Neal Wayne Fleming, M.D., Ph.D.

Philosophy of Care	As an experienced anesthesiologist, Dr. Fleming is focused on applying his expertise to shepherd patients seamlessly through the peri-operative period.
Clinical Interests	Dr. Fleming is a cardiac anesthesiologist, caring for patients with complex cardiovascular and thoracic diseases. He is also an active clinical researcher focused on advanced intra-operative monitoring and improving patient outcomes. In addition, he spearheads the departmental international medical volunteer program for faculty, resident and nurse anesthetists.
Research/Academic Interests	Dr. Fleming's research efforts are focused primarily on the development and application of advanced physiological monitoring systems to improve both short and long-term surgical patient outcomes.
Title	Professor, Division of Clinical Anesthesiology
Specialty	Cardiovascular Anesthesia
Department	Anesthesiology and Pain Medicine
Division	Cardiovascular and Thoracic Anesthesia
Clinic	UC Davis Heart Center
Address/Phone	Patient Support Services Building, 4150 V St. Suite 1200 Sacramento, CA 95817 **Phone:** 916-734-5031
Additional Phone	Physician Referrals: 800-4-UCDAVIS (800-482-3284)
Education	M.D., University of Kansas School of Medicine, Kansas City KS 1981 Ph.D., Pharmacology, Georgetown University, Washington DC 1989 B.A., Chemistry, Grinnell College, Grinnell IA 1977
Internships	Anesthesiology, Georgetown University Hospital, Washington DC 1982
Residency	Anesthesiology, Georgetown University School of Medicine, Washington DC 1983-1985
Fellowships	Cardiac Anesthesia, Georgetown University Hospital, Washington DC 1986
Board Certifications	Advanced Perioperative Transesophageal Echocardiography American Board of Anesthesiology
Professional Memberships	American Medical Association

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Neal Wayne Fleming, M.D., Ph.D.

American Society of Anesthesiologists
Association of University Anesthesiologists
California Society of Anesthesiologists
International Anesthesia Research Society
Society of Cardiovascular Anesthesiologists

Honors and Awards

Selected, Sacramento Magazine's, Top Doctors List, 2020
Vanguard Award Edwards LifeSciences, "In recognition commitment to advancing the practice of critical care medicine", 2018
Nominated and accepted into the Association of University Anesthesiologists (AUA), AUA membership is an honor. Candidate nominations must be made by an Associate Member and voted upon by all AUA members prior to admission, 2017
Distinguished Scholarly Public Service Award, University if California Davis, Davis, CA, 2011
Outstanding Resident Teaching Award, UC Davis Department of Anesthesiology & Pain Medicine, 1993, 1994, 2001, 2004, 2009

Select Recent Publications

Jones JH, Fleming N. The problem with dichotomizing quality improvement measures. BMC Anesthesiol. 2022 Sep 19;22(1):297. doi:10.1186/s12871-022-01833-z. PMID:36123624.

Maheshwari K, Malhotra G, Bao X, Lahsaei P, Hand WR, Fleming NW, Ramsingh D, Treggiari MM, Sessler DI, Miller TE; Assisted Fluid Management Study Team. Assisted Fluid Management Software Guidance for Intraoperative Fluid Administration. Anesthesiology. 2021 Aug 1;135(2): 273-283. doi:10.1097/ALN.0000000000003790. PMID:33901281.

Tsymbal E, Ayala S, Singh A, Applegate RL 2nd, Fleming NW. Study of early warning for desaturation provided by Oxygen Reserve Index in obese patients. J Clin Monit Comput. 2021 Aug;35(4):749-756. doi:10.1007/s10877-020-00531-w. Epub 2020 May 18. PMID:32424516.

Edlinger-Stanger M, Bernardi MH, Kovacs K, Mascha M, Neugebauer T, Böhme S, Ayoubi N, Christofi N, Garry J, Fleming N, Hiesmayr M. The effect of acute ventilation-perfusion mismatch on respiratory heat exchange in a porcine model. PLoS One. 2021 Jul 12;16(7):e0254399. doi: 10.1371/journal.pone.0254399. PMID:34252138.

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Neal Wayne Fleming, M.D., Ph.D.

Shin B, Maler SA, Reddy K, Fleming NW. Use of the Hypotension Prediction Index During Cardiac Surgery. J Cardiothorac Vasc Anesth. 2021 Jun;35(6):1769-1775. doi:10.1053/j.jvca.2020.12.025. Epub 2020 Dec 21. PMID:33446404.

Jones JH, Nittur VR, Fleming N, Applegate RL 2nd. Simultaneous comparison of depth of sedation performance between SedLine and BIS during general anesthesia using custom passive interface hardware: study protocol for a prospective, non-blinded, non-randomized trial. BMC Anesthesiol. 2021 Apr 6;21(1):105. doi:10.1186/s12871-021-01326-5. PMID:33823811.

Fleming NW, Singh A, Lee L, Applegate RL 2nd. Oxygen Reserve Index: Utility as an Early Warning for Desaturation in High-Risk Surgical Patients. Anesth Analg. 2021 Mar 1;132(3):770-776. doi:10.1213/ANE.0000000000005109. PMID:32815872.

Liu H, Ji F, Peng K, Applegate RL 2nd, Fleming N. Sedation After Cardiac Surgery: Is One Drug Better Than Another? Anesth Analg. 2017 Apr;124(4):1061-1070. doi:10.1213/ANE.0000000000001588. PMID:27984229.

Kungys G, Rose DD, Fleming NW. Stroke volume variation during acute normovolemic hemodilution. Anesth Analg. 2009 Dec;109(6):1823-30. doi:10.1213/ANE.0b013e3181ba41af. PMID:19923509.

Santosa CM, Rose DD, Fleming NW. The Utility of 3D Left Atrial Volume and Mitral Flow Velocities as Guides for Acute Volume Resuscitation. Biomed Res Int. 2015;2015:697327. doi: 10.1155/2015/697327. Epub 2015 Jul 7. PMID:26236733.

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