

CURRICULUM VITAE

Anthony F. DiMarco, M.D.

Personal Contact

37490 Hunter's Ridge Road
Solon, Ohio 44139
(440) 248-3125

Office Contact

Research Office
The MetroHealth System Campus
Rammelkamp Center for Education & Research
2500 MetroHealth Drive, R551
Cleveland, Ohio 44109
(216) 778-3906
adimarco@metrohealth.org

Clinical Practice Office
University Hospitals of Cleveland
Geauga Regional Hospital
13207 Ravenna Road
Chardon, Ohio 44024

Place of Birth

Cleveland, Ohio

Education

1962 – 1966	Chanel High School, Bedford, OH
1966 – 1970	B.A., Chemistry, Case Western Reserve University, Cleveland, OH
1970 – 1974	M.D., Tufts University School of Medicine, Boston, MA

Post-Graduate Training

07/74 - 07/75	Medical Internship, St. Elizabeth's Hospital, Tufts Medical School Affiliated Hospital, Boston, MA
07/75 - 07/76	Medical Residency, St. Elizabeth's Hospital, Boston, MA
07/76 - 12/77	Chief Medical Resident, Quigley Memorial Hospital, Harvard Medical School Affiliate, Boston, MA
07/77 - 07/78	NIH Research Fellow, Pulmonary Division, Case Western Reserve University, Cleveland, OH
07/78 - 07/79	Clinical Fellow, Pulmonary Division, Case Western Reserve University, Cleveland, OH
07/79 - 07/80	Visiting Scientist at the Karolinska Institute for Neurophysiology, Stockholm, Sweden

<u>Faculty Appointments</u>	1980 – 1987	Assistant Professor, School of Medicine, Case Western Reserve University, Cleveland, OH
	1987 – 1993	Associate Professor, School of Medicine, Case Western Reserve University, Cleveland, OH
	1993 – present	Professor, Department of Medicine, Case Western Reserve University, Cleveland, OH
	2000 – present	Professor, Department of Physiology & Biophysics, Case Western Reserve University, Cleveland, OH
	2007 – 2011	CT Physician, Research Department, MetroHealth Medical Center, Cleveland, OH
	2009 – present	Investigator, Cleveland FES Center, Cleveland, OH
	2011 – present	Professor, MetroHealth Research Institute, MetroHealth Medical Center, Cleveland, OH
	2011 – present	Professor, Department of Physical Medicine & Rehabilitation, (primary academic appointment), Case Western Reserve University
<u>Clinical Positions</u>	1980 – 2000	Attending Physician, Medical Intensive Care Unit, MetroHealth Medical Center, Cleveland, OH
	1980 – 2000	Attending Physician, Pulmonary Consultation Service, MetroHealth Medical Center, Cleveland, Ohio.
	1980 – 1982	Attending Physician, Pulmonary Consultation Service, St. Luke's Hospital, Cleveland, OH
	1980 – 1986	Attending Physician, Pulmonary Ward and Pulmonary Consultation Service, Cleveland Veterans Administration Medical Center, Cleveland, OH
	1984 – present	Pulmonary consultant, University Hospitals of Cleveland Geauga Regional Hospital, Chardon, OH
	1984 – 2010	Medical Director of Respiratory Therapy, University Hospitals of Cleveland Geauga Regional Hospital, Chardon, OH
	2011 – present	Bioscientific Staff Physician, Department of Physical Medicine and Rehabilitation, MetroHealth Medical Center, Cleveland, OH
	<u>Teaching Responsibilities</u>	1979 – 2002
1979 – 1983		Pulmonary Committee Phase II Workshop 2nd Group Conferences (4 hrs/year), Case Western Reserve University, Cleveland, OH
1982 – present		Pulmonary Committee Phase I Lecturer; Control of Ventilation (2 hrs), Case Western Reserve University, Cleveland, OH

1983 – 1987	Pulmonary Committee Phase III Lecturer; Use of Oxygen Therapy (4 hrs), Case Western Reserve University, Cleveland, OH
1986 – present	Pulmonary Committee Phase I Lecturer; Integrated Physiology and Exercise (1 hr), Case Western Reserve University, Cleveland, OH
1986 – 1992	Pulmonary Committee Phase II Lecturer; Respiratory Failure, Control of Breathing (1 hr), Case Western Reserve University, Cleveland, OH
1990 – 1992	Clinical Problem Solving (CPS) Phase II (8 hrs)
1993 – 2006	Director, Pulmonary Committee, Phase I, Case Western Reserve University, Cleveland, OH

Licensure

1975 – 1977	State of Massachusetts Medical License
1977 –	State Medical Board of Ohio, License #35-04-0889-D

Certifications

1977	Diplomate, American Board of Internal Medicine, #063342
1983	Diplomate, Pulmonary Diseases, American Board of Internal Medicine, #063342
1989	Diplomate, Critical Care American Board of Internal Medicine, #063342
2003	Diplomate, American Academy of Sleep Medicine
2005 – 2013	Continuing Research Education Credit Program, Certified

Professional Service

1982 – 1983	Member, Professional Education and Research Committee, Ohio Thoracic Society
1983 – 1984	Chairman, Professional Education and Research Committee, Ohio Thoracic Society
1986 – 1988	Quality Assurance Committee, MetroHealth Medical Center, Cleveland, OH
1988	Animal Care Committee, Case Western Reserve University, Cleveland, OH
1989 – 1993	Chairman, House Staff Scientific Competition Committee, MetroHealth Medical Hospital, Cleveland, OH
1990 – 1992	Chairman, Professional Educational and Research Committee, Ohio Thoracic Society
1990 – 1993	Research Fellowship Committee, American Heart Association
1995	Ad Hoc Committee Study Section, National Institutes of Health, Respiration and Applied Physiology

1996	Study Section Member, National Institutes of Health, Respiration and Applied Physiology
2002	Clinical Trials Review Committee, National Institutes of Health, Respiration and Applied Physiology
2006	Study Section Member, National Institutes of Health, Biomedical Engineering Systems
2006	Member, Program Committee, American Paraplegia Society
2007	Member, Research Committee, American Spinal Injury Association (ASIA)
2009 - 2011	Member, Program Committee, Academy of Spinal Cord Injury Professionals
2011	Chairman, Program Committee, American Paraplegia Society
2015	Investigator, Christopher Reeve Foundation, “The Big Idea”

Editorial Positions

1982 – present	Guest Reviewer: J Appl Physiol, Arch Phys Med Rehabil, Chest, Am Rev Respir Dis, J Lab Clin Med, Arch Intern Med, Am J Respir Crit Care Med, J Physiol, Eur Respir J, IEEE Trans Biomed Eng, Exp Rev Med Dev, J Spinal Cord Med, Case Report Med
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Memberships in Professional and Scientific Societies

