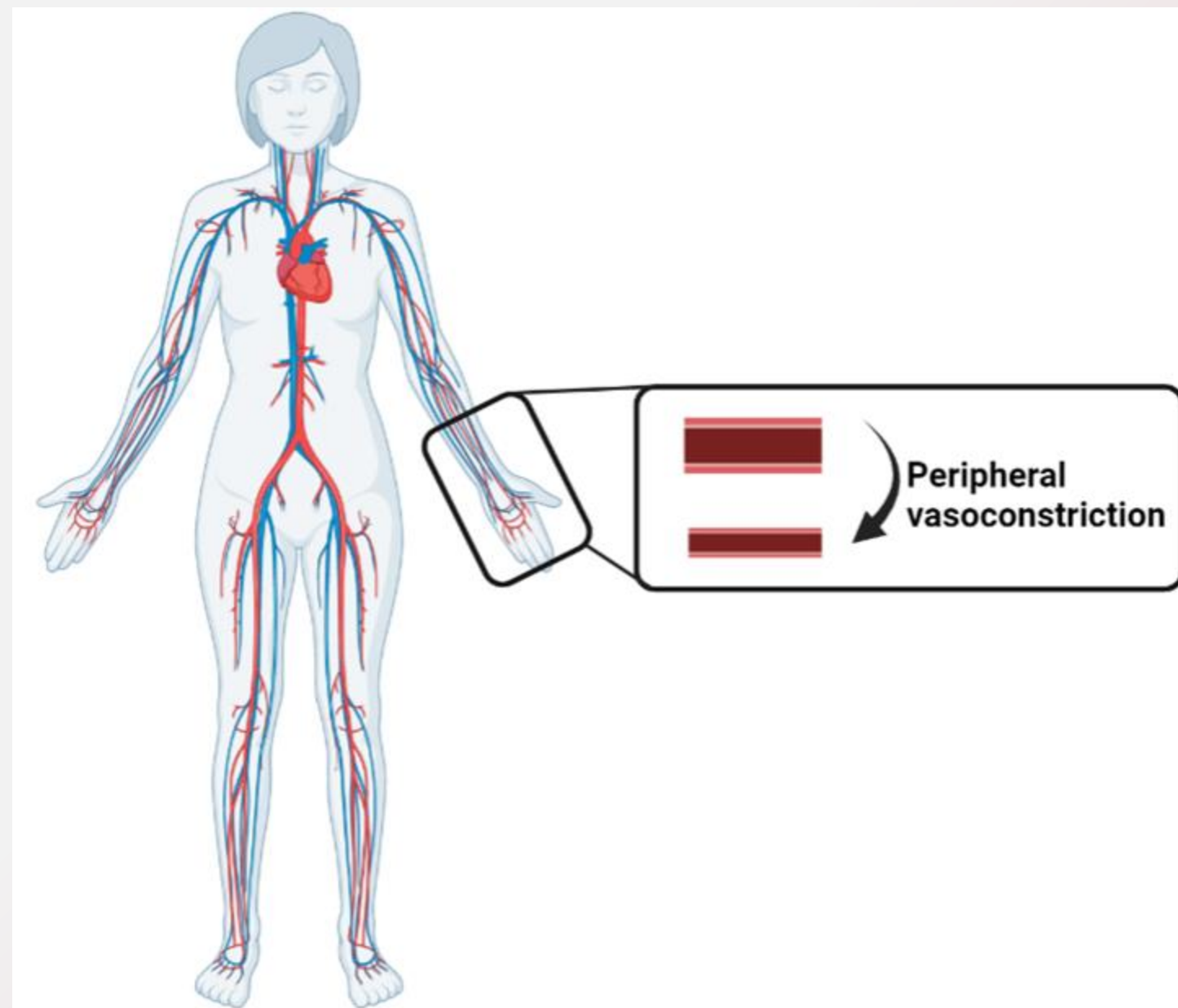
Pregnant patients can lose up to 1500mL (~25%) of their blood volume before showing signs of hemodynamic instability.

