

# **Les fraudes dans la littérature médicale Un exemple**

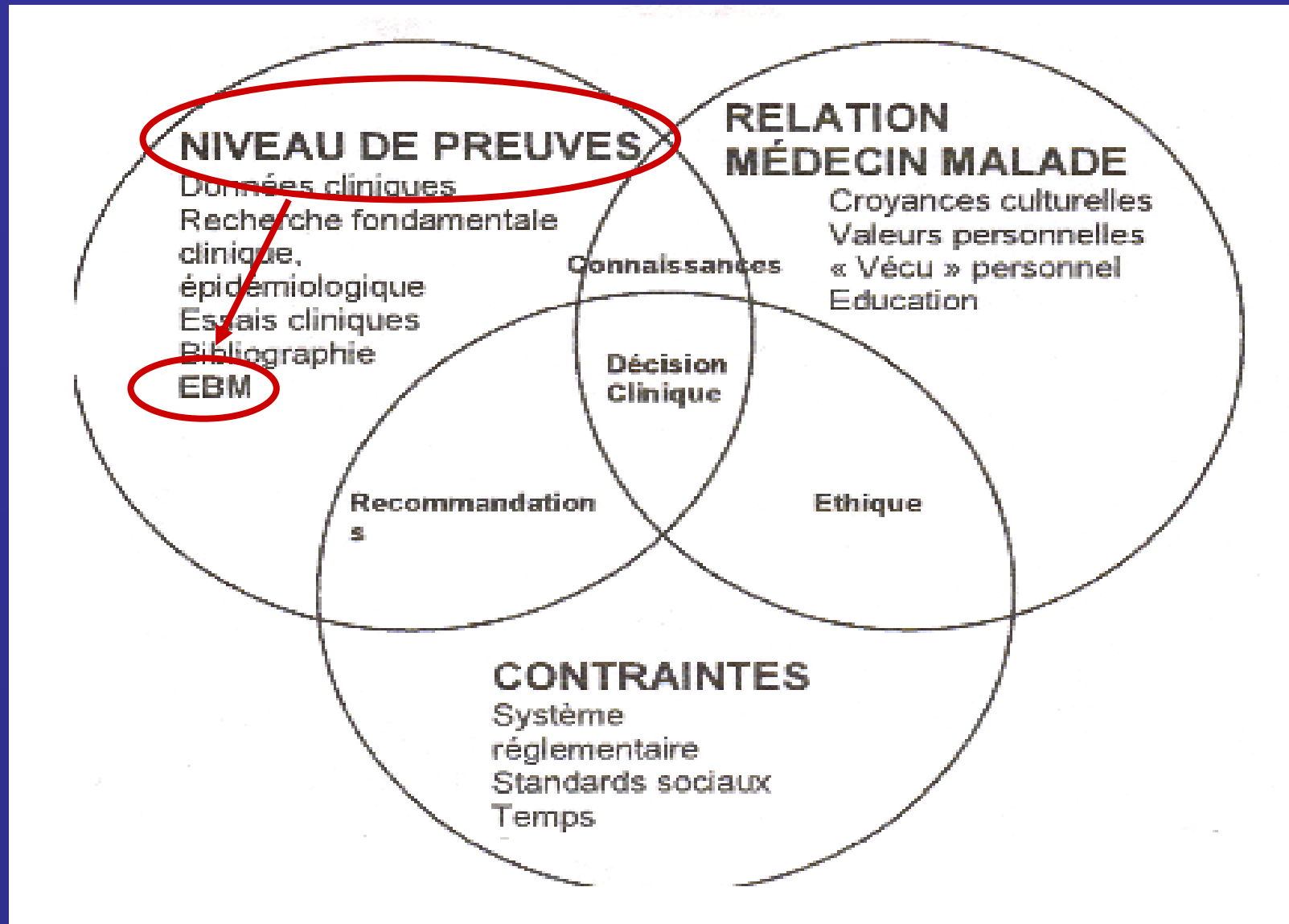
# Déclaration de conflits d'intérêt

- Aucun conflit d'intérêt

# Facteurs impliqués dans la décision médicale

- Facteur scientifique et professionnel
  - Basé sur les connaissances médicales
  - Médecin ou équipe médicale
- Facteur Humain/Psychologique
  - Participation du patient ou de l'entourage à la décision
  - Rôle de la psychologie, d'éléments socioculturels, d'éthique, de mœurs, de convictions philosophiques ou religieuses, de données économiques

# Bases de la décision en médecine



# Décision médicale

- Basée sur les données disponibles (littérature blanche, littérature grise)
- A priori, le lecteur considère que les données publiées/présentées sont vraies, justes et objectives

**SYSTEMATIC REVIEW**

**Open Access**

# Interventions encouraging the use of systematic reviews by health policymakers and managers: A systematic review

Laure Perrier<sup>1\*†</sup>, Kelly Mrklas<sup>2†</sup>, John N Lavis<sup>3†</sup> and Sharon E Straus<sup>4†</sup>

JGIM

## REVIEWS

## Interventions Encouraging the Use of Systematic Reviews in Clinical Decision-Making: A Systematic Review

Laure Perrier, MEd, MLIS<sup>1,2</sup>, Kelly Mrklas, MSc<sup>3</sup>, Sasha Shepperd, MSc, DPhil<sup>4</sup>,  
Maureen Dobbins, PhD<sup>5</sup>, K. Ann McKibbin, PhD<sup>6</sup>, and Sharon E. Straus, MSc, MD, FRCP(C)<sup>7,8</sup>

Et si notre a priori concernant  
l'objectivité et la justesse de nos  
données était erroné?

Les fraudes dans la littérature médicale!

