

Importancia de la hipotensión arterial perioperatoria



En el paciente quirúrgico, la hipotensión arterial perioperatoria se asocia con mayor riesgo de:

- a. Infarto de miocardio
- b. Insuficiencia renal
- c. Accidente cerebrovascular
- d. Ninguna de las anteriores
- e. Todas las anteriores

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Physiology teaches that if blood pressure becomes “*low enough for a period that is long enough,*” organ perfusion will be compromised, which in turn might have detrimental effects to end organs.

**POISE. *Lancet* 2008; 371: 1839-47
VISION. *JAMA* 2012; 307: 2295-304**

Incidence of Intraoperative Hypotension as a Function of the Chosen Definition

Literature Definitions Applied to a Retrospective Cohort Using Automated Data Collection

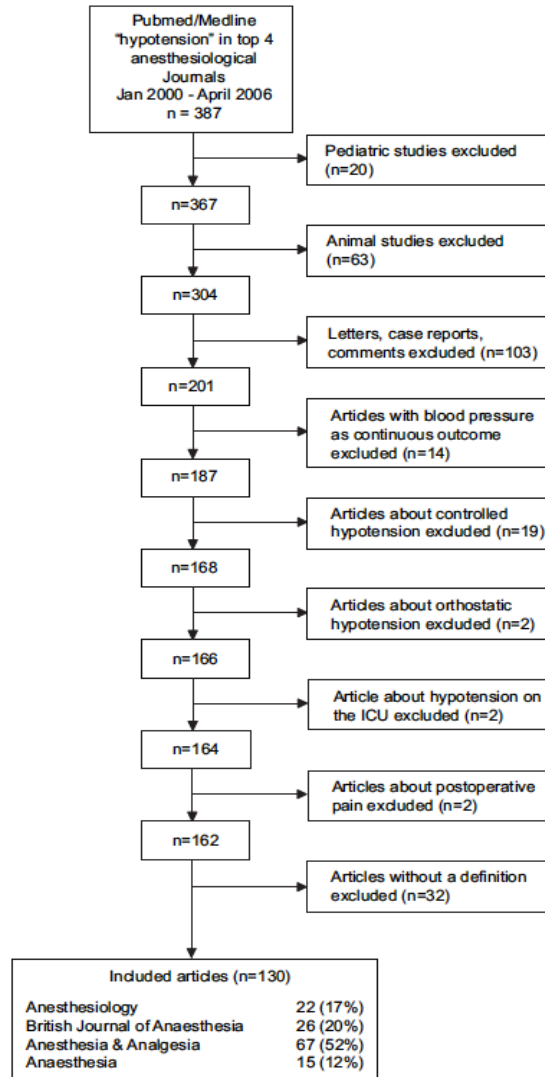
Jilles B. Bijker, M.D.,* Wilton A. van Klei, M.D., Ph.D.,† Teus H. Kappen, M.D.,* Leo van Wolfswinkel, M.D., Ph.D.,‡

This article is accompanied by an Editorial View. Please see: Warner MA, Monk TG: The impact of lack of standardized definitions on the specialty. ANESTHESIOLOGY 2007; 107:198-9.

