

Jesper Mølgaard, MD, PhD
Postdoctoral researcher
Department of Anaesthesiology
Centre for cancer and organ dysfunction
Copenhagen university hospital - Rigshospitalet



A medical doctor and postdoctoral researcher with a proven track record of leading complex research programs from concept to clinical application. My work involves designing and overseeing studies that apply advanced time-series analysis and digital health monitoring to solve critical challenges in cardiovascular and perioperative physiology. By integrating hands-on clinical experience from anesthesia and critical care with rigorous data science, I lead teams in developing systems to predict physiological complications. My leadership is demonstrated through managing translational projects that bridge diverse domains—including hospital medicine, signal analytics, and space medicine—and securing collaborations across clinical and technological domains to drive innovation.

Employment

MD, PhD Fellow

Department of Anaesthesiology
The Capital Region of Denmark
1 May 2019 → present

Department of Anaesthesiology

The Capital Region of Denmark
1 Jan 2021 → present

Junior doctor

Forsvaret
Denmark
1 Jan 2016 → present

Research outputs

Risk factors for vital sign deviations in acutely admitted medical patients - an exploratory analysis

Grønbæk, K. K., Mølgaard, J., Sørensen, K. M., Sigvardt, E., Elvekjær, M., Aasvang, E. K. & Meyhoff, C. S., 19 Nov 2025, In: Hospital practice. 53, 1, p. 2591593 2591593.

Continuous Wireless Vital Sign Sensors for Detecting Severe Deviations at a Transitional Care Facility—An Observational Feasibility Study

Mølgaard, J., Haahr-Raunkjaer, C., Rasmussen, S. S., Andersen, L. V., Meyhoff, C. S. & Aasvang, E. K., Nov 2025, In: Sensors. 25, 22, 6970.

Exploring microgravity-induced changes to the coagulation system using thrombelastograph - a topical review

Mayor, I., Lindgaard, K., Harandi, B., Stensballe, J. & Mølgaard, J., Nov 2025, In: Life Sciences in Space Research. 47, p. 134-139 6 p.

Continuous Vital Sign Monitoring at the Surgical Ward for Improved Outcomes After Major Noncardiac Surgery: A Randomized Clinical Trial

Mølgaard, J., Grønbæk, K. K., Rasmussen, S. S., Eiberg, J. P., Jørgensen, L. N., Achiam, M. P., Rohrsted, M., Singh, U. M., Hoang, T.-H., Søgaard, M., Meyhoff, C. S. & Aasvang, E. K., Oct 2025, In: Anesthesia and Analgesia. 141, 4, p. 807-17 11 p., 10.1213/ANE.0000000000007606.

Nadir heart rate as a novel risk marker of postoperative complications - A propensity matched analysis

Mølgaard, J., Mayer, L., Rasmussen, S. S., Haahr-Raunkjær, C., Achiam, M. P., Jørgensen, L. N., Meyhoff, C. S. & Aasvang, E. K., Apr 2025, In: Sleep Medicine. 128, p. 65-73 9 p.

Prognostic value of heart rate variability for risk of serious adverse events in continuously monitored hospital patients
Aagaard, N., Olsen, M. H., Rasmussen, O. W., Grønbaek, K. K., Mølgaard, J., Haahr-Raunkjaer, C., Elvekjaer, M., Aasvang, E. K. & Meyhoff, C. S., Dec 2024, In: Journal of Clinical Monitoring and Computing. 38, 6, p. 1315-1329 15 p.

Comparison of Wireless Continuous Axillary and Core Temperature Measurement after Major Surgery
Nathansen, A. B., Mølgaard, J., Meyhoff, C. S. & Aasvang, E. K., 10 Jul 2024, In: Sensors. 24, 14, 4469.

