

**John D. Lloyd, Ph.D., CPE**  
**Board Certified Ergonomics Consultant**

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**PROFESSIONAL AND RESEARCH SPECIALIZATION**

- Workplace Ergonomics
- Injury Biomechanics
- Musculoskeletal Disorders
- Occupational Back injury
- Carpal Tunnel Syndrome
- Health Care Ergonomics
- Patient Handling Technologies
- Motor Vehicle / Motorcycle / Jet Ski Design and Accident Reconstruction
- Product Ergonomics
- Slips, Trips & Falls

**EDUCATION AND TRAINING**

D.P.S.; Loughborough University of Technology, England; 1991  
B.Sc.(Honors); Ergonomics, Loughborough University of Technology, England; 1992  
Ph.D.; Ergonomics; Loughborough University, England; 2002

**CERTIFICATION AND REGISTRATION**

CPE (#725); Certificant, Board of Certification in Professional Ergonomics; 1995  
M.Erg.S.; Member of The Ergonomics Society Professional Register; 1996  
Member, Sigma Xi Scientific Research Society; 2005

**POSTGRADUATE TRAINING COURSES**

1990; Harvard School of Public Health; Human Factors in Occupational Health & Safety  
1992; Loughborough Univ. of Technology; Ergonomics and Design

1999; University of Michigan, Ergonomics Workshop: 3D Static Strength Prediction Program

2004; Vicon Motion Systems, Inc. Vicon BodyBuilder training workshop

2004; Vicon Motion Systems, Inc. Vicon Polygon training workshop

## PRESENT EMPLOYMENT

01/07-present **Associate Director**, VA RR&D Center of Excellence 'Advancing Rehabilitation Safety: Innovative Technology Applications'.

07/02-present **Director**, Research Laboratories, VA RR&D Research Enhancement Award Program (REAP), Tampa, FL.

04/02-present **Research Assistant Professor**, College of Engineering, University of South Florida, Tampa, FL.

09/01-present **Director**, Research Laboratories, Patient Safety Center of Inquiry, Tampa, FL.

11/99-present **Adjunct Instructor**, Center for Product Ergonomics, University of South Florida, Tampa, FL.

10/99-present **Associate Director**, Technology Innovations Division, Patient Safety Center of Inquiry, Tampa, FL.

## PAST EMPLOYMENT

05/98-05/00 **Director of Information Systems**, UTEK Corporation, Plant City, FL.

10/96-10/99 **Research Director**, Center for Product Ergonomics, University of South Florida, Tampa, FL.

06/96-10/96 **Acting Program Director**, Center for Product Ergonomics, University of South Florida, Tampa, FL.

01/96-05/96 **Ergonomics Laboratory Manager / Research Ergonomist**, Center for Product Ergonomics, University of South Florida, Tampa, FL. Contemporary research focusing on prevention of work-related cumulative trauma disorders through qualification and quantification of mechanical stressors.

05/95-12/96 **Adjunct Professor (P/T)**, Kennedy-Western University, CA. Courses taught: Ph.D. - Human Factors Engineering; M.S. – Ergonomics.

07/93-01/96 **Principal Ergonomist**, The Ergonomics Institute, Hauppauge, NY. Corporate ergonomics program development and support services. Forensic ergonomics and accident reconstruction.

07/92-07/93 **Ergonomics /Biomechanics Consultant**, Biomechanics Corporation of America, Melville, NY. Anthropometric study and reach analysis.

Workplace assessment. Man-modeling simulation and CAD representation. Corporate ergonomics program development. Product evaluation. Ergonomics support services.

07/90-07/91 **Research Ergonomist**, Liberty Mutual Research Center, Hopkinton, MA. Conducted experiments into the physiological effects of force and frequency on cumulative trauma disorders of the upper extremities to determine safe operating levels for industry.

12/88-07/90 **Human Reliability Consultant**, R M Consultants Ltd., Warrington, Cheshire, UK. Consultant in Human Factors for a risk management corporation. Principal project areas included: Human Reliability, Safety Auditing, Human-Machine Interface design.

### PROFESSIONAL MEMBERSHIP

- International Ergonomics Association
- The Ergonomics Society (UK)
- Sigma Xi Research Society

### AWARDS AND HONORS

- Who's Who Worldwide Registry of Business Leaders (1995)
- Sterling Who's Who (1995)
- International Who's Who of Professionals (1996)
- Article of the Year Award (1998)
- Lexington Who's Who Among Executives and Professionals (1999)
- The Dictionary of Leading Americans (2000)
- Certificate of Excellence awarded by VHA Patient Safety Research Center (2002)

### EDITORIAL APPOINTMENTS

- Occupational Health and Safety magazine, Stevens Publishing, Waco, TX
- Workplace Ergonomics, Stevens Publishing, Waco, TX
- Columnist for 'Ergonomics Intelligence Report', James Publishing, Santa Ana, CA
- Book reviewer for 'Ergonomics In Design', Human Factors and Ergonomics Society
- Journal of Rehabilitation Research and Development, Department of Veterans Affairs, Washington, DC
- Applied Ergonomics, Taylor and Francis, London.