References 1, 6, 9-11

Current tools are limited.
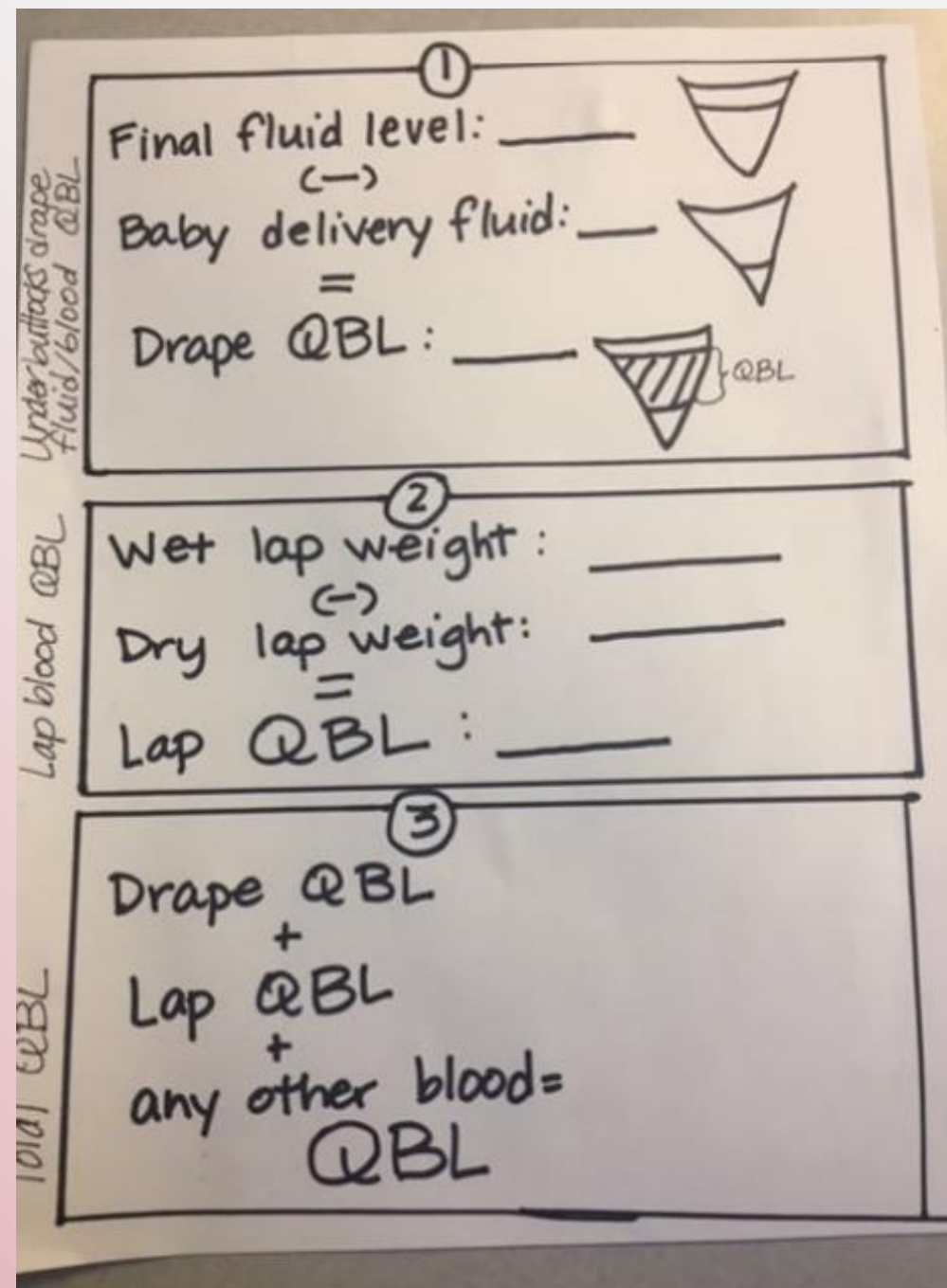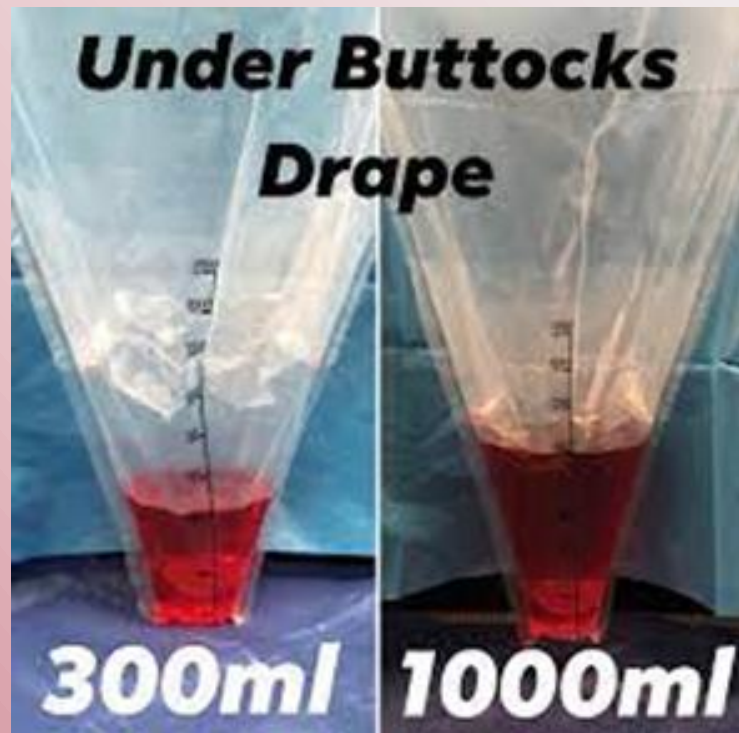
- Subjective
- Inaccurate
- Inefficient
- Delayed
- Cannot detect internal bleeding

