

Everyone climbing above 8,000 feet should know how to identify and treat high-altitude medical problems. Wilkerson, et. al., clearly discuss these after reviewing the physiological adaptations of the human body to high altitudes: decreased cardiac output, decreased oxygen saturation; increased work of breathing; decreased blood volume; sleep hypoxia. The physiology of acclimatization and methods to facilitate acclimatization are also reviewed. Acute mountain sickness, high-altitude pulmonary edema, high-altitude cerebral edema, high-altitude retinal hemorrhage, high-altitude systemic edema, and some persistent mountain sicknesses, in addition to nutrition and fluid balance at high altitudes are discussed in Chapter 12.

Interesting information about altitude is contained everywhere. Did you know that "part of the beneficial effect of [the drug] acetazolamide for acute mountain sickness probably results from amelioration of sleep hypoxia" (p. 177)? Sleep hypoxia is the result of a decreased respiration rate and depth during sleep in an environment which contains little oxygen — causing many individuals to have disturbed sleep, headaches in the morning, and other unpleasant effects. Also, "sleep hypoxia probably decreases physical working capacity during the day, which provides a physiologic explanation for the wisdom behind the mountaineer's dictum 'sleep low and climb high'" (p. 177). Did you know that taking sleeping pills above 10,000 feet may "lead to unnecessarily low blood-oxygenation during sleep, which may aggravate symptoms of altitude sickness" (p. 29)? Or that, "some investigators have suggested that the depression, impaired judgment, and other psychological and intellectual changes that commonly occur at high altitudes and for which hypoxia has been blamed, may actually be the result of dehydration" (p. 32)? Proper fluid balance, and the prevention of dehydration are common themes repeated throughout the book. The importance of drinking fluids until your urine is clear is constantly stressed.

The discussion on cold injuries (hypothermia, frostbite, and immersion foot) is good. The emphasis is on prevention and then treatment. These topics are also clearly, interestingly, and comprehensively discussed in *Hypothermia, Frostbite, and other Cold Injuries*, a book also edited by Wilkerson.

Problems with the sun and sun-screen selection are reviewed. Did you know that celery may increase one's sensitivity to sunlight?

Sanitation and health problems asso-

ciated with travel to underdeveloped countries are discussed. My only major criticism with the book stems from Wilkerson's very condescending view of the inhabitants of most of the world. Statements such as "modern concepts of sanitation are totally alien to many natives of mountainous countries. They must be monitored to ensure that they wash their hands after using the toilet and before preparing food" (p. 299) are offensive to me. However, I suppose it is better to err on the offensive/safe side than to expose oneself to diseases such as chronic hepatitis, which "can last for the rest of the victim's life, which typically is significantly shortened" (p. 85).

While the entire gastrointestinal disease chapter has been updated, the diagnostic diarrhea chart, on page 231 of the second edition, has been deleted. I'm going to photocopy it and attach it to the third edition. My favorite illustration, "digital removal of a fecal impaction", has been saved.

The appendix on medications has been updated. Did you know that at one time acetaminophen (Tylenol) was the medication most commonly used for committing suicide in Great Britain (p. 378)? By the way, chloroquine (the most common drug used for malarial prophylaxis) is repeatedly spelled incorrectly in the appendix.

An informative appendix on legal considerations has been added. Personal liability, establishing death, disposal of the body, and estate and life insurance are briefly mentioned.

Overall, the book is phenomenal. It is securely bound and should endure considerable field use. There are several blank pages in the back of the book for additional notes. The text is clean and well-written, and, although 23% heavier than the second edition, should be carried along on all outings.

HYPOTHERMIA, FROSTBITE AND OTHER COLD INJURIES. Edited by: James A. Wilkerson, MD, *The Mountaineers*, 1986. 114 pp., \$9.95.

Reviewed by Daniel T. Blumstein

Wilkerson has done it again! With the help of Cameron C. Bangs, M.D. and John S. Hayward, Ph.D., James A. Wilkerson, M.D., the editor of *Medicine for Mountaineering*, has developed the definitive easy-to-read monograph on cold injuries. The emphases are on prevention, then recognition and prehospital treatment.

The book begins with the chilling account of the Four Inns walk tragedy. In 1964, this 45-mile competitive hike over

the English moors claimed the lives of three hikers. Little was known about hypothermia then. The tragedy illustrates that even if one is expending a lot of energy while exercising, certain environmental (cold and wet) and physiological (dehydration and reduced caloric intake) conditions can lead to hypothermia. It is far easier to prevent hypothermia than to treat it.

How the body regulates temperature and adapts to cold are discussed in the first chapter.

Prevention of hypothermia is the focus of the second chapter. Lucid descriptions of fairly complex topics abound. For instance, "convection is the way soup is cooled by blowing on it. The air just above its surface is warmed by the soup. Blowing moves this warm air away and replaces it with cool air which extracts more heat as it is warmed. Fans have been used since ancient times to take advantage of the cooling effect of moving air." (p. 13). I only wish that Wilkerson could have been one of my physics professors in college!

An informative discussion on clothing selection for outdoor use is filled with interesting bits of information such as "the scratchiness of wool can be avoided by adding a small amount of oil (such as olive oil) to the rinse water to replace the natural oils removed by soap and detergents." (p. 26).

