

Balón de Resucitación Endovascular de Aorta (REBOA) en países en vía de desarrollo: Experiencia en un centro de trauma nivel I

Carlos Alberto Ordoñez, MD, FACS.



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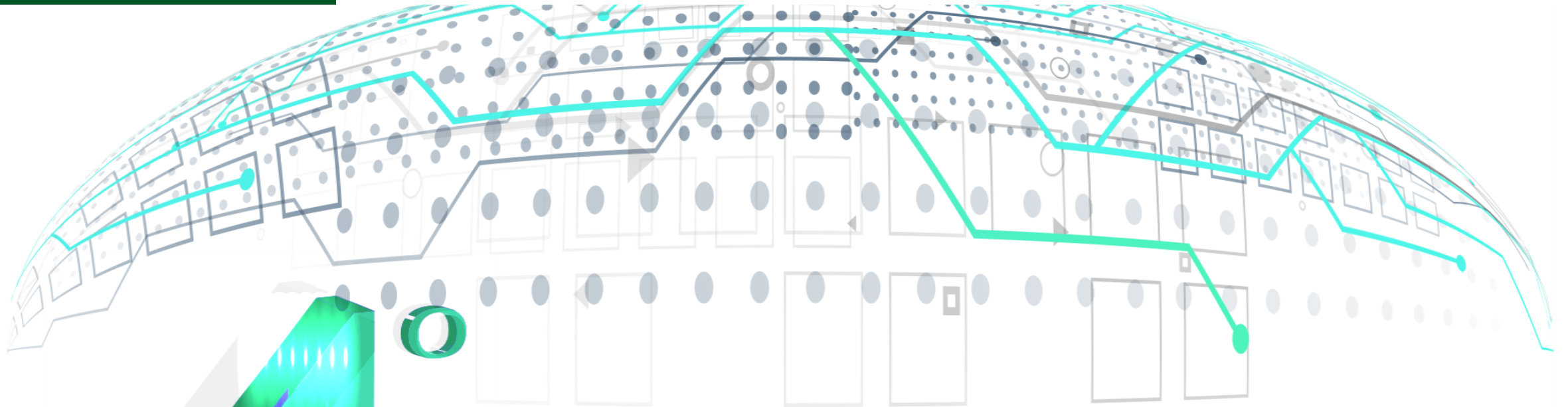


Contenido

1. Qué es el REBOA?
2. Cómo lo implementamos?
3. Qué se ha hecho en el mundo?
4. Qué hemos hecho nosotros?
5. El futuro es brillante

1

Qué es el REBOA?



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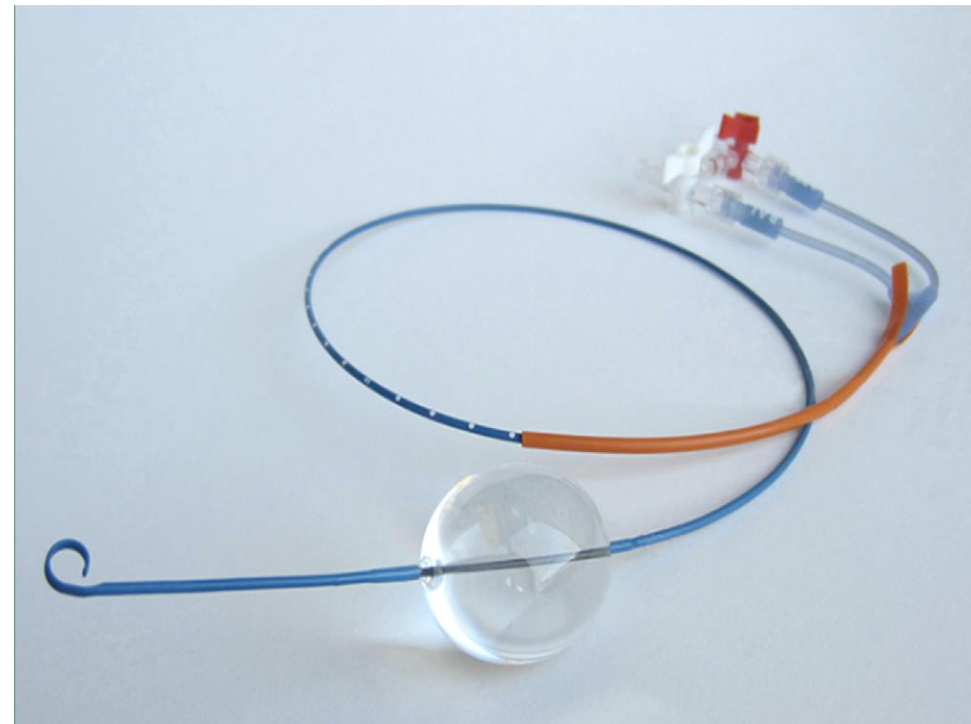
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Carlos Ardilla Lülle

Qué es el REBOA?

10-11 F : Coda Balloon Cook



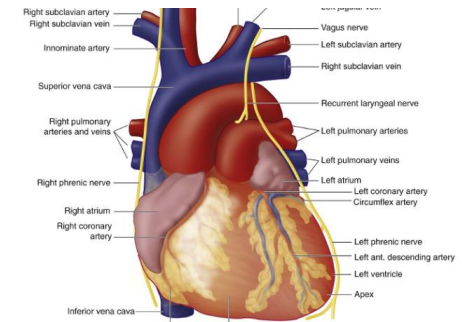
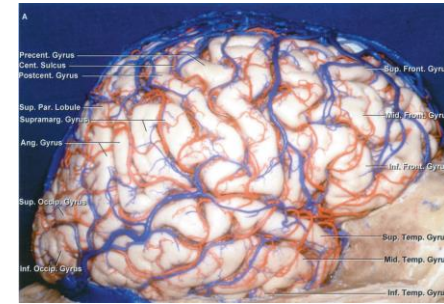
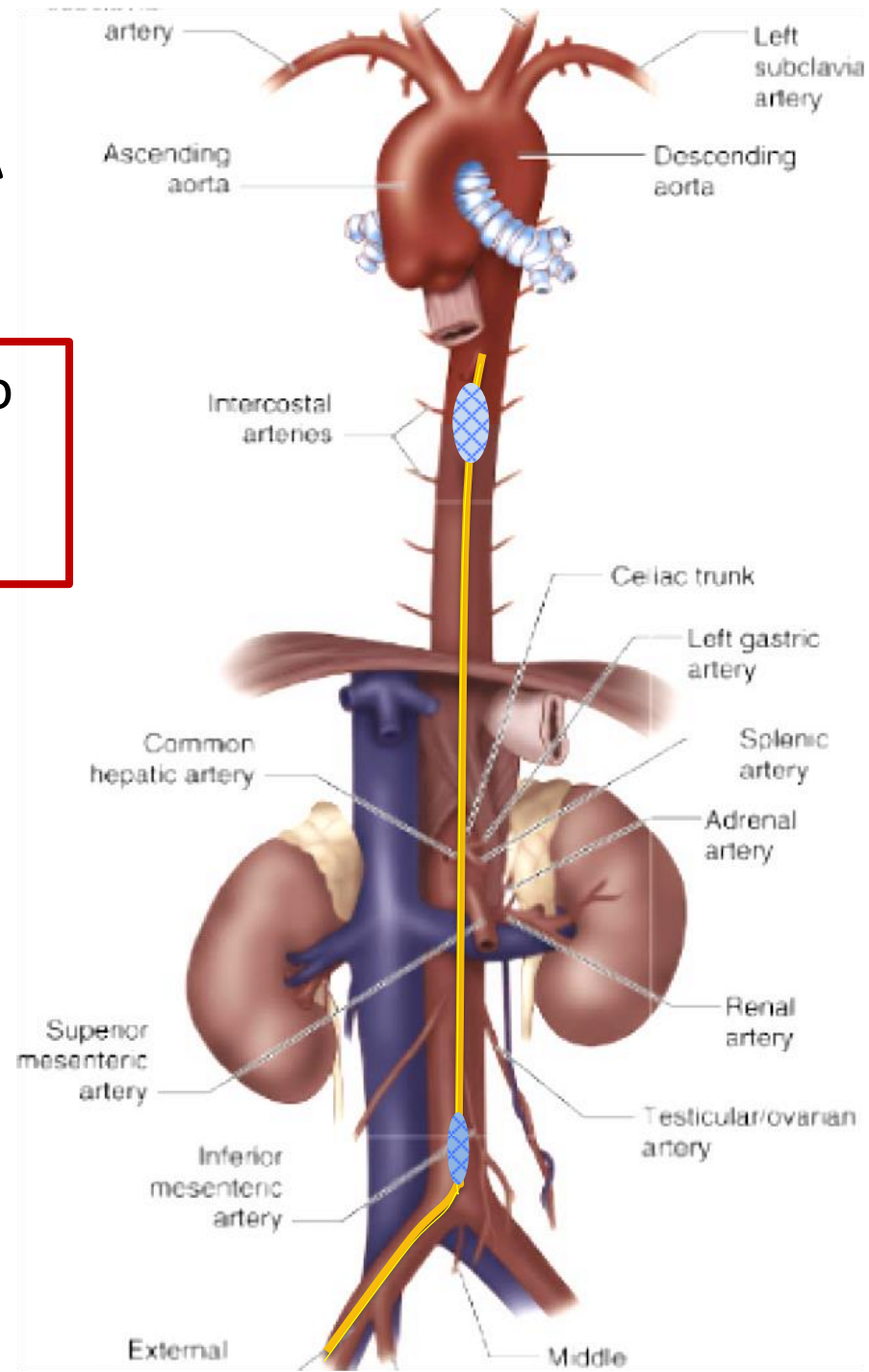
**7 F : ER – REBOA Pryor Medical
RESCUE –BALOON Tokai Medical**



