



CURRICULUM VITAE
DAVID A. DAINTY

EDUCATION

- 1979 PhD PENNSYLVANIA STATE UNIVERSITY
Biomechanics, College of Health and Human Development
- 1971 MS UNIVERSITY OF MONTANA
Exercise Physiology, Department of Physical Education
- 1968 BPHE UNIVERSITY OF TORONTO
Physical and Health Education

CERTIFICATIONS

- 2005 AMERICAN COLLEGE OF FORENSIC EXAMINERS - Certified
Forensic Consultant
- 2004 ISA – INTERNATIONAL SAFETY ASSOCIATION
English Tribometer Course (ASTM STANDARD F1679)
Certified XL Tribometrist [CXLT]
- 2007 English Tribometer Course (ASTM STANDARD F1679)
Certified XL Tribometrist [CXLT]

PROFESSIONAL EXPERIENCE

- 2001 to Date VECTOR SCIENTIFIC, INC.
Los Angeles, California
Senior Biomechanist
- 2000 to 2001 KNOTT LABORATORY, INC.
El Segundo, California
Senior Biomechanist
- 1998 – 2000 UNIVERSITY OF TORONTO
Toronto, Ontario
Professor of Biomechanics, Faculty of Physical Education and Health
- 1998 PEPPERDINE UNIVERSITY
Malibu, California
Visiting Professor in Biomechanics, Department of Sports Medicine
- 1996 – 2000 ERGOFIT AND ASSOCIATES
Toronto, Ontario
President, Biomechanics and Ergonomics Consultant
- 1993 – 1998 UNIVERSITY OF WATERLOO
Waterloo, Ontario
Adjunct Professor of Biomechanics, Department of Kinesiology

- 1988 – 1997 UNIVERSITY OF TORONTO
Toronto, Ontario
Adjunct Professor, Physical Education
- 1986 – 1996 CANADIAN MEMORIAL CHIROPRACTIC COLLEGE
Toronto, Ontario
Dean, Professor
- 1985 – 1986 UNIVERSITY OF CALIFORNIA, SAN DIEGO
La Jolla, California
*Visiting Research Bioengineer, Department of Surgery, College of
Medicine*
- 1984 – 1986 MCR TECHNOLOGY, INC.
Goleta, California
Biomechanics Consultant
- 1983 – 1984 UNIVERSITY OF WATERLOO
Waterloo, Ontario
Visiting Professor of Biomechanics, Department of Kinesiology
- 1983 (Fall) UNIVERSITY OF GUELPH
Guelph, Ontario
Visiting Professor of Biomechanics, Department of Human Biology
- 1976 – 1985 UNIVERSITY OF OTTAWA
Ottawa, Ontario
*Assistant Professor, Biomechanics, Department of Kinanthropology,
Faculty of Health Sciences*
- 1975 – 1976 YORK UNIVERSITY
Toronto, Ontario
*Assistant Professor, Biomechanics, Department of Physical Education
Faculty of Science*
- 1975 NORTH YORK BOARD OF EDUCATION, TORONTO
Toronto, Ontario
Secondary School Teacher, Math and Physical Education

PUBLICATIONS

D. Pittuck, D. Dainty, Swimming III, The Effects of a Modified Ball on the Mechanics of Selected Water Polo Skills in Novice Children. International Series on Sport Sciences, Vol. III, pp. 338-345, 1979.

The Importance of Impulse Production in Jumping, David Dainty, The Professional Skater. The Circle, Vol. II, No. 10: p. 7-8, 1979.

An Evaluation of Selected Figure Skates, D. Dainty, C. Cotton, W. Morrison. *The Circle*, Vol. II, No. 15, pp. 6-7, March 1980.

Fit to Dive, R. Kerr, M. Booth, D. Dainty, Canadian Amateur Diving Association, 1979.

An Evaluation of Selected Department Store Women's Figure Skates, D. Dainty, C. Cotton, W. Morrison, H. Stidwell. A Final Report to the Canadian Figure Skating Association, November 1979 - Summarized and Published in the *Canadian Skater* - Spring 1980 - by A. Mason, pp. 6-9.

