

## CURRICULUM VITAE

**Name:** Romain Charles PIRRACCHIO, M.D. Ph.D.

**Position:** Professor of Anesthesia and Critical Care Medicine  
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Hôpital Européen Georges Pompidou  
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**Citizenship:** French  
**Spoken Languages:** French, English and Italian

### EDUCATION

1993 – 1999 Medical School: Lariboisière Medical School (Université Paris 7 Diderot)  
1999 – 2003 Residency in Anesthesiology and Critical Care Medicine  
1999. Master's Degree in Biological Sciences  
2003 M.D. Graduation, (Lariboisière Medical School, Université Paris 7 Diderot)  
2003 Board Certification (France) in Anesthesiology and Critical Care Medicine  
2003 – 2005 Fellowship in Critical Care Medicine  
2009 Master's Degree in Epidemiology (Université Paris 7 Diderot)  
2010 – 2011 Master's Degree in Medical Pedagogy (Université Paris 5 Descartes)  
2009 – 2012 Ph.D. in Epidemiology and Biostatistics (ED393, Université Paris 7 Diderot)  
2012 – 2013 Postdoctoral Training in Biostatistics (Division of Biostatistics, School of Public Health, University of California, Berkeley, United States)  
2014 Habilitation à diriger des recherches (Université Paris 5 Descartes)  
*[Habilitation is the highest academic degree bestowed in Europe. Its purpose is to certify one's ability to teach and direct research projects at the university level.]*

### CERTIFICATION, LICENSE

2003 French National Board Certification in Anesthesiology  
2003 French National Board Certification in Critical Care Medicine  
2003 French Medical Licensure (#2500904469)

### PRINCIPAL POSITIONS HELD

2003 – 2005 **Fellow in Critical Care Medicine.** Department of Anesthesiology and Critical Care Medicine. Hôpital Lariboisière. Université Paris 7 Diderot

- 2005 – 2010 **Assistant Professor in Anesthesiology and Critical Care.** Department of Anesthesiology and Critical Care Medicine. Hôpital Lariboisière. Université Paris 7 Diderot.
- 2005 – 2010 **Medical Director, Neurosurgical ICU and Neuroanesthesia.** Department of Anesthesiology and Critical Care Medicine. Hôpital Lariboisière. Université Paris 7 Diderot.
- 2010 – 2014 **Medical Director Surgical and Trauma ICU.** Department of Anesthesiology and Critical Care Medicine, Hôpital Européen Georges Pompidou. Université Paris 7 Diderot.
- 2015 – 2016 **Visiting Associate Professor (Step 2).** Department of Anesthesia and Perioperative Care. San Francisco General Hospital. University of California, San Francisco.
- 2016 – present **Adjunct Associate Professor.** Department of Anesthesia and Perioperative Care. San Francisco General Hospital. University of California, San Francisco.
- 2016 – present **Professor and Vice Chair.** Department of Anesthesia and Critical Care Medicine. Hôpital Européen Georges Pompidou. Université Paris 5 Descartes.

### OTHER POSITIONS HELD CONCURRENTLY

- 2008 – 2012 **Research Assistant.** Causal Inference at INSERM UMR-S 717. Biostatistics and Clinical Epidemiology. Hôpital Saint Louis. Université Paris 7 Diderot.
- 2012 – present **Associate Researcher.** Causal Inference and Modeling Strategies at INSERM UMR-S 1153. Biostatistics and Clinical Epidemiology. Hôpital Saint Louis. Université Paris 7 Diderot.
- 2015 – 2016 **Affiliate Associate Professor.** Division of Biostatistics. School of Public Health. University of California, Berkeley.

### HONORS AND AWARDS

- 2016 Research Award: International Sepsis Forum, European Society of Intensive Care Medicine.
- 2014 Reviewer of the Year: Journal of Clinical Epidemiology
- 2003 Best Clinical Research: French Society of Anesthesiology and Critical Care Medicine.

### KEYWORDS / AREAS OF INTEREST

Quality improvement in health care, trauma anesthesia (trauma bay, perioperative and ICU trauma care), staff development using lean management principles, medical education and direct hands-on teaching, clinical research, transitional research, causal inference, machine learning, biostatistics and epidemiology.