REBOA



Hemorragia no
Compresible
del Torso

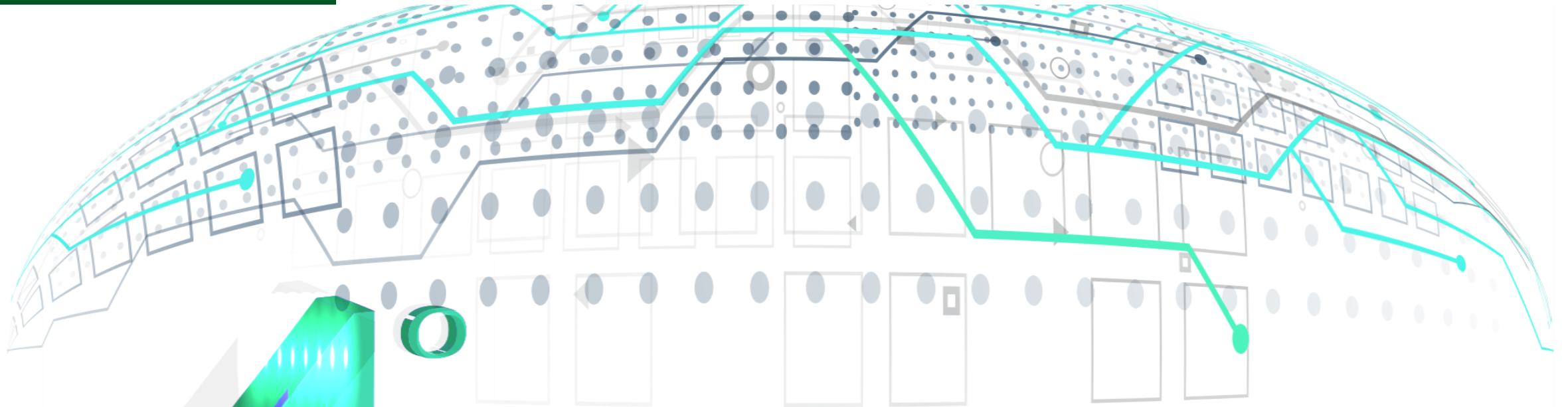


CENTRO DE TRAUMA NIVEL I



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Cómo lo implementamos?



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Endovascular balloon occlusion of the aorta is superior to resuscitative thoracotomy with aortic clamping in a porcine model of hemorrhagic shock

Joseph M. White, MD,^a Jeremy W. Cannon, MD,^{a,c} Adam Stannard, MRCS,^{a,b}
Nickolay P. Markov, MD,^a Jerry R. Spencer, RVT,^a and Todd E. Rasmussen, MD,^{a,c} *San Antonio, TX, Birmingham, UK, and Bethesda, MD*

Conclusion. *Resuscitative aortic BO increases central perfusion pressures with less physiologic disturbance than thoracotomy with aortic clamping in a model of hemorrhagic shock. Endovascular BO of the aorta should be explored further as an option in the management of noncompressible torso hemorrhage. (Surgery 2011;150:400-9.)*

Surgery 2011;150:400-9.

Forty-Minute Endovascular Aortic Occlusion Increases Survival in an Experimental Model of Uncontrolled Hemorrhagic Shock Caused by Abdominal Trauma

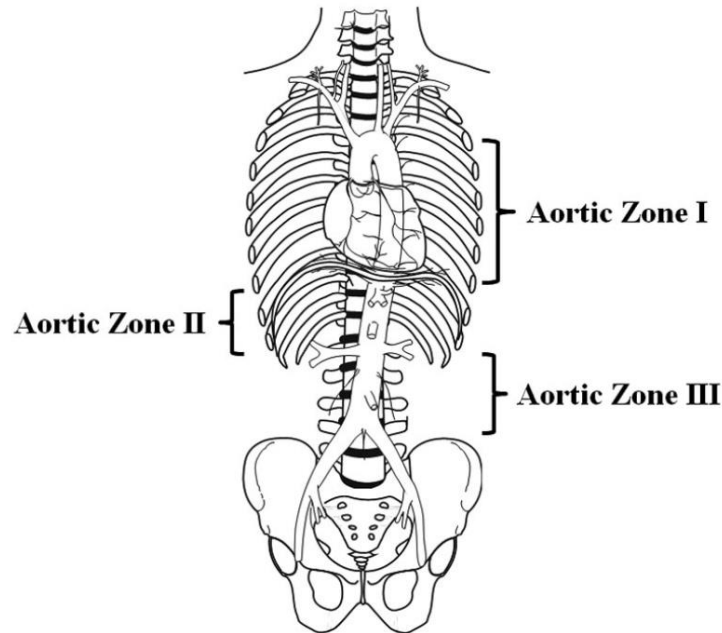
Jean-Philippe Avaro, MD, PhD, Vincent Mardelle, MD, Antoine Roch, MD, PhD, Celine Gil, MD, Cécile de Biasi, MD, Manuela Oliver, MD, Therry Fusai, MD, PhD, and Pascal Thomas, MD, PhD

Conclusion: A 40-minute ABO followed by surgical damage control improved survival in this animal model of uncontrolled hemorrhagic shock caused by abdominal trauma. ABO could be considered for the management of severe abdominal trauma.