Bringing it home:

CAUSES OF DEATH: HEMORRHAGE

A majority (11; 69%) of pregnancy-related deaths due to hemorrhage occur within the first 7 days of the postpartum period. Specifically, 7 (44%) of hemorrhage deaths occurred within 24 hours postpartum. All (16; 100%) hemorrhage deaths were determined to be preventable.

The most consistent factors leading to maternal mortality and morbidity have been identified as delays in diagnosis and treatment

" **earlier recognition of PPH** (eg. before deterioration in vital signs) **should be the goal in order to improve outcomes**"

ACOG
The American College of
Obstetricians and Gynecologists

References 1, 12

Innovative solutions are emerging

Technologies aimed at enabling earlier hemorrhage recognition by...

1. Improving hemorrhage risk prediction

2. Measuring blood loss more accurately

3. Personalized measurement of compensation

4. Reducing healthcare disparities

    (racial, geographic, etc.)

Improving hemorrhage risk prediction

Example Innovation: The Vasowatch System

Non-invasive Wearable

Sibel Health ANNE® Chest Sensor

Reference 13,14

	Current SOC	**Vasowatch**
QBL Measurement	✓	X
Personalized Compensation Alert	X	X
Early detection	25% EBV lost	Prediction
Internal bleeding	X	✓
Real-time, continuous	X	✓ (intrapartum only)
Robust performance across skin types	X	X (PPG)

Improving hemorrhage risk prediction

Example Innovation: Baymatob's Oli PPH

	Current SOC	**Oli PPH**
QBL Measurement	✔	X
Personalized Compensation Alert	X	X
Early detection	25% EBV lost	✔ (1 hr pre-birth)
Internal bleeding	X	✔
Real-time, continuous	X	✔ (intrapartum only)
Robust performance across skin types	X	(unknown)

Reference 16

Measuring blood loss more accurately

Example Innovation: Stryker's TritonX system

	Current SOC	Triton AI
QBL Measurement	✓	✓
Personalized Compensation Alert	X	X
Early detection	25% EBV lost	X
Internal bleeding	X	X
Real-time, continuous	X	Real-time EMR integration only
Robust performance across skin types	X	N/A

