

# **Role of Intensivist in Placenta Accreta Spectrum**

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# Objectives

- 1. Understand the reasoning of potential maternal implications requiring intensive care management for patients with PAS**
- 2. Identify the key roles and responsibilities of an intensivist in the multidisciplinary approach to managing PAS cases,.**
- 3. Explore the impact of critical care interventions, such as hemodynamic monitoring, resuscitation strategies, and supportive therapies, on improving outcomes for mothers with PAS.**

A man from the waist down is shown against a black background. He is wearing a light blue long-sleeved button-down shirt tucked into grey cargo-style trousers, secured with a black leather belt. His hands are held out to the sides, palms up, in a gesture of openness or surrender. The text 'No Conflict of Interest' is overlaid at the bottom in a large, bold, yellow font.

**No Conflict of Interest**

# Incidence

10 X





1:525



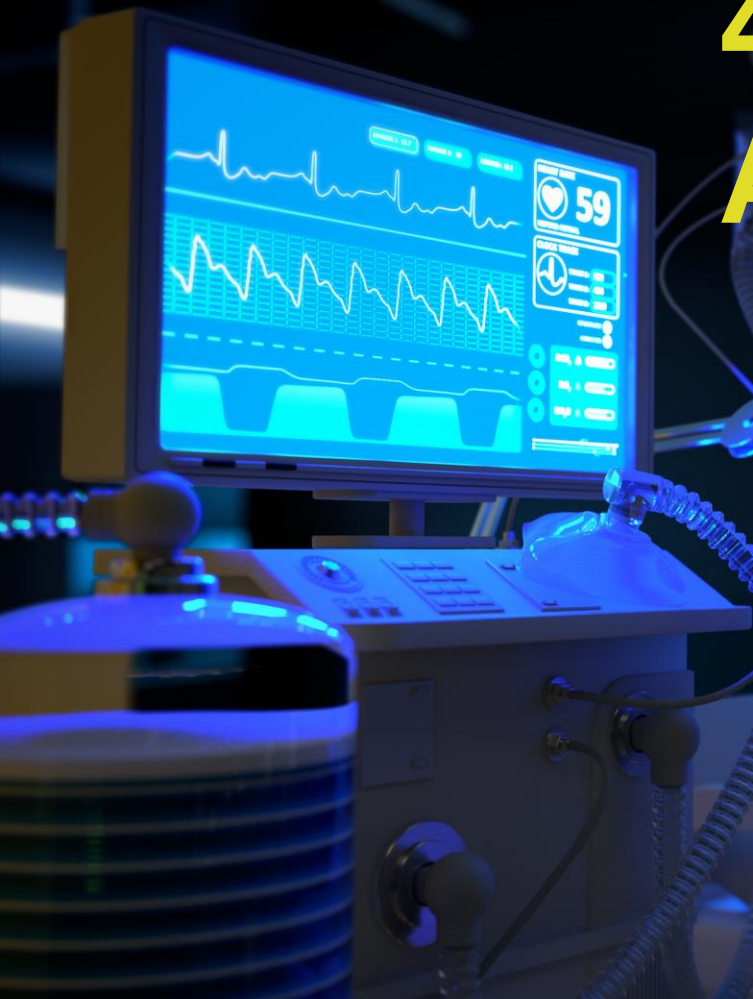






# Mechanical Ventilation 10 X

# 43% ICU Admission



PAS Series Article: Review Article

# Critical Care in Placenta Accreta Spectrum Disorders—A Call to Action

Cesar R. Padilla, MD<sup>1</sup> Amir A. Shamshirsaz, MD<sup>2</sup> Sarah R. Easter, MD<sup>3</sup> Phillip Hess, MD<sup>4</sup>  
Carly Smith, MD<sup>5</sup> Nadir El Sharawi, MD<sup>6</sup> Adam T. Sandlin, MD<sup>7</sup>



# Levels of Maternal Care



**IV**



**III**



**II**



**I**

The background of the slide features two moons against a black space. The larger moon is on the left, showing a detailed view of its surface with numerous craters and a prominent bright spot. A second, smaller moon is partially visible on the right edge of the frame.

## Level III

Medical and  
Surgical ICU That  
Accept Pregnant  
Women and have  
critical Care onsite  
That can  
Collaborate with  
MFM team

# Levels of Maternal Care



**IV**



**III**



**II**



**I**



# **Level IV**

**Onsite Medical and  
Surgical Care of  
Complex Maternal  
Conditions with The  
Availability of Critical  
Care Unit or ICU Beds**







