

1- El descenso de la presión arterial media depende de alteraciones en el gasto cardiaco y la resistencia vascular sistémica:

Falso _____ Verdadero _____

2-La presión venosa central presenta una deficiente correlación con respecto a diferenciar entre respondedores y no respondedores a fluidoterapia:

Falso _____ Verdadero _____

3-El índice de variabilidad del volumen sistólico y del gasto cardiaco, superan al test de elevación de piernas al momento de diferenciar entre respondedores y no respondedores a fluidoterapia:

Falso _____ Verdadero _____

4-Por cada gramo de albumina humana que se administra, se provoca una autotransfusión de 18ml de liquido intersticial hacia el espacio intravascular.

Falso _____ Verdadero _____

5-En el choque séptico, en caso de refractariedad a norepinefrina, se recomienda utilizar dopamina y no se recomienda emplear epinefrina:

Falso _____ Verdadero _____



Fisiopatología y manejo del Choque circulatorio

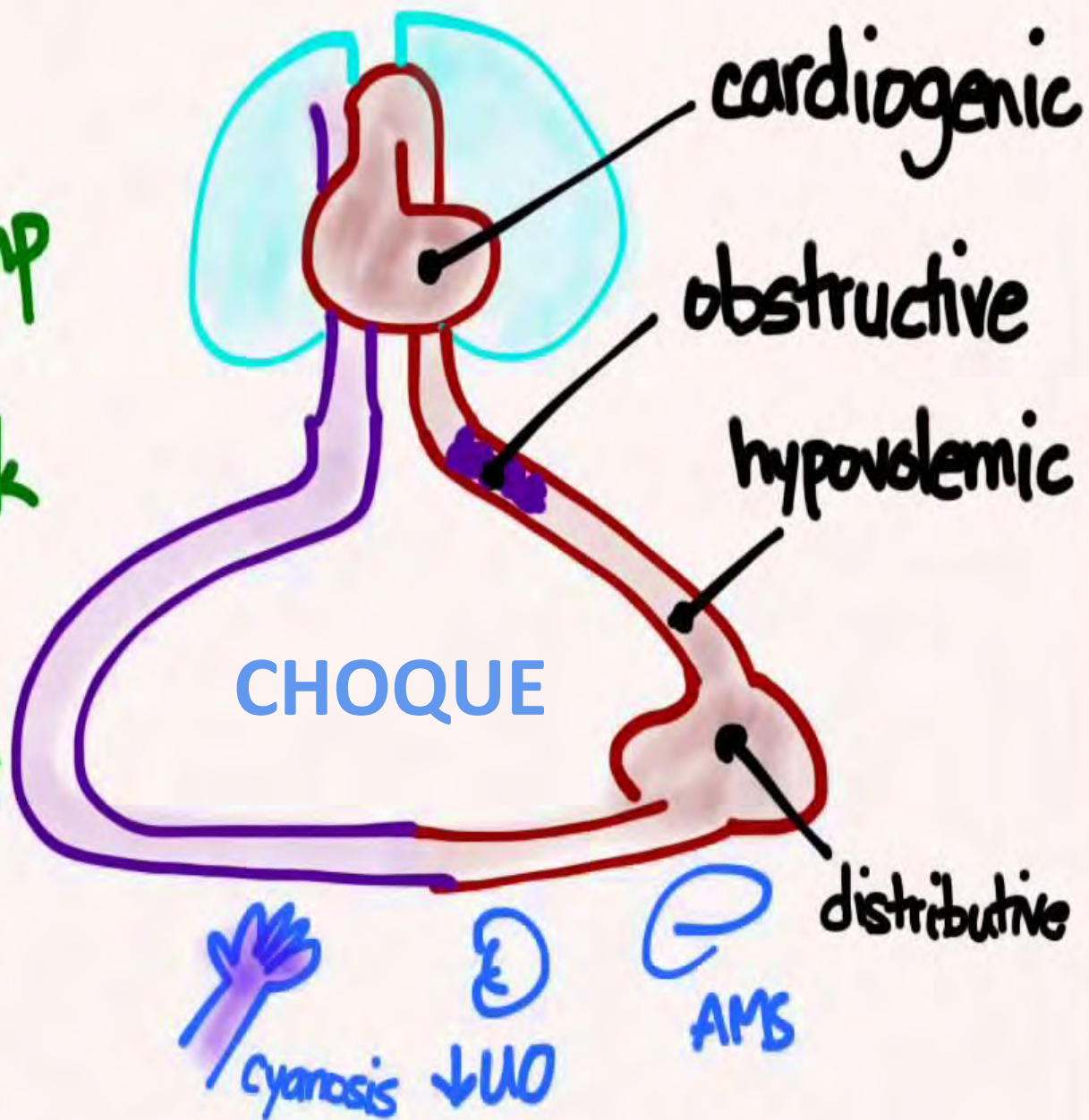


Dr. Víctor Segura Lemus

the pump

the tank

the pipes



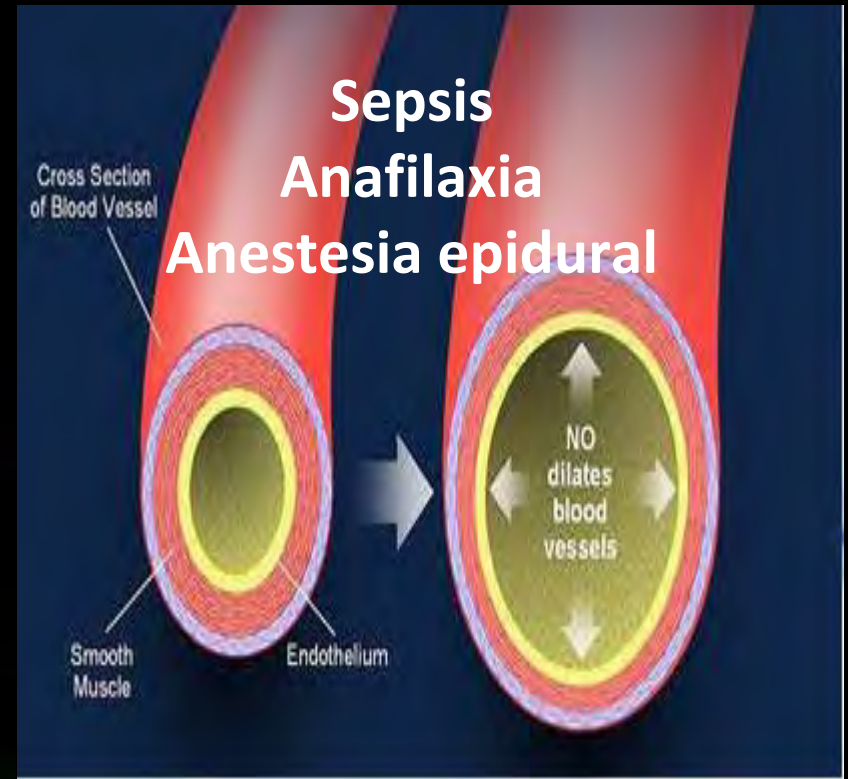
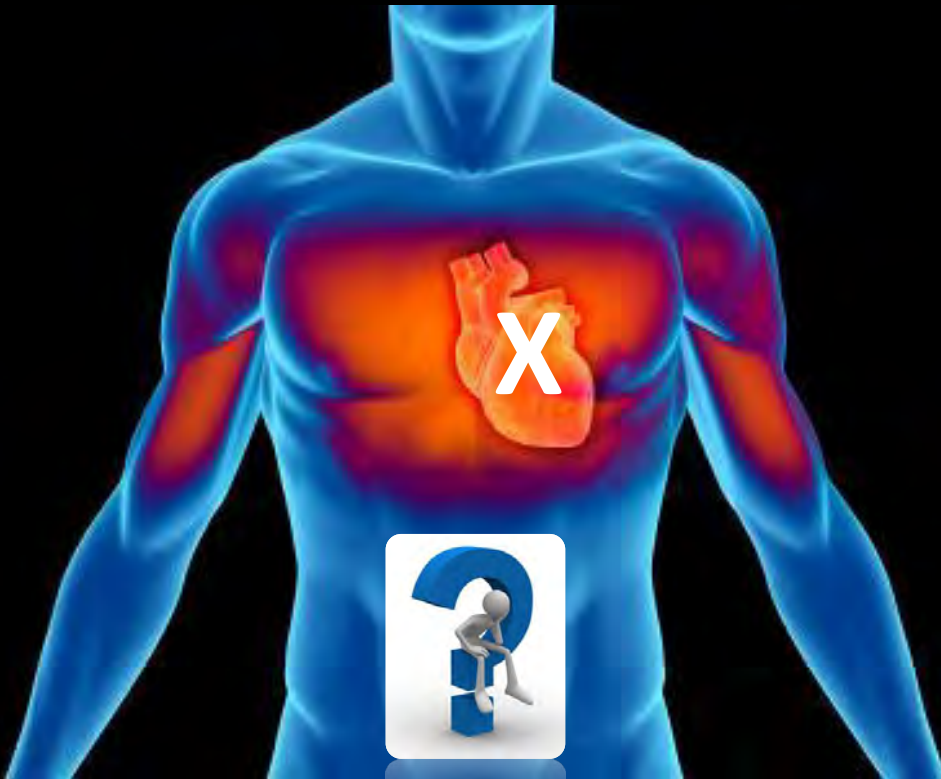
PAM

=

GC

×

RVS



$$GC = VS \ 70\text{ml} \times FC \ 30x' = 2.1\text{lbs} \ x'$$

GC

=

VS

×

FC



VS

PRECARGA

INOTROPISMO

POSTCARGA

HEMORRAGIA

**CONTUSION
CARDIACA**

ANESTESIA

TAM

RVS

X

GC

VS

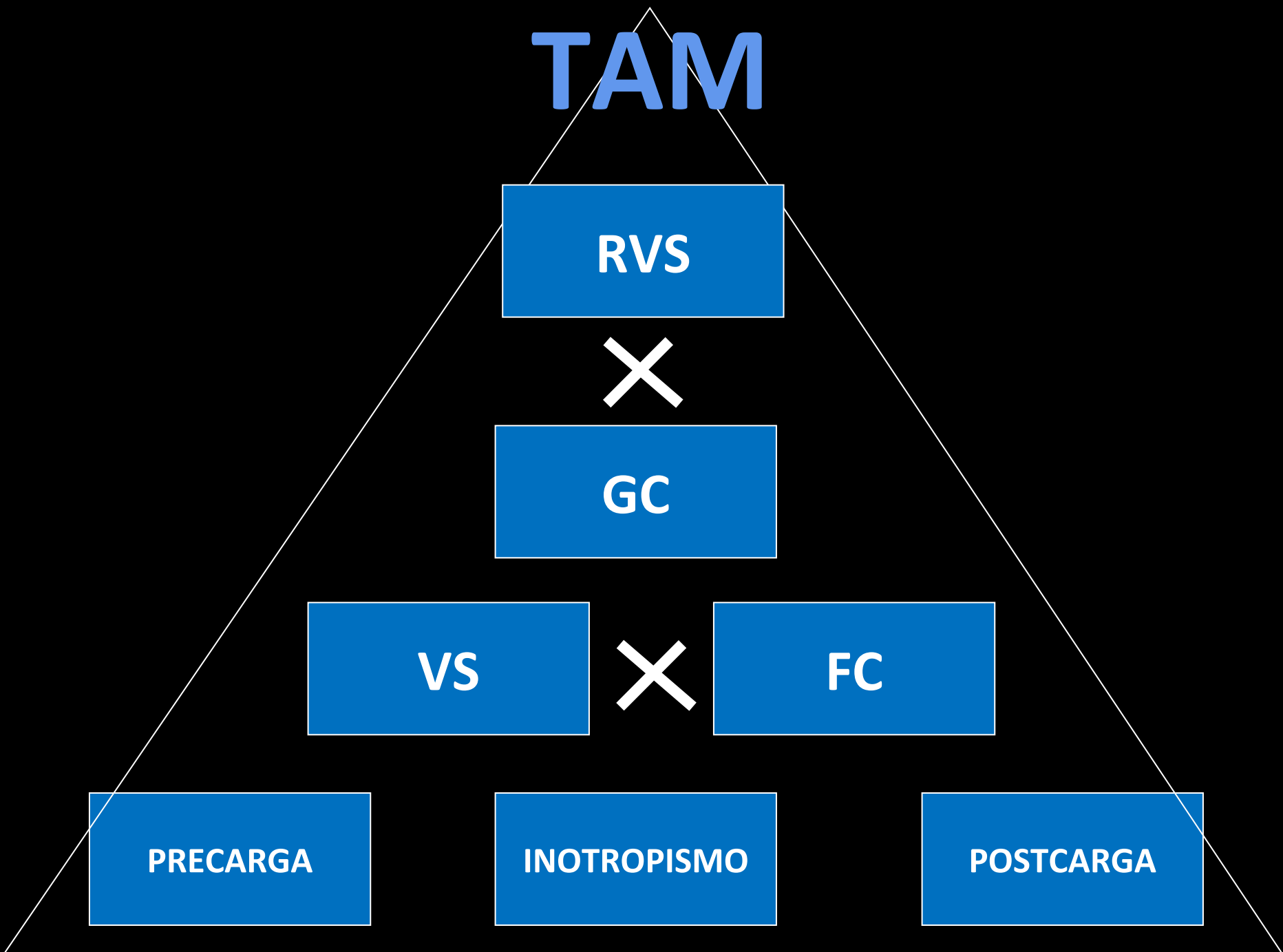
X

FC

PRECARGA

INOTROPISMO

POSTCARGA



TAM

RVS

X

GC

VS

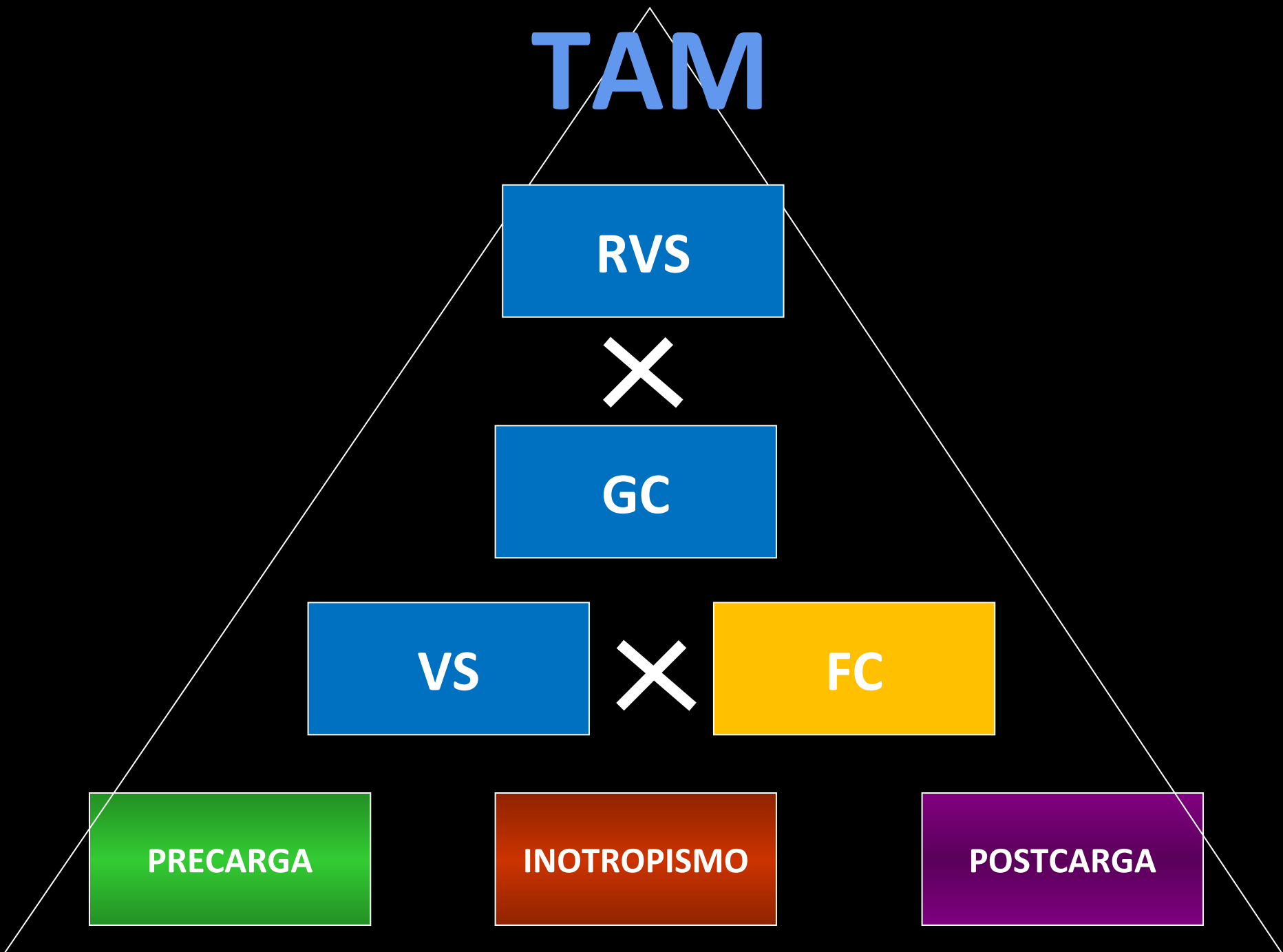
X

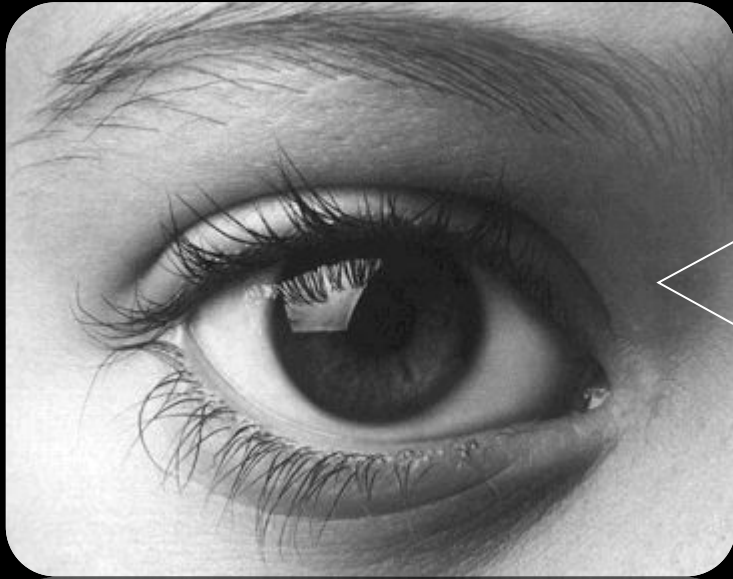
FC

PRECARGA

INOTROPISMO

POSTCARGA





TAM

PRECARGA

INOTROPISMO

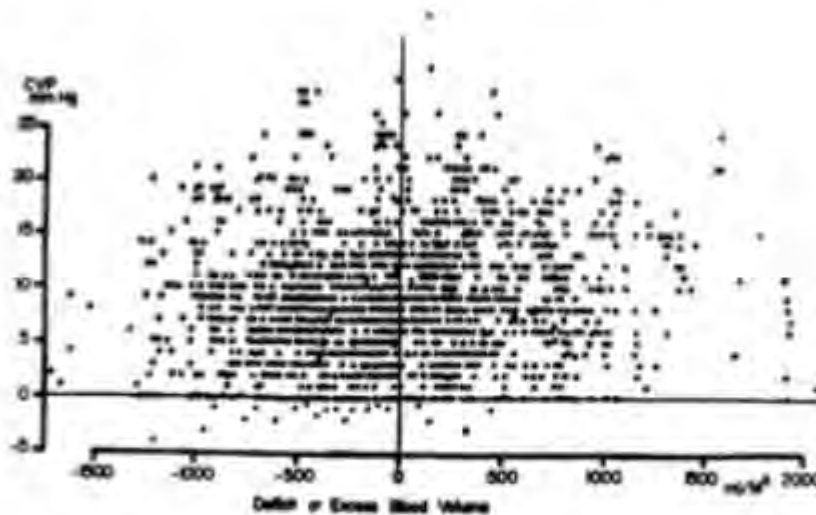
FC

POSTCARGA

PRECARGA



CVP

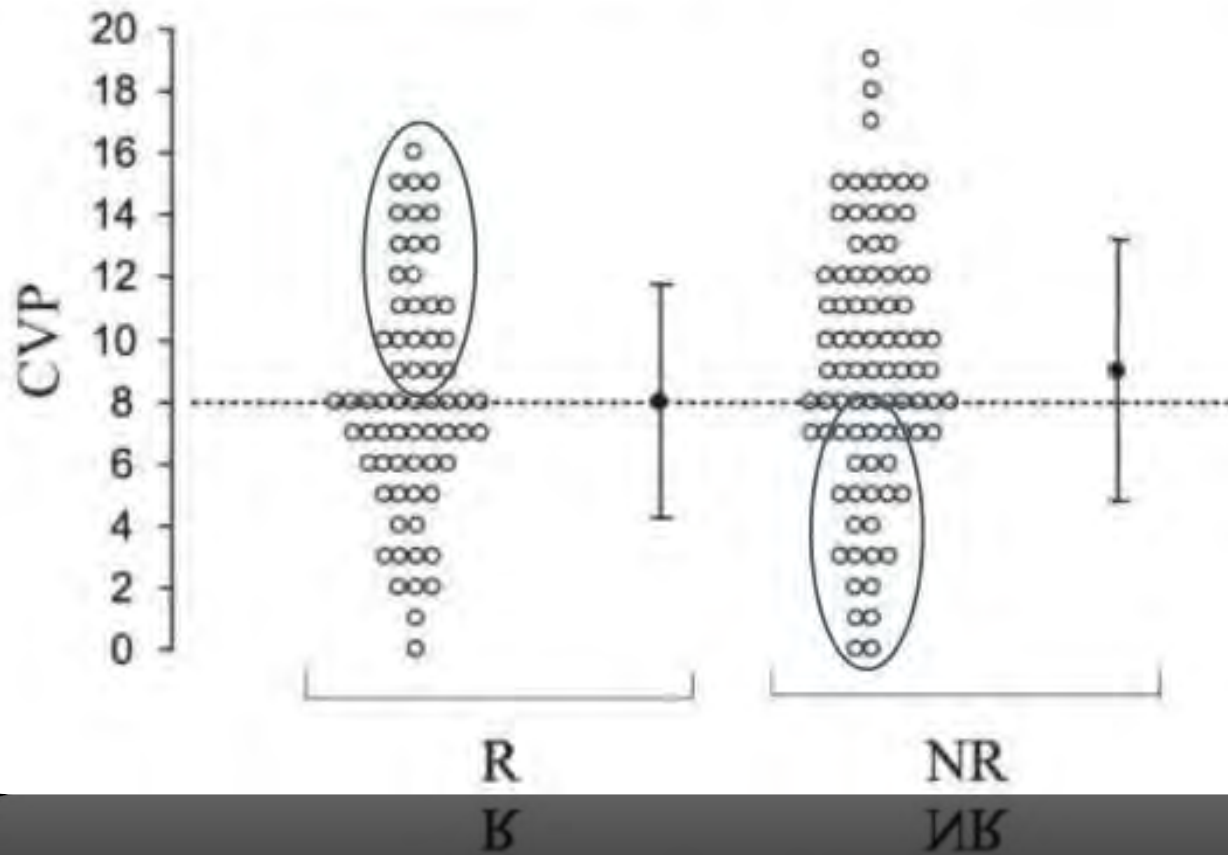


- CVP : poor predictor of fluid volume

- CLB : poor predictor of fluid volume

Cardiac filling pressures are not appropriate to predict hemodynamic response to volume challenge*