- Geauga County Medical Society, President, 2006 – present
- American Paraplegia Society
- International Thoracic Society
- American College of Physicians
- American College of Chest Physicians
- Ohio Thoracic Society
- Northern Ohio Lung Association, Member, Board of Directors, 1995 – 2006
- Group Against Smoking Pollution
- North American Society of Pacing and Electrophysiology

Awards and Honors

2003	Gold Electrode Award, Best New Product, Neurotech Reports
2003	Best of Show, Cleveland Growth Association / COSE Business Plan Challenge
2003	First Place, Cleveland Growth Association / COSE Business Plan Challenge, Startup Category
2004	Maurice Saltzman Award, The Mt. Sinai Health Care Foundation

- 2005 Outstanding Teacher of the Pulmonary Committee, Case Western Reserve University School of Medicine, Class of 2008
- 2009 Cleveland Clinic Top 10 Medical Innovations, Diaphragm Pacing System
- 2010 The Apple Award for publishing excellence in spinal cord injury rehabilitation/research, The American Spinal Injury Association, Shepherd Center and Thomas Land Publishers, Inc.
- 2011 APS Excellence Award, Academy of Spinal Cord Injury Professionals (ASCIP)
- 2013 The Academy of Spinal Cord Injury Professionals (ASCIP) - Award for Best Empirical Research
- 2014 Chair Award for Contribution in Research, Case Western Reserve University, MetroHealth Rehabilitation Institute of Ohio
- 2015 The Academy of Spinal Cord Injury Professionals (ASCIP) - Best Poster Award
- 2016 The Academy of Spinal Cord Injury Professionals (ASCIP) – Award of Excellence (Poster)

Patents

- 1995 Method and Apparatus for Electrical Stimulation of the Respiratory Muscles to Achieve Artificial Ventilation in a Patient.
Patent # 5,678,535
- 1997 Method and Apparatus for Electrical Stimulation of the Respiratory Muscles to Achieve Artificial Ventilation in a Patient.
Patent # 5,911,218
- 1998 Method and Apparatus for Electrical Activation of the Expiratory Muscles to Restore Cough.
Patent #5,999,855
- 1999 Custom Telephone.
Patent #6,643,369
- 2007 Spinal Cord Wire Electrodes to active the Expiratory Muscles.
Patent Pending
- 2007 Method of Activation of the Expiratory Muscles: Optimal Electrode Placement.
Patent Pending
- 2007 Spinal Cord Wire Electrodes to Activate the Inspiratory Intercostal Muscles to Provide Artificial Ventilation.
Patent Pending
- 2007 Method to Produce Cough via Expiratory Muscle Stimulation.

	Patent Pending
2009	Respiratory Muscle Activation by Spinal Cord Stimulation. Patent #8,352,036
2010	Apparatus and Method for Prevention of Snoring. Patent Pending
2012	Bipolar Spinal Cord Stimulation to Activate the Expiratory Muscles to Restore Cough Patent #8,751,004
2013	High Frequency Spinal Cord Stimulation to Activate Ventilatory Function Patent Pending

Current Grant Support as Principal Investigator

09/15/2013 – 02/28/2019	“Evaluation of Spinal Cord Stimulation Using Wire Leads to Restore an Effective Cough in Subjects with Spinal Cord Injury” National Institutes of Health: U01 NS083696 Total award: \$2,554,583
02/01/2014 – 01/31/2017	“Long-term Follow-up of Patients with SCI Implanted with the Cough System” Craig H. Neilsen Foundation: 278855 Total award: \$236,079

Current Grant Support as Co-Investigator

04/01/2014 - 03/31/2018	“High Frequency Spinal Cord Stimulation to Restore Cough” VA-RR&D: 1I01RX001488 Principal Investigator: Krzysztof E. Kowalski, Ph.D. Total award: \$1,058,409
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Previous Grant Support as Principal Investigator

07/1981 – 07/1983	“The effects of ventilatory muscle training in patients with COLD and chronic myopathic disease” American Lung Association Amount: \$30,500
07/1983 – 01/1985	“Actions of aminophylline on diaphragm contractility” American Heart Association Amount: \$15,000
07/1983 – 01/1985	“Effects of verapamil on histamine and methacholine induced bronchoconstriction in normal and asthmatic subjects” American Lung Association Amount: \$14,868
07/1985 – 01/1986	“Interaction between diaphragm and intercostal muscle contraction”

	Cuyahoga County Hospital Foundation Amount: \$10,830
02/1986 – 02/1990	“Activation and mechanical function of the intercostal muscles” National Institutes of Health: R01 HL034143 - 01A1 RAP Total award: \$307,282
10/1988 – 10/1991	“Use of spinal cord stimulation for artificial respiration in humans” Food and Drug Administration Total award: \$320,100
02/1990 – 02/1995	“Activation and mechanical function of the intercostal muscles” National Institutes of Health: R01 HL034143 - RAP Total Award: \$727,022
10/1991 – 10/1994	“Combined intercostal and diaphragm pacing in humans” Food and Drug Administration: FD-R-000403-06 Total Award: \$345,103
10/1995 – 10/1998	“Continuous intercostal and diaphragm pacing in humans” Food and Drug Administration: FD-R-000403-06 Total award: \$345,000
03/1996 – 03/2000	“Spinal cord stimulation to produce cough” National Institutes of Health: R01 HL034143 Total award: \$1,006,509
11/2000 – 10/2003	“Electrical activation of diaphragm for ventilatory assist” Food and Drug Administration: FD-R-001839-01 Total award: \$414,886
09/2000 – 08/2004	“Expiratory muscle activation to produce cough” National Institutes of Health: R01 HL034143-13A1 Total award: \$1,575,506
09/2000 – 09/2004	“Expiratory muscle activation to produce cough” National Institutes of Health: R01 HL034143 Total Award: \$1,375,500
10/2004 – 06/2005	“Combined intercostal and diaphragm pacing” National Institutes of Health, STTR: R41 HL078195 Total Award: \$99,895
09/2004 – 08/2009	“Spinal cord stimulation to restore cough in humans” National Institutes of Health: R01 NS049516 Total award: \$1,442,292
09/2009 – 08/2012	“Evaluation of wire electrodes to activate the expiratory muscles to restore cough” National Institutes of Health: RC1 NS068576 Total award: \$834,093
05/2009 – 04/2016	“Inspiratory Muscle Activation via High Frequency Spinal Cord Stimulation” National Institutes of Health: R01 NS064157

