What Kind of Platelets Are We Transfusing?

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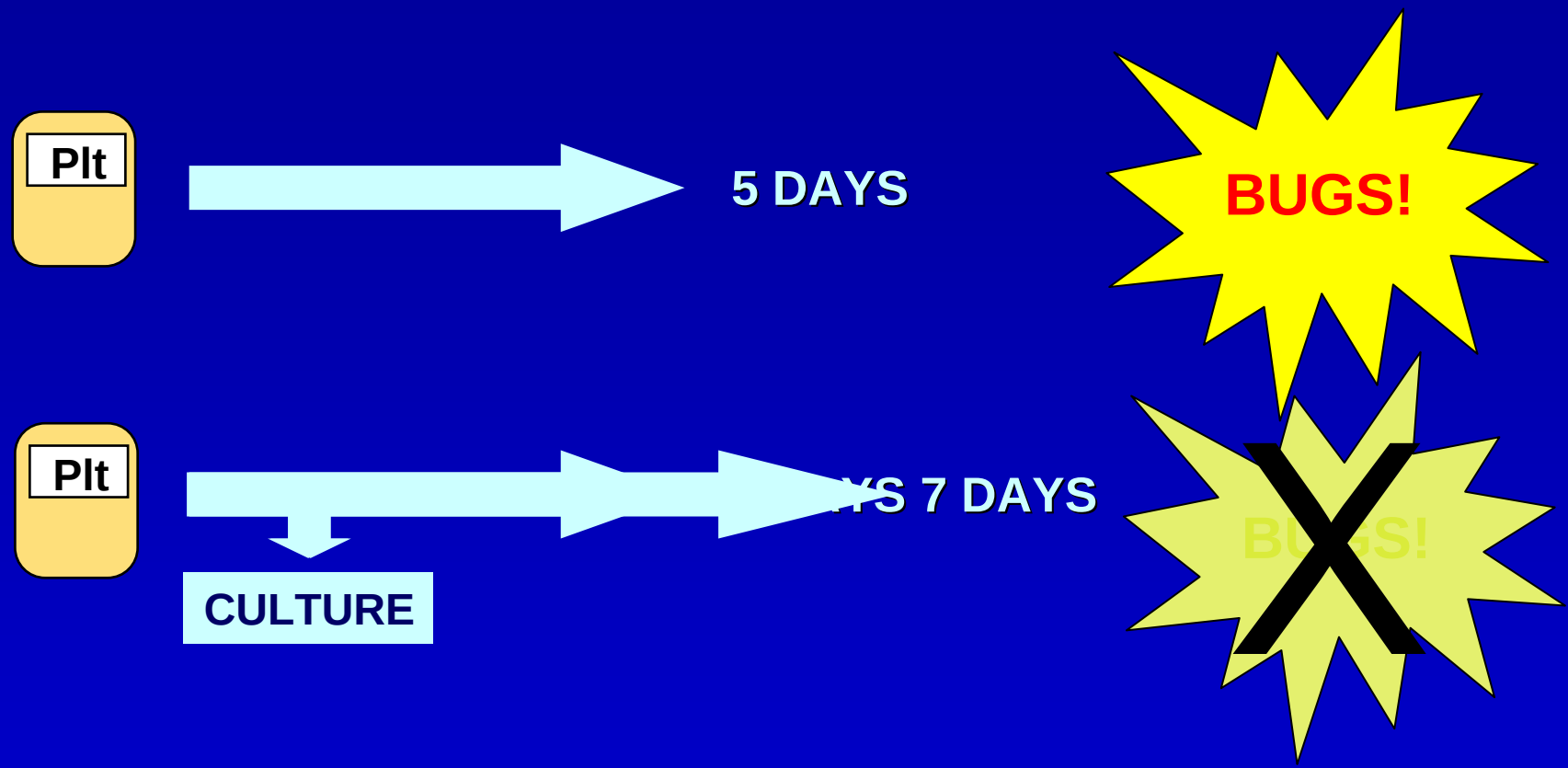
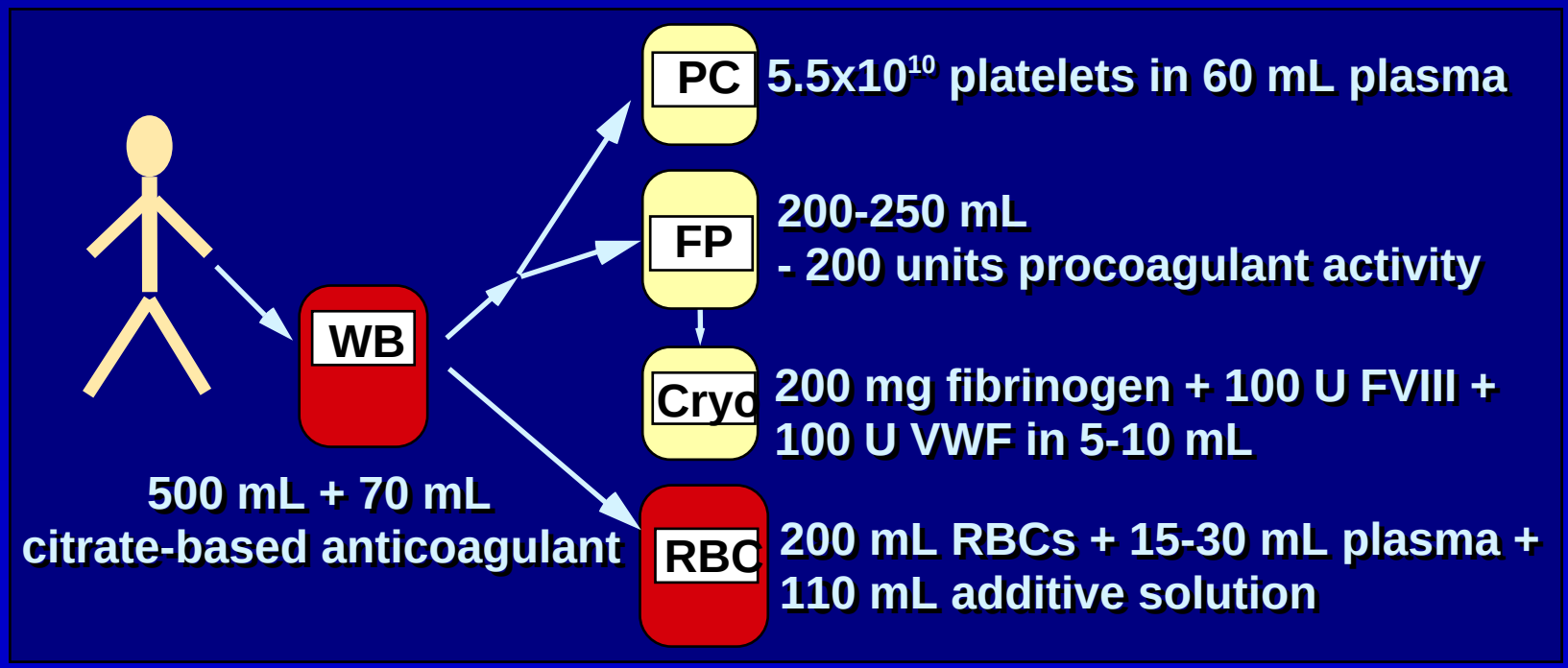
Systems Change with Bacterial Detection