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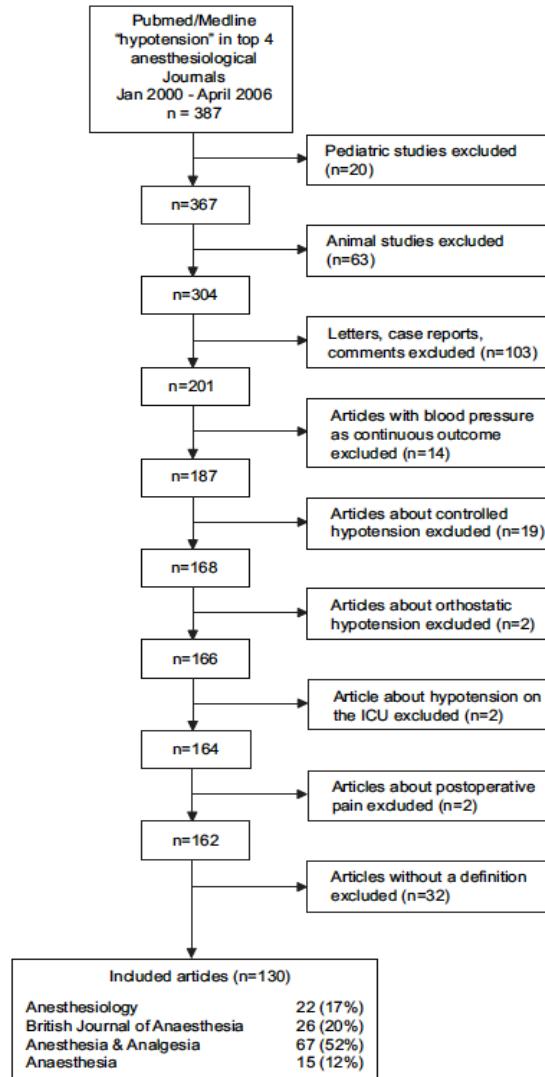
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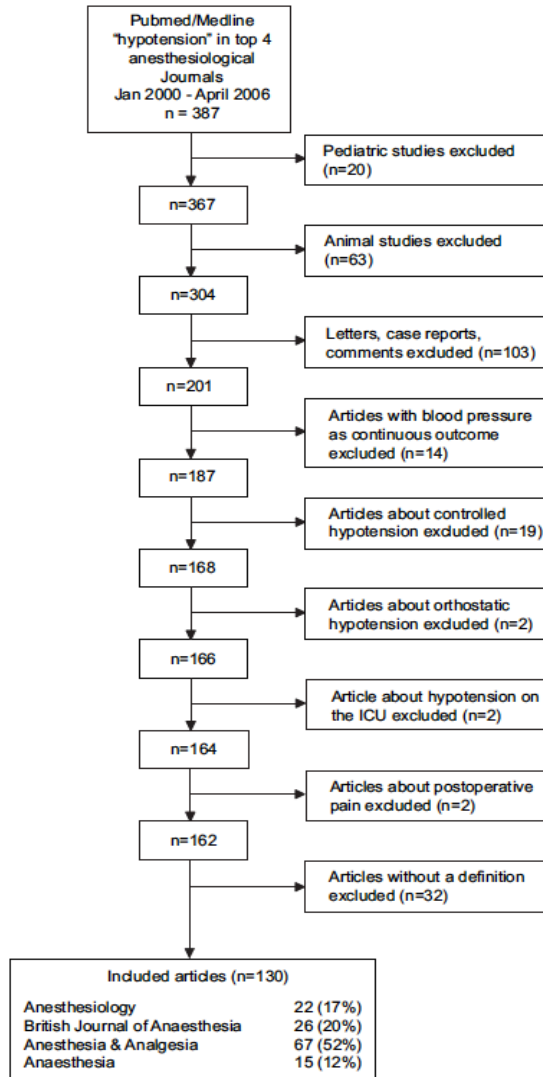


140 definitions

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140 definitions
5 - 99% incidence

Relationship between Intraoperative Mean Arterial Pressure and Clinical Outcomes after Noncardiac Surgery

Toward an Empirical Definition of Hypotension

Michael Walsh, M.D.,* Philip J. Devereaux, M.D., Ph.D.,† Amit X. Garg, M.D., Ph.D.,‡
Andrea Kurz, M.D.,§ Alparslan Turan, M.D.,|| Reitze N. Rodseth, M.D.,# Jacek Cywinski, M.D.,**
Lehana Thabane, Ph.D.,†† Daniel I. Sessler, M.D.‡‡

◇ This article is featured in "This Month in Anesthesiology."
Please see this issue of ANESTHESIOLOGY, page 3A.

◆ This article is accompanied by an Editorial View. Please see:
Brady K, Hogue CW Jr: Intraoperative hypotension and patient outcome: Does "one size fit all?" ANESTHESIOLOGY 2013;
119:495-7.

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- **Acute Kidney Injury** was defined if the highest postoperative creatinine concentration was either more than 1.5-fold greater than the preoperative concentration.