Total award: \$2,639,058

Previous Grant Support as Co-Investigator

1985 – 1990	<p>“Control of respiratory skeletal and smooth muscle” HL-25830 - Competitive Renewal Principal Investigator: Neil S. Cherniack Annual Direct Costs: \$1,317,059</p>
1987 – 1990	<p>“Relationship between diaphragm blood flow and endurance” National Institutes of Health: RO1 HL38926-01 Principal Investigator: Gerald S. Supinski Total funds: \$252,961</p>
1990 – 1995	<p>“Control of respiratory skeletal and smooth muscle” National Institutes of Health Principal Investigator: Neil S. Cherniack</p>
1990 – 1995	<p>“Cardiorespiratory interaction at the VMS: Role in hypoxia and with increased body metabolism” - Project 1B Principal Investigator: Neil S. Cherniack Annual Direct Costs: \$102,515</p>
1990 – 1995	<p>“Mechanisms of diaphragm fatigue” National Institutes of Health Principal Investigator: Gerald S. Supinski Total funds: \$706,992</p>
1992 – 1997	<p>“Diaphragm dysfunction” National Institutes of Health: RO1 HL 38926-04 Principal Investigator: Gerald S. Supinski Total funds: \$593,246</p>
2010 – 2015	<p>“Multi-functional Neuroprosthetic System for Restoration of Motor Function” National Institutes of Health: U01 NS069517 Principal Investigator: P. Hunter Peckham, PhD Total award: \$7,367,587</p>

Publications

1. DiMarco AF, Montenegro H, Payne CB Jr, Kwon KH. Papillomas of the tracheobronchial tree with malignant degeneration. *Chest* 74:464-465, 1978. PMID: 699664.
2. DiMarco AF, von Euler C, Romaniuk JR, Yamamoto Y. Low threshold facilitation of inspiration by lung volume increments. *Acta Physiol Scand* 109:343-344, 1980. PMID: 7446177.
3. DiMarco AF, Kelsen SG, Cherniack NS, Hough WH, Gothe B. The effects on breathing of selective restriction of movement of the rib cage and abdomen. *J Appl Physiol* 50:412-420, 1981. PMID: 6451604.
4. DiMarco AF, von Euler C, Romaniuk JR, Yamamoto Y. Positive feedback facilitation of external intercostal and phrenic inspiratory activity by pulmonary stretch receptors. *Acta Physiol Scand* 113:375-386, 1981.

PMID: 6808805.

5. Altose MD, DiMarco AF, Gottfried SB, Strohl KP. The sensation of respiratory muscle force. *Am Rev Respir Dis* 126:807-811, 1982. PMID: 7149445.
6. DiMarco AF, Wolfson DA, Gottfried SB, Altose MD. Sensation of inspired volume in normal subjects and quadriplegic patients. *J Appl Physiol* 53:1481-1486, 1982. PMID: 7153146.
7. DiMarco AF, Kelsen SG, Cherniack NS, Gothe B. Occlusion pressure and breathing pattern in patients with interstitial lung disease. *Am Rev Respir Dis* 127:425-430, 1983. PMID: 6404205.
8. DiMarco AF, Romaniuk JR, Von Euler C, Yamamoto Y. Immediate changes in ventilation and respiratory pattern associated with onset and cessation of locomotion in the cat. *J Physiol* 343:1-16, 1983. PMID: 6644612.
9. Nochomovitz ML, Peterson DK, DiMarco AF, Cherniack NS, Mortimer JT. Intramuscular electrical activation of the diaphragm with an alae nasi trigger. *Artificial Organ*, November, 1983.
10. Nochomovitz ML, Peterson D, DiMarco AF, Cherniack NS, Mortimer JT. Intramuscular electrical activation of the diaphragm. *Proceedings of the Vienna International Workshop on Functional Electrical Stimulation* 6.3:1-4, 1983.
11. Nochomovitz ML, DiMarco AF, Mortimer JT, Cherniack NS. Diaphragm activation with intramuscular stimulation in dogs. *Am Rev Respir Dis* 127:325-329, 1983. PMID: 6830053.
12. Gottfried SB, Strohl KP, Van de Graaff W, Fouke JM, DiMarco AF. Effects of phrenic stimulation on upper airway resistance in anesthetized dogs. *J Appl Physiol* 55:419-426, 1983. PMID: 6618934.
13. Wolfson DA, Strohl KP, DiMarco AF, Altose MD. Effects of an increase in end-expiratory volume on the pattern of thoracoabdominal movements. *Respir Physiol* 53:273-283, 1983. PMID: 6648058.
14. Cropp AJ, DiMarco AF, Lankerani M. False-positive transbronchial needle aspiration in bronchogenic carcinoma. *Chest* 85:696-697, 1984. PMID: 6713981.
15. Mazza FG, DiMarco AF, Altose MD, Strohl KP. The flow-volume loop during glossopharyngeal breathing. *Chest* 85:638-640, 1984. PMID: 6713974.
16. Gottfried SB, Leech I, DiMarco AF, Zaccardelli W, Altose MD. Sensation of respiratory force following low cervical spinal cord transection. *J Appl Physiol* 57:989-994, 1984. PMID: 6094406.
17. DiMarco AF, DiMarco MS, Strohl KP, Altose MD. Effects of expiratory threshold loading on thoracoabdominal motion in cats. *Respir Physiol* 57:247-257, 1984. PMID: 6494649.
18. DiMarco AF, Kelling JS, DiMarco MS, Jacobs I, Shields R, Altose MD. The effects of inspiratory resistive training on respiratory muscle function in patients with muscular dystrophy. *Muscle Nerve* 8:284-290, 1985. PMID: 16758594.
19. DiMarco AF, Nochomovitz M, DiMarco MS, Altose MD, Kelsen SG. Comparative effects of aminophylline on diaphragm and cardiac contractility. *Am Rev Respir Dis* 132:800-805, 1985. PMID: 4051317.
20. Kelling JS, DiMarco AF, Gottfried SB, Altose MD. Respiratory responses to ventilatory loading following low cervical spinal cord injury. *J Appl Physiol* 59:1752-1756, 1985. PMID: 4077783.
21. Peterson DK, Nochomovitz M, DiMarco AF, Mortimer JT. Intramuscular electrical activation of the phrenic nerve. *IEEE Trans Biomed Eng* 33:342-351, 1986. PMID: 3957387.
22. DiMarco AF. Loaded breathing: load compensation and respiratory sensation. *Fed Proc* 45:114-122, 1986.