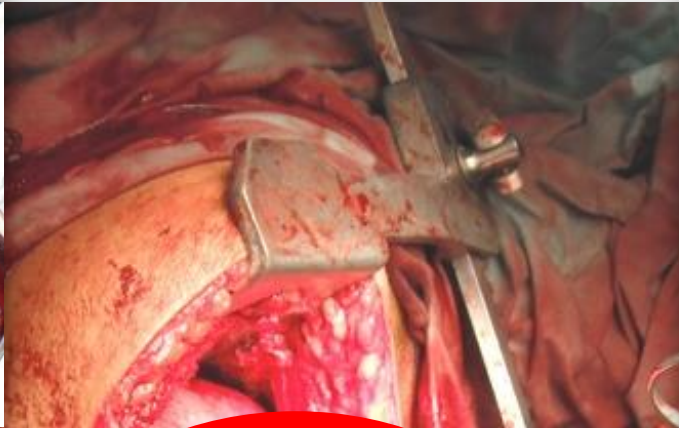
J Trauma. 2011; 71: 720–726)

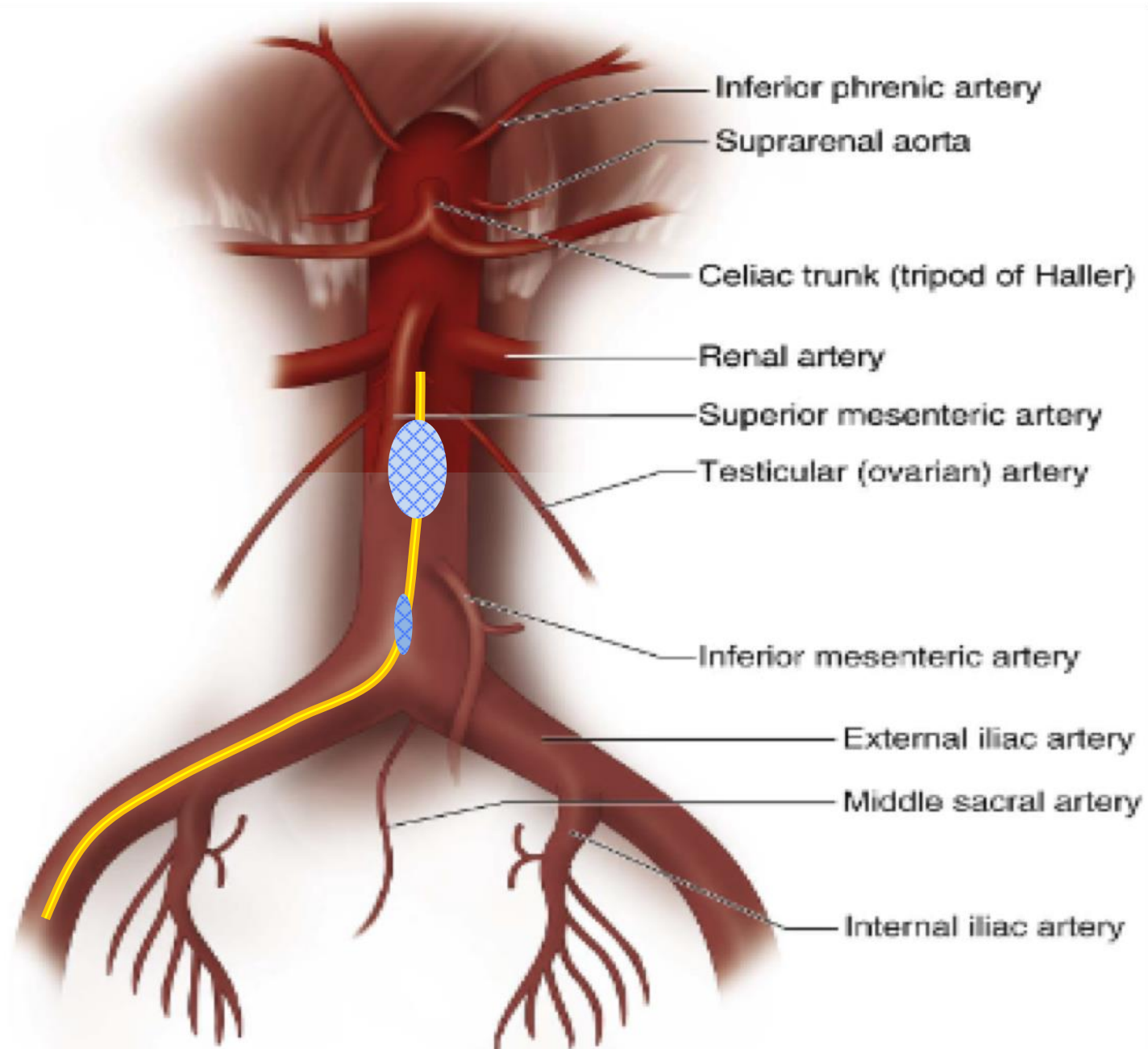
Resuscitative Endovascular Balloon Occlusion of the Aorta (REBOA) as an Adjunct for Hemorrhagic Shock

Adam Stannard, MRCS, Jonathan L. Eliason, MD, and Todd E. Rasmussen, MD



1. Arterial access
2. Balloon selection and positioning
3. Balloon inflation
4. Balloon deflation
5. Sheath removal







La ciencia explica “la luz al final del túnel”

A clinical series of resuscitative endovascular balloon occlusion of the aorta for hemorrhage control and resuscitation

Megan L. Brenner, MD, Laura J. Moore, MD, Joseph J. DuBose, MD, George H. Tyson, MD, Michelle K. McNutt, MD, Rondel P. Albarado, MD, John B. Holcomb, MD, Thomas M. Scalea, MD, and Todd E. Rasmussen, MD

Downloaded from <http://>

Conclusion: REBOA is a feasible and effective means of proactive aortic control for patients in end-stage shock from blunt and penetrating mechanisms. With available technology, this method of resuscitation can be performed by trauma and acute care surgeons who have benefited from instruction on a limited endovascular skill set.