Talent Identification for Competitive Diving. R. Kerr, M. Booth, D. Dainty, R. Gaboriault, D. McGavern. *The Psychological and Sociological Factors in Physical Performance*, Toronto, University of Toronto Press, 1980.

Motor Skills Analysis of the Prerequisite Abilities for Diving, R. Kerr, D. McGavern, M. Booth, D. Dainty, R. Gaboriault, T. O'Hara. *Sport, Physical Education, Recreation*, Vol. II - Proceedings of the 6th Commonwealth Conference, Edmonton, 1979.

The Role of Biomechanics in the Evolution of Sports Equipment. D. Dainty, W. Morrison, C. Cotton. *Coaching Science Update*. 1980/81. Edition pp. 32-34.

An Ergonomic Investigation of Window Use Capacities of Physically Handicapped Adults. D. Dainty, S. McGill, M. Mason, C. Cotton, W. Morrison, in *Biomechanics VIII*, University Park Press, Volume A, pp. 553-560.

An Experimental Analysis of Thoracic Deflection Response to Belt Loading. R. L'Abbe, D. Dainty, J. Newman in *Proceedings of the VIIth International Conference of the International Research Committee on Biokinetics of Impacts* pp. 184-194, 1982.

Thoracic Response Determination - Part II. D. Dainty, C. Cotton. A Final Report to Biokinetics and Associates, August 1982 (53 pages).

Computer Analysis of Energy Transfers in Children Walking with Crutches. S. McGill, D. Dainty in *Human Locomotion II*, edited by J.G. Reid. *Proceedings of the Second Biannual Conference of the Canadian Society for Biomechanics*, pp. 18-19, September 1982.

Computer Analysis of Energy Transfers in Children Walking with Crutches. S. McGill, D. Dainty. *Archives of Physical Medicine and Rehabilitation*, Vol. 65: 115-120, 1984.

Suggestions for Modifications to Children's Crutches. S. McGill, D. Dainty. *Physiotherapy Canada*, Vol. 36 (2): 75-78, 1984.

Load levels on the Lower Limb During Jumping in Figure Skating. D. Dainty, R. Norman. Final Report Presented to Canadian Figure Skating Association, June 1984.

Development of a New ATD Thorax. R. L'Abbe, J. Newman, A. St. Laurent, D. Dainty, K. Smyth. *Proceedings of the IXth International Research Committee on Biokinetics of Impacts*, 1984.

Standardizing Biomechanical Testing in Sport. D. Dainty, M. Gagnon, P. Lagasse, R. Norman, G. Robertson, E. Sprigings. Edited by D. Dainty & R. Norman. *Human Kinetics Publishers, Inc.*, Champaign, Illinois, 1987.

Interaction of Cadavers and the Hybrid III with a Steering Column Assembly. Schneider, D.C., A. Nahum, D. Dainty, J. Awad. *Proceedings of the Stapp Car Crash Conference*, November, 1987.

Three Dimensional Sacroiliac Motion During Locomotion in Asymptomatic Male and Female Subjects. M.R. Pierrynowski, B. Schroeder, C. Garrity, D. Dainty, J. Bare. *Locomotion 6*, Proceedings of the Biannual Conference of the Canadian Society for Biomechanics, August 1988.

A Quality Assurance Program for the Clinical Use of surface Electromyography in the Chiropractic Office. Nicholson R, Dainty D, Marcarian D. *Journal of the Canadian Chiropractic Association*, January 1997.

Validity and Reliability of an Isometric Dynamometer as an Evaluative Tool in a Rehabilitative Clinic. Dainty D, Mior S, Bereznic D. *Journal of Sports Chiropractic and Rehabilitation* 12(3), 109-117, Sept.1998.

Cervical Disc Prolapse in Rear-End Automobile Collisions: Injury Mechanism Unique to Occupant and Head Restraint Geometry. Wheeler JB, Dainty DA, Brown DG. *Proceedings of the XVIIIth International Congress on Biomechanics*, Zürich, Switzerland, July 2001.

Raymond DE, Landerville JB, Wheeler JB, Dainty DA. A Parametric MADYMO Analysis for Determining Seat Belt Usage in a Frontal Collision. *Proceedings of the International Society of Biomechanics XXth Congress and the American Society of Biomechanics 29th Meeting*, Cleveland, Ohio, August 2005.