### PROFICIENCY / EXPERIENCE - BIOMECHANICAL ASSESSMENT TECHNOLOGIES

- VICON motion tracking system
- HumanTRAC electromagnetic human motion tracking system (co-developer)

- FassTech 4-channel digital EMG
- TekScan pressure mapping technology
- X-Sensor pressure mapping technology
- Polar Heart-Rate Monitor
- Moor Instruments laser Doppler measurement system
- Inframetrics digital thermography camera
- LabTech Instrumentation virtual instrumentation system
- LabView virtual instrumentation system
- Technology for measurement of diurnal spinal compression (co-developer)
- Biomechanics of Falling Instrumentation (developer)
- Mannequin
- University of Michigan 3D Static Strength Prediction Program

#### **PROFICIENCY / EXPERIENCE - COMPUTER SOFTWARE APPLICATIONS**

- Microsoft Windows – 3, 3.1, NT, 95, 98, 2000, ME, XP
- Microsoft Office
- Visual Basic
- MatLab
- MathCAD
- SPSS Statistical Analysis Package
- Rhinoceros
- Vicon

#### **GRANTS AND FUNDED RESEARCH**

1. 'Biomechanical assessment of dynamic postural sway in healthy elderly.' Role: Co-Investigator. Sponsored by: Institute for Aging. Awarded \$7,500. 1996.
2. 'Redesigning patient handling tasks and equipment to prevent nursing back injuries.' Role: Co-Investigator. Sponsored by: Department of Veterans Affairs. Awarded \$305,000. 1997.
3. 'Effect of wrist exposures on median nerve conduction: Pilot study.' Role: Co-Investigator. Sponsored by: Department of Veterans Affairs, Rehabilitation Research and Development. Awarded \$50,000. 1997.
4. 'Evaluation prototype: Exam room of the future' Role: Co-Investigator. Sponsored by BHM Medical, Inc. and Department of Veterans Affairs. Awarded \$60,000. 1998.
5. 'Patient Safety Center of Inquiry' Role: Associate Director and Co-Investigator. Sponsored by: Department of Veterans Affairs, Health Services Research and Development. Awarded \$1,500,000. 1999.
6. 'VISN-Wide Deployment of a Back Injury Prevention Program for Nurses: Safe Patient Handling and Movement'. Role: Co-Investigator. Sponsored by:

- Department of Veterans Affairs, Health Services Research and Development. Awarded \$2.4 million. 2001.
7. Research Enhancement Award Program: 'Safe Patient Mobility'. Role: Associate Director and Co-Investigator. Department of Veterans Affairs, Health Services Research and Development. Awarded \$1.1 million. 2001.
  8. 'Development and Validation of Measurement System to Quantify Spinal Compression. Role: Co-Investigator'. Sponsored by: VISN8 Patient Safety Center of Inquiry. Awarded \$5,000. 2001.
  9. Research Enhancement Award Program: 'Technology to Prevent Adverse Events in Rehabilitation'. Role: Associate Director and Co-Investigator. Department of Veterans Affairs, Rehabilitation Research and Development. Awarded \$1.35 million. 2002.
  10. Enhancement of RR&D Research Laboratory Capabilities at the Tampa VAMC. Department of Veterans Affairs, Role: Principal Investigator. Rehabilitation Research and Development. Awarded \$125,000. 2002.
  11. 'Biomechanical assessment of wheelchair transfers toward upper extremity preservation in persons with SCI'. Role: Co-Principal Investigator. Department of Veteran's Affairs, Rehabilitation Research and Development. Awarded \$50,000. 2002.
  12. 'Patient Safety Center of Inquiry' Role: Associate Director and Co-Investigator. Sponsored by: Department of Veterans Affairs, Health Services Research and Development. Awarded \$2,000,000. 2003.
  13. 'Development of an Instrumented Mannequin for Restraint and Control Training'. Role: Principal Investigator. Sponsored by Department of Veterans Affairs, Office of Occupational Health and Safety. Awarded \$75,000. 2003.
  14. 'Validation of the Actiwatch as a Pain Treatment Outcome Measure' Role: Co-Investigator. Department of Veteran's Affairs, Rehabilitation Research and Development. Awarded \$200,325. 2005.
  15. 'Folding Motorized Prone-Cart' Role: Co-Investigator. Department of Veteran's Affairs, Rehabilitation Research and Development. Awarded \$357,100. 2005.
  16. 'Development of Force Gloves for Biomechanical Evaluation of Dynamic Patient Handling Tasks' Role: Co-Investigator. University of South Florida Patient Safety Foundation. Awarded \$7,000. March 2005.
  17. 'Biomechanical Evaluation of Patient Transport Activities'. Role: Co-Investigator. University of South Florida Interdisciplinary Grant Program Dane Industries, Inc. Awarded \$25,000. July 2005.
  18. Tampa VA Shared Equipment Evaluation Program (ShEEP). VHA. Awarded \$272,000. August 2005.
  19. 'Evaluation of Assistive Transfer Devices to Preserve UE Function in SCI.' Role: Principal-Investigator. Submitted to VA RR&D – Awarded \$474,300. June 2007.

**BOOK CHAPTERS**

1. Lloyd JD & Haslam RA: Traumatogens Associated with Carpal Tunnel Syndrome. In: Harbison, R. (ed), *Industrial Toxicology Handbook*, 5<sup>th</sup> edition. Mosby Publishers, St. Louis. 1998.
2. Lloyd JD: Biodynamics of back injury: Manual lifting and loads. In: Charney, C & Hudson A (eds). *Back Injury Among Healthcare Workers: Causes, Solutions and Impacts*. CRC Press 2003.
3. Lloyd JD: Patient Handling Technologies. In: Nelson, A. (Ed). *Handle with Care: A Practice Guide for Safe Patient Handling and Movement*. Springer Publishing Company. 2006.

