Book Review

Hand-Arm Vibration: A Comprehensive Guide for Occupational Health Professionals. Pelmeur PL, Wasserman DE, 2nd Edition, 1998. OEM Press, Massachusetts, 272 pages, \$80.00. ISBN:1-883595-22-3.

The hand-arm vibration syndrome (HAVS) is an occupational disease caused by prolonged exposure to hand-transmitted vibration. Many workers operating hand-held power tools, such as chain saws, chipping hammers, grinders and rock drills, are at risk of the HAVS. Several percents of the general population are estimated to be exposed to hand-arm vibration in the European Countries, the United States and Japan.

The first edition of this book was edited by Pelmeur PL, Taylor W and Wasserman DE, six years ago. After the death of Professor Taylor, the remaining two researchers edited the second edition. They are representative researchers with much experience and valuable publications in this field. When the Nagoya International Symposium on "Human Response to Hand-Arm Vibration" was held in Japan in 1993, they were invited as guest speakers and left a deep impression on Japanese researchers.

The basics of the anatomy and physiology of vessels, nerves, muscles and the autonomic regulation system as well as the symptoms and signs of the HAVS are concisely but adequately introduced in Chapters 1-3. They cover recent advances in the knowledge of the pathophysiological and clinical aspects of the hand-arm vibration syndrome.

In Chapter 4, written by a Japanese researcher Professor Sakakibara, the underlying physiological and pathological mechanisms of the HAVS, especially the significance of the sympathetic effect together with the direct physical effect of vibration are discussed. Exposure to noise and cold during the operation of vibratory tools is emphasized as an additive factors contributing to the progress of the HAVS.

In Chapters 5 and 6, clinical evaluation of vascular and neurological systems and medical management are reviewed. It is shown that there is no best single diagnostic method; combination of tests according to the purpose of the

examination is needed. As to the medical treatment, it is pointed out that little effective progress has been made until recently and surgical interventions including that for associated carpal tunnel syndrome are of limited indication.

In the 85 years since Loriga's first report of Raynaud's phenomenon of occupational origin in 1911, many reports about the actual occurrence of the HAVS have been published. A chronology of introduction of various kinds of vibratory tools to industries and the results of epidemiological studies of the HAVS are presented in Chapter 7.

The chapters on ergonomic aspects of work with hand-transmitted vibration, methods for measuring vibration, standards for hand-arm vibration, including the Japanese standards (April 1977, Japan Society for Occupational Health) and the control of hand-transmitted vibration exposure are of great importance. The chapter dealing with legal and compensation aspects of the HAVS is also very informative.

Chapter 13 on prevention strategies for the HAVS in the United States, Canada, Europe and Japan might be able to draw attention around the world. The final goal for occupational health professionals is to establish comprehensive programs for prevention and management of the HAVS. In this Chapter, an account of interdisciplinary efforts and future problems is introduced.

At the end, this book summarizes much information about the HAVS and includes recent advances. Although some small misunderstandings or mistakes, for example, the legend to Figure 10-4 indicating an old British Standard, are found, the book is of high quality. It is valuable for not only medical doctors treating patients and industrial hygienists controlling working conditions but also academic researchers in this field. The book is a mine of comprehensive knowledge with recent information about the HAVS.

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