PRESENTATIONS

A Longitudinal Investigation of the Physiological and Biomechanical Characteristics of Experienced Runners. D. A. Dainty, J. Kollias, R. C. Nelson. Presented at the 19th Annual Meeting of the American College of Sports Medicine, May 1972, Philadelphia.

Longitudinal Effects of Training on the Biomechanics of Running. R. C. Nelson, R. J. Gregor, and D. A. Dainty. Presented at the 1st International Interdisciplinary Symposium, April 1973, Budapest, Hungary. (Presented by R. C. Nelson).

An Investigation of Selected Power Variables in Skilled Athletes. D. Dainty, M. Booth, F. Reardon. Presented at the 10th Annual C.A.S.S. Conference, Winnipeg, September 1977.

Case Study: Physiological and Performance Profiles of Two Marathoners. W. E. Morrison and D.A. Dainty. Presented at the 2nd Annual Windsor - Guelph Symposium on Human Movement, Guelph, Ontario, November 1977 (Presented by W. E. Morrison).

Motor Skill Analysis of the Prerequisite Abilities for Diving. R. Kerr, D. McGavern, M. Booth, D. Dainty, R. Gaboriault, T. O'Hara. Presented at the Commonwealth Games Scientific Conference, Edmonton, Alberta, August 1978.

The Analytical Determination of Tri-Axial Ground Reaction Forces. D. A. Dainty. Presented at the 1977 Congress for the Canadian Society of Biomechanics, November 1977, Toronto, Ontario.

Talent Identification for Competitive Diving. R. Kerr, M. Booth, D. Dainty, R. Gaboriault, D. McGavern. Presented at the 1978 Congress of C.S.P.L.S.P., November 1978, Toronto, Ontario.

Biomechanics of Figure Skating. D. Dainty. Presented at the Seminar for Coaches of Elite Athletes, May 1979, Ottawa, Ontario.

Practical Applications of Testing Procedures in Figure Skate Evaluation. D. Dainty. Presented at the Single/Pairs Seminar of the Canadian Figure Skating Association, August, 1979, London, Ontario.

Physical Exertion of Door Opening. D. Dainty, C. Cotton, B. Johnson. Presented at the Annual Meeting of CASS/ACSS, January 1980, Vancouver, B.C.

Evaluation of Selected Figure Skates. D. Dainty, C. Cotton, W. Morrison. Presented at the Annual Meeting of CASS/ACSS, January 1980, Vancouver, B.C.

The Components of Diving Ability. R. Kerr, D. Dainty, M. Booth. Presented at C.A.H.P.E.R. Convention, St. John's Nfld., June 1980 (R. Kerr, Presenter).

Anthropometric Characteristics of Female Volleyball Players. C. Cotton, D. Dainty, W. Morrison. Presented at the 12th Annual C.A.S.S. Conference, October 1980, Toronto, Ontario.

Jumping Characteristics of Female Volleyball Players. D. Dainty, W. Morrison, C. Cotton. Presented at the 12th Annual C.A.S.S. Conference, October 1980, Toronto, Ontario.

An Ergonomic Investigation of Window-use Capacities of Physically Handicapped Adults. D. Dainty, S. McGill, M. Mason, C. Cotton, W. Morrison. Presented at the VIIIth International Congress of Biomechanics, July 1981, Nagoya, Japan.

Thoracic Response Determination. R. L'Abbe, D. Dainty, J. Newman. Presented at VIIth International IRCOBI Conference, September 1982, Koln, West Germany.

A Computer Analysis of Energy Transfers in Children Walking with Crutches. S. McGill, D. Dainty. Presented at the 2nd Biannual Conference of the Canadian Society for Biomechanics, September 1982, Kingston, Ontario.

Kinematic Characteristics of Amateur Boxing Punches. D. Dainty, S. Egan, G. Gallup. Presented at the Annual Meeting of the Canadian Association of Sports Sciences, October 1982, Victoria, B.C.

Thoracic Impact Response. D. Dainty. Presented to the Ministry of Transport, September 1982, Ottawa, Ontario.

