

Dawei Sun, M.D., Ph.D.

Anesthesiologist & Researcher

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EDUCATION AND TRAINING

Bachelor of Medicine in Medicine

Wenzhou Medical University

October 2010 - July 2015

Ph.D. - Anesthesiology

Shanghai Jiao Tong University

September 2015 - June 2020

Visiting Scholar - Neurology and Pediatrics

University of California San Francisco, United States

October 2018 - October 2019

Research mentor: Donna M. Ferriero

Residency - Anesthesiology

The Second Affiliated Hospital, Zhejiang University School of Medicine

September 2020 - August 2023

Standardized Residency Training (national program), three years, including an intensive care unit (ICU) rotation.

Clinical Postdoctoral Fellow

Zhejiang University

September 2020 - February 2024

China's clinical postdoctoral program integrates research with standardized residency training. This appointment overlapped my residency and the beginning of my subsequent anesthesiologist role.

LICENSURE AND PROFESSIONAL QUALIFICATIONS

ECFMG Certification · 2026

USMLE Step 1 · Pass

USMLE Step 2 CK · Pass

OET Medicine · Pass

USMLE Step 3 · Planned completion before December 2026

Attending Physician qualification · Intermediate professional title, Anesthesiology · China, 2024

Physician Qualification Certificate and Physician Practice Certificate · China, 2016

Associate Senior Professional Title in Research (Associate Researcher) · Zhejiang Province, China, 2025

PROFESSIONAL EXPERIENCE

Associate Researcher

Sub-Laboratory of the State Key Laboratory of Membrane Biology, Hangzhou Lin'an District Qingshan Lake Future Industry and Technology Innovation Center, Hangzhou, China
November 2024 - Present
Research on cerebral ischemia and neuroprotection, with a focus on autophagy and mitophagy.

Anesthesiologist

The Second Affiliated Hospital, Zhejiang University School of Medicine, Hangzhou, China
September 2023 - October 2024

- Provided perioperative anesthesia care, including induction, intraoperative management, emergence, and postoperative handoff, with senior consultation for complex cases.
- Staffed and helped establish the preoperative anesthesia clinic, including patient screening, risk assessment, patient optimization, and assessment workflows.
- Supported clinic IT optimization, critical-value alerts and escalation, and preoperative communication across departments.
- Performed ultrasound-guided peripheral nerve blocks and vascular access; taught international medical students through operating-room orientation and case discussions.

U.S. CLINICAL OBSERVERSHIPS

Observational focus: Regional anesthesia, preoperative assessment, intensive care, and operating-room general anesthesia.

Clinical Observer

University of Utah Hospital, United States
November 2026 - Four weeks, planned
Department of Anesthesiology, Perioperative & Pain Medicine

Clinical Observer

Torrance Memorial Hospital, Torrance, California, United States
October 2026 - Four weeks, in progress
Department of Anesthesiology

RESEARCH FUNDING

Principal Investigator - NSFC Young Scientists Fund

National Natural Science Foundation of China - Project No. 82302479
2024 - 2026
Protective effects and mechanisms of HIF-2α in immature brain hypoxic-ischemic injury through regulation of mitophagy.

PATENT

First inventor. Sun D, Luo G, Yao Y, Yan M. Continuous oxygen saturation monitoring probe for insertion into a central venous catheter. Chinese Utility Model Patent, ZL 2024 2 3305545.1. Granted April 21, 2026.

A probe designed for placement within a central venous catheter to continuously monitor central venous oxygen saturation (ScvO2), intended to help assess the balance between oxygen delivery and consumption in real time. A utility model protects a technical product design.

CLINICAL EXPERIENCE IN NUMBERS

Rounded residency records and estimated cumulative experience through October 2024. Categories overlap; no unique patient total is implied.