David Osman, MD; Christophe Ridet, MD; Patrick Ray, MD; Xavier Monnet, MD, PhD; Nadia Anguel, MD; Christian Richard, MD; Jean-Louis Teboul, MD, PhD



Hemodynamic parameters to guide fluid therapy

Paul E Marik^{1*}, Xavier Monnet², Jean-Louis Teboul²

Annals of Intensive Care 2011, 1:1

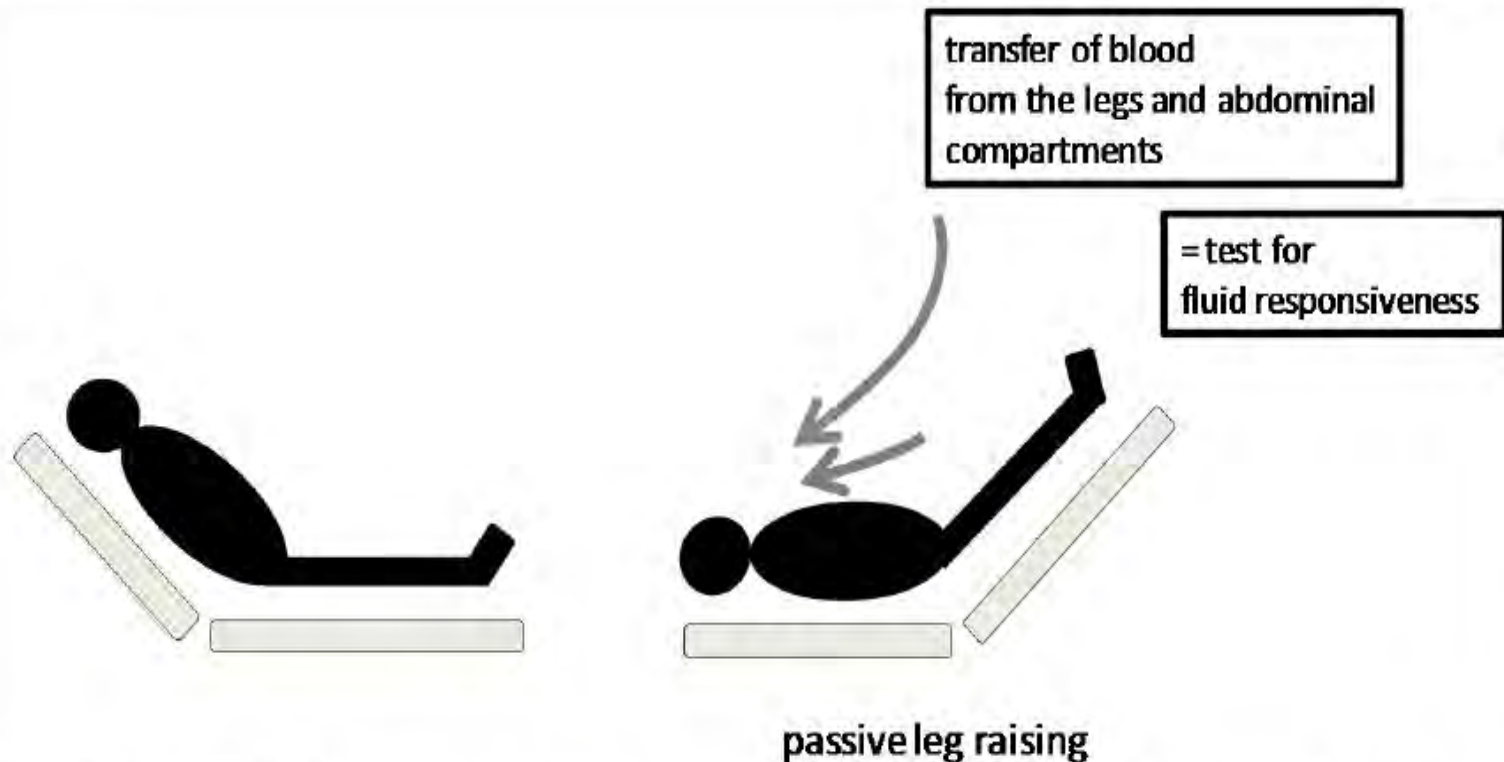


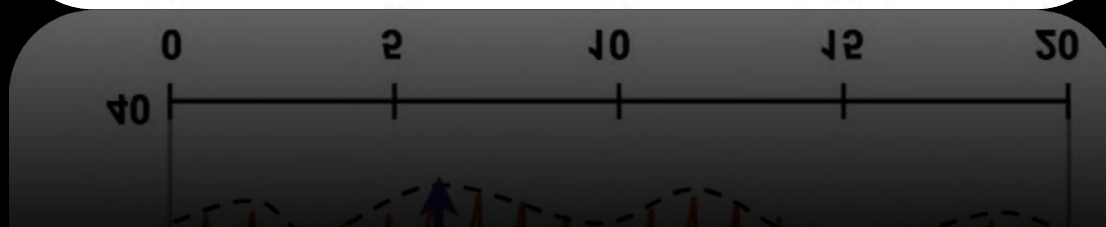
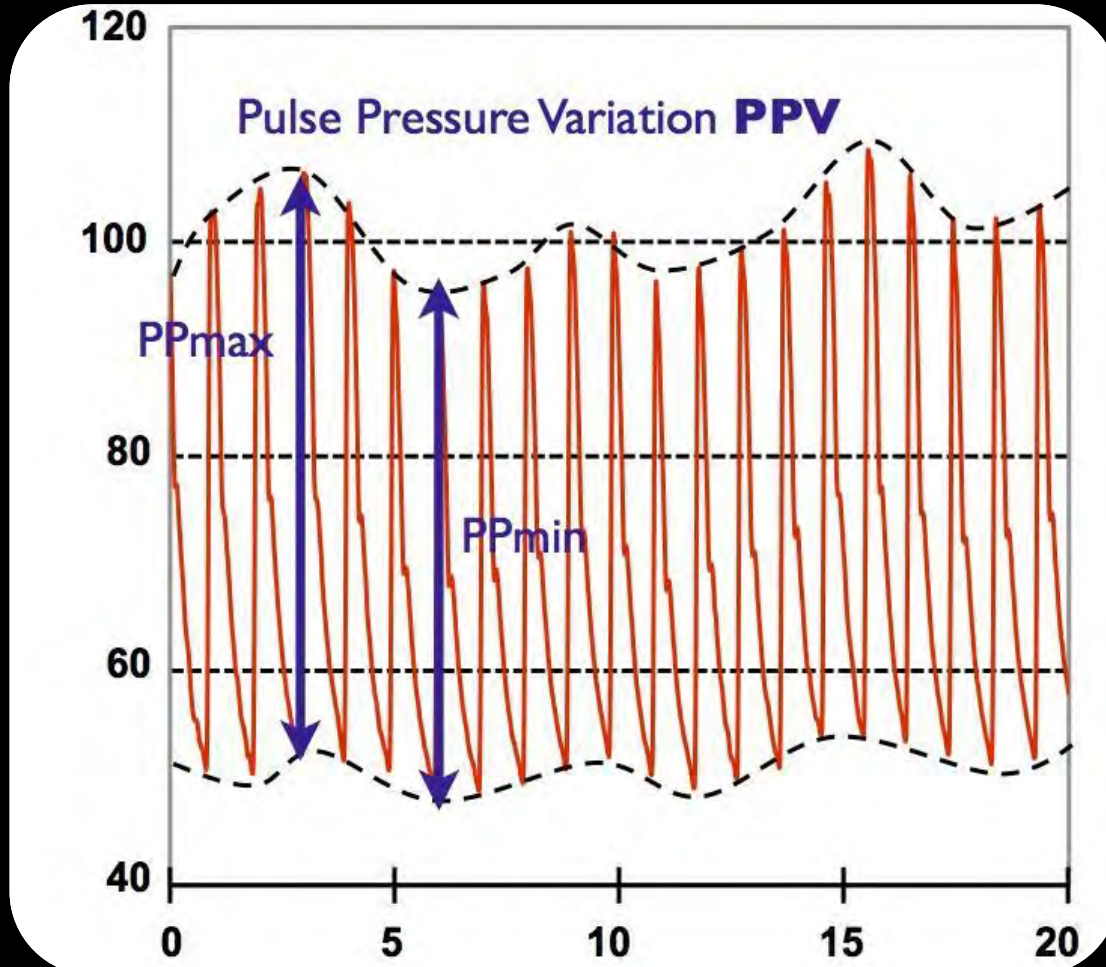
Figure 4 Passive leg raising. The passive leg raising test consists in measuring the hemodynamic effects of a leg elevation up to 45°. A simple way to perform the postural maneuver is to transfer the patient from the semirecumbent posture to the passive leg raising position by using the automatic motion of the bed.

the automatic motion of the bed

may to perform the postural maneuver is to transfer the patient from the semirecumbent posture to the passive leg raising position by using

Figure 4 Passive leg raising. The passive leg raising test consists in measuring the hemodynamic effects of a leg elevation up to 45°. A simple

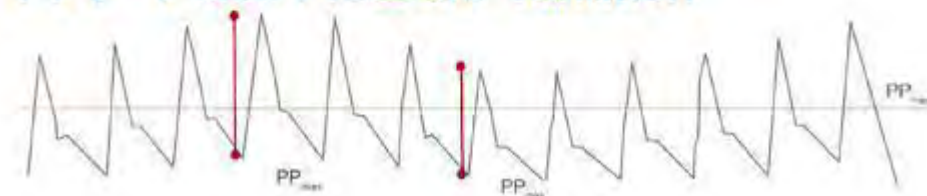
$$PPV = \left[\frac{PP_{max} - PP_{min}}{PP_{max} + PP_{min}/2} \right] \times 100$$



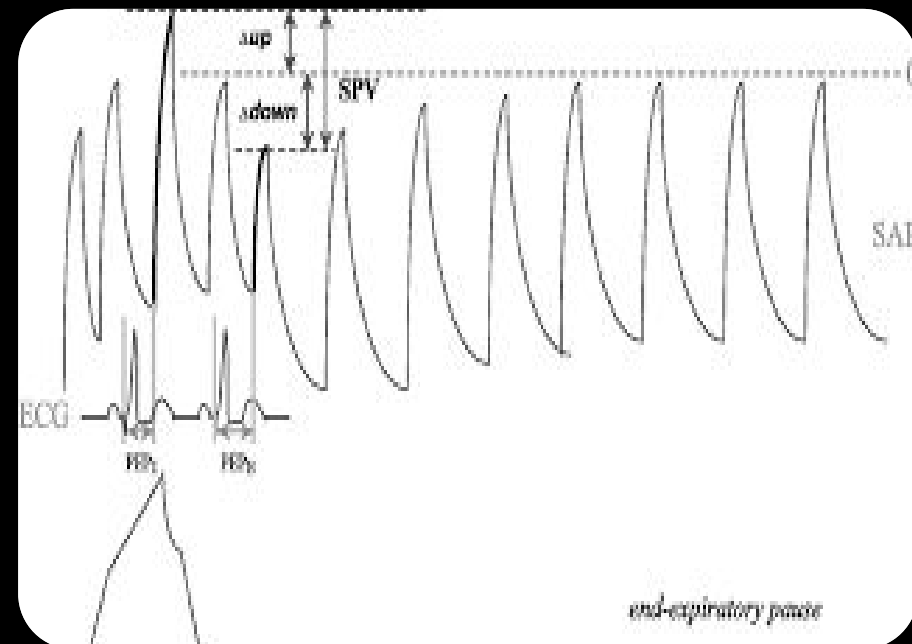
SVV - Stroke Volume Variation



PPV - Pulse Pressure Variation



$$SPV = 100 \times \left\{ \frac{(SP_{\max} - SP_{\min})}{\left[\frac{1}{2} (SP_{\max} + SP_{\min}) \right]} \right\}$$

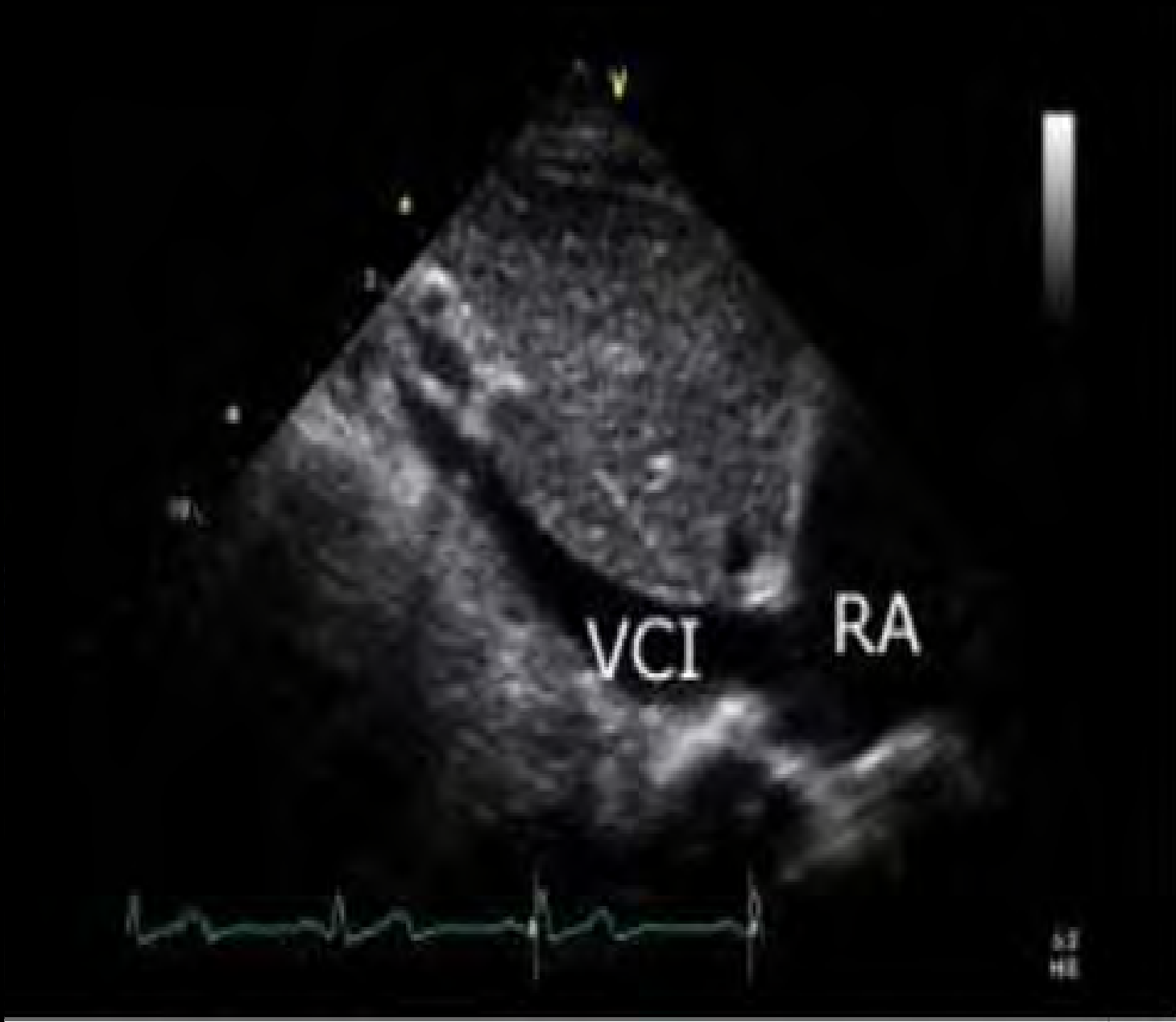


end-expiratory pressure

end-expiratory pressure

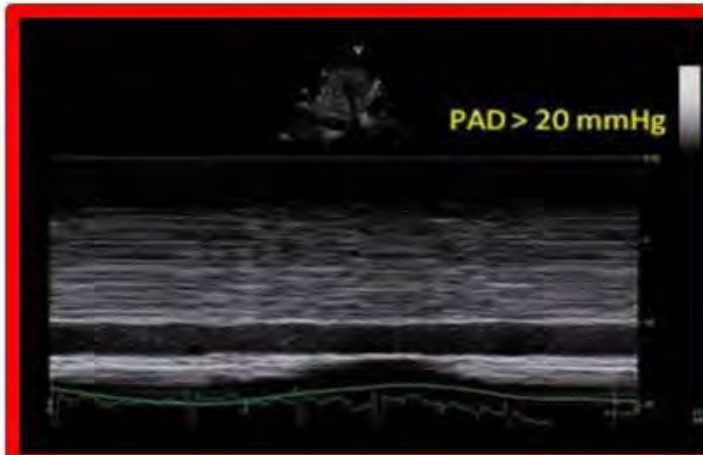
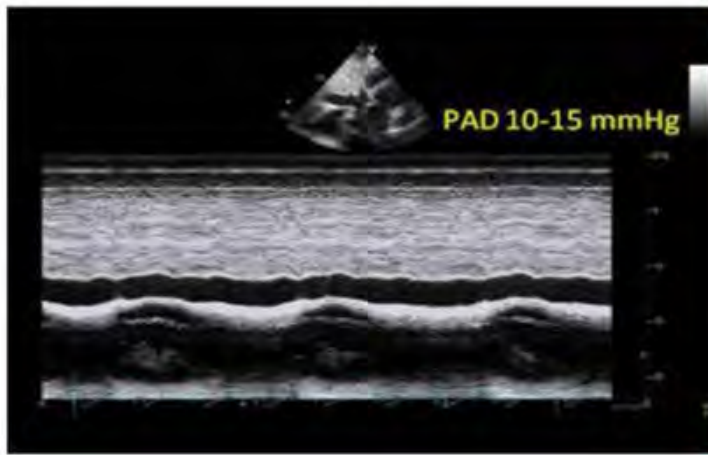
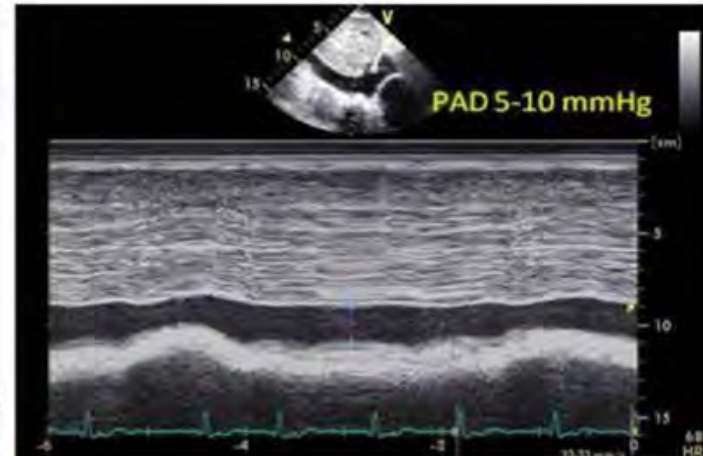
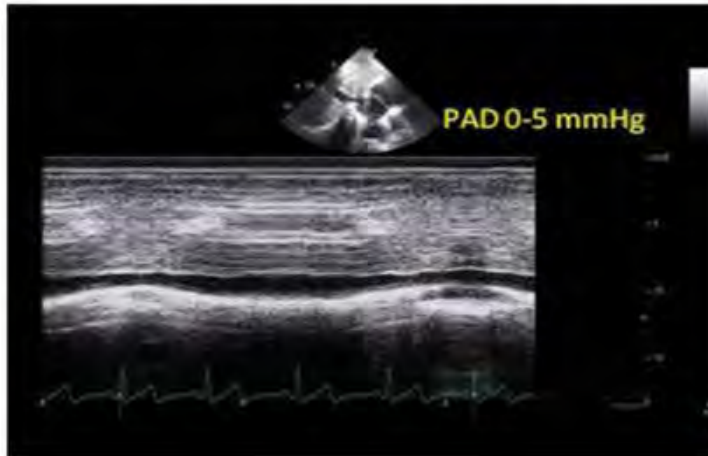


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TP: Signos ecocardiográficos

Dilatación VCI y colapso inspiratorio reducido:



INOTROPISMO

**ALTO GASTO
SEPTICO**

**BAJO GASTO
CARDIOGENICO**

TEMPERATURA

PIEL

LLENADO CAPILAR

PRESION DE PULSO

CALIENTE

HIPEREMICO

RAPIDO

AMPLIA

FRIO

CIANOTICO

LENTO

ESTRECHA





 ADAM.