**JOURNAL ARTICLES (PEER REVIEWED)**

1. Nelson A, Gross C & Lloyd JD. 1997. Preventing musculoskeletal injuries in nurses: directions for future research. *SCI Nursing* 14(2):45-51.
2. Gross C, Lloyd JD, Nelson A & Haslam RA. 1998. Carpal tunnel syndrome: A review of the literature with recommendations for further research. *Florida Journal of Public Health*. 9 (1).
3. Lloyd JD and Kelleher, V. 2000. Patient safety center of inquiry plans effective dissemination of its findings throughout the VA. *Veterans Health System Journal*.
4. Nyland J, Quigley P, Huang C, Lloyd JD, Harrow J and Nelson A. 2000. Preserving transfer independence among individuals with spinal cord injury. *Spinal Cord*, 38(11): 649-657.
5. Nelson A, Tiesman T and Lloyd JD. 2000. Get a handle on safe patient transfer and activity. *Journal of Nursing Management*; 31(12): 47.
6. Baptiste, A., Tiesman, H., Nelson, A, & Lloyd JD. 2002. Technology to Reduce Nurses' Back Injuries. *Rehabilitation Nursing*, 27 (2).
7. Smith LC, Weinel D, Doloresco L, Lloyd JD. 2002. A clinical evaluation of ceiling lifts: lifting and transfer technology for the future. *SCI Nursing* 19(2):75-7.
8. Nelson A, Owen B, Lloyd JD, Matz M, Amato M, Bowers J, Moss-Cureton S, Ramsey G, & Lentz K. 2003. Algorithms for Safe Patient Handling and Movement. *American Journal of Nursing*.
9. Nelson A, Owen B, Lloyd JD, Fragala G, Matz M, Amato M, Bowers J, Moss-Cureton S, Ramsey G, Lentz K. 2003. Safe Patient Handling and Movement. *American Journal of Nursing*. 103 (3): 32-43.
10. Haiduven D, Baptiste A, Luther S, Lloyd JD, Wilkinson S, Bidot P. 2003. Development of a seated device for measuring diurnal variability in stature compression. *Journal of Musculoskeletal Research*, 7 (1).

11. Nelson, A., Lloyd JD., Gross, C. & Menzel, N. (2003) Preventing Nursing Back Injuries. *AAOHN Journal*. 51 (3): 126-134.
12. Powell-Cope G, Moore H, Kearns W, Baptiste A, Lloyd JD, Applegarth S, Nelson A. (Nov/Dec. 2005). The Case for Preventing Wandering and Associated Adverse Events for Veterans with Dementia. *TIPS*, 5(6), 3.
13. Lloyd JD & Baptiste A. (2006) Biomechanical evaluation of friction reducing devices for lateral patient transfers. *American Association of Occupation Health Nursing (AAOHN)*. 54 (3): 113-119.
14. Baptiste A, Boda SV, Nelson AL, Lloyd JD, Lee W. (2006) Friction-reducing devices for lateral patient transfers: a clinical evaluation. *American Association of Occupation Health Nursing (AAOHN)* Apr; 54(4):173-80.
15. Nelson A, Matz M, Chen F, Siddharthan K, Lloyd JD, Fragala G (2006) Development and Evaluation of a Multifaceted Ergonomics Program To Prevent Injuries Associated with Patient Handling Tasks *International Journal of Nursing Studies* 43: 717-733.
16. Gironde RJ, Lloyd JD, Clark ME & Walker RL. (2007) Preliminary Evaluation of the Reliability and Criterion Validity of the Actiwatch-Score. *Journal of Rehabilitation Research and Development*; 44 (2): 223-30.
17. Bowers B, Lloyd JD, Lee W, Powell-Cope G, Baptiste A. (Accepted). Biomechanical Evaluation of Injury Severity Associated with Patient Falls from Bed. *Journal of Rehabilitation Nursing*.
18. Schulz BW, Lee WE & Lloyd JD. Estimation, Simulation, and Experimentation of a Fall from Bed. *Submitted to Journal of Rehabilitation Research & Development*.

#### **JOURNAL ARTICLES (NON-PEER REVIEWED)**

1. Lloyd JD: (1995) Getting Injured Employees Back to the Workplace - Return to Work Planning. Workplace Ergonomics Magazine, Steven Publishing, TX.
2. Lloyd JD: (1995) A Holistic Ergonomic Approach for Successful Return to Work. Chartered Property Casualty Underwriters Society, Malvern, PA.
3. Lloyd JD & Gross C: (1996) Ergonomic evaluation of pen design and writing characteristics. Ergonomics Intelligence Report, James Publishing, Santa Ana, CA.
4. Lloyd JD & Gross C: (1996) Biomedical stress test for carpal tunnel syndrome. Ergonomics Intelligence Report, James Publishing, Santa Ana, CA.
5. Lloyd JD: (1996) How to correctly setup an ergonomic office workstation. Ergonomics Intelligence Report, James Publishing, Santa Ana, CA.
6. Lloyd JD: (1996) A checklist for the evaluation of ergonomic stress at computer workstations. Ergonomics Intelligence Report, James Publishing, Santa Ana, CA.
7. Gross C & Lloyd JD & Tabler R: Ergonomic Analysis of Pen Comfort and Wrist Dynamics While Writing. *Unpublished*.