The safety of plastic mountaineering boots for use in cold climates is questioned. "A recent compilation of the incidents of frostbite on Mount McKinley has disclosed that wearers of plastic boots developed frostbite more commonly than wearers of leather boots, regardless of climbing experience or the difficulty of the routes" (p. 30). Essentially, the felt inner boots expand when you sweat and the outer boots don't. Also, the boots are not flexible. This leads to constriction of circulation and perhaps frostbite. My own experience with using vapor barriers to prevent this problem is that after about a week or two out, the inner boots still get wet either from inside or from snow somehow drifting in. Continual adjustment of the boots can help prevent the circulation from being cut off.

The body's response to cooling is discussed. Recognizing hypothermia, the situations that promote it and evaluating the victim follow.

The chapter on treating hypothermia begins with the ominous statement "no previously healthy person should die of hypothermia after he has been rescued and treatment has been started" (p. 54). For victims of profound hypothermia, this means preventing ventricular fibrilla-

tion by handling them "...as carefully and as gently as patients with fractures of the cervical spine" (p. 58)! Methods of rewarming and some problems with CPR are discussed.

A thorough discussion on hypothermia induced by cold-water immersion precedes the chapter on frostbite. Trench foot — immersion foot — and its prevention are reviewed in the last chapter.

Despite the fairly narrow focus of this book, it should receive a broad following for it discusses topics of interest to everyone who recreates outside. *Hypothermia, Frostbite and Other Cold Injuries* is well-written, sturdily bound, and moderately priced.

MT. WOODSON BOULDERING, by Keith A. Brueckner, 2414 Mayor Hall, B-019, UCSD, La Jolla, CA 92093; 15 pp. \$1.00.

Reviewed by Ray Olson

Mt. Woodson is San Diego County's most popular climbing area. When the rest of the country is skiing, and even Joshua Tree is frozen out, Mt. Woodson is often prime. The paved road (closed to vehicles) winding to the top of the hill is another reason for popularity. This road provides easy access to the numerous high-quality boulders found along its length. Keith Brueckner's revised and current guide (April 1, 1986) tackles the formidable task of documenting the hundreds of problems, both obvious and obscure, on Woodson's densely foliated slopes.

Overall, I like this guide; it's not only concise and easy to read, but light and compact as well. And for only a dollar, you can't go wrong.

However this guide has drawn its share of criticism. Many complain of the highly subjective ratings, both in difficulty and quality. Admittedly, the four-digit Yosemite decimal system does seem a bit "lost," as does the five-star quality rating, amidst a sea of five-to twelve-meter boulders. Yet the author explains and admits the highly subjective nature of the climbing, requesting comments on ratings, etc. I wonder how many critics have put pen to paper and given Keith the kind of detailed input he and this guide deserve?

But this is nit-picking. What really counts is up there on Mt. Woodson; the excitement of exploration, feeling warm jams, good company, and the smug knowledge in knowing most of the country isn't wearing shorts...in January.

Mt. Woodson Bouldering is available from Adventure 16, 4620 Alvarado Canyon Road, San Diego, CA 92120, (619) 283-2374.

CASCADE ALPINE GUIDE, Vol. 1, Second Edition, by Fred Beckey. Published 1987 by the Mountaineers, Seattle, Washington; 328 pages, maps, B/W photos.

Reviewed by Jim Nelson

The Cascade Alpine Guide represents a life-long obsession for Fred Beckey. Published by the Seattle Mountaineers in three volumes: (1) Columbia River to Stevens Pass (Brown Cover); (2) Stevens Pass to Rainy Pass (green cover); and (3) Rainy Pass to Fraser River (red cover). Volume One is now available in its second edition (tan cover), revised and updated for the first time since its first printing in 1973. Ironically, when Fred approached the Mountaineers about publishing a guidebook in the late forties they were not interested. The American Alpine Club subsequently published the first Guide ("Beckey's Bible").

To write a guidebook to an area as large as the Washington Cascades is certainly an imposing task. Beckey has researched this book with the same legendary enthusiasm he has shown for searching out new climbs.

This climbing guide, always an ongoing project, was in need of revision. Mt. St. Helens lowered itself 1,314 feet, the

Forest Service renumbered its roads, many fine new climbs were made, and then there were the inevitable corrections and additions.

Approximately 420 peaks are included. Each with a thorough description and layout of the peak along with historical tidbits, amusing anecdotes, pertinent geologic information and then continuing with specific route descriptions. Road access with mileages and trail information is conveniently organized at the back of the book. There are nearly 100 photos in all, (including eight new photos of Mt. St. Helens), many occupying a full page. Maps, sketches & topos all have astounding accuracy. Don't pass up the introduction in which Beckey has included information and insights on a variety of topics from environmental impacts to weather. "The weatherman is always correct — sooner or later." After 13 years of use I continue to be amazed by the amount of information packed into this guide.

Despite the proximity to large population centers and the undeniable easing of access that a guidebook brings, the Cascades continue to offer the opportunity for alpine adventure. Every couple of years someone plucks a new gem. In the northern ranges, the North Buttresses of Mt. Triumph and McMillan Spire stand out.

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