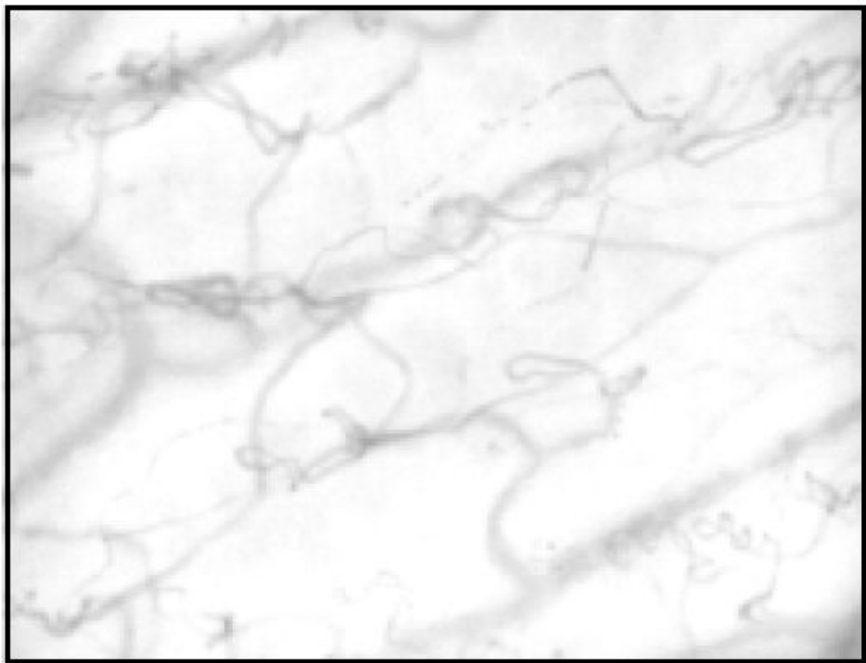
Se aplica presión al lecho ungueal hasta que se vuelva blanco

La sangre regresa al tejido



 ADAM.



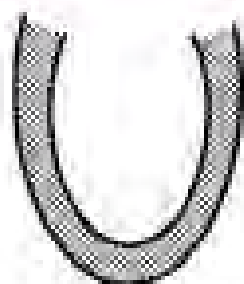


NORMAL

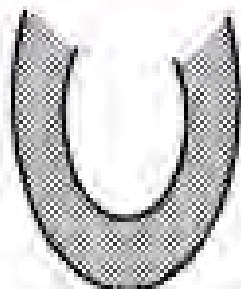


SEPSIS

ACUTE PHASE OF SEPTIC SHOCK



Left Ventricular
End Diastolic
Volume = 200 ml

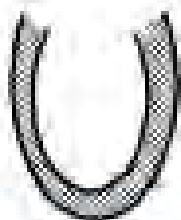


Left Ventricular
End Systolic
Volume = 150 ml

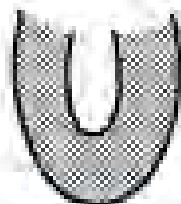
Stroke Volume = 50 ml

$$\text{Ejection Fraction} = \frac{200 \text{ ml} - 150 \text{ ml}}{200 \text{ ml}} = 25\%$$

RECOVERY PHASE OF SEPTIC SHOCK



Left Ventricular
End Diastolic
Volume = 100 ml

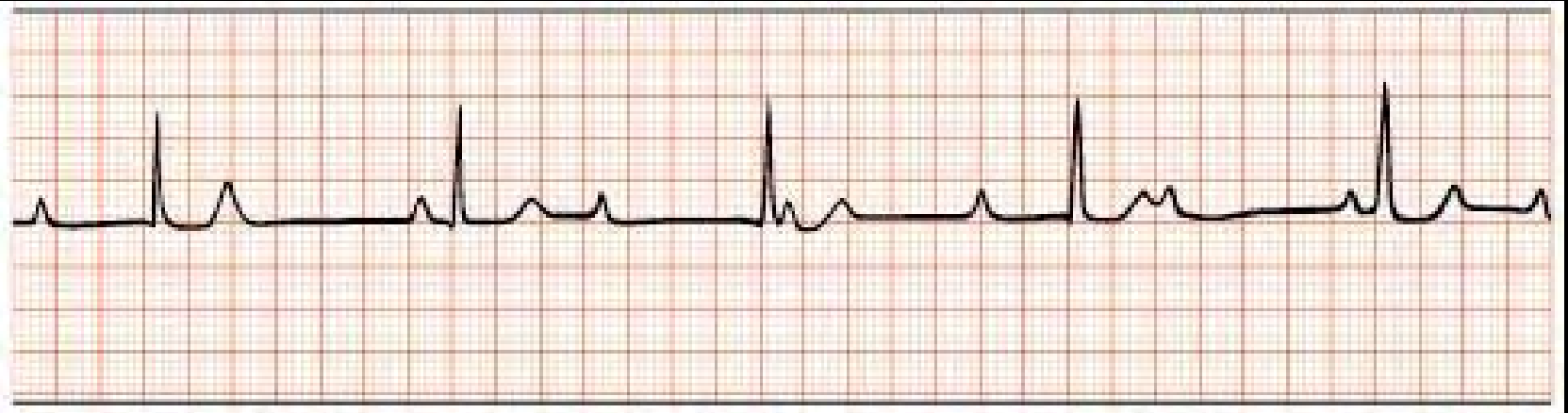


Left Ventricular
End Systolic
Volume = 50 ml

Stroke Volume = 50 ml

$$\text{Ejection Fraction} = \frac{100 \text{ ml} - 50 \text{ ml}}{100 \text{ ml}} = 50\%$$

FC

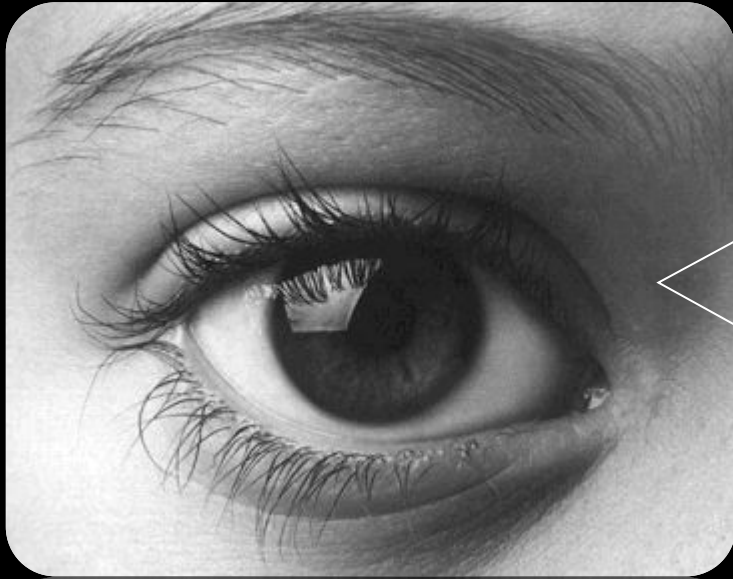


POSTCARGA



POSTCARGA





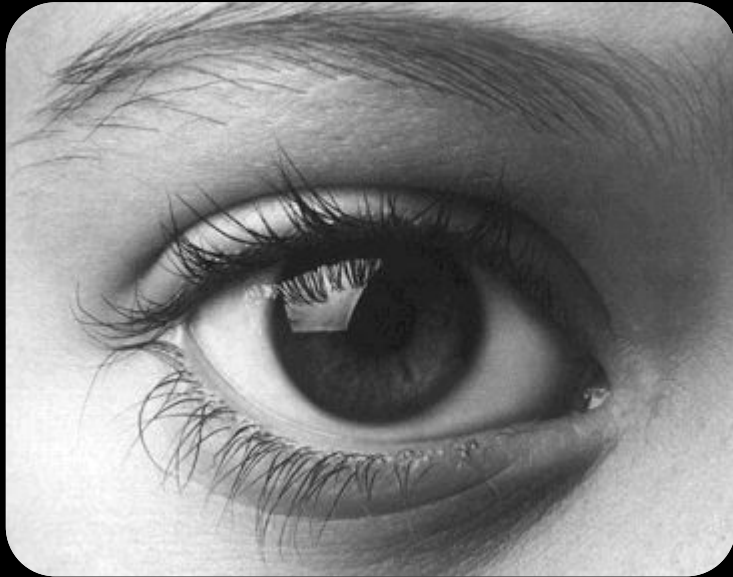
TAM

PRECARGA

INOTROPISMO

FC

POSTCARGA



PRECARGA

INOTROPISMO

FC

POSTCARGA

Volumen

Inotrópicos

Cronotrópicos

Marcapaso

Antiarrítmico

Cardioversión

Desfibrilación

Vasopresor

Vasodilatador

Calor



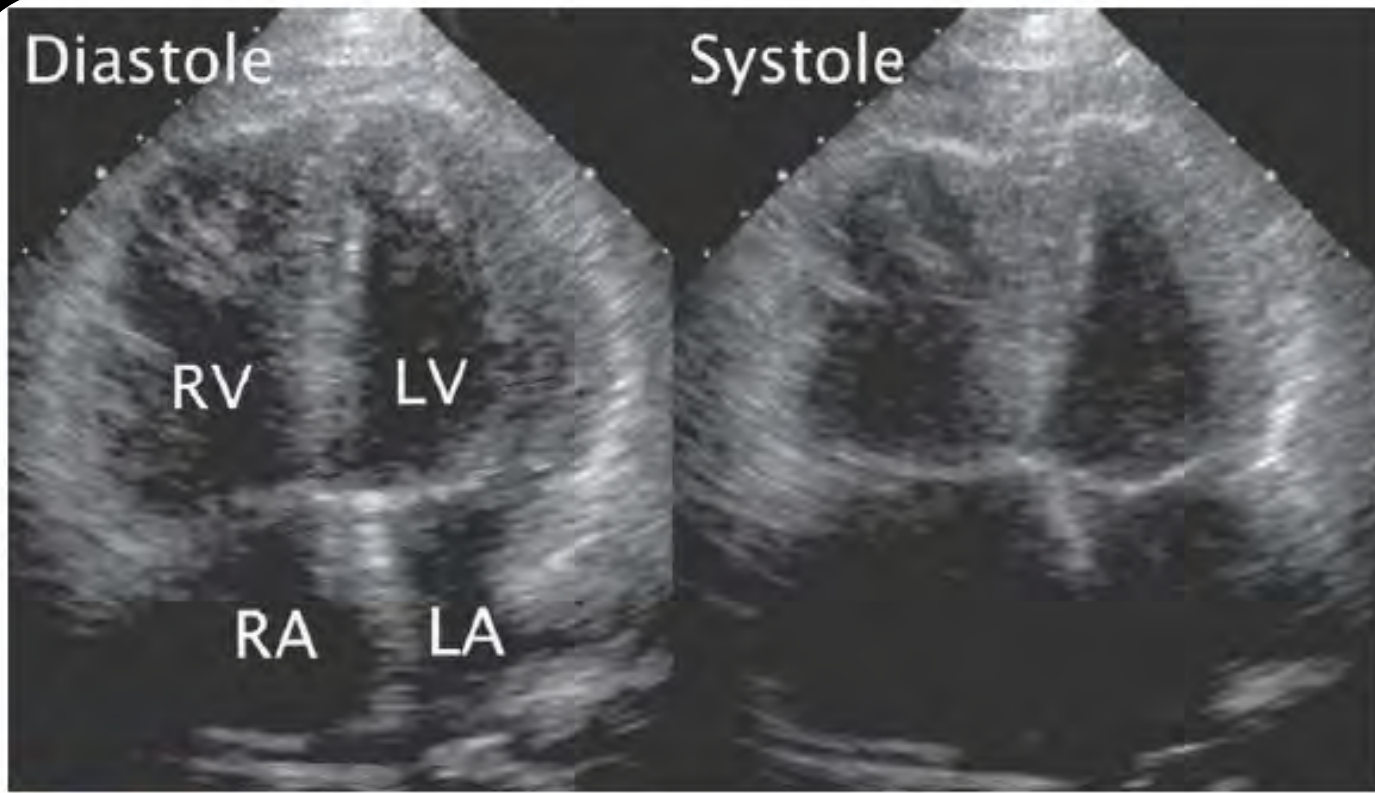
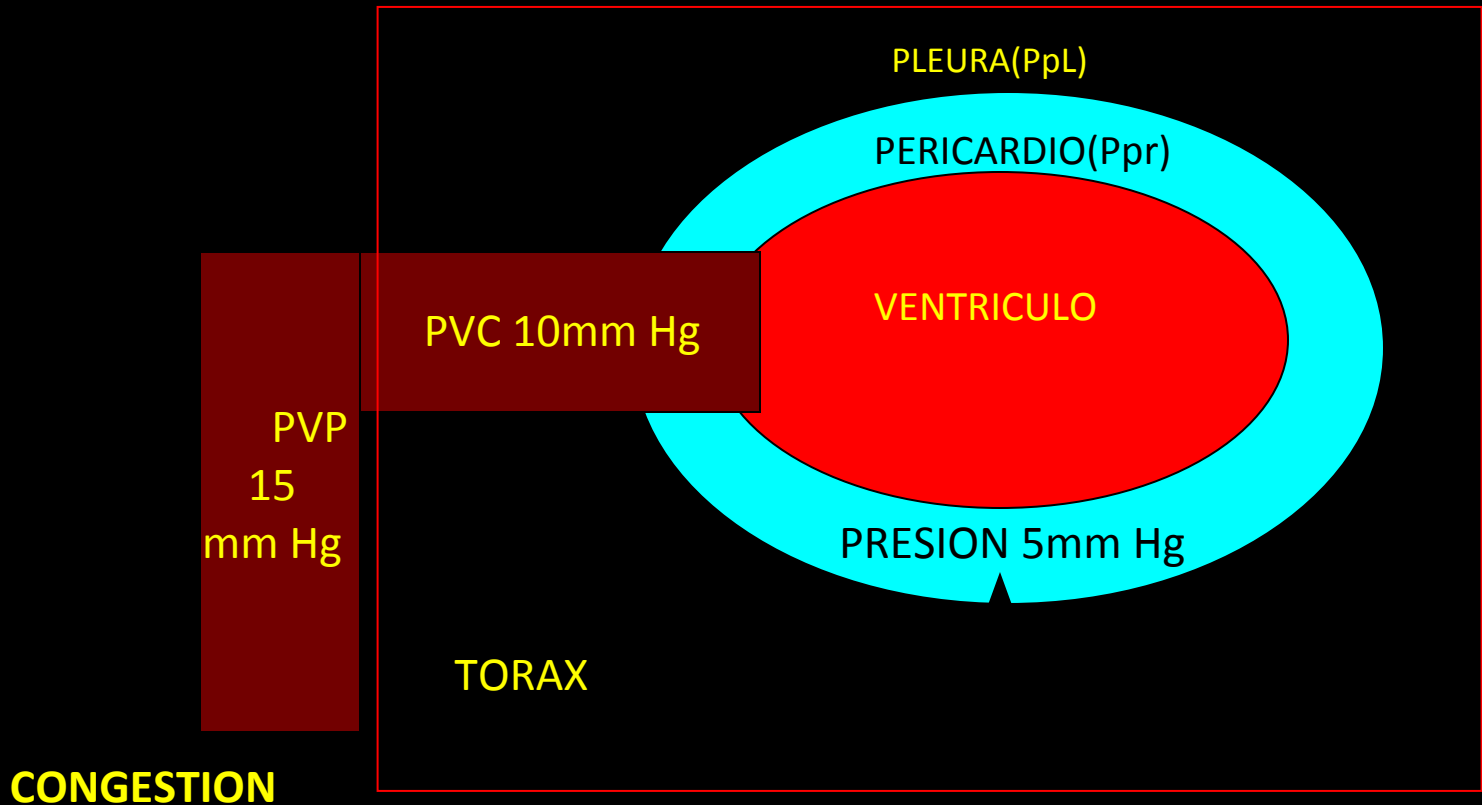


Figure 35-23. Apical four-chamber view in diastole and systole in a patient with acute and massive pulmonary embolism. The right ventricle (RV) is severely dilated; the diastolic image demonstrates severe dilatation. The interatrial septum deviates to the left consistent with right atrial hypertension. In systole, the RV does not appear to contract. However, there is motion at the right ventricular apex. This is a demonstration of "McConnell's sign" and should raise the suspicion of acute pulmonary embolism. LA, left atrium; LV, left ventricle; RA, right atrium.

embolism. LA, left atrium; LV, left ventricle; RA, right atrium.
 This is a demonstration of "McConnell's sign" and should raise the suspicion of acute pulmonary embolism. In systole, the RV does not appear to contract. However, there is motion at the right ventricular apex. The interatrial septum deviates to the left consistent with right atrial hypertension. In diastole, the RV is severely dilated; the diastolic image demonstrates severe dilatation.
Figure 32-53. Apical four-chamber view in diastole and systole in a patient with acute and massive pulmonary embolism.

TAMPONADA CARDIACA



SI LA $P_{pr} > 10$ mmHg LA PVC Y LA PVP SE EQUILIBRAN
EL FLUJO ENTRE COMPARTIMENTOS SE VE ALTERADO.