8. Gross C & Lloyd JD: (1997) HumanTRAC : A New Method for Rapid Product Ergonomic Assessments. *Unpublished*. University of South Florida, Tampa, FL.

#### ARTICLES IN PREPARATION

1. Waters TW, Lloyd JD, Baptiste A, Petersen C & Nelson A. Safe Lateral Transfer from Stretcher to Operating Room (OR) Bed.
2. Waters TW, Lloyd JD, Baptiste A & Nelson A. Positioning/Repositioning the Patient on the OR bed to and from the Supine Position.

#### CONFERENCE PROCEEDINGS

1. Research Basis for the Development of a Dynamic Median Nerve Stress Test. Proceedings of American Occupational Health Conference, Orlando, FL; May 16, 1997.
2. 'Work-related carpal tunnel syndrome'. Presented at Alabama Governor's safety and health conference. August 29, 2000.
3. Lloyd JD and Westhoff O. Development of an Intelligent Mannequin for Research in Safe Patient Handling and Movement. Proceedings of the Sixth Annual Safe Patient Handling and Movement conference. Clearwater, FL; March 2, 2006.
4. Lloyd JD. Biomechanical Evaluation of Patient Transport Technologies – a project in development. Proceedings of the Sixth Annual Safe Patient Handling and Movement conference. Clearwater, FL; March 2, 2006.

#### ABSTRACTS

1. Belsole RJ and Lloyd JD. Repetitive wrist movements: an adverse effect on median nerve conduction. *American Society for Surgery of the Hand (ASSH)*. 54<sup>th</sup> Annual Meeting, 1998.
2. Lloyd JD and Belsole RJ. Neurovascular considerations of median nerve neuropathy and implications for clinical diagnosis. *American Society for Surgery of the Hand (ASSH)*. 54<sup>th</sup> Annual Meeting, 1998.
3. Lloyd JD and Belsole RJ. Repetitive wrist movements: an adverse effect on median nerve conduction. *University of South Florida Health Sciences Center Research Day*, February 1999.
4. Lloyd JD, Nelson AL, Gross CM and Menzel N. Redesigning Patient Handling Tasks and Equipment to Prevent Nursing Back Injuries. *Department of Veterans Affairs, Health Services Research and Development*. 19<sup>th</sup> annual meeting, February 2001.

5. Lloyd JD. Repetitive Wrist Movements: Clinical Implications for Ergonomic Workplace Surveillance. International Society for Occupational Ergonomics and Safety annual meeting, June 2005.
6. Lloyd JD. Clinical Biomechanics of Wheelchair Transfers and Repositioning Tasks in SCI. 20<sup>th</sup> Congress of the International Biomechanics Society & 29th Annual Meeting of the American Society of Biomechanics, August 2005.
7. Lloyd JD and Harrow JJ. Clinical Biomechanics of Wheelchair Transfers in Spinal Cord Injury. American Paraplegic Society Annual meeting, September 2005.
8. Harrow JJ and Lloyd JD. Biomechanical Assessment of Pressure-Relief and Repositioning Tasks in Persons with SCI. American Paraplegic Society annual meeting, September 2005.
9. Lloyd JD and Harrow JJ. Clinical Biomechanics of Wheelchair Transfers in Spinal Cord Injury. American Association of SCI Nursing annual meeting, September 2005.
10. Harrow JJ and Lloyd JD. Biomechanical Assessment of Pressure-Relief and Repositioning Tasks in Persons with SCI. American Association of SCI Nursing annual meeting, September 2005.
11. Lloyd JD & Harrow JJ. Biomechanical Assessment of Independent Wheelchair Transfers in Persons with SCI. American Association of SCI Nursing annual meeting, September 2006.

#### **TECHNICAL REPORTS AND PRODUCTS**

1. Lloyd JD: Controls and displays. In: Whalley S et al: Ergonomic guidelines for the offshore oil and gas industry. R.M. Consultants Ltd., Warrington, England; 1989.
2. Lloyd JD: Cumulative trauma disorders of the upper extremities - Experiment report: Liberty Mutual Insurance Co., Boston, MA; 1991.
3. Lloyd JD: A human factors approach to the design and implementation of mobile data terminals in British Gas service engineer's vehicles. Thesis - University of Technology, Loughborough, England; 1992.
4. Nair C & Lloyd JD: Ergonomic assessment of the N250 flight deck. PT. Industri Pesawat Terbang Nusantara, Indonesia; 1992.
5. Rome D, Ratner D, Braveman K & Lloyd JD: Mannequin tutorial. In: Mannequin high - ergonomics in design. Biomechanics Corporation of America, NY; 1992.
6. Lloyd JD: Ergonomic assessment of risk and liability for heavy electronics manufacturing facility. Square D Company, Smyrna, TN; 1992.
7. Lloyd JD: AADCAS Phase II - a comprehensive anthropometry and reach study using sonic digitization techniques. Grumman Aircraft Systems, Grumman Corp., Bethpage, NY; 1992.