Acute Kidney Injury Network. Crit Care 2007; 11:R31

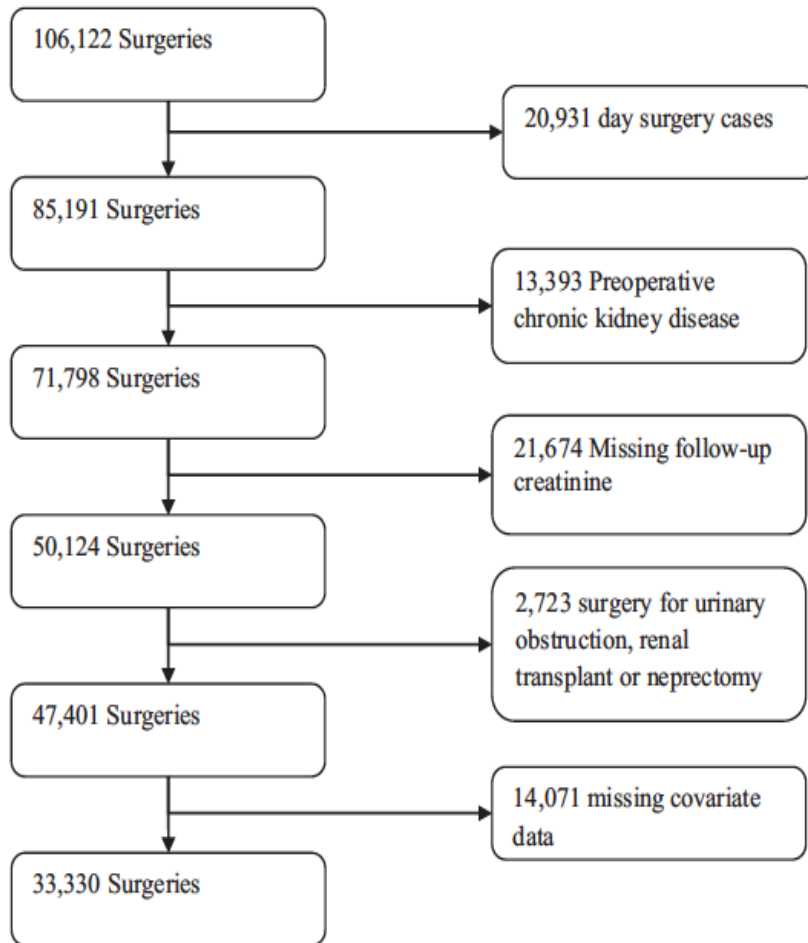
- **Myocardial Injury** was defined as a postoperative troponin T concentration, within 7 days of surgery, greater than or equal to the suggested necrosis limit (0.04 μ g/l).

ESC/ACCF/AHA/WHF Task Force for the Redefinition of Myocardial Infarction. Circulation 2007; 116:2634–53

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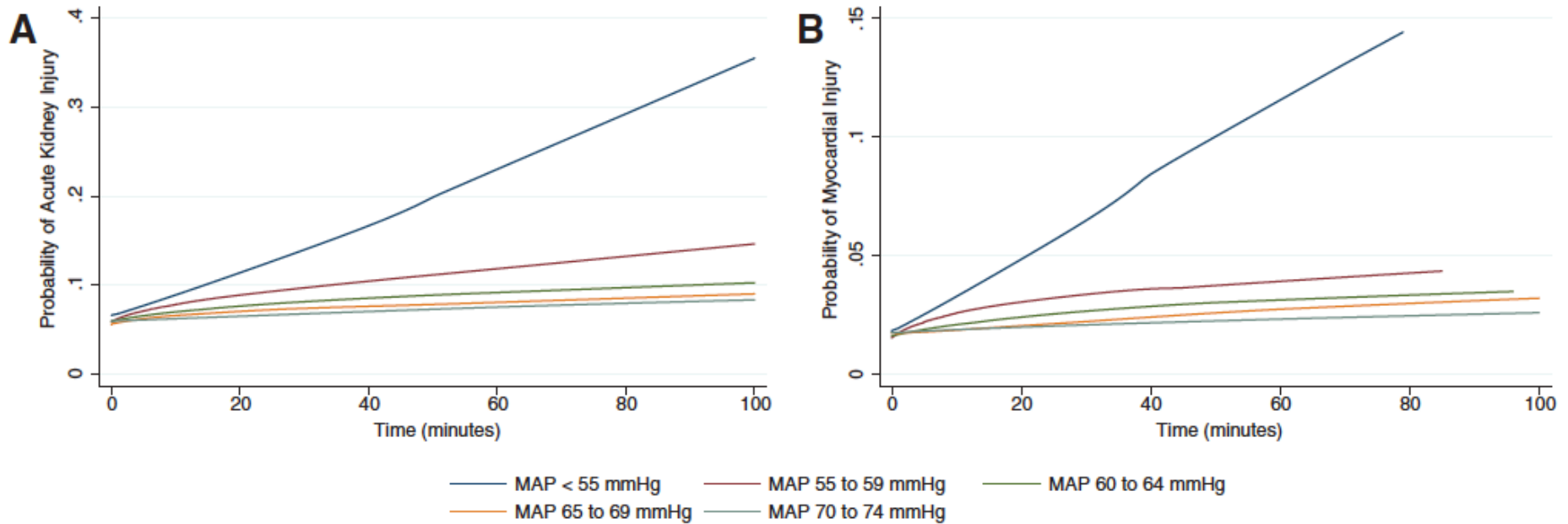