### CLINICAL ACTIVITIES SUMMARY

Besides my management duties as vice chairman, on average, I cover 10-12 daytime clinical shifts and 5-6 night calls (in house) per month. I supervise and provide direct patient care in the operating rooms, in the Post Anesthesia Care Unit and Trauma Bay, and in the Intensive Care Units. I cover all perioperative and ICU patient care services at the Hôpital Européen Georges Pompidou, including major trauma, major cardiovascular surgery and transplant services. Our institution does not provide major pediatric care and intracranial neurosurgical care (except trauma).

### MEMBERSHIPS

- 2003 – present French Society of Anesthesiology and Critical Care Medicine
- 2003 – present European Society of Intensive Care Medicine
- 2017 – present Board of Referees, Fulbright Foundation

**SERVICE TO PROFESSIONAL ORGANIZATIONS**

2016 – present Editorial Board, French Society of Anesthesiology and Critical Care Medicine

**SERVICE TO PROFESSIONAL PUBLICATIONS**

Clinical Medicine:

2016 – present **Associate Editor** Anaesthesia Critical Care and Pain Medicine  
 2010 – present **Reviewer** Resuscitation  
 2013 – present **Reviewer** Intensive Care Medicine  
 2013 – present **Reviewer** Critical Care Medicine  
 2015 – present **Reviewer** Anesthesiology  
 2015 – present **Reviewer** European Heart Journal – Acute Cardiovascular Care  
 2015 – present **Reviewer** Journal of Cardiac Failure  
 2015 – present **Reviewer** Annals of Intensive Care  
 2016 – present **Reviewer** Anesthesia and Critical Care Medicine

Biostatistics and Epidemiology:

2014 – present **Reviewer** Journal of Clinical Epidemiology  
 2014 – present **Reviewer** Pharmacoepidemiology and Drug Safety  
 2015 – present **Reviewer** Statistics in Medicine  
 2016 – present **Reviewer** Journal of the American Statistical Association  
 2016 – present **Reviewer** Journal of Causal Inference

**SELECTED INVITED PRESENTATIONS – INTERNATIONAL** (English-language conferences)

2003 Quebec Anesthesia Society Annual Meeting (Quebec, Canada)  
 2008 Committee for European Education in Anesthesiology (Pristina, Kosovo)  
 2010 Tunisian Society of Anesthesia (Sousse, Tunisia)  
 2011 Tunisian Society of Emergency Medicine (Monastir, Tunisia)  
 2013 International Biometric Society (Los Angeles, USA)  
 2014 Critical Care Data Hackathon (London, UK)  
 2014 Annual Critical Care Symposium (Manchester, UK)  
 2015 International Biometric Society (Baltimore, USA)  
 2016 European Anesthesia Society Annual Meeting (London, UK)  
 2017 Annual Critical Care Symposium (Manchester, UK)  
 2017 European Lean Healthcare Transformation Summit (Brussels, Belgium)

**SELECTED INVITED PRESENTATIONS – NATIONAL** (French-language conferences)

2003 – 2017 French Society of Anesthesia and Intensive Care Medicine  
 2013 National Conference on Medical Errors  
 2013 French Society of Emergency Medicine  
 2014 French Society of Clinical Epidemiology  
 2017 French Society of Thoracic Surgery  
 2017 12<sup>th</sup> Parisian Conference on Organ Donation and Transplant

**HOSPITAL, UNIVERSITY and PUBLIC SERVICE****SERVICE ACTIVITIES SUMMARY**

I have participated actively in many committees at both the hospital and university level. These committees have focused on a broad array of topics, including management of clinical

operations, research, teaching and funding allocation.