Pain perception while listening to thrash heavy metal vs relaxing music at a heavy metal festival - the CoPainHell study - a factorial randomized non-blinded crossover trial
Welling, A. H., Nathansen, A. B., Pitter, S. E. L. T., Mølgaard, J., Dickenson, A. H. & Aasvang, E. K., 1 Jan 2024, In: Scandinavian Journal of Pain. 24, 1, 20240070.

Real-world causal evidence for planned predictive enrichment in critical care trials: A scoping review
Kaas-Hansen, B. S., Granholm, A., Sivapalan, P., Anthon, C. T., Schjørring, O. L., Maagaard, M., Kjaer, M.-B. N., Mølgaard, J., Ellekjaer, K. L., Fagerberg, S. K., Lange, T., Møller, M. H. & Perner, A., Jan 2024, In: Acta Anaesthesiologica Scandinavica. 68, 1, p. 16-25 10 p.

Interpreting postoperative physiology prior to complications using continuous vital sign monitoring
Mølgaard, J., 1 Dec 2023, 130 p.

Deviations in continuously monitored electrodermal activity before severe clinical complications: a clinical prospective observational explorative cohort study
Johansen, A. O., Mølgaard, J., Rasmussen, S. S., Gu, Y., Grønbaek, K. K., Sørensen, H. B. D., Aasvang, E. K. & Meyhoff, C. S., Dec 2023, In: Journal of Clinical Monitoring and Computing. 37, 6, p. 1573-1584 12 p.

The effect of technical filtering and clinical criteria on alert rates from continuous vital sign monitoring in the general ward
Kjærgaard, K., Mølgaard, J., Rasmussen, S. M., Meyhoff, C. S. & Aasvang, E. K., Dec 2023, In: Hospital practice. 51, 5, p. 295-302 8 p.

Associations between clinical interventions and transcutaneous blood gas values in postoperative patients
Thy, S. A., Johansen, A. O., Thy, A., Sørensen, H. H., Mølgaard, J., Foss, N. B., Toft, P., Meyhoff, C. S. & Aasvang, E. K., Oct 2023, In: Journal of Clinical Monitoring and Computing. 37, 5, p. 1255-1264 10 p.

Deviating vital signs in continuous monitoring prior to discharge and risk of readmission: an observational study
Songthawornpong, N., Elvekjaer, M., Mølgaard, J., Rasmussen, S. M., Meyhoff, C. S., Aasvang, E. K. & Eriksen, V. R., Aug 2023, In: Internal and Emergency Medicine. 18, 5, p. 1453-1461 9 p.

Wireless Single-Lead versus Standard 12-Lead ECG, for ST-Segment Deviation during Adenosine Cardiac Stress Scintigraphy
Fabricius Ekenberg, L., Høfsten, D. E., Rasmussen, S. M., Mølgaard, J., Hasbak, P., Sørensen, H. B. D., Meyhoff, C. S. & Aasvang, E. K., 9 Mar 2023, In: Sensors. 23, 6, 2962.

Continuous wireless pre- and postoperative vital sign monitoring reveal new, severe desaturations after vascular surgery
Mølgaard, J., Rasmussen, S. S., Eiberg, J., Sørensen, H. B. D., Meyhoff, C. S. & Aasvang, E. K., Jan 2023, In: Acta Anaesthesiologica Scandinavica. 67, 1, p. 19-28 10 p.

Quantifying physiological stability in the general ward using continuous vital signs monitoring: the circadian kernel density estimator
Rasmussen, S. S., Grønbaek, K. K., Mølgaard, J., Haahr-Raunkjaer, C., Meyhoff, C. S., Aasvang, E. K. & Sørensen, H. B. D., 2023, In: Journal of Clinical Monitoring and Computing. 37, 6, p. 1607-1617 11 p.

The association between vital signs abnormalities during postanesthesia care unit stay and deterioration in the general ward following major abdominal cancer surgery assessed by continuous wireless monitoring
Skovbye, M., Mølgaard, J., Rasmussen, S. M., Bjarup Dissing Sørensen, H., Meyhoff, C. S. & Aasvang, E. K., 5 Dec 2022, In: Critical Care and Resuscitation. 24, 4, p. 330-340 11 p.