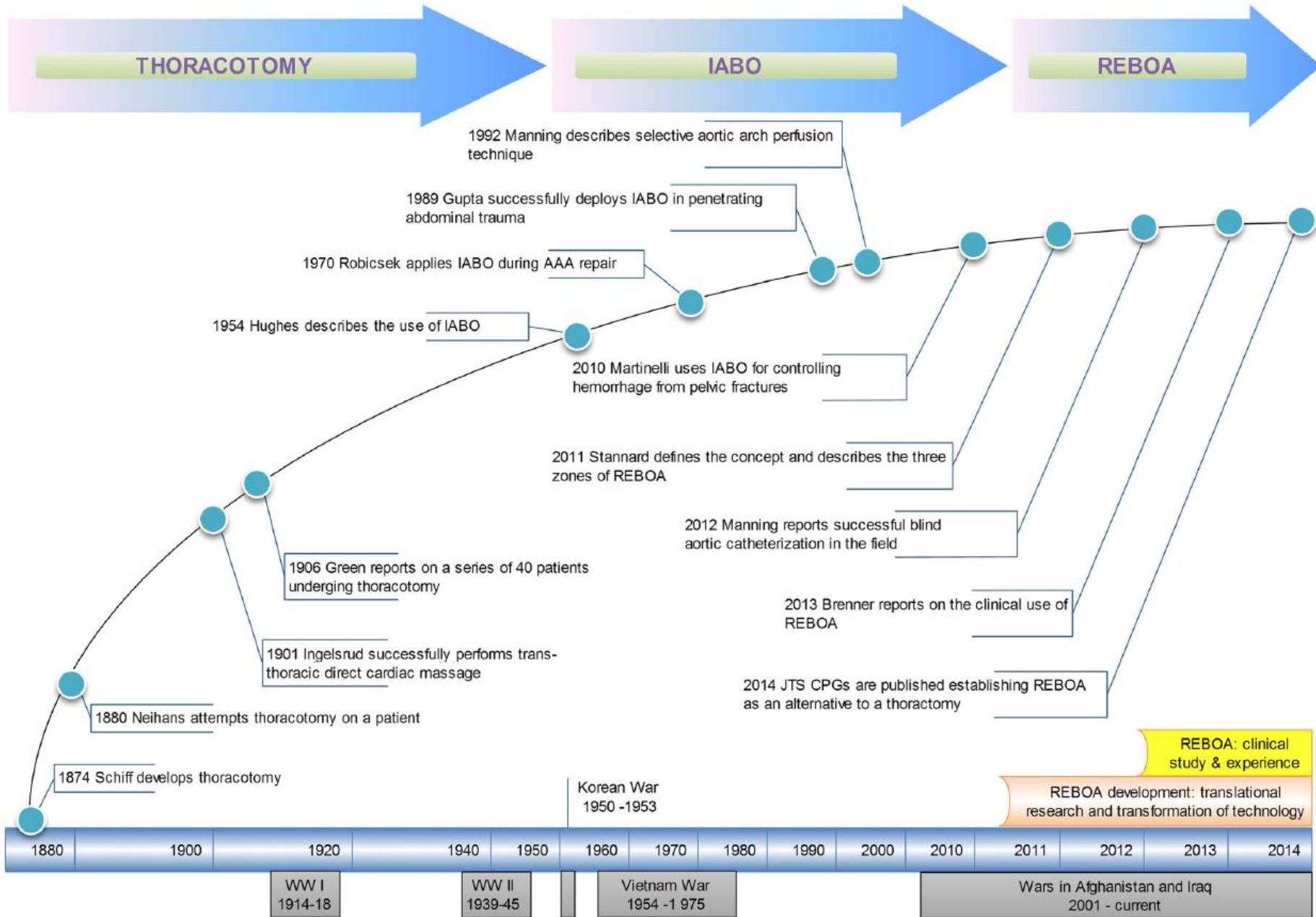
J Trauma Acute Care Surg. 2013;75: 506-511.

Resuscitative endovascular balloon occlusion of the aorta for hemorrhage control: Past, present, and future

Slava M. Belenkiy, MD, Andriy I. Batchinsky, MD, Todd E. Rasmussen, MD,
and Leopoldo C. Cancio, MD, San Antonio, Texas

REBOA EL FUTURO:

1. Expandir el conocimiento
2. Usar nuevas tecnologías
3. Entrenar a los cirujanos
4. Integrar la investigación clínica y de laboratorio
5. El REBOA es una nueva herramienta en el control de daños



PROTOCOLO DE INVESTIGACIÓN

INFORMES PERIÓDICOS

Fecha de envío al comité:	Año	Mes	Día
	2018	07	23

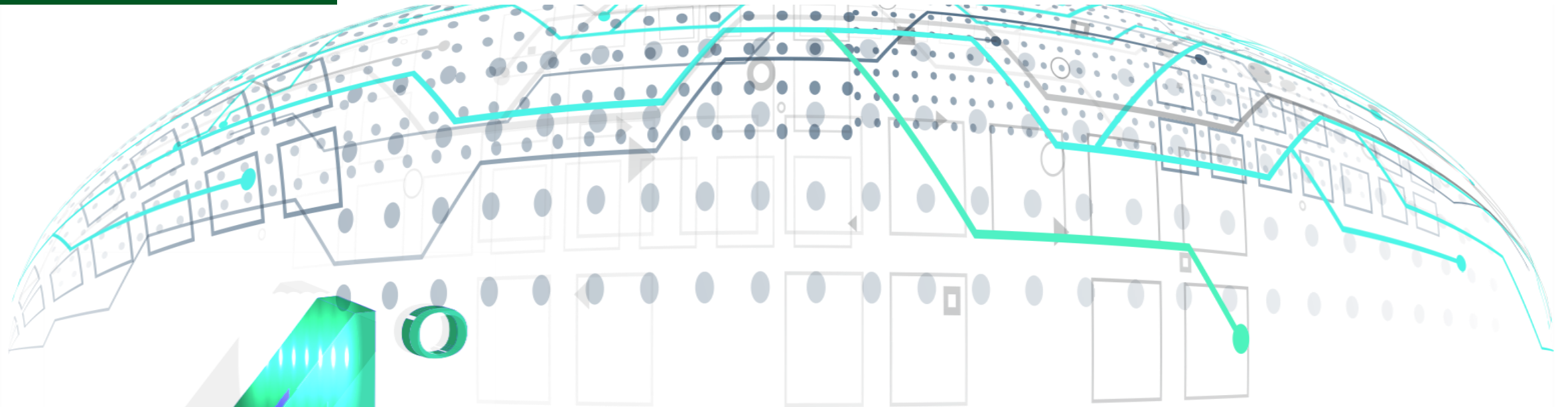
Señores:
COMITÉ DE ÉTICA EN INVESTIGACIÓN BIOMÉDICA

Protocolo N° (asignado en la página del comité):

TÍTULO DEL ESTUDIO (Incluyendo su acrónimo):	
Uso del catéter con balón intraortico en pacientes con shock hemorrágico postraumático no controlable	
Patrocinador y/o CRO (cuando aplique)	
Centro de Investigaciones Clínicas – Fundación Valle del Lili	
Fecha de inicio del estudio	Fecha estimada de finalización del estudio (cierre local)
15 de diciembre del 2014	Indefinida
Número acta de aprobación	Fase del estudio
Acta N°. 23 del 15 de Diciembre 2014 / Carta N°297 – 2014	Fase de reclutamiento de datos

3

Qué se ha hecho en el mundo?



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Search results

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Search Results

Showing 129 results for: **REBOA**



ORIGINAL SCIENTIFIC ARTICLES

Resuscitative Endovascular Balloon Occlusion of the Aorta and Resuscitative Thoracotomy in Select Patients with Hemorrhagic Shock: Early Results from the American Association for the Surgery of Trauma's Aortic Occlusion in Resuscitation for Trauma and Acute Care Surgery Registry

Check for updates

Megan Brenner, MD, FACS, Kenji Inaba, MD, FACS, Alberto Aiolfi, MD, Joseph DuBose, MD, FACS, Timothy Fabian, MD, FACS, Tiffany Bee, MD, FACS, John B Holcomb, MD, FACS, Laura Moore, MD, FACS, David Skarupa, MD, FACS, Thomas M Scalea, MD, FACS, for the AAST AORTA Study Group

285 pacientes




Eur J Trauma Emerg Surg (2018) 44:491–501
<https://doi.org/10.1007/s00068-017-0813-7>



ORIGINAL ARTICLE

The use of aortic balloon occlusion in traumatic shock: first report from the ABO trauma registry