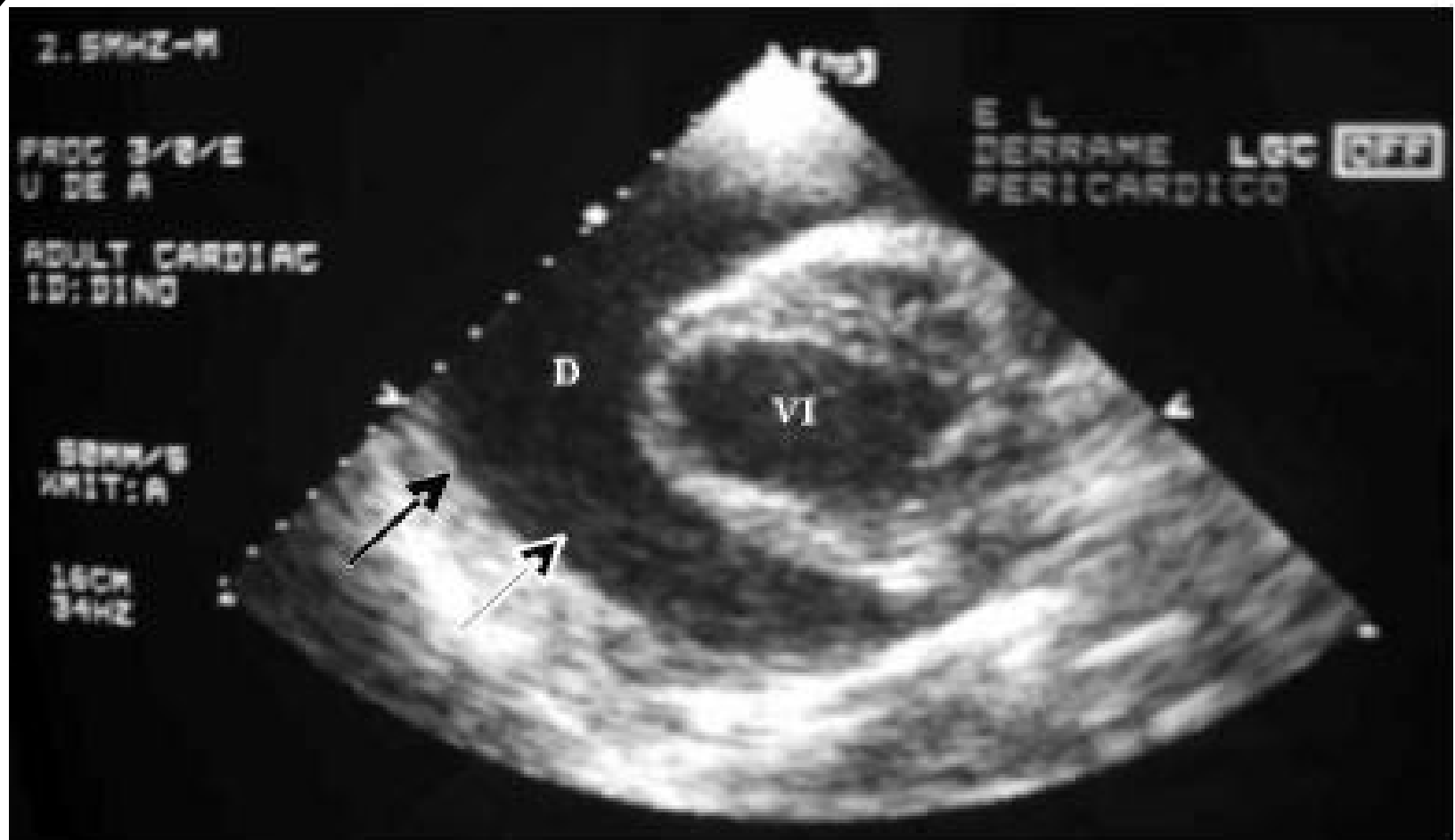
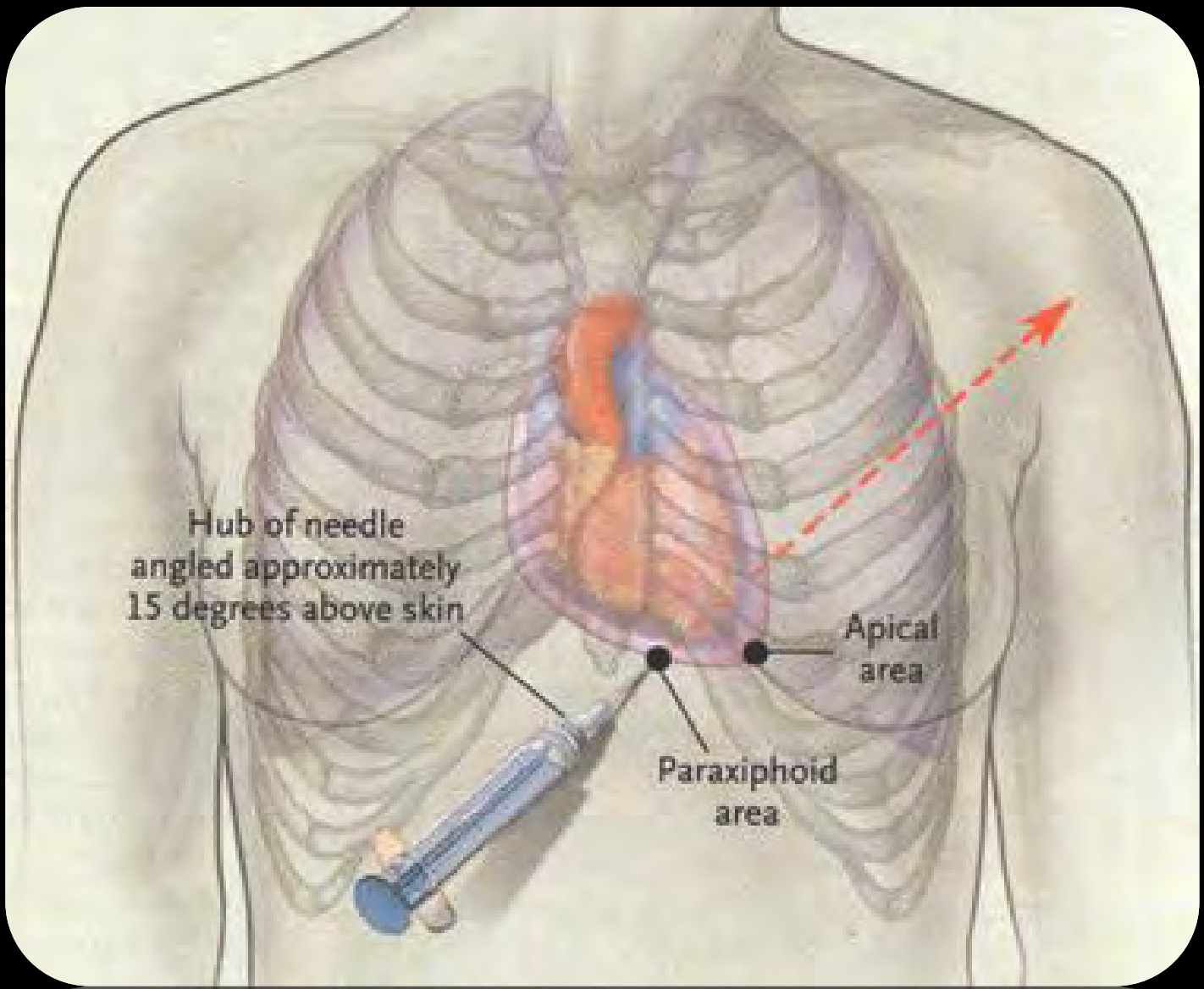


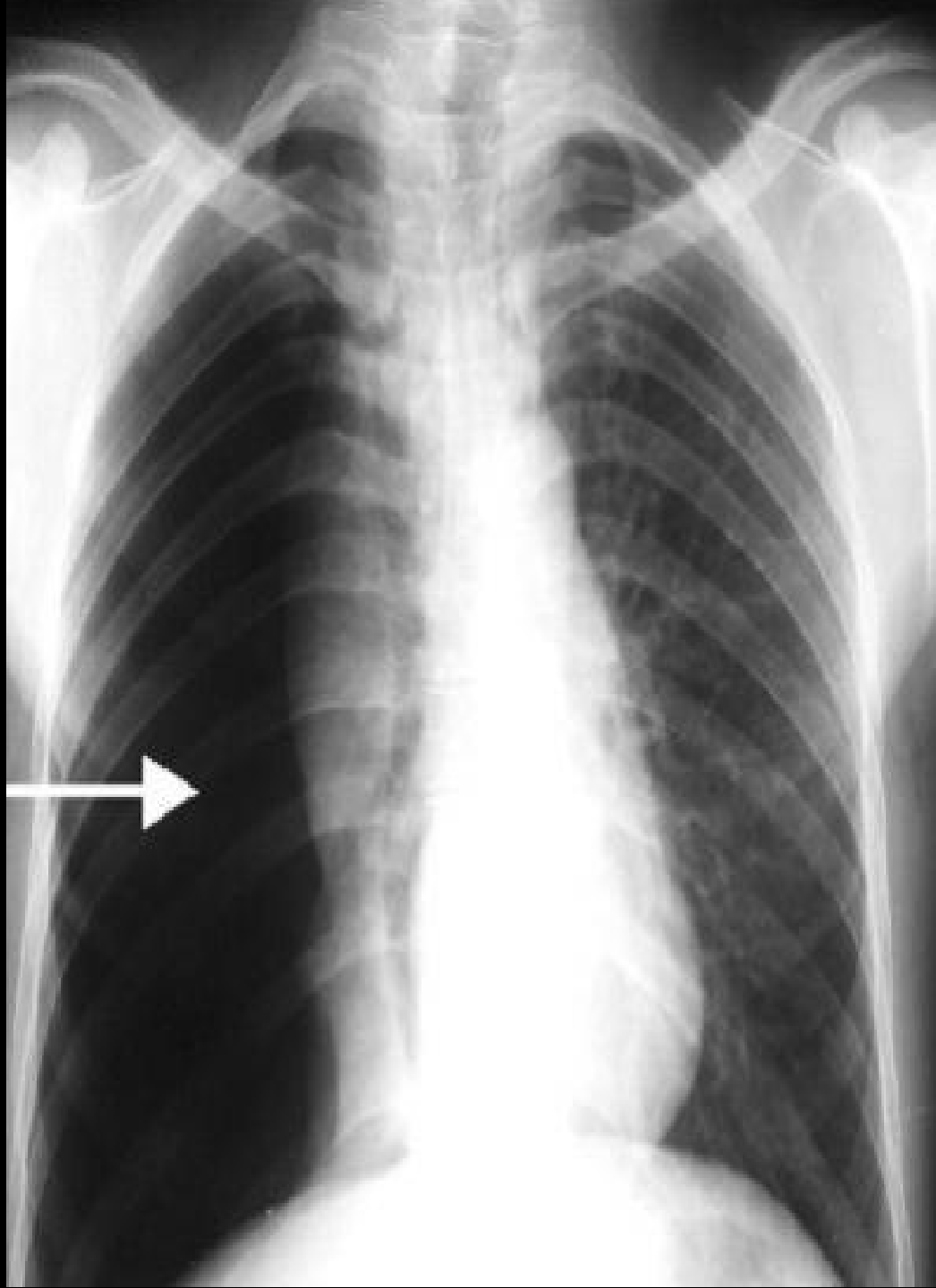
Figura 3. Ecocardiografía del eje largo. Una acumulación severa de líquido pericárdico (letra D) se aprecia como un espacio anecoico entre el ventrículo izquierdo (VI) y el saco pericárdico (flecha negra).



Hub of needle
angled approximately
15 degrees above skin

Apical
area

Paraxiphoid
area



DISTRIBUCION DE LIQUIDOS CORPORALES

INTRACELULAR

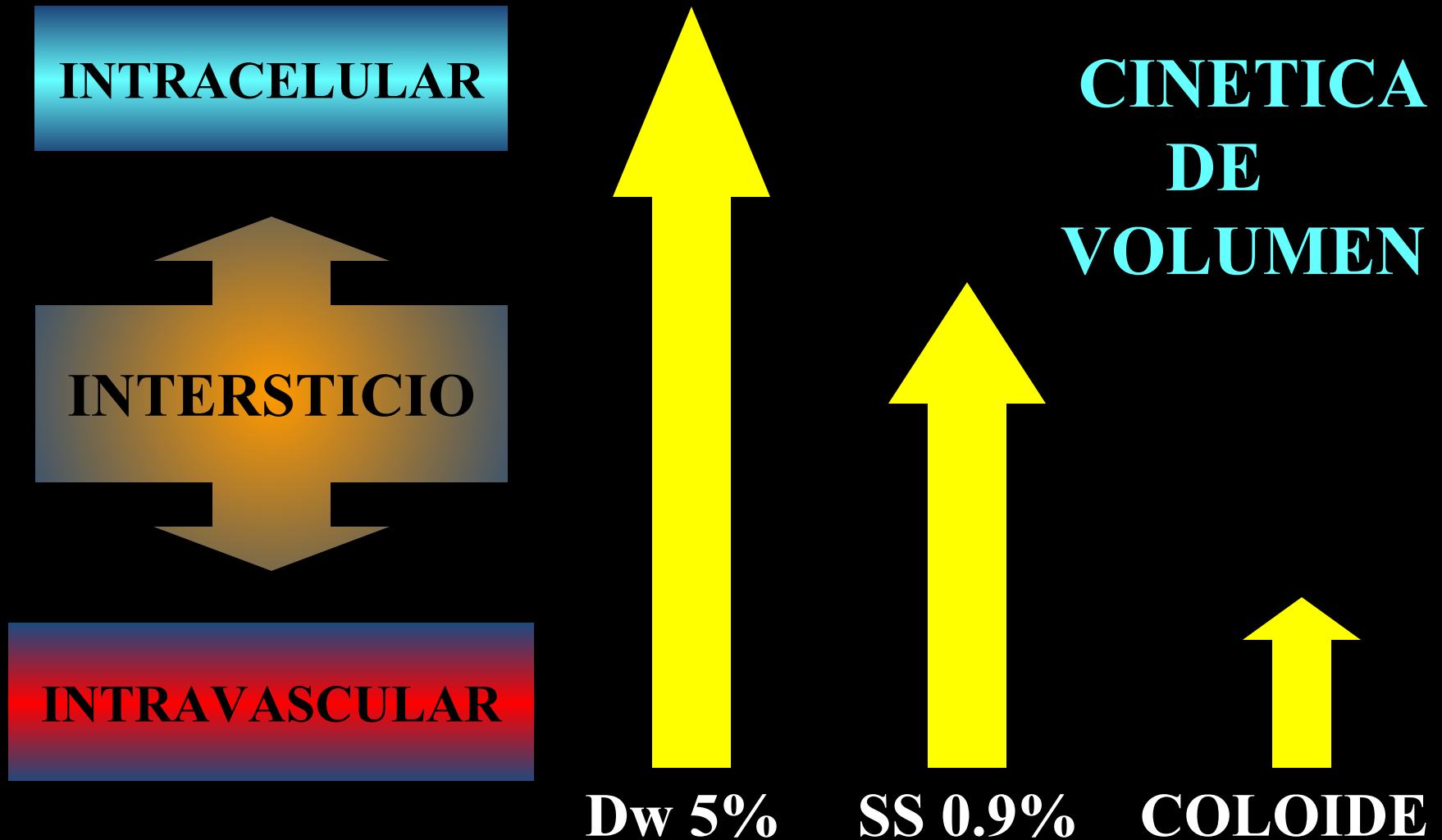
INTERSTICIO

INTRAVASCULAR

CINETICA DE FLUIDOS

Shires GT, Ann Surg 176: 288 - 295 1972

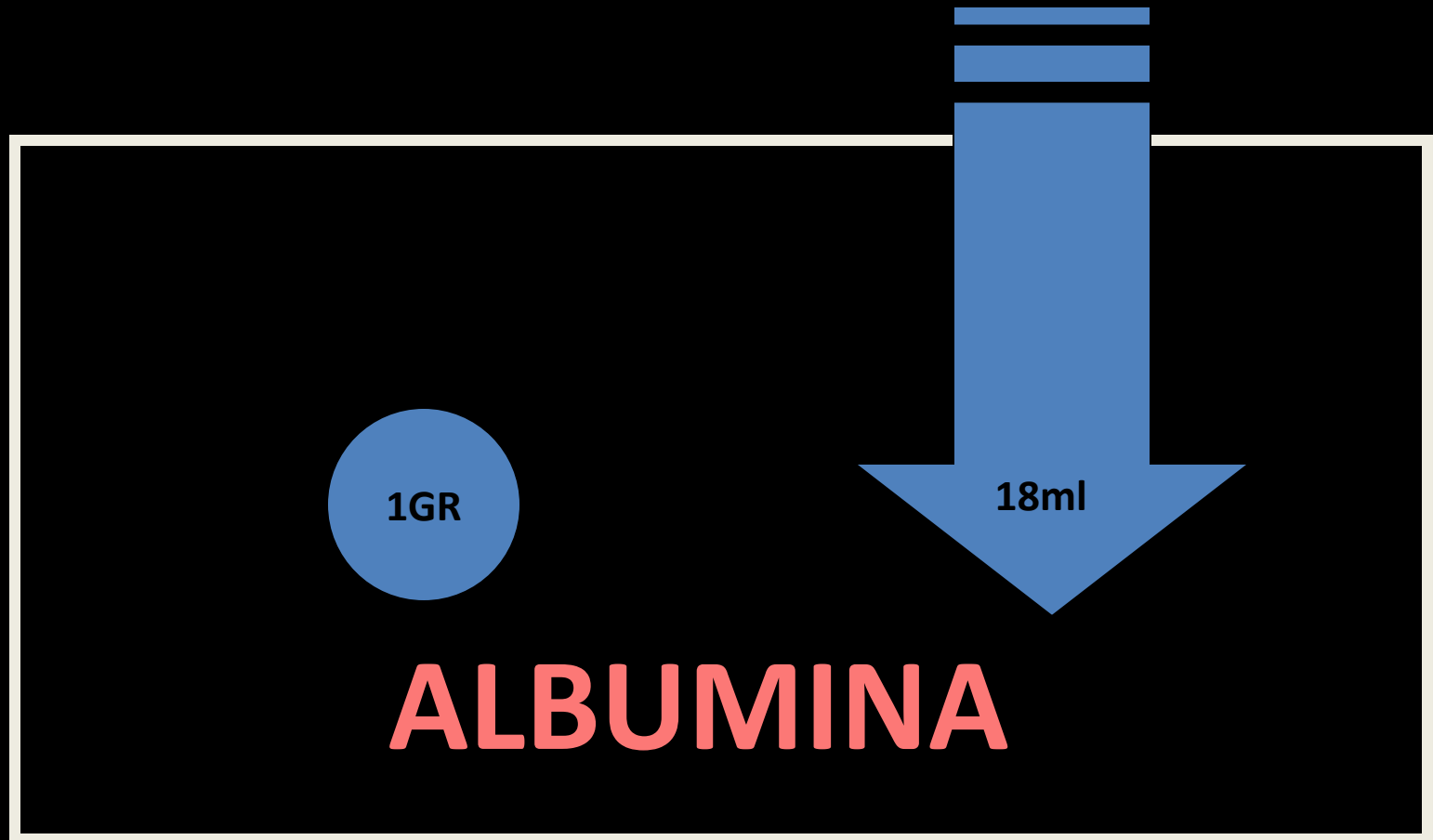
DISTRIBUCION DE LIQUIDOS CORPORALES



**PRESION
CAPILAR**

**PRESION
ONCOTICA**

DISTRIBUCION DE LIQUIDOS CORPORALES

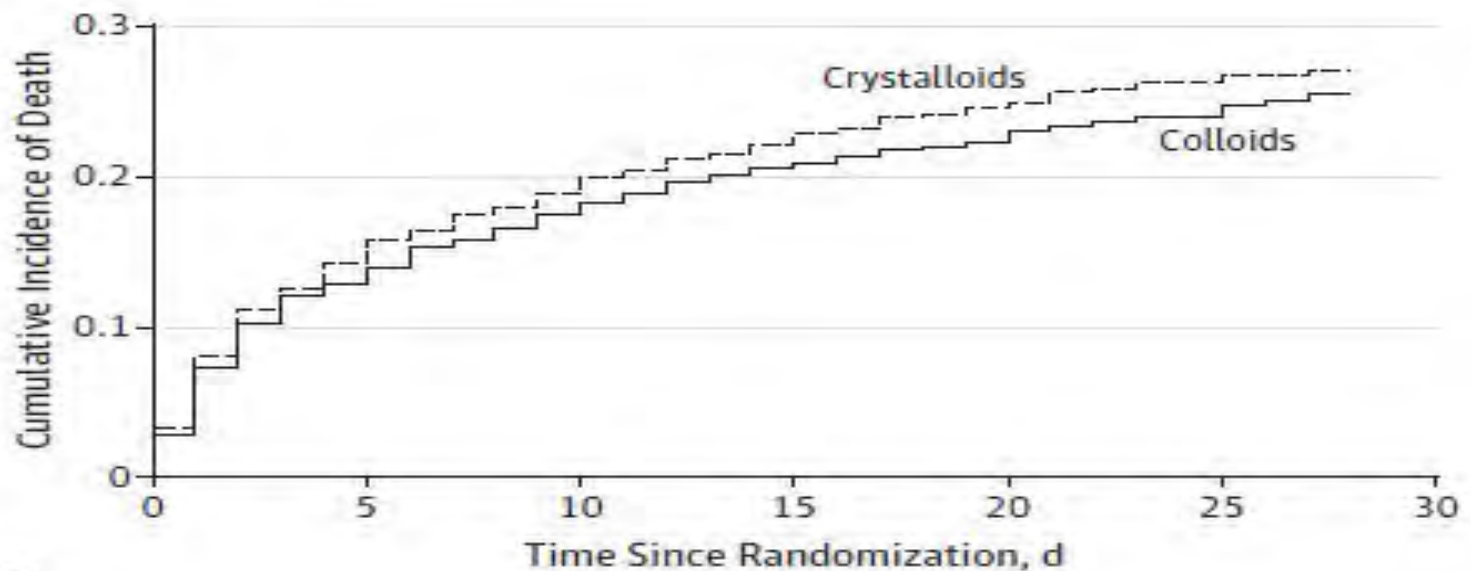


Effects of Fluid Resuscitation With Colloids vs Crystalloids on Mortality in Critically Ill Patients Presenting With Hypovolemic Shock

The CRISTAL Randomized Trial JAMA November 6, 2013 Volume 310, Number 17

Djillali Annane, MD, PhD; Shidasp Slami, MD; Samir Jaber, MD, PhD; Claude Martin, MD, PhD; Souheil Elatrous, MD; Adrien Descorps Declère, MD;

