

HEMORRHAGE CONTROL

WHEN SECONDS COUNT....



Presented by Limor Shemer

SAM MEDICAL
PRODUCTS®

HEMORRHAGE CONTROL

WHEN SECONDS COUNT....

- * 90% of all battlefield casualties die before reaching definitive care
- * Uncontrolled hemorrhage is the leading cause of preventable combat-related death (81%+)

CELOX™

Controls life-threatening bleeding fast



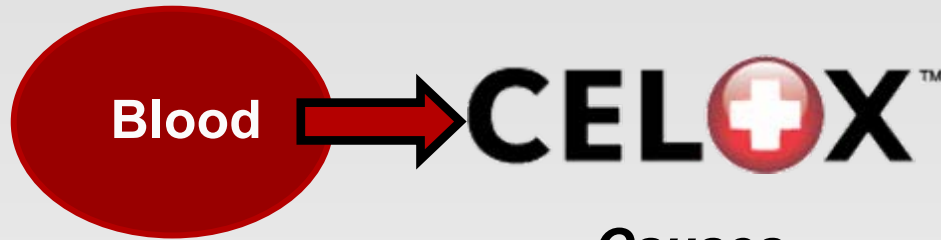
A Revolutionary Hemostat

FDA Approval June 2006

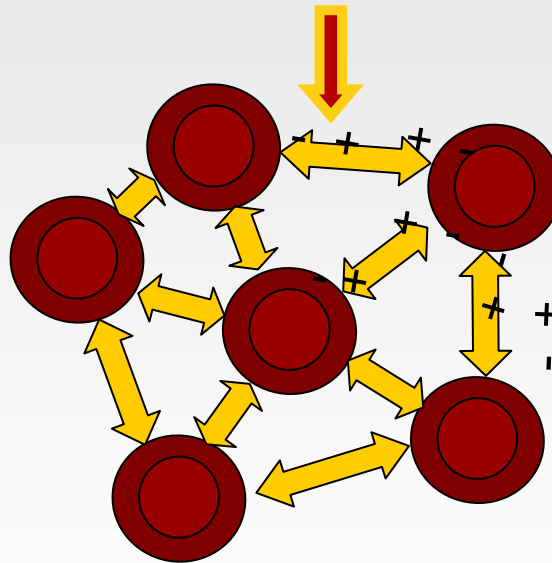
CELOXTM

LOCKS RED BLOOD CELLS

CLOTTING MECHANISM



Causes



**Red Blood Cells
Bind Together
to form
a Robust,
Flexible Clot**

Works INDEPENDENTLY of Blood Clotting Factors !



WORKS INDEPENDENTLY

of Blood Clotting Factors



Works in Hypothermic Conditions:

- ▶ Cold Weather Environments
- ▶ Transport



- Works Independently of Blood Clotting Factors
 - Effective in the Hypothermic Conditions
 - Clots Heparinized Blood
- Rapid and Strong Clot Formation
- Effective for Severe Arterial Bleeds
- No Exothermic Reaction or Burning
- Safe for Thoracoabdominal Applications
- Affordable and Lightweight for Individual Carry
- 3 Year Shelf Life ♦ No Special Storage Conditions

TESTS CONDUCTED

LABORATORY TESTING:

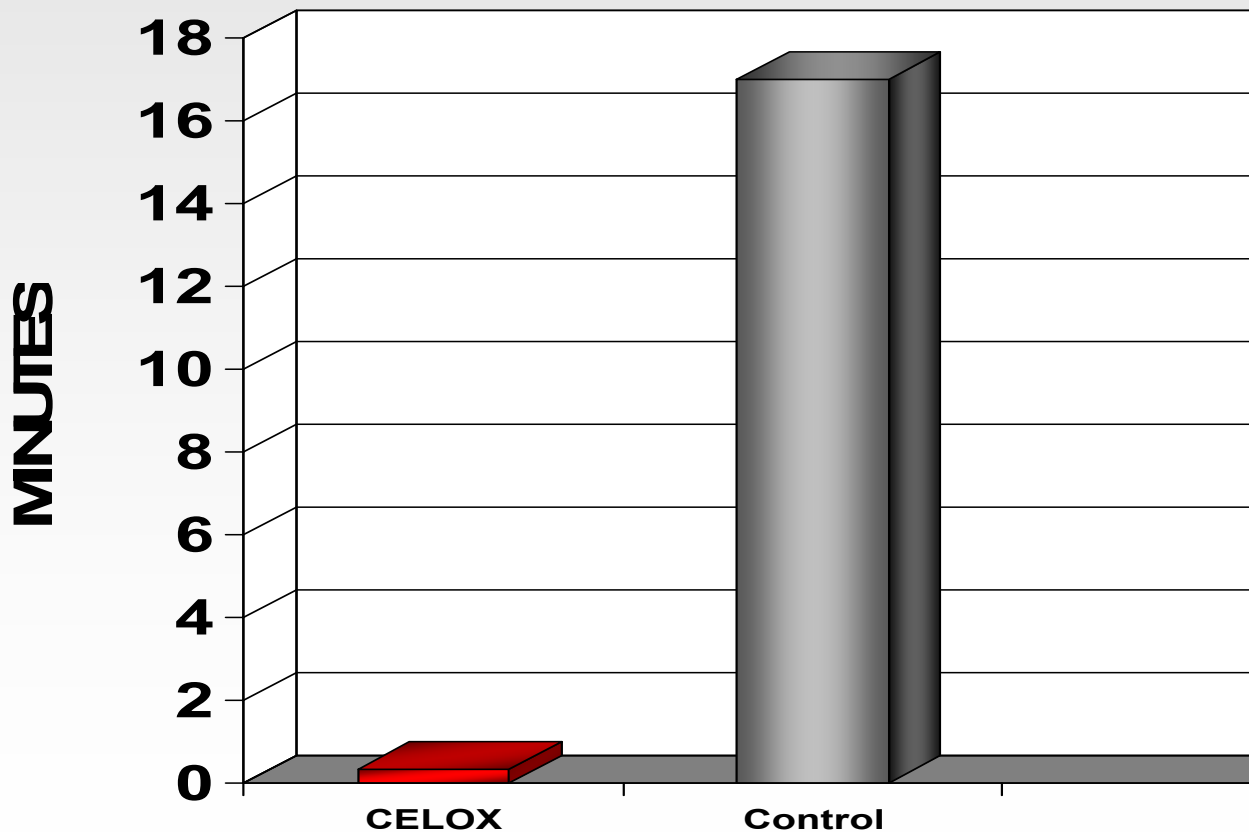
Clotting Speed – Heparinized Blood – Extreme Cold Temperatures – Heat Generation