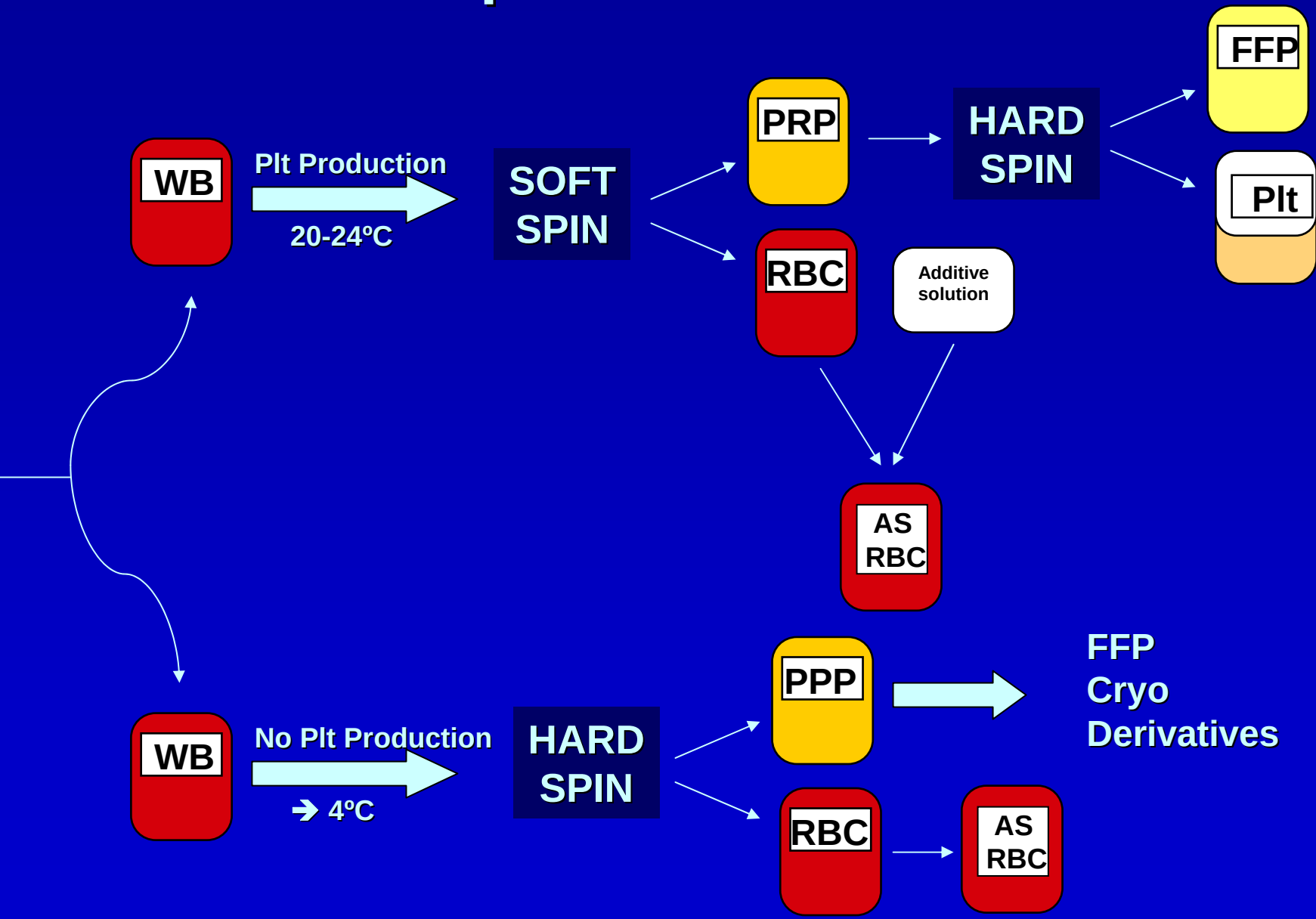
Cooper L *et al. Transfusion* 1999;39:119-20S.
AuBuchon JP *et al. Transfusion* 2002;42:855-61.
Sullivan MT *et al. Transfusion* 2002;42:1253-60.