Figure 2. Cumulative Incidence of Death Within First 28 Days After Randomization

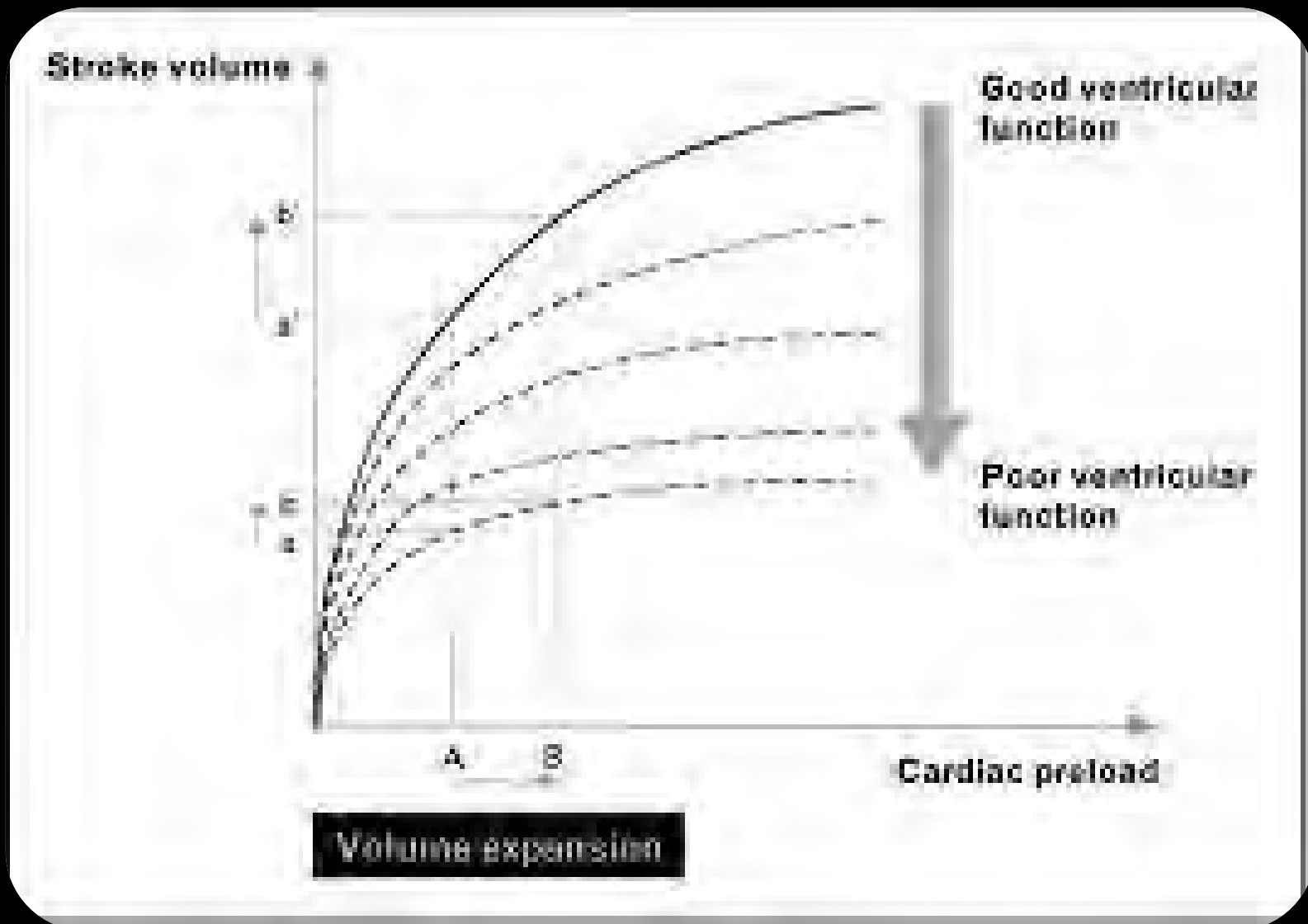


No. at risk

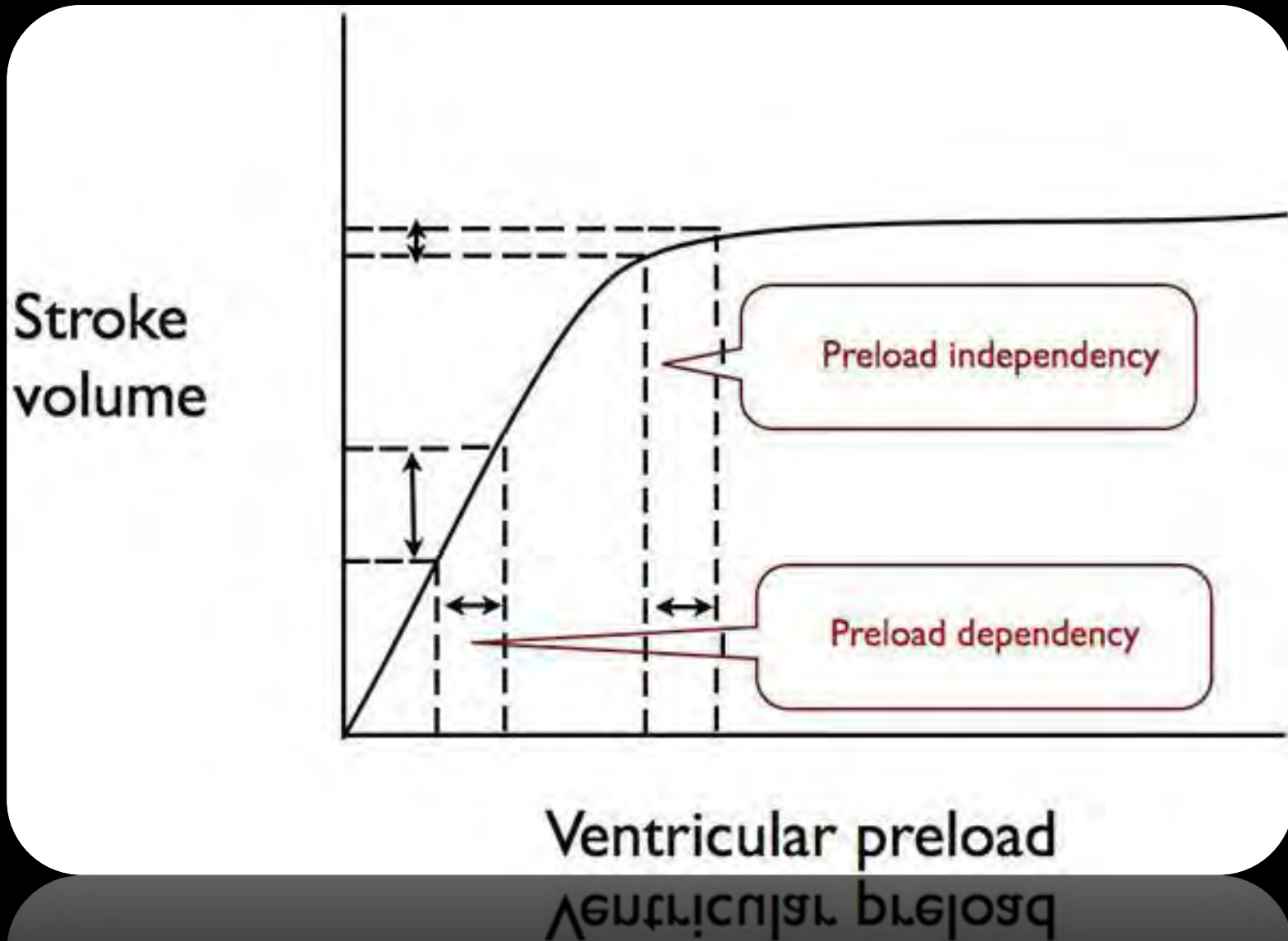
Colloids	1414	1233	1167	1124	1099	1076
Crystalloids	1443	1239	1172	1124	1089	1064

**El inicio de la Fluidoterapia
debe de hacerse de
preferencia con
cristaloides.**

Respuesta a la fluidoterapia

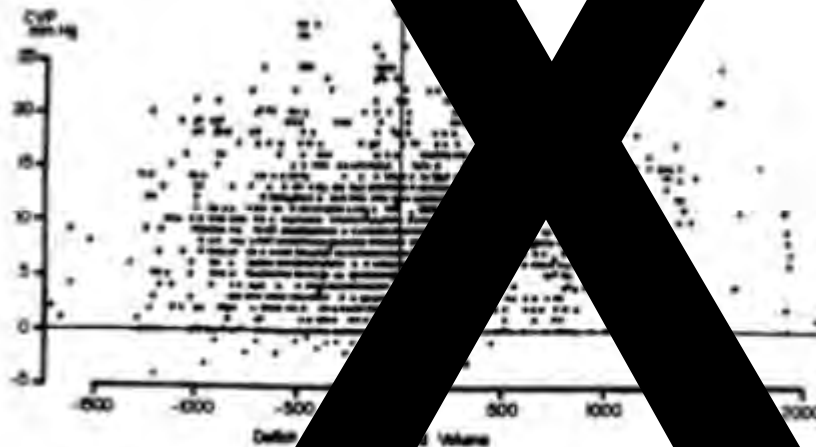


Respuesta a la fluidoterapia



PRECARGA





- CVP : poor predictor of fluid volume

- CVP : poor predictor of fluid volume

Hemodynamic parameters to guide fluid therapy

Paul E Marik^{1*}, Xavier Monnet², Jean-Louis Teboul²

Annals of Intensive Care 2011, 1:1

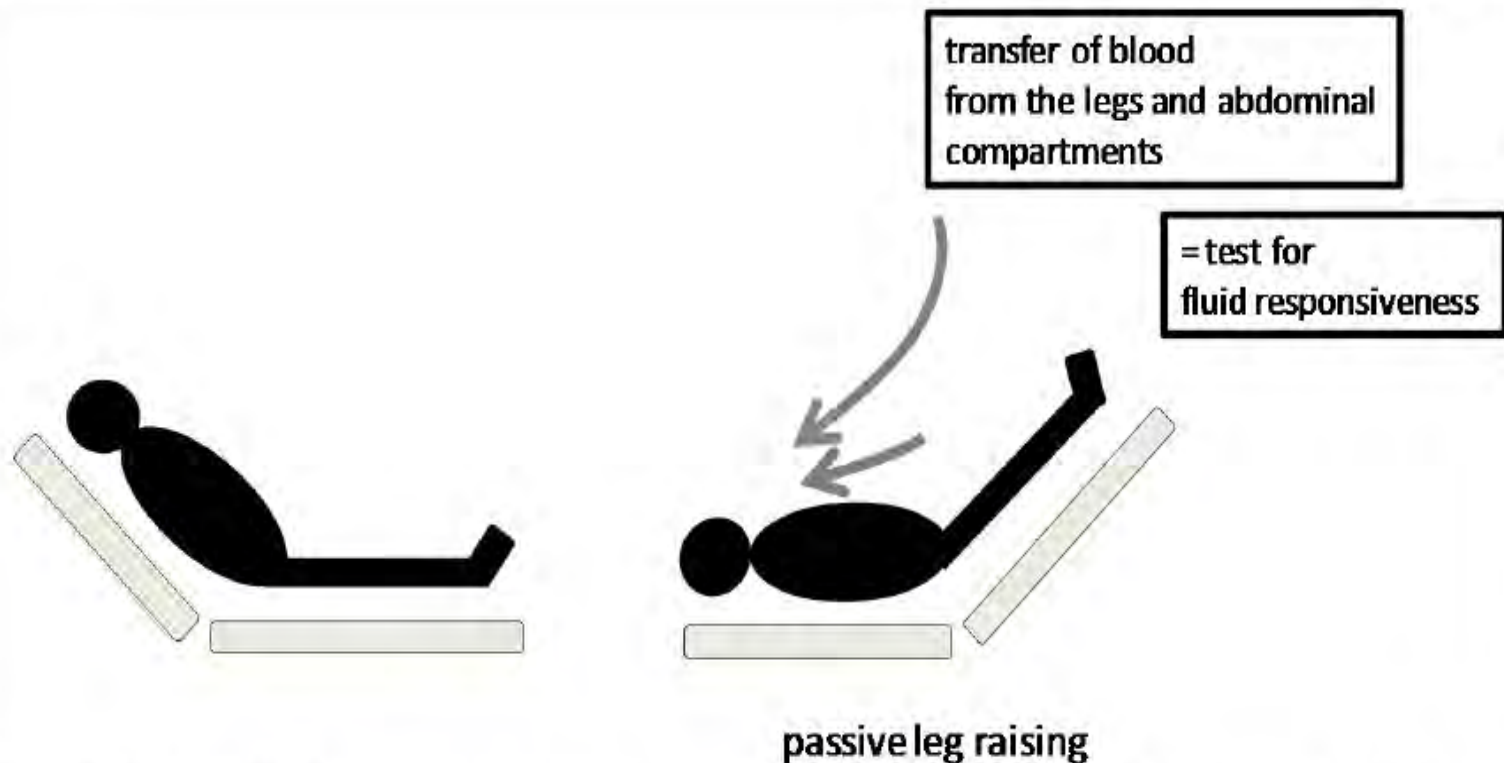


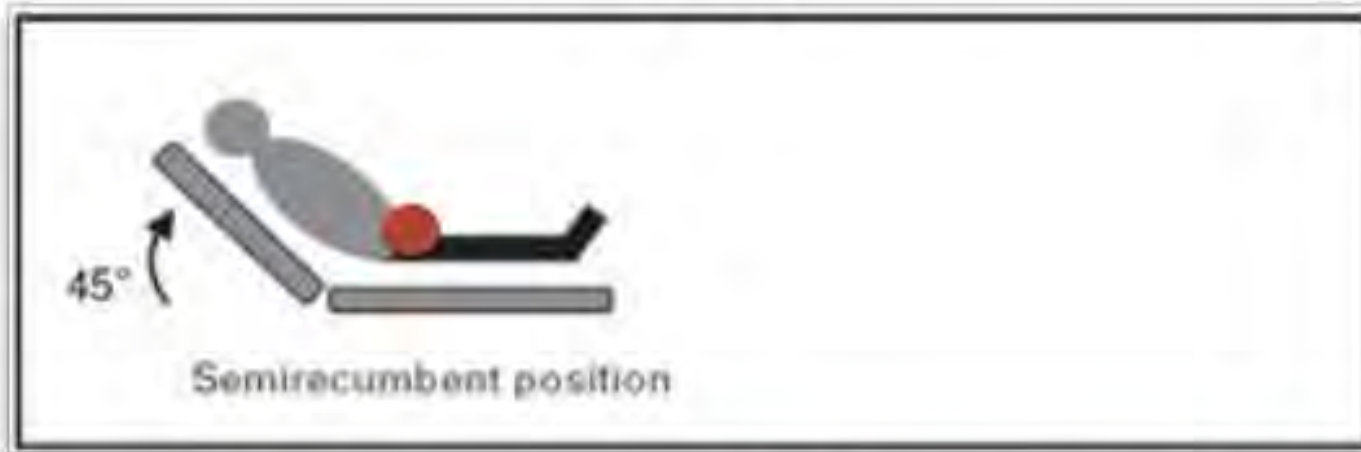
Figure 4 Passive leg raising. The passive leg raising test consists in measuring the hemodynamic effects of a leg elevation up to 45°. A simple way to perform the postural maneuver is to transfer the patient from the semirecumbent posture to the passive leg raising position by using the automatic motion of the bed.

the automatic motion of the bed

may to perform the postural maneuver is to transfer the patient from the semirecumbent posture to the passive leg raising position by using

Figure 4 Passive leg raising. The passive leg raising test consists in measuring the hemodynamic effects of a leg elevation up to 45°. A simple

Passive Leg Raising Test (PLRT)



CO increase >10%
Sensitivity 97%
Specificity 94%
(for predict fluid responsiveness)

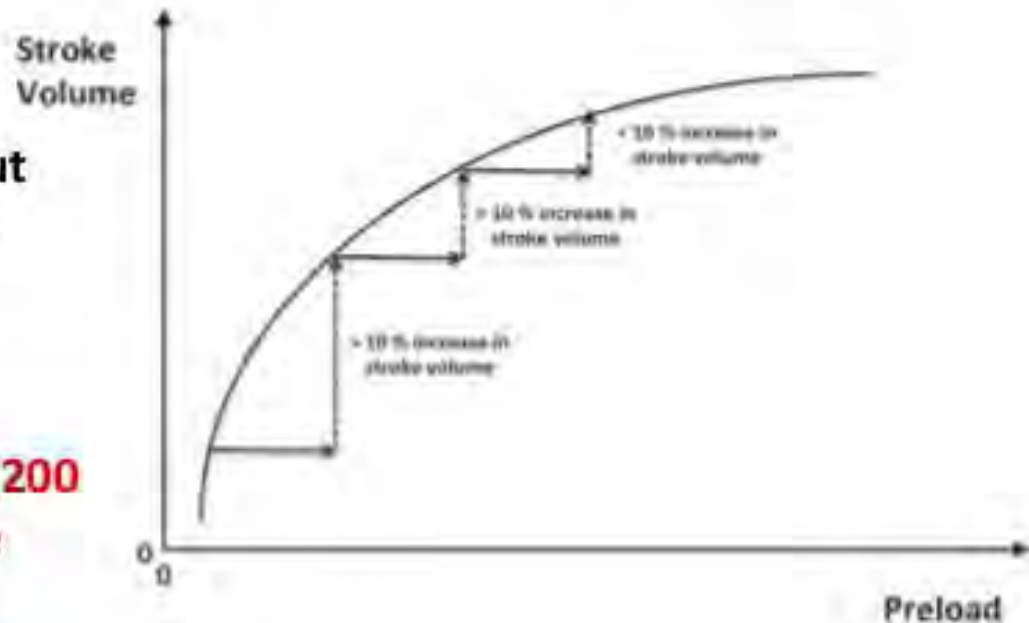
Monnet X, et al. Crit Care Med 2006;34:1402-7

Monnet X, et al. Crit Care Med 2006;34:1402-7

Fluid optimization concept based on stroke volume monitoring.

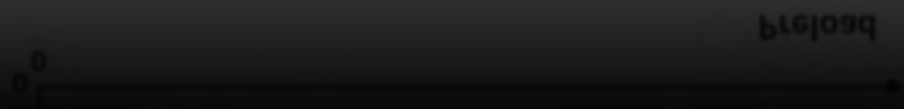
The concept of cardiac output maximization based on fluid administration and stroke volume monitoring.

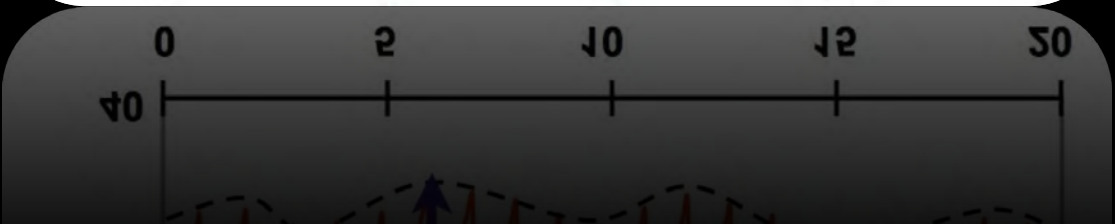
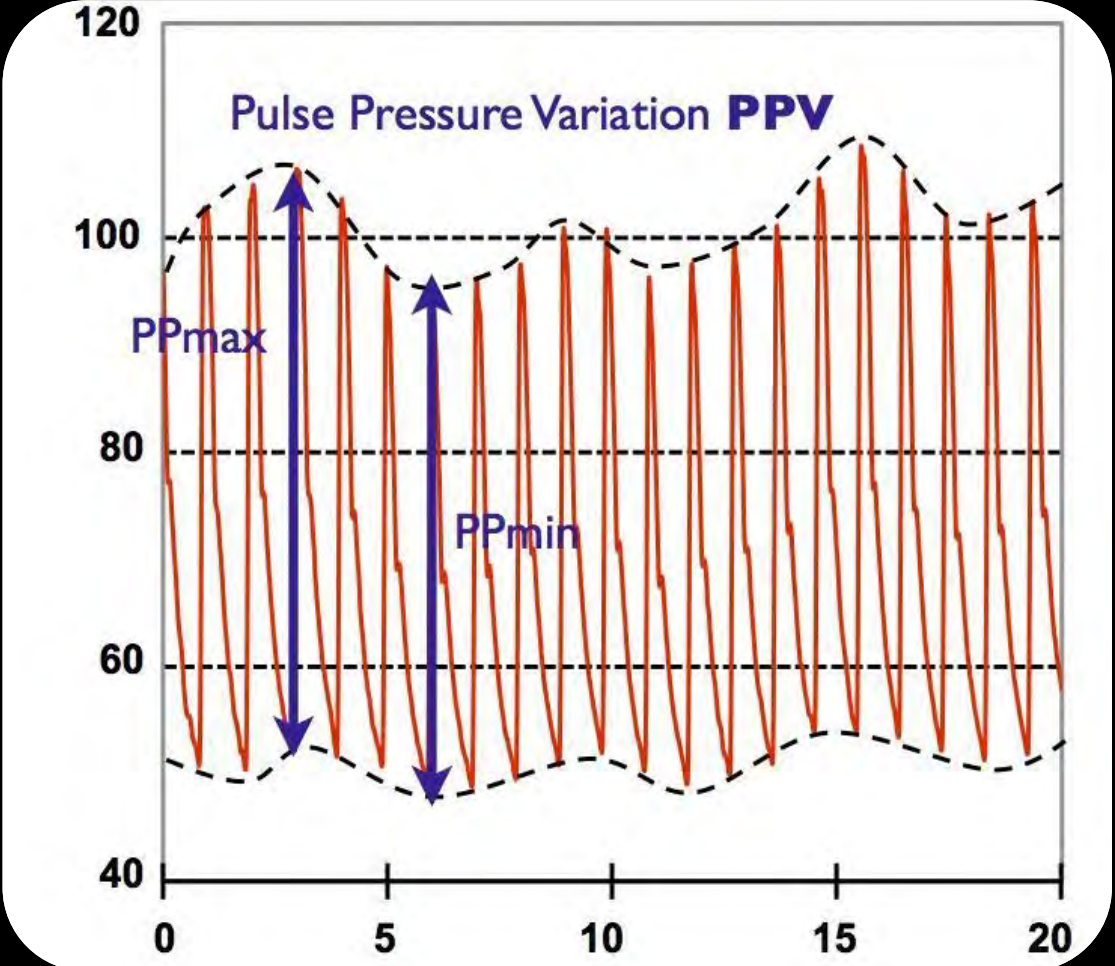
Small boluses of fluid are administered **intravenously (200 to 250 ml at a time)** until the stroke volume increases by **<10%**.