2005 – 2010	Continuity of Care Committee (Member)
2009 – 2010	Come and Go Surgery Center Committee (co-Chair)
2011 – 2015	Medical Staff Committee (Member)
2013 – present	Cardiac Arrest and ECMO Committee (co-Chair)
2016 – present	Blood Transfusion Teaching Committee (Member)
2016 – present	Lean Management for Trauma Committee (Chair)
2016 – present	Informatics Committee (Member)
2017 – present	Board of Referees, Fulbright Foundation (Member)

## TEACHING and MENTORING

### Medical School

2013 – present	<b>Medical Students</b> <ul style="list-style-type: none"> <li>• Introduction to Modeling Strategies</li> </ul>
2010 – present	<b>Residents in Anesthesiology and Critical Care Medicine</b> <ul style="list-style-type: none"> <li>• Introduction to Medical Research Methodology and Biostatistics,</li> <li>• Journal Clubs</li> </ul>
2003 – present	<b>Residents in Critical Care Medicine</b> <ul style="list-style-type: none"> <li>• Basic and Advanced Classes in Critical Care Medicine</li> <li>• Transcranial Ultrasounds and Echocardiography</li> <li>• Transthoracic Echocardiography</li> <li>• Trauma Anesthesia and Resuscitation</li> </ul>
2003 – 2012	<b>Residents in Emergency Medicine</b> <ul style="list-style-type: none"> <li>• Patient Evaluation in the Emergency Situations</li> <li>• Early Treatment of Acute Life-Threatening Pathologies</li> </ul>

### School of Public Health - Biostatistics

2012 – present	<b>Master's degree</b> <ul style="list-style-type: none"> <li>• Introduction to Propensity Score methods</li> </ul>
2013 – 2015	<b>Ph.D. Students in Biostatistics</b> , School of Public Health <ul style="list-style-type: none"> <li>• Introduction to Causal Inference</li> <li>• Double Robust Causal Estimators</li> <li>• Introduction to Targeted Maximum Likelihood Estimation</li> </ul>

### School of Nursing

2003 – 2013	<b>CRNA School.</b> CHU Pitié-Salpêtrière. Université Paris 6 Pierre et Marie Curie.
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### Informal Teaching

On a daily basis, I interact with fellows, residents and medical students, and participate in case reviews with medical housestaff. On a weekly basis, I lead the ICU rounds.

### Mentoring

2009 – 2010	Dr Matthieu Legrand, MD. Mentoring for his Medical Thesis.
2012 – 2013	Dr Sophie Nebout, MD. Mentoring for her Medical Thesis.
2012 – 2013	Dr Emmanuel Caruana, MD. Mentoring for his Master Degree in Biostatistics.
2013 – 2017	Dr Emmanuel Caruana, MD. Mentoring for his PhD in Biostatistics.
2014 – 2015	Dr Arthur Neuschwander, MD. Mentoring for his Medical Thesis.
2015 – present	Dr Baptiste Duceau, MD. Mentoring for his Medical Thesis.
2016 – present	Dr Elodie Lang, MD. Mentoring for her Medical Thesis.
2016 – present	Dr Sarah Chetrit Luzon, MD. Mentoring for her Medical Thesis.
2016 – present	Dr Florian Roquet, MD. Mentoring for his Master Degree in Biostatistics.

## RESEARCH AND CREATIVE ACTIVITIES

### Research Awards and Grants

- 2003 Best Clinical Research: French Society of Anesthesiology and Critical Care Medicine €1,500
- 2012 Bourse pour la Mobilité Assistance Publique – Hôpitaux de Paris €10,000
- 2012 Funding from the FULBRIGHT French-American Foundation (Monahan Award) €25,000
- 2013 Patient Centered Outcome Research Institute (PCORI) Grant \$350,000/year for 3 years
- 2013 French Fund for Medical Research (FRM) €250,000
- 2014 Reviewer of the Year 2014: Journal of Clinical Epidemiology.
- 2016 Research Award. International Sepsis Forum, European Society of Intensive Care Medicine.
- 2016 Paul Bennetot Foundation Research Grant €89,000
- 2017 MASTODONS Centre National pour la Recherche Scientifique (CNRS) €15,000

### Peer Reviewed Publications

Citation indices	All	Since 2012
Citations	1059	818
h-index	15	14
i10-index	22	21

### Recent Significant Peer Reviewed Publications

1. **Pirracchio R**, Petersen ML, Carone M, Rigon MR, Chevret S, van der Laan MJ. Mortality prediction in intensive care units with the Super ICU Learner Algorithm (SICULA): a population-based study. *Lancet Respir Med*. 2015 Jan;3(1):42-52.

