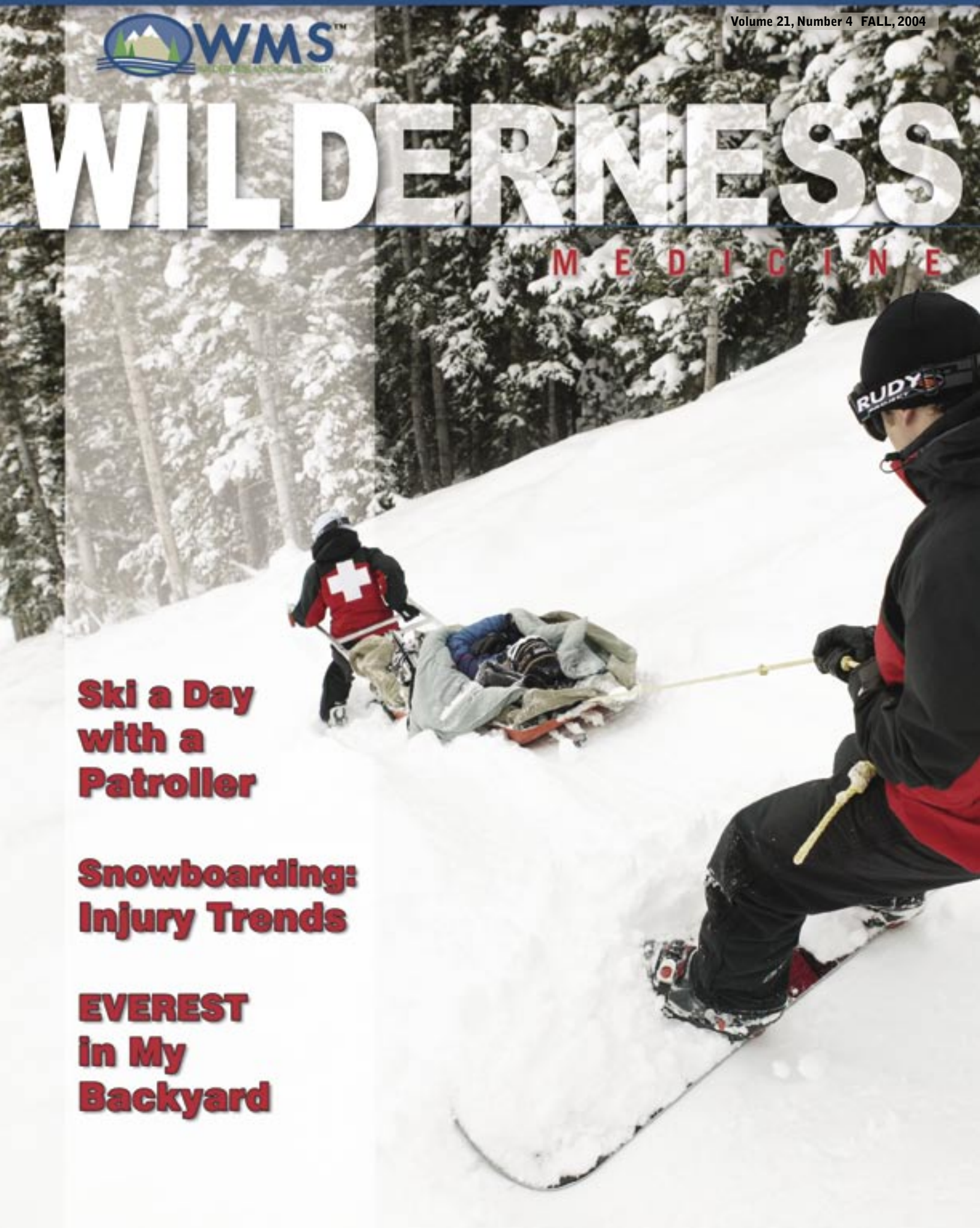
A magazine by the Wilderness Medical Society serving the medical interests of the outdoor and wilderness communities.

Volume 21, Number 4 FALL, 2004

WMS™

WILDERNESS MEDICINE



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WILDERNESS MEDICINE

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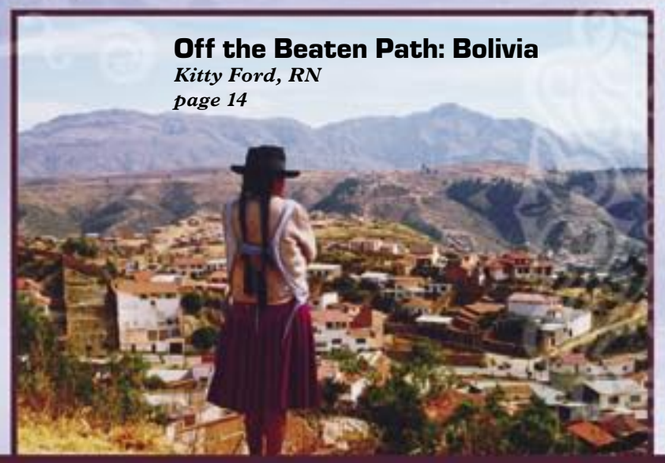
Cover Photo: Selko Photo/National Ski Patrol



Editorial

Wilderness Medicine
A quarterly magazine published by the Wilderness Medical Society

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The goals for *Wilderness Medicine* magazine are to:

1. Provide timely information regarding WMS news and activities;
2. Provide a forum for the exchange of ideas and knowledge regarding wilderness medicine, and regarding WMS; and
3. Promote active membership involvement through solicitation and publication of members' articles and photographs.

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Ski a Day WITH a Patroller

Yvonne Lanelli

Interested in becoming a ski patroller?

+ Every ski area in the United States or Canada has its own requirements and protocols. Some areas employ only paid professionals; others are staffed entirely by volunteers, while some, like Ski Apache, utilize both. Many ski areas utilize the services of the National Ski Patrol, the oldest and largest ski safety system in the world.

For further information, check out www.nsp.org.

For nearly 70 years the National Ski Patrol (NSP) has been at the forefront of safety and emergency care education programs. The association's 28,500 members represent 98% of the nation's patrollers, whether they are paid or volunteer their services. These members are the primary delivery system of emergency care training for ski area patrollers. NSP also develops training for non-medical roles, including toboggan handling, avalanche rescue, and mountain host programs.

Ah, the glamorous life of a ski patroller… skiing first-powder tracks, flirting with comely customers, looking so yummy in that uniform…Nice job, right? Spend a typical day with the patrol at Ski Apache, New Mexico, the southernmost major ski area in the US and decide for yourself…

5:45 AM: Joe Patroller is up, breakfasted and out the door just as the sky begins to lighten.

7 AM: He wheels up a winding, snow-covered mountain road to Ski Apache, near Ruidoso. Located in the south central mountains of New Mexico, Ski Apache's powder and sunshine have attracted skiers since the early 60s. Thirty-one lifts transport skiers and snowboarders to 55 trails that cover 750 acres in the Lincoln National Forest and the Mescalero Apache Reservation. Waving to the State Highway Department snowplow driver, Joe parks at the base area in front of the Patrol Building. Inside, he fixes a cup of strong coffee and hot chocolate (the "double buzz"), then tackles snow-covered stairs with the snow shovel.

8 AM: Morning meeting. The patrol director announces 10 inches of powder fell last night. Thirty patrollers emit a low chorus in sighs of pleasure. "Don, take two patrollers with you and check the boundary ropes.* Harvey, round up three and dig out the gondola. Judy, you do the same with Chair One. Everybody else, dig out sleds at the Gazebo. This is President's Day weekend, so you'll be assigned speed control duty in Moonshine Gulch in addition to your Gazebo or First Aid Station duty." Sighs of pleasure evolve into groans. No first-track powder runs for them today. After announcements, two patrollers present a 10-minute "mini-refresher." Today's topic, "The Importance of the Rapid Use of O_2 in the Treatment of Injuries."

8:45 AM: The gondola opens for patrol only. This lift terminates at the top of the major portion of the ski area. Before lifts open, patrollers will have checked, marked or corrected hazards such as downed boundary ropes, snow-covered trail signs, exposed stumps and broken tree branches. They also check snow-making equipment for leaks or missing covers. "Skier safety is our number one job," say the patrollers.

9 AM: Lifts open, but in the First Aid Station at the base area, two pale patients already occupy beds. "Because our base area is over 9,000 feet high and most of our customers are from Texas, altitude affects some of them even before they start skiing," says Ann Auxiliary Patroller who staffs the First Aid Station. "Usually they've driven all night, haven't eaten breakfast, and can't wait to hit the slopes. They present with nausea and body temp below 98.6. We treat them with high-flow O_2 for about 10 minutes. When the nausea subsides, they drink hot chocolate to raise their blood sugar. When they feel better, they're released to ski—with instructions to eat breakfast first!" If the patient shows no improvement, patrol advises returning to the town of Ruidoso, about 2,500 feet lower, for symptoms to subside; they may seek treatment at the local ER if symptoms persist.

9:01 AM to 3:45 PM: Thousands of excited skiers whoop and holler down the powder and freshly groomed slopes. On-the-hill patrollers rotate dispatch duties in the Gazebo, the terminus of the gondola, checking out radio calls of possible incidents on Ski Apache's 55 trails. Auxiliary patrollers rotate duties in the First Aid Station. When not on duty in the Gazebo or in the First Aid Station, both on-the-hillers and auxiliaries also do speed control at major trail intersections.

