



Preface on highlights in anesthesia and critical care medicine

Modern medicine would not be possible without anesthesia. An early form of anesthesia was used for the first time at the Massachusetts General Hospital in Boston in 1846 (1). Since then, anesthesia and associated critical care medicine have advanced and evolved. Anesthesiologists have become specialized and created countless subspecialties in the field of anesthesiology. This highlights the huge variety of clinical conditions an anesthesiologist will be exposed to during his career (2).

Moreover, anesthesiology holds a unique position in medicine as it intersects with nearly every medical specialty, facilitating medicine's most complex interventional procedures. This exposure to diverse clinical approaches and operative pathologies makes anesthesiology a birthplace of physician scientists (3).

In the current series, we highlight what physician scientists in the field of anesthesia and critical care medicine have created in the most recent years.

We present updates on anesthesia during lung transplantation, new frontiers in neuromonitoring, state of the art knowledge how to prevent residual neuromuscular blockade and translational research in female health anesthesiology.

Further we delve into new avenues in the field of critical care medicine. Here we discuss a circadian mega bundle for the critical ill (4), the future of an anesthesia guided cardiac critical care unit (5), the use of thoracic ultrasound in acute respiratory distress syndrome (6), and we present updates on antibiotic therapy in critical care medicine.

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Footnote

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References

1. Robinson DH, Toledo AH. Historical development of modern anesthesia. *J Invest Surg* 2012;25:141-9.
2. Sood J, Bhatia P, Johnson JE, et al. Career as a general speciality anaesthesiologist. *Indian J Anaesth* 2021;65:6-11.

3. Castellanos JG, Perez AR, Perez RK. Anaesthesiologists as translational scientists. *Br J Anaesth* 2020. doi: 10.1016/j.bja.2019.12.035.
4. Prin M, Bertazzo J, Walker LA, et al. Enhancing circadian rhythms-the circadian MEGA bundle as novel approach to treat critical illness. *Ann Transl Med* 2023;11:319.
5. Tankard K, Shelton K. The future of cardiac critical care: an anesthesia perspective. *Ann Transl Med* 2023;11:324.
6. García-de-Acilu M, Santafé M, Roca O. Use of thoracic ultrasound in acute respiratory distress syndrome. *Ann Transl Med* 2023;11:320.



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