

May 2006

P. DAVID HALSTEAD
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Rockford, TN 37853
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Education:

Non-Traditional BS and MS in Engineering Technology – Almeda College & University

Postgraduate classes in Engineering, Science & Mechanics at the University of Tennessee

Trained as a New York State Certified Emergency Medical Technician-Paramedic

Earned certificates from GE Plastics in Part Design and Mold Design for Thermoplastics

Earned certificates from the Society of Plastics Engineers in:

Fracture Mechanics of Polymers

Thermoforming Technology

Injection Molding Technology

Reaction Injection Molding Technology

Testing Technologies for Standard Testing of Thermoplastics

Attended special workshops in The Biomechanics of Trauma at the University of Louisville

Professional Affiliations:

The National Operating Committee on Standards in Athletic Equipment (NOCSAE)

NOCSAE Technical Advisor

NOCSAE Technical Resource Committee

American Society for Testing and Materials (ASTM)

Fellow of the Society

Chair of Sub-Committee F.08.53 – Headgear

National Football League Player's Association

Technical Advisor

Member of the Modern Plastics Advisory Panel

Institute of Industrial Engineers – Senior Member

Hockey Equipment Certification Council

Certification Committee Past Chairman

Certification Committee Member

National Athletic Equipment Reconditioners Association

Technical Advisor

Chairman of Technical Committee

Safety Equipment Institute

Chairman of Committee on Bicycling Headgear

May 2006

Protective Headgear Manufacturers Association
Technical Advisor

National Youth Sports Society Foundation
Technical Advisory Board

University of Tennessee
Faculty Member – Tennessee 2000 Bioengineering Conference
Principal Scientist - University of Tennessee Engineering Institute for Trauma and Injury Prevention

Instructor - Second Annual Bioengineering Technology Seminar
American Society of Mechanical Engineers

Symposia:

Section Moderator for the International Symposium on Head and Neck Injuries in Sports, 1992 - Atlanta

Presenter/Moderator at the Symposium for Safety in American Football, 1994 – Phoenix

Presenter at the Sporting Goods Manufacturers Association Seminar Series on Product Design - Boston

Biomechanics Of Head Injury - Tennessee 2000 Biomedical Engineering Conference University of Tennessee

Helmet Design Criteria, New England Ophthalmology – Boston

Airbag Deployment Dynamics and Eye Injury, New England Ophthalmology - Boston

Publications:

Drop-Tower Experiment Involving Dynamic Axial Loading of Human Cadaver Spines - Kress, Porta, Snider, Halstead, et al – The FASEB Journal (abstract), Vol.9 (4), pt2:A1065. Atlanta, GA 1995

Hockey Headgear and the Adequacy of Current Designs and Standards - Halstead, Alexander, Cook et al - Safety in Ice Hockey, ASTM

Injuries, Protective Equipment and Standards in Ice Hockey – Richard Sawin,Jr. and P. David Halstead.

Impact Dynamics of Football Helmets on Various Surfaces - Halstead, Kramer, Schnider, Drew et al - Safety in American Football

Safety in Youth Sports – P. David Halstead – Side Lines - Spring, 2000, National Youth Safety Foundation

Acted as Technical Editor and Reviewer for Safety in Ice Hockey - 1989

Assistant Editor for Safety in Ice Hockey, Vol II

Technical Reviewer for The Journal of Testing and Evaluation

Associate Editor for Safety in American Football – 1995

Shock – Absorbing Characteristics of Cedar Chips and Hardwood Chips as Compared to other Playground Surface Materials T.A Kress, S.M. Smith, M. Cook, P.D. Halstead, Proceedings: Playground Safety 1999 – An International Conference. University Park, PA: 1999

Personal Protection During Winter Sports - Morrison, Mahoney & Miller Sports Law Journal

May 2006

Performance Testing Updates in Head, Face and Eye protection - Journal of Athletic Training (September 2001)

Seeking to make youth sports safe - USA Today Magazine (July 2001)

Crushing Forces Applied to Human Phalanges – Porta, Kress, Halstead, Cook - American Academy of Anatomists (2002)

Concussion in Professional Football: Helmet testing to Assess Impact Performance - Pellman, Viano, Withnall, Shewchenko, Bir, Halstead – Neurosurgery Volume 57, Number 6

Importance of Factors Besides Bat Type in Assessing the Risk from Batted Ball Injuries in Softball and Baseball - Halstead, Ziegler, Cook - (Submitted 2003)

