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CLINICAL FOCUS

- Cardiothoracic Surgery

ACADEMIC APPOINTMENTS

- Clinical Instructor, Cardiothoracic Surgery
- Member (Postdoc), Cardiovascular Institute

PROFESSIONAL EDUCATION

- Residency: Stanford University Dept of Cardiothoracic Surgery (2025) CA
- Medical Education: Stanford University School of Medicine (2016) CA

Publications

PUBLICATIONS

- **Single-cell and spatial transcriptomics identify immune-stromal interactions in cardiac allograft vasculopathy.** *Nature cardiovascular research*
Owen, M. C., Li, D. Y., Shin, H., Gu, W., Parvathaneni, A., Kadyrov, F. F., Wang, X., Sticco-Ivins, M., Bonnici, G., Nelson, S. L., Dun, H., Hyacinth, S., Giangrasso, et al
2026; 5 (5): 439-455
- **Loeys-Dietz Syndrome: 2026 updated care management primer.** *Genetics in medicine : official journal of the American College of Medical Genetics*
MacCarrick, G., Afifi, R. O., Allen, R., Almpiani, K., Black, J. H., Boyce, A. M., Braverman, A. C., Cameron, D. E., Caplan, J., Cervi, E., Cha, M. J., Christensen, J., van de Laar, et al
2026: 102577
- **The cardinal technique for symmetric reorientation during bicuspid aortic valve-sparing root replacement.** *JTCVS techniques*
Pedroza, A. J., Reed, A. K., Woo, Y. J.
2026; 35: 102135
- **A top-down approach to perfusing the dissected aorta.** *The Annals of thoracic surgery*
Pedroza, A. J., Woo, Y. J.

2026

- **Ross after David: Management of the fused plane between the prior reimplantation valve-sparing aortic root replacement and the pulmonary autograft** *JTCVS TECHNIQUES*
Pedroza, A. J., Shou, B., Bustos, M., Liou, K., Woo, Y.
2025; 34: 84-87
- **Ross after David: Management of the fused plane between the prior reimplantation valve-sparing aortic root replacement and the pulmonary autograft.** *JTCVS techniques*
Pedroza, A. J., Shou, B., Bustos, M., Liou, K., Woo, Y. J.
2025; 34: 84-87
- **Single Cell and Spatial Transcriptomics Identify Novel Immune-Stromal Interactions in Cardiac Allograft Vasculopathy.** *Research square*
Owen, M. C., Li, D. Y., Shin, H., Gu, W., Parvathaneni, A., Kadyrov, F. F., Wang, X., Sticco-Ivins, M., Bonnici, G., Nelson, S. L., Dun, H., Hyacinth, S., Cain, et al
2025
- **The epigenomic landscape of single vascular cells reflects developmental origin and identifies disease risk loci**