8. Lloyd JD: Ergonomic workplace assessment for materials handling operations. Fujitsu Network Transmission Systems Inc., Richardson, TX; 1993.
9. Lloyd JD: Ergonomic assessment of risk and liability for a precision electronics assembly process. Fujitsu Network Transmission Systems Inc., Richardson, TX; 1993.
10. Lloyd JD: Corporate ergonomics program for safety and environmental compliance. Biomechanics Corporation of America, Melville, NY; 1993.
11. Lloyd JD: Ergonomic assessment of risk and liability, including NIOSH lifting evaluation. Philip Morris USA, Cabarrus Manufacturing Center, NC; 1993.
12. Lloyd JD: Engineering Workplace Assessment. Sony Music, Carrolton, GA; 1993.
13. Lloyd JD: Ergonomic assessment of risk and liability for aftermarket product manufacturing division. Allied Signal, Greenville, OH; 1993.
14. Lloyd JD: Wrist Stress Determination. U.S. Surgical Corporation, CT; 1993.
15. Lloyd JD: Ergonomic assessment of risk and liability for heavy assembly operation. Nevamar Corporation, Odenton, MD; 1993.
16. Lloyd JD: Ergonomic assessment of risk and liability for a medical laboratory. MetPath Laboratories, PA; 1993.
17. Lloyd JD: Ergonomic assessment of risk and liability for an office facility. Allied Signal, RI; 1993.
18. Lloyd JD: Ergonomic assessment of risk and liability for packaging and warehouse activities. Allied Signal, Jackson Facility, TN; 1993.
19. Lloyd JD: Ergonomic assessment of risk and liability for furnace operators. Climax Molybdenum Company, IA; 1993.
20. Lloyd JD: Ergonomic assessment of risk and liability for unskilled manufacturing tasks. Climax Molybdenum Company, Langeloth Plant, PA; 1993.
21. Lloyd JD: Ergonomic workplace assessment and cost benefit analysis for garment manufacturing facility. Bestop Inc. - Prepared for Ergonomics Solutions Group; 1993.
22. Lloyd JD: Ergonomic assessment for an aftermarket product manufacturing facility. Allied Signal, UT; 1993.
23. Lloyd JD: Ergonomic assessment of risk and liability for sorting and packaging workstations. Allied Signal, Aftermarket Filter Division, NV; 1993.
24. Mitchell D, Nair C & Lloyd JD: Ergonomic assessment of risk and liability for a vehicle servicing facility. Salt River Project, AZ; 1993.
25. Lloyd JD: Ergonomic assessment of risk and liability for paper manufacturing activities. Armstrong World Industries, Lancaster, PA; 1993.
26. Mitchell D, Costello K & Lloyd JD: Ergonomic assessment of risk and liability for gas construction and maintenance activities. Long Island Lighting Company, NY; 1993.

27. Lloyd JD: EARLY Workplace Assessment for The Prevention of Musculoskeletal Injuries. Neapco Inc., Pottstown, PA; 1993.
28. Lloyd JD: Ergonomic Assessment of Risk and Liability for a Nursing Home. Presbyterian Manors, Topeka, KS; 1993.
29. Lloyd JD: EARLY Workplace Assessment for The Prevention of Musculoskeletal Injuries - Electronic Sales Presentation. Pioneer Electronics, CA; 1993.
30. Lloyd JD: EARLY Workplace Assessment for The Prevention of Musculoskeletal Injuries. American Honda Aftermarket Accessories Division; 1993.
31. Lloyd JD: Ergonomic Analysis of 'The Upper Hand' as a Tool for Reducing Physical Stress Caused by Shoveling Activities. Brookhaven National Laboratories; 1994.
32. Lloyd JD & Casar T: LILCO's Ergonomics Initiative. Long Island Lighting Company, Gas Construction and Maintenance Division, NY; 1994.
33. Lloyd JD: Corporate Ergonomics Program for Safety and Environmental Compliance. Nu-Kanu, Inc., Long Island, NY; 1994.
34. Lloyd JD: Training Manual for PT. IPTN Phase III Ergonomics Laboratory. PT. Industri Pesawat Terbang Nusantara, Indonesia; 1994.
35. Lloyd JD: Ergonomic Analysis to Identify Physical Stressors in the Workplace. Parker-Hannifin Corporation / Gull, Hauppauge, NY; 1994.
36. Lloyd JD: Ergonomic Evaluation of a Hospital Emergency Reception Station with Recommendations for Redesign. John T. Mather Memorial Hospital, Port Jeff., NY; 1994.
37. Lloyd JD: Introduction to Ergonomics. Northrop Grumman Corporation, Bethpage, NY; 1994.
38. Lloyd JD: Mannequin v 1.1 Training Manual. Northrop Grumman Corporation, Bethpage NY; 1994.
39. Lloyd JD: Ergonomic Evaluation of Musculoskeletal Stress Associated with Abrasive Coating Process. IKG Industries / Harsco Steel Division, Nashville, TN; 1995.
40. Lloyd JD: Anthropometry - Designing for an International Population. United Airlines, CA; 1995.
41. Lloyd JD: Ergonomic Guidelines for Control Position and Configuration. United Airlines; 1995.
42. Krueger GP, Lloyd JD & Casar T: Ergonomic and Biomechanic Best-In-Class Assessment of Five .22 Caliber Rimfire and One .223 Cal Center fire Rifles. U.S. Rifle Manufacturer: c/o Biomechanics Corporation of America, Melville, NY; 1995.
43. Lloyd JD: Rapid Ergonomic Assessment of Cumulative Hazards. Batesville Casket Company; 1995.
44. Lloyd JD: Ph.D. Course in Human Factors Engineering. Kennedy-Western University; 1995.