**Critical Care  
Specialist**





# ICU Criteria





# Massive Transfusion



**Massive  
Transfusion**

**Mechanical  
Ventilation**





**Massive  
Transfusion**

**Mechanical  
Ventilation**

**Other Comorbidities**

# Massive Transfusion

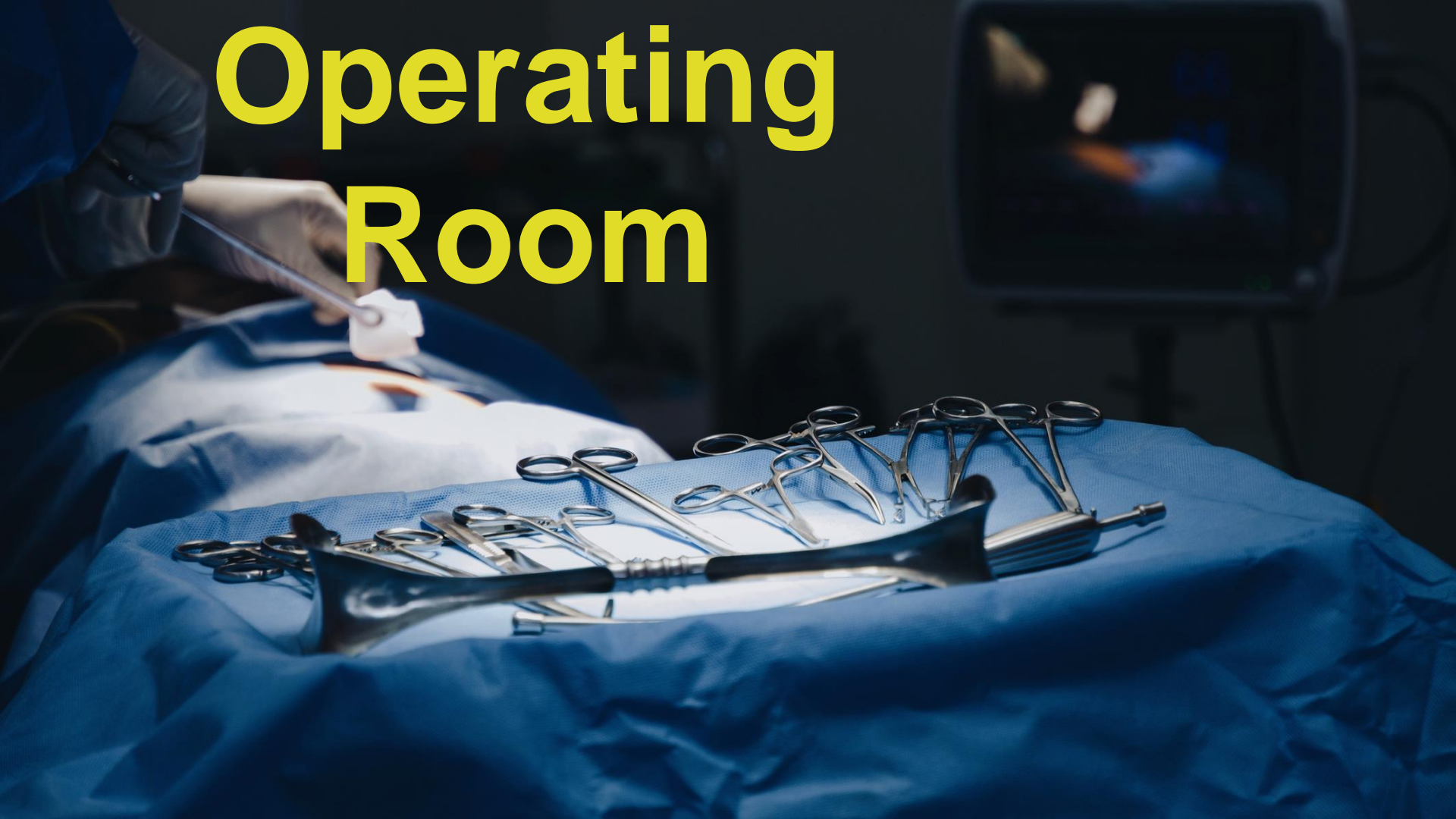






**PFW MTP &  
Location**

# Operating Room



# Central/Arterial Line







**Central/Arterial  
Line**

**Assisting in MTP**

# Intensive Care Unit





A medical monitor in a clinical setting, displaying various vital signs and waveforms. The screen shows a heart rate of 59, a blood pressure of 110/70, and a respiratory rate of 12. There are also several waveforms, including an ECG and a pressure waveform. The monitor is connected to various tubes and wires, and is positioned next to a patient's bed.

**Hemodynamic  
Monitoring**

**Coagulopathy  
Correction**

**Transfusion-Related  
Complications**

II

# Hemodynamic Monitoring

Pleth

Resp

HR

120  
50

90

Pulse

79

SpO<sub>2</sub>

100  
90

76

Temp

42.3  
42.6  
36.9

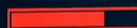
RR

30  
8

26

NBP  
Sys.

Auto 10 min



06:40 NBP  
mmHg

160  
90

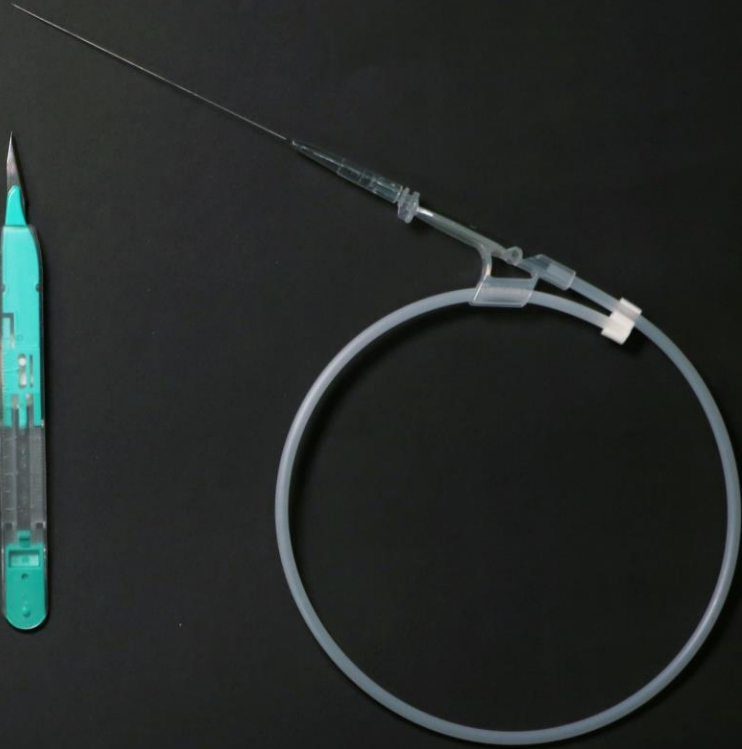
89/55 (89)