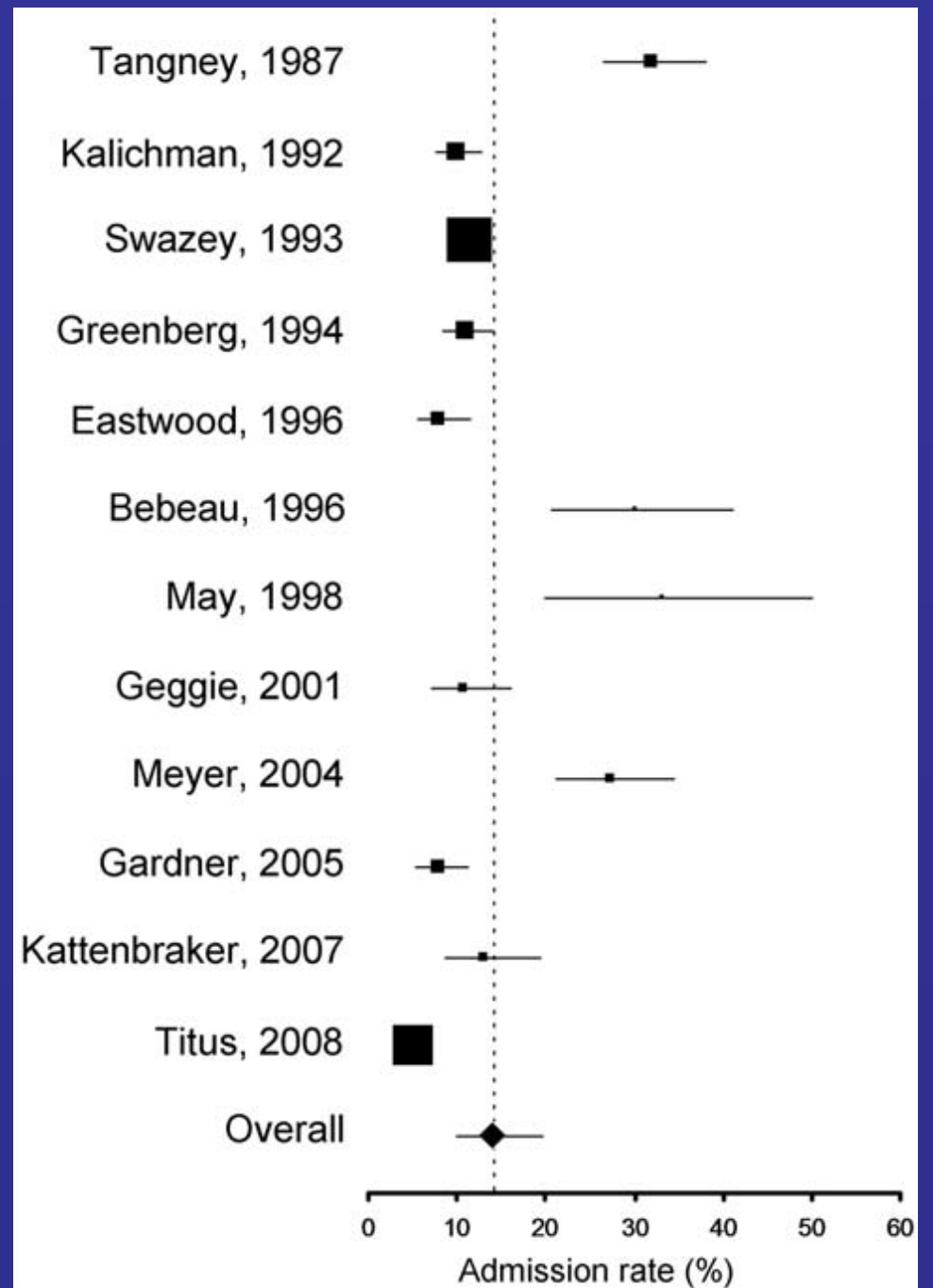
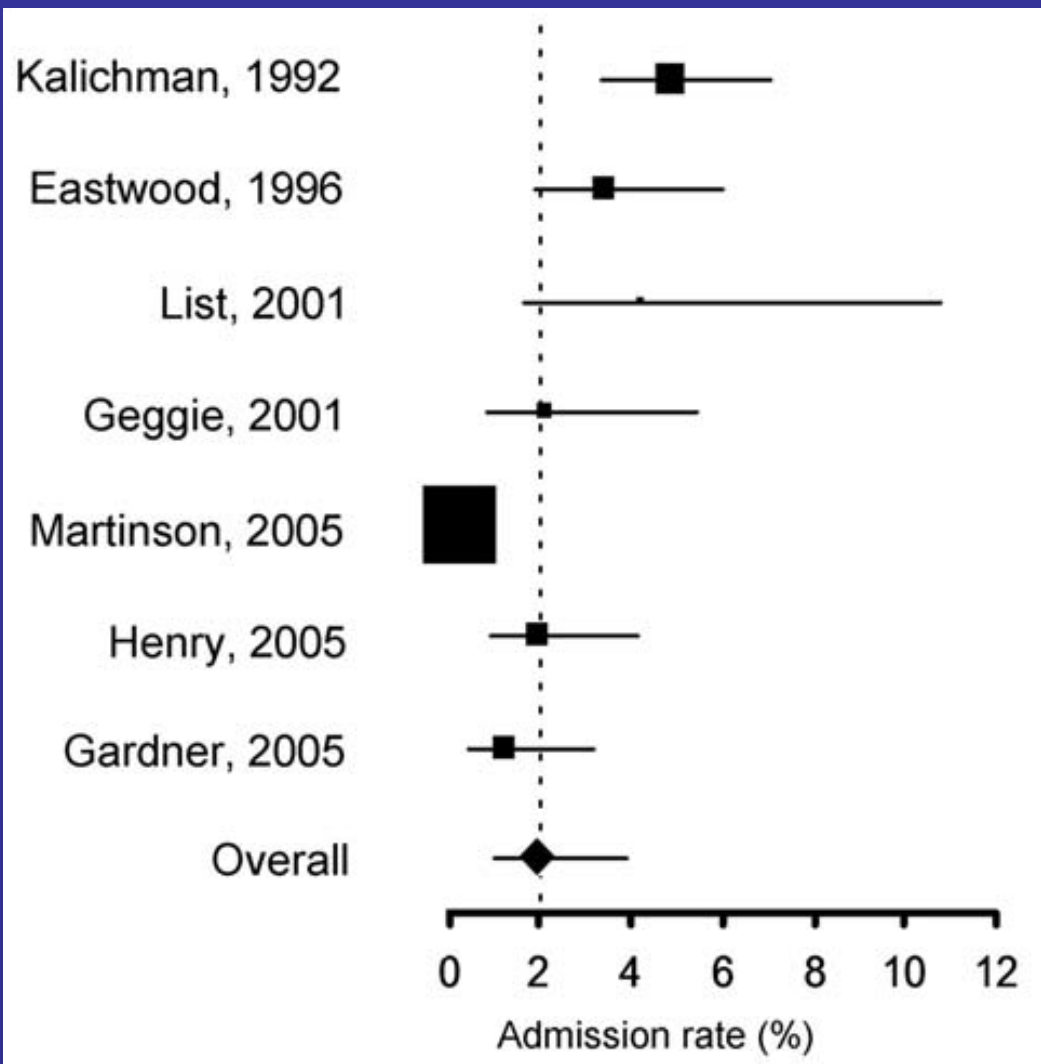
# How Many Scientists Fabricate and Falsify Research? A Systematic Review and Meta-Analysis of Survey Data

Daniele Fanelli\*

INNOGEN and ISSTI-Institute for the Study of Science, Technology & Innovation, The University of Edinburgh, Edinburgh, United Kingdom

- 21 enquêtes
- Fabrication, falsification, modification données/résultats 1,97% (N = 7, IC 95%: 0,86–4,45)
- 33,7% ont admis d'autres pratiques douteuses
- 14,12% (N=12, IC 95% CI: 9,91–19,72) pensent que des collègues ont falsifié des résultats et jusqu'à 72% d'autres pratiques douteuses





# Un exemple de fraude magistrale

# Prise en charge du sepsis

- Principes de base:
  - Antibiothérapie
  - Traitement de la source infectieuse
  - Administration de "liquides"
- Mais quel "liquide"?
  - Cristalloïdes ?
  - Colloïdes ?
  - Albumine ?

# The role of albumin as a resuscitation fluid for patients with sepsis: A systematic review and meta-analysis\*

Anthony P. Delaney, MD, FCICM; Arina Dan, MD, FCICM; John McCaffrey, MD, FCICM; Simon Finfer, MD, FCICM

**Objective:** To assess whether resuscitation with albumin-containing solutions, compared with other fluids, is associated with lower mortality in patients with sepsis.

**Data Sources:** MEDLINE, Embase, and Cochrane Central Register of Controlled Trials databases, the metaRegister of Controlled Trials, and the Medical Editors Trial Amnesty Register.

**Study Selection:** Prospective randomized clinical trials of fluid resuscitation with albumin-containing solutions compared with other fluid resuscitation regimens, which included a population or subgroup of participants with sepsis, were included.

**Data Extraction:** Assessment of the validity of included studies and data extraction were conducted independently by two authors.

**Data Synthesis:** For the primary analysis, the effect of albumin-containing solutions on all-cause mortality was assessed by using a fixed-effect meta-analysis.

