



Ricardo Esper Tremi, MD, PhD, DESAIC

Clinical Instructor, Anesthesiology, Perioperative and Pain Medicine

CLINICAL OFFICE (PRIMARY)

- **Anesthesia Department**

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Bio

CLINICAL FOCUS

- Anesthesiology
- Critical Care
- Preoperative Care
- Perioperative Organ Dysfunction

ACADEMIC APPOINTMENTS

- Clinical Instructor, Anesthesiology, Perioperative and Pain Medicine

PROFESSIONAL EDUCATION

- Medical Degree, Faculdade Evangélica do Paraná (School of Medicine) , Medicine (2015)
- MD, Conselho Regional de Medicina do Estado do Estado do Paraná (CRM-PR) , Medical License (CRM) (2015)
- Residency, Friedrich Schiller University Jena / Jena University Hospital (Universitätsklinikum Jena) , Anesthesiology, Intensive Care Medicine, and Pain Medicine (2023)
- MD, Landesärztekammer Thüringen (State Medical Chamber of Thuringia) , Medical License (Approbation) (2018)
- Board Certification, Endorsed by the European Board of Anaesthesiology (EBA) of the European Union of Medical Specialists (UEMS) through the Council for European Specialist Medical Assessments (CESMA) . , European Diploma in Anaesthesiology and Intensive Care (ESAIC/DESAIC) (2023)
- Board Certification, German Board of Anesthesiologist (LAK-Thuringen) , Anesthesiology

Publications

PUBLICATIONS

- **Impact of Intraoperative Hyperoxia Versus Normoxia on Mortality and Organ Injury in Cardiac Surgery: A Systematic Review and Meta-analysis of Randomized Clinical Trials.** *Journal of cardiothoracic and vascular anesthesia*
Grillo, I. T., Santana, E. S., Passos, F. S., Tanimoto, L. E., de Melo, J. C., Kondo, A. M., Tremi, R. E., Caldonazo, T.
2026; 40 (2): 509-521