23. Altose MD, Castele RJ, Connors AF Jr, DiMarco AF. Effects of volume and frequency of mechanical ventilation on respiratory activity in humans. *Respir Physiol* 66:171-180, 1986. PMID: 3101155.
24. Cropp A, DiMarco AF. Effects of intermittent negative pressure ventilation on respiratory muscle function in patients with severe chronic obstructive pulmonary disease. *Am Rev Respir Dis* 135:1056-1061, 1987. PMID: 3107444.
25. DiMarco AF, Altose MD, Cropp A, Durand D. Activation of the inspiratory intercostal muscles by electrical stimulation of the spinal cord. *Am Rev Respir Dis* 136:1385-1390, 1987. PMID: 3688644.
26. DiMarco AF, Connors AF, Altose MD. Management of chronic alveolar hypoventilation with nasal positive pressure breathing. *Chest* 92:952-954, 1987. PMID: 3117501.
27. Bundy RJ, Arnold JS, DiMarco AF, Hussein F, Supinski GS. Effect of amrinone on diaphragm blood flow. *J Appl Physiol* 65:1506-1513, 1988. PMID: 3182514.
28. Supinski G, DiMarco A, Ketai L, Hussein F, Altose M. Reversibility of diaphragm fatigue by mechanical hyperperfusion. *Am Rev Respir Dis* 138:604-609, 1988. PMID: 2974261.
29. Gottfried SB, DiMarco AF. Effects of intestinal afferent stimulation on pattern of respiratory muscle activation. *J Appl Physiol* 66:1455-1461, 1989. PMID: 2523377.
30. DiMarco AF, Budzinska K, Supinski GS. Artificial ventilation by means of electrical activation of the intercostal/accessory muscles alone in anesthetized dogs. *Am Rev Respir Dis* 139:961-967, 1989. PMID: 2784646.
31. DiMarco AF, Supinski GS, Budzinska K. Inspiratory muscle interaction in the generation of changes in airway pressure. *J Appl Physiol* 66:2573-2578, 1989. PMID: 2745318.
32. Darian GB, DiMarco AF, Kelsen SG, Supinski GS, Gottfried SB. Effects of progressive hypoxia on parasternal, costal and crural diaphragm activation. *J Appl Physiol* 66:2579-2584, 1989. PMID: 2745319.
33. Supinski GS, DiMarco AF, Hussein F, Altose MD. Alterations in respiratory muscle activation in the ischemic fatigued canine diaphragm. *J Appl Physiol* 67:720-729, 1989. PMID: 2793675.
34. DiMarco AF. Asthma in the pregnant patient: a review. *Ann Allergy* 62:527-533, 1989. PMID: 2660633.
35. Budzinska K, Supinski G, DiMarco AF. Inspiratory action of separate external and parasternal intercostal muscle contraction. *J Appl Physiol* 67:1395-1400, 1989. PMID: 2793741.
36. Peterson DK, Stellato T, Nochomovitz ML, DiMarco AF, Abelson T, Mortimer JT. Electrical activation of respiratory muscles by methods other than phrenic nerve cuff electrodes. *Pacing Clin Electrophysiol* 12:854-860, 1989. PMID: 2471174.
37. Supinski GS, DiMarco AF, Altose MD. Effect of diaphragmatic contraction on intramuscular pressure and vascular impedance. *J Appl Physiol* 68:1486-1493, 1990. PMID: 2347789.
38. Shindoh C, DiMarco A, Thomas A, Manubay P, Supinski G. Effect of N-acetylcysteine on diaphragm fatigue. *J Appl Physiol* 68:2107-2113, 1990. PMID: 2361912.
39. Supinski GS, DiMarco AF, Gonzalez J, Altose MD. Effect of norepinephrine on diaphragm contractility and blood flow. *J Appl Physiol* 69:2019-2028, 1990. PMID: 2076996.
40. DiMarco AF, Romaniuk JR, Supinski GS. Parasternal and external intercostal muscle shortening during eupneic breathing. *J Appl Physiol* 69:2222-2226, 1990. PMID: 2077020.
41. Supinski G, DiMarco A, Bark H, Chapman K, Clary S, Altose M. Effect of codeine on the sensations

- elicited by loaded breathing. *Am Rev Res Dis* 141:1516-1521, 1990. PMID: 2350094.
42. DiMarco AF, Romaniuk JR, Supinski GS. Mechanical action of the interosseous intercostal muscles as a function of lung volume. *Am Rev Respir Dis* 142:1041-1046, 1990. PMID: 2240826.
 43. DiMarco AF, Romaniuk JR, Supinski GS. Action of the intercostal muscles on the rib cage. *Respir Physiol* 82:295-306, 1990. PMID: 2080319.
 44. Shindoh C, DiMarco A, Lust W, Supinski G. Effect of acute fasting on diaphragm strength and endurance. *Am Rev Res Dis* 144:488-493, 1991. PMID: 1892284.
 45. Supinski G, DiMarco AF, Hussein F, Bundy R, Altose M. Analysis of the contraction of series and parallel muscles working against elastic loads. *Respir Physiol* 87:141-155, 1992. PMID: 1565888.
 46. Shindoh C, DiMarco A, Nethery D, Supinski G. Effect of PEG-superoxide dismutase on the diaphragmatic response to endotoxin. *Am Rev Respir Dis* 145:1350-1354, 1992. PMID: 1596002.
 47. Romaniuk JR, Supinski G, DiMarco AF. Relationship between parasternal and external intercostal muscle length and load compensatory responses in dogs. *J Physiol* 449:441-455, 1992. PMID: 1522517.
 48. Renston JP, Morgan J, DiMarco AF. Disseminated miliary blastomycosis leading to acute respiratory failure in an urban setting. *Chest* 101:1463-1465, 1992. PMID: 1582324.
 49. DiMarco AF, Romaniuk JR, Supinski GS. Parasternal and external intercostal responses to various respiratory maneuvers. *J Appl Physiol* 73:979-986, 1992. PMID: 1400066.
 50. Supinski GS, Stofan D, Nashawati E, DiMarco AF. Failure of vasodilator administration to increase blood flow to the fatiguing diaphragm. *J Appl Physiol* 74:1178-1185, 1993. PMID: 8482656.
 51. Supinski GS, Dick T, Stofan D, DiMarco AF. Effects of intraphrenic injection of potassium on diaphragm activation. *J Appl Physiol* 74:1186-1194, 1993. PMID: 8482657.
 52. Nashawati E, DiMarco A, Supinski G. Effects produced by infusion of a free radical-generating solution into the diaphragm. *Am Rev Respir Dis* 147:60-65, 1993. PMID: 8420433.
 53. Supinski G, Nethery D, DiMarco A. Effect of free radical scavanders on endotoxin-induced respiratory muscle dysfunction. *Am Rev Res Dis* 148:1318-1324, 1993. PMID: 8239170.
 54. Supinski G, Stofan D, DiMarco A. Effect of ischemia-reperfusion on diaphragm strength and fatigability. *J Appl Physiol* 75:2180-2187, 1993. PMID: 8307877.
 55. Romaniuk JR, Supinski GS, DiMarco AF. Reflex control of diaphragm activation by thoracic afferents. *J Appl Physiol* 75:63-69, 1993. PMID: 8376303.
 56. DiMarco AF, Supinski GS, Simhai B, Romaniuk JR. Mechanical action of the internal intercostal muscles in dogs. *J Appl Physiol* 75:2360-2367, 1993. PMID: 8125851.
 57. Supinski G, DiMarco A, Dibner-Dunlap M. Alterations in diaphragm strength and fatigability in congestive heart failure. *J Appl Physiol* 76:2707-2713, 1994. PMID: 7928904.
 58. DiMarco AF, Supinski GS, Petro JA, Takaoka Y. Evaluation of intercostal muscle pacing to provide artificial ventilation in quadriplegics. *Am J Resir Crit Care Med* 150:934-940, 1994. PMID: 7921466.
 59. Renston JP, DiMarco AF, Supinski GS. Respiratory muscle rest using nasal BiPAP ventilation in patients with stable severe COPD. *Chest* 105:1053-1060, 1994. PMID: 8162724.
 60. DiMarco AF, Renston JP. In search of the appropriate use of chest computed tomography. *Chest* 106:332-333, 1994. PMID: 7774295.