Anesthetic care and surgical specialties

Category	Residency log ~July 2023	Cumulative estimate October 2024
General anesthesia	~600	~800
Monitored anesthesia care (MAC)	~600	~800
General, urologic, orthopedic, and burn surgery	~300	~400
Pediatric surgery	~140	~190
Obstetric and gynecologic surgery	~90	~120
Thoracic surgery	~80	~110
Cardiovascular surgery	~30	~40
Neurosurgery	~80	~100
Oral surgery	~40	~50
Ophthalmic and ENT surgery	~90	~110
Outpatient and/or non-operating-room anesthesia	~160	~210

Selected procedures and airway techniques

Category	Residency log ~July 2023	Cumulative estimate October 2024
Peripheral nerve blocks	~40	~50
Neuraxial anesthesia (including epidural)	~100	~140
Arterial catheterization	~100	~130
Central venous catheterization	~80	~110
Double-lumen endobronchial intubation	~100	~130
Flexible bronchoscopy	~50	~70
Laryngeal mask airway placement	~30	~50

Residency figures are rounded from the training log through approximately July 2023. Cumulative figures through October 2024 are self-reported estimates, calculated as original residency volumes $\times 4/3$ and rounded to the nearest 10. Categories overlap and must not be added to obtain a unique patient total.

SCIENTIFIC PRESENTATIONS AND HONORS

2024. Sun D, Yao Y, Yan M. Arterial-venous oxygen difference as a potential indicator for erythrocyte transfusion during cardiac surgery: a prospective observational study. Selected for oral presentation · American Society of Anesthesiologists Annual Meeting · Philadelphia, PA.

2019. Sun D, Wang X, Hu Y, Cui D. Angiopep-2 modified PEGylated 2-methoxyestradiol micelles contributes to neuroprotection in a murine cardiac arrest model. Oral presentation · Best of Abstracts: Basic Science (one of 10 selected abstracts from more than 1,000 submissions) · American Society of Anesthesiologists Annual Meeting · Orlando, FL.

PEER-REVIEWED PUBLICATIONS

Ordered by CV publication year, including online-first dates. First, co-first, and corresponding authorship are marked.