Weldy, C., Kundu, S., Monteiro, J., Gu, W., Pedroza, A., Dalal, A., Worssam, M., Li, D., Palmisano, B., Zhao, Q., Sharma, D., Nguyen, T., Kundu, et al
LIPPINCOTT WILLIAMS & WILKINS.2025
- **A cell and transcriptome atlas of human arterial vasculature.** *Cell genomics*
Zhao, Q., Pedroza, A., Sharma, D., Gu, W., Dalal, A., Weldy, C., Jackson, W., Li, D. Y., Ryan, Y., Nguyen, T., Shad, R., Palmisano, B. T., Monteiro, et al
2025: 101034
- **Ex vivo optimization of a bicuspid pulmonary valve using the resequenced composite autograft Ross technique.** *JTCVS techniques*
Pedroza, A. J., Shou, B., Woo, Y. J.
2025; 33: 75-78
- **Ex vivo optimization of a bicuspid pulmonary valve using the resequenced composite autograft Ross technique** *JTCVS TECHNIQUES*
Pedroza, A. J., Shou, B., Woo, Y.
2025; 33: 75-78
- **Epigenomic landscape of single vascular cells reflects developmental origin and disease risk loci.** *Molecular systems biology*
Weldy, C. S., Kundu, S., Monteiro, J., Gu, W., Pedroza, A. J., Dalal, A. R., Worssam, M. D., Li, D., Palmisano, B., Zhao, Q., Sharma, D., Nguyen, T., Kundu, et al
2025
- **Loeys-Dietz syndrome subtypes exhibit distinct clinical behavior and aortic cellular transcriptomic profiles.** *JTCVS open*
Pedroza, A. J., Dalal, A. R., Kim, J., Duda, M., Tognozzi, E., Gilles, C., Miller, D. C., Fischbein, M. P.
2025; 26: 1-14
- **Comprehensive Analysis of Myocardial Reverse Remodeling Following HeartWare Ventricular Assist Device Implantation** *CLINICAL TRANSPLANTATION*
Kawai, Y., Farag, J. A., Nishiga, M., Liu, Y., Kawago, K., Koyano, T. K., Fong, R., Bilbao, M., Hiesinger, W., Shin, H., Pfrender, E. M., Dalal, A., Pedroza, et al
2025; 39 (8)
- **Immature Acta2R179C/+ smooth muscle cells cause moyamoya-like cerebrovascular lesions in mice prevented by boosting OXPPOS.** *Nature communications*
Kaw, A., Majumder, S., Esparza Pinelo, J. E., Wu, T., Starosolski, Z., Zhou, Z., Pedroza, A. J., Duan, X., Kaw, K., Gonzalez, A. D., Sarkar, R., Fischbein, M. P., Lorenzi, et al
2025; 16 (1): 6105
- **Angiosarcoma Beneath a Bleeding Aneurysmal Veil.** *JACC. Case reports*
Fereydooni, A., George, E. L., Pedroza, A. J., Miller, D. C., Liang, D. H., Stern, J. R.
2025; 30 (13): 103548
- **The epigenomic landscape of single vascular cells reflects developmental origin and identifies disease risk loci.** *bioRxiv : the preprint server for biology*