10:30	122/81	(90)
10:40	121/81	(89)
10:48	120/82	(90)
10:50	121/80	(89)
10:51	122/80	(89)

# Arterial Line



# Central Line





# Evaluate



# Diagnos



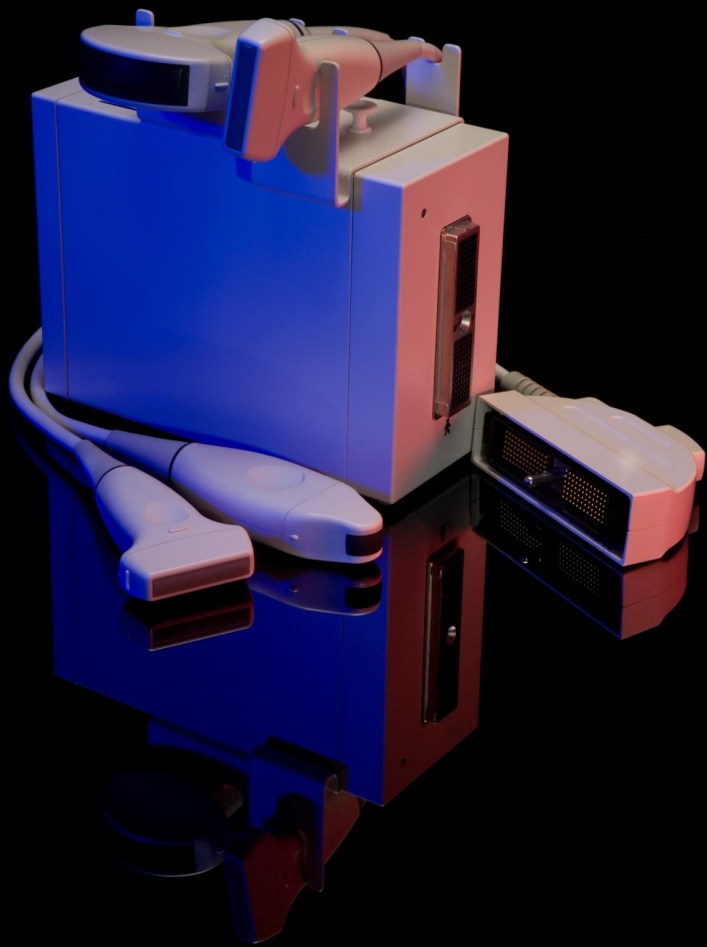
 **POCUS**

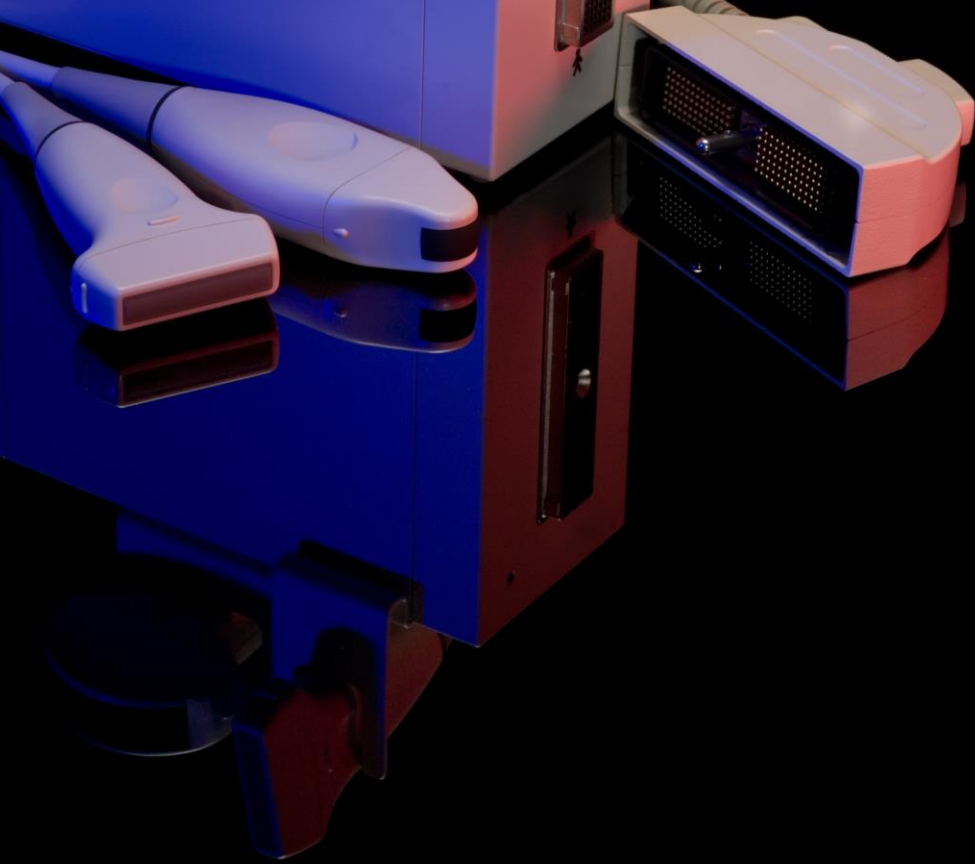
# Monitor



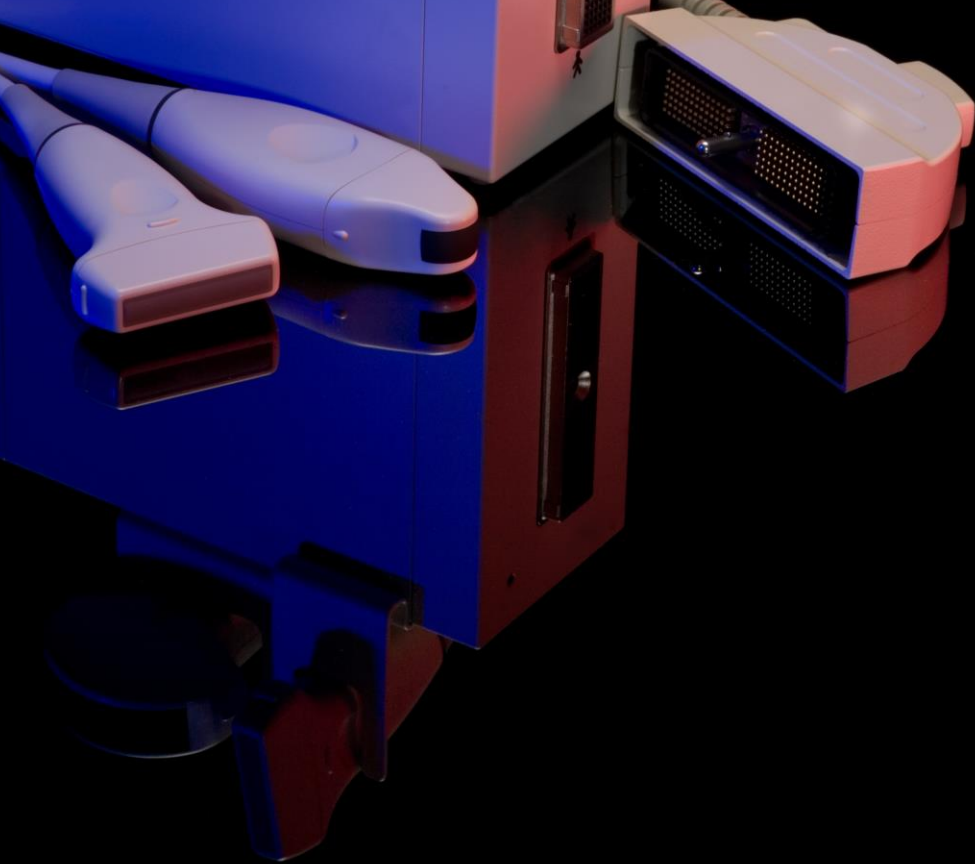
# Treatme







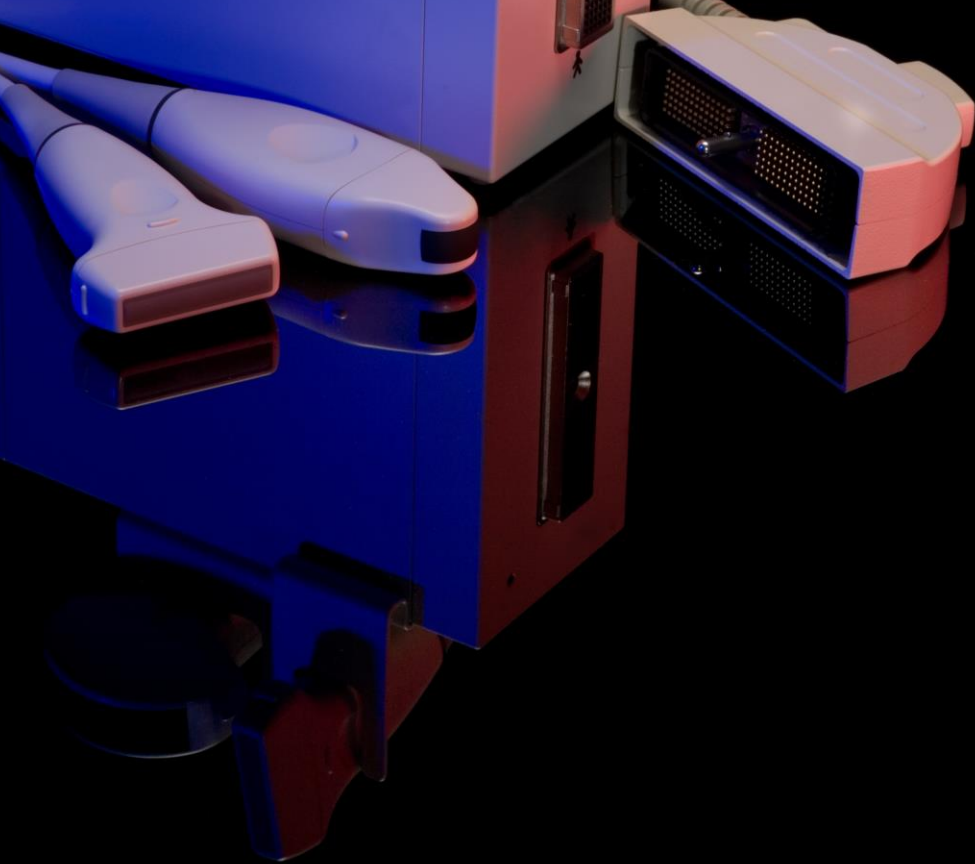
**Cheap**



**Cheap**

**Easy to  
Learn**

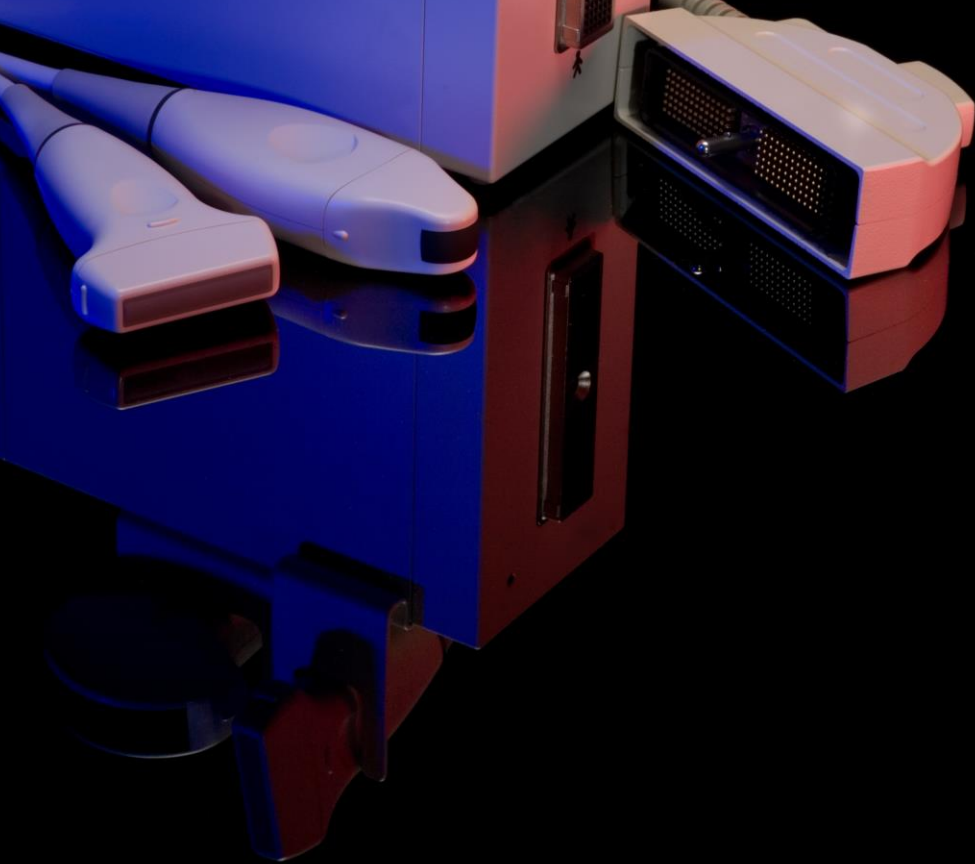




**Cheap**

**Easy to  
Learn**

**Non-  
Invasive**

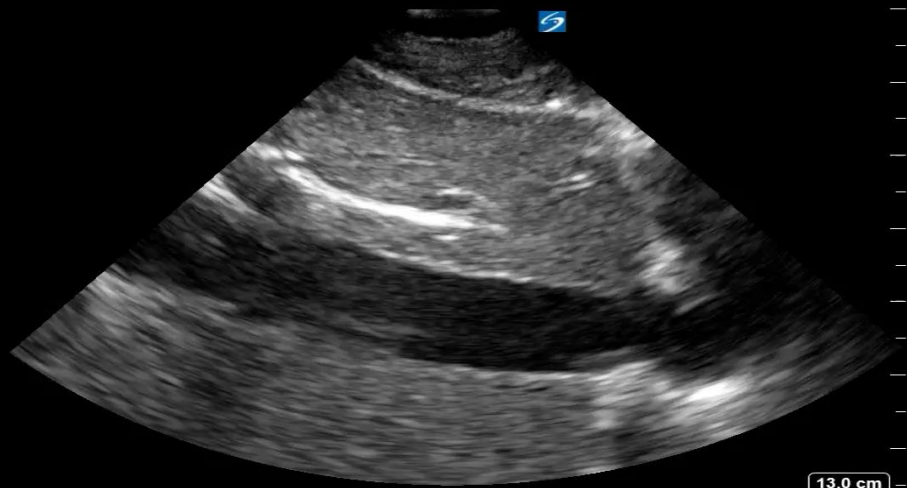