Component Production

Components from a Whole Blood Donation

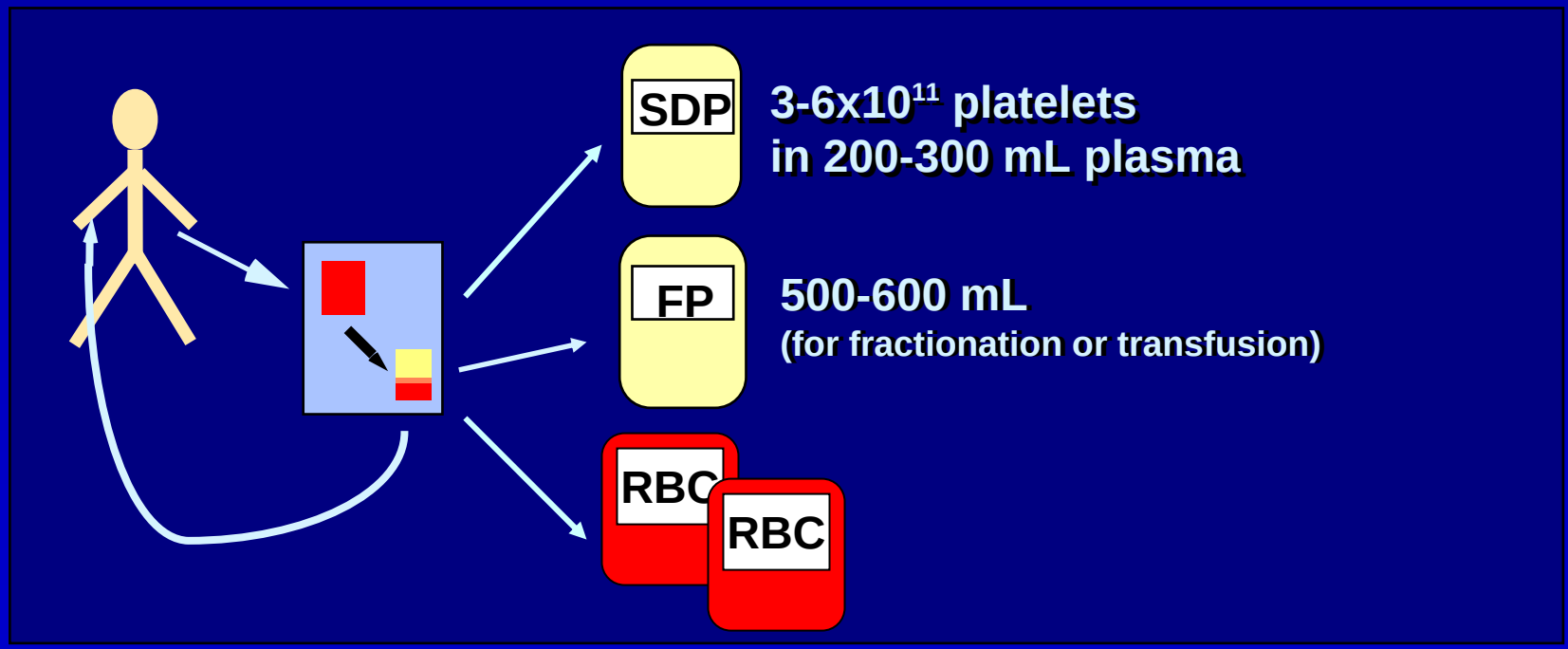


Component Production



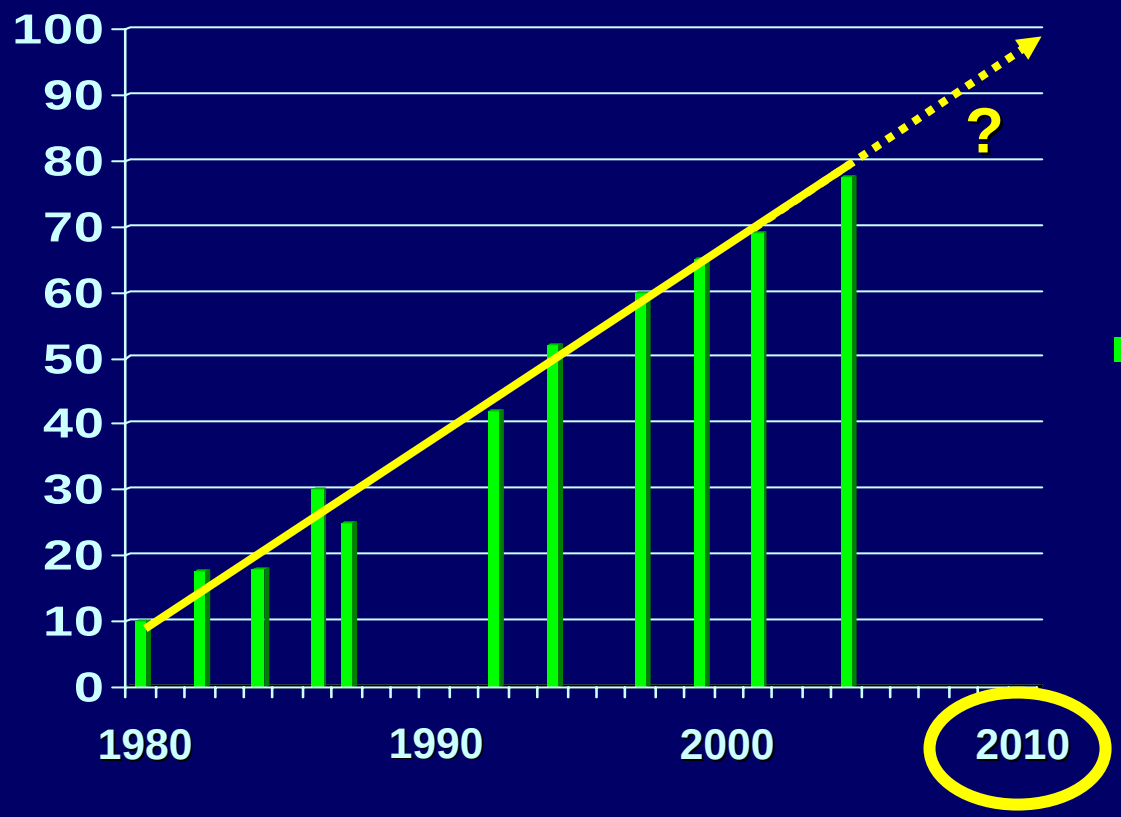
Collection Techniques

Components from Apheresis



Platelets

Mechanism of Collections



Data compiled by Mark Brecher

Comparison of Platelet Units

	Whole Blood-Derived	Apheresis
Cost of preparation	Lower	Higher
Cost to hospital	Lower	Higher
Ease of bacterial testing	Lower	Higher
Ease of leukoreduction	Lower	Higher
Hospital preparation	Higher	Lower
Donor exposures	Higher	Lower
HLA matching	No	Available
Known content/	Approximate	Yes
Pt-specific dosing	Approximate	Yes

Seven-Day Storage of Single Donor Platelets: Recovery and Survival in an Autologous Transfusion Study

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Gambro BCT, Lakewood, Colorado

J. AuBuchon, L. Herschel, J. Roger

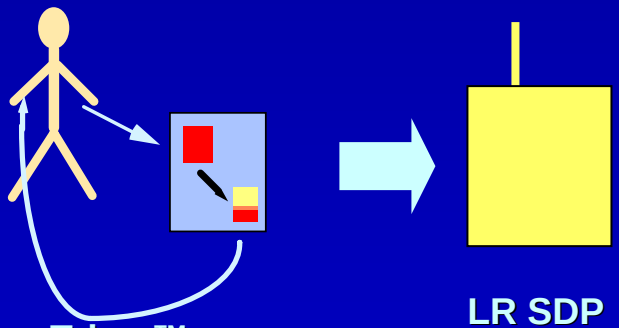
Dartmouth-Hitchcock Medical Center, Lebanon, New Hampshire

P. Whitley, D. McNeil, A. Johnson S. Sawyer

American Red Cross Research/Eastern Virginia Medical School Norfolk, Virginia

Transfusion **2002;42:847-54.**

A Controlled Trial of 5 vs. 7 Day Platelet Storage



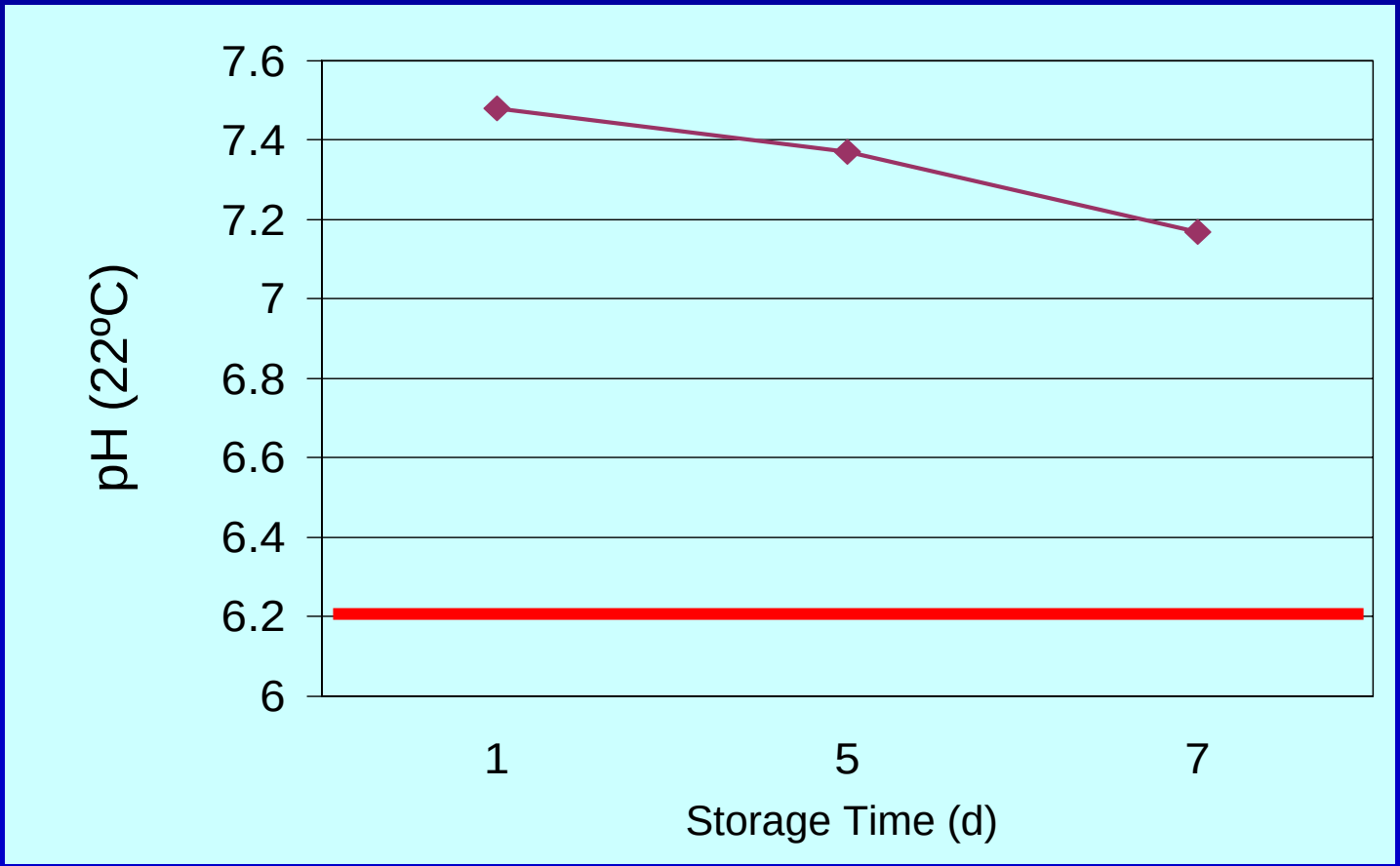
Trima™
Spectra™ LRS Turbo

LR SDP

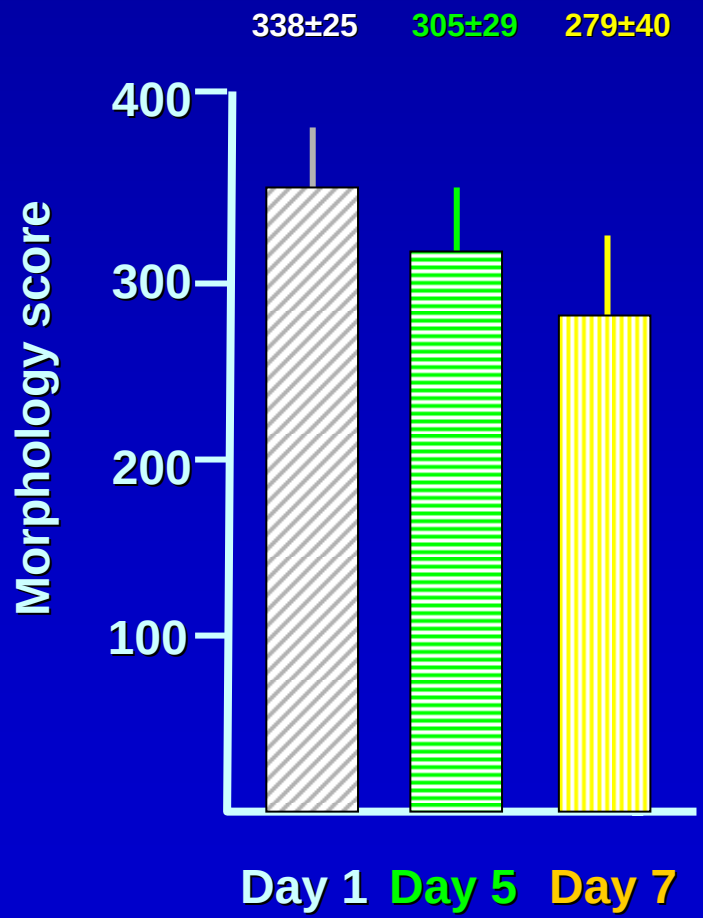
X	X	X	Biochemical assays
X	X	X	Functional assays
	X	X	$^{51}Cr/^{111}In$ autologous recovery and survival