A Mouthpiece Accelerometer More Accurately Measured Impact Acceleration Than A Helmet Accelerometer. Michael Higgins, P.D. Halsted, Lynn Snyder-Mackler, and David Barlow (Accepted April 2006 JATA)

Awards:

U. S. Army Ordinance Center and School - Honor Graduate

Outstanding Design Award for Automated LOX (Liquid Oxygen) Valve for the USAF FB-111

ASTM Award of Merit

Patents:

Protective Helmet with Self-contained Air Pump - Patent # 5,083,320

Fitting And Retention System For Headgear - Patent # 5,381,560

Football Helmet With Inflatable Liner - Patent # 6,073,271

Helmet Fitting System - Patent # 6,178,560

Helmet Fitting System - Patent # 6,351,853

Helmet Fitting System – Patent # 6,591,428

Attachment System - Patent # 6,371,710

Helmet – Patent # 6,434,755

Helmet - Patent # D466, 651

Helmet – Patent # 6,219,850

Buckle – Patent # 6,497,012

Buckle - Patent # 6,481,066

Buckle - Patent # 6,532,632

Jaw pad – Patent # 6,370,699

May 2006

Titanium Wire Face-Guard - # 6,421,829

Titanium Wire Face-Guard - #6,763,524

Method of making titanium wire face guard - # 6,637,091

Work History:

1995 to Present	UNIVERSITY of TENNESSEE <u>Director, University of Tennessee Sports Biomechanics Impact Research Lab</u>	1995 to Present
	Perform research, testing and data review as part of the injury reduction efforts of the Engineering Institute for Injury and Trauma Prevention. Specializing in head injury prevention and sports biomechanics. Design, build and test special apparatus used to evaluate protective equipment. Conduct research in areas of surrogate bio-fidelity and others as needs arise. Technical Advisor to NOCSAE and NAERA. Director of Sports Biomechanics Impact Research Laboratory	
1995 to Present	Southern Impact Research Center, LLC <u>Technical Director</u>	1995 to Present
	Manage the technical operations of the company. SIRC does personal protective products (and their associated materials) testing; performs Third Party Verification for several personal protective products; performs design consultation and product evaluation of personal protective products; offers litigation support and research functions for plaintiff, defendants and medical examiners; consults on quality control systems; and markets testing equipment.	
1992 to 1994	PDH CORPORATION <u>Owner</u>	1992 to 1994
	Specialty consultation to the helmet industry. PDH provided consultation on Research, Development and Quality Control. A separate division of PDH, Helmet Worx, manufactured and distributed bicycle helmets. Another separate division of PDH, Southern Impact laboratory, performed independent laboratory testing; completed contracts to conduct research for NOCSAE and other organizations.	
1990 to 1992	ATHLETIC HELMET, INC. <u>Vice President of Technical Services</u>	1987 to 1992
	Responsible for authorizing and directing all research, quality control and product development activities; reported directly to Board of Directors; \$500M expense budget; 7 salaried employees.	
1987 to 1990	<u>Research, Development and Quality Control Director</u>	
	Responsible for managing all research, product development and quality control activities.	

May 2006

BIKE ATHLETIC COMPANY **1985 to 1987**
1987 Senior Research Engineer

Responsible for research, design and testing new products and all research related to football and baseball protective equipment like helmets, padding, etc.

1986 to 1987 Engineering Manager

Responsible for various engineering activities.

1985 to 1986 Project Engineer

Responsible for managing a variety of miscellaneous projects.

CAIRNS & BROTHER **1984**
1984 Director, Clothing Operations

Responsible for helping to develop and produce a new generation of fire fighting helmets and equipment and a new generation of combat helmet. Participated in restructuring the manufacturing system.

C. B. SPORTS PRODUCTS **1982 to 1984**
1982 to 1984 Chief Industrial Engineer

Responsible for directing the engineering departments for six (6) plants and 300 employees in the manufacturing of "Great Shape" brand tennis and summer wear and ski clothing.

ATLANTA KNITTING MILLS, INC. **1977 to 1982**
1979 to 1982 Engineering Manager

Responsible for consolidating three (3) plants and directing the Engineering operations.

1977 to 1979 Engineer

Responsible for setting up piece rates at three plants.

CIRCA SPORTSWEAR **1976 to 1977**
1976 to 1977 Plant Manager

Responsible for managing the plant activities.

1976 Machinist

Responsible for maintenance of equipment at two facilities.