**Cheap**

**Easy to  
Learn**

**Non-  
Invasive**

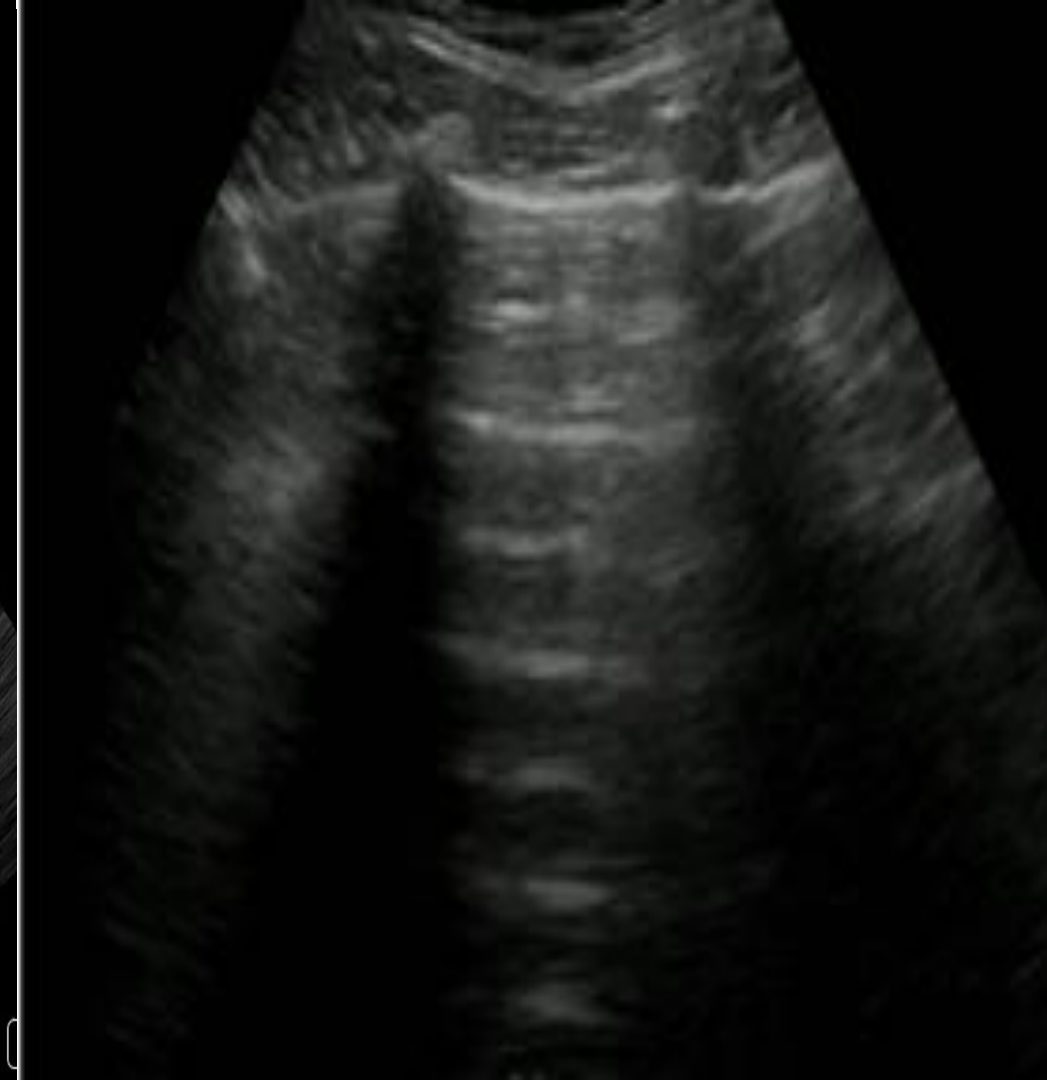
**Repeatable**



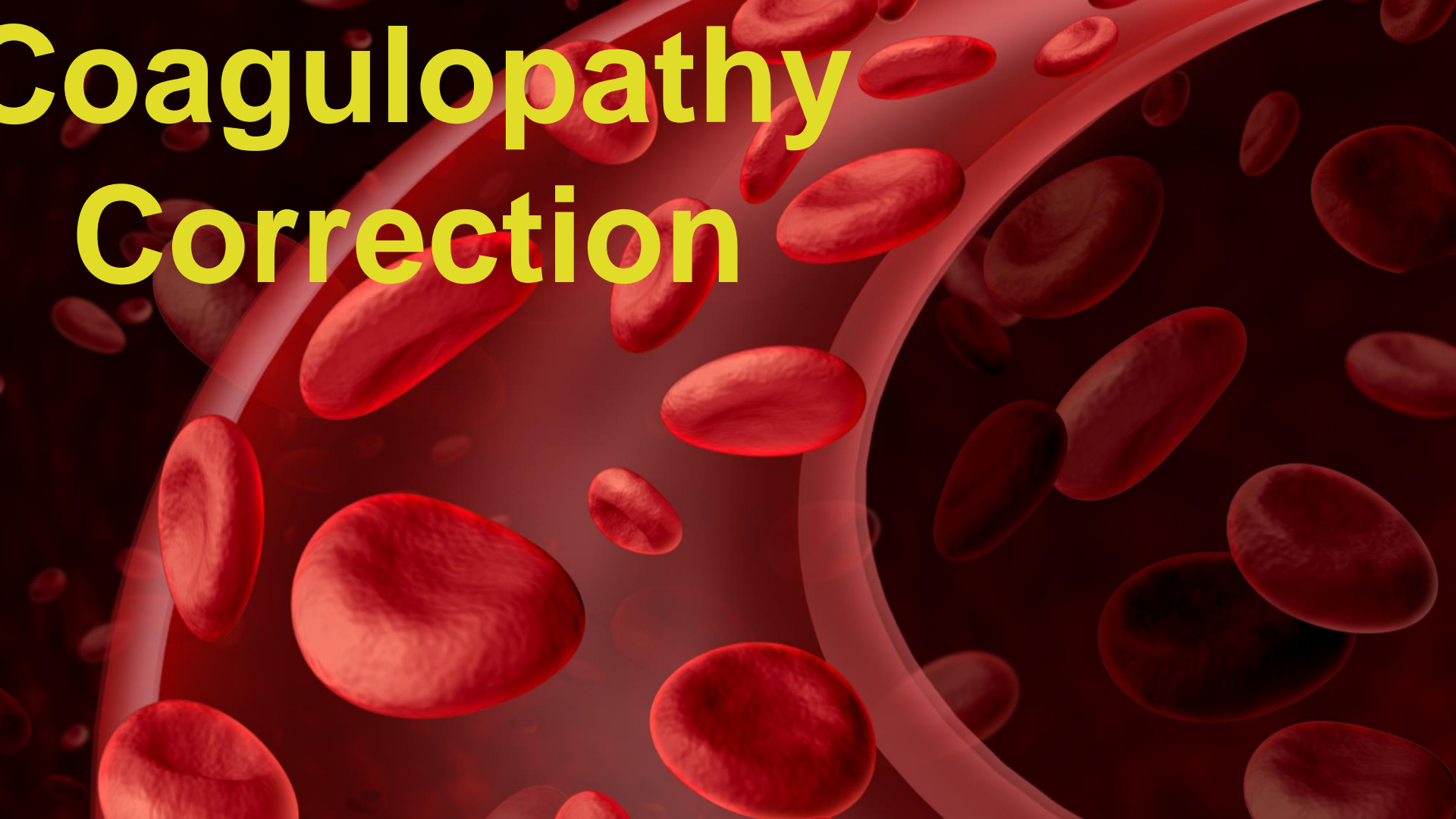
13.0 cm



17.0 cm

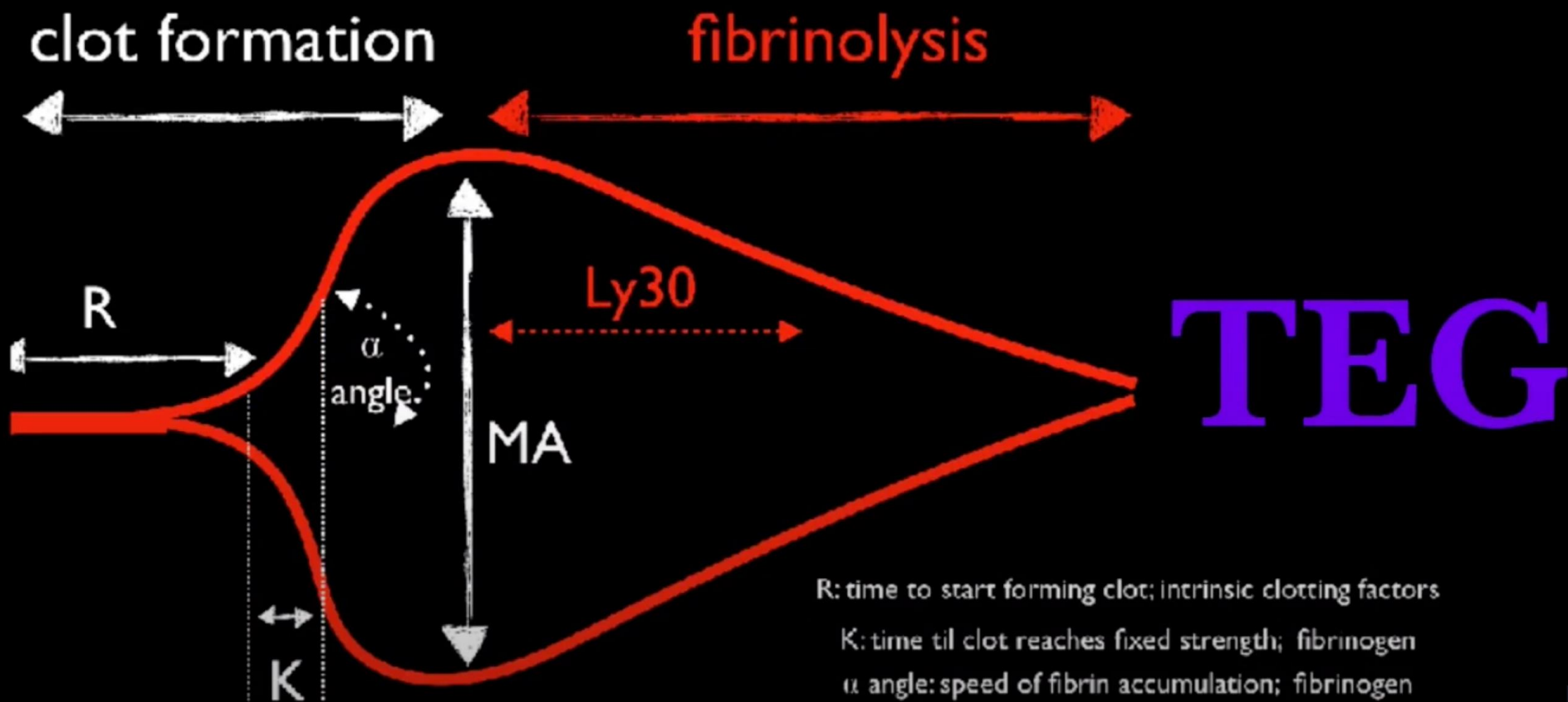






# Coagulopathy Correction

# Thromboelastogram

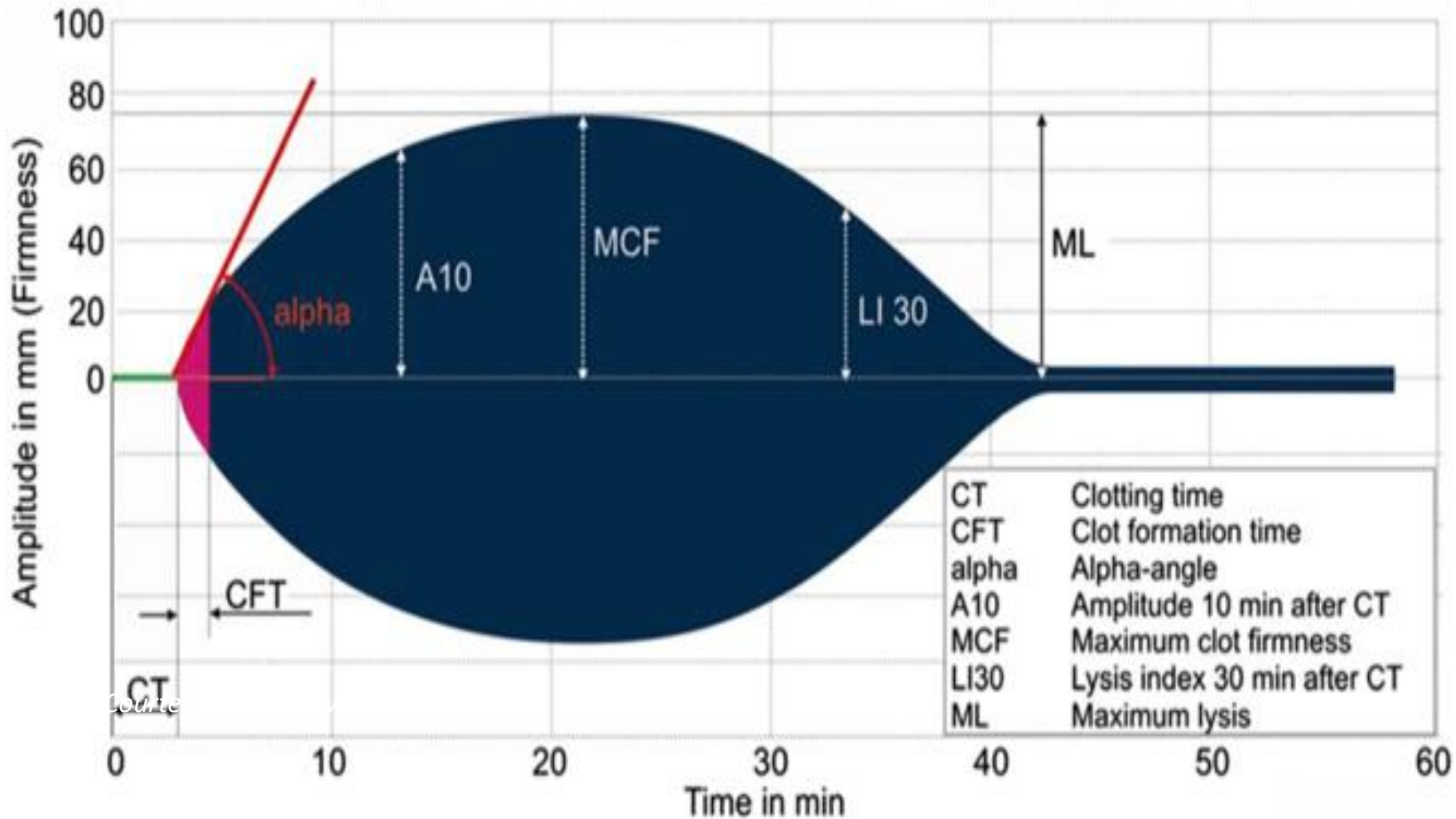


R: time to start forming clot; intrinsic clotting factors

K: time til clot reaches fixed strength; fibrinogen

$\alpha$  angle: speed of fibrin accumulation; fibrinogen

MA: maximum amplitude; platelets





B<sup>+</sup>

A<sup>-</sup>