In this study, I developed a machine learning-based algorithm to predict hospital mortality in critically ill patients. I showed that this approach clearly outperforms all current severity scores. I designed the study, ran the analysis and drafted the paper.

2. **Pirracchio R**, Petersen ML, van der Laan M. Improving propensity score estimators' robustness to model misspecification using super learner. *Am J Epidemiol*. 2015 Jan 15;181(2):108-19.

In this study, I developed a new method based on machine learning to estimate the propensity score and was able to show a clear benefit in estimating treatment effect from observational data. I designed the study, ran the analysis and drafted the paper.

3. **Pirracchio R**, Yue JK, Manley GT, van der Laan MJ, Hubbard AE; TRACK-TBI Investigators including Wayne A Gordon, Hester F Lingsma, Andrew IR Maas, Pratik Mukherjee, David O Okonkwo, David M Schnyer, Alex B Valadka and Esther L Yuh. Collaborative targeted maximum likelihood estimation for variable importance measure: Illustration for functional outcome prediction in mild traumatic brain injuries. *Stat Methods Med Res*. 2016 Jun 29. pii: 0962280215627335

In this study in collaboration with the Brain and Spinal Injury Center at ZSFG, we intended to identify the predictors of a poor neurological outcome in mild traumatic brain injuries. Given the complexity of the data structure, we used a novel statistical method based on machine learning. I co-designed the study, ran the analysis and co-drafted the paper.

4. Cholley B, Caruba T, Grosjean S, Amour J, Ouattara A, Villacorta J, Miguet B, Guinet P, Lévy

F, Squara P, Aït Hamou N, Carillon A, Boyer J, Boughenou MF, Rosier S, Robin E, Radutoiu M, Durand M, Guidon C, Desebbe O, Charles-Nelson A, Menasché P, Rozec B, Girard C, Fellahi JL, **Pirracchio R**, Chatellier G. Effect of Levosimendan on Low Cardiac Output Syndrome in Patients With Low Ejection Fraction Undergoing Coronary Artery Bypass Grafting With Cardiopulmonary Bypass: The LICORN Randomized Clinical Trial. *JAMA*. 2017 Aug 8;318(6):548-556. doi: 10.1001/jama.2017.9973.

In this study, I collaborated with the clinicians in designing the study, analyzing the data and drafting the manuscript.