61. DiMarco AF, Supinski GS, Kowalski KE, Romaniuk JR. Effects of pentobarbital anesthesia on intercostal muscle activation and shortening. *J Appl Physiol* 77:925-932, 1994. PMID: 8002549.
62. DiMarco AF, Romaniuk JR, Supinski GS. Electrical activation of the expiratory muscles to restore cough. *Am J Respir Crit Care Med* 151:1466-1471, 1995. PMID: 7735601.
63. DiMarco AF, Oca D, Renston JP. Lung herniation: A cause of chronic chest pain following thoracotomy. *Chest* 107:877-879, 1995. PMID: 7874971.
64. Ciufu R, Nethery D, DiMarco A, Supinski G. Effect of varying load magnitude on diaphragmatic glutathione metabolism during loaded breathing. *Am J Respir Crit Care Med* 152:1641-1647, 1995. PMID: 7582308.
65. Supinski GS, Nethery D, Ciufu R, Renston J, DiMarco A. Effect of varying inspired oxygen concentration on diaphragm glutathione metabolism during loaded breathing. *Am J Respir Crit Care Med* 152:1633-1640, 1995. PMID: 7582307.
66. Supinski GS, Stofan D, Ciufu R, DiMarco A. N-acetylcysteine administration and loaded breathing. *J Appl Physiol* 79:340-347, 1995. PMID: 7559241.
67. Supinski G, Nethery D, Murhez N, Ciufu R, DiMarco A. Glutathione metabolic responses to loaded breathing: variation among respiratory muscles. *J Appl Physiol* 81:1362-1369, 1996. PMID: 8889775.
68. Supinski G, Nethery D, Stofan D, DiMarco A. Comparison of the effects of endotoxin on limb, respiratory, and cardiac muscle. *J Appl Physiol* 81:1370-1378, 1996. PMID: 8889776.
69. Creasey G, Elefteriades J, DiMarco A, Talonen P, Bijak M, Girsch W, Kantor C. Electrical stimulation to restore respiration. *J Rehabil Res Dev* 33:123-132, 1996. PMID: 8724168.
70. Renston JP, Connors AF Jr, DiMarco AF. Survey of physicians' attitudes about risks and benefits of chest computed tomography. *South Med J* 89:1067-1073, 1996. PMID: 8903289.
71. Supinski G, Nethery D, Stofan D, DiMarco A. Effect of free radical scavengers on diaphragm fatigue. *Am J Respir Crit Care Med*. 155:622-629, 1997. PMID: 9032204.
72. DiMarco AF, Romaniuk JR, Kowalski KE, Supinski GS. Efficacy of combined inspiratory intercostal and expiratory muscle pacing to maintain artificial ventilation. *Am J Respir Crit Care Med* 156:122-126, 1997. PMID: 9230735.
73. Poponick JM, Jacobs I, Supinski G, DiMarco AF. Effect of upper respiratory tract infection in patients with neuromuscular disease. *Am J Respir Crit Care Med* 156:659-664, 1997. PMID: 9279255.
74. Supinski GS, Stofan D, Ciufu R, DiMarco A. N-Acetylcysteine administration alters the response to inspiratory loading in oxygen-supplemented rats. *J Appl Physiol* 82:1119-1125, 1997. PMID: 9104848.
75. Lin VW, Romaniuk JR, DiMarco AF. Functional magnetic stimulation of the respiratory muscles in dogs. *Muscle Nerve* 21:1048-1057, 1998. PMID: 9655123.
76. Supinski G, Nethery D, Stofan D, Hirschfield W, DiMarco A. Diaphragmatic lipid peroxidation in chronically loaded rats. *J Appl Physiol* 86:651-658, 1999. PMID: 9931204.
77. DiMarco AF. Diaphragm pacing in patients with spinal cord injury. *Top Spinal Cord Inj Rehabil* 5:6-20, 1999.
78. DiMarco AF, Romaniuk JR, Kowalski KE, Supinski G. Pattern of expiratory muscle activation during lower thoracic spinal cord stimulation. *J Appl Physiol* 86:1881-1889, 1999. PMID: 10368352.
79. Supinski G, Stofan D, Nethery D, Szweda L, DiMarco A. Apocynin improves diaphragmatic function

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 197. DiMarco AF, Hromyak DR, Kowalski KE. Spinal cord stimulation (SCS) to restore cough in spinal cord injury (SCI) subjects: Long-term follow-up. Presented at the European Respiratory Society (ERS) International Congress; Munich, Germany, September 2014.
 198. Kowalski KE, Hromyak DR, Geertman, RT, DiMarco AF. Spinal Cord Stimulation (SCS) Cough System: Long-Term Follow-up. Presented at the MetroHealth Medical Center Research Day; Cleveland, OH, September 2014.
 199. DiMarco AF, Kowalski KE, Riffle RR, Geertman RT, Frost FS, Nemunaitis GA. Long Term Assessment