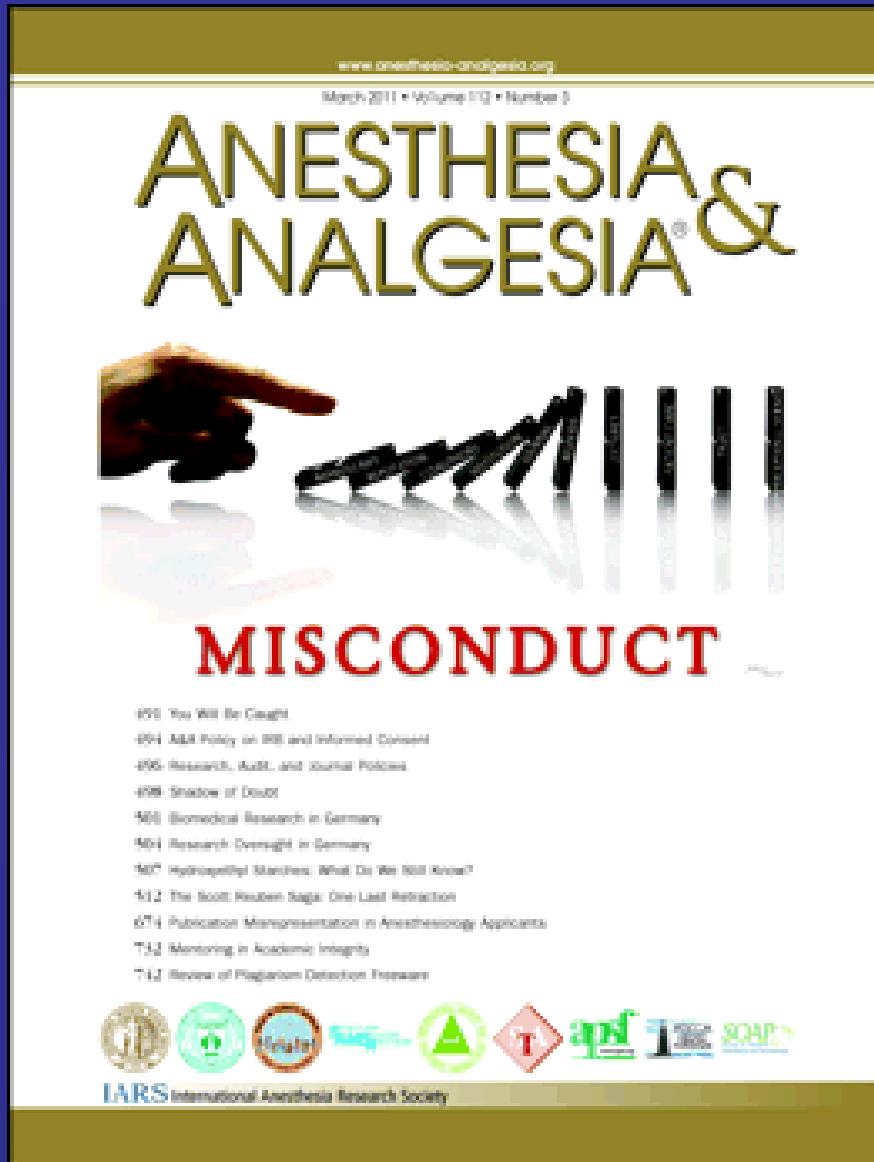
**Results:** Seventeen studies that randomized 1977 participants were included in the meta-analysis. There were eight studies that included only patients with sepsis and nine where patients with sepsis were a subgroup of the study population. There was no evidence of heterogeneity,  $I^2 = 0\%$ . The use of albumin for resuscitation of patients with sepsis was associated with a reduction in mortality with the pooled estimate of the odds ratio of 0.82 (95% confidence limits 0.67–1.0,  $p = .047$ ).

**Conclusions:** In this meta-analysis, the use of albumin-containing solutions for the resuscitation of patients with sepsis was associated with lower mortality compared with other fluid resuscitation regimens. Until the results of ongoing randomized controlled trials are known, clinicians should consider the use of albumin-containing solutions for the resuscitation of patients with sepsis. (Crit Care Med 2011; 39:386–391)

**KEY WORDS:** sepsis; resuscitation; albumin-containing solutions; meta-analysis

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# Et patatras...



This Article Has Been Retracted

## Cardiopulmonary Bypass Priming Using a High Dose of a Balanced Hydroxyethyl Starch Versus an Albumin-Based Priming Strategy

Joachim Boldt, MD

Stephan Suttner, MD

Christian Brosch, MD

Andreas Lehmann, MD

Kerstin Röhm, MD

Andinet Mengistu, MD

**BACKGROUND:** The optimal priming solution for cardiopulmonary bypass (CPB) is unclear. In this study, we evaluated the influence of high-volume priming with a modern balanced hydroxyethyl starch (HES) preparation on coagulation, inflammation, and organ function compared with an albumin-based CPB priming regimen.

**METHODS:** In 50 patients undergoing coronary artery bypass grafting, the CPB circuit was prospectively and randomly primed with either 1500 mL of 6% HES 130/0.42 in a balanced electrolyte solution ( $\text{Na}^+$  140 mmol/L,  $\text{Cl}^-$  118 mmol/L,  $\text{K}^+$  4 mmol/L,  $\text{Ca}^{2+}$  2.5 mmol/L,  $\text{Mg}^{++}$  1 mmol/L, acetate $^-$  24 mmol/L, malate $^-$  5 mmol/L) ( $n = 25$ ) or with 500 mL of 5% human albumin plus 1000 mL 0.9% saline solution ( $n = 25$ ). Inflammation (interleukins [IL]-6, -10), endothelial damage (soluble intercellular adhesion molecule-1), kidney function (kidney-specific proteins  $\alpha$ -glutathione S-transferase, neutrophil gelatinase-associated lipocalin), coagulation (measured by thrombelastometry [ROTEM $^\circ$ , Pentapharm, Munich, Germany]), and platelet function (measured by whole blood aggregometry [Multiplate $^\circ$  analyzer, Dynabyte Medical, Munich, Germany]) were assessed after induction of anesthesia, immediately after surgery, 5 h after surgery, and on the morning of first and second postoperative days.

**RESULTS:** Total volume given during and after CPB was  $3090 \pm 540$  mL of balanced HES and  $3110 \pm 450$  mL of albumin. Base excess after surgery was lower in the albumin-based priming group than in the balanced HES priming group ( $-5.9 \pm 1.2$  mmol/L vs  $+0.2 \pm 0.2$  mmol/L,  $P = 0.0003$ ). Plasma levels of IL-6, IL-10, and intercellular adhesion molecule-1 were higher after CPB in the albumin-based priming group compared with the HES priming group at all time periods ( $P = 0.0002$ ). Urinary concentrations of  $\alpha$ -glutathione S-transferase and neutrophil gelatinase-associated lipocalin were higher after CPB through the end of the study in the albumin group compared with the balanced HES group ( $P = 0.00004$ ). After surgery through the first postoperative day, thrombelastometry data (clotting time and clot formation time) revealed more impaired coagulation in the albumin-based priming group compared with the HES priming group ( $P = 0.004$ ). Compared with baseline, platelet function was unchanged in the high-dose balanced HES priming group after CPB and 5 h after surgery, but it was significantly reduced in the albumin-based priming group.

