

Francisco H. Andrade, Ph.D.

Curriculum vitae

1. Contact Information

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2. Education

- Ph.D. University of Texas Health Science Center at San Antonio, San Antonio, Texas, 1994.
B. Med. Instituto Tecnológico y de Estudios Superiores de Monterrey, Monterrey, México, 1988.

3. Academic Appointments

- 2004- Associate Professor, Department of Physiology, University of Kentucky, Lexington, Kentucky.
1999-2004 Assistant Professor (tenure track), Department of Neurology, Case Western Reserve University and University Hospitals of Cleveland, Cleveland, Ohio.
1998-99 Senior Research Associate, Department of Ophthalmology, Case Western Reserve University, Cleveland, Ohio.
1997-98 Postdoctoral Scholar, Department of Anatomy and Neurobiology, University of Kentucky Medical Center, Lexington, Kentucky.
1996-97 Guest Investigator, Division of Physiology II, Department of Physiology and Pharmacology, Karolinska Institutet, Stockholm, Sweden.
1994-97 Postdoctoral Fellow, Pulmonary and Critical Care Section, Department of Medicine, Baylor College of Medicine, Houston, Texas.
1989-94 Graduate Assistant, Department of Physiology, University of Texas Health Science Center at San Antonio, San Antonio, Texas.

4. Professional Affiliations

The American Physiological Society
Association for Research in Vision and Ophthalmology
American Association for the Advancement of Science

5. Honors and Awards

- 2004 James A. Shannon Director's Award, NIH (R55 DC06410).
2003 Amyotrophic Lateral Sclerosis Association starter grant.
2002 National Eye Institute research grant (R03 EY13724).
2001 National Eye Institute research grant (R01 EY12998).
2000 Muscular Dystrophy Association research grant.
1999 Knights Templar Eye Foundation, Inc. research grant.
1998 Ohio Lions Eye Research Foundation Fellowship.

- 1996 Fellowship, Baylor College of Medicine – Karolinska Institutet Research Exchange Program.
- 1991 DuPont Pharmaceuticals/American College of Chest Physicians Critical Care Research Award.
- 1991 Award for Excellence in Graduate Studies, Department of Physiology, University of Texas Health Science Center at San Antonio.

6. Service

a) Peer review (study sections, review panels, journals):

American Institute of Biological Sciences (AIBS) for the US Army Medical Research and Materiel Command (ad hoc reviewer)

National Science Foundation, CCLI Program

Skeletal Muscle Biology Study Section, NIH (ad hoc member)

Special Emphasis Panel (ZAG1 PCR-5), National Institute on Aging (ad hoc member)

Special Emphasis Panel (ZDC1 SRB-R), National Institute on Deafness and Other Communication Disorders (ad hoc member)

Integrative Animal Biology Program, National Science Foundation (ad hoc member)

Comitato Telethon Fondazione ONLUS (external reviewer)

Department of Medicine, Baylor College of Medicine (external grant reviewer)

NEI Workshop on Craniofacial Muscle Specialization and Disease (invited discussant)

Investigative Ophthalmology and Visual Science

American Journal of Physiology

American Journal of Respiratory and Critical Care Medicine

Comparative Physiology and Biochemistry

Experimental Biology and Medicine

FASEB Journal

Journal of Applied Physiology

Journal of Gerontology

Medicine and Science in Sports and Exercise

Microvascular Research

Physiological Genomics

b) Outreach activities:

Member of the Professional Development and Education Committee, Association for Research on Vision and Ophthalmology (2004-2007)

Member of the Network of Minority Research Investigators (NIDDK). Member of NMRI Program Committee.

Member of the Career Opportunities in Physiology Committee, American Physiological Society (2003-2005).

Mentor in the Minority Travel Fellow program of the American Physiological Society (2001-).

Host for the Physiology for Life Sciences Student/Teacher Workshop organized annually by the American Physiological Society (2001-).

7. Projects

Principal Investigator, National Eye Institute research grant (R01 EY12998), “Determinants of extraocular muscle function.”

Principal Investigator, National Institute on Deafness and Other Communication Disorders grant (R55 DC06410), “Aging of the intrinsic laryngeal muscles.”

Principal Investigator, National Eye Institute pilot research grant (R03 EY13724), “Extraocular muscle aging: functional and genomic changes.”