Joe Patroller rides Chair One. His radio crackles, "Anyone in position to check out an incident on Meadows?" Joe, about to dismount the lift accessing that slope, radios back, "I'm in position." In a few minutes, he glides to a stop at the popular intermediate slope. An 18-year-old female skier sits on the side of the trail, holding her knee. Joe removes his skis, crosses them above the seated skier, identifies himself, and assesses the situation. The skier says her knee hurts and she knows she can't ski down. Joe radios back, "Incident confirmed, sled requested." In a few minutes, Jane Patroller arrives with a sled pre-packed with splints and blankets. A third patroller skiing nearby overheard the call on her radio and arrives to assist with traffic control while the skier is splinted and loaded into the sled.

Meanwhile, Ann and Aaron Auxiliary Patroller have overheard the radio call in the First Aid Station and have a gurney and warm blankets waiting. The sled arrives, the patient unloaded, Jane and Joe give their reports to Ann and Aaron and re-pack the sled. Ann and Aaron head back up to the Gazebo where they reassess the patient. They contact the patient's family and suggest she get checked out at the ER in Ruidoso.

The scenario repeats as the day progresses, with skiers becoming tired and yet still eager to "get in one more run." Joe, Jane, Aaron, and Ann will finish their assigned duties and grab lunch whenever time permits. Powder skiing? Not today, they're all too busy!

At Ski Apache, patrollers make their presence known to the skiing public. In bright red (on-the-hillers) or black (auxiliaries) jackets with white crosses, patrollers are easily identifiable. "Skiers ask us for directions to certain slopes, for trail advice, where the restrooms are, for

*All names have been changed.

help off slopes they can't handle—we do a lot of public relations in addition to first aid."

Sure enough, by the end of the day, in addition to hauling sleds and patient care, Aaron skied down a 9-year-old boy who wandered off an easy trail onto a more difficult one. Joe helped members of a church group find their leader. Jane answered questions from a customer who is interested in becoming a patroller next season. And Ann, who is bi-lingual, gave directions to a family from Mexico.

4 PM: The lifts have closed and all patrollers, except auxiliaries who have duty in the First Aid Station, are assembled in the Gazebo. Each patroller is assigned a slope to "sweep." He or she will ski the slope slowly from side to side, checking trees for skiers, and following down any remaining skiers on the slope. Sweeping assures that no one is left on the mountain. After sweeping his or her slope, the patroller checks in at the First Aid Station. Only when every patroller is accounted for and every skier is off the slopes, the patrol director announces, "The mountain is clear," and the ski area officially closes for the day.

5:45 PM: Joe, Jane, Aaron, and Ann head down the mountain, 12 hours after their patrol day began.

Glamorous? Maybe not, but very, very satisfying.

Yvonne Lanelli recently retired from nearly 20 years with the Ski Apache Patrol. "Best job I never got paid for!" she vows. Ms Lanelli writes the column "Follow Me!" every other Sunday in the Alamogordo (NM) Daily News. *Contact her at EVLanelli@zianet.com.*

What's in there, anyway?

Ski patrollers carry a variety of gear in either fanny packs or specially designed equipment vests. We asked Phil Szenasi, member of Ski Apache Ski Patrol for 29 years, to let us peek inside his vest.

Not surprisingly, first aid supplies filled most of his pockets: penny-cutting shears, bandages, cravats, gauze pads of various sizes, a CPR mask, medical gloves, a body fluids bag for biohazardous materials, a SAM splint, tongue depressors, eye pads, a small flashlight for checking pupils—and rolls and rolls of adhesive tape. "It's the duct tape of the ski patroller," Phil jokes.

Thus equipped, he can treat small wounds or splint hand, finger and upper arm injuries. For lower limb injuries, he radios for the pre-packed sled with larger splints.

In addition to first aid supplies, Phil carries a heavy-duty whistle, "space" blanket, cigarette lighter, chalk to write messages on boards near lifts, trail maps, pocket knife, small wrapped candies, and pencil and notepad.

Perhaps his most important pocket is the one on his left shoulder: it stores his radio. "In an area as large as ours, radios are essential. Communication is crucial to prompt first aid."

EDITOR'S NOTE

Christopher Van Tilburg, MD

Rain has made it to the Pacific Northwest and, higher up, snow. Leaves begin to turn orange, yellow, fade, fall. Days shorten. Autumn brings changes at the WMS too, namely Dian Simpkin's retirement after almost two decades of service. I first met Dian as a medical student years ago when I volunteered to staff the registration booth for a conference. I went on to attend WMS meetings during my internship (slept in my car and Dian let me shower in the "media room") and residency (Dian helped me invite myself to become a lecturer). A dozen meetings later, I think I will miss Dian when I need her most as I put together Snowmass 2005. As a testament to her service, the WMS renamed the Service Award in her honor. The Dian Simpkins Service Award is handed out annually to a member for outstanding contributions; Dian won it in 1999. Thanks, Dian!

We have a few other exciting happenings in this issue. Debra Stoner has kicked off a community education column. It isn't really new: she's been doing it for 10 years. But she will help the rest of the WMS to participate locally. Kitty Ford has merged her passion for outdoor sports, travel, and culture with her profession, nursing. She writes about an adventure to Bolivia where she studied Spanish, volunteered at a local hospital, and ripped downhill on a mountain bike. Yvonne Lanelli writes about a typical day-in-the-life of a ski patroller and gives us a rare glimpse at what's inside those secret belt packs. Tom Sachtleben has penned an update on snowboarding injuries.

And we have lots of new excitement in Society Business: National Ski Patrol, the Academy of Wilderness Medicine, COMPAS, and the student elective.

Onward,
Christopher Van Tilburg
Editor-in-Chief

WMS and NSP Offer CME

+
Kyle C. Hanson
Photos:
Selko Photo/
National Ski Patrol

The National Ski Patrol (NSP) and the Wilderness Medical Society (WMS) are partnering to offer CME courses on medical emergencies that occur in non-urban settings. The pilot course will be customized for the physicians who work with the US Ski and Snowboard Teams and will be held in conjunction with the Birds of Prey World Cup Downhill scheduled to begin November 27, 2004, in Beaver Creek, Colorado.

An additional conference focusing on more general outdoor medical emergencies will take place March 31–April 3, 2005, at Mt. Hood, Oregon.

The courses will cover medical topics such as patient assessment, common medical emergencies, anesthesia and pain control, splinting and transport, winter sports trauma, triage, and environmental issues, among others. Attendees will have the opportunity to work hands-on with local patrols to develop an understanding of mountain protocols. Faculty will include the foremost experts in the areas of outdoor emergency medicine, and will be supported by local members of the NSP. The format will include classroom work in the mornings and hands-on scenarios in the afternoons. Evenings will offer dinner and entertainment, as well as optional sessions on related topics.

National Ski Patrol Executive Director Stephen Over said he applauds both organizations for recognizing the need for the CME and for devoting the time and resources needed to ensure its swift evolution. "We're very excited about the opportunities associated with working with the Wilderness Medical Society in developing and implementing innovative education programs for our combined memberships," Over said. "These joint programs not only will be beneficial to individual members who attend the combined programs but also to the entire NSP membership in helping to further enhance our educational materials and other programs as a result of our interaction with WMS."

Added David Just, WMS Executive Director, "A benefit for physicians electing to attend the NSP certification course is CME credit, but more importantly the training and skill enhancement they will acquire will transfer directly to the clientele they serve on the slopes."

Skiers, snowboarders, and anyone involved with outdoor sports who are treated by individuals completing the National Ski Patrol's certification course will be exposed to a new set of emergency care standards. NSP's Outdoor Emergency Care curriculum also serves year-round outdoor emergency needs and is the preferred training course at many colleges and universities, search and rescue groups, smokejumpers, mountain bike patrols, mountain guides, and river rafting companies, and other affiliates across the country.

The National Ski Patrol is a federally chartered nonprofit membership association dedicated to serving the public and the mountain recreation industry by providing education and training in safety, credentialed Outdoor Emergency Care, and transportation services. For more than 65 years, the NSP has been at the forefront of safety and emergency care education programs. The association's 28,500 members represent 98% of the nation's patrollers, whether they are paid by their home area or volunteer their services.

Kyle C. Hanson is the Associate Director, Education Programs for the National Ski Patrol in Lakewood, Colorado. You may contact him at khanson@nsp.org.

SNOWBOARDING
Injury Trends

Thomas R. Sachtleben
MD, MS

Snowboarding has grown exponentially as a sport over the past two decades and is one of the fastest growing winter sports worldwide. Seventeen million riders (approximately 30% of total mountain users) visited resorts in 2002-2003, and there are 3.5 million snowboarders in the US. Growing numbers of riders are lured to the backcountry, or off-piste terrain, in search of fresh tracks, powder, and new adventure.

Snowboarders range in age from four to seniors, but the typical rider is a male in his early 20s. Snowboarders have less overall experience than skiers, and beginner snowboarders coupled with aggressive riding and rapid skill advancement have been a recipe for disaster with regard to injuries. The spectrum and severity of snowboarding injuries have also been highlighted by formal competitions, travel into the backcountry, and increasingly aggressive riding. Snowboarding has become very popular for children, and 80% of children participating in snow sports have ridden snowboards by the age of 12. Children and beginners have a much higher injury rate, and proper protective equipment is strongly recommended.

Equipment used by snowboarders continues to be updated and improved, thus injury patterns have also evolved. Technology has focused primarily on boots and binding systems. Snowboard boots have become increasingly stiffer over the last 20 years, and boards have become lighter and faster.