<10%

stroke volume increases by
to 250 ml at a time) until the

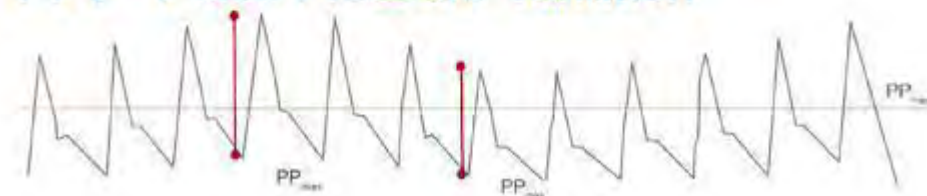




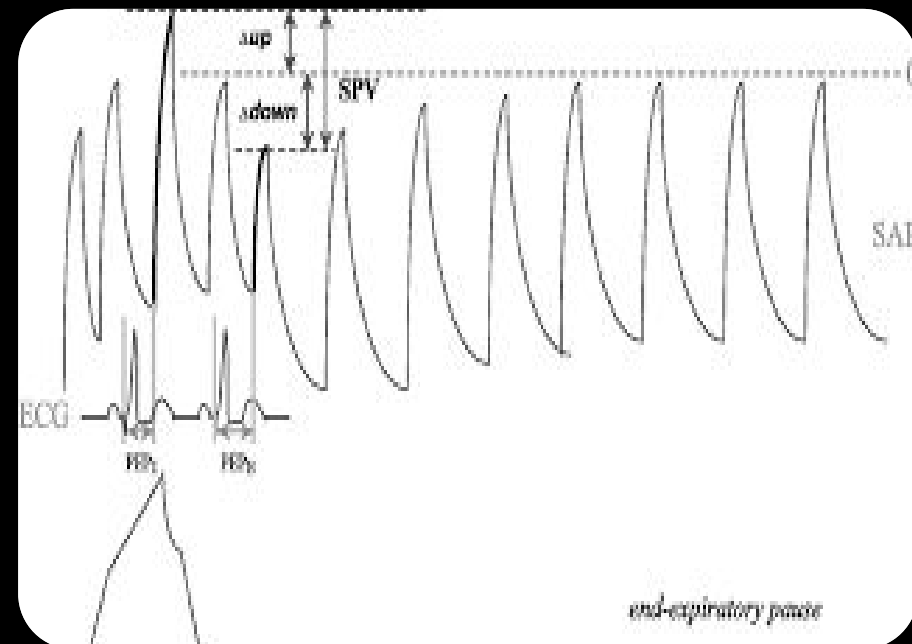
SVV - Stroke Volume Variation



PPV - Pulse Pressure Variation



$$SPV = 100 \times \left\{ \frac{(SP_{\max} - SP_{\min})}{\left[\frac{1}{2} (SP_{\max} + SP_{\min}) \right]} \right\}$$

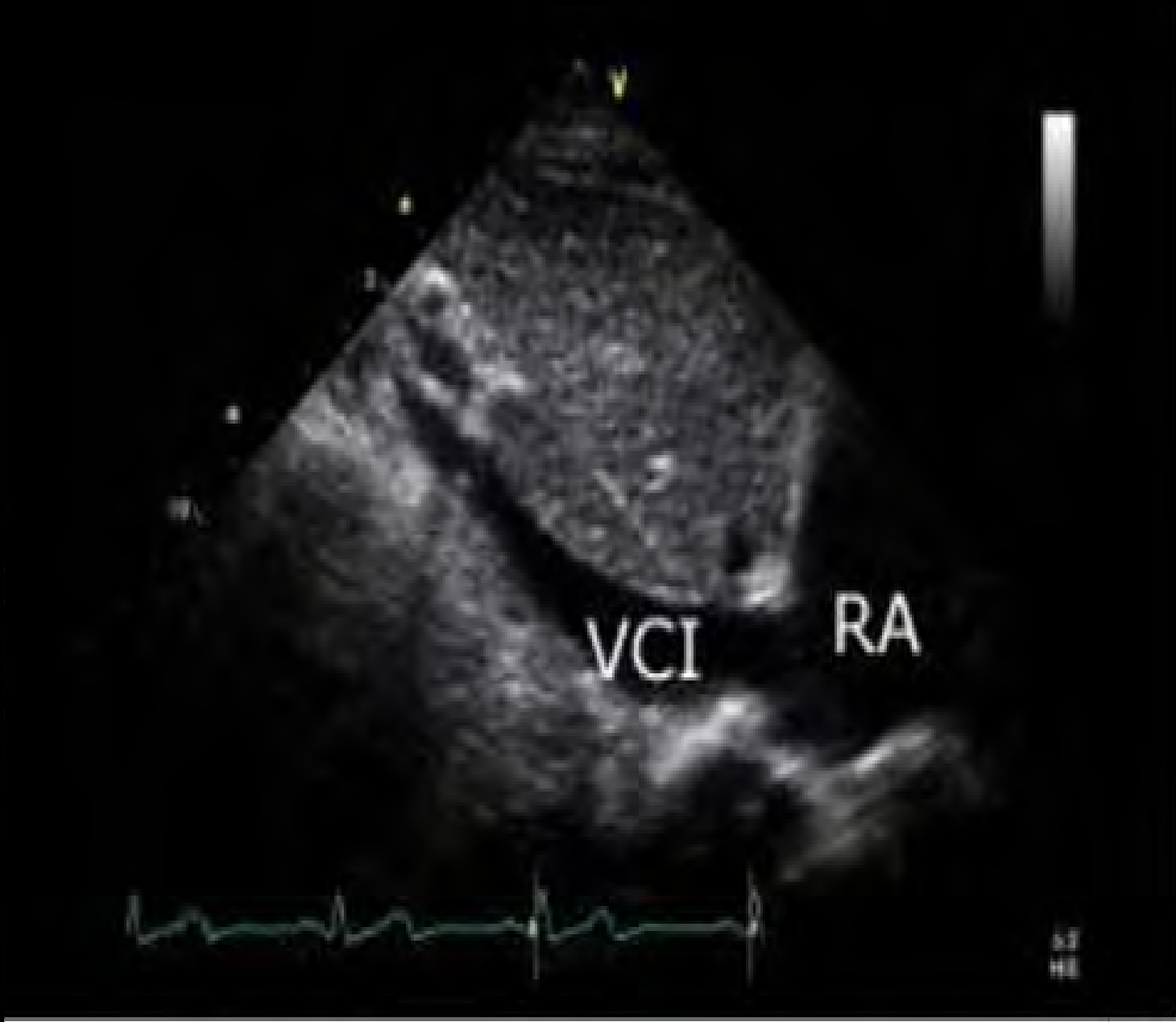


end-expiratory pressure

end-expiratory pressure

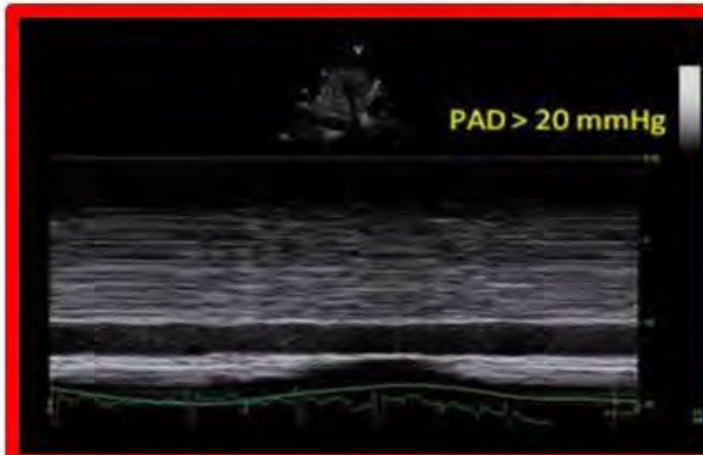
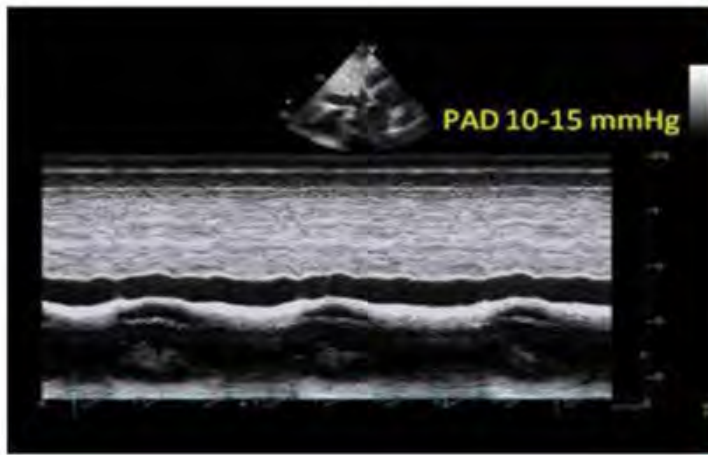
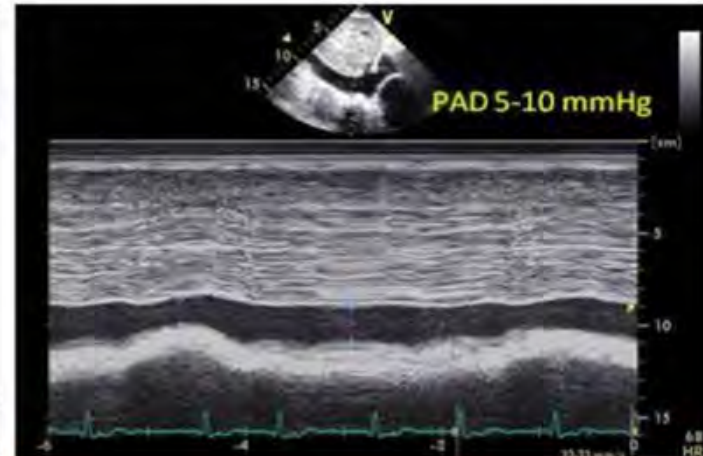
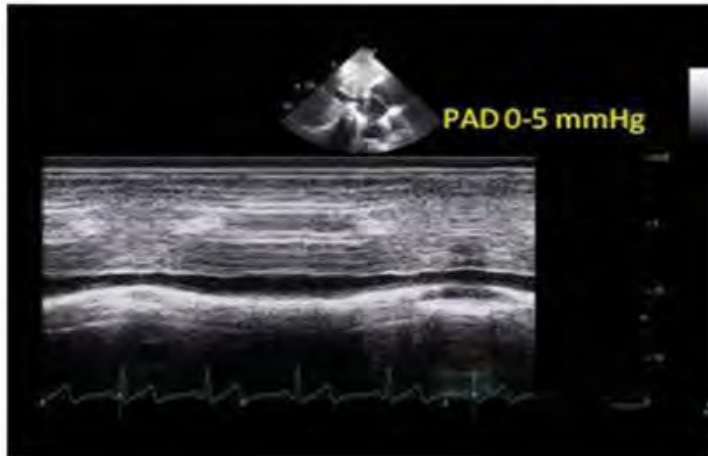


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TP: Signos ecocardiográficos

Dilatación VCI y colapso inspiratorio reducido:



Hemodynamic parameters to guide fluid therapy

Paul E Marik^{1*}, Xavier Monnet², Jean-Louis Teboul²

Annals of Intensive Care 2011, 1:1

Table 2 Predictive value of techniques used to determine fluid responsiveness [15]

Method	Technology	AUC*
Pulse pressure variation (PPV)	Arterial waveform	0.94 (0.93-0.95)
Systolic pressure variation (SPV)	Arterial waveform	0.86 (0.82-0.90)
Stroke volume variation (SVV)	Pulse contour analysis	0.84 (0.78-0.88)
Left ventricular end-diastolic area (LVEDA)	Echocardiography	0.64 (0.53-0.74)
Global end-diastolic volume (GEDV)	Transpulmonary thermodilution	0.56 (0.37-0.67)
Central venous pressure (CVP)	Central venous catheter	0.55 (0.48-0.62)

*AUC = area under the curve with 95% confidence intervals.

Sequence of passive leg raising (PLR)

Sequence of rapid fluid loading (RFL)

baseline 1

PLR

post-PLR

baseline2

post-RFL

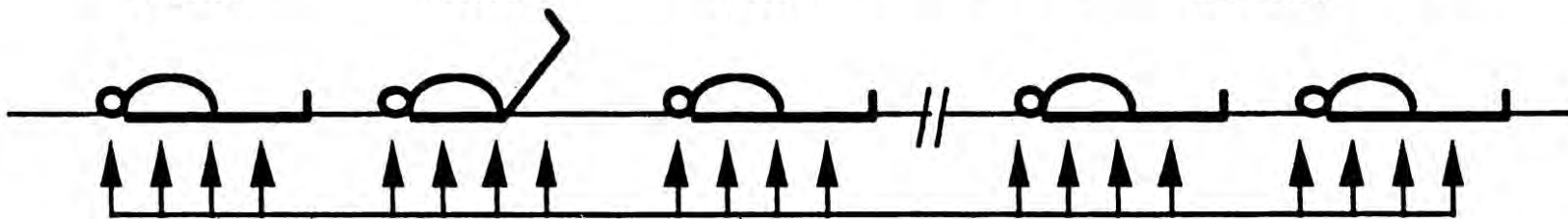
4 min.

4 min.

4 min.

15 min.

20 min.



Four measurements of systolic and diastolic arterial pressures and heart rate at 1-min intervals, at each phase of the procedure



Measurements of cardiac output * (thermodilution) at each phase of the procedure

Measurements of cardiac output * (thermodilution) at each phase of the procedure

La fluidoterapia es una
piedra angular del tratamiento
del choque séptico, **PERO**
la sobrecarga hídrica puede
ser deletérea.

Fluid accumulation, survival and recovery of kidney function in critically ill patients with acute kidney injury

Josée Bouchard¹, Sharon B. Soroko¹, Glenn M. Chertow², Jonathan Himmelfarb³, T. Alp Ikizler⁴, Emil P. Paganini⁵ and Ravindra L. Mehta¹, Program to Improve Care in Acute Renal Disease (PICARD) Study Group

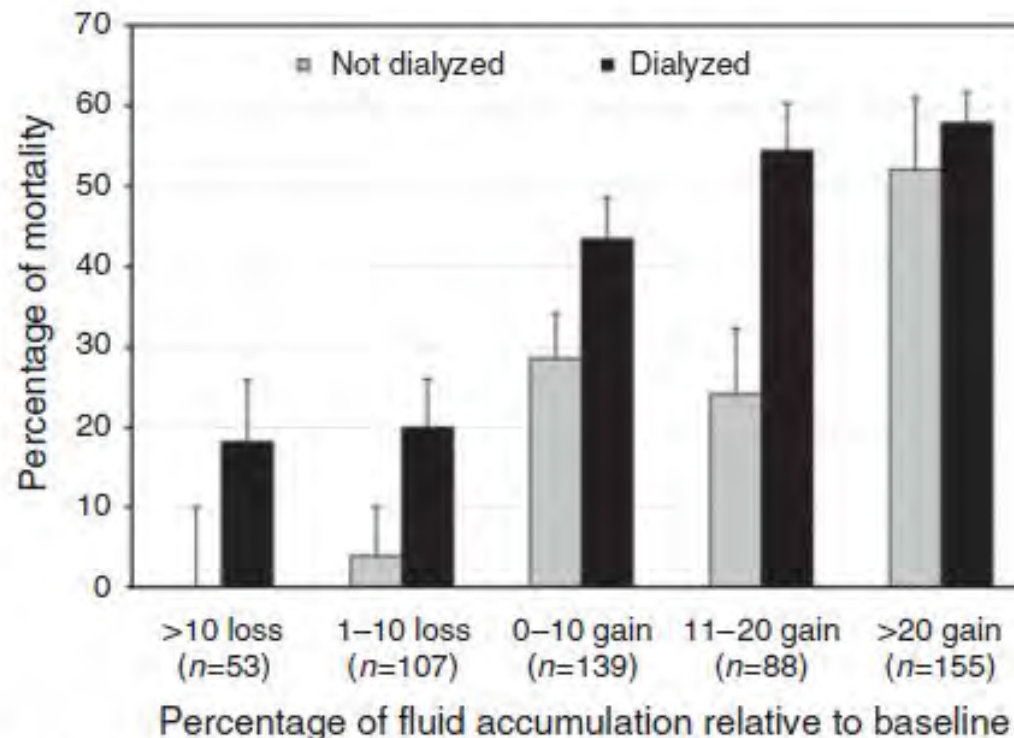
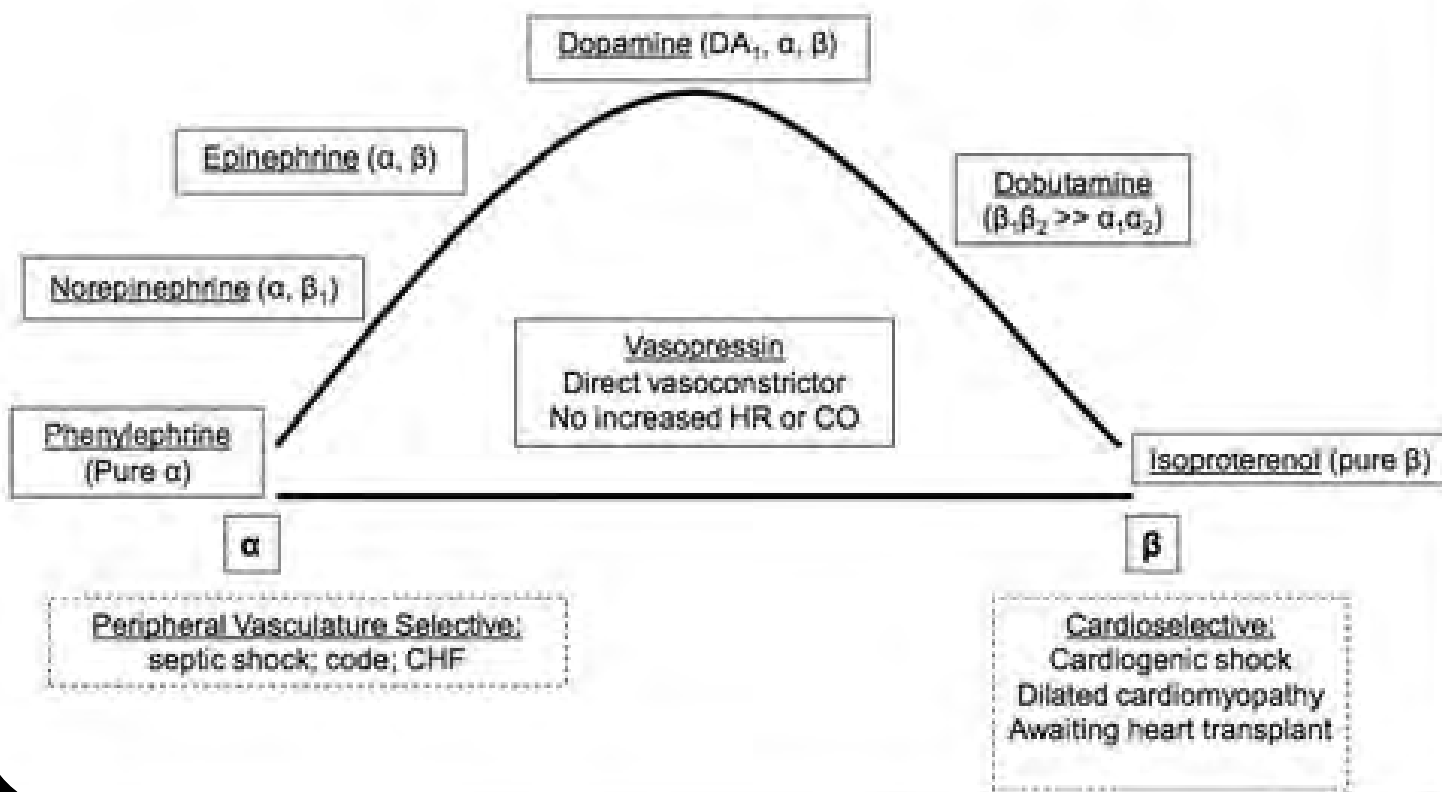


Figure 2 | Mortality rate by final fluid accumulation relative to baseline weight and stratified by dialysis status.

