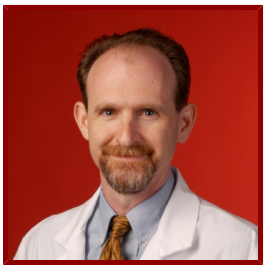
Stanford



Joshua M. Spin

Clinical Associate Professor, Medicine - Cardiovascular Medicine

NIH Biosketch available Online Curriculum Vitae available Online

CLINICAL OFFICE (PRIMARY)

- **Cardiovascular Medicine**

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Bio

CLINICAL FOCUS

- Aortic Disease
- Marfan Syndrome and Aortic Disorders
- Cardiovascular Disease

ACADEMIC APPOINTMENTS

- Clinical Associate Professor, Medicine - Cardiovascular Medicine
- Member, Cardiovascular Institute
- Member, Maternal & Child Health Research Institute (MCHRI)

PROFESSIONAL EDUCATION

- Fellowship: Stanford University Cardiovascular Medicine Fellowship (2003) CA
- Residency: Stanford University Internal Medicine Residency (2000) CA
- Medical Education: Boston University School of Medicine (1997) MA
- Board Certification: Cardiovascular Disease, American Board of Internal Medicine (2003)
- BA, Cornell University , Biophysics (1989)
- MD, PhD, Boston University Med School , Biophysics (1997)

LINKS

- Get a Second Opinion: https://stanfordhealthcare.org/second-opinion/overview.html

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Dr. Spin is pursuing fundamental issues relating to smooth muscle cell (SMC) biology. SMCs play crucial roles in vascular development, homeostasis, and disease. He has examined gene expression within the vascular wall, identifying patterns and pathways that characterized atherogenesis. He has

also studied the biology of differentiation and phenotypic switching in vascular SMCs, first identifying differentially regulated genes associated with SMC lineage determination, and then focusing on the epigenetic regulation of SMC differentiation state. Most recently he has examined the role of microRNAs in the regulation of SMC phenotype, and studied the biology of aortic aneurysm development in mouse models.

Teaching

STANFORD ADVISEES

Postdoctoral Faculty Sponsor

Tao Qiu

Publications

PUBLICATIONS

- **A narrative review of recent literature of circulating biomarkers of abdominal aortic aneurysm.** *JVS-vascular science*
  Rhee, Y. H., Spin, J. M., Tsao, P. S.
  2026; 7: 100399
- **Circulating Protein Mediators Linking Genetically Predicted Smoking to Abdominal Aortic Aneurysm: A Genomic-Proteomic Analysis.** *Arteriosclerosis, thrombosis, and vascular biology*
  Yuan, S., Khodursky, S., Geng, J., Sharma, P., Spin, J. M., Tsao, P., Levin, M. G., Damrauer, S. M.
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- **MicroRNA-15a-5p mediates abdominal aortic aneurysm progression and serves as a potential diagnostic and prognostic circulating biomarker.** *Communications medicine*
  Winski, G., Chernogubova, E., Busch, A., Eken, S. M., Jin, H., Lindquist Liljeqvist, M., Khan, T., Bäcklund, A., Paloschi, V., Roy, J., Hultgren, R., Brostjan, C., de Borst, et al
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- **Plasma proteome-wide Mendelian randomization reveals the association of extracellular matrix proteins with abdominal aortic aneurysm.** *JVS-vascular science*
  Khodursky, S., Yuan, S., Spin, J. M., Tsao, P. S., Levin, M. G., Damrauer, S. M.
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- **Plasma proteome-wide Mendelian randomization reveals the association of extracellular matrix proteins with abdominal aortic aneurysm** *JVS-VASCULAR SCIENCE*
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- **Plasma proteomics reveals the potential causal impact of extracellular matrix proteins on abdominal aortic aneurysm.** *medRxiv : the preprint server for health sciences*
  Khodursky, S., Yuan, S., Spin, J. M., Tsao, P. S., Levin, M. G., Damrauer, S. M.
  2024
- **Room temperature is a key factor for modeling human lower extremity artery disease with surgical murine hind limb ischemia.** *Journal of molecular and cellular cardiology*
  Abe, Y., Javkhlant, A., Spin, J. M., Toyama, K.
  2024
- **Lack of ATP2B1 in CD4+ T Cells Causes Colitis.** *Inflammatory bowel diseases*
  Javkhlant, A., Toyama, K., Abe, Y., Spin, J. M., Mogi, M.
  2024