### All Peer Reviewed Publications

1. N Liu, T Chazot, B Trillat, **R Pirracchio**, L Barvais, JD Law Koune, M Fischler. Feasibility of closed-loop titration of propofol guided by the Bispectral Index for general anaesthesia induction: a prospective randomized study. *Eur J Anaesthesiol*. 2006 Jun;23(6):465-9.
2. **Pirracchio R\***, Plaisance P\*, Berton C, Vicaut E, Payen D. A randomised study of Out-of-Hospital Continuous Positive Airway Pressure for Acute Cardiogenic Pulmonary Oedema: physiological and clinical effects. *European Heart Journal*, 2007. Dec;28(23):2895-901. (\* both first author)
3. **Pirracchio R**, Cholley B, De Hert S, Mebazaa A. Diastolic heart failure in anaesthesia and critical care. *Br J Anaesth*. 2007 Jun;98(6):707-21.
4. **Pirracchio R**, Payen D, Plaisance P. The impedance threshold valve for adult cardiopulmonary resuscitation: a review of the literature. *Curr Opin Crit Care*. 2007 Jun;13(3):280-6.
5. **Pirracchio R**, Deye N, Lukaszewicz AC, Mebazaa A, Cholley B, Matéo J, Mégarbane B, Launay JM, Peynet J, Baud F, Payen D. Impaired plasma B-type natriuretic peptide clearance in human septic shock. *Crit Care Med*. 2008 Sep;36(9):2542-6.
6. **Pirracchio R**, Logeart D, Noveanu M, Mebazaa A, Mueller C. The use of natriuretic peptides in the intensive care unit. *Curr Opin Crit Care*. 2008 Oct;14(5):536-42.
7. Vergez M, **Pirracchio R**, Mateo J, Payen D, Cholley B. Tako Tsubo cardiomyopathy in a patient with multiple trauma. *Resuscitation*. 2009 Sep;80(9):1074-7
8. **Pirracchio R**, Salem R, Mebazaa A. Use of B-type natriuretic peptide in critically ill patients. *Biomark Med*. 2009 Oct;3(5):541-7.
9. **Pirracchio R**, Mateo J, Raskine L, Rigon MR, Lukaszewicz AC, Mebazaa A, Hammitouche Y, Sanson-Le Pors MJ, Payen D. Can bacteriological upper airway samples obtained at intensive care unit admission guide empiric antibiotherapy for ventilator-associated pneumonia? *Crit Care Med*. 2009 Sep;37(9):2559-63.
10. Lukaszewicz AC, Griénay M, Resche-Rigon M, **Pirracchio R**, Faivre V, Boval B, Payen D. Monocytic HLA-DR expression in intensive care patients: interest for prognosis and secondary infection prediction. *Crit Care Med*. 2009 Oct;37(10):2746-52.
11. Heyer L, Mebazaa A, Gayat E, Resche-Rigon M, Rabuel C, Rezlan E, Lukaszewicz AC, Madadaki C, **Pirracchio R**, Schurando P, Morel O, Fargeaudou Y, Payen D. Cardiac troponin and skeletal muscle oxygenation in severe post-partum haemorrhage. *Crit Care*. 2009;13 Suppl 5:S8.
12. Legrand M, Mik EG, Balestra GM, Lutter R, **Pirracchio R**, Payen D, Ince C. Fluid resuscitation does not improve renal oxygenation during hemorrhagic shock in rats. *Anesthesiology*. 2010 Jan;112(1):119-27.
13. **Pirracchio R**, Resche Rigon M., Bresson D., Basta B., Mebazaa A., Welschbillig S., Heyer L., Kechiche H., Madadaki C., Chollet A., George B., Payen D. One-year outcome following neurosurgery for intracranial tumor in elderly patients. *J Neurosurg Anesthesiol*. 2010 Oct; 22(4):342-6.
14. Gayat E, **Pirracchio R**, Resche-Rigon M, Mebazaa A, Mary JY, Porcher R. Propensity scores in intensive care and anaesthesiology literature: a systematic review. *Intensive Care Med*. 2010 ; 36(12):1993-2003.
15. **Pirracchio R**, Legrand M., Resche Rigon M., Mateo J., Lukaszewicz A.C., Mebazaa A., Raskine L., Sanson Le Pors M.J. and Payen D. Arterial Catheters-Related Bloodstream Infections: Results of a 8 years survey in a surgical ICU. *Crit Care Med*. 2011 Jun;39(6): 1372-6.