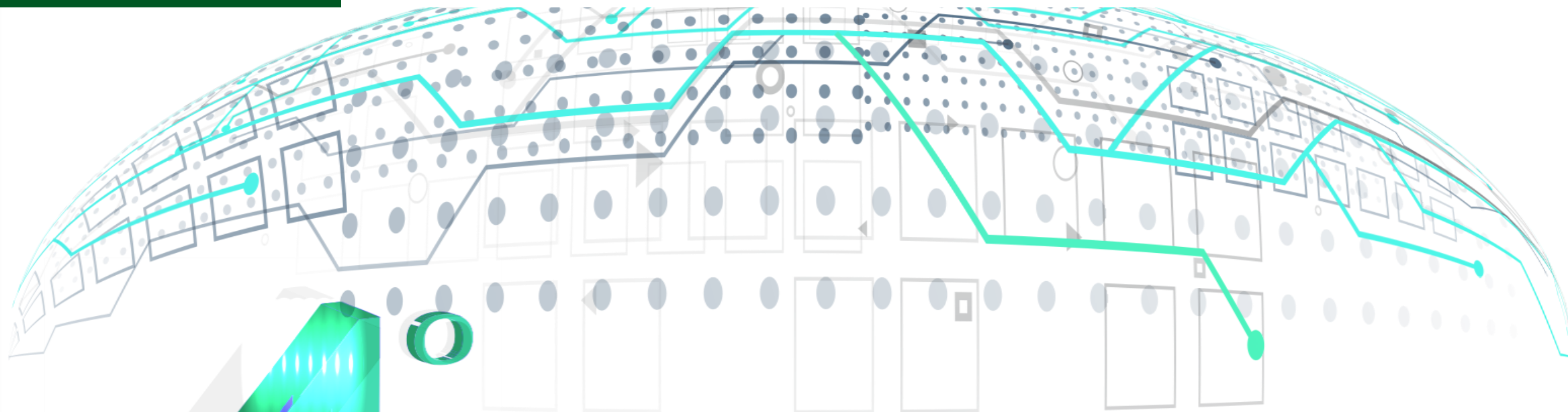
M. Sadeghi¹  · K. F. Nilsson² · T. Larzon² · A. Pirouzram² · A. Toivola² · P. Skoog¹² · K. Idoguchi³ · Y. Kon⁴ · T. Ishida⁵ · Y. Matsumara^{6,7} · J. Matsumoto⁸ · V. Reva^{9,10} · M. Maszkowski¹ · A. Bersztel¹ · E. Caragounis¹¹ · M. Falkenberg¹³ · L. Handolin¹⁴ · B. Kessel¹⁵ · D. Hebron¹⁵ · F. Coccolini¹⁶ · L. Ansaloni¹⁶ · M. J. Madurska¹⁷ · J. J. Morrison¹⁷ · T. M. Hörer²

205 pacientes



4

Qué hemos hecho nosotros?



4

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REVIEW

Open Access



A meta-analysis of resuscitative endovascular balloon occlusion of the aorta (REBOA) or open aortic cross-clamping by resuscitative thoracotomy in non-compressible torso hemorrhage patients

Ramiro Manzano Nunez¹, Maria Paula Naranjo¹, Esteban Foianini^{2*} , Paula Ferrada³, Erika Rincon¹, Herney Andrés García-Perdomo⁴, Paola Burbano⁷, Juan Pablo Herrera⁶, Alberto F. García^{4,5} and Carlos A. Ordoñez^{4,5}

World Journal of Emergency Surgery (2017) 12:30





ELSEVIER

Revista Colombiana de Anestesiología

Colombian Journal of Anesthesiology

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Review

Current use of Resuscitative Endovascular Balloon Occlusion of the Aorta (REBOA) in trauma[☆]



Carlos A. Ordoñez^{a,b,d}, Ramiro Manzano-Nunez^{b,c,*}, Ana Milena del Valle^d,
Fernando Rodriguez^b, Paola Burbano^b, Maria Paula Naranjo^c, Michael W. Parra^e,
Paula Ferrada^f, Mónica Alejandra Solís-Velasco^g, Alberto F. García^{b,d}

^a President of Panamerican Trauma Society, United States

^b Trauma and Acute Care Surgery Division – Fundación Valle del Lili, Cali, Colombia

^c Clinical Research Center – Fundación Valle del Lili, Cali, Colombia

^d Universidad del Valle, Cali, Colombia

^e Department of Trauma Critical Care, Broward General Level I Trauma Center, Fort Lauderdale, FL, United States

^f Virginia Commonwealth University, Richmond, VA, United States

^g Beth Israel Deaconess Medical Center, Boston, MA, United States

Eur J Trauma Emerg Surg
DOI 10.1007/s00068-017-0763-0



LETTER TO THE EDITOR

Analysis of REBOA in systematic reviews: it is early to provide evidence-based, strong recommendations

R. Manzano Nunez¹  · C. A. Ordoñez Delgado^{1,2}

Eur J Trauma Emerg Surg, 2017



Home > January 2018 - Volume 84 - Issue 1 > Indication and survival bias: Threats to resuscitative endo...

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Indication and survival bias: Threats to resuscitative endovascular balloon occlusion of the aorta outcomes research

Manzano Nunez, Ramiro, MD; Naranjo, Maria, Paula, MD; Ordoñez, Carlos, A., MD

Journal of Trauma and Acute Care Surgery: January 2018 - Volume 84 - Issue 1 - p 214

doi: 10.1097/TA.0000000000001647

Letters to the Editor

J Trauma Acute Care Surg, 2017 Volume 84, Number 1.



SYSTEMATIC REVIEW

A meta-analysis of the incidence of complications associated with groin access after the use of resuscitative endovascular balloon occlusion of the aorta in trauma patients

Ramiro Manzano-Nunez, MD, Claudia P. Orlas, MD, Juan P. Herrera-Escobar, MD, Samuel Galvagno, MD, PhD, Joseph DuBose, MD, Juan J. Melendez, MD, Jose J. Serna, MD, Alexander Salcedo, MD, Camilo A. Peña, MD, Edison Angamarca, Tal Horer, MD, PhD, Camilo J. Salazar, Valeria Lopez-Castilla, MD, Juan Ruiz-Yucuma, Fernando Rodriguez, MD, Michael W. Parra, MD, and Carlos A. Ordoñez, MD, Cali, Colombia

Downloaded from <https://journals.lww.com/jtraum>

J Trauma Acute Care Surg. 2018;85: 626–634.




European Journal of Trauma and Emergency Surgery
<https://doi.org/10.1007/s00068-018-0947-2>

REVIEW ARTICLE



Could resuscitative endovascular balloon occlusion of the aorta improve survival among severely injured patients with post-intubation hypotension?

Ramiro Manzano-Nunez^{1,2}  · Juan Pablo Herrera-Escobar³ · Joseph DuBose⁴ · Tal Hörer^{5,6} · Samuel Galvagno⁷ · Claudia Patricia Orlas^{1,2} · Michael W. Parra⁸ · Federico Coccolini⁹ · Massimo Sartelli¹⁰ · Juan Camilo Falla-Martinez¹ · Alberto Federico García² · Julian Chica^{1,2} · Maria Paula Naranjo¹ · Alvaro Ignacio Sanchez^{1,2} · Camilo Jose Salazar¹¹ · Luis Eduardo Calderón-Tapia¹ · Valeria Lopez-Castilla¹¹ · Paula Ferrada¹² · Ernest E. Moore¹³ · Carlos A. Ordonez²

European Journal of Trauma and Emergency Surgery, 2018.