- **Crosstalk of platelets with macrophages and fibroblasts aggravates inflammation, aortic wall stiffening, and osteopontin release in abdominal aortic aneurysm** *CARDIOVASCULAR RESEARCH*
  Wagenhaeuser, M. U., Mulorz, J., Krott, K. J., Bosbach, A., Feige, T., Rhee, Y. H., Chatterjee, M., Petzold, N., Boeddeker, C., Ibing, W., Krueger, I., Popovic, A. M., Roseman, et al
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- **Genome-wide association meta-analysis identifies risk loci for abdominal aortic aneurysm and highlights PCSK9 as a therapeutic target.** *Nature genetics*
  Roychowdhury, T., Klarin, D., Levin, M. G., Spin, J. M., Rhee, Y. H., Deng, A., Headley, C. A., Tsao, N. L., Gellatly, C., Zuber, V., Shen, F., Hornsby, W. E., Laursen, et al
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- **Genome-wide association meta-analysis identifies risk loci for abdominal aortic aneurysm and highlights PCSK9 as a therapeutic target** *NATURE GENETICS*
  Roychowdhury, T., Klarin, D., Levin, M. G., Spin, J. M., Rhee, Y., Deng, A., Headley, C. A., Tsao, N. L., Gellatly, C., Zuber, V., Shen, F., Hornsby, W. E., Laursen, et al
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- **Serum microRNA-501-3p is a potential diagnostic tool for detecting mild cognitive impairment: Ehime genome study.** *Journal of neurochemistry*
  Toyama, K., Spin, J. M., Tsao, P. S., Maruyama, K., Osawa, H., Mogi, M., Takata, Y.
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- **Time-dependent effects of cellulose and gelatin-based hemostats on cellular processes of wound healing.** *Archives of medical science : AMS*
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- **Time-dependent effects of cellulose and gelatin-based hemostats on cellular processes of wound healing** *ARCHIVES OF MEDICAL SCIENCE*
  Wagenhaeuser, M. U., Garabet, W., van Bonn, M., Ibing, W., Mulorz, J., Rhee, Y., Spin, J., Dimopoulos, C., Oberhuber, A., Schelzig, H., Simon, F.
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- **IS IT POSSIBLE TO ACCELERATE SENESCENCE IN THE VASCULAR ENDOTHELIAL CELL BY MODULATING SEVERAL MICRORNAS?**
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- **Message to researchers: the characteristic absence of a posterior communicating artery is easily lost in the gerbil.** *Anatomical science international*
  Abe, Y., Toyama, K., Shinohara, A., Nagura-Kato, G. A., Ikai, Y., Koshimoto, C., Spin, J. M., Hato, N.
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  Mulorz, J., Spin, J. M., Mulorz, P., Wagenhauser, M., Deng, A., Mattern, K., Rhee, Y. H., Toyama, K., Adam, M., Schelzig, H., Maegdefessel, L., Tsao, P. S.
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- **Role of MicroRNAs in acceleration of vascular endothelial senescence.** *Biochemistry and biophysics reports*
  Toyama, K., Spin, J. M., Deng, A. C., Abe, Y., Tsao, P. S., Mogi, M.
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- **peri-Adventitial delivery of smooth muscle cells in porous collagen scaffolds for treatment of experimental abdominal aortic aneurysm.** *Biomaterials science*
  Mulorz, J., Shayan, M., Hu, C., Alcazar, C., Chan, A. H., Briggs, M., Wen, Y., Walvekar, A. P., Ramasubramanian, A. K., Spin, J. M., Chen, B., Tsao, P. S., Huang, et al
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- **MicroRNA miR-29b regulates diabetic aortic remodeling and stiffening.** *Molecular therapy. Nucleic acids*
  Schellinger, I. N., Wagenhauser, M., Chodisetti, G., Mattern, K., Dannert, A., Petzold, A., Jakubizka-Smorag, J., Emrich, F., Haunschild, J., Schuster, A., Schwob, E., Schulz, K., Maegdefessel, et al

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- **Immunomodulation therapy using tolerogenic macrophages in a rodent model of pulmonary hypertension.** *Stem cells and development*
  Guihaire, J., Deuse, T., Wang, D., Spin, J. M., Blankenberg, F. G., Fadel, E., Reichenspurner, H., Schrepfer, S.
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  Klarin, D. n., Verma, S. S., Judy, R. n., Dikilitas, O. n., Wolford, B. N., Paranjpe, I. n., Levin, M. G., Pan, C. n., Tcheandjieu, C. n., Spin, J. M., Lynch, J. n., Assimes, T. L., Nyrønning, et al
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- **Therapeutic perspective on vascular cognitive impairment.** *Pharmacological research*
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- **Long noncoding RNAs in key cellular processes involved in aortic aneurysms.** *Atherosclerosis*
  Wu, Z. Y., Trenner, M. n., Boon, R. A., Spin, J. M., Maegdefessel, L. n.
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- **Chronic Nicotine Exposure Induces Murine Aortic Remodeling and Stiffness Segmentation-Implications for Abdominal Aortic Aneurysm Susceptibility.** *Frontiers in physiology*
  Wagenhäuser, M. U., Schellinger, I. N., Yoshino, T., Toyama, K., Kayama, Y., Deng, A., Guenther, S. P., Petzold, A., Mulorz, J., Mulorz, P., Hasenfuß, G., Ibing, W., Elvers, et al
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- **Decoding the Genomics of Abdominal Aortic Aneurysm.** *Cell*
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- **MicroRNA-Mediated Therapy Modulating Blood-Brain Barrier Disruption Improves Vascular Cognitive Impairment.** *Arteriosclerosis, thrombosis, and vascular biology*
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  Li, D. Y., Busch, A. n., Jin, H. n., Chernogubova, E. n., Pelisek, J. n., Karlsson, J. n., Sennblad, B. n., Liu, S. n., Lao, S. n., Hofmann, P. n., Bäcklund, A. n., Eken, S. M., Roy, et al
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  Toyama, K., Spin, J. M., Tsao, P. S.
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- **The Selective JAK1/3-Inhibitor R507 Mitigates Obliterative Airway Disease Both With Systemic Administration and Aerosol Inhalation** *TRANSPLANTATION*
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- **Response to Letters Regarding Article, "Segmental Aortic Stiffening Contributes to Experimental Abdominal Aortic Aneurysm Development"** *CIRCULATION*
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- **Local MicroRNA Modulation Using a Novel Anti-miR21-Eluting Stent Effectively Prevents Experimental In-Stent Restenosis** *ARTERIOSCLEROSIS THROMBOSIS AND VASCULAR BIOLOGY*
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