- Weldy, C. S., Kundu, S., Monteiro, J., Gu, W., Pedroza, A. J., Dalal, A. R., Worssam, M. D., Li, D., Palmisano, B., Zhao, Q., Sharma, D., Nguyen, T., Kundu, et al
2025
- **Concurrent aortic valve replacement and splenectomy for Q-fever endocarditis with massive splenomegaly and pancytopenia. *JTCVS techniques***
Weininger, G., Pedroza, A. J., Shou, B. L., Forrester, J. D., Lin, Y.
2025; 30: 73-76
 - **Chemokine (C-C Motif) Ligand 2 Expressing Adventitial Fibroblast Expansion During Loeys-Dietz Syndrome Aortic Aneurysm Formation. *Arteriosclerosis, thrombosis, and vascular biology***
Dalal, A. R., Pedroza, A. J., Kim, J., Gilles, C., Gu, W., Kusadokoro, S., Shad, R., Mitchel, O., Jackson, W., Hiesinger, W., Berry, G., Gallo MacFarlane, E., Quertermous, et al
2025
 - **Heart and heart-lung transplantation with orthotopic pulmonary artery reconstruction to reverse Lecompte maneuver. *JTCVS techniques***
Reed, A. K., Pedroza, A. J., Woo, Y. J.
2025; 29: 91-93
 - **Heart and heart-lung transplantation with orthotopic pulmonary artery reconstruction to reverse Lecompte maneuver *JTCVS TECHNIQUES***
Reed, A. K., Pedroza, A. J., Woo, Y.
2025; 29: 91-93
 - **Intrinsic GATA4 expression sensitizes the aortic root to dilation in a Loeys-Dietz syndrome mouse model. *Nature cardiovascular research***
Bramel, E. E., Espinoza Camejo, W. A., Creamer, T. J., Restrepo, L., Saqib, M., Bagirzadeh, R., Zeng, A., Mitchell, J. T., Stein-O'Brien, G. L., Pedroza, A. J., Fischbein, M. P., Dietz, H. C., Gallo MacFarlane, et al
2024
 - **Intrinsic Gata4 expression sensitizes the aortic root to dilation in a Loeys-Dietz syndrome mouse model. *Research square***
Bramel, E. E., Camejo, W. A., Creamer, T. J., Restrepo, L., Saqib, M., Bagirzadeh, R., Zeng, A., Mitchell, J. T., Stein-O'Brien, G. L., Pedroza, A. J., Fischbein, M. P., Dietz, H. C., MacFarlane, et al
2024
 - **Comprehensive Integration of Multiple Single-Cell Transcriptomic Datasets Defines Distinct Cell Populations and Their Phenotypic Changes in Murine Atherosclerosis. *Arteriosclerosis, thrombosis, and vascular biology***
Sharma, D., DeForest Worssam, M., Pedroza, A. J., Dalal, A. R., Alemany, H., Kim, H. J., Kundu, R., Fischbein, M., Cheng, P., Wirka, R., Quertermous, T.
2023
 - **Augmenting Mitochondrial Respiration in Immature Smooth Muscle Cells with an ACTA2 Pathogenic Variant Mitigates Moyamoya-like Cerebrovascular Disease. *Research square***
Kaw, A., Wu, T., Starosolski, Z., Zhou, Z., Pedroza, A. J., Majumder, S., Duan, X., Kaw, K., Pinelo, J. E., Fischbein, M. P., Lorenzi, P. L., Tan, L., Martinez, et al
2023
 - **Nuclear smooth muscle α -actin participates in vascular smooth muscle cell differentiation *NATURE CARDIOVASCULAR RESEARCH***
Kwartler, C. S., Pedroza, A. J., Kaw, A., Guan, P., Ma, S., Duan, X., Kernell, C., Wang, C., Pinelo, J., Bowen, M., Chen, J., Zhong, Y., Sinha, et al
2023; 2 (10): 937-+
 - **Nuclear Smooth Muscle α -actin Participates in Vascular Smooth Muscle Cell Differentiation. *Nature cardiovascular research***
Kwartler, C. S., Pedroza, A. J., Kaw, A., Guan, P., Ma, S., Duan, X. Y., Kernell, C., Wang, C., Pinelo, J. E., Bowen, M. S., Chen, J., Zhong, Y., Sinha, et al
2023; 2 (10): 937-955
 - **Blood transfusion in cardiac surgeries - Toward a personalized protocol. *American journal of surgery***
Min, Y., Dalal, A. R., Pedroza, A. J., Pham, T. D., Panigrahi, A. K., Goldstone, A. B., MacArthur, J. W., Woo, Y. J., Baiocchi, M., Fischbein, M. P.
2023
 - **Early clinical outcomes and molecular smooth muscle cell phenotyping using a prophylactic aortic arch replacement strategy in Loeys-Dietz syndrome. *The Journal of thoracic and cardiovascular surgery***
Pedroza, A. J., Cheng, P., Dalal, A. R., Baeumler, K., Kino, A., Tognozzi, E., Shad, R., Yokoyama, N., Nakamura, K., Mitchel, O., Hiesinger, W., MacFarlane, E. G., Fleischmann, et al