**CONCLUSION:** High-volume priming of the CPB circuit with a modern balanced HES solution resulted in reduced inflammation, less endothelial damage, and fewer alterations in renal tubular integrity compared with an albumin-based priming. Coagulation including platelet function was better preserved with high-dose balanced HES CPB priming compared with albumin-based CPB priming.

(Anesth Analg 2009;109:1752-62)



## Top German anesthesiologist's cardiac surgery paper retracted over "very serious misrepresentations"

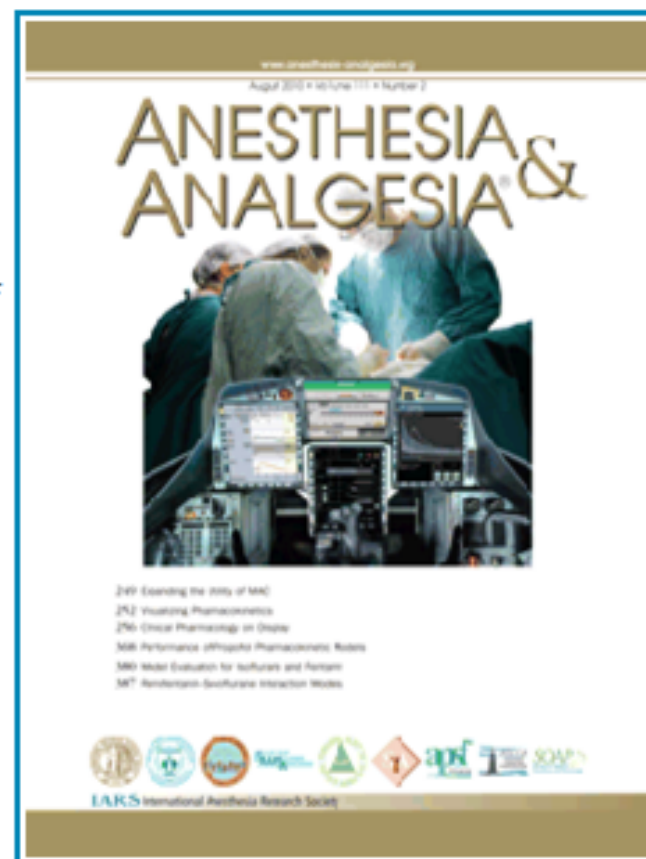
leave a comment »

*Self-plagiarism alert: A very similar version of this post is being published online in Anesthesiology News, where one of us (AM) is managing editor.*

A leading German anesthesiologist with more than 200 papers to his name has been accused of misrepresenting critical aspects of a paper — possibly including the data itself — published late last year in the journal *Anesthesia & Analgesia*.

In a retraction notice published online today, Steven L. Shafer, editor-in-chief of the journal, writes that Joachim Boldt and his coauthors failed to obtain approval from an institutional review board, did not get patient consent and did not follow up as promised with volunteers in their study, reported in the December 2009 article, "Cardiopulmonary Bypass Priming Using a High Dose of a Balanced Hydroxyethyl Starch Versus an Albumin-Based Priming System."

In addition, the journal said, it has reason to suspect that data in the paper were fabricated, a possibility that is being investigated by German authorities. As the notice states: [Read the rest of this entry »](#)



# 22 papers by Joachim Boldt retracted, and 67 likely on the way

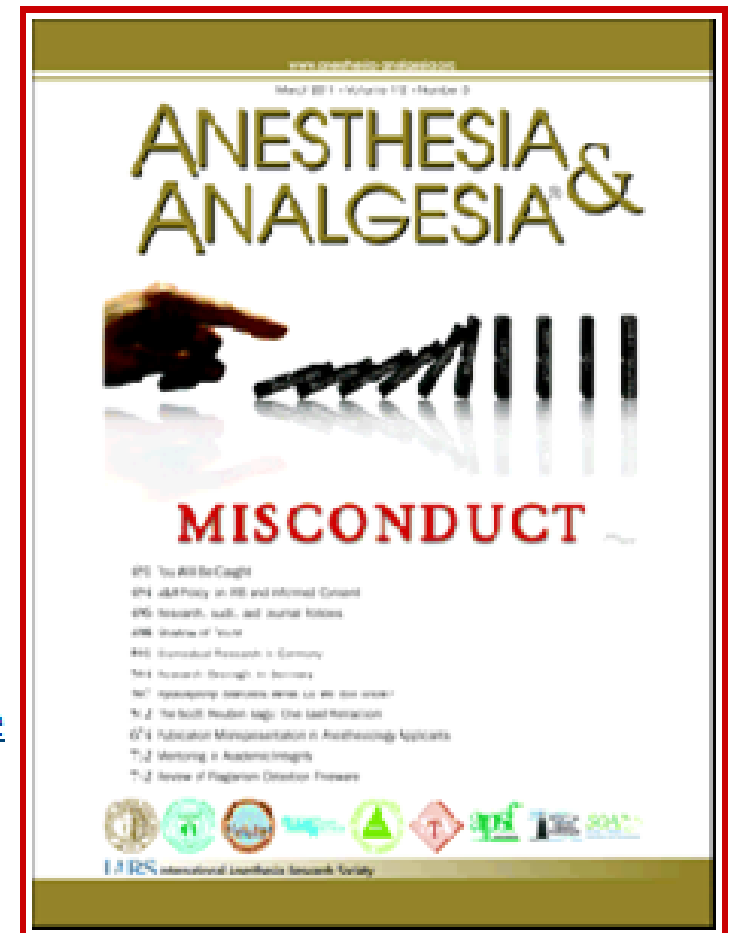
[leave a comment »](#)

*Self-plagiarism alert: A very similar version of this post is being published online in Anesthesiology News, where one of us (AM) is managing editor.*

*Anesthesia & Analgesia* has retracted 22 papers by Joachim Boldt, the discredited German anesthesiologist whose prolific career as a researcher has unraveled with stunning rapidity — and 67 more retractions are likely on the way from 10 other titles that have published his work.

The 22 retractions, announced Feb. 25 on the journal's website, come less than a month after the state medical board overseeing an investigation into Boldt's publications said that it was looking into more than 90 of his articles out of concern that he had failed to obtain proper approval from an institutional review board for the work.

The board, Landesärztekammer Rheinland-Pfalz (LÄK-RLP), investigated 102 articles. Investigators could not find evidence of adequate IRB approval for 89 papers; for the remaining, 11 had IRB approval and two did not require it, according to the A&A notice, which was signed by editor-in-chief Steven L. Shafer: [Read the rest of this entry »](#)





# Ladies and gentlemen, we have an apparent retraction record holder: Joachim Boldt, at 89

with 4 comments

It's official.\* Joachim Boldt now holds the record for the most retractions by a single author.

As we [reported the other day](#), a group of anesthesia journals was on the verge of revealing a list of 89 articles by Joachim Boldt that would require retraction because the German researcher had failed to receive proper approval from ethics officials for his studies. Today, the coalition issued [a letter](#) making the retractions official.

The 89 papers join an [earlier retraction in October](#).

