Stanford

# Derek Wu

- Affiliate, Department Funds
- Fellow in Medicine - Med/Pulmonary, Allergy & Critical Care Medicine

## Bio

### BIO

Derek received his MD degree and completed his Internal Medicine training at Western University. He is interested in point-of-care ultrasound for managing and resuscitating critically ill patients. Derek has investigated deep learning applications for automated interpretation of lung ultrasound and he is interested in medical device innovation.

### CLINICAL FOCUS

- Fellow

### BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Member, Canadian Society for Clinical Investigation (2022 - present)
- Testamur, CCEeXAM, National Board of Echocardiography (2023 - present)

### PROFESSIONAL EDUCATION

- Residency, Western University , Internal Medicine (2024)
- MD, Western University , Medicine (2021)
- BMSc, Western University , Medical Sciences (2017)

## Research & Scholarship

### CURRENT CLINICAL INTERESTS

- Critical Care
- Imaging, Ultrasound
- Artificial Intelligence
- Deep Learning

## Teaching

### GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Critical Care Medicine (Fellowship Program)

# Publications

## PUBLICATIONS

- **Artificial Intelligence in Point-of-Care Ultrasound.** *Journal of intensive care medicine*
  Wu, D., Arntfield, R., Millington, S. J.
  2026: 8850666261427329

- **Bedside thoracic echography in ICU: new insights for acute circulatory and respiratory failure.** *Intensive care medicine*
  Muller, L., Volpicelli, G., Mongodi, S., Girard, M., Fraccalini, T., Gargani, L., Vieillard-Baron, A., Slama, M., Wu, D., Arntfield, R., Mayo, P., Zieleskiewicz, L.
  2025

- **Interrater Agreement of Physicians Identifying Lung Sliding Artifact on B-Mode And M-Mode Point of Care Ultrasound (POCUS).** *POCUS journal*
  Prager, R., Fiedler, H. C., Smith, D., Wu, D., Arntfield, R.
  2025; 10 (1): 92-98

- **Improving the Generalizability and Performance of an Ultrasound Deep Learning Model Using Limited Multicenter Data for Lung Sliding Artifact Identification** *DIAGNOSTICS*
  Wu, D., Smith, D., Vanberlo, B., Roshankar, A., Lee, H., Li, B., Ali, F., Rahman, M., Basmaji, J., Tschirhart, J., Ford, A., Vanberlo, B., Durvasula, et al
  2024; 14 (11)

- **Medico-legal risks of point-of-care ultrasound: a closed-case analysis of Canadian Medical Protective Association medico-legal cases.** *The ultrasound journal*
  Prager, R., Wu, D., Garber, G., Finestone, P. J., Zang, C., Aslanova, R., Arntfield, R.
  2024; 16 (1): 16

- **Automated Real-Time Detection of Lung Sliding Using Artificial Intelligence: A Prospective Diagnostic Accuracy Study.** *Chest*
  Fiedler, H. C., Prager, R., Smith, D., Wu, D., Dave, C., Tschirhart, J., Wu, B., Van Berlo, B., Malthaner, R., Arntfield, R.
  2024

- **Prospective Real-Time Validation of a Lung Ultrasound Deep Learning Model in the ICU.** *Critical care medicine*
  Dave, C., Wu, D., Tschirhart, J., Smith, D., VanBerlo, B., Deglint, J., Ali, F., Chaudhary, R., VanBerlo, B., Ford, A., Rahman, M. A., McCauley, J., Wu, et al
  2023; 51 (2): 301-309

- **Acquisition and retention of lung ultrasound skills by respiratory therapists: A curriculum for respiratory therapists.** *Canadian journal of respiratory therapy : CJRT = Revue canadienne de la therapie respiratoire : RCTR*
  Young, A., Wu, D., Myslik, F., Burke, D., Stephens, M., Arntfield, R.
  2023; 59: 26-32

- **Enhancing Annotation Efficiency with Machine Learning: Automated Partitioning of a Lung Ultrasound Dataset by View.** *Diagnostics (Basel, Switzerland)*
  VanBerlo, B., Smith, D., Tschirhart, J., VanBerlo, B., Wu, D., Ford, A., McCauley, J., Wu, B., Chaudhary, R., Dave, C., Ho, J., Deglint, J., Li, et al
  2022; 12 (10)

- **Accurate assessment of the lung sliding artefact on lung ultrasonography using a deep learning approach.** *Computers in biology and medicine*
  VanBerlo, B., Wu, D., Li, B., Rahman, M. A., Hogg, G., VanBerlo, B., Tschirhart, J., Ford, A., Ho, J., McCauley, J., Wu, B., Deglint, J., Hargun, et al
  2022; 148: 105953

- **Automation of Lung Ultrasound Interpretation via Deep Learning for the Classification of Normal versus Abnormal Lung Parenchyma: A Multicenter Study.** *Diagnostics (Basel, Switzerland)*
  Arntfield, R., Wu, D., Tschirhart, J., VanBerlo, B., Ford, A., Ho, J., McCauley, J., Wu, B., Deglint, J., Chaudhary, R., Dave, C., VanBerlo, B., Basmaji, et al
  2021; 11 (11)

- **Development of a convolutional neural network to differentiate among the etiology of similar appearing pathological B lines on lung ultrasound: a deep learning study.** *BMJ open*
  Arntfield, R., VanBerlo, B., Alaifan, T., Phelps, N., White, M., Chaudhary, R., Ho, J., Wu, D.

2021; 11 (3): e045120