Compared to alpine skiers, snowboarders sustain more impact and less torsional forces overall. With improved snowboard equipment, there has been a steady shift to greater injuries involving the upper extremity. Snowboarders are less likely to have thumb injuries, boot-top contusions, and knee sprains which are common in skiers. Riders are more likely to sustain distal radius fractures and foot and ankle injuries. Snowboarders are also more likely than skiers to have spinal and head injuries.

Two-thirds of snowboarding injuries occur in the upper extremity. Wrists and shoulders are particularly vulnerable because snowboarders have a fixed position on the board, which limits energy absorption during falls. Snowboarders do not have poles, which also contributes to high impact falls. Wrist injuries are often seen in beginner riders, while advanced riders are more susceptible to acromioclavicular injuries, shoulder dislocations, and clavicular fractures.

Several recent studies have evaluated the ability of wrist braces to protect from injuries, particularly to the distal radius. Commercial wrist guards have clearly been shown to reduce the number and severity of wrist fractures. In addition, previous concerns about these guards shifting forces to proximal and distal locations were dispelled by one recent study.

Head injuries are the leading cause of death and severe injury among snowboarders. A recent study in Colorado revealed a three times higher head injury rate in snowboarders compared to skiers. Nearly one-third of snowboarders admitted for injuries had traumatic brain injuries, and 14% had a severe injury (Glascow Coma Score<8).

Fortunately, helmet use is increasing, but a recent survey indicated that only about 12% of skiers and snowboarders wore helmets. There has been no evidence that proper helmet use increases the risk of spinal injuries. Helmets must fit firmly and children should not be allowed to "grow-into" oversized helmets, as this may increase collision rates due to decreased visibility.

Spinal injuries are increasing in frequency. This is partially due to half-pipe activities, "big-air" events, and aggressive, young male riders who fall while jumping. Snowboarders also tend to fall backward, causing them to sustain axial loading injuries. Shearing forces from multiple vectors are often involved. Burst and anterior compression fractures are most commonly seen.

Lower extremity injuries have become less common as snowboard boot and binding technology continues to improve. Fewer torsional forces at the knee have led to fewer ligamentous injuries. Approximately 75% of lower extremity injuries are to the lead foot.

Ankle injuries, however, comprise approximately 15-20% of all snowboarding injuries. Boots have become stiffer, and increased rigidity has correlated with fewer ankle sprains. About 50% of all ankle injuries are fractures. Fractures of the lateral process of the talus (LPT) have become so well recognized among snowboarders that they are referred to as "snowboarder's fracture." This type of fracture occurs 15 times more frequently in snowboarders than in the general population, and has a very high morbidity. Complications include osteoarthritis, non-union, and avascular necrosis. Most LPT fractures are not evident on x-ray; therefore, CT scans are usually necessary to evaluate them properly. The best x-ray view to utilize is a lateral view with 10-20 degrees of inversion. Large, displaced fractures (>2mm) or comminuted fractures require operative reduction and internal fixation and excision, respectively, but small, undisplaced fractures may be treated with immobilization and non-weight-bearing for 6 to 8 weeks.

While chest and abdominal injuries are less common overall, several specific types deserve mention. Snowboarders often sustain injuries due to falls from a height or from collisions with stationary objects. Owing to these high-impact collisions, rib fractures and pneumothorax have been seen with increasing incidence. Splenic hematomas and lacerations, liver injuries, and renal contusions must be suspected in snowboarders who have sustained intra-abdominal trauma.

While it often takes skiers several years to master backcountry terrain, an average snowboarder can ride off piste with relative ease after a few weeks. This certainly creates advantages for riders, but it also carries with it a multitude of additional dangers such as altitude injury, hypothermia, and frostbite. Riding out of bounds requires proper safety equipment to prevent getting caught in an avalanche. Asphyxiation from deep snow submersion, usually due to a fall into a tree well, is also a serious and potentially fatal hazard. Skill, knowledge, experience, safety gear, and especially good judgment are all essential components of the backcountry experience.

Snowboarding is the fastest growing winter sport, and injury patterns will continue to evolve. Health care providers and first-responders need to watch for common injuries. Use of safety equipment such as helmets should be strongly encouraged. Backcountry enthusiasts need to be properly educated as well as prepared for varied conditions and risks.

Dr. Sachtleben is a family and fellowship-trained sports medicine physician currently practicing in Steamboat Springs, Colorado. He is a physician for the US Ski Team and an avid backcountry snowboard enthusiast.

If you are a physician with an interest in outdoor medicine, this conference was designed specifically for you. Taught by foremost experts in the outdoor emergency medicine profession and members of the National Ski Patrol, this course focuses on hands-on winter medical emergency scenarios in an intimate learning setting.

Cost for WMS/NSP members is $495/person, Non-Members $550/person. Registration deadline is January 10, 2005. Attendance is limited. Group lodging rates are available. See registration form for details.

For information or to register: Visit www.nsp.org/wms to download your forms. Complete and mail or fax to Karen Hagaman, NSP Meetings and Convention Director: National Ski Patrol, 133 South Van Gordon Street, Suite 100, Lakewood CO 80228-1706.
Fax: 800-222-4754 Phone: 303-988-1111 ext. 2632
Email: khagaman@nsp.org

NATIONAL SKI PATROL
www.nsp.org

Gear FOR Work AND Play: Advanced Life Support Kits for Weight Weenies

Christopher Van Tilburg, MD

Medical kits for the backcountry range from ultralight personal kits (minimalist version: a roll of tape) to bulky expedition boxes that go to Everest Base Camp and or across the Sahara. If you are thinking of upgrading your kit to advanced life support (ALS) capability, consider equipment and supplies that are light and compact. You may not need to skimp for expeditions with vehicle support or ski patrols with quick access to large trauma kits. But for search and rescue, expeditions without vehicles or pack animals, climbs without porters, river trips, backpacking jaunts, or research ventures, you'll want to take less and weigh less. After all, light is right.

PROTECT YOURSELF

First, don't forget nitrile gloves, face mask with eye shield, and a CPR mask. Protection of the rescuer, you, is vitally important.

A FOR AIRWAY
B FOR BREATHING

Take a selection of oral airways and a bag-valve mask. The Pocket Blue bag-valve-mask is exceptionally compact, since it was designed for rural paramedics and mountain rescuers. It rolls up like a burrito, whereas most other bag-valve-mask combos fold like an accordion and are bulky. The only hitch: the outflow valve of the Pocket Blue doesn't match the diameter of endotracheal (ET) tubes or standard pocket masks. You'll need to use the mask that comes with the Pocket Blue and buy the separate adapter for use with ET tubes.

For laryngoscopes consider a pediatric AA battery handle. It's lighter and smaller than the C battery version and runs the same batteries as your avalanche beacon or headlamp, (unless those use AAA). Disposable plastic blades come in all sizes. You may choose just two, like a Miller 2 and a Mackintosh 3. Get a small selection of endotracheal tubes preloaded with stylettes, a syringe, and an ET tube holder. A lightweight stethoscope is almost a necessity; an ear to the chest works marginally in the field. Bring a 2-inch 14-gauge angiocatheter for needle thoracotomy. Oxygen, although useful and potentially lifesaving, is often impractical for lightweight ALS field kits.

Dr. Van Tilburg's wilderness advance life support pack geared up for intubation and major trauma.

C FOR CIRCULATION

For trauma, you can dress most major wounds with a few basic supplies: a few large gauze trauma bandages, 3-inch conforming gauze bandages, 3-inch elastic roll bandages, and tape. Remember, it's difficult to improvise tape in the field so take a couple rolls. Two-inch cloth tape works best for trauma and 1-inch waterproof tape is good for minor wounds. Bring a few hemostats for major bleeders and trauma sheers to cut clothing. Use SAM splints for extremities injuries. You can add minor wound-care supplies like antiseptic wound cleanser, steri-strips, benzoin, antibiotic ointment, nonstick gauze, bandages, moleskin, and such.

If you want to take medications, many mountain doctors and paramedics say analgesics are most important. In addition, consider anaphylaxis drugs, antibiotics, and any specialty medicines for travel to the tropics or high altitude. Certain situations mandate full advanced cardiac life support (ACLS) drugs; that kit tends to be bulky and you need to keep the medicines up to date, which can get expensive. Consider an IV kit but know fluid bags are bulky, fragile, and susceptible to freezing. Powdered oral rehydration solution that can be easily reconstituted in water works in many situations.

D FOR DISABILITY

If you don't have space for a C-collar, learn how to improvise one with a SAM splint. A Wilderness Medical Society Conference is a great place to learn this technique.

Pack it all in a fanny pack or a light weight pouch so it can fit inside your backpack or base camp duffel. You can buy most of this equipment online from almost any EMS supplier—www.goemsusa.com had a good selection. The Pocket Blue and ET adapter are available at www.conterra-ems.com.

Reach Out

Everest in My Backyard:

Trekking into the Wilds of Community Education

Debra Stoner, MD, FACEP

Everest in my backyard? Not really. My backyard is central Pennsylvania and the largest mountain is more then a few meters shy of sharing a top 8,000-meter rating. It towers in at a mere 746 meters and goes by the not so exotic name of Red Rock Mountain, but it is where I made my first foray into community education. I walked into the adjacent State Park office and offered to give lectures to the campers. Eight years and dozens of lectures later the outreach into my community has expanded to include lectures on wilderness medicine for schools, universities, libraries, seniors, scouts, hunters, trekkers, travelers, community education centers, nature and hiking clubs. My topics range from teaching seniors how to prevent hypothermia during a power outage to teaching hikers how to prevent heatstroke during the summer.