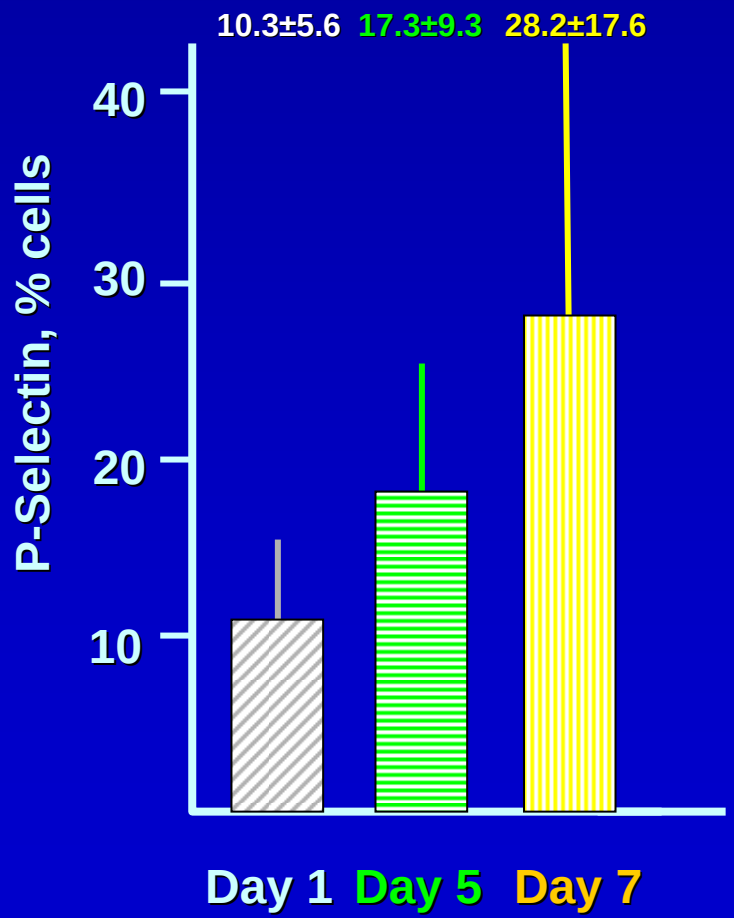
n=24

A Controlled Trial of 5 vs. 7 Day Platelet Storage

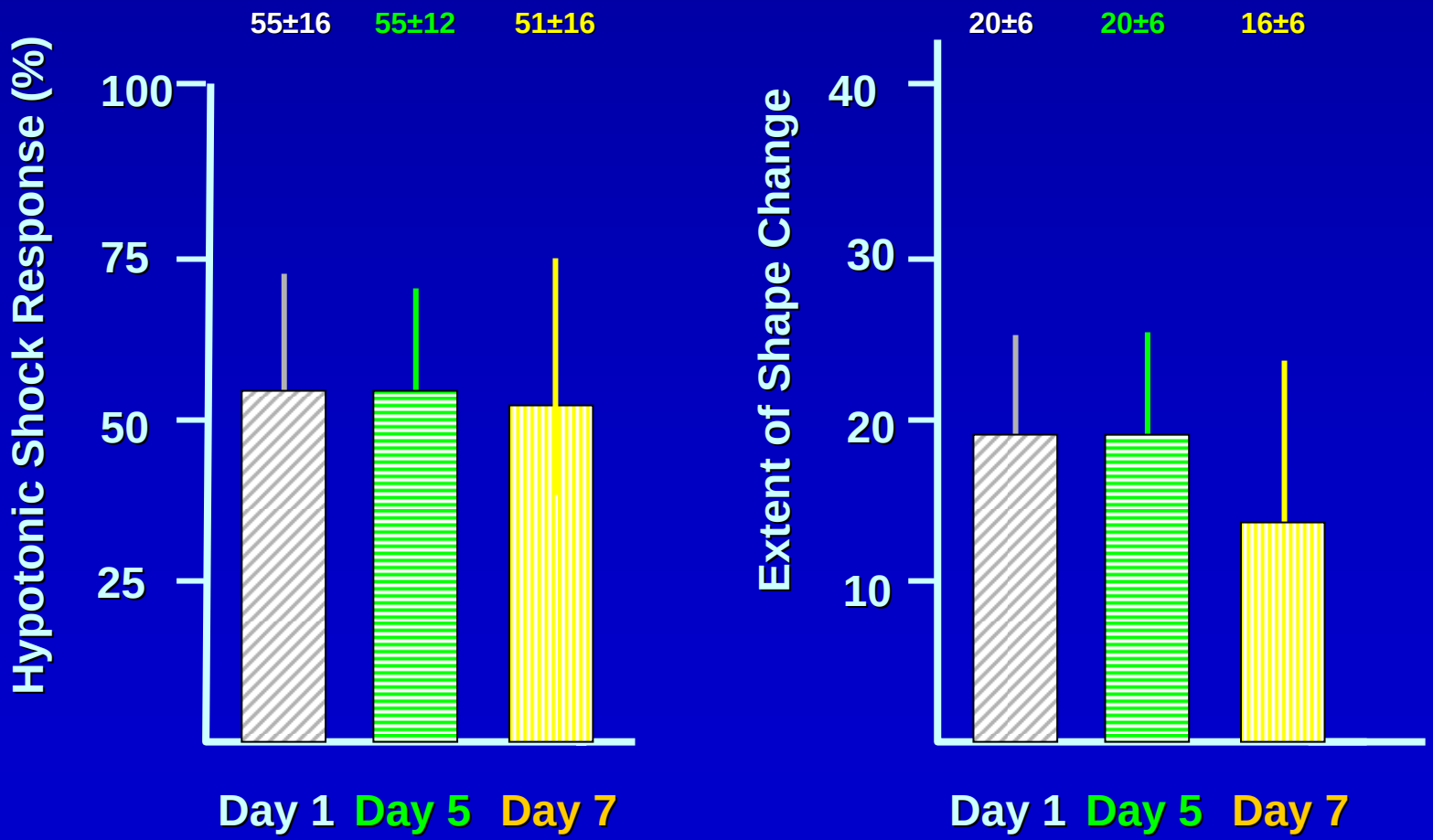


Hematologic Analyses

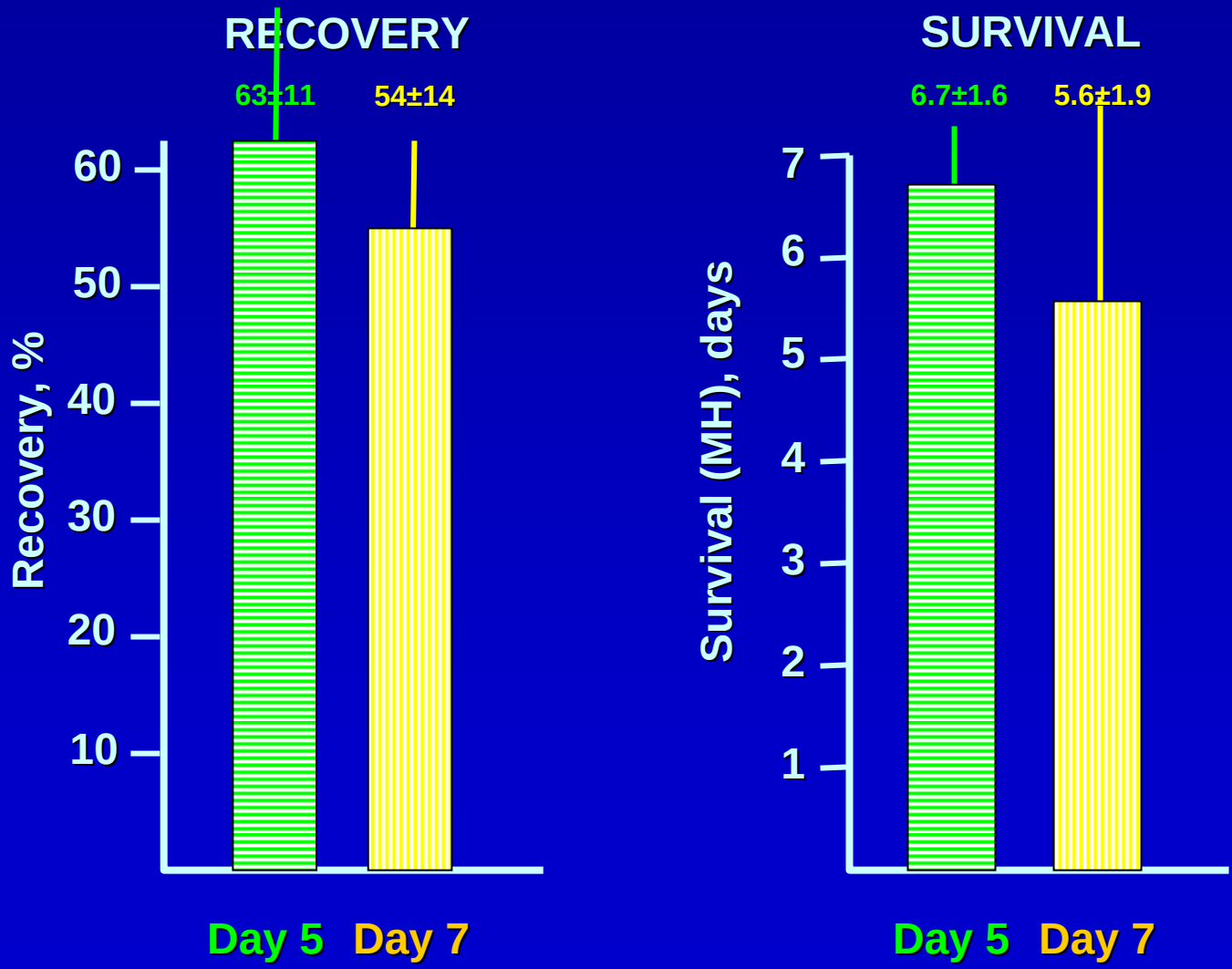




Functional Analyses



In Vivo Analyses



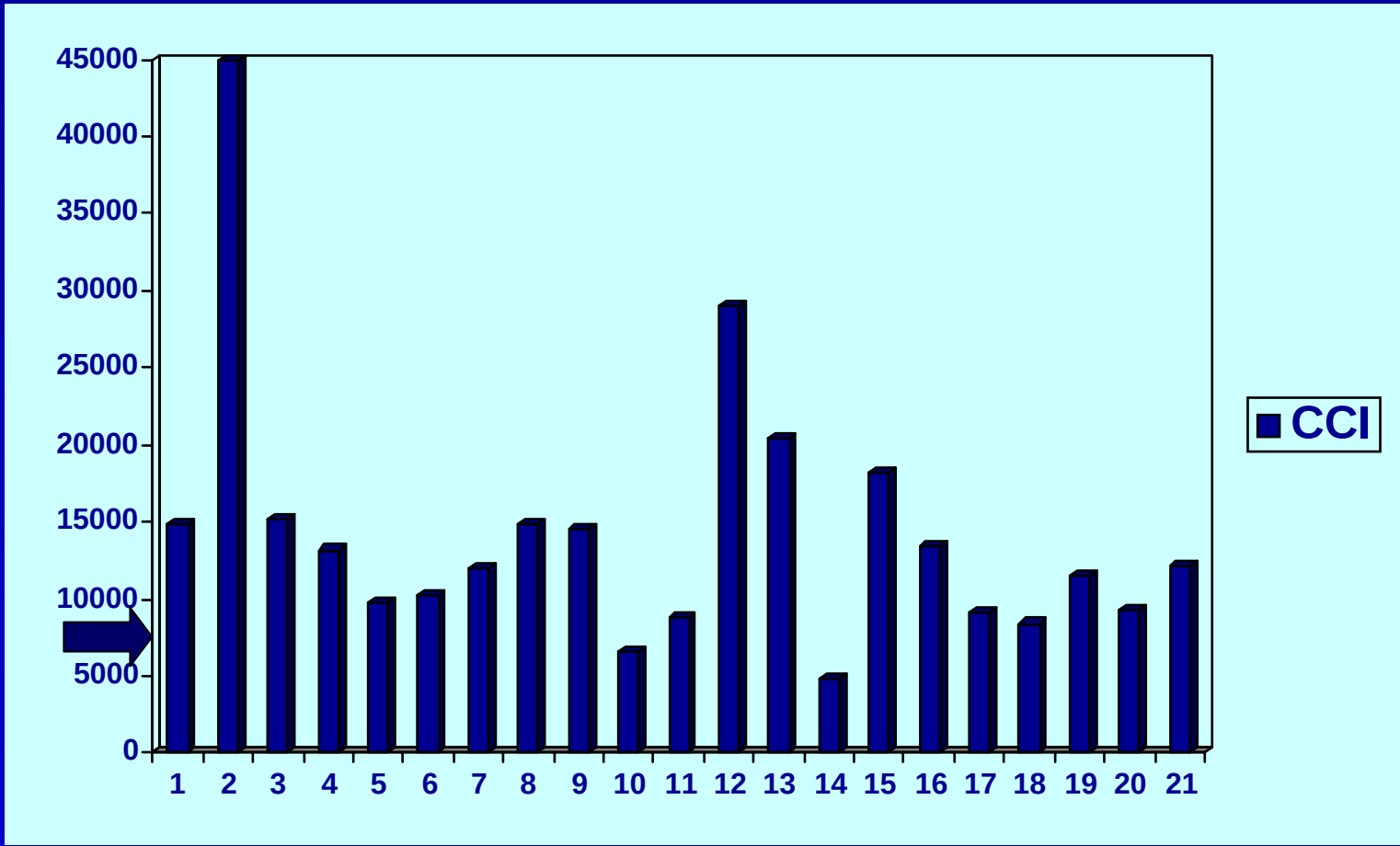
A Controlled Trial of 5 vs. 7 Day Platelet Storage

	5 Days	7 Days
Recovery		
This study	63±11%	54±14%
Archer *et al.*	59±17%	46±8%
Survival		
This study	6.7±1.6d	5.6±1.9d