45. Lloyd JD: M.S. Course in Ergonomics. Kennedy-Western University; 1995.
46. Lloyd JD: Ergonomic Assessment of Occupational Risk Factors. Techalloy Company Welding Division, Baltimore, Maryland; 1995
47. Lloyd JD: Rapid Ergonomic Assessment of Cumulative Hazards - Hardware Loader and Hardware Unloader. Batesville Casket Company, Tennessee; 1995.
48. Gross C, Lloyd JD & Tabler R: Ergonomics Evaluation of Five Writing Instruments. Center for Product Ergonomics, University of South Florida; 1996.
49. Lloyd JD: Demonstration of R&D capabilities for ergonomic evaluation of Harley-Davidson motorcycles. Harley-Davidson Motor Company, Milwaukee, WI; 1996.
50. Patient Care Ergonomics Resource Guide: Safe Patient Handling and Movement. Patient Safety Center of Inquiry. October 2001.
51. CD-ROM Interactive Training Program on Safe Patient Handling and Movement. VA Employee Education Service. 2002.
52. Instrumented Mannequin for Restraint and Control Training: Final Report. VA Occupational Health, Washington, DC; January 2004.
53. AORN Guidance Statement: Safe Patient Handling and Movement in the Perioperative Setting. AORN (Association of periOperative Registered Nurses), Denver, CO; 2007.
54. Harrow JJ, Lloyd JD, Gironda R, Nelson A, Luther S, Schulz B, Applegarth S, Baptiste A & Cresta T. Final Report – Clinical Biomechanics of Wheelchair Transfers in Spinal Cord Injury: A Pilot Study. Report # B2900P. VA Rehabilitation Research and Development Service, Washington DC; 2007.

## PRESENTATIONS

1. 'Ergonomics In Action' seminar discussing the importance of workplace ergonomics: presented to Institute of Industrial Engineers, Chapter 76, Long Island, NY; January 1994.
2. 'Mannequin Man-Modeling and HumanCAD Training Workshop'. presented to Northrop Grumman Corporation, Bethpage NY; December 1994.
3. 'Biomechanics Evaluation and Comparison of Two Pole Climbing Methods - Report of Findings': presented to Long Island Lighting Company, Hicksville, NY; September 1995.
4. 'Introduction to the Center for Product Ergonomics' presented to NASA Occupational Health Group, Kennedy Space Center, FL; May 1996.
5. 'Ergonomics Applications in Space' Bayonet Point Hospital, FL; July 1996.
6. 'Beyond Bricks and Mortar - Innovations for Senior Living: Ergo House' : presented at West Central Florida Area Agency on Aging conference; September 17, 1996.

7. 'Ergonomics in Action!' presented at ITESM International Conference, Mexico City; September 24, 1996.
8. 'Applied Ergonomics in Flightdeck Design' presented at ITESM International Conference, Mexico City; September 25, 1996.
9. 'Ergonomics Applications in Space' Department of Environmental and Occupational Health, University of South Florida; October 1996.
10. 'Research Basis for the Development of a Dynamic Median Nerve Stress Test' American Occupational Health Conference, Orlando, FL; May 16, 1997.
11. Grand Rounds: 'Ergonomic applications for Spinal Cord Injury patients' James A. Haley Veterans Hospital, Tampa, FL; May 23, 1997.
12. 'Product Ergonomics' OSHA Regional Conference, Clearwater, FL; July 16, 1997.
13. 'Elderly falling study'. Presented at: USF Institute on Aging Annual Meeting, Tampa, FL; April 24, 1998.
14. 'Etiology of musculoskeletal disorders'. Presented at: Prevention of Musculoskeletal Injuries in Healthcare Workers: State of the Science. Tampa, FL; May 14, 1998.
15. 'Breakthrough research in injury prevention: What technology has to offer'. Presented at: Prevention of Musculoskeletal Injuries in Healthcare Workers: State of the Science. Tampa, FL; May 15, 1998.
16. 'Ergonomic Risk Factors in the Workplace.' Presented to Occupational Health and Safety Administration (OSHA), Tampa, FL; February 18, 1999.
17. 'Introduction to the 3D Static Strength Prediction Model'. National Aeronautical and Space Administration (NASA), Kennedy Space Center, FL; May 14, 1999.
18. 'How to Evaluate Ergonomic Products'. National Aeronautical and Space Administration (NASA), Kennedy Space Center, FL; May 14, 1999.
19. 'Repetitive wrist movements: an adverse effect on median nerve conduction'. American Society for Surgery of the Hand (ASSH). 54<sup>th</sup> Annual Meeting, Boston, MA; September 1999.
20. 'VA Biomechanics Research Laboratory - Virtual Tour'. Presented at James A. Haley Veteran's Hospital, Patient Safety Center Press-Day. November 15, 1999.
21. 'Patient Safety Center of Inquiry – Technology Innovations Division'. Presented to GAO. March 29, 2000.
22. 'Work-related carpal tunnel syndrome'. Presented at Alabama Governor's safety and health conference. August 29, 2000.
23. 'Factors contributing to injuries related to patient handling'. Presented at VISN 8 PSCI Safe Patient Handling Conference. January 8-10, 2001.
24. 'Criteria for evaluating and selecting safe patient care equipment'. Presented at VISN 8 PSCI Safe Patient Handling Conference, St. Pete Beach, FL; January 8-10, 2001.