MODIFIELD SWINE TEST: 6 Animals

CLOTTING TIME - WHOLE BLOOD

Laboratory Evaluation

CELOX⁺ Clots Blood FAST - in under 25 Seconds



CLOTTING TIME – EXTREME COLD TEMPERATURE

Laboratory Evaluation

CEL⁺X™

Control

AVG. START TEMP

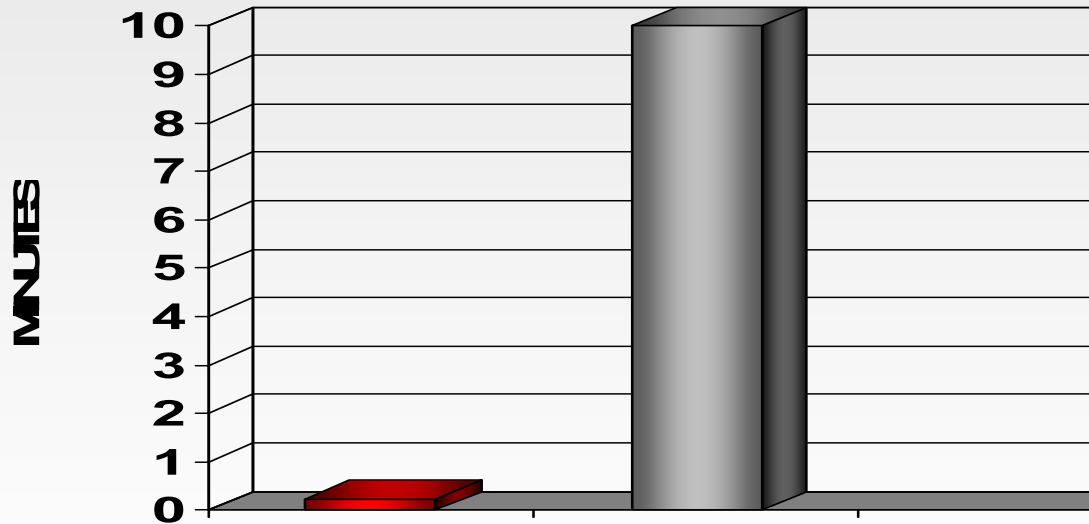
65.4°F

63°F

AVG. CLOT TIME

20 SEC

No Clot

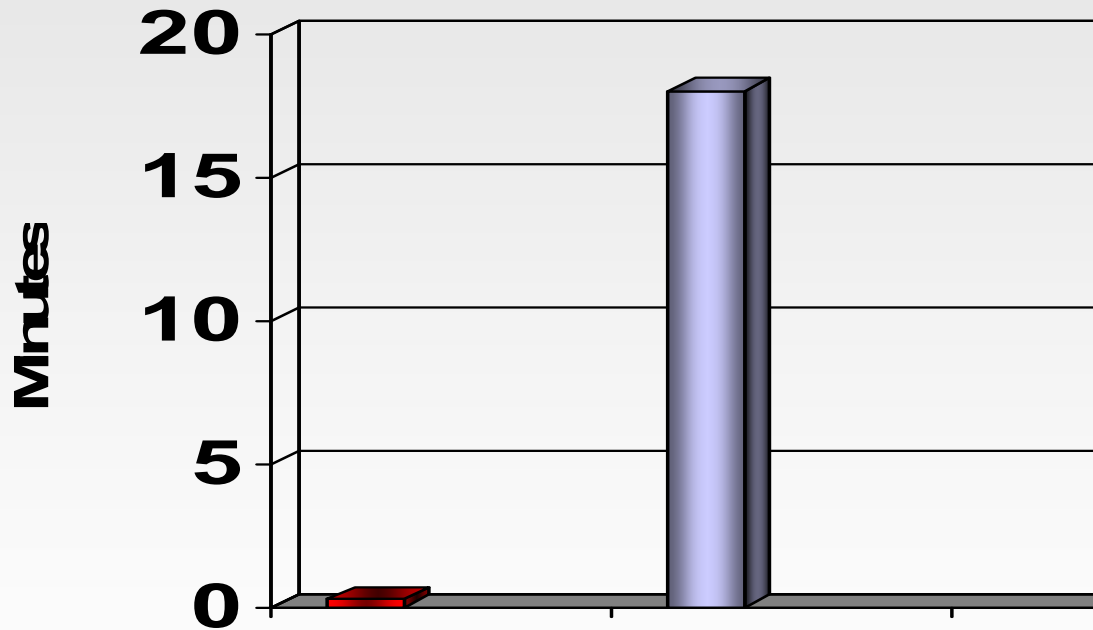


**Photos taken
After 10 minutes**

CLOTTING TIME – HEPARINIZED BLOOD

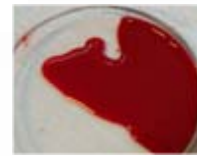
Laboratory Evaluation

Clots Heparinized Blood !