CHALLENGES IN ACUTE CARE SURGERY

Resuscitative endovascular balloon occlusion of the aorta for placenta percreta/previa

**Michael W. Parra, MD, Carlos Alberto Ordoñez, MD,
Juan P. Herrera-Escobar, MD, and Adolfo Gonzalez-Garcia, MD,
Jon Guben, MD, Fort Lauderdale, Florida**

J Trauma Acute Care Surg, 2017: Volume 84, Number 2





ORIGINAL ARTICLE

Expanding the field of acute care surgery: a systematic review of the use of resuscitative endovascular balloon occlusion of the aorta (REBOA) in cases of morbidly adherent placenta

R. Manzano-Nunez^{1,2} · M. F. Escobar-Vidarte³ · M. P. Naranjo^{1,2} · F. Rodriguez² · P. Ferrada⁵ · J. D. Casallas^{1,3} · C. A. Ordoñez^{2,4}

Received: 14 April 2017 / Accepted: 14 September 2017
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Eur J Trauma Emerg Surg, 2017



REVIEW

Open Access



Resuscitative endovascular balloon occlusion of the aorta deployed by acute care surgeons in patients with morbidly adherent placenta: a feasible solution for two lives in peril

Ramiro Manzano-Nunez^{1,2*}, Maria F. Escobar-Vidarte⁶, Claudia P. Orlas^{1,3}, Juan P. Herrera-Escobar², Samuel M. Galvagno⁴, Juan J. Melendez⁵, Natalia Padilla⁷, Justin C. McCarty², Albaro J. Nieto⁶ and Carlos A. Ordoñez^{3,5}

World Journal of Emergency Surgery (2018) 13:44.



SYSTEMATIC REVIEW

Prophylactic use of resuscitative endovascular balloon occlusion of the aorta in women with abnormal placentation: A systematic review, meta-analysis, and case series

Carlos A. Ordoñez, MD, Ramiro Manzano-Nunez, MD, Michael W. Parra, MD, Todd E. Rasmussen, MD, Alvaro J. Nieto, MD, Juan P. Herrera-Escobar, MD, Paula Fernandez, MD, Maria P. Naranjo, MD, Alberto F. García, MD, Javier A. Carvajal, MD, Juan M. Burgos, MD, Fernando Rodriguez, MD, and Maria F. Escobar-Vidarte, MD, Cali, Colombia

J Trauma Acute Care Surg. 2018;84: 809–818.



CENTRO DE TRAUMA NIVEL I





Stay hungry. Stay foolish.

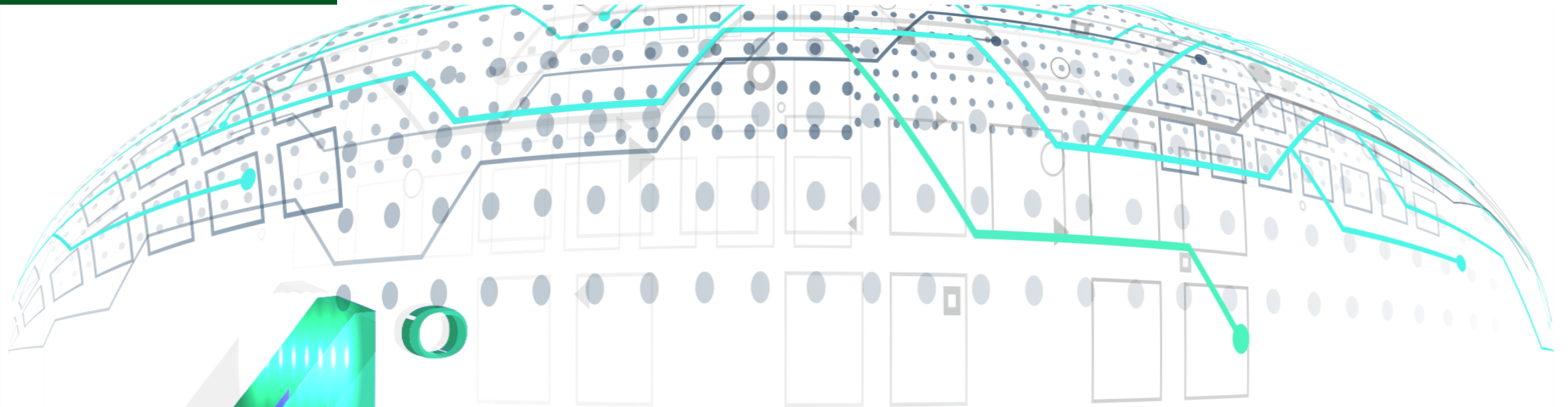
Steve Jobs

quote fancy

www.DesktopBackground.org

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El futuro es brillante



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ORIGINAL ARTICLE

Intraoperative combination of resuscitative endovascular balloon occlusion of the aorta and a median sternotomy in hemodynamically unstable patients with penetrating chest trauma: Is this feasible?

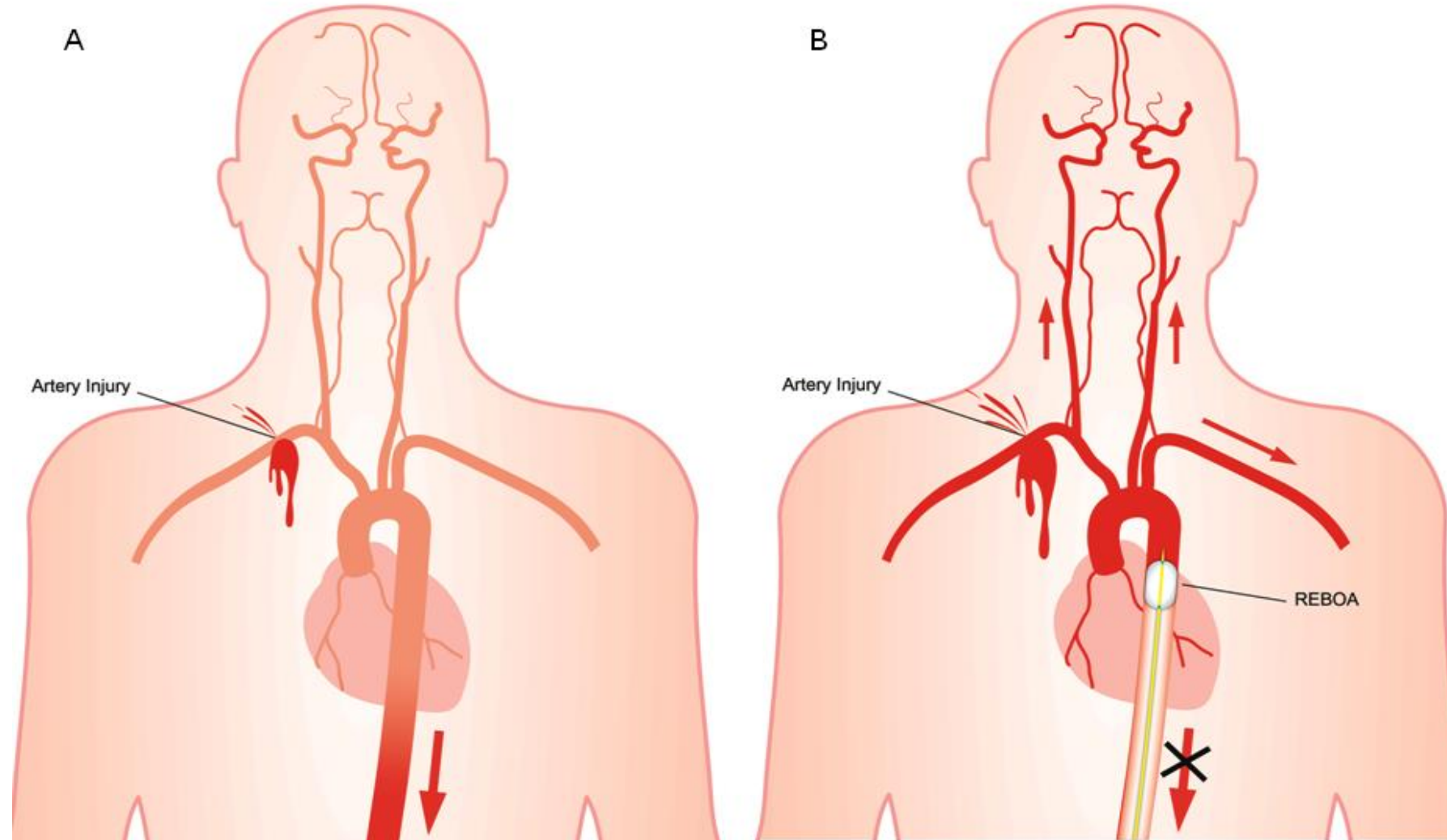
Carlos A. Ordoñez, MD, Michael W. Parra, MD, Ramiro Manzano-Nunez, MD, Juan P. Herrera-Escobar, MD, Jose J. Serna, MD, Paola Rodriguez Ossa, MD, David Mejia, MD, Ana M. Del Valle, MD, Alexander Salcedo, MD, Juan C. Salamea, MD, and Fernando Rodriguez, MD, Cali, Colombia