Reference 15

Bringing it all together…

Innovation: Armor Medical's Maternal aRMOR system

References 15

	Current SOC	Maternal aRMOR
QBL Measurement	✓	✓
Personalized Compensation Alert	X	✓
Early detection	25% EBV lost	✓ (<5% EBV lost)
Internal bleeding	X	✓
Real-time, continuous	X	✓
Robust performance across skin types	X	✓ 10x better than Pulse Oximetry

How it works:

Non-invasive, wearable blood flow monitor for real-time, early hemorrhage detection:
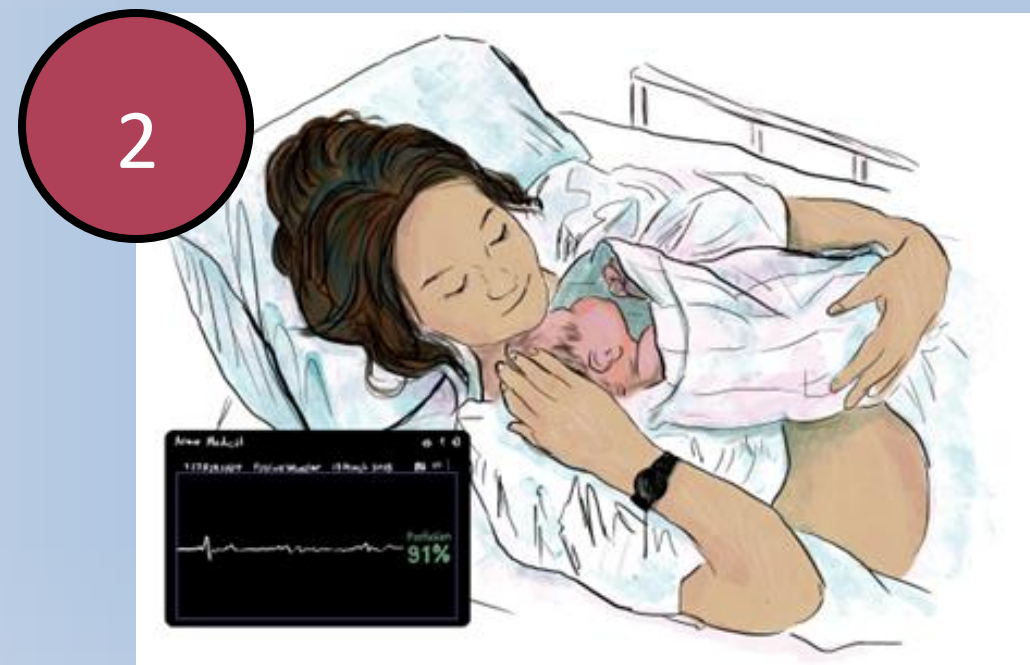
- **Automated Quantified Blood Loss (QBL) +**
- **Personalized Compensation Alerts**
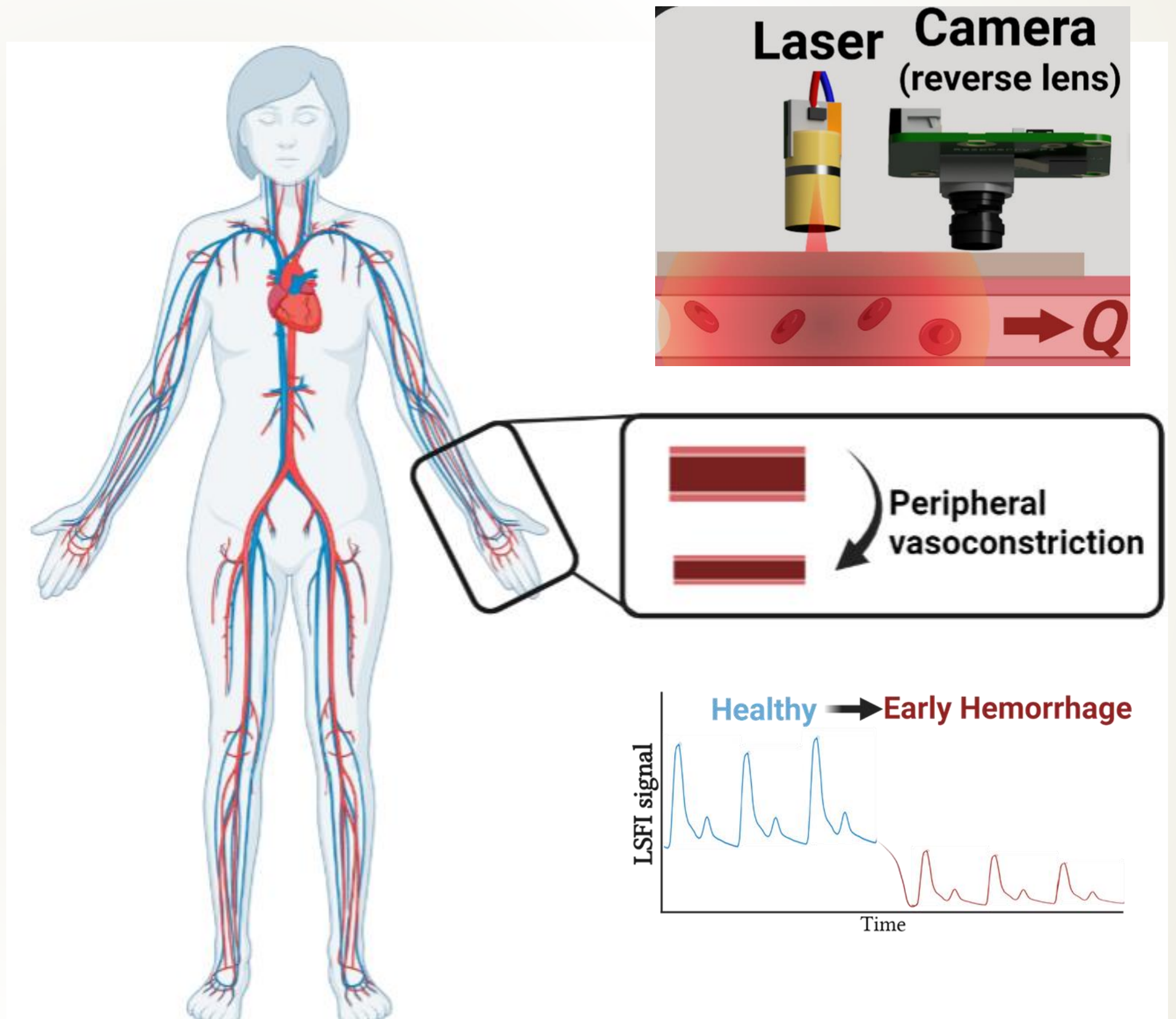
Real-time, continuous, & automated.