CELOX

Control



22 Seconds

No Clot

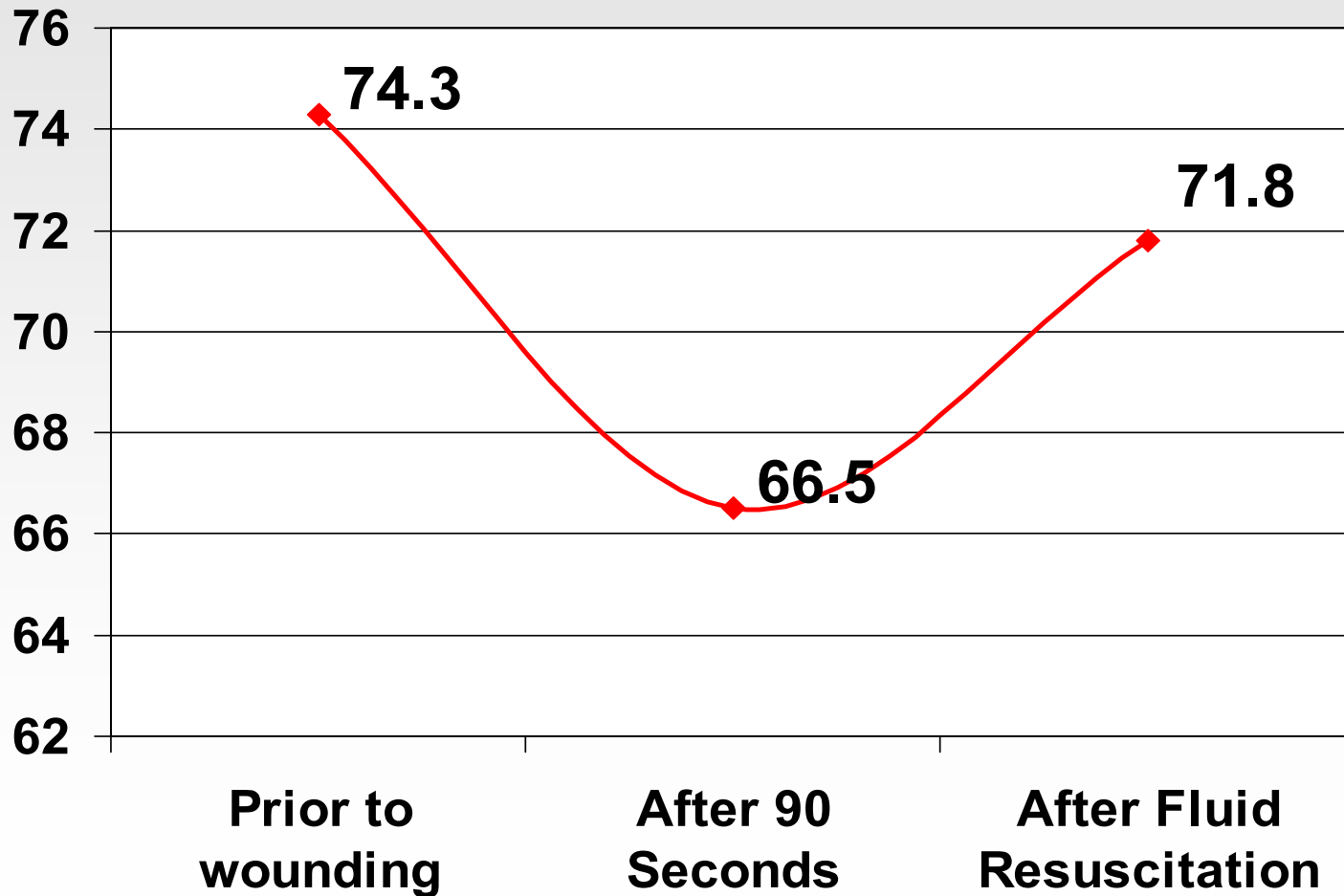
**Photos taken 18 minutes
After Adding Product**

Modified Swine Model Test

- ▶ Arterial Line to track Mean Arterial Pressure
- ▶ Fluid Resuscitation – 500 mL of Hespan
- ▶ Complete Cut of a Femoral Artery
- ▶ Bleed out 90 Seconds
- ▶ 5 minutes manual compression

TESTING **CELOX**[™] ON 6 SUBJECTS

AVG. MAP (Mean Arterial Pressure)



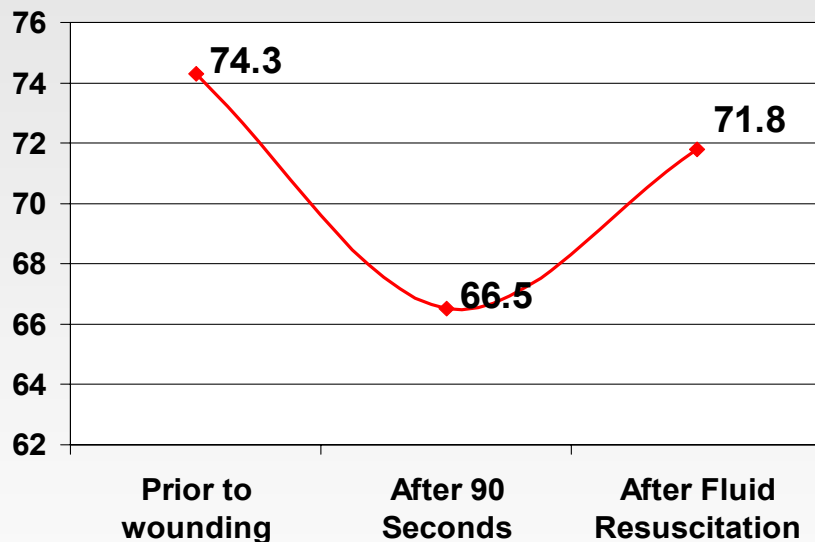
TESTING **CELOX**[™] ON 6 SUBJECTS

SURVIVAL AND TENSILE STRENGTH OF CLOT

	At 15 Minutes	After Fluid Resuscitation	After Severe Agitation
Survival	100%	100%	100%
Re-Bleeds	None	None	None
Avg. MAP	66.5	71.8	Not Measured

TESTING CEL⁺X™ ON 6 SUBJECTS

AVG. MAP (Mean Arterial Pressure)