Anthropomorphic Test Dummy Characteristics under Severe Thoracic Loading. D. Dainty. Presented to the Department of Kinesiology, University of Waterloo, November 1984.

Development of New ATD Thorax. R. L'Abbe, J. Newman, A. St-Laurent, D. Dainty, J.K. Smyth. Presented at the IXth IRCOBI Conference, September 1984.

Thoracic Impacts in Automobile Crashes. D. Dainty. Presented at the University of Waterloo, Department of Kinesiology, April 1985.

Impact Characteristics of Dummies and Cadavers in Automobile Crashes. D. Dainty. Presented at Western American Association of Automotive Medicine Meeting, February 1986, Los Angeles, CA.

Injury Mechanisms in Automobile Crashes. D. Dainty. Presented at University of Toronto, Department of Physical Education, November 1986.

An Algorithm for Competency Determination in Curriculum Development. D. Dainty, M. Gatterman, G. Geis, S. Mior. Presented at the Congress of Chiropractic Educators, Marietta, Georgia, March 1992.

The Effects of Daily Use of a Low-Back Cushion Support on the Frequency and Intensity of Chronic Low-Back Pain Episodes. F. McDiarmid, K. Morrison, P. Campbell, D. Dainty. Presented at the 1992 International Conference on Spinal Manipulation, Chicago, IL, May 1992.

Curriculum Development: The CMCC Experience, D. Dainty, M. Gatterman, G. Geis, S. Mior. Presented at the Congress of Chiropractic Educators, Las Vegas, Nevada, February 1994.

Validity and Reliability of an Isometric Dynamometer Used as an Evaluation Tool in a Rehabilitation Clinic. Dainty D, Mior S, Bereznick D. Presented at the CORE Conference, San Diego, California, June 1996.

Forensic Biomechanics. Wheeler J, Dainty D. Presented to San Diego North County Trial Lawyers, Vista, CA, August 2001.

GRANTS and CONTRACTS

Talent Identification for Competitive Diving Phase II. R. Kerr, M. Booth, D. Dainty Canadian Diving Association	\$20,000
The Analysis of Physical Exertion of Door Use. C. Cotton, D. Dainty, National Research Council	\$2,990
Testing and Evaluation of Paddlers C. Cotton, D. Dainty, W. Morrison, F. Reardon, J. Thoden, Canadian Figure Skating Association.	\$2,260
An Assessment of Selected Figure Skates. D. Dainty, C. Cotton, W. Morrison, A. Mason Canadian Figure Skating Association	\$1,000
Testing, Evaluation and Training for Selected Female International Class Volleyball Players. M. Booth, C. Cotton, D. Dainty, W. Morrison, F. Reardon, J. Thoden (Co-Investigators) Canadian Volleyball Association, September 1979-April 1980	\$5,000
Biomechanical and Physiological Influences in Canoeing and Kayaking. C. Cotton, D. Dainty, W. Morrison, F. Reardon, J. Thoden (Co-Investigators), Canadian Canoe Association, January 1980 – May 1980	\$7,500
Window Use Study, NSERC Grant 080-082/0-4424, D. Dainty, C. Cotton, W. Morrison, November 1980	\$6,264
Testing of Female Volleyball Players on Canada's National Team. C. Cotton, D. Dainty, W. Morrison, M. Booth, F. Reardon, J. Thoden	\$4,700

Thoracic Impact Response. W. Morrison, D. Dainty, C. Cotton, Biokinetics and Associates	\$20,410
Thoracic Response-II. D. Dainty, C. Cotton, Biokinetics and Associates, February 1982	\$9,700
Load Levels on the Lower Limb During Jumping in Figure Skating. D. Dainty, R. Norman, Canadian Figure Skating Association, March-June 1984	\$1,500
Lower Limb Load Levels in Figure Skating. D. Dainty. Sport Canada, 1984-1985	\$ 4,825
An Investigation of Unrestricted Automobile Occupants During Impact. D. Dainty, D. Schneider National Highway Traffic Safety Administration	\$675,000 (3 years)
Three Dimensional Sacroliac Motion During Locomotion, CMCC. D. Dainty, J. Bare, M.R. Pierrynowski, 1988	\$3,000
Validity and Reliability of Patient Evaluation Protocols Using the "Golden Mean Machine" Isometric Dynamometer. S. Mior, D. Dainty, International Managed Health Care, 1994	\$43,000

OTHER RELATED WORKS

Abstracts for the IVth International Seminar on Biomechanics. Associate Editor, University Park, Pennsylvania, August 1973.