Of note: [Read the rest of this entry »](#)

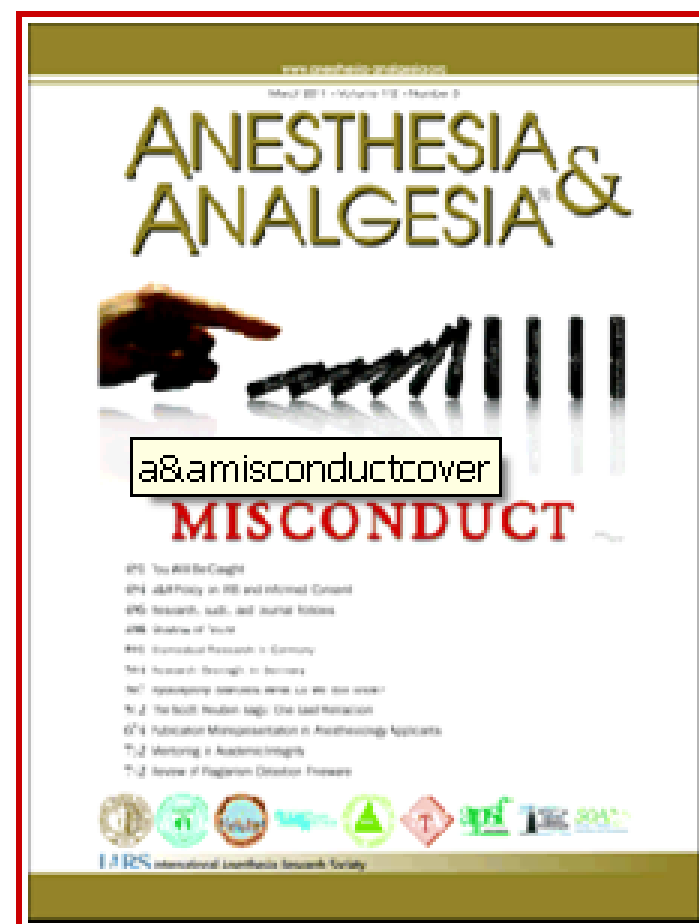
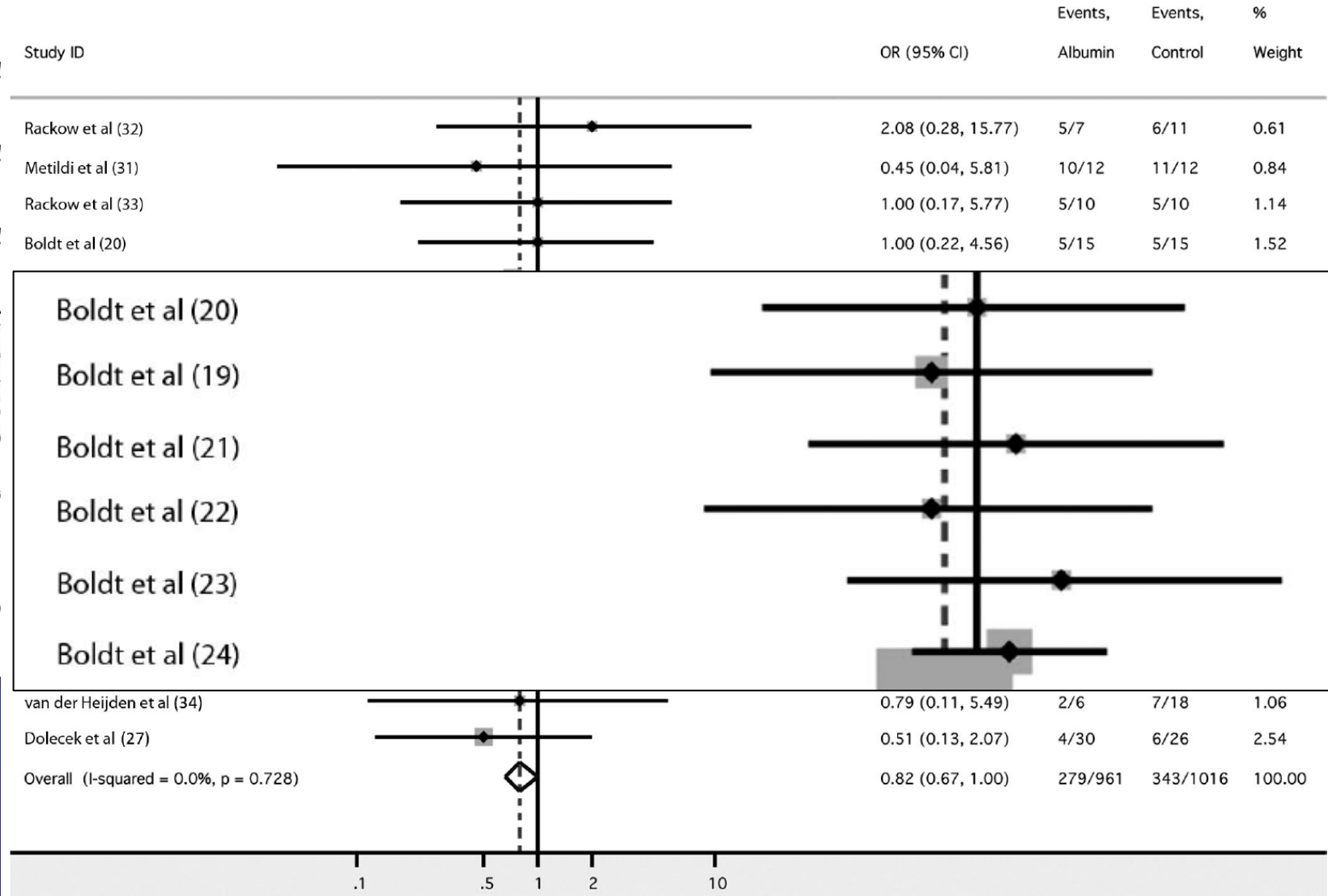


Table 1. Characteristics of the included studies

Authors	Total Study	Albumin		Mean Control Fluid	Resuscitation End	Duration of
		Concentration	Mean Albumin			
<b>Boldt</b>	<b>1995</b>	<b>Adult patients with</b>	<b>60</b>			
Rackow et al (32)						
et al (20)						
<b>Boldt</b>	<b>1996</b>	<b>Adult patients with</b>	<b>60</b>			
et al (19)						
<b>Boldt</b>	<b>1996</b>	<b>Adult patients with</b>	<b>56</b>			
et al (21)						
<b>Boldt</b>	<b>1996</b>	<b>Adult patients with</b>	<b>60</b>			
et al (22)						
<b>Boldt</b>	<b>1996</b>	<b>Adult patients with</b>	<b>60</b>			
et al (23)						
<b>Boldt</b>	<b>1998</b>	<b>Adult patients with</b>	<b>60</b>			
et al (24)						

Maitland et al (29)						
Maitland et al (30)	2005	Children with severe malaria and moderate or severe metabolic acidosis	150	4.5	45 mL/kg r acidosis	kg sever
Akech et al (26)	2006	Children with malaria, severe metabolic acidosis and shock	88	4.5	46 mL/kg r acidosis, kg sever	acidosis
Friedman et al (28)	2008	Adult patients with sepsis and suspected hypovolemia	42	4	40	
van der Heijden et al (34)	2009	Adult patients with sepsis and nonseptic patients hypovolemic and at risk for acute lung injury/acute respiratory distress syndrome	48	5	146	
Dolecek et al (27)	2009	Adult patients with severe sepsis	56	20	60	



# Boldt inquiry concludes: False findings in at least 10 studies, but no harm to patients

with 14 comments

It has been a while since we heard about [Joachim Boldt](#), the German anesthesiologist whose 90-odd retractions briefly put him at the top of

the h After an investigation lasting approximately 18 months and involving the examination of 91

Now, Dr Boldt, and published between 1999 and 2011. Examination of these articles revealed that a re study files were either missing or incomplete for the large majority of the studies concerned,

departur an Investigation Committee, consisting of six investigators, was convened to examine entir allegations of scientific fraud and to investigate potential infringements of patients' rights and/or ins regulations pertaining to the retention of study data. None of the studies examined had received res an ethical opinion from the Rhineland-Palatinate Medical Association (Landesärztekammer rep Rheinland-Pfalz). In the majority of these cases, the principal investigator had failed to register Th planned research projects with the Rhineland-Palatinate Medical Association, and the relevant Dr study files were either missing or incomplete for the large majority of the studies concerned,

suggesting that Dr Boldt failed in his duty as principal investigator to comply with current reg office at Ludwigshafen Hospital. Many cases revealed no record of formal consent by study an participants or indeed evidence that study participants had been provided with sufficient Rh information prior to enrolment.