25. "Redesigning At Risk Tasks: A Panel Discussion." Safe Patient Handling and Movement. TradeWinds Sirata Beach Resort, St. Pete Beach, FL; January 8-10, 2001.
26. Ergonomics Satellite Broadcasts on Safe Patient Handling and Movement. A two part series (4 hours) held August 2001 and repeated in November 2001. Part I includes the Ergonomic Workplace Assessment Protocol for Patient Care Areas. Part II includes Selecting the Right Equipment, Patient Assessment Criteria, Algorithms, and Use of Back Injury Resource Nurses.
27. 'New and Emerging Technology for Safe Patient Handling and Movement' Presented at VISN 8 PSCI Safe Patient Handling Conference, Clearwater, FL; January 16-18, 2002.
28. 'Biomechanics Research Laboratory: A Virtual Tour' Presented at VISN 8 PSCI Safe Patient Handling Conference, Clearwater, FL; January 16-18, 2002.
29. 'Biomechanical Evaluation of Friction Reducing Devices.' James A. Haley Veterans Hospital Research Day, Tampa, FL; April 25, 2002.
30. 'Evaluation of Technology to Support Safe Patient Handling and Movement.' Safe Patient Handling and Movement Conference, Clearwater, FL; March 4-7, 2003.
31. 'Ergonomic Comparison of Overhead Ceiling Lifts and Mobile Floor Lifts' Presented at VISN 8 PSCI Safe Patient Handling Conference, Clearwater, FL; March 4-7, 2003.
32. 'New Directions in Technology for Safe Patient Handling and Movement' Presented at VISN 8 PSCI Safe Patient Handling Conference, Clearwater, FL; March 4-7, 2003.
33. 'Clinical Applications in Rehabilitation Engineering' lecture to University of South Florida MS Rehabilitation Engineering program July 2, 2003.
34. 'Injury Epidemiology and Prevention' lecture to University of South Florida MPH Program. August 9, 2003.
35. 'Equipment Fairs and Clinical Trials: Obtaining Staff Buy-In' Safe Patient Handling Conference, Orlando, FL; 2004.
36. 'Evaluation of Friction Reducing Devices for Patient Lateral Transfers in Critical Care'. Safe Patient Handling Conference, Orlando, FL; 2004.
37. 'Patient Risks Related to Trapeze Bar Repositioning'. Safe Patient Handling Conference, Orlando, FL; 2004.
38. 'Demonstration of a Mechanical Lateral Transfer Accessory to Patient Ceiling Lift Systems'. Safe Patient Handling Conference, Orlando, FL; 2004.
39. 'Equipment Fairs and Clinical Trials: Obtaining Staff Buy-In' Safe Patient Handling Conference. Orlando, FL; 2004.
40. 'Equipment Fairs and Clinical Trials' Safe Patient Handling Conference. Clearwater, FL; 2005.

41. 'Biomechanical Assessment of Pressure-Relief & Repositioning Tasks in Persons with SCI' AASCIN Conference, Las Vegas, NV; September 2005.
42. 'Biomechanical Evaluation of Patient Transport Technologies' Safe Patient Handling and Movement Conference. St. Petersburg, FL; 2006.
43. 'Development of an Intelligent Mannequin for Research in Safe Patient Handling and Movement' Safe Patient Handling and Movement Conference. St. Petersburg, FL; 2006.
44. 'Biomechanical Evaluation of Injury Severity Associated with Patient Falls from Bed' Evidence-Based Falls Prevention Conference. St. Petersburg, FL; 2006.
45. 'Biomechanical Assessment of Independent Wheelchair Transfers in SCI' AASCIN Conference, Las Vegas, NV; September 2006.
46. Lateral Patient Transfer using a Friction Reducing Device. November 2006.
47. Vertical Patient Transfer using a Ceiling-mounted Full-Body Lift System. November 2006.
48. Bed to Chair Transfer using a Powered Stand-Assist Lift. November 2006.
49. Vertical Patient Transfer using a Floor-Based Full-Body Sling Lift. November 2006.
50. Coefficient of Friction: The Science of Slips, Trips & Falls. Florida Justice Association. February 2007.

#### **POSTER PRESENTATIONS**

1. 'Biomechanical assessment and stress test of dynamic postural sway to predict falls in healthy elderly' Research Day, James A. Haley Veteran's Hospital, Tampa, FL; April 15, 1998.
2. 'Effect of wrist exposures on median nerve conduction' Research Day, James A. Haley Veteran's Hospital, Tampa, FL; April 15, 1998.
3. 'A Flick of the Wrist' Demonstration and poster presentation. Presented at University of South Florida President's Council fundraising dinner. Tampa, FL; September 1998.
4. 'Repetitive wrist movements: an adverse effect on the median nerve' Poster presentation at University of South Florida Health Sciences Research Day. Tampa, FL; February 25, 1999.
5. 'Neurovascular considerations of median nerve neuropathy and implications for clinical diagnosis'. Poster presented at American Society for Surgery of the Hand (ASSH). 54<sup>th</sup> Annual Meeting, Boston, MA; September 1999.
6. 'Safe Patient Room of the Future.' James A. Haley Veterans Hospital Research Day, Tampa, FL; April 25, 2002.
7. 'Stretcher Lift Design & Prototype.' James A. Haley Veterans Hospital Research Day, Tampa, FL; April 25, 2002.

