

SIXTEENTH EDITION



TURNER'S
PERSONAL AND COMMUNITY
Health

Stewart M. Brooks and Natalie A. Brooks

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STEWART M. BROOKS and NATALIE A. BROOKS

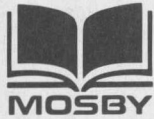
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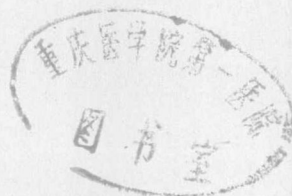
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TURNER'S
PERSONAL AND COMMUNITY
Health



To
Cameron F. McRae, M.D., M.P.H., F.A.P.H.A.,
a good friend
and
dedicated community servant



Historical note

C.E. Turner's *Personal and Community Health* first appeared in 1925 and soon established itself as a standard work in health education. Its success is easily traceable to Professor Turner's somewhat awesome career, one that spanned more than 60 active years. Professor Turner was a distinguished teacher and scholar, as well as an engaging writer. He was at one time Associate Professor of Hygiene at the medical and dental schools of Tufts University and Visiting Professor of Health Education at the School of Public Health, University of California. At the Massachusetts Institute of Technology he taught the first course in health education ever offered in a school of public health and originated the first program leading to the Master of Public Health degree in health education. When he was Director of Health Education Studies, his pioneering work and his demonstrations in schools in Malden, Massachusetts, during the 1920s laid the foundation for much of what is done in the field of school health and health education today.

During and after World War II much of

Professor Turner's effort was directed toward the improvement of international health, primarily through his role as Chief of Health Education with the World Health Organization and through his work as Consultant to the United Nations Educational, Scientific, and Cultural Organization. He was the first president and chief advisor of the International Union for Health Education and honorary president of the organization from 1968 to 1974. He was also active in and honored by a host of other health-related organizations.

With the death of Professor Turner in 1974 The C.V. Mosby Company named Stewart M. Brooks and Natalie A. Brooks, a husband-wife team, as the authors of what is now *Turner's Personal and Community Health*. Professor Brooks has taught the full range of courses in the health sciences for well over a quarter of a century and, together with his wife, has authored over 40 books in science and medical history. Many of these books have achieved an international stature, and a number appear in foreign languages.

Preface

Never before have college students faced a future for which a knowledge of personal and community health is so vital. The child who was asked "what do you want to be when you grow up" was realistic, even though naive, when he answered "alive." In matters of health there are people who shout "forward" without saying either "whither" or "how." Decisions upon which the health of individuals, families, and communities rest need to be made on the basis of a factual background and with rationality and objectivity, not on emotionalism or fadism.

Today innumerable pressures impinge upon mental health. The establishment of an ideal family and exemplary parenthood requires both wisdom and greatness of character. Hygienic living must make its way in a complicated technology and a mixed if not confused culture. Community health is no longer remote from individual behavior. The pollution of air, water, and food and the disposal of domestic, industrial, radioactive, and solid wastes are significant factors in the daily life of the average citizen.

The preceding words were written by Claire E. Turner for the preface of the fourteenth edition of his textbook *Personal and Community Health*. Slightly over a decade later, they still hold true, and the issues they raise are perhaps even more critical.

This sixteenth edition of *Turner's Personal and Community Health* has been extensively rewritten and further adapted to the needs of today's college student. We have sought to present in logical form a body of knowledge from the biologic and social sciences that will

stimulate a proper sense of health values and be worthy of a place in today's college curriculum. The book presents basic information concerning the care of the body and common departures from health, as well as a description of governmental and environmental health programs.

The first thirteen chapters present the various body systems in health and disease, and the remaining chapters deal with topics of special current concern, including the family, mental illness, nutrition, drug abuse, medical care, accidents and safety, school health, and the environment. Each chapter begins with a succinct Overview and Outline to guide the student through the material contained therein, and each ends with a Self-Test and Study Questions. The Self-Test may well improve the student's crossword expertise in a fun sort of way (the answers are in the back of the book), and the Study Questions should effect a better understanding of the material discussed in the text. Many of the questions seek student views on vital psychosocial issues, and some call for outside investigation.