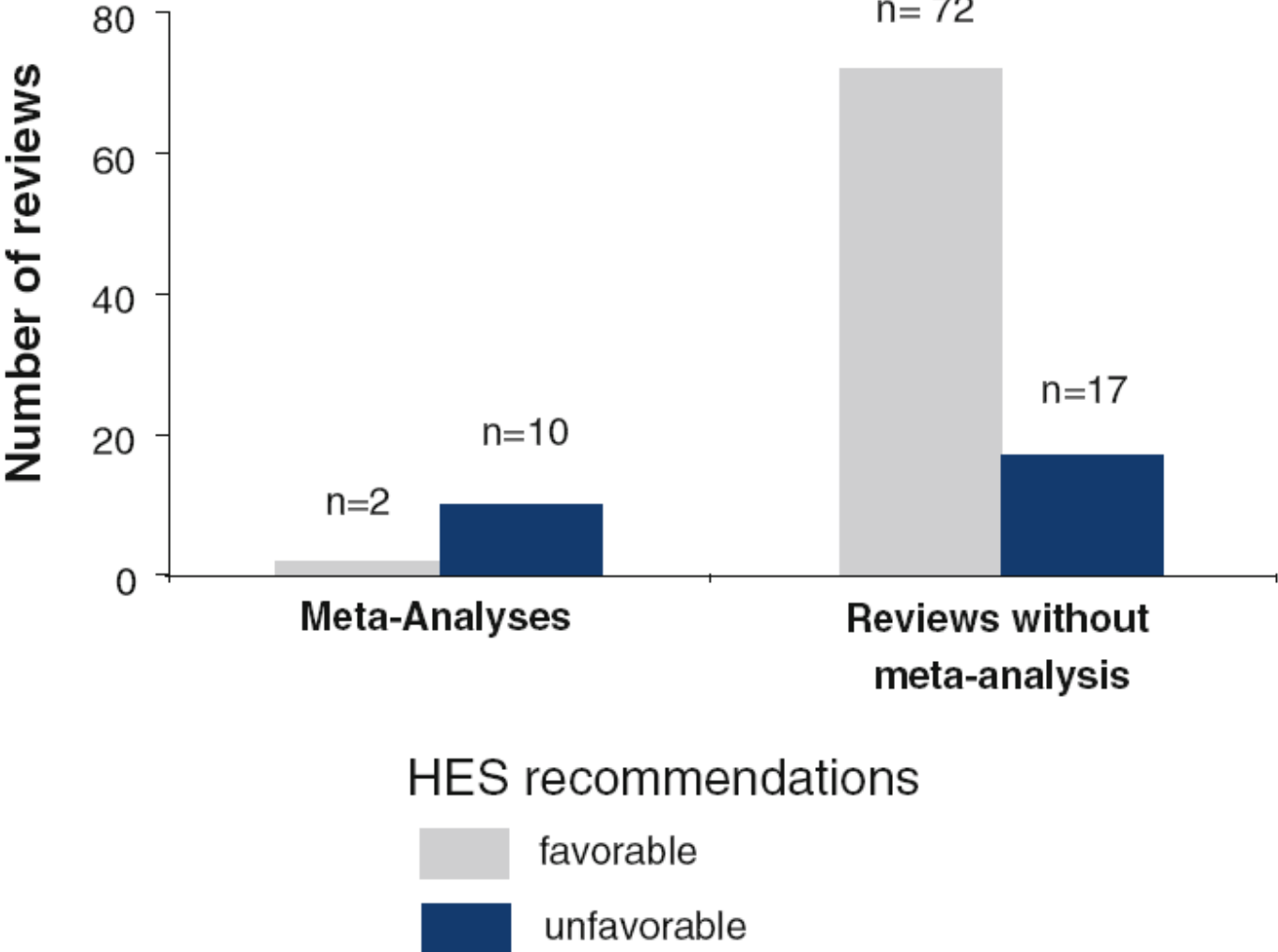
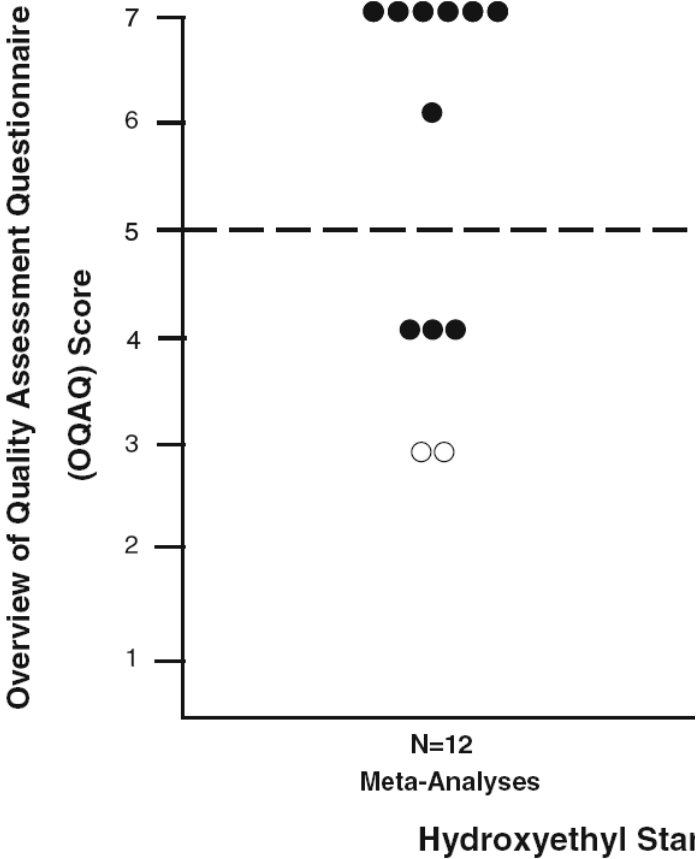
planned research projects with the Rhineland-Palatinate Medical Association, and the relevant office at Ludwigshafen Hospital. Many cases revealed no record of formal consent by study participants or indeed evidence that study participants had been provided with sufficient information prior to enrolment.

