

# BOOK REVIEW

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## ERGONOMICS, WORK, AND HEALTH

**Stephen Pheasant**

*Aspen Publishers, Inc., Gaithersburg, MD. 358 pp.*

Ergonomics has become a very familiar term in the 1990s. At a time in which safety and health care professionals, and industry itself, are looking for proactive ways to address the prevention and management of work-related injuries, the study and application of ergonomic principles offers a means to address this challenge. The cost of managing work-related injuries has been a significant factor in encouraging the exploration of creative measures to prevent and minimize the impact of injuries to the worker and workplace.

*Ergonomics, Work and Health* provides an informative manual for the study of ergonomics. Professionals with an interest in this field or who are currently involved with ergonomics will find this book a most helpful addition to their libraries as well as an excellent clinical resource and text. Stephen Pheasant has designed the text to provide a most comprehensive, easy to understand, and thorough presentation on the subject of ergonomics. The book is divided into 16 chapters, with a discussion of macroergonomics, a list of references, and an index.

The first chapter includes an introduction to the science of ergonomics and a review of its history. Chapters 2, 3, and 4 review the physiology of work, back pain at work (including epidemiology and risk factors), and repetitive-strain injuries or cumulative trauma disorders. Chapter 5 reviews the anatomical and physiological effects of various postures, including standing, sitting, squatting, lying, and working postures. The impact of sitting and standing, particularly in sedentary jobs, is also described. Chapter 6 describes work design and includes a description of the man/machine work system, anthropometrics, work efficiency,

and job design. Stress, fatigue, and the working environment is covered in chapter 7, which also presents a comprehensive review of stress, including its origin, physiology, consequences, and management. Chapter 8 describes shift work and its design, circadian rhythms, and the impact of shift work on health and well-being.

Chapters 9 and 10 describe accident proneness and human error, as well as visual work (including light and vision) visual displays and environment, and eyestrain. Chapter 11 reviews the ergonomics of seating, including the physiology of comfort, seat design, seating and back pain, the office desk and chair, and adjusting the workstation. Chapter 12 discusses working with computers, including the human/computer interaction, musculoskeletal disorders associated with computer work, and workstation design.

Chapter 13 discusses driving posture and workstation layout, including dynamic loading or the task of driving and vehicle motion, and vibration. Chapter 14 provides an overview of hand function and tool design and also reviews risk factors associated with musculoskeletal problems and repetitive manipulation activities. Hand function and tool handles are also reviewed. Chapter 15 describes the epidemiology and mechanics of lifting and handling. The prevention of lifting injuries through the use of worker selection, training, and work design is also discussed. Chapter 16 describes clinical ergonomics and reviews approaches to the management of work-related musculoskeletal problems, including ergonomic questions, back schools, and aging and disability.

Pheasant presents a timely and readable overview of the study of ergonomics. His comprehensive text and reference to documented studies throughout the book provide the reader with a valuable resource on this topic. His text can also serve to stimulate the reader to develop ideas and suggestions for the prevention and management of work-related disorders.

*Carl M. Bettencourt, OTR/L*