The View is Awesome - Importance of Outreach

Once you take the plunge, offering lectures on wilderness medicine is like canyoning, there is no turning back. It is a natural extension of your practice be it nursing, search and rescue, prehospital, an office or a hospital-based practice. You do it every time you talk to your patients. You communicate and educate. Go beyond your practice: reach out and share your knowledge, expertise, and personal experiences on wilderness medicine with your community to publicize important information. It sends the message of caring and wellbeing throughout your community, no matter what or where you practice. It may even raise the community's awareness of your affiliate hospitals and organizations.

Finding the Trail Head - How to Build a Network

You're not in academic medicine? As an emergency physician in a small community hospital neither am I. So how do you make the connections and build a referral network?

Hit the trail and put out the word! Start by contacting your hospital community education or outreach office and volunteer to give a lecture. They have the expertise to help you select topics and will advertise the lecture in local papers and on the radio.

Contact local state parks, libraries, community centers, schools, youth groups, universities, and outdoor clubs. They will also take care of advertising the talk. Leave your name, contact information, references, and a list of topics. Follow up with a call a few weeks later to confirm your intentions and availability.

Be creative in seeking out opportunities to advertise your availability. Invite the local newspaper to publish an article you wrote on a wilderness medicine topic or offer to give an interview at the local radio station on the general concept of wilderness medicine.

Making Trail Buddies - How to Find a Target Audience

As you build a network, word will get out and the next thing you know the local librarian will have sent out a search and rescue team to find you for a lecture! But at the start you have two choices. You pick a topic and the audience finds you, or you choose the audience and tailor a topic to them.

In the beginning I found it easier to identify the target audience through networking and choose a topic that fits a specific need of the group. For example, "First Aid for Campers and Hikers" is a good choice for a campground program and "How to Stay Warm if the Electricity Goes Out" heats up a senior citizen housing group.

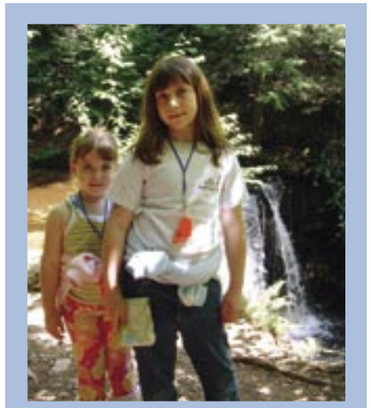
Attendance will vary depending on your geographic location, season, topic, timing of lecture, lecture location, and intended audience. It doesn't always work out as planned. Once I was asked to give a lecture on Lyme disease and instead of my intended audience of outdoor adventurers I had a room of Lyme disease hypochondriacs seeking the latest alternative therapy and testing! I learned from that mishap to make lecture titles more specific for the intended audience.

Direction Finding – How to Map-out a Topic

In the beginning choose topics you are most familiar with and comfortable talking about, either related to your specialty or from personal experiences. Start with one on the general concept of "Wilderness and Travel Medicine." This attracts not only exotic adventurers but also people planning domestic and foreign travel on perceived less risky vacations such as a cross-country camping trip or a cruise to the Caribbean.

If you are contacted by a specific group, ask them for topic preferences. Ask non-medical adventurer friends and family what topics they would like to hear. Time a lecture with the season, such as hypothermia in the fall. Look for topics in the news. It may not be your topic of choice, but it is an opportunity to meet your community and will draw a variety of people. It opens the door for education on wilderness medicine. This year West Nile Virus was a hot community topic in my area, giving me an opportunity to discuss the proper use of DEET and permethrin products, barrier methods of insect protection, and social responsibility for ones' own safety when pursuing outdoor activities.

PHOTOS COURTESY OF DEBRA STONER



Trail buddies Paige and Brooke on their way to a hands-on learning adventure.

Gearing Up - Methods & Equipment

There are crevasses on the trail to community education and I've fallen into a number of them with and without the right equipment. I've learned what matters most to people is that you care enough to come and give a talk. You don't need to be a techno-wizard with a PowerPoint presentation. You don't even need a slide presentation for many audiences. For example, preschoolers learning how to hug a tree when lost thrive on a simple "show and tell" style of learning.

Keep it simple and keep it short, especially for children. I stand by the 30 to 40 minute lecture which embraces talking fast, showing lots of pictures, and finishing early. It leaves time for people to talk, ask questions, and practice. Spice it up with humor and a few personal mistakes.

Children and adults like hands-on learning. When giving a lecture leave 30 minutes for hands-on practice after the lecture. For example, before a lecture on "First Aid for Hikers and Camper" set up stations with first aid books, splinting equipment, and a first aid kit disassembled for viewing. At the start of the lecture, invite people to come up afterwards to practice.

Bring examples such as clothing when talking about topics like hypothermia, or a whistle and signal mirror when discussing safe hiking practices. Giving people the opportunity to see and touch the actual item scores points in the memory sphere. Single-page handouts relevant to the topic are appreciated such as a list of recommended items for a first aid kit or list of manufacturers and websites. Lengthy handouts end up in the same place as your handouts from conferences past. They aren't user friendly and can intimidate some of the audience into thinking the topic is too complex.

Involving kids in your community lectures makes it a family learning experience.

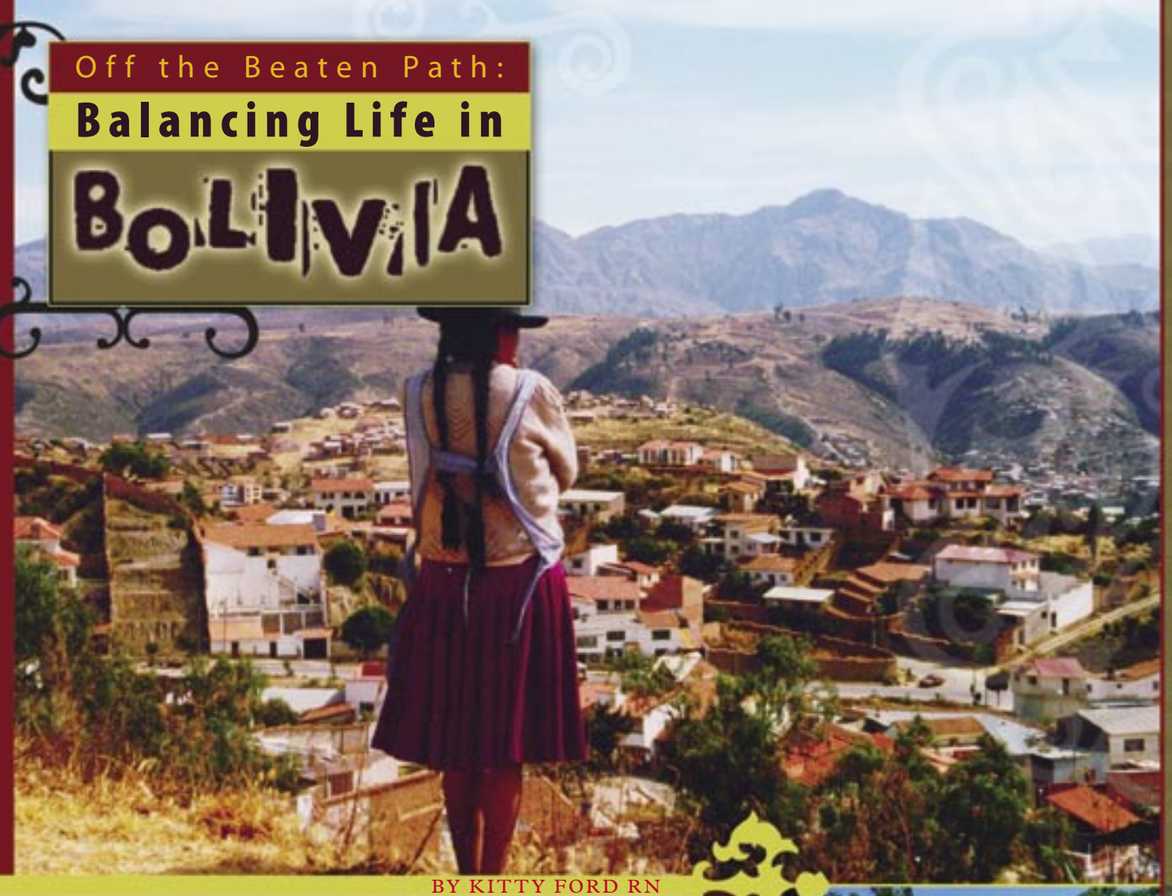
Stepping Down the Trekking Trail

Are you ready to trek into the wilds of community education? To guide you on the trail, future articles in this series will discuss in greater detail specific topics, teaching methods, and equipment appropriate for the general public. After a few lectures you'll realize it is about stretching your muscles and a sense of adventure beyond the trail. It is an opportunity to connect with your community, educate your community, and expose your community to a safer outdoor experience.

So put on your hiking boots and gear up to give a lecture on wilderness medicine in your community. The trail is challenging, fun, and endless. You'll find yourself reaching new peaks of career satisfaction and you won't need a GPS to get there.

Dr. Stoner practices Emergency Medicine in a central Pennsylvania community hospital. She also lectures on wilderness medicine for the Community Education Department. She is the medical advisor for the Ricketts Glen Rescue Team, board member and medical director for Nangi Clinic, Himanchal Educational Foundation in Nangi, Nepal, and a volunteer at St. Jude's Hospital, Vieux Fort, Saint Lucia, WI. Contact Dr. Stoner at deb.stoner@gmail.com.