We have placed the bibliography in an unobtrusive position at the back of the book, but we are quite serious about its contents. For each chapter we searched through all sorts of sources to find the most appropriate and up-to-date publications available. Most were used in the preparation of this book, but a number were included for their special appeal or interest over and above textual concerns. This

is particularly true of those publications dealing with historical matters.

We wish to express our appreciation to the many teachers across the country who have made constructive comments and suggestions based on their use of earlier editions of this text. Indeed, we welcome any and all remarks that could possibly perfect future editions. We also wish to thank a great many researchers, authors, publishers, health organizations, and manufacturers for their permission to use illustrative materials. In particular, we would like to note that a number of illustrations used in this edition previously appeared in our text

The Human Body: Structure and Function in Health and Disease, second edition, published in 1980 by The C.V. Mosby Co. Finally, our special appreciation for their willingness to take out time from busy schedules to assist us in a variety of ways goes to Paul Barlow, Peg Bradford, Marshall Brooks, Laurene Fusco, Stephanie Greene, Terri Hughes, Joanne Kent, David, Carol, and Elizabeth Scott, Jenny Szekely, Barbara Todesco, Sally S. Widerstrom, and Lee Wolfe.

Stewart M. Brooks
Natalie A. Brooks

A note to the student

The matching questions at the end of each chapter were carefully designed as a self-test of appropriate associations. Find the best possible (most logical) “match,” but use a given letter only once. Answers to the Self-Tests are given at the back of the book.

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As defined by the World Health Organization (WHO), health is "a state of complete physical, mental, and social well-being, not merely the absence of disease or infirmity." Certainly, health is much more than merely not being sick in bed. There are degrees of wellness, just as there are degrees of illness. Physical, mental, and social well-being are interrelated. There is, for example, a great difference between optimal nutrition and nutrition that is merely adequate to prevent obvious disease or between an athlete and a man who has only sufficient vigor to carry on a sedentary occupation.

Normal functioning of all parts of the body contributes not only to efficiency and the ability to do a full day's work without more than healthful fatigue but also to cheerfulness, attractiveness, courage, and enthusiasm for life. Conversely, mental, emotional, and social well-being contribute to physical health. In its various phases and to the degree that it is present, health makes possible a higher quality of living (Fig. 1-1). The desire for a feeling of personal worth is clearly an important driving force in our lives. Health helps us to attain this end by making possible a higher quality of service.

HEALTH AND KNOWLEDGE

Basic to the maintenance of health is an understanding of physical and mental fitness and the means by which they are secured. Sound decisions in matters of personal and community health come from logical reasoning based on a knowledge of the scientific facts involved. Better health comes, of course, not from the mere acquisition of health knowledge but from its application. In other words, health depends not only on what we know but also on what we do. Even though we know cigarette smoking causes lung cancer, many people continue to smoke. Knowledge, in itself, is not enough to make all people stop. It

is a **behavioral problem** as well as an educational one. Repeated warnings—those on cigarette packages, for instance—changing social norms, the work of such groups as Smokers Anonymous, and informed decisions, such as the one to ban all cigarette advertising on television, have helped people to quit or, even more important, not to start the habit at all.

In maintaining health we are caring for a mechanism—the human body—that has no equal. One of its most remarkable qualities is the constant tendency to keep itself in physiologic balance or equilibrium. This steady state of the internal environment of the body is called **homeostasis**. Any physical or chemical drift away from normal sets in motion compensatory mechanisms that tend to correct the imbalance. In this way the body is like the automobile automatic gear shift, which makes needed adjustments by itself. When the engine approaches an uneconomic rate of operation, there is an automatic shift to a higher gear. The body likewise has innumerable automatic physiologic mechanisms. It maintains, for example, the same temperature in the desert and in the Arctic Circle. It maintains a balance of the volume and distribution of body fluids and an acid-base balance. Such compensatory mechanisms will not maintain health in spite of all possible injuries, such as from poisons, pathogenic organisms, and the abuses of unhygienic living, but it is encouraging to know that we have such mechanisms. Health is influenced by heredity, environment, and behavior, but the ability of the body to adjust automatically to changing conditions and to maintain normal functions is a powerful force in health maintenance.

HEALTH VALUES

The attention a person gives to the study and maintenance of health depends on the place of health in his system of values. Should we sacrifice health for other aims, or should