Par l'effet d'une fraude, les résultats de la méta-analyse sont erronés et difficilement interprétables

Christiane S. Hartog  
Helga Skupin  
Charles Natanson  
Junfeng Sun  
Konrad Reinhart

Systematic analysis of hydroxyethyl starch  
(HES) re  
views of well-p

Reviews published 2000 to 2010



## b Reviews with recommendation (n=165)



**Table 2** The 14 most prolific authors of 124 favorable HES reviews and their potential conflict of interest with fluid manufacturers

Author	pCOI declared/ HES reviews by this author (n)	Years in which HES reviews were published	Years in which a pCOI related to a fluid manufacturer was declared by the author
1	1/21	1998–2009	2008 (lead research activities were funded by...) [19]
2	1/5	2005, 2007–2009	2008 (lead author of a meta-analysis funded by and co-authored by a salaried employee of a fluid manufacturer) [70]; 2010 (“has received honoraria as a speaker and research support from...”) [86]
3	0/5	1997–2000	2003 (“unrestricted grant by fluid manufacturer”) [87]
4	0/4	1998, 2001, 2003	2006 (“received honoraria from ...”) [88]
5	1/4	2007–2009	2008 (“recipient of travel grants” and an “unrestricted educational grant”) [89]
6	0/4	1993, 2003–2005	2008 (“honoraria and unrestricted grants from...”) [54]
7	0/4	1991, 2000, 2004	2006 (“has received unrestricted grants”) [90]; see correction published [Br Med J 2006; 333 doi:10.1136/bmj.39041.739479.68]
8	0/3	1998, 2000, 2002	2002 (recipient of salary from fluid manufacturer) [91]
9	0/3	2008, 2009	2011 (recipient of salary from fluid manufacturer) [92]
10	3/3	2005, 2007–2008	2002–2008 (recipient of salary from fluid manufacturer) [70, 92]
11	0/4	1993, 1998, 2007, 2009	No pCOI identified
12	0/4	1982, 1986, 1996, 2002	No pCOI identified
13	0/3	1986, 1996, 2007	No pCOI identified
14	0/3	2004–2006	No pCOI identified

Ceci n'est pas un cas isolé!!!

# Record battu!

## Does anesthesiology have a problem? Final version of report suggests Fujii will take retraction record, with 172

with 6 comments

Japanese investigators have concluded that [Yoshitaka Fujii](#), an expert in postoperative nausea and vomiting whose findings drew scrutiny in 2000 but who continued to publish prolifically for a decade after, fabricated his results in at least 172 published studies.



That number nearly doubles that of the current unofficial retraction record holder, [Joachim Boldt](#).

An [inquiry](#) by the [Japanese Society of Anesthesiologists](#) (JSA) has determined that Fujii, who was fired in February from his post at Toho University, falsified data in 172 of 212 papers published between 1993 and 2011. Investigators said they found no evidence of fraud in three of the papers, but could not determine whether the results reported in the remaining 37 were reliable.

Of the 172 bogus studies, 126 involved randomized controlled trials. Investigators believe this was not a coincidence: [Read the rest of this entry »](#)



# En cardiologie

## **Poldermans update: Magazine cites lack of informed consent, bogus patient surveys, invented data and more**

with 3 comments

Larry Husten at [CardioBrief](#) has an update on the case of [Don Poldermans](#), a leading Dutch cardiologist who was accused of various iterations of research misconduct. Poldermans was fired last November by Erasmus Medical Center, where he had been head of perioperative cardiac care before the scandal.

According to Husten, Jeroen Bax, another prominent Dutch cardiologist with strong ties to Poldermans, has been cleared of wrongdoing by his institution, Leiden University Medical Centre: [Read the rest of this entry »](#)



# En oncologie

## The Anil Potti retraction record so far

with 15 comments

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A [60 Minutes segment Sunday on Anil Potti](#) has drawn national attention to the case, so we thought this would be a good time to compile all of the retractions and corrections in one place.

Duke has [said](#) that about a third of Potti's 40-some-odd papers would be retracted, and another third would have "a portion retracted with other components remaining intact," so this list will continue to grow. We'll update it as we hear about new changes.

Retractions: [Read the rest of this entry »](#)



We've seen a lot of retraction notices for work by Anil Potti — [10, to be precise, along with 7 corrections and one partial retraction notice](#). As notices go, they tend to be pretty complete. So when we saw one in CHEST for [this 2008 abstract](#), we were expecting something similar.

# En psychiatrie

## Journal retracts antipsychotic study when all subjects' PET scans turn out to be unreliable or invalid

with 3 comments

The *Journal of Psychiatric Research* is retracting a 2010 paper claiming to show a relationship between quetiapine (Seroquel) and certain lab tests and brain scans, after it turns out the brain images were either unreliable or invalid.

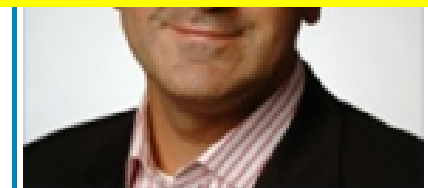


## Diederik Stapel faces criminal inquiry for misuse of funds

with 15 comments

The Dutch media are reporting that [Diederik Stapel](#), the Tilburg University social psychologist who fabricated data in dozens of studies, is facing a criminal probe for his misuse of some 2.2 million euros (roughly \$2.8 million U.S.) in government grant funding.

A [Retraction Watch commenter](#) tipped us off this morning that the newspaper *NRC Handelsblad* [reports](#) (thanks to Google Translate): [Read the rest of this entry »](#)



# En immunologie

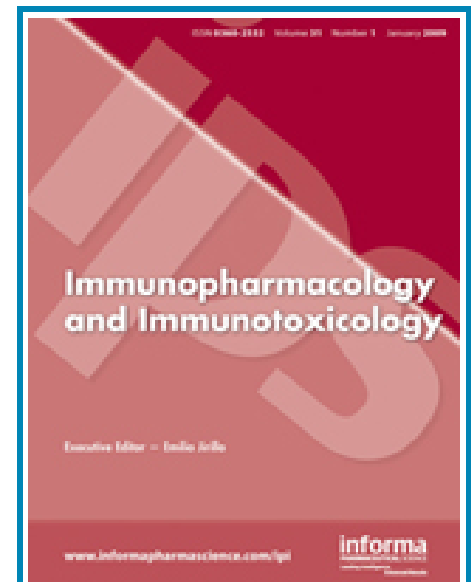
## Second helpings: Immunology journal retracts paper for plagiarism, then U Bari investigation reveals fraud

with 2 comments

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The journal *Immunopharmacology and Immunotoxicology* has retracted a 2011 paper by an Italian nursing researcher who lifted text and data from a previously published work, and made up results to fill gaps, too.

Here's [the notice](#): [Read the rest of this entry](#) »



# Misconduct accounts for the majority of retracted scientific publications

Ferric C. Fang<sup>a,b,1</sup>, R. Grant Steen<sup>c,1</sup>, and Arturo Casadevall<sup>d,1,2</sup>

Cause of retraction

All causes\*

Fraud (fabrication/falsification)

Suspected fraud

Plagiarism

Duplicate publication

Error

Other

Unknown

## BAD COPY

Most retracted papers listed in PubMed were withdrawn owing to fraud or suspected fraud.

Fraud/suspected fraud

**43.4%**

Duplication

**14.2%**

Other

**11.3%**

**TOTAL RETRACTED ARTICLES: 2,047**

Error

**21.3%**

Plagiarism

**9.8%**

\*Some articles fall into more than one category.

**Table 3. Most cited retracted articles**

First author	Journal	Year published	Year retracted	Times cited*	Reason for retraction
Wakefield	<i>Lancet</i>	1998	2004; 2010	758	Fraud
Reyes	<i>Blood</i>	2001	2009	740	Error
Fukuhara	<i>Science</i>	2005	2007	686	Error
Nakao	<i>Lancet</i>	2003	2009	626	Fraud
Chang	<i>Science</i>	2001	2006	512	Error
Kugler	<i>Nature Medicine</i>	2000	2003	494	Fraud
Rubio	<i>Cancer Research</i>	2005	2010	457	Error
Gowen	<i>Science</i>	1998	2003	395	Fraud
Makarova	<i>Nature</i>	2001	2006	375	Error
Hwang	<i>Science</i>	2004	2006	368	Fraud
Potti	<i>The New England Journal of Medicine</i>	2006	2011	361	Fraud
Brugger	<i>The New England Journal of Medicine</i>	1995	2001	336	Fraud
Van Parijs	<i>Immunity</i>	1999	2009	330	Fraud
Potti	<i>Nature Medicine</i>	2006	2011	328	Fraud
Schön	<i>Science</i>	2000	2002	297	Fraud
Chiu	<i>Nature</i>	2005	2010	281	Error
Cooper	<i>Science</i>	1997	2005	264	Fraud
Le Page	<i>Cell</i>	2000	2005	262	Error
Kawasaki	<i>Nature</i>	2004	2006	243	Fraud
Hwang	<i>Science</i>	2005	2006	234	Error

## TOP TEN RETRACTORS

Journals with the most retractions attributable to fraud or suspected fraud, as recorded in PubMed.