8. Publications

a) Papers (peer-reviewed):

- Anzueto, A., **Andrade, F.**, Maxwell, L.C., Levine, S., Lawrence, R., Gibbons, W.J., Jenkinson, S.G.: Resistive breathing activates the glutathione redox cycle and impairs performance of rat diaphragm. *J. Appl. Physiol.*, 72: 529-534, 1992.
- Anzueto, A., **Andrade, F.H.**, Maxwell, L.C., Levine, S.M., Lawrence, R.A., Jenkinson, S.G.: Diaphragmatic function after resistive breathing in vitamin E deficient rats. *J. Appl. Physiol.*, 74: 267-271, 1993.
- Morales, C.F., Anzueto, A., **Andrade, F.**, Levine, S.M., Maxwell, L.C., Lawrence, R.A., Jenkinson, S.G.: Diethylmaleate produces diaphragmatic impairment after resistive breathing. *J. Appl. Physiol.*, 75: 2406-24011, 1993.
- Morales, C.F., Anzueto, A., **Andrade, F.**, Brassard, J., Levine, S.M., Maxwell, L.C., Lawrence, R.A., Jenkinson, S.G.: Buthionine sulfoximine treatment impairs rat diaphragm function. *Am. J. Respir. Crit. Care Med.*, 149: 915-919, 1994.
- Anzueto, A., Brassard, J.M., **Andrade, F.H.**, Lawrence, R.A., Maxwell, L.C., Levine, S.M., Jenkinson, S.G. Effects of hyperoxia on rat diaphragm function. *J. Appl. Physiol.*, 77: 63-68, 1994.
- Bisnett, T., Anzueto, A., **Andrade, F.H.**, Rodney, G.G., Napier, W.R., Levine, S.M., Maxwell, L.C., Mureeba, P., Derdak, S.D., Grisham, M.B., Jenkinson, S.G. Effect of nitric oxide synthase inhibitor on diaphragmatic function after resistive loading. *Comp. Biochem. Physiol.*, 119A: 185-90, 1998.
- Andrade, F.H.**, Anzueto, A., Napier, W., Levine, S., Lawrence, R.A., Maxwell, L.C. Inspiratory resistive loading impairs the diaphragm in selenium deficient rats. *Acta Physiol. Scand.*, 162: 141-8, 1998.
- Krause, K.M., Moody, M.R., **Andrade, F.H.**, Taylor, A.A., Miller III, C.C., Kobzik, L., Reid, M.B. Peritonitis causes diaphragm weakness in rats. *Am. J. Respir. Crit. Care Med.*, 157: 1277-1282, 1998.
- Andrade, F.H.**, Reid, M.B., Allen, D.G., Westerblad, H. Effects of nitric oxide on single skeletal muscle fibres from the mouse. *J. Physiol. (London)*, 509:577-586, 1998.
- Andrade, F.H.**, Reid, M.B., Allen, D.G., Westerblad, H. Effect of hydrogen peroxide and dithiothreitol on contractile function of single skeletal muscle fibres from mouse. *J. Physiol. (London)*, 509: 565-575, 1998.
- Islam, M.S., Leibiger, I., Leibiger, B., Rossi, D., Sorrentino, V., Ekström, T.J., Westerblad, H., **Andrade, F.H.**, Berggren, P.-O. A type 2 ryanodine receptor-like channel mediates Ca^{2+} release from intracellular stores in pancreatic β -cells. *Proc. Nat. Acad. Sci. USA*, 95: 6145-6150, 1998.
- Westerblad, H., Allen, D.G., Bruton, J.D., **Andrade, F.H.**, Lännergren, J. Mechanisms underlying the reduction of isometric force in skeletal muscle fatigue. *Acta Physiol. Scand.*, 162: 253-260, 1998.
- Westerblad, H., **Andrade, F.H.**, Islam, M.S. Effects of ryanodine receptor agonist 4-chloro-*m*-cresol on myoplasmic free Ca^{2+} concentration and force of contraction in mouse skeletal muscle. *Cell Calcium*, 24:105-115, 1998.
- Murrant, C.L., **Andrade, F.H.**, Reid, M.B. Exogenous reactive oxygen and nitric oxide alter intracellular oxidant status of skeletal muscle fibres. *Acta Physiol. Scand.*, 166:111-121, 1999.
- Pantoja, J.G., **Andrade, F.H.**, Stokic, D.S., Frost, A.E., Eschenbacher, W.L., Reid, M.B. Respiratory and limb muscle function in lung allograft recipients. *Am. J. Respir. Crit. Care Med.*, 160:1205-1211, 1999.