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J Trauma Acute Care Surg. 2018;84: 752–757.



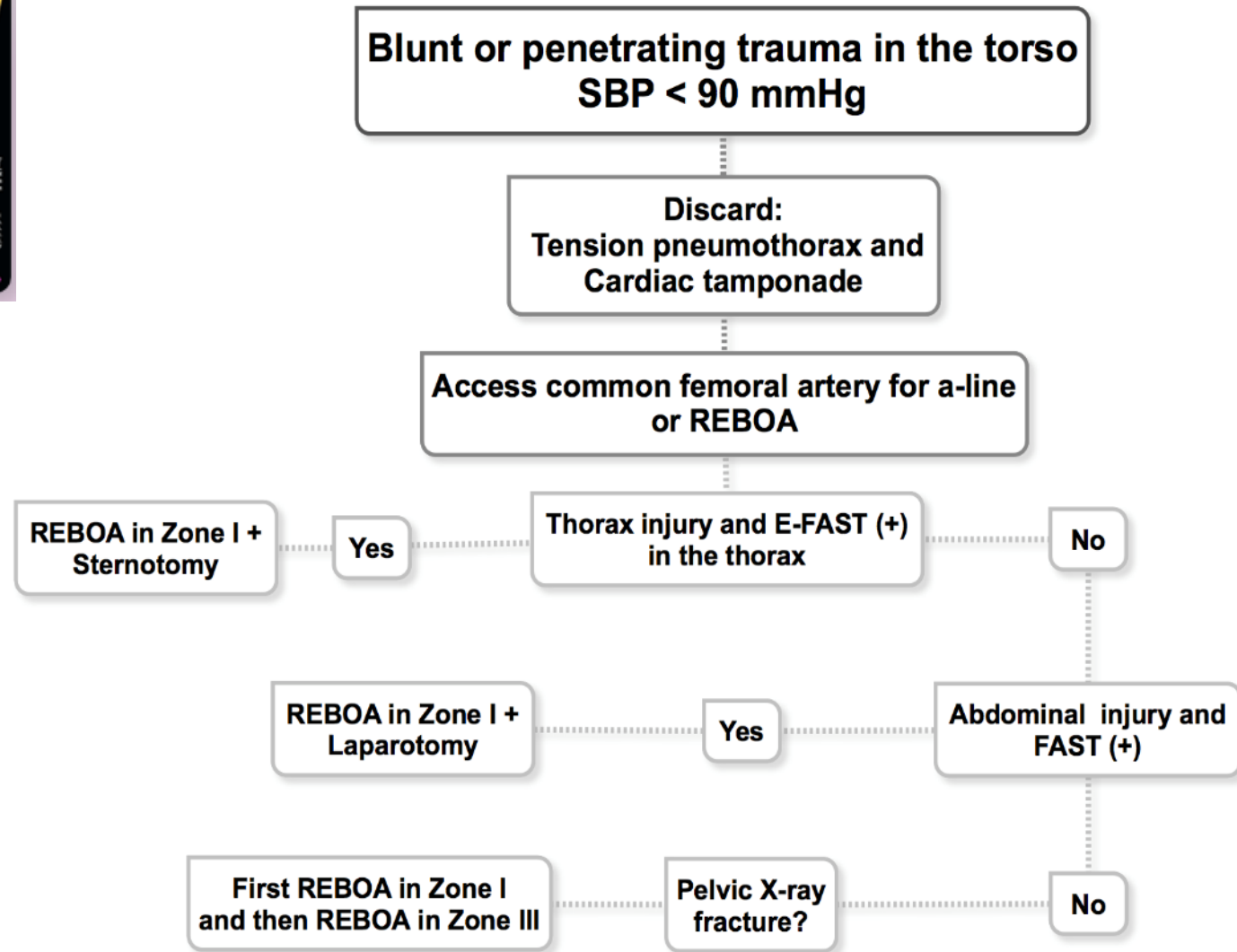
REBOA en trauma de tórax



XLIV

Congreso Nacional
Avances en Cirugía
El origen para la nueva Colombia





REBOA CONSENSUS: THE PANAMERICAN EXPERIENCE. Próximamente en PTCCES Journal

ABOTrauma registry

Incorporation with department of Cardiothoracic and Vascular Surgery, Örebro University Hospital, Sweden

ABOTrauma registry

Register to manage your patient case history

This registry enable you to register

New cases (prospective data collection)

but also Former cases (retrospective data collection).

Please log in to continue.