Early Detection. Coordinated Response. Timely Treatment.

Happy, Healthy Mom & Baby.

Early accurate detection
vs. standard of care

- Preclinical + IRB-approved clinical studies at WashU

- Early detection (< Stage I PPH)

- Better performance across all skin types

Key Results
Sensitivity to <5% blood volume lost
Accurate estimation of blood loss (r = 0.98)
Better performance in diverse* patients compared to gold standard *diverse by age, race/ethnicity, & gender, in pregnant & non-pregnant participants.

Reference 17

Comparison of emerging innovations

	Current SOC	Triton AI	Baymatob's Oli	Vasowatch	Maternal aRMOR
QBL Measurement	✓	✓	X	X	✓
Personalized Compensation Alert	X	X	X	X	✓
Early detection	25% EBV lost	X	✓ (1 hr pre-birth)	Prediction	**Prediction (<5% EBV lost)**
Internal bleeding	X	X	✓	✓	✓
Real-time, continuous	X	Real-time EMR integration only	✓ (intrapartum only)	✓ (intrapartum only)	✓
Robust performance across skin types	X	N/A	(unknown)	X (PPG)	**✓ 10x better than Pulse Oximetry**

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NEWS

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Only fresh news

founded 1953

Rural Georgia leads a grass-roots revolution in maternal health.

Maternal health should not be determined by zip code

Thank you!

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