8. 'Whole-Body Biomechanical Model for Dynamic Analysis of Human Motion' James A. Haley Veterans Hospital Research Day, Tampa, FL; April 29, 2005.
9. 'Biomechanical Evaluation of Patient Falls from Bed'. Evidenced-Based Strategies for Patient Falls and Wandering, Clearwater, FL; May 2005.
10. 'Estimation, Simulation, and Experimentation of a Fall from Bed' 8<sup>th</sup> Annual Conference on Fall Prevention Strategies, Clearwater, FL; April 2007.
11. 'Estimation, Simulation, and Experimentation of a Fall from Bed' James A. Haley Veterans Hospital Research Day, Tampa, FL; May 2007.
12. 'Evaluation of Fall Protection and Prevention Technologies'. 8<sup>th</sup> Annual Conference on Fall Prevention Strategies. Clearwater, FL; April 2007.

### **TEACHING ACTIVITIES - - GUEST LECTURES AND PRESENTATIONS**

- 'Injury Epidemiology and Prevention' – USF College of Public Health, MPH Program
- 'Ergonomics in Action' – USF College of Public Health
- 'Applications in Clinical Rehabilitation' – USF College of Engineering, Biomedical Engineering Program
- 'A Day in the Life ...' USF School of Physical Education, Kinesiology Program
- 'Technology for Safe Patient Handling and Movement' USF Center for Aging program
- 'Biomedical Engineering at the VA Patient Safety Center' USF Biomedical Engineering graduate program

### **TEACHING ACTIVITIES - - GRADUATE STUDENTS SUPERVISED**

- Robert Wilson, MS; USF Department of Electrical Engineering; 1998 – 'Occupant trajectory determinant for vehicles equipped with airbag protection systems'
- Brian Waldron, BS; USF Department of Mechanical Engineering; 2000/1 – 'Engineering evaluation and modeling of harness design in full-body sling lifts'
- Oneida Westhoff, MS; USF Department of Electrical Engineering; 2003 – 'Development of an Instrumented Mannequin for Safe Patient Handling and Movement'
- Tony Cresta, MS; USF Department of Biomedical Engineering; 2003 – 'Biomechanical evaluation of trapeze bar use by persons with paraplegia'
- Tony Cresta, MS; USF Department of Biomedical Engineering; 2003/6 – 'Biomechanical assessment of wheelchair transfers in persons with spinal cord injury' – served as MS Thesis Committee Chair

- Sruthi Vasudev Boda, MS; USF Department of Biomedical Engineering; 2003 – ‘Clinical evaluation of friction reducing devices for lateral transfer of patients’
- Roberto Guerra, BS: USF Department of Electrical Engineering; 2004 – ‘Development of an Instrumented Mannequin for Personal Safety Training’
- Tony Morreli: USF Department of Electrical Engineering; 2004 – ‘Development of an Instrumented Mannequin for Personal Safety Training’
- Bonnie Bowers, MS; USF Department of Biomedical Engineering; 2004 – ‘Biomechanics of Injuries Associated with Falls from Bed’
- Fariba Vesali, MD; USF College of Medicine; 2004 – ‘Biomechanical assessment of wheelchair transfers in persons with spinal cord injury’
- Maria Symeonidis; USF of Electrical Engineering; 2004 – ‘Biomechanics of Injuries Associated with Falls from Bed’

## INTELLECTUAL PROPERTY

1. Automotive Deceleration Indicator. Filed with USF Patents and Licensing office, 4/97. Patent review in progress.
2. Automotive Audible Warning (Horn) Intensity Controller. Filed with USF Patents and Licensing office, 4/97. Patent review in progress.
3. Determination of Occupant Trajectory in Airbag Protection Systems. Filed with USF Patents and Licensing office, 5/97. Patent application in progress.
4. Airbag Deployment Directional Controller. Filed with USF Patents and Licensing office, 5/97. Patent application in progress. Licensing agreement under negotiation with Breed Technologies, Inc.
5. Airbag Depowerment Strategy as a Function of Impact Vector and Inertial Characteristics. Filed with USF Patents and Licensing office, 6/97. Patent review in progress.
6. CPE USF Trademark / Service Mark / Certification Mark for display on ergonomically superior products. Filed with USF Patents and Licensing office, 7/97. Trademark review in progress.
7. Integrated vehicular security and personal assistance system. Filed with USF Patents and Licensing office, 10/97. Patent review in progress.
8. Orthotic device to improve blood circulation in the median distribution of the hand. Filed with USF Patents and Licensing office, 3/98. Patent review in progress.
9. Swimming pool feedback eyeball / diverter switch. Filed with USF Patents and Licensing office, 3/98. Patent review in progress.
10. Method for biomechanical evaluation of joint kinematics. Filed with Department of Veteran's Affairs patents and licensing office, 11/99. Patent review in progress.

11. Integrated sling for patient lift manipulation. Filed with Department of Veteran's Affairs patents and licensing office, 11/99. Patent review in progress.
12. Technology improvement for air-assisted lateral transfer devices. Filed with Department of Veteran's Affairs patents and licensing office, 7/02. Patent review in progress.
13. Mechanical Lateral Transfer Accessory to Patient Lifting Devices. Filed with Department of Veteran's Affairs patents and licensing office, 9/02. Patent awarded.
14. Limb Holding Device. Invention Disclosure in preparation with Department of Veteran's Affairs patents and licensing office, 09/06.