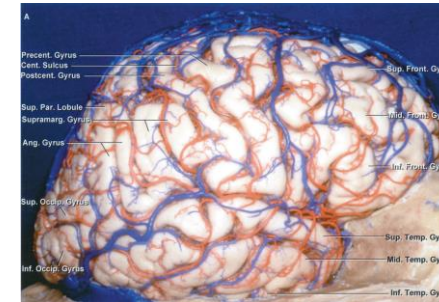
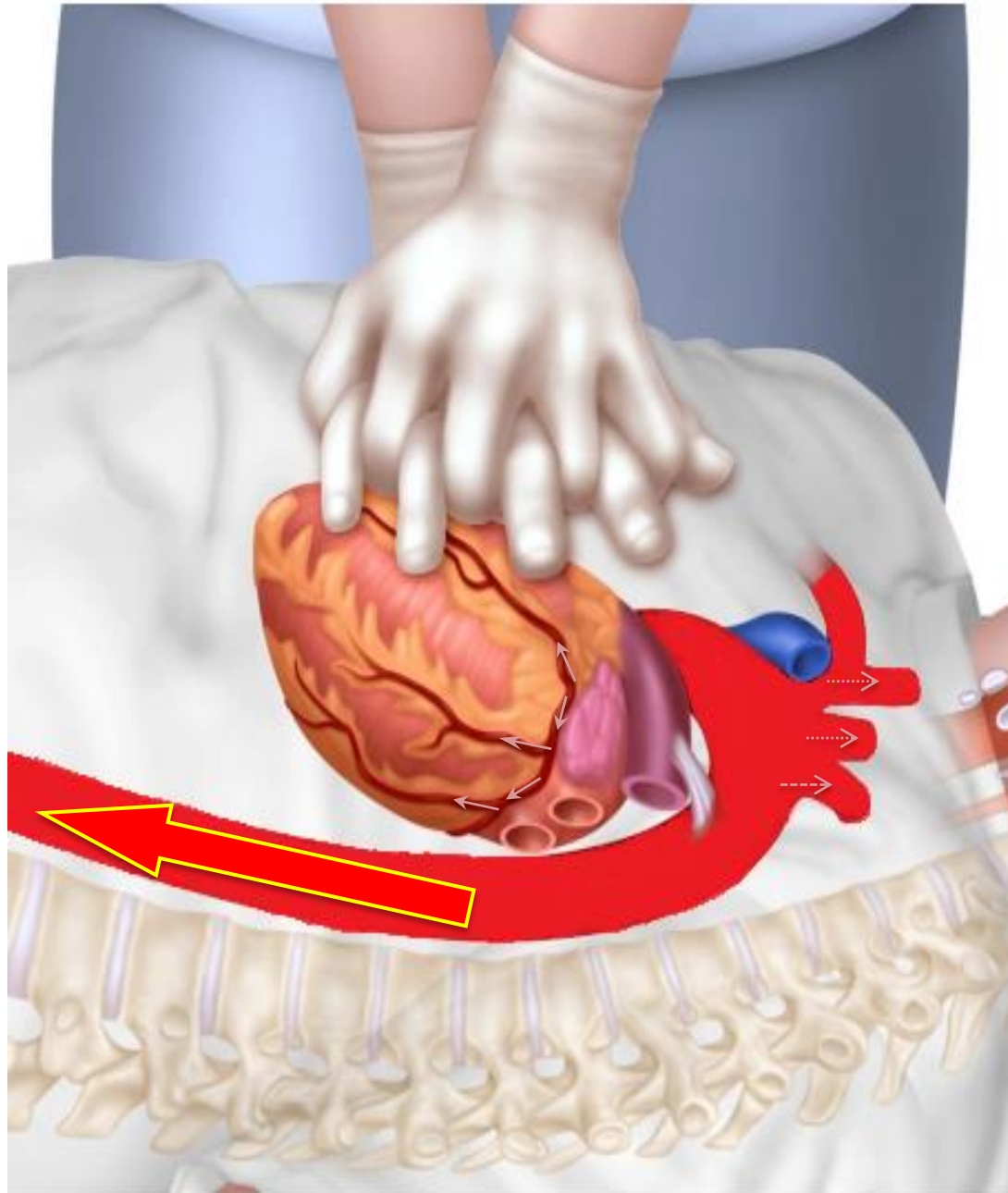
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205 pacientes

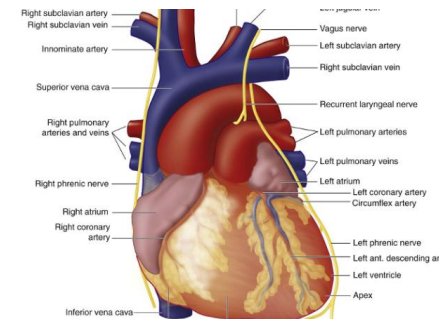


48 pacientes FVL

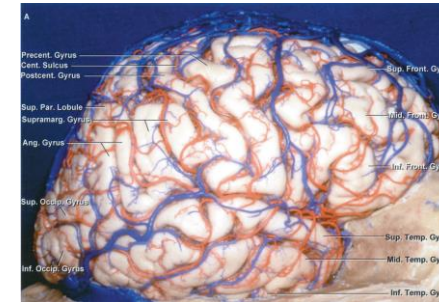
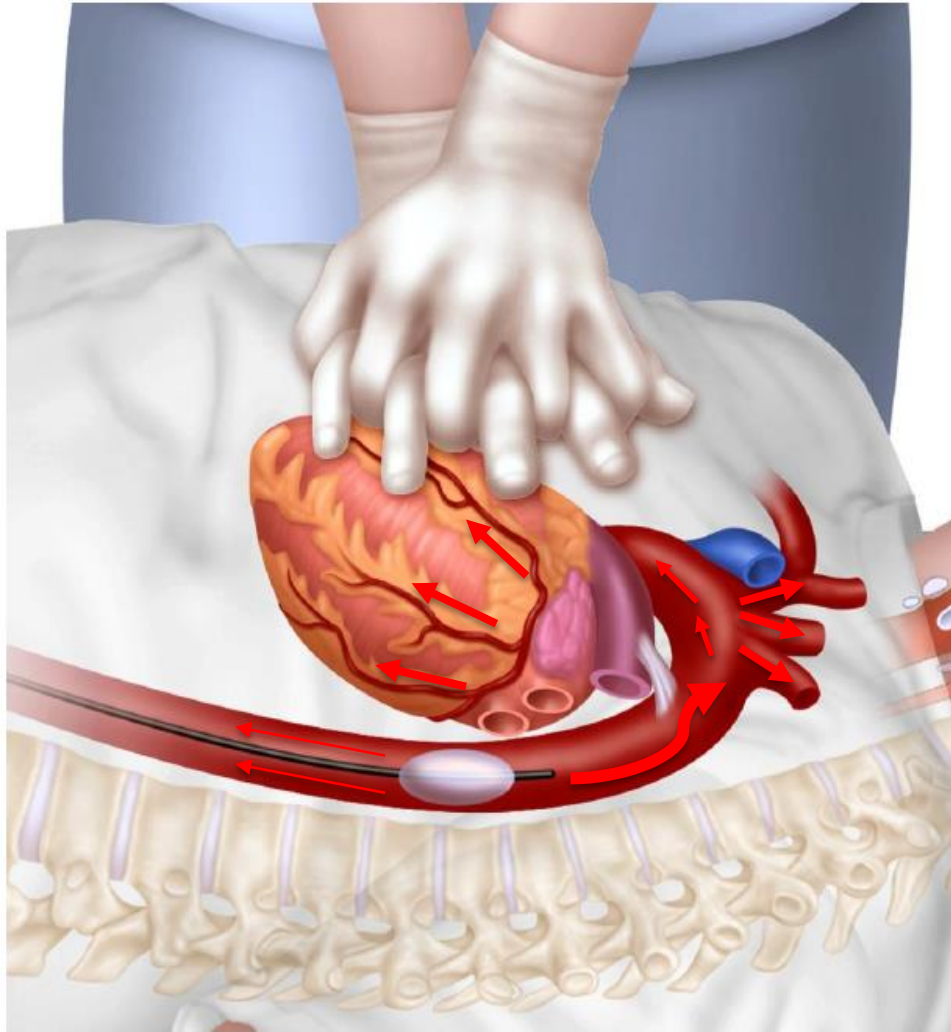
RCP en Paro cardiaco



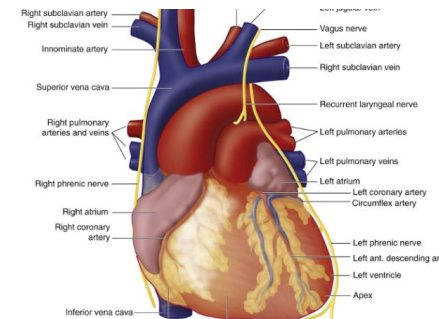
Flujo sanguíneo a corazón y cerebro: **INSUFICIENTE!!!**



Paro cardiaco → RCP + REBOA



**Aumento del flujo
sanguíneo a corazón
y cerebro**



The role of resuscitative endovascular balloon occlusion of the aorta (REBOA) as an adjunct to ACLS in non-traumatic cardiac arrest: A review of key concepts, physiology, current evidence, and future directions. *American Journal of Emergency Medicine.*



Gracias