- of the Effectiveness of the Cough System in Spinal Cord Injury (SCI). Presented at the Research ShowCASE; Cleveland, OH, April, 2015.
200. DiMarco AF, Kowalski KE, Riffle RR, Geertman RT, Frost FS, Nemunaitis GA. Long Term Assessment of the Effectiveness of the Cough System in Spinal Cord Injury (SCI). Presented at the 4th ISCoS and ASIA Joint Scientific Meeting; Montreal, Canada, May 2015.
 201. Kowalski KE, Kowalski T, DiMarco AF. Efficiency of Gas Exchange during Stimulated Breathing in an Animal Model of Spinal Cord Injury. Presented at the 4th ISCoS and ASIA Joint Scientific Meeting; Montreal, Canada, May 2015.
 202. Kowalski KE, Romaniuk JR, Brose S, Richmond MA, Kowalski T, DiMarco AF. High Frequency Spinal Cord Stimulation (HF-SCS) to Restore Cough in a Dog Model. Presented at the National VA Research Week; Cleveland, OH, May 2015.
 203. DiMarco AF, Kowalski KE, Riffle RR, Kowalski T, Geertman RT, Nemunaitis GA, Frost FS. Electrical Stimulation of Paralyzed Expiratory Muscles for Cough Production. Presented at the Annual Conference of the Academy of Spinal Cord Injury Professionals; New Orleans, LA, September 2015.
 204. Kowalski KE, Riffle RR, Kowalski, T, Geertman RT, Nemunaitis GA, Frost FS, DiMarco AF. Impact of the Implanted Cough System on the Quality of Life of Spinal Cord Injury (SCI) Subjects. Presented at the Annual Conference of the Academy of Spinal Cord Injury Professionals; New Orleans, LA, September 2015. *Award for Best Poster*
 205. Kowalski KE, Riffle RR, Kowalski T, Geertman RT, Nemunaitis GA, Frost FS, DiMarco AF. Impact of the Implanted Cough System on the Quality of Life of Spinal Cord Injury (SCI) Subjects. Presented at The MetroHealth System Annual Research Day; Cleveland, OH, October 2015.
 206. Kowalski T, Riffle RR, Geertman RT, Nemunaitis GA, Frost FS, DiMarco AF, Kowalski KE. Impact of the Implanted Cough System on the Quality of Life of Spinal Cord Injury (SCI) Subjects. Presented at the 1st Annual University of Medicine & Health Sciences (UMHS) Research Symposium; UMHS Campus, St. Kitts, November 2015.
 200. DiMarco AF, Geertman RT, Tabbaa K, Polito RR, Kowalski KE. Evaluation of Spinal Cord Stimulation using Wire Leads to Restore an Effective Cough in Subjects with Spinal Cord Injury. Presented at the Annual Meeting of the American Spinal Injury Association; Philadelphia, PA, April 2016.
 201. Kowalski KE, Romaniuk JR, Brose S, Richmond MA, Kowalski T, DiMarco AF. High Frequency Spinal Cord Stimulation (HF-SCS) to Restore Cough in a Dog Model. Presented at the Research ShowCASE; Cleveland, OH, April, 2016.
 202. DiMarco AF, Geertman RT, Tabbaa K, Polito RR, Kowalski KE. Evaluation of Spinal Cord Stimulation using Wire Leads to Restore an Effective Cough in Subjects with Spinal Cord Injury. Presented at the Research ShowCASE; Cleveland, OH, April, 2016.
 203. Kowalski KE, Romaniuk JR, Brose S, Richmond MA, Kowalski T, DiMarco AF. Expiratory Muscle Activation via High Frequency Spinal Cord Stimulation to Restore Cough in a Dog Model. Presented at the Joint Meeting of the American Physiological Society and The Physiological Society; Dublin, Ireland, July, 2016.
 207. DiMarco AF, Geertman RT, Tabbaa K, Polito RR, Kowalski KE. Minimally Invasive Method to Activate the Expiratory Muscles to Restore Cough. Presented at the Annual Conference of the Academy of Spinal Cord Injury Professionals; Nashville, TN, September 2016. *Award of Excellence*

208. Kowalski KE, Romaniuk JR, Brose S, Richmond MA, Kowalski T, DiMarco AF. High Frequency Spinal Cord Stimulation – New Method to Restore Cough. Presented at the Annual Conference of the Academy of Spinal Cord Injury Professionals; Nashville, TN, September 2016.
209. Kowalski KE, Dick TE, DiMarco AF, Alilain WJ. Effects of C2 Chronic Hemisection on Inspired Volume Generation During High Frequency Spinal Cord Stimulation (HF-SCS). Experimental Biology Annual Meeting; Chicago, IL, April 2017 (Accepted).
210. Alilain WJ, Stoltz D, Ritter K, Dick TE, DiMarco AF, Kowalski KE. Promoting Respiratory Motor Plasticity After Spinal Cord Injury Through High Frequency Stimulation (HF-SCS). Experimental Biology Annual Meeting; Chicago, IL, April 2017 (Accepted).
211. Alilain WJ, Stoltz D, Ritter K, Dick TE, DiMarco AF, Kowalski KE. Promoting Respiratory Motor Plasticity After Spinal Cord Injury Through High Frequency Stimulation (HF-SCS). Experimental Biology Annual Meeting; Chicago, IL, April 2017 (Accepted).
212. DiMarco AF, Geertman RT, Tabbaa K, Polito RR, Kowalski KE. Complete Restoration of Respiratory Muscle function in SCI. Annual Conference of the Academy of Spinal Cord Injury Professionals; Denver, CO, September 2017 (Submitted).
213. Kowalski KE, Dick TE, DiMarco AF, Alilain WJ. Effects of C2 Chronic Hemisection on Inspired Volume Generation During High Frequency Spinal Cord Stimulation (HF-SCS). Experimental Biology Annual Meeting; Chicago, IL, April 2017. FASEB J April 2017 31:873.16
214. Alilain WJ, Stoltz D, Ritter K, Dick TE, DiMarco AF, Kowalski KE. Promoting Respiratory Motor Plasticity After Spinal Cord Injury Through High Frequency Stimulation (HF-SCS). Experimental Biology Annual Meeting; Chicago, IL, April 2017. FASEB J April 2017 31:1055.15.
215. Kowalski KE, Romaniuk JR, Brose S, Richmond MA, Kowalski T, DiMarco AF. Expiratory Muscle Activation via High Frequency Spinal Cord Stimulation. Experimental Biology Annual Meeting; Chicago, IL, April 2017. FASEB J April 2017 31:1b831.
216. DiMarco AF, Geertman RT, Tabbaa K, Polito RR, Kowalski KE. Complete Restoration of Respiratory Muscle function in SCI. Annual Conference of the Academy of Spinal Cord Injury Professionals; Denver, CO, September 2017 (Accepted).
217. Romaniuk JR, Dick TE, Bruce EN, DiMarco AF, and Kowalski KE. Bifurcation of the Respiratory Response to Lung Inflation in Anesthetized Dogs. Respiration Physiology and Neurobiology (Submitted) 2017.
218. Kowalski KE, Romaniuk JR, Kowalski T and DiMarco AF. Effects of Expiratory Muscle Activation via High Frequency Spinal Cord Stimulation. Journal Applied Physiology (Submitted) 2017.