Ontario Coaching Manual, Level II - Biomechanics Section. Contributing Author.

Videotape Presentation and Manual on the Mechanics of Figure Skating for the Level II Coaching Preparation of the Professional Figure Skating Association of Canada.

Report of the Personnel Profile Test Battery Administered to the Can-Am Bowl/C.I.A.U. "All Canadians". W. Morrison, R. Pelletier, D. Dainty, L. Gravelle, F. Reardon, R. Searle, G. Seaman, T. Purnell.

Biomechanics Consultant - Canadian Figure Skating Association National Seminar, August 1978.

Reviewer for Biomechanics Section - Canadian Journal of Applied Sports Sciences.

Intensive French Course - 6 weeks, 3 hours per day at the University of Ottawa, July- August 1979.

Participant at Child in Sport Conference - Government of Ontario, November 1979, Geneva Park, Ontario.

Final Report to the Canadian Volleyball Association of Preliminary Test Battery. C. Cotton, D. Dainty, W. Morrison, F. Reardon, J. Thoden, May 1980.

Biomechanics - Consultant, Canadian Figure Skating Association Singles Seminar, August 1980, London, Ontario.

Reviewed papers for presentation at the Canadian Society of Biomechanics Meeting, London, Ontario, October 1980. Also member of Programme Committee.

Outside advisor for master's thesis candidate Robert Hyatt of Department of Physical Education, Queen's University, Kingston, Ontario, September 1980. An Examination of the Impact Forces Incurred During the Landing Phase in Gymnastics.

Panel Member for Evaluation of Running Shoes Symposium Special Conference - Human Locomotion I of Canadian Society for Biomechanics, London, Ontario, October 1980.

Final Report to NSERC on Evaluation of Window Opening Capacities. D. Dainty, C. Cotton, W. Morrison, S. McGill, M. Mason, March 1981.

Presented Position Paper for A.P.U.O. in response to Report of Committee on the Future Role of Universities in Ontario - Queen's Park, Toronto, May 1981.

PROFESSIONAL POSITIONS

Biomechanics Consultant - Canadian Figure Skating Association - Singles Seminar, August – September 1981, London, Ontario

President - Canadian Society for Biomechanics, January 1981 - December 1982

Chairperson - Rehabilitation Session (Free Communications) - CSB Conference - Locomotion II, Kingston, Ontario, September 1982

Chairperson - Biomechanics Session (Free Communications) - CASS Conference, Victoria, B.C., October 1982

Consultant in Biomechanics - Canadian Figure Skating Association, August, 1982-1983, Singles Seminars, London, Ontario

Consultant in Biomechanics -Biokinetics and Associates, May - November 1983, Ottawa, Ontario

Biomechanics Consulting Business, Leucadia, California 1984-1986

Chairman of Scientific Committee - Canadian Alpine Ski Team, 1986-1993

Consultant to College of Chiropractic Sport Sciences, 1989-1990 (in bid to become a member of Sport Medicine Council of Canada)

Several presentations on behalf of CMCC to societies, associations, etc., of a non-research nature, 1986 - 1995

Executive member of Council on Chiropractic Education - (Can) 1993-1996

Site Visitor – Council on Chiropractic Education (USA) 1991-1995

Outside advisor to Dissertation - M. Frasier University of Waterloo, 1995-1996

Consultant in Biomechanics to Bosaro Biotechnology, Inc. 1995-1996, Toronto, Ontario

MEMBERSHIP IN PROFESSIONAL ASSOCIATIONS

Canadian Society for Biomechanics (President, 1981-1982)

Canadian Association of Sport Sciences (Executive Member, 1981-1984)

International Society of Biomechanics (Charter Member)

American College of Forensic Examiners (Certified Forensic Consultant)

ASTM (F13 Committee Member)

