

**RESEARCH VITA
RONALD VICTOR CROCE**

PROFESSIONAL EXPERIENCE

Ph.D. 1983: **University of New Mexico
Concentration-Neuroscience of Motor Control and Human
Performance**

1985-Present: **University of New Hampshire, Durham, NH 03824
Professor, Kinesiology Department**

Contact Information: **Telephone: 603/862-2080
E-mail: rvc@cisunix.unh.edu**

RECENT PRESENTATIONS (2000-2004)

June, 2004 **Scientific Conference of The International Boston,**
MA **Society of Electrophysiology and Kinesiology.** Title of presentation:
(1) *Knee musculature response strategies
during self-initiated vertical jump landing.*
(2) *Lower body analysis of muscle recruitment in
visually impaired and sighted matches.*

March, 2003 **National AAHPERD Conference.** Title of
San Diego, CA presentation: *Muscle activation and force production
in Parkinson's patients during sit-to-stand transfers.*

March, 2001 **National AAHPERD Conference.** Title of
Cincinnati, OH. presentation: *Distribution of fractionated response
times and EMG recordings of individuals with mental
retardation.*

March, 2000 **National AAHPERD Conference.** Title of
Orlando, FL presentation: *Isokinetic muscle strength and median
frequency of EMG subsequent to a 10-week progressive
resistance exercise program.*

September, 2000 **New Hampshire Musculoskeletal Institute 6th
Manchester, NH Annual Symposium: Lower Extremity Injuries &
Rehabilitation.** Title of presentation: *Comparison of*

isokinetic and EMG evaluation of functional knee activities in ACL-reconstructed knee.

PEER-REVIEWED MANUSCRIPTS USING SURFACE ELECTROMYOGRAPHY AND/OR ISOKINETICS (Listed by author/year)

- Croce, R.** (1986). The effects of EMG biofeedback on strength acquisition. *Biofeedback and Self-Regulation*, 11(4), 299-310.
- Croce, R.** & Horvat, M. (1995). Exercise-induced activation and cognitive processing in individuals with mental retardation. In A. Vermeer & W Davis (Eds.), *Medicine and sport science: Physical and motor development in mental retardation*. Basel, Switzerland: Karger AG. (pp. 144-151).
- Croce, R.**, & Miller, J. (2003). Effect of movement velocity and movement pattern on the reciprocal co-activation of the hamstrings. *Electromyography and Clinical Neurophysiology*, 43, 451-458.
- Croce, R.**, Miller, J., Confessore, R., & Vailas, J. (1998). Reciprocal coactivation patterns of the lateral and medial quadriceps and hamstrings during low and moderate speed isokinetic movement. *Journal of Sport Rehabilitation*, 7(3), 1-15.
- Croce, R.**, Miller, J., St. Pierre, P. (2000). Effect of ankle position fixation on peak torque and electromyographic activity of the knee flexors and extensors. *Journal of Electromyography and Clinical Neurophysiology*, 40(6), 365-373.
- Croce, R.**, Pitetti, K., Horvat, M., & Miller, J. (1996). Peak torque, average power, and hamstring/quadriceps ratios in nondisabled adults and adults with mental retardation. *Archives of Physical Medicine and Rehabilitation*, 77, 369-372.
- Croce, R.**, Pitetti, K., Miller, J., & Horvat, M. (1996). Comparison of absolute and relative peak torque and hamstring/quadriceps peak torque ratios in young men and boys. *Clinical Kinesiology*, 50, 52-57.
- Croce, R.**, Russell, P.J., Swartz, E.E., & Decoster, L.C. (2004). Knee muscular response strategies differ by developmental level but not gender during jump landing. *Electromyography and Clinical Neurophysiology*, 44, 339-348.
- Hill, C, **Croce, R.**, Cleland, F., & Miller, J. (1996). Muscle torque relationships between hand-held dynamometry and isokinetic measurements in children ages 9 to 11. *Journal of Strength and Conditioning Research*, 10, 77-82.