Archer *et al.*	3.4±1.5d	2.7±0.5d

Mean ± 1SD

Archer *et al. Vox Sang* 1982; 43:223-30.

Clinical Effect of Transfusing Platelets Beyond Day 5



CCI at Day 6-7: 14,400±8,800 Median: 12,191 (n=21)

Comparison of 5-Day and 7-Day PRP Platelet Unit Storage in CLX® Plastic Containers

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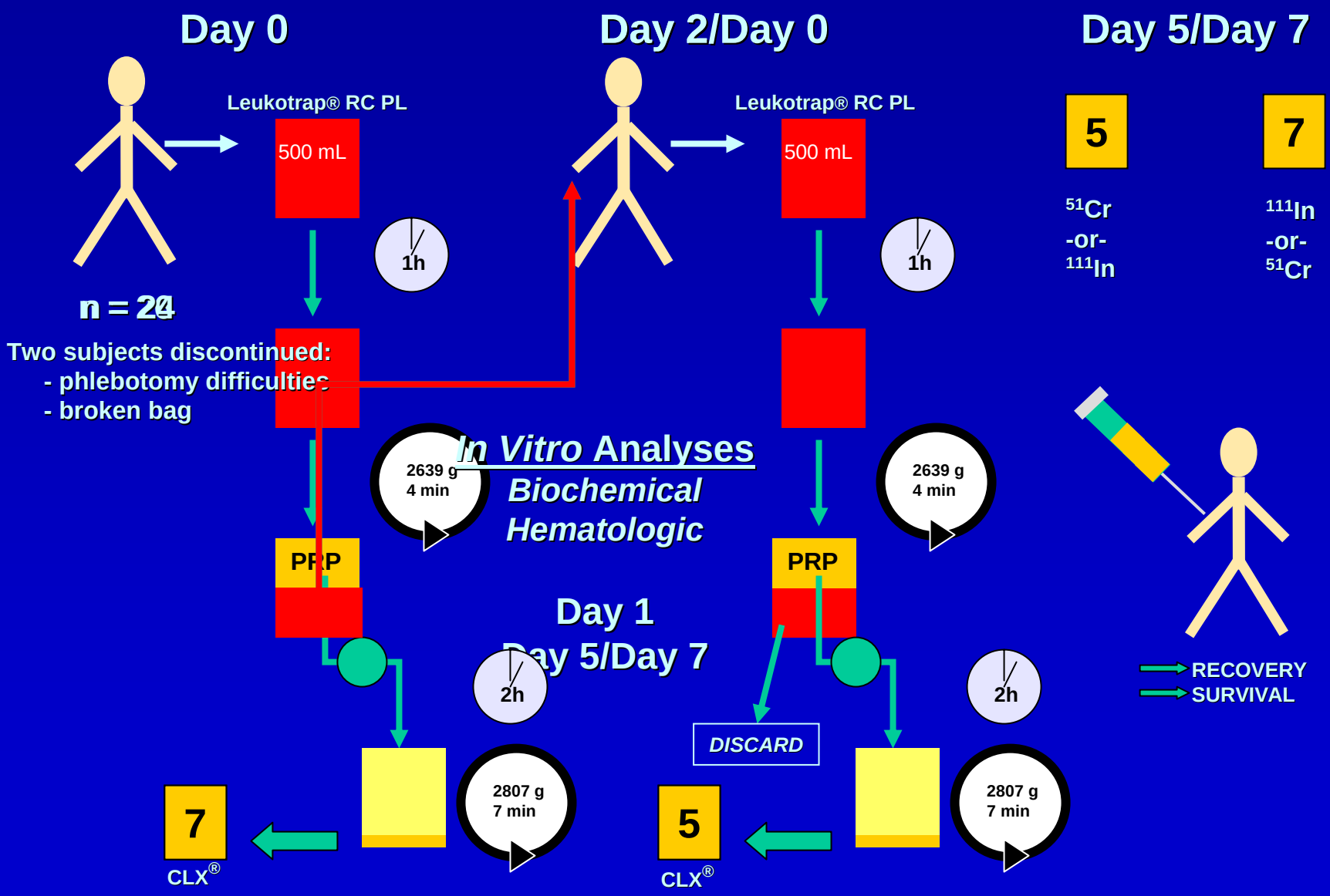
American Red Cross Research/Eastern Virginia Medical School Norfolk, Virginia