Vasopressors/Inotropes



septic shock; code; CHF

Awaiting heart transplant
Cardiogenic shock
Dilated cardiomyopathy

Timing of vasopressor initiation and mortality in septic shock: a cohort study

Critical Care 2014, 18:R97 doi:10.1186/cc13868

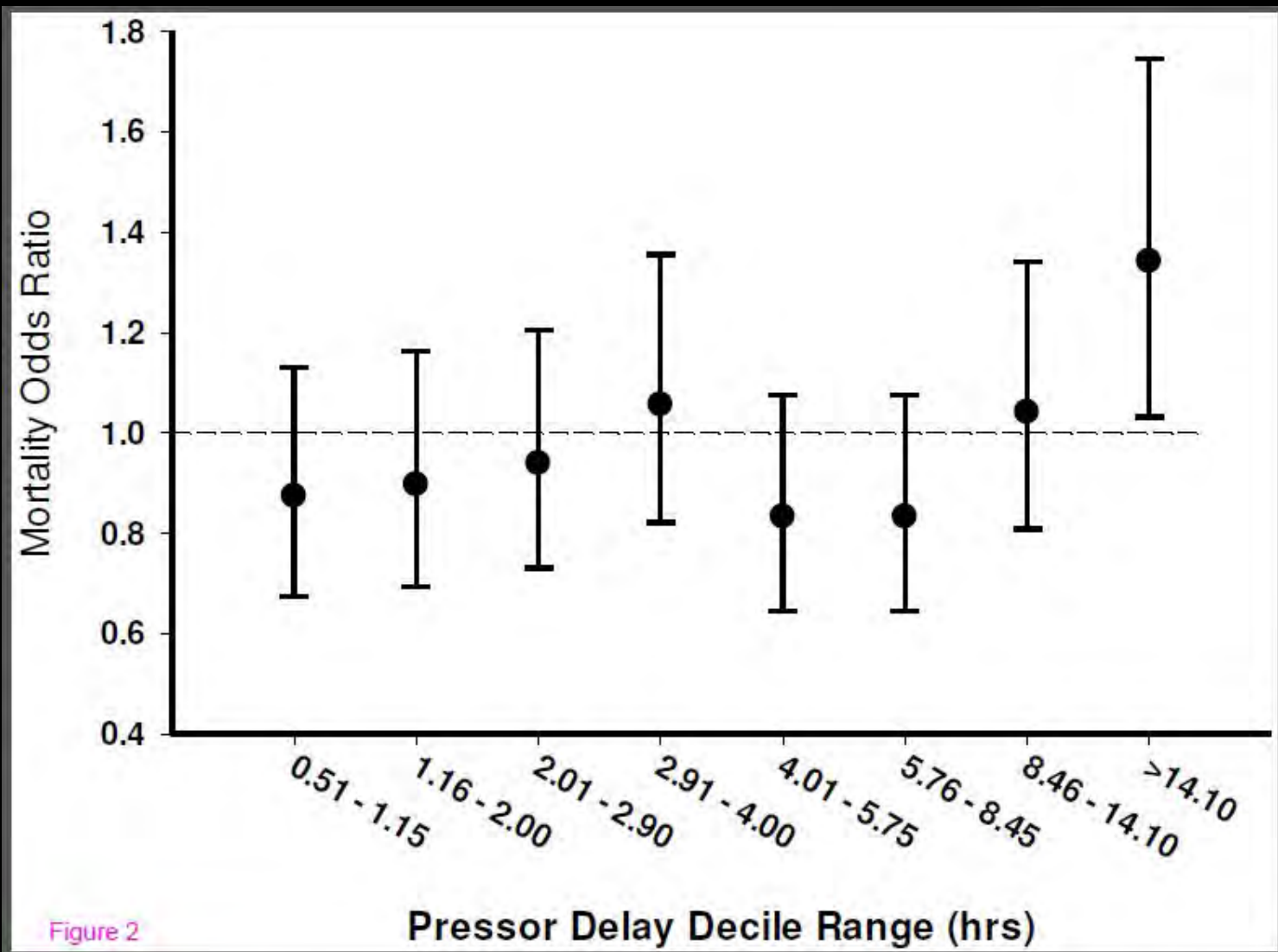


Figure 2

Journal club critique

CORTICUS: The end of unconditional love for steroid use?

Phillip E. Mason¹, Ali Al-Khafaji², Eric B. Milbrandt², Brian P. Suffoletto³, and David T. Huang⁴

¹ Clinical Fellow, Department of Critical Care Medicine, University of Pittsburgh School of Medicine, Pittsburgh, Pennsylvania, USA

² Assistant Professor, Department of Critical Care Medicine, University of Pittsburgh School of Medicine, Pittsburgh, Pennsylvania, USA

³ Assistant Professor, Department of Emergency Medicine, University of Pittsburgh School of Medicine, Pittsburgh, Pennsylvania, USA

⁴ Assistant Professor, Departments of Critical Care Medicine and Emergency Medicine, University of Pittsburgh School of Medicine, Pittsburgh, Pennsylvania, USA

Published online: 7th August 2009

Critical Care 2009, 13:309 (DOI: 10.1186/cc7986)

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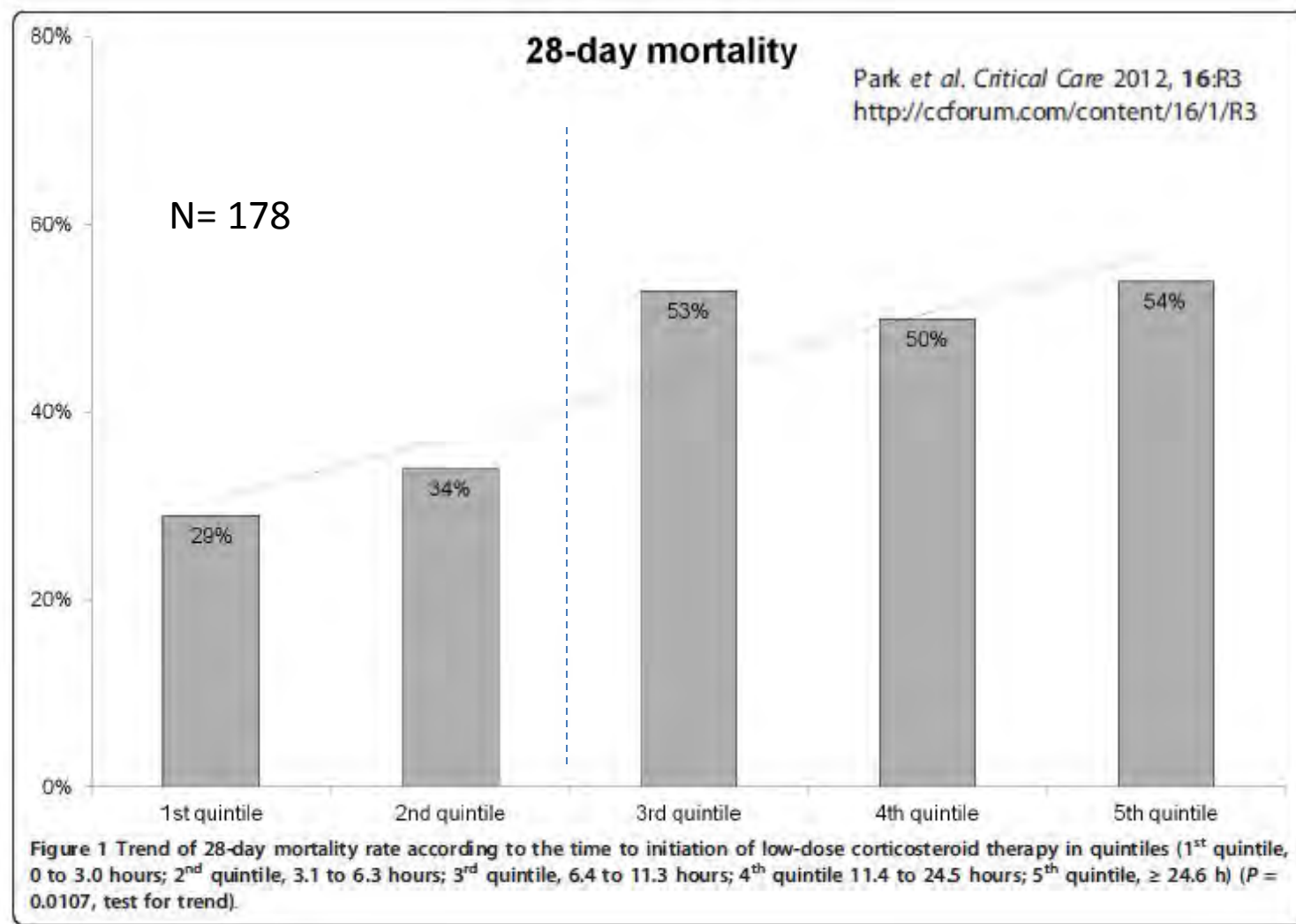
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Characteristic	Annane	CORTICUS
SAPS II mean (placebo/treatment)	57/60	49/50
Control group mortality	61%	32%
Corticotropin non-responders	77%	47%
Admission category - medical	60%	35%
Hospital-acquired infection	21%	47%
Post-surgical infection	16%	61%
Abdominal infection	16%	49%

Table 1: Comparison of patient characteristics in CORTICUS and the study by Annane and colleagues.

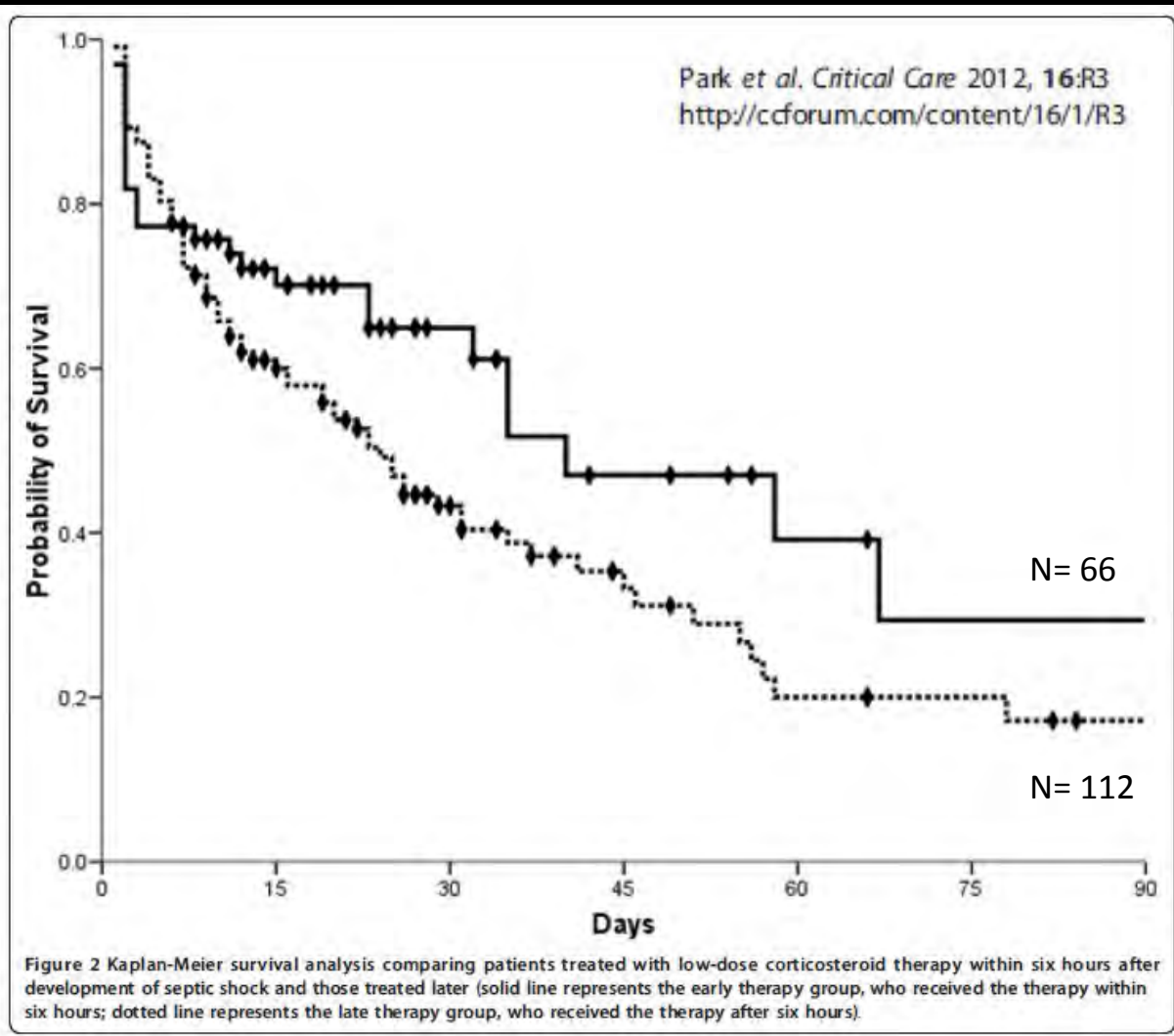
Early initiation of low-dose corticosteroid therapy in the management of septic shock: a retrospective observational study

Hye Yun Park¹, Gee Young Suh¹, Jae-Uk Song¹, Hongseok Yoo¹, Ik Joon Jo², Tae Gun Shin², So Yeon Lim¹, Sookyong Woo³ and Kyeongman Jeon^{1*}



Early initiation of low-dose corticosteroid therapy in the management of septic shock: a retrospective observational study

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La hidrocortisona puede revertir el choque refractario a vasopresores, **PERO** su impacto en la mortalidad todavía puede estar en discusión.

El impacto del uso de hidrocortisona en pacientes con choque séptico podría estar marcado por la prontitud de su indicación.

**La aplicación de hidrocortisona
en pacientes con choque
séptico puede ayudar a
reducir la dosis requeridas de
vasopresores para
revertir el choque .**

Effects of Epinephrine on Hemodynamics and Oxygen Metabolism in Dopamine-Resistant Septic Shock*

Pierre Edouard Bollaert, M.D.; Philippe Bauer, M.D.;
G rard Audibert, M.D.; Henri Lambert, M.D.; and Alain Larcan, M.D.

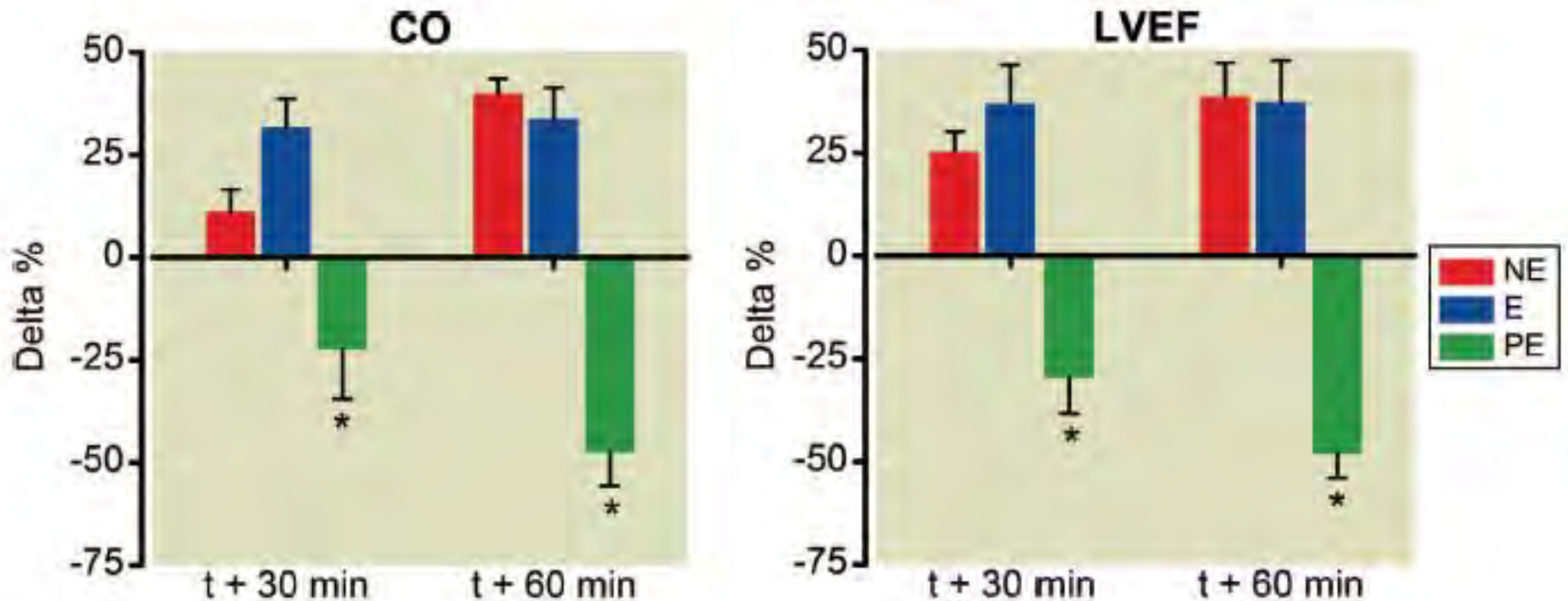
Table 2—Hemodynamic and Metabolic Parameters in 13 Patients with Septic Shock Before (H0) and One Hour after Starting Epinephrine (H1) Therapy*

Variable	H0 (Baseline)	H1	p
HR, beats/min	121 ± 29	129 ± 25	NS
SAP, mm Hg	73 ± 15	120 ± 27	<0,01
DAP, mm Hg	34 ± 8	52 ± 13	<0,01
MAP, mm Hg	46 ± 11	72 ± 21	<0,01
MPAP, mm Hg	21 ± 9	26 ± 11	<0,05
PWP, mm Hg	9 ± 3	10 ± 4	NS
CI, L/min·m ²	5.5 ± 2.3	6.7 ± 2.1	<0,05
SVI, ml/m ²	44 ± 16	52 ± 14	<0,05
LVSWI, g/m ²	24 ± 11	45 ± 17	<0,01
SVRI, dynes·s/cm ⁵ ·m ²	771 ± 347	935 ± 333	<0,05
PVRI, dynes·s/cm ⁵ ·m ²	372 ± 249	351 ± 225	NS
Đo ₂ , ml/min·m ⁻²	621 ± 306	807 ± 313	<0,01
Đo ₂ , ml/min·m ⁻²	224 ± 150	249 ± 157	<0,05
ER, †%	38 ± 14	30 ± 10	<0,05
Lactate, mg/L	570 ± 410	738 ± 530	<0,01

En caso de choque refractario a norepinefrina, se recomienda el uso de **epinefrina a dosis de 15 μ g x minuto .**

Comparison of Equipressor Doses of Norepinephrine, Epinephrine, and Phenylephrine on Septic Myocardial Dysfunction

Nicolas Ducrocq, M.D.,* Antoine Kimmoun, M.D.,* Anna Furmaniuk, M.Sc.,† Zerine Hekalo, M.Sc.,† Fatiha Maskali, Ph.D.,‡ Sylvain Poussier, Ph.D.,‡ Pierre-Yves Marie, M.D., Ph.D.,§ Bruno Levy, M.D., Ph.D.||



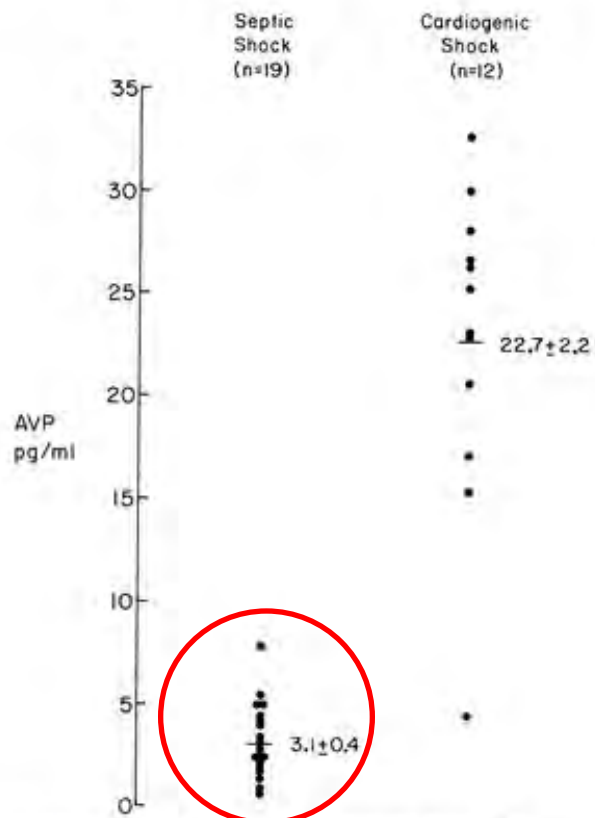
Fenilefrina solo si:

- Arritmias graves por NE.
- GC alto con PAM baja a pesar de NE + AD/VP.