•	AKI	7.4%
•	MI	2.3%
•	Mortality	1.5%

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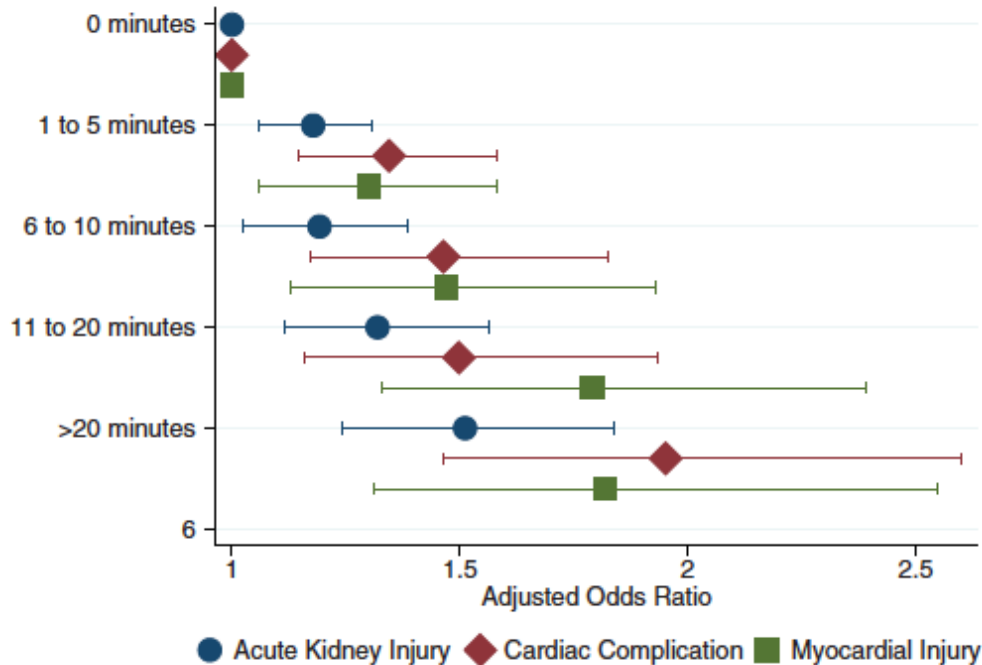
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Mean Arterial Pressure < 55 mmHg

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Time MAP <55 mmHg (min)	Adjusted Odds Ratio (95% CI)			
	Acute Kidney Injury	Myocardial Injury	Cardiac Complication	30-day Mortality
0		Referent		
1-5	1.18 (1.06-1.31)	1.30 (1.06-1.58)	1.35 (1.15-1.58)	1.16 (0.91-1.46)
6-10	1.19 (1.03-1.39)	1.47 (1.13-1.93)	1.46 (1.17-1.83)	1.16 (0.84-1.60)
11-20	1.32 (1.11-1.56)	1.79 (1.33-2.39)	1.50 (1.16-1.94)	1.26 (0.89-1.80)
>20	1.51 (1.24-1.84)	1.82 (1.31-2.55)	1.95 (1.46-2.60)	1.79 (1.21-2.65)

Estimates adjusted for patient age, sex, Charlson comorbidity index, emergency procedure status, type of surgery, preoperative hemoglobin, decrement in hemoglobin concentration, estimated blood loss, and volume of erythrocyte transfusions.

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In summary,

any amount of time at a MAP < 55 mmHg during non-cardiac surgery is independently associated with an increased risk of AKI and MI.

Moreover, more than 20 min of MAP < 55 mmHg was significantly associated with 30-day mortality.