1. Wei Y, **Sun D**, Ng S, He Y, Liu X, Wang J. Cardiovascular health and life expectancy free of atherosclerotic cardiovascular disease among patients with type 2 diabetes: a cohort study. *European Journal of Preventive Cardiology*. Published online November 24, 2025. DOI: 10.1093/eurjpc/zwaf742.
2. Wang B, Li S, Wang C, Zhu J, Jin Y, **Sun D**, Lang J. Effect of sevoflurane post-conditioning on postoperative cognitive function in carotid endarterectomy patients: a randomized, double-blind, controlled trial. *Frontiers in Medicine*. 2025;12:1716370. **(Corresponding author)** DOI: 10.3389/fmed.2025.1716370.
3. Liu L, Li F, Wei Y, Luo L, Shen L, Li J, Sun N, Qian B, **Sun D**. Efficacy and Safety of Ciprofol Alone versus Ciprofol with Fentanyl for Upper Gastrointestinal Endoscopy: A Randomized, Double-Blind, Controlled Trial. *Drug Design, Development and Therapy*. 2025;19:5231-5241. **(Corresponding author)** DOI: 10.2147/dddt.s516064.
4. Chen Y, Yao Y, **Sun D**, Wang Y, Wu C, Zhao L, Tang Z, Zhang F. Advances in Monitoring and Reversal Strategies for the Novel Anticoagulants Factor XI Inhibitors. *Chinese General Practice*. 2025;28(3):379-384 [in Chinese]. DOI: 10.12114/j.issn.1007-9572.2024.0046.
5. Wei Y, **Sun D**, Jaiswal S, He Y, Liu X, Wang J. Association of lifestyle with valvular heart disease progression and life expectancy among elderly people from different socioeconomic backgrounds. *BMC Medicine*. 2024;22(1):367. DOI: 10.1186/s12916-024-03576-9.
6. Wang R, Xiao J, Gao Q, Xu G, Ni T, Zou J, Wang T, Luo G, Cheng Z, Wang Y, Tao X, **Sun D**, Yao Y, Yan M. Predictive modeling for identifying infection risk following spinal surgery: Optimizing patient management. *Experimental and Therapeutic Medicine*. 2024;28(1):281. DOI: 10.3892/etm.2024.12569.
7. Tao X, Luo G, Xiao J, Yao Y, Gao Q, Zou J, Wang T, Cheng Z, **Sun D**, Yan M. Chronic Postsurgical Pain Following Lung Transplantation: Characteristics, Risk Factors, Treatment, and Prevention: A Narrative Review. *Pain and Therapy*. 2024;13(4):719-731. DOI: 10.1007/s40122-024-00615-4.
8. Ni T, Yao Y, Zhou X, Lv T, Zou J, Luo G, Yang J, **Sun D**, Gao Q, Wang T, Wang R, Tao X, Yan M. Postinduction Hypotension and Adverse Outcomes in Older Adults Undergoing Transcatheter Aortic Valve Replacement: A Retrospective Cohort Study. *Clinical Interventions in Aging*. 2024;19:1919-1938. DOI: 10.2147/CIA.S487629.
9. Wang X, Tao J, Zhong Y, Yao Y, Wang T, Gao Q, Xu G, Lv T, Li X, **Sun D**, Cheng Z, Liu M, Xu J, Wu C, Wang Y, Wang R, Zheng B, Yan M. Nadir Hemoglobin Concentration After Spinal Tumor Surgery: Association With Risk of Composite Adverse Events. *Global Spine Journal*. Published online November 2, 2023; print: 2025;15(2):800-807. DOI: 10.1177/21925682231212860.
10. Wang T, Gao Q, Yao Y, Luo G, Lv T, Xu G, Liu M, Xu J, Li X, **Sun D**, Cheng Z, Wang Y, Wu C, Wang R, Zou J, Yan M. Causal relationship between obesity and iron deficiency anemia: a two-sample Mendelian randomization study. *Frontiers in Public Health*. 2023;11:1188246. DOI: 10.3389/fpubh.2023.1188246.
11. Ming Y, Zhang F, Yao Y, Cheng Z, Yu L, **Sun D**, Sun K, Yu Y, Liu M, Ma L, HuangYang Y, Yan M. Large volume acute normovolemic hemodilution in patients undergoing cardiac surgery with intermediate-high risk of transfusion: A randomized controlled trial. *Journal of Clinical Anesthesia*. 2023;87:111082. DOI: 10.1016/j.jclinane.2023.111082.
12. Li X, Wang R, **Sun D**, Yao Y, Wang T, Luo G, Liu M, Xu J, Cheng Z, Gao Q, Wang Y, Wu C, Xu G, Lv T, Zou J, Yan M. Risk Factors for Hypocoagulability After Cardiac Surgery: A Retrospective Study. *Clinical and Applied Thrombosis/Hemostasis*. 2023;29:10760296231209927. DOI: 10.1177/10760296231209927.
13. **Sun D**, Lu F, Sheldon A, Jiang X, Ferriero DM. Neuronal deficiency of hypoxia-inducible factor 2 α increases hypoxic-ischemic brain injury in neonatal mice. *Journal of Neuroscience Research*. 2021;99(11):2964-2975. **(First author)** DOI: 10.1002/jnr.24943.
14. Shao R, **Sun D**, Hu Y, Cui D. White matter injury in the neonatal hypoxic-ischemic brain and potential therapies targeting microglia. *Journal of Neuroscience Research*. 2021;99(4):991-1008. DOI: 10.1002/jnr.24761.
15. Li Y, **Sun D**, Cui D. Research progress in the relationship between endosomal sorting complexes required for transport and autophagy. *Journal of Shanghai Jiao Tong University (Medical Science)*. 2021;41(9):1256-1260 [in Chinese]. DOI: 10.3969/j.issn.1674-8115.2021.09.019.