16. Edbrooke DL, Minelli C, Mills GH, Iapichino G, Pezzi A, Corbella D, Jacobs P, Lippert A, Wiis J, Pesenti A, Patroniti N, **Pirracchio R**, Payen D, Gurman G, Bakker J, Kesecioglu J, Hargreaves C, Cohen SL, Baras M, Artigas A, Sprung CL. Implications of ICU triage decisions on patient mortality: a cost-effectiveness analysis. *Crit Care*. 2011 Feb 9;15(1):R56.
17. Chibbaro S, Di Rocco F, Makiese O, Mirone G, Marsella M, Lukaszewicz AC, Vicaut E, Turner B, Hamdi S, Spiriev T, Di Emidio P, **Pirracchio R**, Payen D, George B, Bresson D. Neurosurgery and elderly: analysis through the years. *Neurosurg Rev*. 2010 Apr;34(2): 229-34.
18. **Pirracchio R**, Sprung C, Payen D, Chevret S. Probability-of-treatment models for the evaluation of ICU admission in the elderly: Analysis of the ELDICUS observational database. *J Clin Epidemiol*. 2011 Dec;64(12):1373-82.
19. Chousterman B., **Pirracchio R**. De la iatrogénèse aux erreurs médicales: Revue de la littérature en Anesthésie-Réanimation et Approche Analytique. *Ann Fr Anesth Reanim*. 2011 Dec; 30(12):914-22.
20. **Pirracchio R**, Sprung C, Payen D, Chevret S. Benefits of ICU admission in critically ill patients: whether instrumental variable methods or propensity scores should be used. *BMC Med Res Methodol*. 2011 Sep 21;11:132.
21. Sprung CL, Baras M, Iapichino G, Kesecioglu J, Lippert A, Hargreaves C, Pezzi A, **Pirracchio R**, Edbrooke D, Pesenti A, Bakker J, Gurman G, Cohen S, Wiis J, Payen D, Artigas A. The Eldicus observational study of triage decision making in European intensive care units. Part I: European intensive care admission triage scores (EICATS). *Crit Care Med*. 2012 Jan;40(1):125-31.
22. Sprung CL, Artigas A, Kesecioglu J, Pezzi A, Wiis J, **Pirracchio R**, Baras M, Edbrooke D, Pesenti A, Bakker J, Hargreaves C, Gurman G, Cohen S, Lippert A, Payen D, Corbella D, Iapichino G. The Eldicus prospective, observational study of triage decision making in European intensive care units. Part II: Intensive care benefit for the elderly. *Crit Care Med*. 2012 Jan;40(1):132-8.
23. Nebout S., **Pirracchio R**. ScvO2 monitoring in critically ill patients. *Cardiol Res Pract*. 2012; 2012: 370697.
24. **Pirracchio R**, Resche Rigon M, Chevret S. Evaluation of the Propensity Score Methods for the Estimation of Marginal Odds Ratios in case of Small Sample Size. *BMC Med Res Methodol*. 2012 May 30;12(1):70.
25. **Pirracchio R**, Gallula S, Broche C, Ogereau C, Payen D. Out-of-hospital assessment of elderly patients' preference for ICU care]. *Ann Fr Anesth Reanim*. 2012 Feb;31(2):114-9.
26. Resche-Rigon M, **Pirracchio R**, Robin M, Peffault De Latour R, Sibon D, Ades L, Ribaud P, Ferman JP, Thieblemont C, Socié G, Chevret S. Estimating the treatment effect from nonrandomized studies: The example of reduced intensity conditioning Allogeneic Stem Cell Transplantation in hematological diseases. *BMC Blood Disord*. 2012 Aug 16;12(1): 10.
27. Asehnoune K, Roquilly A, Sebillé V; Corti-TC trial group. Corticotherapy for traumatic brain-injured patients--the Corti-TC trial: study protocol for a randomized controlled trial. *Trials*. 2011 Oct 14;12:228.
28. **Pirracchio R**, Resche Rigon M, Chevret S, Zannad F Alla F, Mebazaa A. Continuous Positive Airway Pressure (CPAP) may not reduce Short-Term Mortality in Cardiogenic Pulmonary Edema : A propensity based Analysis. *J Card Fail*. 2013 Feb;19(2):108-16.
29. **Pirracchio R**, Resche Rigon M, Chevret S, Journois D. Simple Screening Statistical Tools to Detect Reporting Bias. When should we ask for raw data ? *Critical Care Crit Care*. 2013 May 7;17(3):142.
30. **Pirracchio R**, Parenica J, Resche Rigon M, Chevret S, Spinar J, Jarkovsky J, Zannad F, Alla F, Mebazaa A. Association between the Initial Drug Regimen and Short-term Mortality in Severe Cardiogenic Shocks. *PlosOne*. 2013 Aug 15;8(8):e71659. doi: 10.1371/journal.pone.0071659.
31. Nebout S., **Pirracchio R**. Intérêt du Monitoring de l'index bispectral (BIS) pour la détection précoce des hypoperfusions cérébrales. *Annales Françaises d'Anesthésie et de Réanimation* 2013 Aug 14. doi:pii: S0750-7658(13)01039-3. 10.1016/j.annfar. 2013.07.802.
32. **Pirracchio R**, Resche Rigon M., Chevret S, Journois D. Do Simple Screening Statistical Tools help Detecting Reporting Bias? . *Ann Intensive Care*. 2013 Sep 2;3(1):29.
33. Legrand M, **Pirracchio R** (both first authors), Rosa A, Petersen M, Van der Laan M, Fabiani JN, Fernandez-gerlinger MP, Podglajen I, Safran D, Cholley B, Mainardi JL