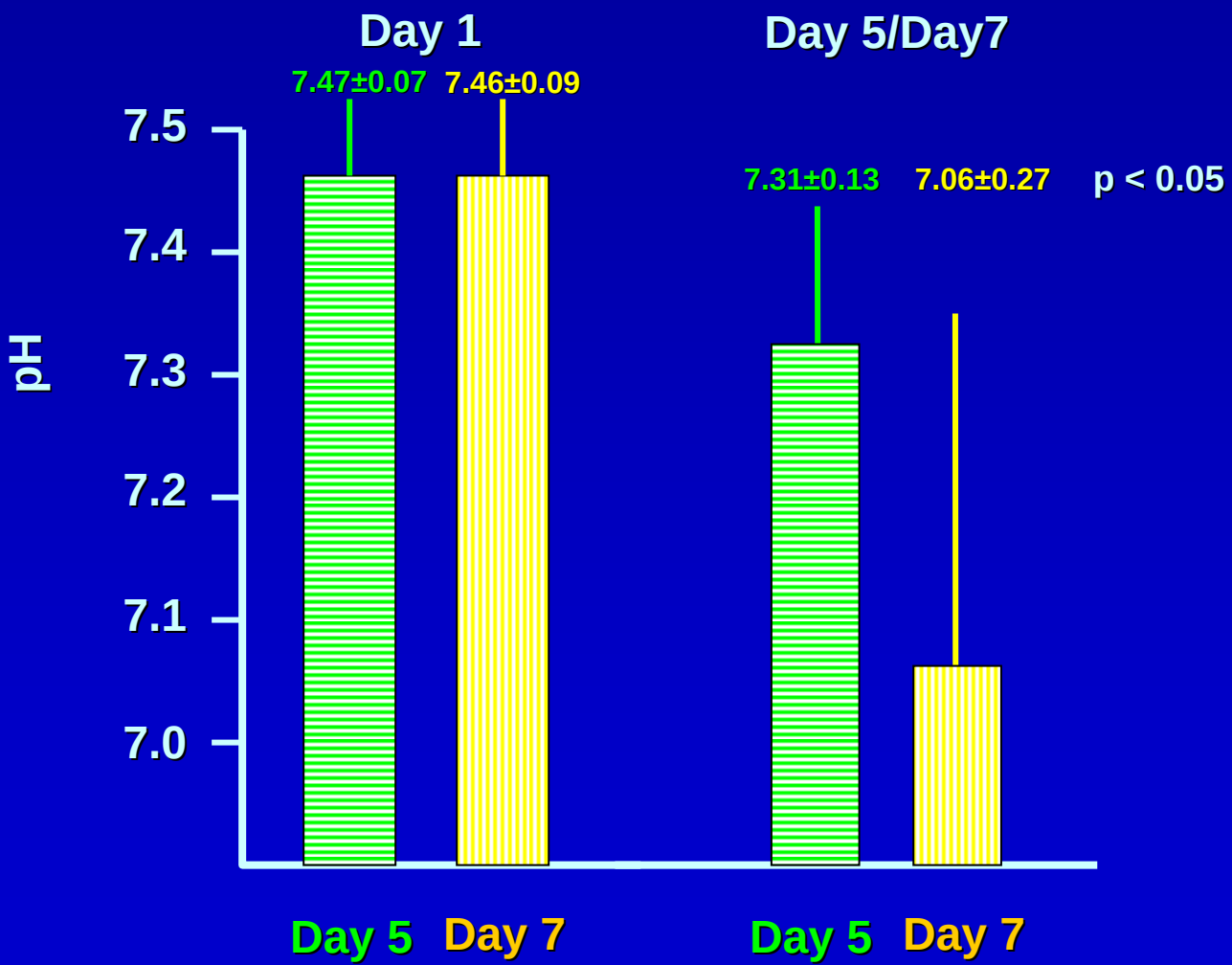
S. Holme, T. Lieu, E. Nelson
Pall Medical Corporation, Covina, California

Abstract: *Transfusion* 2003;43:37A
Manuscript: *Transfusion* (in press).