- Andrade, F.H.**, Reid, M.B., Westerblad, H. Contractile response of skeletal muscle to low peroxide concentrations: myofibrillar calcium sensitivity as a likely target of redox modulation. *FASEB J.*, 10.1096/fj.00-0507fje, 2000.
- Porter, J.D., Merriam, A.P., Hack, A.A., **Andrade, F.H.**, McNally, E.M. Extraocular muscle is spared despite the absence of an intact sarcoglycan complex in δ - and γ -sarcoglycan-deficient mice. *Neuromuscul. Disord.*, 11:196-206, 2001.
- Porter, J.D., Khanna, S., Kaminski, H.J., Rao, J.S., Merriam, A.P., Richmonds, C.R., Leahy, P., Li, J., **Andrade, F.H.** Extraocular muscle is defined by a fundamentally distinct gene expression profile. *Proc. Natl. Acad. Sci. USA*, 98:12062-7, 2001.
- Porter, J.D., Khanna, S., Kaminski, H.J., Rao, J.S., Merriam, A.P., Richmonds, C.R., Leahy, P., Li, J., Guo, W., **Andrade, F.H.** A chronic inflammatory response dominates the skeletal muscle molecular signature in dystrophin-deficient *mdx* mice. *Hum. Mol. Genet.*, 11:263-272, 2002.
- Porter, J.D., Guo, W., Merriam, A.P., Khanna, S., Cheng, G., Zhou, X., **Andrade, F.H.**, Richmonds, C., Kaminski, H.J. Persistent over-expression of specific CC class chemokines correlates with macrophage and T-cell recruitment in *mdx* skeletal muscle. *Neuromuscul. Disord.*, 13:223-235, 2003.
- Porter, J.D., Merriam, A.P., Khanna, S., **Andrade, F.H.**, Richmonds, C.R., Leahy, P., Cheng, G., Karathanasis, P., Zhou, X., Kusner, L.L., Adams, M.E., Willem, M., Mayer, U., Kaminski, H.J. Constitutive properties, not molecular adaptations, mediate extraocular muscle sparing in dystrophic *mdx* mice. *FASEB J.*, 17:893-895, 2003.
- Andrade, F.H.**, Merriam, A.P., Guo, W., Cheng, G., McMullen, C.A., Hays, K., van der Ven, P.F.M., Porter, J.D. Paradoxical absence of M lines and creatine kinase in mouse extraocular muscle. *J. Appl. Physiol.*, 205:692-699, 2003.
- Porter, J.D., Merriam, A.P., Gong, B., Kasturi, S., Zhou, X., Hauser, K.F., **Andrade, F.H.**, Cheng, G. Postnatal suppression of myomesin, muscle creatine kinase, and the M-line in rat extraocular muscle. *J. Exp. Biol.*, 206:3101-3112, 2003.
- McMullen, C.A., **Andrade, F.H.**, Stahl, J.S. Functional and genomic changes in the mouse ocular motor system in response to light deprivation from birth. *J. Neurosci.*, 24:161-169, 2004.
- Andrade, F.H.**, Hatala, D.A., McMullen, C.A. Carbonic anhydrase isoform expression and functional role in rodent extraocular muscle. *Pflügers Arch.*, 448:547-551, 2004.

b) Invited Reviews and Book Chapters:

- Andrade, F.H.**, Kaminski, H.J., Porter, J.D. Extraocular muscle is spared in muscular dystrophy. *Microscopy Research and Techniques*, 48(3-4):192-203, 2000.
- Andrade, F.H.** Reactive oxygen species and skeletal muscle function. In "Free Radicals in Exercise and Aging." Z. Radak, (editor). Human Kinetics, Champaign, pp.- 117-148, 2000.
- Andrade, F.H.**, Porter, J.D. Neuromuscular physiology. In "Neuromuscular Disorders in Clinical Practice." B. Katirji, H.J. Kaminski, D.C. Preston, R.L. Ruff, B.E. Shapiro (eds.). Butterworth-Heinemann, 2001.
- Kaminski, H.J., **Andrade, F.H.** Nitric Oxide: Effects on muscle and role in muscle diseases. *Neuromuscul. Disord.*, 11:517-24, 2001.
- Porter, J.D., **Andrade, F.H.**, Baker, R.S. The extraocular muscles. In "Adler's Physiology of the Eye – 10th edition." P.L. Kaufman, A. Alm (eds.). Mosby, Inc., St. Louis, pp. – 787-817, 2003.