Selected Invited Lectures at Local, National and International Meetings

Clinical Experience with Intercostal Muscle Pacing to Support Artificial Ventilation. Presented at the Annual Conference of the American Paraplegia Society; Las Vegas, NV, September 2000.

Neural Prosthesis in Respiratory System. Presented at the 16th Annual Applied Neural Control Research Day Meeting; Cleveland, OH, May 2001.

Expiratory Muscle Stimulation to Restore Cough. Presented at Rammelkamp Research Conference; Cleveland, OH, February 2003.

Diaphragm Pacing. Presented at the Amici Lecture Series; Case Western Reserve Alumni Association,

Cleveland, OH, March 2003.

Electrical Stimulation Techniques to Restore Respiratory Muscle Function. Presented at the Spinal Cord Injury Conference; Long Beach, CA, June, 2003.

Diaphragm Pacing. Presented at Pulmonary Grand Rounds; Temple University, Philadelphia, PA, December 2004.

Inspiratory Muscle Pacing in Persons with Spinal Cord Injury. Presented at Respiratory Symposium, 51st Annual Conference of the American Paraplegia Society; Las Vegas, NV, September 2005.

Restoration of Respiratory Muscle Function with Electrical Stimulation. Presented at Spinal Cord Injury, State of the Art Conference; VA Medical Center in Cleveland, OH, November 2005.

Electrical Stimulation Systems to Restore Cough. Presented at PM&R Grand Rounds; MetroHealth Medical Center, Cleveland, OH, April 2006.

Restoration of Cough in Spinal Cord Injury with Patient Demonstration. Presented at the SCI Model System Leadership PT and OT Forum; MetroHealth Medical Center, Cleveland, OH, October 2006.

Spinal Cord Stimulation to Restore Cough in Patients with Spinal Cord Injury. Presented at the American Spinal Injury Association International Conference; Tampa Bay, FL, May 2007.

Translating Research Discoveries and Innovations into Better Patient Care and Systems Improvement in SCI. Clinical Example of Translational Research: Restoration of Cough, from Bench to Bedside. Presented at the Congress on Spinal Cord Medicine and Rehabilitation Annual Conference; Dallas, TX, September 2009.

High Frequency Spinal Cord Stimulation to Activate the Inspiratory Muscles. Presented at the Case Western Reserve University Department of Physiology and Biophysics Annual Retreat; Geneva, OH, October 2009.

State-of-the-Art Symposium – Advances in Rehabilitation Engineering and Assistive Technology for Patients with Spinal Cord Injury and Disorders (SCI/D). Advances in Respiratory Rehabilitation Technology. Presented at the American Spinal Injury Association Annual Meeting; Nashville, TN, May 2010.

Chair for speaker session: Laboratory Screening Tests for Neurological Disorders. Presented at BIT Life Science's Annual World Congress of NeuroTalk; Singapore, June 2010.

High Frequency Spinal Cord Stimulation to Restore Inspiratory Muscle Function. Presented at FES Seminar; Cleveland, OH, July 2010.

SCI Medicine: An Intensive Review Course. Critical Care and Respiratory Management of SCI. Presented at the Annual Meeting of the Academy of Spinal Cord Injury Professionals; Las Vegas, NV, September 2010.

Moderator for speaker session: Secondary Complications of SCI. Annual Meeting of the Academy of Spinal Cord Injury Professionals; Las Vegas, NV, September 2010.

Moderator for speaker session: Ethics Lecture. The SCI Patient and End of Life Decisions. Annual Meeting of the Academy of Spinal Cord Injury Professionals; Las Vegas, NV, September 2010.

Diaphragm Pacing, Past, Present and Future Directions. Presented at the National Association of Long Term Hospitals 2010 Educational Conference; Las Vegas, NV, October 2010.

Use of Spinal Cord Stimulation to Restore Cough. Presented at PM&R Grand Rounds; VA Palo Alto Health Care System/Stanford University, Palo Alto, CA, October 2010.

Spinal Cord Stimulation to Restore Cough in Patients with Spinal Cord Injury, 2010 Apple Award Recipient Presentation. Presented at Research Day; Shepherd Center, Atlanta, GA, November 2010.

High Frequency Spinal Cord Stimulation to Restore Inspiratory Muscle Function. Presented at PM&R Grand Rounds; University Hospitals/Case Western Reserve University, Cleveland, OH, November 2010.

Restoring Ventilation in Patients with Spinal Cord Injury. Presented at Pulmonary Grand Rounds; Case Medical Center, Cleveland, OH, December 2010.

Spinal Cord Stimulation to Restore Cough. Presented at PM&R Grand Rounds; Detroit Medical Center's Rehabilitation Institute of Michigan/Wayne State University, Detroit, MI, April 2011.

Restoration of Cough using Electrical Stimulation Techniques. Presented at UPMC Mercy; Pittsburgh, PA, May 2011.

Clinical Update on Restoration of Cough by Electrical Spinal Cord Stimulation (SCS). Presented at the BIT Life Science's Annual World Congress of NeuroTalk; Dalian, China, May 2011.

Effects of Spinal Cord Stimulation (SCS) via Wire Electrodes on Expiratory Muscle Activation. Presented at the International Conference on Spinal Cord Medicine and Rehabilitation (ISCoS/ASIA); Washington, DC, June 2011.

Rationale for the Clean Air Act. Presented at the Cleveland Clear Air Town Hall Meeting; Breen Center at St. Ignatius High School, Cleveland, OH, July 2011.

Spinal Cord Stimulation to Restore Cough: Long Term Follow-up. Presented at the Annual Meeting of the Academy of Spinal Cord Injury Professionals; Las Vegas, NV, September 2011.

Spinal Pathways Mediating Phrenic Activation during High Frequency Spinal Cord Stimulation (HF-SCS). Presented at the International Motoneuron Meeting; Sydney, Australia, July, 2012.

Mechanism of High Frequency Spinal Cord Stimulation in Animal Model of Spinal Cord Injury. Presented at the Annual Meeting of the Academy of Spinal Cord Injury Professionals; Las Vegas, NV, September 2012.

Long-Term Follow-up of Spinal Cord Stimulation to Restore Cough in Subjects with Spinal Cord Injury. Presented at the Annual Meeting of the Academy of Spinal Cord Injury Professionals; Las Vegas, NV, September 2012.

Munro lecture. Evolution of Methods to Restore Respiratory Muscle Function in Spinal Cord Injury. Presented at the Annual Conference of the Academy of Spinal Cord Injury Professionals; St. Louis, MO, September 2014.