16. Li Y, Hu Y, **Sun D**, Cui D. Effects of different rewarming rates on neuron autophagy in the cardiac arrest/resuscitation rat model treated with hypothermia. *Journal of Shanghai Jiao Tong University (Medical Science)*. 2020;40(11):1454-1460 [in Chinese]. DOI: 10.3969/j.issn.1674-8115.2020.11.003.
17. Hu Y, **Sun D**, Li Y, Wang X, Jiang W, Shi H, Cui D. Increased PINK1/Parkin-mediated mitophagy explains the improved brain protective effects of slow rewarming following hypothermia after cardiac arrest in rats. *Experimental Neurology*. 2020;330:113326. **(Co-first author)** DOI: 10.1016/j.expneurol.2020.113326.
18. Hu Y, Guo Y, Wang X, Li Y, **Sun D**, Cui D. Effects of the Incidence Density of Fever (IDF) on Patients Resuscitated From In-Hospital Cardiac Arrest: A Mediation Analysis. *Frontiers in Medicine*. 2020;7:86. DOI: 10.3389/fmed.2020.00086.
19. Wang X, **Sun D**, Hu Y, Xu X, Jiang W, Shang H, Cui D. The roles of oxidative stress and Beclin-1 in the autophagosome clearance impairment triggered by cardiac arrest. *Free Radical Biology and Medicine*. 2019;136:87-95. **(Co-first author)** DOI: 10.1016/j.freeradbiomed.2018.12.039.
20. Xu X, Zhu Q, Niu F, Zhang R, Wang Y, Wang W, **Sun D**, Wang X, Wang A. A2BAR activation attenuates acute lung injury by inhibiting alveolar epithelial cell apoptosis both in vivo and in vitro. *American Journal of Physiology-Cell Physiology*. 2018;315(4):C558-C570. DOI: 10.1152/ajpcell.00294.2017.
21. **Sun D**, Wang W, Wang X, Wang Y, Xu X, Ping F, Du Y, Jiang W, Cui D. bFGF plays a neuroprotective role by suppressing excessive autophagy and apoptosis after transient global cerebral ischemia in rats. *Cell Death & Disease*. 2018;9(2):172. **(First author)** DOI: 10.1038/s41419-017-0229-7.
22. Xu X, Zhu Q, Zhang R, Wang Y, Niu F, Wang W, **Sun D**, Wang A. iTRAQ-Based Proteomics Analysis of Acute Lung Injury Induced by Oleic Acid in Mice. *Cellular Physiology and Biochemistry*. 2017;44(5):1949-1964. DOI: 10.1159/000485885.
23. Wang X, **Sun D**, Cui D. Critical care progress of traumatic spinal cord injury. *Chinese Journal of Integrated Traditional and Western Medicine in Intensive and Critical Care*. 2017;24:552-555 [in Chinese].
24. Cui D, **Sun D**, Wang X, Yi L, Kulikowicz E, Reyes M, Zhu J, Yang ZJ, Jiang W, Koehler RC. Impaired autophagosome clearance contributes to neuronal death in a piglet model of neonatal hypoxic-ischemic encephalopathy. *Cell Death & Disease*. 2017;8(7):e2919. DOI: 10.1038/cddis.2017.318.

PROFESSIONAL SERVICE AND LEADERSHIP

Volunteer Service - Ad Hoc Peer Reviewer, 2024 - Present

Completed 53 peer-review assignments across 17 journals, as of September 2026, including *Journal of Clinical Anesthesia*, *International Journal of Surgery*, *Brazilian Journal of Anesthesiology*, *Anesthesiology and Perioperative Science*, *Journal of Anesthesia and Translational Medicine*, and 12 other journals.

President, Graduate Student Union, Shanghai Jiao Tong University Affiliated Sixth Hospital, China, 2017 - 2018.

Vice President, Student Union, Wenzhou Medical University, China, 2014 - 2015.

Updated October 2026