Vasopressin Deficiency Contributes to the Vasodilation of Septic Shock

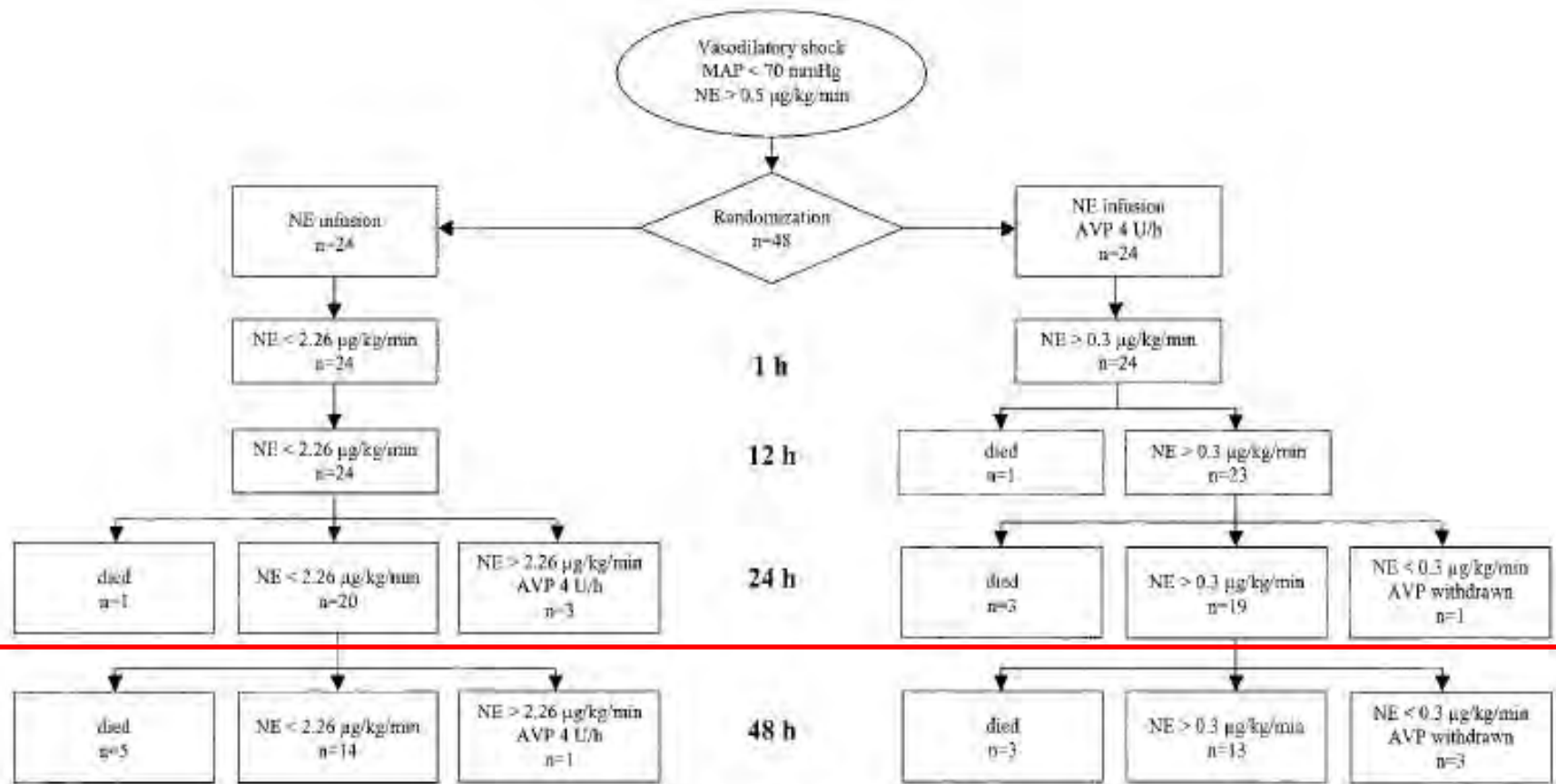
Donald W. Landry, MD, PhD; Howard R. Levin, MD; Ellen M. Gallant, MD;
Robert C. Ashton, Jr, MD; Susan Seo, BA; David D'Alessandro, BA;
Mehmet C. Oz, MD; Juan A. Oliver, MD

Plasma vasopressin levels (AVP) of patients in septic shock and cardiogenic shock.



Arginine Vasopressin in Advanced Vasodilatory Shock: A Prospective, Randomized, Controlled Study

Martin W. Dünser, Andreas J. Mayr, Hanno Ulmer, Hans Knotzer, Günther Sumann, Werner Pajk, Barbara Friesenecker and Walter R. Hasibeder



Overview of patient enrollment and study design.

Vasopresina a dosis de
0.03 – 0.04U x minuto
solo en caso de choque
refractario

Terlipressin for norepinephrine-resistant septic shock

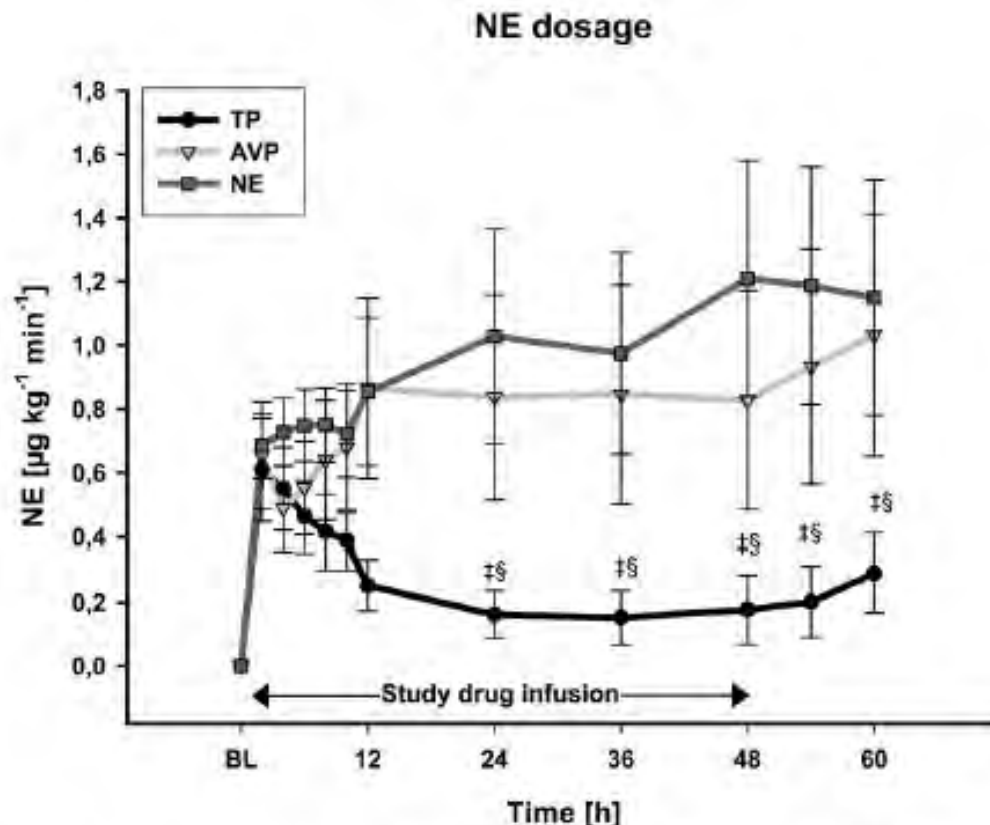
Alastair O'Brien, Lucie Clapp, Mervyn Singer

Cause of septic shock	Age (years)	Apache II score	Terlipressin (mg)	Initial norepinephrine ($\mu\text{g}/\text{kg}/\text{min}$)	Further norepinephrine requirements	Outcome
Dog bite	56	25	2.0	0.41	None, needed glyceryl trinitrate to lower mean arterial pressure	Discharged to ward after 1 month
Unknown cause	68	25	1.0	0.34	Unchanged dose though good pressor response	Died 10 days later
Streptococcal pneumonia	50	25	1.0	0.85	Weaned off over 24 h	Discharged to ward after 2 months
Staphylococcal septicaemia	52	37	2.0	0.53	Effect lasted 5 h then steady increase in norepinephrine	Died within 24 h
Streptococcal septicaemia	40	30	1.0	0.30	Effect lasted for 5 h then steady increase in norepinephrine to $0.7 \mu\text{g}/\text{kg}/\text{min}$ over next 15 h*	Died within 24 h
Faecal peritonitis	68	31	1.0	0.73	Weaned off over 24 h	Discharged to ward 2 weeks later
Salmonella gastroenteritis	82	25	2.0	0.73	Weaned off over 2 days	Discharged to ward 17 days later
Meningococcal septicaemia	62	28	1.5	0.82	Continued on low dose norepinephrine for 4 days, then gradual deterioration	Died after 6 days

*Given a 2nd dose of terlipressin at 5 h; the effect was similar but only lasted 3 h.

Continuous terlipressin versus vasopressin infusion in septic shock (TERLIVAP): a randomized, controlled pilot study

Andrea Morelli¹, Christian Ertmer², Sebastian Rehberg², Matthias Lange², Alessandra Orecchioni¹, Valeria Cecchini¹, Alessandra Bachetoni³, Mariadomenica D'Alessandro³, Hugo Van Aken², Paolo Pietropaoli¹ and Martin Westphal²



Norepinephrine requirements. AVP = arginine vasopressin; NE = norepinephrine; TP = terlipressin. † $P < 0.05$ vs. AVP (significant group effect); § $P < 0.05$ vs. NE (significant group effect).

Rescue treatment with terlipressin in children with refractory septic shock: a clinical study

Antonio Rodríguez-Núñez¹, Jesús López-Herce², Javier Gil-Antón³, Arturo Hernández⁴, Corsino Rey⁵ and the RETSPED Working Group of the Spanish Society of Pediatric Intensive Care

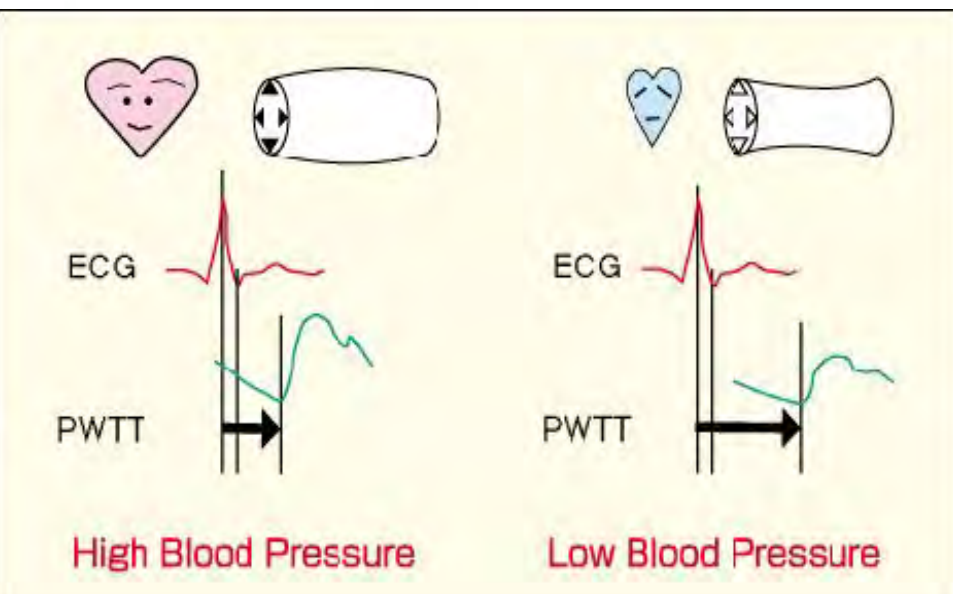
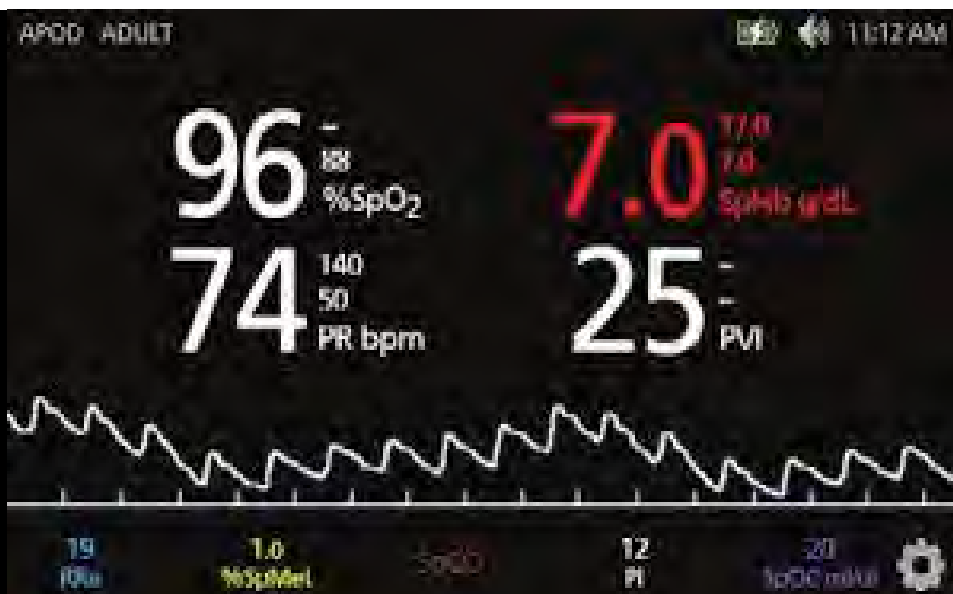
Evolution of hemodynamic variables and catecholamine infusion rates after terlipressin therapy

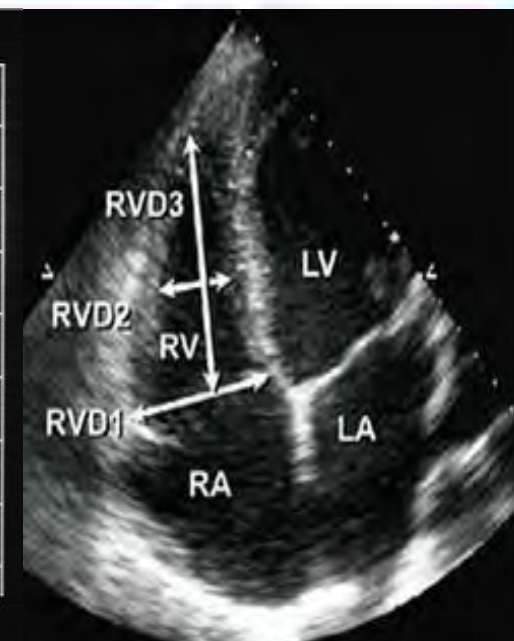
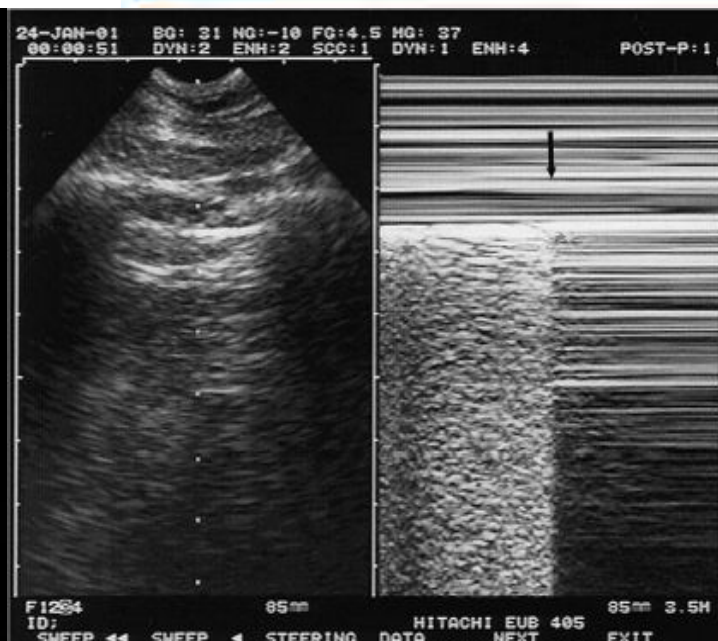
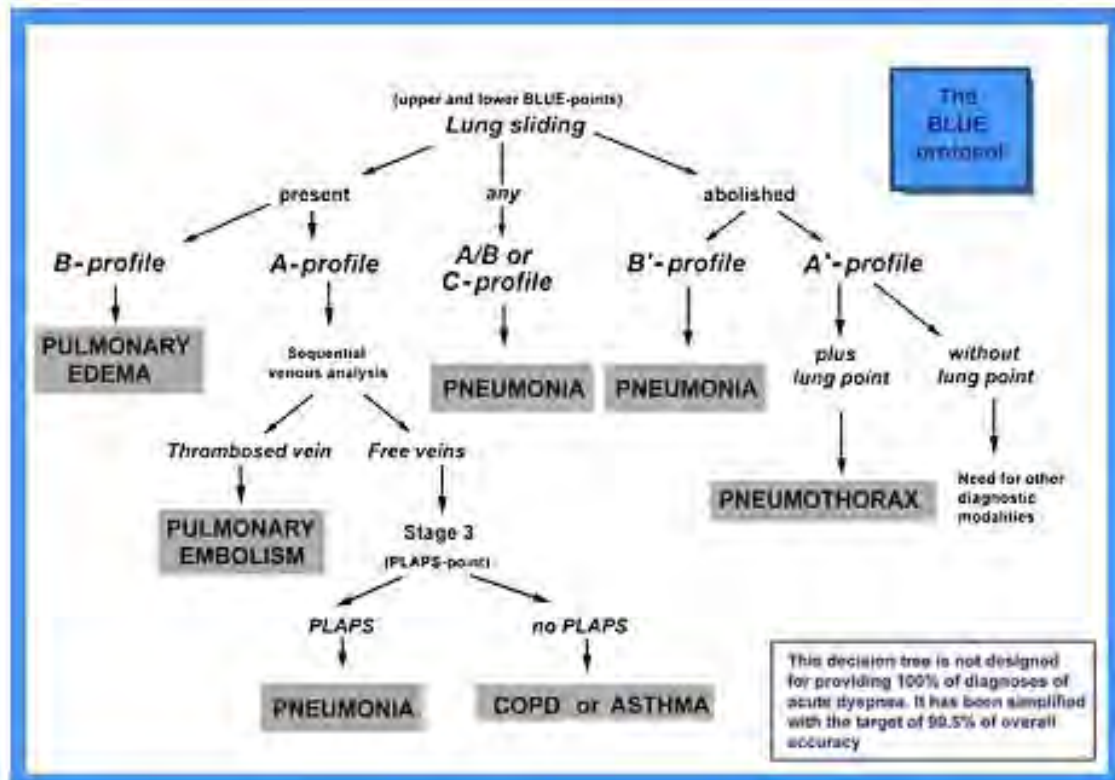
	Before terlipressin therapy	Time after terlipressin therapy					
		30 min	60 min	4 hours	12 hours	24 hours	48 hours
Systolic blood pressure (mmHg)	77 (50–140)	108 (61–154)*	102.5 (61–137)*	99 (65–147)	91 (70–120)	107 (55–118)	105 (65–130)
Mean blood pressure (mmHg)	50.5 (37–93)	77 (42–100)**	69.5 (41–104)*	74 (40–95)	62 (40–90)	68 (35–90)	73 (40–103)
Diastolic blood pressure (mmHg)	38 (25–70)	57 (32–72)*	55.5 (31–90)*	48 (25–86)	50 (20–80)	48 (26–77)	53 (30–90)
Heart rate (beats/min)	155 (80–205)	149 (114–186)	148 (85–190)	148 (110–190)	146 (114–185)	142 (102–170)	148 (101–170)
Central venous pressure (mmHg)	14 (4–23)	13 (3–23)	12.5 (3–17)	13 (3–27)	12 (4–24)	12 (5–18)	13.6 (5–22)
Catecholamines (µg/kg/min)							
Noradrenaline	2 (1–4)	1 (0–3)	1.15 (0–3)	1.4 (0–2)	1 (0–2.6)*	1 (0–2.5)**	0.1 (0–1)**
Adrenaline	1.2 (0.4–4)	1 (0.5–6)	1 (0.3–4)	0.7 (0.2–3)	0.6 (0.1–2)	1 (0.2–2)	0.5 (0–2.5)
Dopamine	21.5 (10–52)	16.3 (3–40)	17.5 (0–52)	10 (0–40)	15.8 (0–40)	20 (3–40)	11.6 (0–45)
Dobutamine	22.5 (5–40)	20 (0–40)	20 (0–40)	20 (0–40)	20 (0–40)	20 (0–40)	22.5 (10–30)
Inotropic equivalent ^a	176 (141–552)		153.5 (67–460)		128.5 (57–340)	117.5 (20–340)*	82 (0–371)**

^aInotropic equivalent: (noradrenaline × 100) + (adrenaline × 100) + dopamine + dobutamine + (milrinone × 15) [25].

* $P < 0.05$ versus baseline. ** $P < 0.01$ versus baseline.

Existe evidencia temprana
que propone la posibilidad
de **Terlipresina** como una
alternativa en choque
séptico refractario a dosis
de **1.3 μ g x Kg x hr.**





TEST DE ELEVACIÓN DE PIERNAS





U
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1- El descenso de la presión arterial media depende de alteraciones en el gasto cardiaco y la resistencia vascular sistémica:

Falso _____ Verdadero _____

2-La presión venosa central presenta una deficiente correlación con respecto a diferenciar entre respondedores y no respondedores a fluidoterapia:

Falso _____ Verdadero _____

3-El índice de variabilidad del volumen sistólico y del gasto cardiaco, superan al test de elevación de piernas al momento de diferenciar entre respondedores y no respondedores a fluidoterapia:

Falso _____ Verdadero _____

4-Por cada gramo de albumina humana que se administra, se provoca una autotransfusión de 18ml de liquido intersticial hacia el espacio intravascular.

Falso _____ Verdadero _____

5-En el choque séptico, en caso de refractariedad a norepinefrina, se recomienda utilizar dopamina y no se recomienda emplear epinefrina:

Falso _____ Verdadero _____

1- El descenso de la presión arterial media depende de alteraciones en el gasto cardiaco y la resistencia vascular sistémica:

Verdadero

2-La presión venosa central presenta una deficiente correlación con respecto a diferenciar entre respondedores y no respondedores a fluidoterapia:

Verdadero

3-El índice de variabilidad del volumen sistólico y del gasto cardiaco, superan al test de elevación de piernas al momento de diferenciar entre respondedores y no respondedores a fluidoterapia:

Falso

4-Por cada gramo de albumina humana que se administra, se provoca una autotransfusión de 18ml de liquido intersticial hacia el espacio intravascular.

Verdadero

5-En el choque séptico, en caso de refractariedad a norepinefrina, se recomienda utilizar dopamina y no se recomienda emplear epinefrina:

Falso