Methods to Restore Cough in Spinal Cord Injury. Presented at the Pulmonary Grand Rounds; Case Medical Center, Cleveland, OH, January 2015.

Role of Spinal Networks in the Control of Diaphragm and Intercostal Muscle Activation. Presented at the Joint Meeting of the American Physiological Society and The Physiological Society; Dublin, Ireland, July, 2016.

Pulmonary Fall Symposium Continuing Medical Education, Guest speaker. Burton, Ohio, September 2016.

Thesis Advisor

Synchronous Activation of Intercostal Muscles and Diaphragm for Artificial Respiration by Somasekhar Kovvuri. Degree of Master of Science. Case Western Reserve University, Cleveland, OH, August 1991.

Chapters, Editorials and Miscellaneous

DiMarco AF, Kelsen SG Cherniack NS, Gothe B. Letter to the Editor. Occlusion pressure and breathing pattern in patients with interstitial lung disease. *Am Rev Respir Dis* 128:958-959, 1983. PMID: 6404205.

DiMarco AF, Hudgel D. Management of Obstructive Apnea. In: Goldman A, ed. *Problems in Pulmonary Disease*. Chapter 2, pages 1-8, 1986.

DiMarco AF. Negative Pressure Ventilation. In: Nochomovitz ML and Montenegro HD, eds. *Ventilatory Support in Respiratory Failure*. Mount Kisco, NY: Futura Publishing Company. Chapter 2, pages 27-49, 1987.

DiMarco AF. Interstitial Lung Disease in the Intensive Care Unit. In: MacDonnell KF, Fahey PJ, Segal MS, eds. *Respiratory Intensive Care*. Boston, MA: Little, Brown and Company. Chapter 15, pages 214-225, 1987.

DiMarco AF, Briones G. Editorial. Is chest CT done too often? *Chest* 103:985-986, 1993. PMID: 8179686.

DiMarco AF, Renston JP. Editorial. In search of the appropriate use of chest computed tomography. *Chest* 106:332-333, 1994.

Romaniuk JR, Dick TE, Supinski GS, DiMarco AF. Reflex Control of Expiratory Motor Output in Dogs. In: Bostock H, Kirkwood PA, Pullen AH, eds. *Neurobiology and Disease: Contributions from Neuroscience to Clinical Neurology*. New York, NY: Cambridge University Press. Chapter 30, pages 309-317, 1996.

DiMarco AF, Renston JP. Noninvasive Mechanical Ventilation. In: Cherniack NS, Altose MD, Homma I, eds. *Rehabilitation of the Patient with Respiratory Disease*. New York, NY: McGraw-Hill. Chapter 32, pages 387-399, 1999.

Chae J, Triolo RJ, Kilgore KL, Creasey GH, DiMarco AF. Neuromuscular Electrical Stimulation in Spinal Cord Injury. In: Kirshblum S, Campagnolo DI, DeLisa JA, eds. *Spinal Cord Medicine*. Philadelphia, PA: Lippincott Williams & Wilkins. Chapter 25, pages 360-388, 2002.

DiMarco AF. Respiratory Muscle Stimulation in Patients with Spinal Cord Injury. In: Horch KW, Dhillon GS, eds. *Neuroprosthetics: Theory and Practice*. Hackensack, NJ: World Scientific. Chapter 6.7, pages 951-978, 2004.

DiMarco AF. Quoted in *Neurology Review*. "Diaphragm nerve pacing may help Christopher Reeve breathe" by Janis Kelly. 11(5), 2004.

Chae J, Triolo RJ, Kilgore KL, Creasey GH, DiMarco AF. Functional Neuromuscular Stimulation. In: DeLisa JA, Gans BM, Walsh NE, Blockenek WL, Frontera WR, Geiringer SR, Gerber LH, Pease WS, Robinson LR, Smith J, Stitik TP, Zafonte RO, eds. *Physical Medicine and Rehabilitation: Principles and Practice, 4th edition*. Philadelphia, PA: Lippincott Williams & Wilkins. Chapter 66, pages 1405-1426, 2005.

DiMarco AF. Diaphragmatic Pacing. In: Tobin MJ, ed. *Principles and Practices of Mechanical Ventilation, 2nd edition*. New York, NY: McGraw-Hill. Chapter 62, pages 1263-1275, 2006.

DiMarco AF. Restoration of Ventilation and Cough with Functional Electrical Stimulation: Patient

Evaluation and Comparison of Currently Available Systems. In: Lin V, ed. *Spinal Cord Medicine: Principles and Practices, 2nd edition*. New York, NY: Demos Medical Publishing. Chapter 75, pages 978-995, 2010.

Nemunaitis G, Kilgore K, Triolo R, Kobetic R, Creasey G, DiMarco A. Neuromuscular Electrical Stimulation in Spinal Cord Injury. In: Kirschblum S, Campagnolo D, DeLisa J, et al., eds. *Spinal Cord Injury Medicine, 2nd edition*. Philadelphia, PA: Lippincott, Williams & Wilkins. Chapter 25, 2011.

DiMarco AF. Diaphragmatic Pacing. In Tobin MJ, ed. *Principles and Practice of Mechanical Ventilation, 3rd Edition*. New York, NY: McGraw-Hill Professional. Chapter 62, 2013.

DiMarco AF, Dawson NV. Editorial. Risk Factors for Mortality in Spinal Cord Injury. *J Spinal Cord Med* 37:670-671, 2014. PMID: 24964865.

DiMarco AF, Creasey GH. Neuroprosthetic Control of Respiratory Muscles. In: Horch KW, Kipke D, eds. *Neuroprosthetics: Theory and Practice*. Hackensack, NJ: World Scientific. 2016. (in press)

DiMarco AF, Restoration of Cough via Electrical Stimulation. In: Krames E, Peckham PH, *Neuromodulation, 2nd Edition*, Maryland Hts., MO: Elsevier. Chapter 113, 2017.

DiMarco AF, Brose, S. Spinal Cord Injury: Functional Electrical Stimulation for Patients. In: Kirshblum, S. *Essential Physical Medicine and Rehabilitation*. New York, NY: Springer Nature Publishing. Chapter 3, Pages 59-100, 2017.

DiMarco, AF, Brose, S., Kilgore, K., Triolo, R., Bourbeau, D.J., Nemunaitis, G. Functional Electrical Stimulation for Patients with Spinal Cord Disorders. In: Kraij, A.R., Bajd, T. *Functional Electrical Stimulation: Standing and Walking After Spinal Cord Injury*. CRC Press; 1 edition (January 31, 1989)

Community Activities

DiMarco, AF: Presenter at National Alliance on Mental Health (NAMI) in Geauga County. September 25, 2017.