Off the Beaten Path: Balancing Life in Bolivia



BY KITTY FORD RN

What kind of vacations do you enjoy? The kind where you simply get away from it all and relax? Or, are your vacations the kind that are filled with adventure, travel to unknown lands, into worlds far, far away?

How about the concept of vacationing with a purpose by studying a language, volunteering your time, experiencing foreign countries on a level unknown to tourists? Becoming an integral part of a local community allows your vacation to become a learning experience. Vacations then can be a fulfilling balance of adventure, humanitarianism, and self-improvement.

PHOTOS BY KITTY FORD

After traveling extensively around the world, my dream vacation evolved into one which allowed me to immerse myself in a foreign culture, improve my life skills, and provide help to those not as fortunate as I.

While searching the internet for language programs that also incorporate an opportunity to volunteer time, I quickly narrowed my search to Sucre, the capital of Bolivia. Set high in the Altiplano of South America with a population of 150,000 people, it became my destination resort. After three long days of travel the 727 nearly dropped out of the sky to land on a very short airstrip—some in Bolivia are 12,600 feet high.

Once safe on solid ground, I settled into a large home in the center of Sucre with a beautiful courtyard surrounded by Russian olive, fig, and jasmine trees. Annie, our host- "mother" has lived in this house her entire life and now resides there with her husband Ramon, a retired contractor. She cooked lunch for us daily, traditionally Latin America's largest meal of chicken, fish, fresh juices, homemade soups and desserts. Three other students lived in the house as well, which helped to supplement Ramon's retirement.

Situated at 9,150 feet, Sucre, has a dry, arid climate, blue skies and clear, cool nights. A beautiful city, Sucre is a melting pot of Quechua-speaking indigenous people with their long braids and bolo hats, university students, government workers and business owners with a backdrop of the ever present military. The

friendly people have a favorite expression in Bolivia that incorporates the warmth of the country. When a Boliviano sneezes once you say, *"Salud!"* (Health), twice, *"Dinero!"* (Money), three times, *"Amor!"* (Love).

Salud: My volunteer time was spent in small hospitals funded completely by donations which serve the poor, particularly the campesinos living in the countryside. These people do not have running water in their homes, are without heat, and live on what the land can provide. Often their children are very malnourished. The hospital provides surgeries, x-rays, and maternity and pediatric care for little cost to the patients. Working on a pediatric floor, my job was to play with the children, help the nurses with daily tasks, and provide reassurance to the parents. We constantly recycled supplies as there was a shortage of the simplest items. Little money is contributed to public services by the government which many Bolivianos believe is related to the huge payments the country must make to the US for interest on foreign loans. When my own health was compromised by a bacterial infection, I chose not to go the public hospital and instead treated myself with inexpensive antibiotics sold over the counter.

Dinero: US dollars go a long way in Bolivia. You can take a bus for $0.25, enjoy a three-course meal for $5.00, or see a concert for $4.00. Teachers get paid 10 Bolivianos per hour ($1.50) and the silver miners 30 Bolivianos per day ($4.50). Fortunately, the cost of living is low but most families must share one home with multiple generations. Many people in Sucre work two or three jobs. Our taxi driver, who shuttled us to the hospital daily, had a law degree and worked construction on the weekends. Working hard to survive did not stop the Bolivianos from enjoying festivals, live music in the parks, a constant stream of parades, daily demonstrations at the University and partying in the streets.

Amor: In the hospital, indigenous women spent their days and nights sitting by the bedside of their sick children. Couples publicly display overt acts of affection. During my daily four hours of language study, love found its way into our lessons as the instructors would often incorporate lively discussions of birth control, homosexuality, relationships, and marriage. Grammar lessons were intermixed with personal compositions on euthanasia, the death penalty, illegal immigration, and religion. It was a challenge to effectively communicate my viewpoint on such delicate subjects in Spanish. Never in my past college experiences were any of these topics discussed so openly. The passion witnessed daily in the streets and the open discussion of life issues enhanced my appreciation of this Latin American culture.

When not studying, working, or enjoying the diverse culture of Sucre, I was able to take forays on the weekends to other parts of the country. Geographically, Bolivia is as diverse as the people that

inhabit the country. Within Sucre itself, the world's largest collection of dinosaur foot prints, discovered in 1994, are found in a local cement and limestone quarry. The prints, laid down between 65 and 85 million years ago, contain 5,000 prints from approximately 150 different types of dinosaurs.

The Andes dominate the west in Bolivia, running in two parallel chains with peaks that soar to almost 20,000 feet. Between these chains, lies the Altiplano, a vast, treeless plateau. To the east, the landscape slopes down to the Amazon basin with dense rainforests in the north and the dry scrub of the Chaco in the south. Santa Cruz, in the lowlands, is an agricultural center that provides the country with a vast array of fruits, vegetables, and staples.

Because of the radical change in altitude between the Andes and the tropical lowlands, I sought out Gravity Assisted Mountain Biking, a La Paz company at a breathtaking 12,598 feet. I was transported via bus to the snowcapped peaks of the Cordillera Blanca. The day was spent descending 10,000 feet on a rarely traveled dirt road to the rainforest. Although the ride on my mountain bike was bone jarring, it provided vast mountain views with biospheric transitions at every corner including cascading waterfalls and tropical flowers.

La Paz sits on the edge of Lake Titicaca, the largest, high-altitude lake in the world. The Andean people believe their religion originated here with a conjugal visit between the Isla de Sol and the Isla de Luna (Islands of the Sun and Moon). The spiritual and pilgrimage center of the Andean people is the city of Copacabana, set close to the Peruvian Border. Copacabana provides easy access to visit the two islas and offers numerous festivals throughout the year. Once again, the mixture of ancient and modern cultures, set amidst beautiful scenery provided an incredible weekend getaway.

The most impressive diversion was a trip to Potosi, the highest city in the world at 14,000 feet. In the 1600s, Potosi was as large as London with a population of 160,000. It is situated next to Cerro Rico, which at one time was probably the greatest mineral laden mountain to be found worldwide. Spain was able to support all of their conquests during this era with the silver mined and then minted in Potosi. Today there are 10,000 miners that eke out a living by mining what metal ores are still available. Taking a tour of the mine with calcium carbonate lighted lamps, I observed the Quechua-speaking miners working under very primitive conditions. They gladly accepted presents they valued most—tobacco, alcohol, coca leaves, and dynamite. I left the mines with a profound sense of sadness and amazement at what some people must do to survive.

With such diversity of geography and culture and as South America's safest country to travel, it is surprising that Bolivia remains the least visited. A country not impacted by mass tourism opened its arms allowing me to find the perfect balance of adventure travel, personal growth, and humanitarian aid.

Kitty Ford works on a hospital medical/oncology floor in Salt Lake City, Utah. When not doing everything possible to buy time for someone else to fulfill their healthy travel dreams, she enjoys skiing, windsurfing, mountain biking in the desert, and playing piano.

THE Great Outdoors

By George Hulsey MD

bow hunters disease: how to prevent it

It is time for the bow hunters to take to their deer stands. And fall is a glorious time to be in the woods. However, there are many accidents this time of year and most are preventable. Falls are common. Head and spine injuries often result.

Most of us would rather not tell our hunting tales from a wheelchair. Few of us climb trees for a living, much less sit 12 feet up for hours on end. A good safety harness is a must.

Use a cord to hoist a bow and arrows to the tree stand. Falling on a razor sharp broadhead can be disastrous. Many of us bow hunt alone. That is one of its joys, but also one of its risks. Tell someone where you are hunting and leave a note under the windshield wiper of your vehicle with where you are and when you will be out of the woods. Carry a fully charged cell phone and make sure you can get a signal before you need to make that 911 call.

There comes a time when it just doesn't make sense to hunt from a tree stand. Going to sleep or becoming lightheaded and falling are repeated stories in the ER. It is amazing how many ol' farts wind up in the hospital after falls from ladders and roofs. This year I'll hunt from a ground blind.

Every fall I see a skin condition unique to bow hunters. Usually the patient is a big strapping lad sporting a camo cap and a sheepish look. When I look at the chart it is clear the guy has told the nurse some cock-and-bull reason for seeing the doctor.

"The truth is, Doc, I've got a problem with…" he says, pulling down his overalls. After examining his swollen angry "problem" I ask him but one question. "Where are you bow hunting?" With a look of disbelief he asks, "How did you know ?" The story goes like this. The hunter, after a long, careful reconnoiter, selects a tree. Using saw and pruners a nest for the tree stand is hollowed from the tree.

Branches, twigs, and vines are removed to make for clear shoot lanes.

All that hard work makes a guy thirsty. Drinking a liter of Dr. Pepper leaves the amateur lumberjack with a full bladder. Roping out of the tree he walks a good ways from his tree. Don't want to leave your scent close to your tree. After a long and satisfying relief, the hunter gathers his tools and goes to the diner, to compare notes with others dressed in camouflage.

It is several hours before he gets home and showers. The next morning he notices something amiss. He is itching a lot "down there." Turning the bathroom light on he exams "it." There is an involuntary gasp. That is when the call goes to the doctor's office. "No I can't wait 'til Friday this is an emergency." I try to reassure the hunter "it" is not at risk of falling off. I am fairly certain that it is not a STD. "Well what is it?" he blurts out. "And how did you know I'm a bow hunter?" Relax, "it" is going to be OK, I reassure. The look on his face belies his thoughts: that's easy for you to say. I go on. Do you remember clearing the tree for your stand? Remember seeing those vines that had three leaves? For the first time, you could see light go on. That's right — when you went to relieve yourself you got the poison ivy sap all over "it."