O<sup>+</sup>

O<sup>-</sup>

AB<sup>+</sup>

B<sup>-</sup>

A<sup>+</sup>

AB<sup>-</sup>



# Transfusion- Related Reaction

# **Transfusion-Associated Lung Injury (TRALI)**

**Transfusion-Associated Circulatory  
Overload (TACO)**

# Transfusion-Associated Lung Injury (TRALI)

Acute Onset withing 6  
hours

No Preexisting ALI/ARDS

No Evidence of  
Circulatory Overload

Hypoxemia  $\text{PaO}_2/\text{FiO}_2 \leq$   
300

# Transfusion-Associated Lung Injury (TRALI)

**Management Like ARDS**

# Transfusion-Associated Lung Injury (TRALI)

Management Like ARDS

Stop Blood Transfusion



# Transfusion-Associated Lung Injury (TRALI)

Management Like ARDS

Stop Blood Transfusion

Notify Blood Bank

- 1. PAS patients needs to be transport and delivered in maternal level III and IV**
- 2. Critical care provider needs to be aware of PAS while understanding the role of hemodynamic monitoring, assessment of organ dysfunction and use of point of care ultrasound**
- 3. The future of PAS Management lies in the collaborative environment of**

# References

1. Jauniaux E, Bunce C, Grønbeck L, Langhoff-Roos J. Prevalence and main outcomes of placenta accreta spectrum: a systematic review and meta-analysis. *Am J Obstet Gynecol* 2019;221(03):208–218
2. American College of Obstetricians and Gynecologists. Levels of maternal care. *Obstetric Care Consensus No. 9. Obstet Gynecol* 2019;134(02):e41–e55
3. Shamshirsaz AA, Fox KA, Erfani H, et al. Coagulopathy in surgical management of placenta accreta spectrum. *Eur J Obstet Gynecol Reprod Biol* 2019;237:126–130
4. Eller AG, Bennett MA, Sharshiner M, et al. Maternal morbidity in cases of placenta accreta managed by a multidisciplinary care team compared with standard obstetric care. *Obstet Gynecol* 2011;117(2 Pt 1):331–337
5. Murphy EL, Kwaan N, Looney MR, et al; TRALI Study Group. Risk factors and outcomes in transfusion-associated circulatory over- load. *Am J Med* 2013;126(04):357.e29–357.e38
6. Padilla CR, Shamshirsaz AA, Easter SR, Hess P, et al. Critical Care in Placenta Accreta Spectrum Disorders-A Call to Action. *Am J Perinatol*. 2023, 40(9): 488-495.

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