- Worsening of Renal Function Following Heart Surgery For Active Infective Endocarditis Incidence, Risk Factors and Prediction based on *Super Learning*. Crit Care. 2013 Oct 4;17(5):R220.
34. **Pirracchio R**, Resche Rigon M, Mebazaa A, Chevret S. Different Propensity Score Approaches yield different Estimations: Emphasis on Positivity Assumption Violation and Non Uniformity of Treatment Effect. *Statistical methods in Medical Research*. 2013 Nov 6
  35. **Pirracchio R**, Mebazaa A. Reply to short-term mortality and CPAP in acute cardiac pulmonary edema : how and what can we be expecting ? *J Card Fail* 2013 Oct ; 19(10) : 723-4
  36. **Pirracchio R**, Journois D. Comment on Induced Hypothermia in Severe Bacterial Meningitis: A Randomized Clinical Trial. *Letter*. *JAMA* 2014 Apr 2;311(13):1357
  37. **Pirracchio R**, Ranzani O. Recalibrating our prediction models in the ICU: time to move from the abacus to the computer. *Editorial*. *Intensive Care Med*. 2014 Mar; 40(3): 438-41.
  38. **Pirracchio R**, Petersen ML, Carone M, Rigon MR, Chevret S, van der Laan MJ. Mortality prediction in intensive care units with the Super ICU Learner Algorithm (SICULA): a population-based study. *Lancet Respir Med*. 2015 Jan;3(1):42-52.
  39. Champigneulle B, Bellenfant-Zegdi F, Follin A, Lebard C, Guinvarch A, Thomas F, **Pirracchio R**, Journois D. Extracorporeal life support (ECLS) for refractory cardiac arrest after drowning: An 11-year experience. *Resuscitation*. 2014 Dec 5. pii: S0300-9572(14)00852-1.
  40. **Pirracchio R**, Petersen ML, van der Laan M. Improving propensity score estimators' robustness to model misspecification using super learner. *Am J Epidemiol*. 2015 Jan 15;181(2):108-19.
  41. Pasero D, Koeltz A, Placido R, Fontes Lima M, Haun O, Rienzo M, Marrache D, **Pirracchio R**, Safran D, Cholley B. Improving ultrasonic measurement of diaphragmatic excursion after cardiac surgery using the anatomical M-mode: a randomized crossover study. *Intensive Care Med*. 2015 Jan 9.
  42. Caruana E, Duchateau FX, Cornaglia C, Devaud ML, **Pirracchio R**. Tracheal intubation related complications in the prehospital setting. *Emerg Med J*. 2015 Jan 20.
  43. Neuschwander A, Couffin S, Huynh TM, Journois D, Cholley B, Pinot de Villechenon G, Achouh P, Fabiani JN, Safran D, **Pirracchio R**. Determinants of Transcutaneous ear lobe CO<sub>2</sub> tension (PtCO<sub>2</sub>) at 37°C during on-pump cardiac surgery. *Journal of Cardiothoracic and Vascular Anesthesia*. *J Cardiothorac Vasc Anesth*. 2014 Dec 12.
  44. Caruana E, Chevret S, Resche-Rigon M, **Pirracchio R**. A new Weighted Balance Measure helped to select the Variables to be included in a Propensity Score Model. *J Clin Epidemiol*. 2015 May 1
  45. Bailly S, **Pirracchio R**, Timsit JF. What's new to quantify causal effects from longitudinal cohort studies. A brief introduction to marginal structural models for intensivists. *Intensive Care Medicine* 2016 Apr;42(4):576-9. doi: 10.1007/s00134-015-3919-6. Epub 2015 Jun 24.
  46. **Pirracchio R**, Yue, Manley G, van der Laan M., Hubbard A. and the TRACK-TBI Investigators. Collaborative Targeted Maximum Likelihood Estimation (cTMLE) for Variable Importance Measure: Illustration for Functional Outcome Prediction in Mild Traumatic Brain Injuries. *Stat Methods Med Res*. 2016 Jun 29. pii: 0962280215627335.
  47. **Pirracchio R**, Maze M. Will Xenon be a valuable addition in Perioperative and Critical Care Settings? *Anesth Analg*. 2016 Mar;122(3):593-6.
  48. Haarbauer-Krupa J, Taylor CA, Yue JK, Winkler EA, **Pirracchio R**, Cooper SR, Burke JF, Stein MB, Manley GT. Screening for Post-Traumatic Stress Disorder in a Civilian Emergency Department Population with Traumatic Brain Injury. *J Neurotrauma*. 2016 Jun 10.
  49. Follin A, Jacqmin S, Chhor V, Bellenfant F, Robin S, Guinvarc'h A, Thomas F, Loeb T, Mantz J, **Pirracchio R**. Tree-based algorithm for prehospital triage of polytrauma patients. *Injury*. 2016 Jul;47(7):1555-61.
  50. Caruana E, Chevret S, **Pirracchio R**. Effect of cricoid pressure on laryngeal view during prehospital tracheal intubation: a propensity-based analysis. *Emerg Med J*. 2016 Sep 30. pii: emermed-2016-205715. doi: 10.1136/emered-2016-205715.
  51. Radke OC, Schneider T, Braune A, **Pirracchio R**, Fischer F, Koch T. Comparison of distribution of lung aeration measured with EIT and CT in spontaneously breathing, awake patients. *Biomed Mater Eng*. 2016 Sep 28;27(4):315-325.
  52. Juillard C, Cooperman L, Allen I, **Pirracchio R**, Henderson T, Marquez R, Orellana J, Texada M, Dicker R. A decade of hospital-based violence intervention: Benefits and