I prescribed a round of prednisone and some antihistamines. "It" will be better tomorrow. Once he has relaxed I pass along some ol' hunter advice to the young guy. Always wear gloves when clearing brush and always take the gloves off when handling "it." Hand washing is probably a good idea before and after, too. Change clothes after leaving the woods and shower as soon as possible. I then change the topic and remind him that ticks and mosquitoes are still a problem in the fall. First, always wear long sleeve shirts and long pants when outdoors. Treat the clothing, hats, gloves, and boots with permethrin. This is a safe contact pesticide that works on all pests. One application lasts for several washings. What little bare skin remains should be treated with DEET or similar-type repellent. The advice for bow hunters applies to the fishermen, gardeners, and even the folks out there filling the bird feeder.

A regular contributor to Wilderness Medicine, *Dr. Hulsey is a Norman, Oklahoma physician, an outdoorsman, and an outdoor writer. He is a founding member of WMS and has served on the WMS Board of Directors.*

FIT TO BE WILD

Diving With The Ama of Japan

Jolie Bookspan, PhD

Last year, while living in Japan, my husband Paul and I were invited to stay with the ama diving women in several coastal villages. The Japanese have long held these professional diving women in high regard for their hard-working life, and often bestow the honorific title of amasan as a sign of respect. Amasan is spelled using two kanji characters - sea and woman.

The sea women have breath-hold dived in chilly waters for perhaps thousands of years to harvest shellfish, seaweed, and other food. They were the major providers for their villages. At one time, the amasan were the world's largest fleet of commercial divers. Now there are few left. The youngest are in their 50s. The oldest working divers are 70 and 80 years old now. No younger girls want to become ama divers. The daughters move to the cities, not wanting to train in the cold waters with their mothers. Soon there may be no more.

We traveled to Japanese villages to live and dive with the ama divers. They told me their stories. None had any knowledge of ama history before their own family's time, or of other amasans in other villages, nor did they care. "I started when I was eight years old," one told me. "I gathered kelp and seaweed on the beach. As I got better and older, I could go further in the waters and bring more food."

In the West in the 1960s and early 70s, there was a sudden scientific interest in studying the mammalian dive reflex. Many studies centered on the ama divers. Scientists wanted to study how deep they dived and for how long, to measure slowing of heart rate and redistribution of blood from limbs to the core, representative of the dive reflex. Studies were also initiated to estimate oxygen saturation and decompression stress. It was often conceded that the real interest in these sea women was because they dived nearly naked.

Almost none of the working amasan I stayed and worked with spoke any English. Friends interpreted, and through my amusing broken Japanese I asked them about dive profiles and how deep they dove, many of the same questions of the early studies. They were uninterested. Staying deeper or longer is not what they measure, remember, or care about. The recurring answer was always about harvesting more kilos. Each was proud of how much she was able to gather diving unassisted, how many kilograms of food she hauled up to her husband waiting in the lonely boat, or what she dragged onto shore in baskets. They enjoyed the time spent with the other amasans between dives around the fires on the beach, without housework or being told what to do by the constraints of society. They told me stories of the sea, of love, and dragons, and magic.

A common image is an amasan diving for pearls. They didn't dive for pearls, but food. Before it was discovered how to artificially cultivate pearls, pearls were too rare to be counted on for a living. Kokichi Mikimoto of Japan financed development of cultured pearl science in the 1900s. Ama divers were hired to place and care for oysters in submerged beds. They didn't dive to bring them up. At Ise-Shima in the Mie Prefecture, the Mikimoto Pearl Museum teaches the generations about the development of cultured pearls and, as a tourist attraction, about the ama divers, but this is not the real ama diving.

I went to the amasan festival in Shirahama's NoAaronazaki district on the tip of the Boso-Hanto Peninsula, about 100 kilometers (60 miles) southeast of Tokyo. After all-day festivities and prayers in a colorful, carnival atmosphere, they walked solemnly past applauding crowds into the chilly night sea and swam holding torches. It stirred the heart.

In diving villages along the southern coasts, authentic ama diving goes on without tourist fanfare. We dived in the cool, dim waters, rubbing leaves on the inside of our masks to prevent fogging, although there was little to see anyway. The sea women told me that during "The War" (WWII) soldiers came and were horrified that they dived in only small underwear pants. They said they thought the Westerners were funny and strange for their discomfort about diving naked in cold water. But after that, they were made to wear clothes for diving. I experimented with diving in clothes versus none. It's colder and clumsier to wear clothes in the water, especially over repeated dives. As people know who hike or pack out gear, wet stuff is hard to deal with, change, and keep clean. It's easier without clothing. The ama divers mentioned that before they used clothes, they tolerated cold. After wearing cotton suit insulation and wet suits, they lost tolerance.

They dive throughout their pregnancies even up to the moment of delivery. They don't find that unusual, but more comfortable than moving heavily on land. They said they had no problems doing hard, cold diving while pregnant, and their children were all born healthy. They all dive during menses. They told me that during the war, they had no sanitary supplies so were happier to be in the water anyway. They said the work is terribly hard. They asked me to tell the world that.

I asked them many questions. "If I wanted to become a sea woman, can I?" "Eei, no! You're too old!" they said. I asked if an outsider, someone who wasn't the daughter of the amasan wanted to become an ama diver, could they? The diving women didn't understand. They shook their heads, "Eei. No, the daughter do not stay." I asked if a son wanted to become an amasan, could he become one? Most laughed at me immediately. Others looked at me for a moment to be polite, before laughing. "Eei, they can't do this work. Too cold for them." I asked again, if someone else's daughter, unrelated to a diving family wanted to join. "Eei, no! The daughters all have gone."

The amasan festival lit up the night.

Years ago, the amasan regulated themselves to prevent taking too much. They wanted to preserve resources. They shortened the harvest season which was roughly from April to September. The few thousand remaining amasan still make substantial money diving, although income continues to drop. Large scale commercial fishing has depleted and polluted the waters so deeply and widely that there is little left for the sea women. This is the opposite of what they tried to achieve by limiting themselves.

"I was the best harvester," one told me. "Tell them that. Tell them I made more money than my husband. Tell them that."

Dr. Jolie Bookspan dives with the ama divers.

A regular columnist, Dr. Jolie Bookspan is a scuba instructor, diving researcher, and sports medicine specialist. Visit her website www.DrBookspan.com.

ASK THE WMS Experts

Acute Mountain Sickness

Q: *My daughter flies to ski camp at Vail every Thanksgiving. She keeps missing the first day because of a headache. Usually we fly from Wisconsin to Vail, Colorado in one day and start camp the next morning. What can we do?*

NOTE: WHILE THE WMS EXPERTS CAN'T OFFER SPECIFIC ADVICE TO PATIENTS, SOME GENERAL INFORMATION AND OPINIONS ON WILDERNESS MEDICINE ISSUES CAN BE DISCUSSED HERE. NEAL POLLOCK, PHD, OFFERS THE FOLLOWING SUGGESTIONS AND INFORMATION.

A: You describe a challenging exposure. Flying from Wisconsin with a typical altitude of less than 1,000 feet to Vail, Colorado at over 10,000 feet and the regional ski areas with base-to-summit altitudes of 9,300 to 13,000 feet is fairly extreme. While jet-lag may play a minor role, the destination altitude is the greatest factor. Symptoms of acute mountain sickness (AMS), foremost of which is a headache resistant to normal relief agents, are commonly seen at altitudes above 8,000 feet. Fortunately, the symptoms are usually self-limiting if further ascent is limited. Travelers will acclimatize (adapt) to the reduced barometric pressure and available oxygen and the symptoms will generally subside in one to three days.

The standard pharmacological intervention is acetazolamide (Diamox, Barr Laboratories), which increases breathing rate and moderates symptoms. Its efficacy is well established in adults exposed to high altitude. The treatment should begin 24 hours prior to exposure to be effective during the first day after arrival. Known side effects include tingling in the fingers and possibly around the mouth, blurred vision, and an altered sense of taste. While rare, some individuals may experience severe allergic reactions to the drug. Unfortunately, the efficacy of acetazolamide for AMS has not been well documented in children. Symptoms are dose-dependent, so body size certainly must be considered.

As a non-standard alternative, there is some inconsistent evidence that Gingko biloba, available as an herbal supplement, may provide some protection against AMS. It appears to be important for the course to be started five days in advance of exposure. While none of the reported AMS trials have included children, Gingko biloba has been given in combination with another herbal extract to investigate the effect on attention-deficit hyperactivity disorder in children. The combination was apparently well tolerated, although two of 36 children demonstrated increases in emotional and hyperactive behavior attributed to the treatment. Of note, one adult AMS study evaluating acetazolamide and Gingko biloba separately and in combination indicated that the Gingko may slightly reduce the effectiveness of the acetazolamide alone.

The most conservative course of action would be to consider a low dose prescription of acetazolamide and, if possible, plan to travel one day earlier to allow a full day of acclimatization. Dosing strategies should be discussed with a physician knowledgeable about altitude medicine. A trial course of treatment prior to travel would be desirable to test for allergic response and to ensure that the prescribed dose does not produce unacceptable side effects. Gingko biloba remains an option if acetazolamide is not acceptable. Only normal care should be taken by your daughter to ensure that she remains well hydrated during travel and after arrival in Colorado. While dehydration has long been suggested as a factor in AMS, there is little evidence to support this claim.