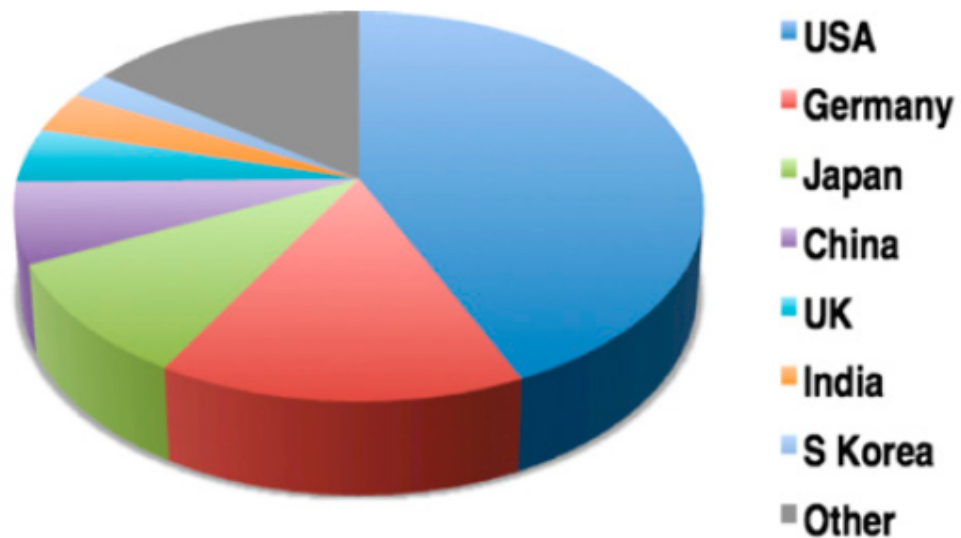
Journal	Number of articles	2011 impact factor
<i>The Journal of Biological Chemistry</i>	37	5.12
<i>Anesthesia &amp; Analgesia</i>	33	3.07
<i>Science</i>	32	32.45
<i>The Journal of Immunology</i>	30	5.86
<i>Proceedings of the National Academy of Sciences</i>	27	10.47
<i>Blood</i>	21	9.79
<i>Nature</i>	19	36.24
<i>The Journal of Clinical Investigation</i>	17	15.43
<i>Cancer Research</i>	16	8.16
<i>Cell</i>	13	34.77

## Misconduct is the main cause of life-sciences retractions

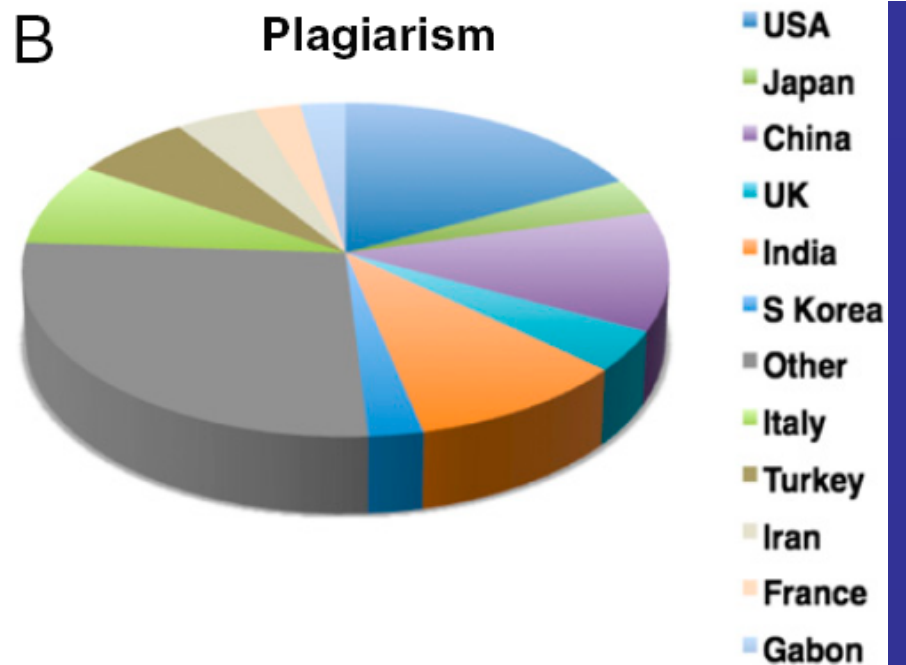
*Opaque announcements in journals can hide fraud, study finds.*

Corbyn, Nature 2012

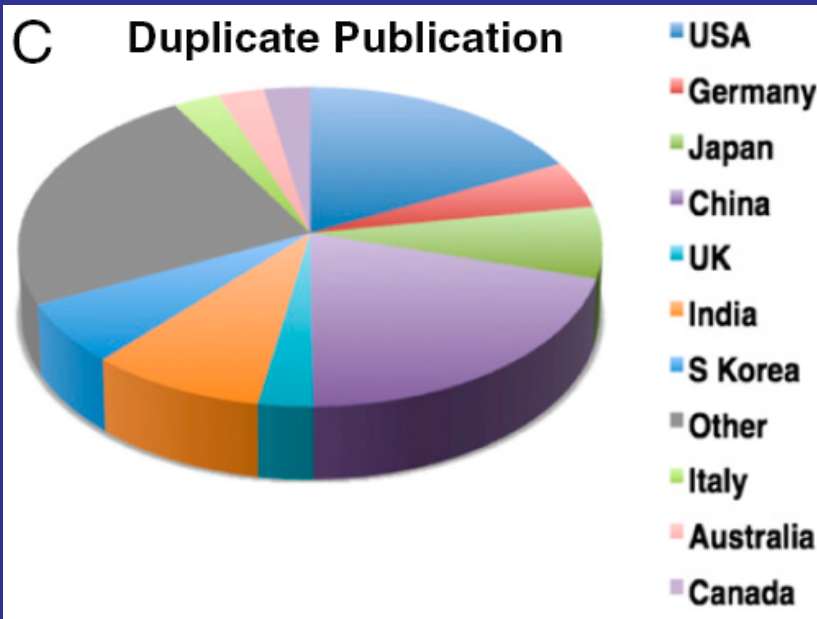
**A**      **Fraud or Suspected Fraud**



**B**      **Plagiarism**



**C**      **Duplicate Publication**





Pour plus d'information  
<http://retractionwatch.wordpress.com/>

# Les fraudes dans la littérature médicale

- **Les types de fraudes**
  - P-F DEQUIN
- **Les techniques de dépistage de la fraude**
  - M. PAESMANS
- **L'aspect éthique**
  - A. BURNY
- **Les conséquences professionnelles**
  - E. COGAN
- **Les conséquences pour la presse médicale**
  - H. MAISONNEUVE