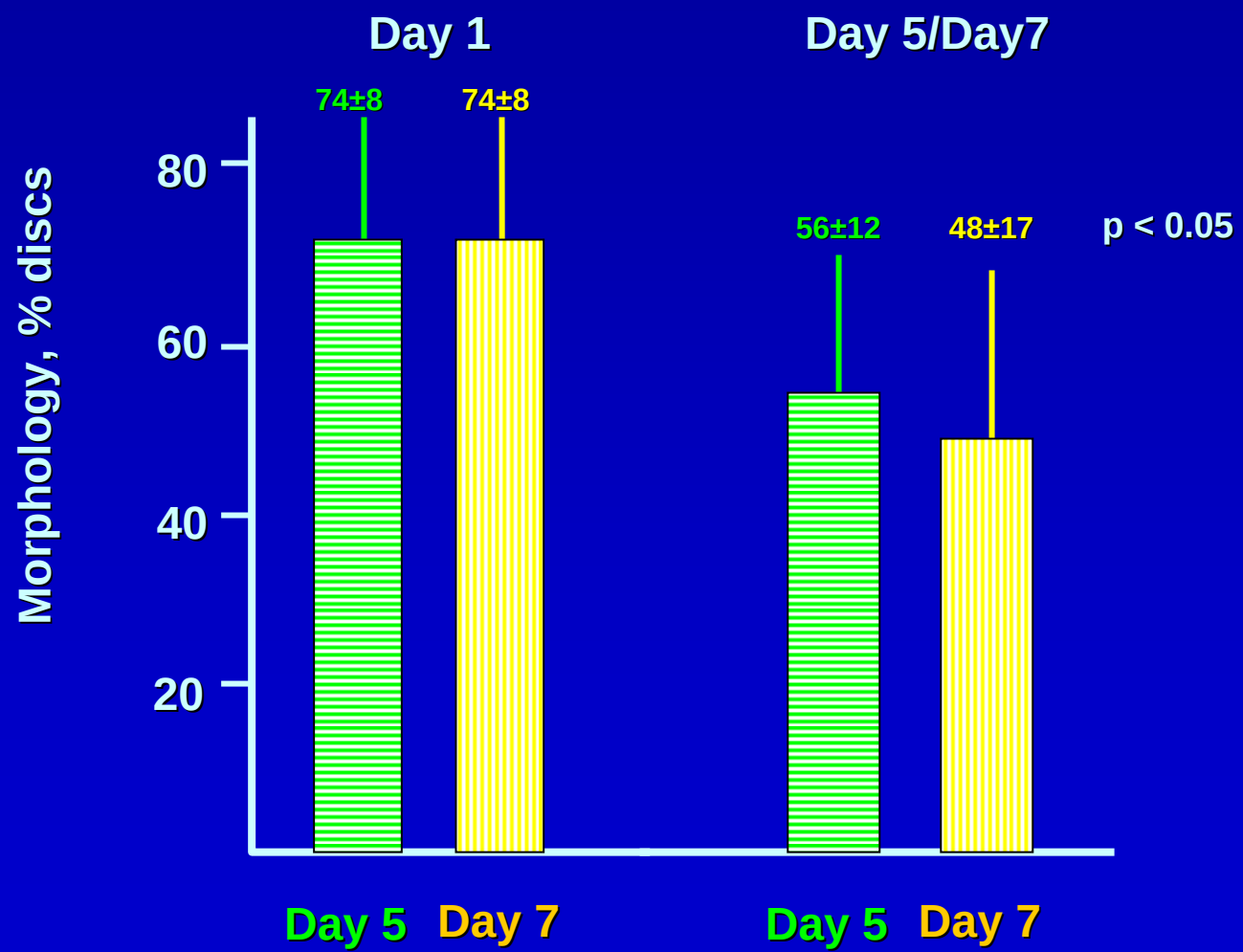
Study Protocol



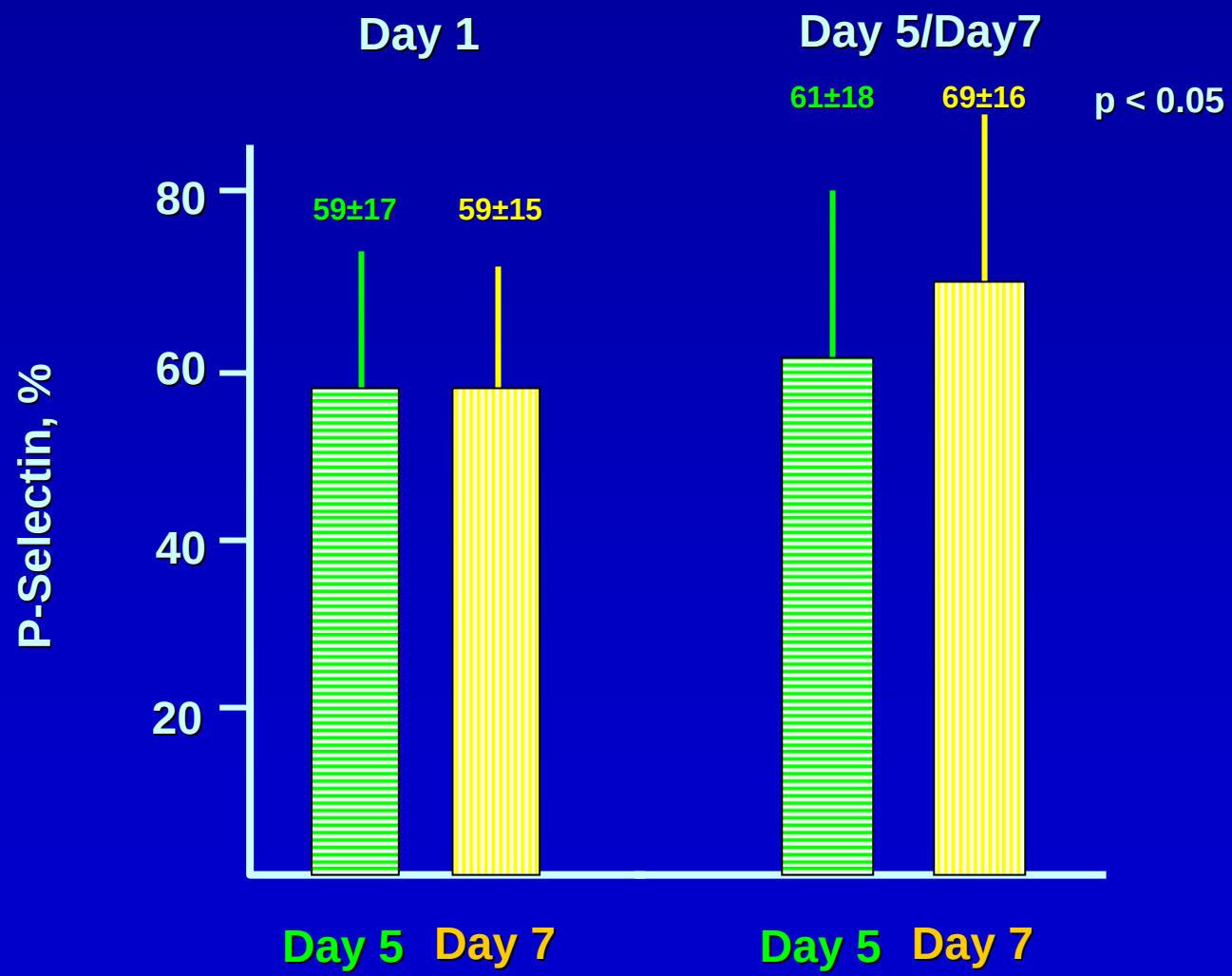
Biochemical Analyses



Hematologic Analyses



Hematologic Analyses



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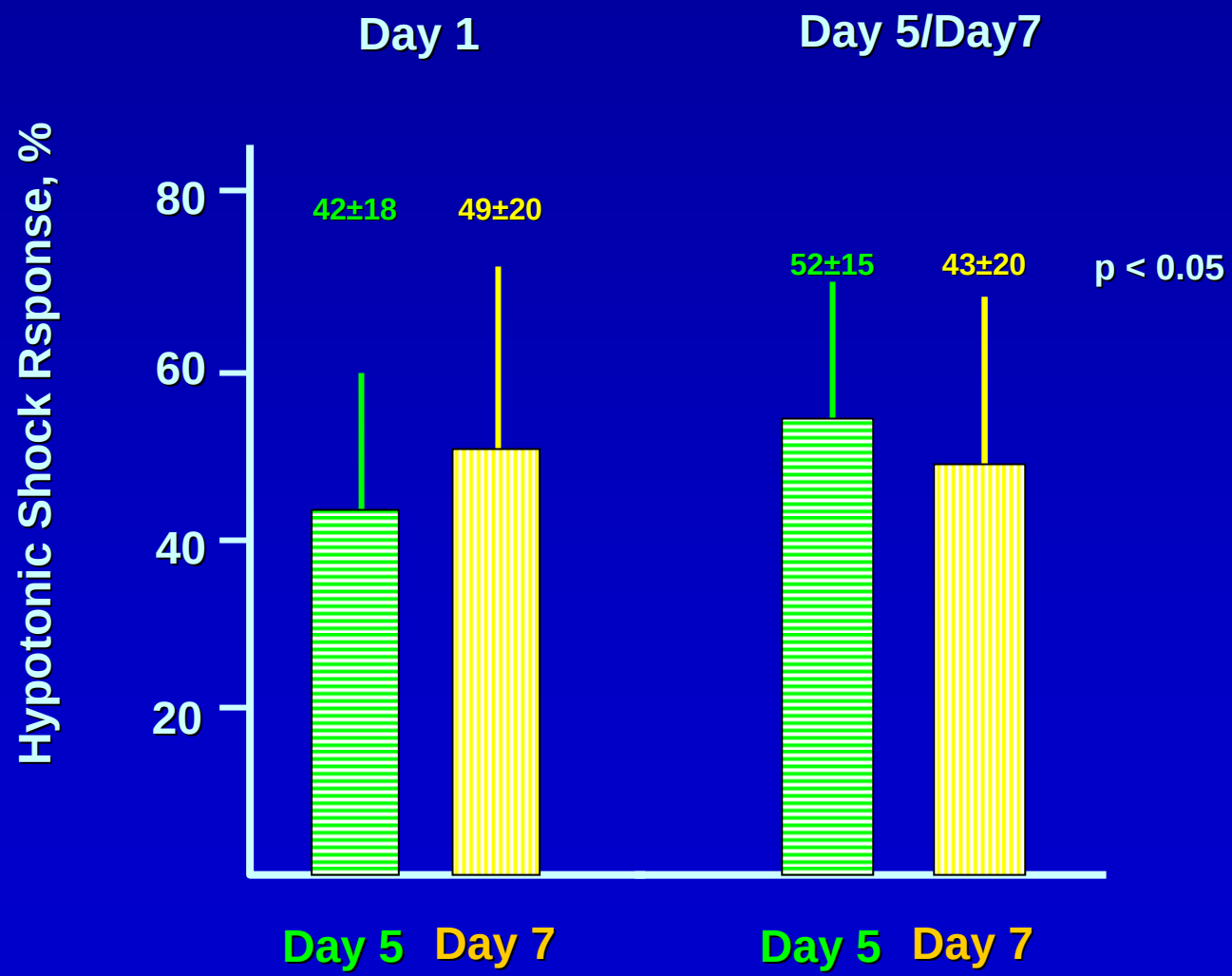
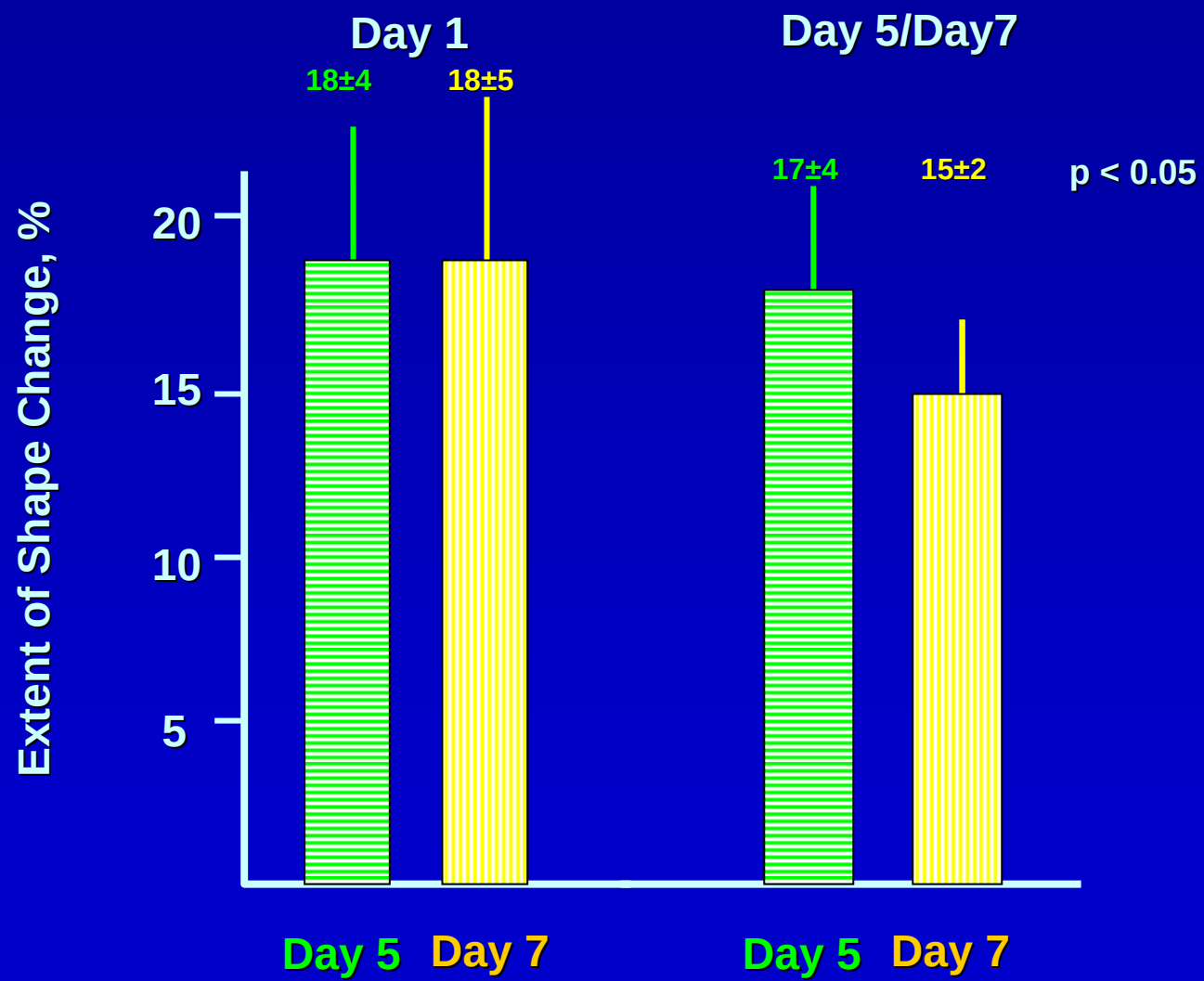
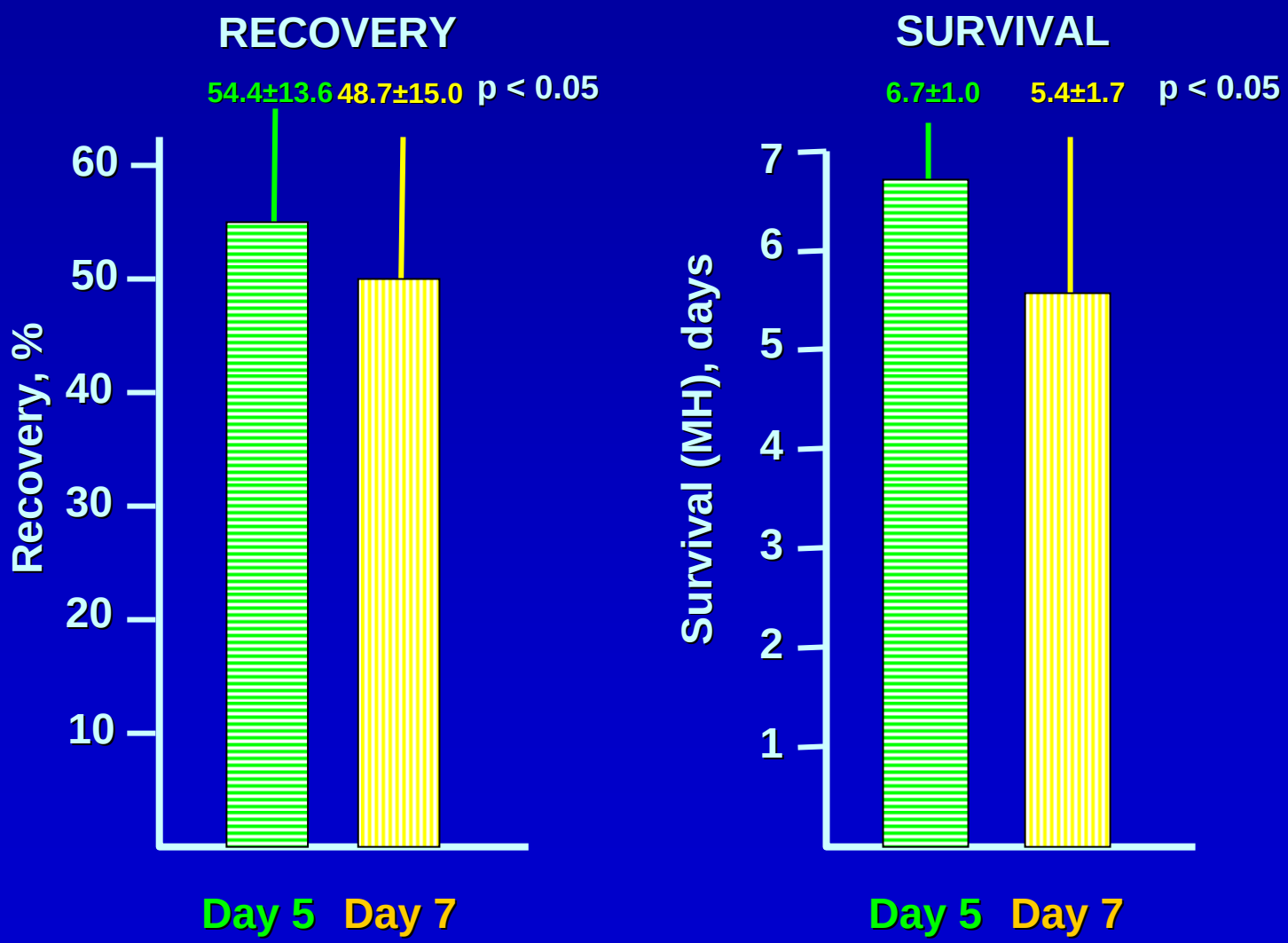


Hematologic Analyses



In Vivo Analyses



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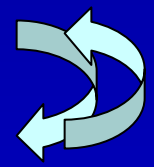

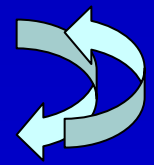

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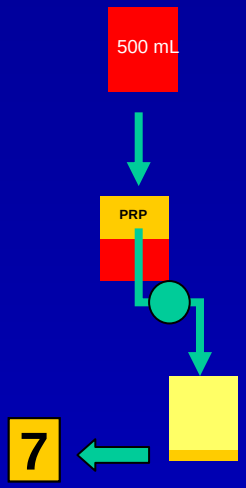

Commentary

Both WBD and apheresis platelets are clinically efficacious.

Preparation methods are important.

Direct comparisons with current methods are few and do not demonstrate significant differences.