- Horvat, M., & **Croce, R.** (1995). Exercise and motor behavior characteristics of individuals who are mentally retarded. *Critical Reviews in Physical and Rehabilitation Medicine*, 7, 233-252.
- Horvat, M., **Croce, R.**, Pitetti, K., & Fernhall, B. (1999). A comparison of isokinetic peak force and work parameters in youth with and without mental retardation. *Medicine and Science in Sports and Exercise*, 31, 1190-1195.
- Horvat, M., **Croce, R.**, Poon, L., McCarthy, E., Keeny, R. (2001). Changes in peak torque and median frequency of the EMG subsequent to a progressive resistance exercise program in older women. *Clinical Kinesiology*, 55, 37-43.
- Horvat, M., Pitetti, K., & **Croce, R.** (1997). Isokinetic torque, average power, and flexion/extension ratios in nondisabled adults and adults with mental retardation. *Journal of Sports and Orthopedic Physical Therapy*, 25(6), 395-399.
- Horvat, M., Ramsey, V., Amestoy, R., & **Croce, R.** (2003). Movement response variability in youth with and without mental retardation. *Research Quarterly for Exercise and Sport*, 74(3), 319-323.
- Horvat, M., Ray, C, **Croce, R.**, & Blasch, B. (2004) A comparison of isokinetic muscle strength and power in visually impaired and sighted individuals. *Isokinetic and Exercise Science*, 12, 179-183.
- Hutchins, R., Miller, J., **Croce, R.** (1999). Effect of movement velocity on the median frequency of the electromyographic activity of the quadriceps and hamstrings during isokinetic testing. *Isokinetic and Exercise Science*, 7, 75-78.
- Miller, J. & **Croce, R.** (2002). Effect of movement velocity and movement pattern on the root mean square and the median frequency of the electromyographic activity of the quadriceps during isokinetic testing. *Isokinetics and Exercise Science*, 10, 193-198.
- Miller, J., **Croce, R.**, & Hutchins, R. (2000). Reciprocal coactivation patterns of the lateral and medial quadriceps and hamstrings during low, moderate, and high-speed isokinetic movements. *Journal of Electromyography and Kinesiology*, 11, 233-239.
- Miller, J., Sedory, D., & **Croce, R.** (1997). Leg rotation and vastus medialis oblique/ vastus lateralis electromyogram activity ratio during closed chain kinetic exercises prescribed for patellofemoral pain, *Journal of Athletic Training*, 32(3), 216-220.

- Miller, J., Sedory, D., & Croce, R. (1997). Vastus medialis obliquus and vastus lateralis activity in patients with and without patellofemoral pain syndrome, *Journal of Sport Rehabilitation*, 6, 1-10.
- Miller, J., Vailas, J., Croce, R., Confessore, R., & Catlaw, K. (1999). Dynamic analysis of custom-fitted functional knee braces: EMG and brace migration during physical activity. *Journal of Sport Rehabilitation*, 8, 109-122.
- Swartz, E., Decoster, L., Russell, P., & Croce, R. (2005). Effects of developmental stage and sex on lower extremity kinematics and vertical ground reaction forces during landing. *Journal of Athletic training*, 40 (1), 9-14.

SUBMITTED/IN PROGRESS MANUSCRIPTS USING SURFACE ELECTROMYOGRAPHY AND/OR ISOKINETICS (Listed by author)

- Croce, R., & Miller, J. *Effect of muscle length, contraction mode, and intensity level on quadriceps' and hamstrings' torque and SEMG levels.* (Data collection)
- Croce, R., & Miller, J. *Angle- and velocity-specific alterations in maximal voluntary quadriceps and hamstrings activity and torque.* (To be submitted to Muscle & Nerve)
- Croce, R., & Miller, J. *Angle- and velocity-specific changes in quadriceps and hamstrings coactivation during maximal voluntary contractions.* (To be submitted to Electromyography and Clinical Neurophysiology)
- Croce, R., & Miller, J. *Angle- specific changes in muscle efficiency and electromyographic indices of fatigue in the knee-joint musculature.* (To be submitted to Isokinetics and Exercise Science)
- Croce, R., & Miller, J. *Angle- specific fatigue effects on quadriceps' and hamstrings' coactivation.* (To be submitted to Medicine and Science in Sports and Exercise)
- Miller, J., & Croce, R. *Quadriceps' and hamstrings' muscle activity during alternating closed- and open-chain movements.* (To be submitted to Journal of Electromyography and Kinesiology)