Period-dependent Associations between Hypotension during and for Four Days after Noncardiac Surgery and a Composite of Myocardial Infarction and Death

A Substudy of the POISE-2 Trial

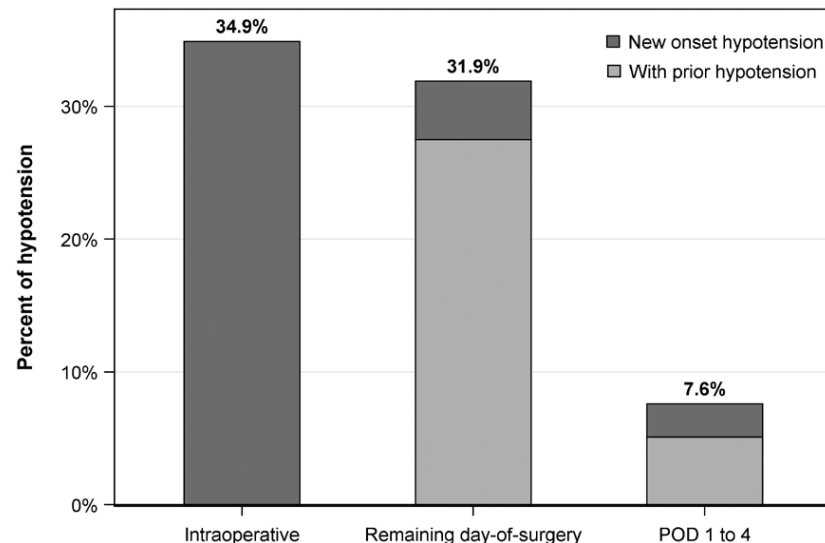
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- Hypotension 42%
- Myocardial Infarction 6%
- 30 days-mortality 1.2%



Systolic Arterial Pressure < 90 mmHg

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Period	Average Relative Effect OR (98.3% CI)*	P Value ²
10-min increase in hypotension		
Intraoperative (N = 9,765)	1.08 (1.03, 1.12)	< 0.001‡
Remaining day of surgery (N = 9,592)	1.03 (1.01, 1.05)	< 0.001‡
Hypotension vs. nonhypotension: PODs 1 to 4 (N = 9,186)	2.83 (1.26, 6.35)	0.002‡

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In conclusion,

both intraoperative and ward hypotension are strongly associated with myocardial infarction and 30-day postoperative mortality.

Clinicians should not assume that hypotension is benign just because it is common.

Evolución a la detección precoz de gravedad. ¿Hacia dónde vamos?



F. Gordo^{a,b,*} y R. Molina^a

Evolución a la detección precoz de gravedad. ¿Hacia dónde vamos?



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Early Warning Score

	3	2	1	0	1	2	3
Frecuencia cardiaca (lpm)	≤ 40	41-49	50-55	56-110	111-130	131-149	≥ 150
Tensión arterial sistólica (mmHg)	≤ 90	91-99	100-109	110-180	181-200	201-220	≥ 220
Frecuencia respiratoria (rmp)	≤ 7	8-9	10-11	12-24	25-28	29-30	≥ 31
Saturación oxígeno (%)	≤ 84	85-89	90-92	≥ 93			
Nivel de conciencia					Verbal	Dolor	No responde

adaptación local ideada por el Servicio de Medicina Intensiva y Medicina Interna

≥ 7 urgente o valor
aislado ≥ 3

≥ 5-6 aviso

≤ 4 observar

Avisar directamente UCI

Avisar médico de guardia

Constantes cada 8 h

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Importancia de la hipotensión arterial

Conclusiones

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Conclusiones

- Every patient receiving anesthesia shall have arterial blood pressure and heart rate determined and evaluated at least every five minutes.

ASA Standards for Basic Anesthetic Monitoring 2014

- Avoid arterial hypotension (MAP < 60 mm Hg) for prolonged cumulative periods (> 30 minutes) (*B; IIb*).

ESC/ESA Guidelines on non-cardiac surgery 2014

Importancia de la hipotensión arterial

Conclusiones

In the 1970s, use of the randomized controlled trial (RCT) ushered in an era of evidence-based medicine. As we approach the 2020', the trend toward effectively manage unstructured data, will revolutionize healthcare.

Big data will be used to predict, prevent, define the causes of diseases and find solutions.

It will mean the end of population medicine, giving way to personalized medicine.

The Next Revolution in Healthcare

www.forbes.com/sites/singularity/2012/10/01/the-next-revolution-in-healthcare

MIGUEL DELIBES. “DOY MI VIDA POR VIVIDA”

Han sido diez años nulos, perdidos. Con decir que en ese tiempo no escribí una línea, está dicho todo. La operación de cáncer me respetó la vida, pero modificó mi manera de ser. Perdí memoria, orden mental, voluntad, capacidad de concentración, etc.

Como dirían los castizos, me han dejado hecho una braga.



