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Specialty: Intensive Care Medicine
Institute: University College London
Department: Intensive Care Medicine
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Country: United Kingdom
Function: Professor of Intensive Care Medicine
Director, Centre for Intensive Care Medicine
Department of Medicine & Wolfson Institute for Biomedical Research
Key words: Sepsis, Novel monitoring and diagnostics, Organ dysfunction



CURRENT POSITIONS

Professor of Intensive Care Medicine
Director, Centre for Intensive Care Medicine
Department of Medicine & Wolfson Institute for Biomedical Research,
University College London (Oct 2001-present)

Senior Investigator, National Institute of Health Research (2009-17)
Emeritus Senior Investigator (2018 -

Treasurer, International Sepsis Forum (2017 - present)

Founding Editor-in-Chief, Intensive Care Medicine Experimental
(May 2013 - present)

Co-chair, Sepsis-3 Consensus Task Force

CURRENT GRANT FUNDING

Wellcome Trust
European Union
Medical Research Council
UK National Institute of Health Research
Innovate UK

EXAMPLES OF RECENT PAPERS

• BASIC SCIENCE

- 1) Hill NE, Murphy KG, Saeed S, Phadke R, Chambers D, Wilson DR, Brett SJ, Singer M. *Impact of ghrelin on body composition and muscle function in a long-term rodent model of critical illness*. PLoS One. 2017; 12:e0182659
- 2) Arulkumaran N, Sixma ML, Pollen S, Ceravola E, Jentho E, Prendecki M, Bass PS, Tam FWK, Unwin RJ, Singer M. *P2X₇ receptor antagonism ameliorates renal dysfunction in a rat model of sepsis*. Physiol Rep. 2018; 6. doi: 10.14814/phy2.13622.
- 3) Arulkumaran N, Pollen S, Greco E, Courtneidge H, Hall AM, Duchon MR, Tam FWK, Unwin RJ, Singer M. *Renal tubular cell mitochondrial dysfunction occurs despite preserved renal oxygen delivery in experimental septic acute kidney injury*. Crit Care Med. 2018; 46:e318-25.
- 4) Bollen Pinto B, Dyson A, Umbrello M, Carré JE, Ritter C, Clatworthy I, Duchon MR, Singer M. *Improved survival in a long-term rat model of sepsis is associated with reduced mitochondrial calcium uptake despite increased energetic demand*. Crit Care Med 2017; 45:e840-e848

• TRANSLATIONAL SCIENCE

- 1) Dyson A, Dal-Pizzol F, Sabbatini G, Lach AB, Galfo F, dos Santos Cardoso J, Pescador Mendonça B, Hargreaves I, Bollen-Pinto B, Bromage D, Martin JF, Moore KP, Feelisch M, Singer M. *Inorganic thiometallates as a new class of sulfide-donors: chemistry, pharmacology and impact on ischemia/reperfusion injury*. PLoS Med. 2017;14:e1002310.
- 2) Arulkumaran N, Sixma ML, Jentho, E, Ceravola E, Bass PS, Kellum JA, Unwin, RJ, Tam FWK, Singer M. *Sequential analysis of a panel of biomarkers and pathologic findings in a resuscitated rat model of sepsis and recovery*. Crit Care Med 2017; 45:e821-e830
- 3) Morel J, Hargreaves I, Brealey D, Neergheen V, Backman JT, Lindig S, Bläss M, Bauer M, McAuley DF, Singer M. *Simvastatin pre-treatment improves survival and mitochondrial function in a three-day fluid-resuscitated rat model of sepsis*. Clin Sci. 2017; 131:747-758.
- 4) Shankar-Hari M, Singer M, Spencer J. *Can concurrent abnormalities in free light chains and immunoglobulin concentrations identify a target population for immunoglobulin trials in sepsis?* Crit Care Med. 2017; 45:1829-1836
- 5) Ekbal NJ, Hennis P, Dyson A, Mythen M, James MFM, Singer M. *The anion study: effect of different crystalloid solutions on acid base balance, physiology, and survival in a rodent model of acute isovolaemic haemodilution*. Br J Anaesth. 2018; 120:1412-1419.

• CLINICAL RESEARCH

- 1) Mouncey PR, Osborn TM, Power GS, et al; ProMiSe Trial Investigators. *Trial of Early Goal-Directed Resuscitation for Septic Shock*. N Engl J Med. 2015; 372:1301-11
- 2) Edwards MR, Sultan P, Gutierrez Del Arroyo A, et al. *Metabolic dysfunction in lymphocytes promotes postoperative morbidity*. Clin Sci. 2015; 129:423-437
- 3) Girardis M, Busani S, Damiani E, Donati A, Rinaldi L, Marudi A, Morelli A, Antonelli M, Singer M. *Effect of conservative vs conventional oxygen therapy on mortality among patients in an intensive care unit: the Oxygen-ICU randomized clinical trial*. JAMA. 2016 316:1583-1589
- 4) Gordon AC, Perkins GD, Singer M, et al. *Levosimendan for the prevention of acute organ dysfunction in sepsis*. N Engl J Med. 2016; 375:1638-1648
- 5) De Pascale G, Singer M, Brealey D. *Comparison of stroke volume measurement between non-invasive bioreactance and esophageal Doppler in patients undergoing major abdominal-pelvic surgery*. J Anesth. 2017; 31:545-551

• OTHER

- 1) Singer M, Deutschman CS et al: The Sepsis Definitions Task Force. *The Third International Consensus Definitions for Sepsis and Septic Shock (Sepsis-3)*. JAMA 2016; 315:801-10.
- 2) Harris S, Singer M, Sanderson C, et al. *Impact on mortality of prompt admission to critical care for deteriorating ward patients: an instrumental variable analysis using critical care bed strain*. Intensive Care Med. 2018
- 3) Moore JPR, Anstey C, Murray L, Fraser JF, Singer M. *Allostasis and sedation practices in intensive care evaluation: an observational pilot study*. Intensive Care Med Exp. 2018; 6:13.

BOOKS

Singer M, Webb AR *Oxford Handbook of Critical Care 3rd Edition*
Webb AR, Angus D, Finfer S, Gattinoni L, Singer M (Editors) *Oxford Textbook of Critical Care 2nd edition* Oxford: Oxford University Press 2016
Cavaillon J-M, Singer M (Eds) *Inflammation: From molecular and cellular mechanisms to the clinic*. Wiley 2017
Shankar-Hari M, Singer M. *Crit Care Clinics: Sepsis*. Elsevier 2018