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The Society's first and longest term employee, Dian Simpkins, retired in September 2004 after almost two decades of loyal service. She recently returned to her beloved hometown, Pt. Reyes Station, in northern California—ceremoniously pitching her snow scraper in a trashcan on Vail Pass on her way out! Dian's son and his wife and their two children, Jenna and Jack, live within an easy drive of Gram's house. Dian left quite a legacy with the WMS and many of the Society's members have been touched by her friendship, thoughtfulness, and service. A retirement party for Dian was hosted by WMS during the Summer Conference in Snowmass. We asked several of the Society's past presidents to share their thoughts and memories of Dian and her many years at the WMS.

William W. "Doc" Forgey, MD: Dian Simpkins will be likened by many as "The Mother of the Wilderness Medical Society." She has been much more—she has been the glue that binds. Now, maybe it's better to be remembered as a "mother" rather than "glue," but the binding force that she has exerted virtually since the Society's inception has been profound.

She has been the "Society's memory." She knew which members met at Society functions and married as a result. She knew children's names, members' and their spouses' names, birthdays and anniversaries. She knew which speakers delivered their syllabus on time—and in the correct format! She knew who was willing to go the extra mile. She knew the suitability of meeting locations, the membership appeals that produced results and those that failed. The list goes on….

But beyond her personal knowledge of Society activities, she has nursed the WMS along, and often at great personal sacrifice. She relocated from California to Indiana and then on to Colorado, taking her elderly mother with her. The Society's first office for several years was in Dian's Pt. Reyes basement. She graciously served under three executive directors and even acted as interim director at one time. She collaborated with new employees over the years. Dian stuck with the Society as it lurched from crises to crises, from success to success, ever building upon the base of friendship and nurturing our growth with advice and hard work.

I have known her well during my 13 years of Board service and for several years prior to that. I have come to count on her kind, energetic, levelheaded demeanor—a pillar who could always be relied upon. She never flinched, never failed, always persevered with the Society's best interest at heart. She has been the glue for the Society, a "mom" to many of its members and leaders, but for me she has been a great personal friend whose friendship I will continue to seek and cherish throughout the rest of my life.

Edward J. "Mel" Otten, MD: The thing that I remember most about Dian is that she always had a way of soft-talking me into doing things that I would normally avoid such as talking to the press, giving workshops on subjects I knew nothing about, or taking on huge committee projects. Two of the missions that turned out to be fun were:
1) Entertaining her son Steve, who was 17 or 18 at the time, and keeping him out of trouble. So I took him to a pool room and demonstrated the advantages of a misspent youth. 2) Leading a children's workshop on first aid.


Dian and granddaughter Jenna welcome well-wishers to her party.


Current WMS President Dr. Luanne Freer and Past Presidents (L to R): Drs. Bill Forgey, Brownie Schoene, Paul Auerbach, Blair Erb, Ed Geehr, and Bruce Paton were on hand to help Dian celebrate her retirement.

Surprisingly I thoroughly enjoyed it and so did the kids!

Blair D. Erb, MD: It's hard for me to imagine the Wilderness Medical Society without the calm, steady presence of Dian. I have been involved with the organization since its first meeting and have always felt secure that all aspects of the Society, its direction, its program, and its finances, were all under the close watch of her caring and concerned eye and her remarkable stabilizing influence. Dian certainly made my term of office easier during the early and formative years.


Dr. Erb presents Dian with a special gift.

What are the qualities of this remarkable lady? Tolerant! My, what she did put up with. Character! Absolutely impeccable. Trustworthy! If she said something would be done, it was. Friendly! In over 20 years I have never seen her out of sorts. Courteous! She was the oil that kept the wheels turning smoothly.

As I reflect on the foundation and structure that she helped to build, I can say without a doubt that Dian was the steel that gave the WMS its framework, bricks that gave it definition, and the glue that held it together. Dian has been the spirit of the Society. Her presence will remain with the Wilderness Medical Society long after her retirement. I wish her the best, wherever her retirement takes her. She's a class act.

Paul S. Auerbach, MD: Dian Simpkins has been in continuous service to the Wilderness Medical Society almost since its inception. Although legends are supposed to await retirement, her dedication to our members is already legendary. When we reflect on the positive aspects of our programs and meetings, much of the credit goes to the people who are behind the scenes. Dian has worked hard to maintain the professional demeanor of our organization, which attracts as diverse a population of physicians as any other medical specialty society. We are grateful for having had the opportunity to work with someone who has been so thoughtful and devoted while weathering significant changes in leadership and business approaches. Her legacy is leaving behind an organization that is much stronger now than when she began. WMS is really a shortened version of WMSFD, which stands for "with much support from Dian."

Edward C. Geehr, MD: Society business had outgrown our living room and our new baby claimed both the "study" and much of Janet's interest and time. I was desperate for some help. Asking around in Marin County, I heard about a young woman with good organizational skills who was looking for part-time work. I called her and she promptly invited me out for a visit. "Out" was the operative word here as she lived in the bohemian enclave of Pt. Reyes where street names and numbers were pretty much an afterthought. After many wrong turns and barking dogs, I finally found her house. I wasn't very skilled at job interviews, so she deftly guided me through our "interview" and ignored the begging tone of my voice. "You'll actually work for that little?" Help had arrived at last!

When organizations such as the WMS get started, they hold much promise, excitement, and potential. Yet they live day-to-day, as they count the membership applications and hope the society has enough in the bank to cover their expenses. Dian pitched in right away, got us organized, never complained, and worked way more than she charged us. "Maybe we'll get through this year after all…"


On the trail to California!

Some 20 years later it looks like we made it, Dian. Thank you for being there along with Paul (Auerbach) and Ken (Kizer).

Editor's Note: At the Annual Meeting of the WMS in Snowmass, Colorado, last July, the Board of Directors renamed the service award in recognition of Dian's incredible contribution to the Society. It henceforth is called the ***Dian Simpkins Service Award.***

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Dispatches:

Learning Through Adventure in South Africa

Graeme Walker, MBChB, BSc

Historically, expeditions into wilderness regions of the world have had objectives such as the expansion of geographical knowledge, the discovery of new cultures or stretching the limits of human achievement. In recent years, there has been a rapid rise in popularity of another kind of expedition: those for which the primary objective is personal development of the participants themselves. My first major expedition at age 17 was as a participant. Recently I have begun to lead "youth development" expeditions for a large UK-based organization specializing in the provision of adventurous and challenging international expeditions for young people.

The most recent expedition I led for World Challenge Expeditions was to South Africa. The team comprised thirteen kids 16 to 18 years old. Nine were from Northern Ireland, UK, and four were from Boston, USA. The assistant leader was a retired Boston social worker whose experience in working with young people was an invaluable asset. My role was as expedition leader, although I am also a doctor with an interest in wilderness medicine. My primary responsibility was to ensure the safety and well-being of the team and to facilitate the team in achieving their objectives.

Photo courtesy of Graeme Walker

The nature of youth development expeditions is that the kids themselves are put in a position of being in control. They have responsibility for managing the expedition budget, arranging transport and accommodation, purchasing and distributing provisions, navigating during trekking phases, and monitoring the impact of their actions on the local environment and culture. The expeditions are designed so kids can learn from their experiences of working as a team. They have abundant opportunities to develop skills such as leadership, effective group work, and money management. My role as expedition leader was to facilitate the learning process by encouraging participants to take individual and collective responsibility for the success of the expedition.

The expedition comprised several phases, the first of which was an acclimatization trek in St. Lucia Wetlands National Park on the east coast of the country. Following this trek, we went on a two-day safari in Hluhluwe Umfolozi Park, with excellent opportunities to see zebras, giraffes, rhinos, lions, antelope, and many other animals. Next we spent a week staying with a rural community in the village Nempondo. During this time the kids painted a large classroom at the local high school, played games with local children, and exchanged cultural ideas. The second half of the expedition was in the Drakensburg Mountains. We stayed for three nights prior to the trek at a horse farm in the foothills of the Drakensburg, with time for horseback riding and a day trip through the Sani Pass into the remote mountain kingdom of Lesotho. The main trek in the Drakensburg Mountains provided some stunning scenery and was the most physically and mentally challenging part of the expedition for many.

Medically, there were various challenges. The first issues that I had to consider were prior to departure. I had to decide what to take with me besides the standard medical kit provided by the organization for all of their expeditions (most of which do not have a doctor). Although my being a doctor was incidental, and a first aid qualification is all that is required by the organization, I felt that my qualifications would put greater expectations on the kind of interventions that I might perform.

During the expedition, several minor injuries were sustained, particularly sprains and strains during the trekking phases. The most serious medical incident was that three of the kids were affected by diarrhea and vomiting while trekking in the Drakensburg. One became quite severely dehydrated in the heat. I could barely feel his radial pulse, and as his retching continued to prevent him keeping any fluids down, I made the decision to have him evacuated. The rate of his deterioration in the heat of the day was fast, but once in a comfortable environment and with a dose of ciprofloxacin on-board, his improvement was steady.

For me, the most challenging and demanding aspect of the expedition was managing the team dynamics and trying to instill a sense of cultural awareness, mutual respect, and team-oriented thinking into the heads of party-hungry, and often self-centered, teenagers. It was also interesting to see the differences in attitudes of the kids from USA and UK.