Causal inference for planning randomised critical care trials: Protocol for a scoping review

Kaas-Hansen, B. S., Granholm, A., Anthon, C. T., Kjaer, M.-B. N., Sivapalan, P., Maagaard, M., Schjørring, O. L., Fagerberg, S. K., Ellekjaer, K. L., Mølgaard, J., Ekstrøm, C. T., Møller, M. H. & Perner, A., Nov 2022, In: *Acta Anaesthesiologica Scandinavica*. 66, 10, p. 1274-1278 5 p.

Clinical impact of vital sign abnormalities in patients admitted with acute exacerbation of chronic obstructive pulmonary disease: an observational study using continuous wireless monitoring

Elvekjaer, M., Rasmussen, S. M., Grønbaek, K. K., Porsbjerg, C. M., Jensen, J.-U., Haahr-Raunkjaer, C., Mølgaard, J., Søgaard, M., Sørensen, H. B. D., Aasvang, E. K. & Meyhoff, C. S., Sept 2022, In: *Internal and Emergency Medicine*. 17, 6, p. 1689-1698 10 p.

Prediction of serious outcomes based on continuous vital sign monitoring of high-risk patients

Kristinsson, Æ. Ö., Gu, Y., Rasmussen, S. M., Mølgaard, J., Haahr-Raunkjaer, C., Meyhoff, C. S., Aasvang, E. K. & Sørensen, H. B. D., Aug 2022, In: *Computers in Biology and Medicine*. 147, p. 1-8 8 p., 105559.

Wireless Single-Lead ECG Monitoring to Detect New-Onset Postoperative Atrial Fibrillation in Patients After Major Noncardiac Surgery: A Prospective Observational Study

Jokinen, J. D. V., Carlsson, C. J., Rasmussen, S. M., Nielsen, O. W., Winkel, B. G., Jorgensen, L. N., Achiam, M. P., Mølgaard, J., Sørensen, H. B. D., Aasvang, E. K., Meyhoff, C. S. & WARD-Project Group, 1 Jul 2022, In: *Anesthesia and Analgesia*. 135, 1, p. 100-109 10 p.

Forecasting of Continuous Vital Sign Using Multivariate Auto-Regressive Models

Rasmussen, S. M., Mølgaard, J., Haahr-Raunkjaer, C., Meyhoff, C. S., Aasvang, E. & Sørensen, H. B. D., Jul 2022, In: *Proceedings of the International Conference of the IEEE Engineering in Medicine and Biology Society*. 2022, p. 385-388 4 p.

Prediction of Serious Adverse Events from Nighttime Vital Signs Values

Mayer, L., Rasmussen, S. M., Mølgaard, J., Gu, Y., Aasvang, E. K., Meyhoff, C. S. & Sørensen, H. B. D., Jul 2022, In: *Proceedings of the International Conference of the IEEE Engineering in Medicine and Biology Society*. 2022, p. 2631-2634 4 p.

Continuous monitoring of vital sign abnormalities; association to clinical complications in 500 postoperative patients

Haahr-Raunkjaer, C., Mølgaard, J., Elvekjaer, M., Rasmussen, S. M., Achiam, M. P., Jorgensen, L. N., Søgaard, M. I. V., Grønbaek, K. K., Oxbøll, A.-B., Sørensen, H. B. D., Meyhoff, C. S. & Aasvang, E. K., May 2022, In: *Acta Anaesthesiologica Scandinavica*. 66, 5, p. 552-562 11 p.

Søvnmangel og døgnrytmeforstyrrelser ved klinisk natarbejde

Mølgaard, J., Riedel, C. S. & West, A. S., 28 Jun 2021, In: *Ugeskrift for Læger*. 183, 26, V08200579.