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- **Smooth Muscle Cell Klf4 Expression Is Not Required for Phenotype Modulation or Aneurysm Formation in Marfan Syndrome Mice.** *Arteriosclerosis, thrombosis, and vascular biology*
Pedroza, A. J., Dalal, A. R., Shad, R., Yokoyama, N., Nakamura, K., Mitchel, O., Gilles, C., Hiesinger, W., Fischbein, M. P.
2023
- **Lineage-Specific Induced Pluripotent Stem Cell-Derived Smooth Muscle Cell Modeling Predicts Integrin Alpha-V Antagonism Reduces Aortic Root Aneurysm Formation in Marfan Syndrome Mice.** *Arteriosclerosis, thrombosis, and vascular biology*
Nakamura, K., Dalal, A. R., Yokoyama, N., Pedroza, A. J., Kusadokoro, S., Mitchel, O., Gilles, C., Masoudian, B., Leipzig, M., Casey, K. M., Hiesinger, W., Uchida, T., Fischbein, et al
2023
- **Outcomes after concomitant arch replacement at the time of aortic root surgery.** *JTCVS open*
Krishnan, A., Dalal, A. R., Pedroza, A. J., Nakamura, K., Yokoyama, N., Tognozzi, E., Woo, Y. J., Fischbein, M., MacArthur, J. W.
2023; 13: 1-8
- **Blood transfusion in aortic root surgery impairs midterm survival.** *JTCVS open*
Dalal, A. R., Pedroza, A. J., Krishnan, A., Min, Y., Tognozzi, E., Yokoyama, N., Nakamura, K., Mitchel, O. R., Baiocchi, M., Woo, Y. J., MacArthur, J. W., Fischbein, M. P.
2023; 13: 9-19
- **Nuclear Smooth Muscle α -actin in Vascular Smooth Muscle Cell Differentiation.** *Research square*
Kwartler, C. S., Pedroza, A. J., Kaw, A., Guan, P., Ma, S., Duan, X. Y., Kernell, C., Wang, C., Pinelo, J. E., Borthwick, M. S., Chen, J., Zhong, Y., Sinha, et al
2023
- **Outcomes of Reoperative Aortic Root Replacement After Previous Acute Type A Dissection Repair.** *Seminars in thoracic and cardiovascular surgery*
Pedroza, A. J., Dalal, A. R., Krishnan, A., Yokoyama, N., Nakamura, K., Tognozzi, E., Woo, Y. J., MacArthur, J. W., Fischbein, M. P.
2023
- **Angiogenic stem cell delivery platform to augment post-infarction neovasculature and reverse ventricular remodeling.** *Scientific reports*
Shin, H. S., Thakore, A., Tada, Y., Pedroza, A. J., Ikeda, G., Chen, I. Y., Chan, D., Jaatinen, K. J., Yajima, S., Pfrender, E. M., Kawamura, M., Yang, P. C., Wu, et al
2022; 12 (1): 17605
- **Mosaicism for the smooth muscle cell (SMC)-specific knock-in of the Acta2 R179C pathogenic variant: Implications for gene editing therapies.** *Journal of molecular and cellular cardiology*
Kaw, A., Pedroza, A. J., Chattopadhyay, A., Pinard, A., Guo, D., Kaw, K., Zhou, Z., Shad, R., Fischbein, M. P., Kwartler, C. S., Milewicz, D. M.
2022; 171: 102-104
- **Embryologic Origin Influences Smooth Muscle Cell Phenotypic Modulation Signatures in Murine Marfan Syndrome Aortic Aneurysm.** *Arteriosclerosis, thrombosis, and vascular biology*
Pedroza, A. J., Dalal, A. R., Shad, R., Yokoyama, N., Nakamura, K., Cheng, P., Wirka, R. C., Mitchel, O., Baiocchi, M., Hiesinger, W., Quertermous, T., Fischbein, M. P.
2022: 101161ATVBAHA122317381
- **Smad3 regulates smooth muscle cell fate and mediates adverse remodeling and calcification of the atherosclerotic plaque.** *Nature cardiovascular research*
Cheng, P., Wirka, R. C., Kim, J. B., Kim, H. J., Nguyen, T., Kundu, R., Zhao, Q., Sharma, D., Pedroza, A., Nagao, M., Iyer, D., Fischbein, M. P., Quertermous, et al
2022; 1 (4): 322-333
- **Acute Induced Pressure Overload Rapidly Incites Thoracic Aortic Aneurysmal Smooth Muscle Cell Phenotype.** *Hypertension (Dallas, Tex. : 1979)*
Pedroza, A. J., Shad, R., Dalal, A. R., Yokoyama, N., Nakamura, K., Hiesinger, W., Fischbein, M. P.
2022: HYPERTENSIONAHA12118640
- **The epigenomic landscape of single vascular cells reflects developmental origin and identifies disease risk loci** *bioRxiv*
Weldy, C. S., Cheng, P. P., Pedroza, A. J., Dalal, A. R., Sharma, D., Kim, H., Shi, H., Nguyen, T., Kundu, R. K., Fischbein, M. P., Quertermous, T.
2022