Blood Pressure at which Re-bleeding Occurs After Fluid Resuscitation in Swine with Aortic Injury

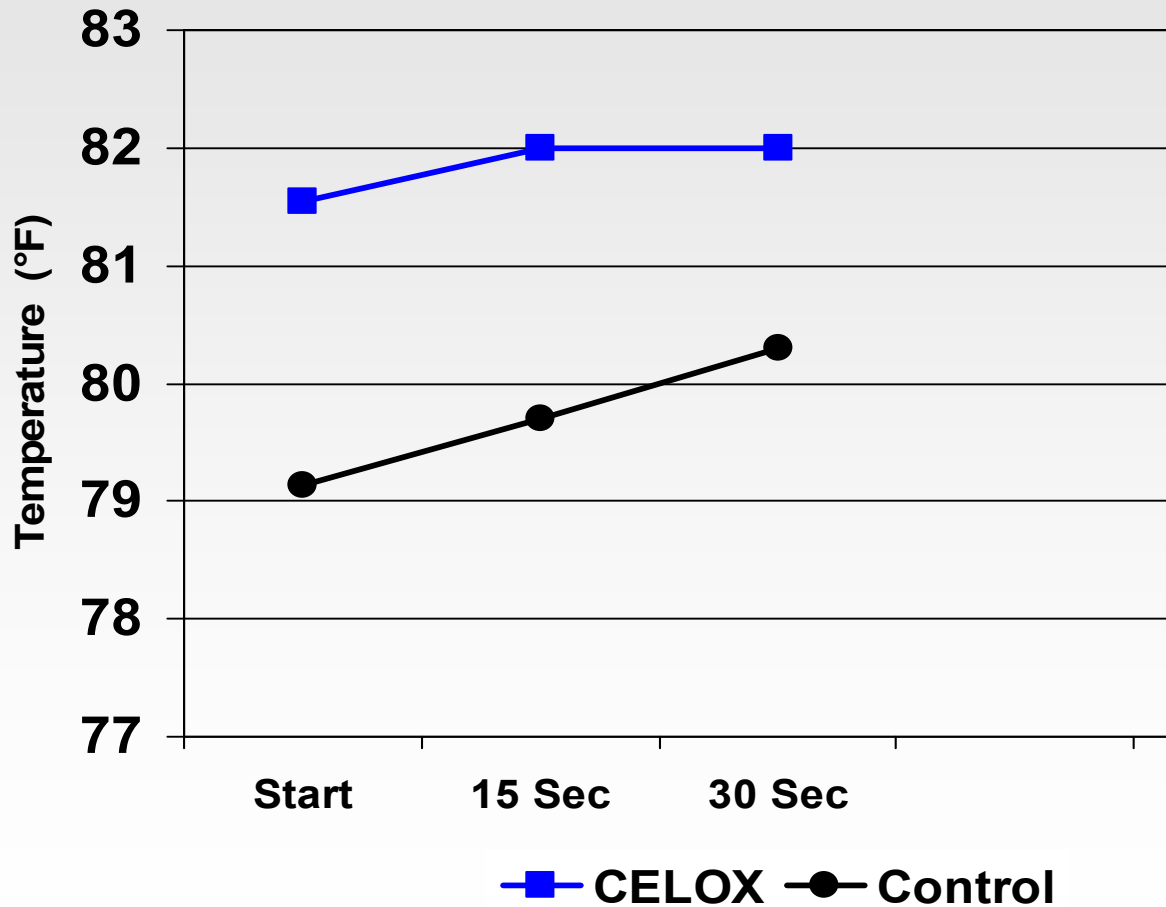
Jill Sondeen, Valerie Coppes, John Holcomb
J. Trauma 2003; 54:S110-S117

“The average pressure at the re-bleeding point for all animals was MAP = 64 ± 2 , Systolic = 94 ± 3 , Diastolic = 45 ± 2 mm Hg.

The pressure at which re-bleeding occurred in this aortotomy model was not affected by either time of resuscitation (5-30mins), nor was the re-bleeding pressure affected by the rate (100 vs 300mL/min) of resuscitation.



NO HEAT IS GENERATED



CONCLUSION

CELOX[™] ... A Revolutionary Hemostat !

- ▶ **Works Independently of Blood Clotting Factors**
 - ▶ **Safe, Clots Fast, Strong Clot, Portable, Affordable, and Easy to Use and Debride**
 - ▶ **Can be Used on ALL parts of the Body**
 - ▶ **No Special Training Required**

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