- shortcomings. *J Trauma Acute Care Surg.* 2016 Sep 21.
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  54. **Pirracchio R**, Yue JK, Manley GT, van der Laan MJ, Hubbard AE; TRACK-TBI Investigators including Wayne A Gordon, Hester F Lingsma, Andrew IR Maas, Pratik Mukherjee, David O Okonkwo, David M Schnyer, Alex B Valadka and Esther L Yuh. Collaborative targeted maximum likelihood estimation for variable importance measure: Illustration for functional outcome prediction in mild traumatic brain injuries. *Stat Methods Med Res.* 2016 Jun 29. pii: 0962280215627335
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### Non-Peer Reviewed Publications

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4. **Pirracchio P**, Mebazaa A. Diastolic heart failure: from bench to bedside. Yearbook of Intensive Care and Emergency Medicine 2004, JL Vincent. Brussels 2005.
5. Coache C, **Pirracchio R**. Place de l'imagerie dans l'exploration des douleurs abdominales du sujet âgé. Urgences 2011.
6. Nebout S, **Pirracchio R**. Intérêt du monitoring de la ScvO2. Mises Au Point en Anesthésie Réanimation (MAPAR) 2011.
7. **Pirracchio R**. Choc Cardiogénique. Encyclopédie Médico-Chirurgicale. Elsevier Masson 2012.
8. **Pirracchio R**. Mise au point sur la prise en charge des déséquilibres tensionnels lors de l'anesthésie de l'hypertendu chronique. Le Praticien en Anesthésie-Réanimation 2012
9. Bonnot B, **Pirracchio R**. Neuro-réanimation du sujet âgé. Réanimation du Sujet Agé. B. Guidet.
10. **Pirracchio R**. Physiopathologie du choc cardiogénique. Physiologie Humaine Appliquée. Editions Arnette, Nouvelle Edition 2012-2013.
11. **Pirracchio R**. Mortality Prediction in the ICU Based on MIMIC-II Results from the Super ICU Learner Algorithm (SICULA) Project. pp 295-313 Secondary Analysis of Electronic Health Records. 2016
12. **Pirracchio R**, Resche Rigon M, Chevret S. Biostatistics for ICU Data. Wiley Edition. *To be Published in 2017*

### Other Creative Activities

I have been directly involved in supervising, writing and updating several guidelines at the hospital level, including (among others):

1. Hospital Plan for Mass-Casualty Incidents
2. General Organization of the Trauma Bay
3. General Organization of Clinical Operations in the Cardiosurgical ICU
4. Perioperative Antibiotic Policy
5. Mechanical Ventilation Weaning Protocol