- **The Impact of Prothrombin Complex Concentrate Versus Fresh Frozen Plasma for Hemorrhage Management in Cardiac Surgery: A Systematic Review and Meta-analysis of Randomized Clinical Trials.** *Journal of cardiothoracic and vascular anesthesia*
Grillo, I. T., Katsuyama, E., Aguiar, C. C., Passos, F. S., Costa, B. S., Tremi, R. E., Ehler, J., Kirov, H., Doenst, T., Caldonazo, T.
2025; 39 (12): 3333-3337
- **Effect of Midazolam on Postoperative Delirium: Comment.** *Anesthesiology*
Esper Tremi, R., Ehler, J., Halimi, H., Silva, J. M.
2025
- **Advancing the Exploration and Impact of ACGME Milestones on Outcomes.** *Academic medicine : journal of the Association of American Medical Colleges*
Tremi, R. E., Sun, T., Tanaka, P.
2025
- **Perioperative organ dysfunction: a burden to be countered.** *Brazilian journal of anesthesiology (Elsevier)*
Tremi, R. E., Katayama, H. T., Caldonazo, T., Pereira, T. S., Malbouisson, L. M., Carmona, M. J., Tanaka, P., Silva, J. M.
2024: 844480
- **Effect of restrictive cumulative fluid balance on 28-day survival in invasively ventilated patients with moderate to severe ARDS due to COVID-19.** *Scientific reports*
Esper Tremi, R., Caldonazo, T., Filho, P. H., Mori, A. L., Carvalho, A. S., Serrano, J. S., Dall-Aglio, P. A., Radermacher, P., Manoel, J. S.
2023; 13 (1): 18504
- **Interleukin-2 Receptor Antagonist Induction Therapy in Lung Transplantation-A Meta-Analysis of Reconstructed Time-to-Event Data** *JOURNAL OF CLINICAL MEDICINE*
Passos, F. S., Carvalho, E., Oliveira, R. E., Tremi, R. E., Kirov, H., Doenst, T., Pessoa, B. M., Caldonazo, T.
2026; 15 (4)
- **Extracorporeal Membrane Oxygenation Versus Off-pump Technique in Lung Transplantation: A Meta-analysis With Reconstructed Time-to-event Data.** *Transplantation*
Passos, F. S., Carvalho E Silva, M. C., Rodrigues, F. a., Oliveira, R. a., Pessoa, B. M., Tremi, R. E., Heim, C., Siemeni, T., Kirov, H., Doenst, T., Caldonazo, T.
2026; 110 (2): e472-e480
- **Current and emerging therapeutic options for refractory septic shock: A systematic review.** *World journal of critical care medicine*
Nacul, F. E., Bezerra, M. B., Gomes, B. C., Hohmann, F. B., Tremi, R. E., Caldonazo, T., da Silva, A. A., Passos, R. H., de Oliveira, N. E., Bedretchuk, G. P., Silva, J. M.
2025; 14 (4): 111164
- **The Effects of Higher Protein Intake on Muscle Mass and Clinical Outcomes in Critically Ill Cancer Patients: A Prespecified Per-Protocol Analysis.** *Nutrients*
Toloi, J. M., Laranja, A. C., Toledo, D. O., Tremi, R. E., Malbouisson, L. M., Manzanares, W., Silva-Jr, J. M.
2025; 17 (17)
- **Factors associated with the intubation of patients with acute respiratory failure and their impact on mortality: a retrospective cohort study.** *BMC pulmonary medicine*
Hohmann, F. B., Midega, T. D., Tremi, R. E., Galindo, V. B., Veiga, G., Machado, I., Kraft, M. R., Custódio, S., Paolinelli, E., Galdino, F., Silva, J. M.
2025; 25 (1): 308
- **Cryoanalgesia in Lung Transplantation - A Systematic Review and Meta-analysis.** *JHLT open*
Passos, F. S., Bregion, P. B., Oliveira, R. E., Siemeni, T., Tremi, R. E., Pessoa, B. M., Kirov, H., Doenst, T., Keshavjee, S., Caldonazo, T.
2025; 8: 100263
- **Mini-Sternotomy vs. Right Anterior Mini-Thoracotomy for Surgical Aortic Valve Replacement - A Systematic Review and Meta-Analysis.** *Brazilian journal of cardiovascular surgery*
Starvridis, D., Rad, A. A., Montanhesi, P. K., Kirov, H., Wacker, M., Tasoudis, P., Mukharyamov, M., Tremi, R. E., Wippermann, J., Doenst, T., Sultan, I., Sá, M. P., Caldonazo, et al
2025; 40 (3): e20240211
- **Safety of crushed/chewed P2Y12 inhibitors in acute coronary syndromes - a meta-analysis of randomized controlled trials.** *Cardiovascular intervention and therapeutics*