- **Quantitative proteomics reveal lineage-specific protein profiles in iPSC-derived Marfan syndrome smooth muscle cells.** *Scientific reports*
Iosef, C., Pedroza, A. J., Cui, J. Z., Dalal, A. R., Arakawa, M., Tashima, Y., Koyano, T. K., Burdon, G., Churovich, S. M., Orrick, J. O., Pariani, M., Fischbein, M. P.
2020; 10 (1): 20392
- **Androgens Accentuate TGF-beta Dependent Erk/Smad Activation During Thoracic Aortic Aneurysm Formation in Marfan Syndrome Male Mice.** *Journal of the American Heart Association*
Tashima, Y., He, H., Cui, J. Z., Pedroza, A. J., Nakamura, K., Yokoyama, N., Iosef, C., Burdon, G., Koyano, T., Yamaguchi, A., Fischbein, M. P.
2020; 9 (20): e015773
- **Single-Cell Transcriptomic Profiling of Vascular Smooth Muscle Cell Phenotype Modulation in Marfan Syndrome Aortic Aneurysm.** *Arteriosclerosis, thrombosis, and vascular biology*
Pedroza, A. J., Tashima, Y., Shad, R., Cheng, P., Wirka, R., Churovich, S., Nakamura, K., Yokoyama, N., Cui, J. Z., Iosef, C., Hiesinger, W., Quertermous, T., Fischbein, et al
2020: ATVBAHA120314670
- **Divergent effects of canonical and non-canonical TGF-beta signalling on mixed contractile-synthetic smooth muscle cell phenotype in human Marfan syndrome aortic root aneurysms.** *Journal of cellular and molecular medicine*
Pedroza, A. J., Koyano, T., Trojan, J., Rubin, A., Palmon, I., Jaatinen, K., Burdon, G., Chang, P., Tashima, Y., Cui, J. Z., Berry, G., Iosef, C., Fischbein, et al
2019
- **Acute type A dissection causing impending rupture of abdominal aortic aneurysm previously treated with EVAR.** *Annals of vascular surgery*
Ogawa, Y., Watkins, A. C., Lee, A., Iwakoshi, S., Dua, A., Pedroza, A. J., Dake, M. D., Lee, J. T.
2019
- **Anatomically specific reactive oxygen species production participates in Marfan syndrome aneurysm formation.** *Journal of cellular and molecular medicine*
Emrich, F., Penov, K., Arakawa, M., Dhablania, N., Burdon, G., Pedroza, A. J., Koyano, T. K., Kim, Y. M., Raaz, U., Connolly, A. J., Iosef, C., Fischbein, M. P.
2019
- **Statins Reduce Thoracic Aortic Aneurysm Growth in Marfan Syndrome Mice via Inhibition of the Ras-Induced ERK (Extracellular Signal-Regulated Kinase) Signaling Pathway** *JOURNAL OF THE AMERICAN HEART ASSOCIATION*
Sato, T., Arakawa, M., Tashima, Y., Tsuboi, E., Burdon, G., Trojan, J., Koyano, T., Young-Nam Youn, Penov, K., Pedroza, A. J., Shabazzi, M., Palmon, I., Nguyen, M., et al
2018; 7 (21): e008543
- **Emergency valve-sparing aortic root replacement and coronary artery bypass grafting for giant left sinus of Valsalva aneurysm presenting as acute coronary syndrome** *JOURNAL OF THORACIC AND CARDIOVASCULAR SURGERY*
Pedroza, A. J., Brewer, Z. E., Lee, A. M.
2018; 156 (2): E81–E84
- **Emergency valve-sparing aortic root replacement and coronary artery bypass grafting for giant left sinus of Valsalva aneurysm presenting as acute coronary syndrome.** *The Journal of thoracic and cardiovascular surgery*
Pedroza, A. J., Brewer, Z. E., Lee, A. M.
2018
- **Long-term miR-29b suppression reduces aneurysm formation in a Marfan mouse model.** *Physiological reports*
Okamura, H., Emrich, F., Trojan, J., Chiu, P., Dalal, A. R., Arakawa, M., Sato, T., Penov, K., Koyano, T., Pedroza, A., Connolly, A. J., Rabinovitch, M., Alvira, et al
2017; 5 (8)
- **Long-term miR-29b suppression reduces aneurysm formation in a Marfan mouse model** *PHYSIOLOGICAL REPORTS*
Okamura, H., Emrich, F., Trojan, J., Chiu, P., Dalal, A. R., Arakawa, M., Sato, T., Penov, K., Koyano, T., Pedroza, A., Connolly, A. J., Rabinovitch, M., Alvira, et al
2017; 5 (8)
- **Enhanced Caspase Activity Contributes to Aortic Wall Remodeling and Early Aneurysm Development in a Murine Model of Marfan Syndrome** *ARTERIOSCLEROSIS THROMBOSIS AND VASCULAR BIOLOGY*
Emrich, F. C., Okamura, H., Dalal, A. R., Penov, K., Merk, D. R., Raaz, U., Hennigs, J. K., Chin, J. T., Miller, M. O., Pedroza, A. J., Craig, J. K., Koyano, T. K., Blankenberg, et al

2015; 35 (1): 146-154

- **Endovascular Aortic Repair After Proximal Stent Graft Migration of a Modified Frozen Elephant Trunk.** *Innovations (Philadelphia, Pa.)*
Dalal, A. R., Pedroza, A. J., Iwakoshi, S. n., Lee, J. T., Fleischmann, D. n., Watkins, A. C.
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