- Fazzini, L., Pascalis, L., Kirov, H., Di Franco, A., Cardoso, R., Moustafa, A. O., Schulze, C., Tremi, R. E., Doenst, T., Caldonazo, T.
2024
- **Overall Accuracy of the Modified Duke Criteria-A Systematic Review and Meta-analysis.** *The Thoracic and cardiovascular surgeon*
Caldonazo, T., Tasoudis, P., Doenst, T., Moris, D., Kang, L., Moschovas, A., Kirov, H., Tremi, R. E., Sá, M. P., Hagel, S., Diab, M.
2024
 - **Association between delta anion gap/delta bicarbonate and outcome of surgical patients admitted to intensive care unit.** *BMC anesthesiology*
Menezes, P. F., Esper Tremi, R., Caldonazo, T., Kirov, H., da Silva, B. C., de Oliveira, A. M., Amendola, C. P., Hohmann, F. B., Sá Malbouisson, L. M., Silva, J. M.
2024; 24 (1): 363
 - **Outcomes of complete removal versus conservative therapy in cardiac implantable electronic device infections - A systematic review and Meta-analysis.** *International journal of cardiology*
Caldonazo, T., Fischer, J., Spagnolo, A., Dell'Aquila, M., Kirov, H., Tasoudis, P., Tremi, R. E., Vervoort, D., Sá, M. P., Doenst, T., Diab, M., Hagel, S.
2024; 411: 132264
 - **Association of chest computed tomography severity score at ICU admission and respiratory outcomes in critically ill COVID-19 patients.** *PloS one*
Esper Tremi, R., Caldonazo, T., Barlem Hohmann, F., Lima da Rocha, D., Filho, P. H., Mori, A. L., S Carvalho, A., S F Serrano, J., A T Dall-Aglio, P., Radermacher, P., Silva, J. M.
2024; 19 (5): e0299390
 - **Cholinesterase activities and sepsis-associated encephalopathy in viral versus nonviral sepsis.** *Canadian journal of anaesthesia = Journal canadien d'anesthesie*
Neu, C., Esper Tremi, R., Baumbach, P., Engelmann, M., Gebhardt, C., Götze, J., Coldewey, S. M.
2024; 71 (3): 378-389
 - **Outcomes of Concomitant Coronary Artery Bypass Grafting in Patients With Infective Endocarditis: A Systematic Review and Meta-Analysis.** *The American journal of cardiology*
Caldonazo, T., Kirov, H., Doenst, T., Tasoudis, P., Moschovas, A., Faerber, G., Tremi, R. E., Sá, M. P., Mukharyamov, M., Diab, M.
2023; 205: 354-359
 - **Outcomes comparison between the first and the subsequent SARS-CoV-2 waves - a systematic review and meta-analysis.** *Multidisciplinary respiratory medicine*
Caldonazo, T., Tremi, R. E., Vianna, F. S., Tasoudis, P., Kirov, H., Mukharyamov, M., Doenst, T., Silva, J. M.
2023; 18 (1): 933
 - **Intraoperative fluid balance and cardiac surgery-associated acute kidney injury: a multicenter prospective study.** *Brazilian journal of anesthesiology (Elsevier)*
Palomba, H., Tremi, R. E., Caldonazo, T., Katayama, H. T., Gomes, B. C., Malbouisson, L. M., Silva Junior, J. M.
2022; 72 (6): 688-694
 - **Fragments of alpha-1-antitrypsin in patients with severe COVID-19 and bacterial pulmonary sepsis.** *Clinical chemistry and laboratory medicine*
Bigalke, A., Neu, C., Esper Tremi, R., Coldewey, S. M., Kiehntopf, M.
2022; 60 (8): e187-e189
 - **Body composition, mitochondrial oxygen metabolism and metabolome of patients with obesity before and after bariatric surgery (COMMITMENT): protocol for a monocentric prospective cohort study.** *BMJ open*
Neu, C., Skitek, K., Kissler, H., Baumbach, P., Settmacher, U., Esper Tremi, R., Coldewey, S. M.
2022; 12 (6): e062592
 - **Response of patients with acute respiratory failure caused by COVID-19 to awake-prone position outside the intensive care unit based on pulmonary involvement.** *Clinics (Sao Paulo, Brazil)*
Silva Junior, J. M., Tremi, R. E., Golinelli, P. C., Segundo, M. i., Menezes, P. F., Umada, J. u., Alves, A. P., Nabeshima, R. P., Carvalho, A. D., Pereira, T. S., Sponton, E. S.
2021; 76: e3368

PRESENTATIONS

- Update on cardiac output monitoring: current practices and evidence in high-risk surgical patients. - COPA 2025 Congress (April 24, 2025 - April 27, 2025)
- INTENSIVE CARE MEDICINE: AMIB & SAESP - COPA 2025 Congresso Paulista de Anestesiologia (4/24/2025 - 4/27/2025)
- Laparoscopic Surgery in Obese Patients: How to Reduce Postoperative Pulmonary Complications? - COPA 2025 Congresso Paulista de Anestesiologia (4/24/2025 - 4/27/2025)
- Saesp Sim+ Hepatic Transplantation: How to Manage Refractory Hypotension After Reperfusion - COPA 2025 Congresso Paulista de Anestesiologia (4/24/2025 - 4/27/2025)