World Challenge Expeditions has a well-established reputation in the UK for taking groups of young people on trips such as this to many countries around the world. They have recently begun offering similar trips to US school groups, and are actively looking for American leaders for these expeditions. The opportunity to enrich the lives of young people by enabling them to undertake these trips is very rewarding, and I would recommend it to WMS members who like the idea of being paid to adventure in great wilderness areas of the world!

Dr. Graeme Walker is a resident in family medicine in Inverness, UK. Since joining the WMS in 1999, he has been actively involved in the UK SIG groups. You can reach him at graemewalker@mac.com or visit his webpage http://homepage.mac.com/graemewalker.

Elective Rundown: WMS Resident-Student Elective 2005

James R. Liffrig MD, MPH

The Society is excited to be hosting its 3rd Resident-Student Elective in Wilderness Medicine in February 2005. This year's class of 25 adventurers is on-board and notification letters have gone out. As always, their enthusiasm for getting to Camp Wesley Woods and immersing themselves in their passion has come through loud and clear! They are an interesting group of bold academicians in the WMS tradition who come from several countries and bring varied backgrounds of extreme experiences. The class includes nine women, and students from the US, Canada, Great Britain, and New Zealand.

The curriculum for the 2005 course boasts a more flexible schedule and a block devoted to leadership skills development. Dr. Bob Bartlett returns for his third course to teach his popular introduction to diving and hyperbaric medicine. US Army Colonel, Dr. John Jacocks will share his vast experience in field sanitation and preventive medicine. Dr. Ben Rosner, who initiated the elective program in 2000 while serving as the WMS Student Coordinator, will join the elective faculty to help administrate and guide during the field phase of the course in the Smoky Mountains. Dr. Tom Kessler will serve as the on-site Dean of Students and Course Director.

Kirk Harris and the Roan State Community College staff have again agreed to teach the prehospital portions of the course and the terrific Camp Wesley Woods folks will support the students with their famous hospitality and innovative field-craft skills instruction. The familiar cast of professionals from the University of South Carolina and across the Southeast US will provide what we think will be our best elective yet!

The WMS and the Elective faculty and staff want to recognize the tireless work and dedication of former Course Director Dr. Jen Love (Graham). Thanks to her and the Montana Family Medicine Residency for their commitment to the elective project. Finally, the WMS is looking for a permanent course director for the elective. It entails teaching, curriculum review, resource planning, and faculty coordination. If you're interested, please contact the WMS staff.

On July 1, 2004, the Centers for Disease Control and Prevention (CDC) reported—with a Dispatch posted on the MMWR (Morbidity and Mortality Weekly Report) website—that three individuals who had received transplanted organs from the same donor had subsequently died of rabies. This report was published in MMWR on July 9, 2004, but a second website Dispatch on that date added a fourth victim: www.cdc.gov/mmwr/preview/mmwrhtml/mm53d709.htm and www.cdc.gov/mmwr/preview/mmwrhtml/mm532a6.htm

The male organ donor was hospitalized in Texas with "severe mental status changes," a low-grade fever, and neurologic imaging findings indicative of a subarachnoid hemorrhage. That lesion expanded rapidly in the 48 hours after admission and led to cerebral herniation and death. Autopsy evaluation of that disorder was not included in the early reports. The July 9 Dispatch contained the information that the donor had reported being bitten by a bat.

The lungs were transplanted to a male who died of intraoperative complications. The liver and one kidney were transplanted to males and one kidney was transplanted to a female, all of whom died of rabies 27, 37, and 39 days later. The fourth victim had a liver transplant from another donor, but a segment of iliac artery from the first (rabid) donor was inserted during the procedure. This recipient died of rabies approximately a month after the transplant.

Preliminary studies indicate the donor died of rabies of insectivorous bat origin. Studies of the transplant recipients have established rabies as the cause of death, but the results of investigations to establish that the same virus infected all five individuals were not included in the reports that were issued. The virus apparently was present in neural tissue in the transplants; rabies almost never produces viremia.

The only other established instances of human-to-human rabies transmission are eight individuals who received corneal transplants between 1978 and 1994. Two transplants came from the same donor! Neural tissue is not present in corneas, but corneal scrapings often contain rabies viral inclusions.

In 1996 Fekadu et al reported two apparent instances of human-to-human rabies transmission in Ethiopia.[1] A 41-year-old woman, who died of rabies 33 days after her 5-year-old son died of the same infection, had been bitten on a finger by her son. A 5-year-old boy, who developed rabies 33 days after his mother died of that infection, had been repeatedly kissed on his mouth by his mother, apparently passing infected saliva to him.

These tragedies following organ transplantation reflect how difficult the diagnosis of rabies can be. Many infections are diagnosed post-mortem, and many others appear to be missed. The diagnosis can be overlooked at autopsy if it is not suspected and special stains for Negri bodies or immunohistochemical studies for rabies viral antigens are not carried out.

Ophthalmologists have agreed to refuse corneal transplants from individuals dying with encephalitis, particularly if the cause of the encephalitis had not been established. However, this donor did not have symptoms of encephalitis other than a low-grade fever. CDC and transplant physicians are currently reviewing the standards for determining that organ donors do not carry a transmissible infection. Procedures to detect rabies are being considered.

Reference

1. Fekadu M, Endeshaw T, Alemu W, et al: Possible human-to-human transmission of rabies in Ethiopia. Ethiop. Med. J, 1996;34:123-127.

BOLD NEW INITIATIVE FOR THE SOCIETY

Announcing the Academy of Wilderness Medicine

James R. Liffrig, MD, MPH

The commitment of the WMS to embrace academic excellence and to deliver innovative services to its members shines through in this dramatic new initiative. The Academy of Wilderness Medicine™ ties together the various aspects of wilderness medicine academia and the Society's unique member services in new and creative ways.

The Academy is a modular system of adult education that organizes the broad range of information in the discipline of wilderness medicine. It delivers them in a professionally packaged, standardized fashion according to modern concepts of medical education using objectives as the basis for all lesson materials and outcomes evaluation where appropriate.

The backbone of the Academy is its core curriculum. This repository of wilderness medicine topics is standardized for content and format and is based on principles of adult education. While standardizing the delivery of wilderness medicine information to our members, it is designed for growth and employs a flexible cataloguing system to track both lessons and learners. The curriculum is intended to serve all Society educational activities through program design, curriculum review, lesson and topic materials, and outcomes assessment products. The core curriculum encompasses written syllabus materials with accompanying lesson objectives, electronic presentations, as well as testing vehicles.

The most visible of the Academy's modular programs, and the one that promises to be the most popular, is the Fellow of the Academy of Wilderness Medicine (FAWM). This offers a means to identify those who have achieved a demanding set of requirements validating their training in wilderness medicine for the assurances of patients, clients, and the public at large. Society members enroll in the Academy's Registry of Wilderness Medicine (WM) Practitioners and, by completing lessons from a pre-established, 100-hour WM curriculum, accumulate credit toward becoming a Fellow. Any current member of the WMS who successfully completes the requirements will have the distinction of being a registered member of the Academy of Wilderness Medicine and entitled to use the designation FAWM and may reference it on resumes, business cards, and advertisements. The program is open to all WMS member categories and can be started at any time. A limited retroactive review of credit will be offered until December 2005.

The Society's Education Achievement Recognition Program (EARP) is another new benefit of Society membership organized by the Academy. Members' attendance at WMS educational sessions is tracked automatically and awards are presented for three levels of participation:

- **The Matterhorn Award**
  (30 hrs. and at least 3 WMS events)
- **The Denali Award**
  (70 hrs. and at least 7 WMS events)
- **The Everest Award**
  (120 hrs. and at least 12 WMS events)

Awards include Society and peer recognition through multiple media. No enrollment or fees are necessary for the EARP for members. Simply fill out and submit a session check-sheet indicating the sessions you attended at each WMS conference or other approved educational programs. The WMS will do the rest. Fellows and Recipients of Educational Achievement Awards may receive additional special benefits of membership as they become available.

Other Academy modules include an on-line Research Question Repository and a listing of WM researchers and mentors available to Society members only. Support to WMS conferences, publications, the Resident-Student Elective, and affiliated organizations are offered through the core curriculum. Plans are underway to offer seminar-based WMS faculty and researcher certification programs. Additional projects include a web-based educational module and members-only access to downloadable educational products.

The Academy's website is in the development stage and will be linked to the Society's home page. We look to complete this vital link to our members before the end of the year. Questions about enrollment in the WM Practitioner Registry to pursue Fellowship in the Academy of Wilderness Medicine may be directed to membership@wms.org.

The future looks bright for the WMS. The Academy of Wilderness Medicine will be there to guide our members as they continue to find bold and innovative ways to blend their profession with their passion.

Dr. Liffrig is an Army Lieutenant Colonel and Family Physician who is currently assigned as the Division Surgeon for the 24th Infantry Division at Ft. Riley Kansas. He is on the WMS Board of Directors and is the Director of the Academy of Wilderness Medicine. He can be contacted at jliffrig1@aol.com.

Base Camp Buzz

Luanne Freer, MD, President, Wilderness Medical Society

I begin my term as Society president with great anticipation and excitement about the future of the WMS, and as I enthusiastically assume the reigns from Brownie Schoene, I'd like to take this opportunity to thank him for his guidance and tutelage over the past few years. I hope to maintain and grow the momentum I felt building at our meeting in Snowmass last summer (if you missed the meeting, you really missed out on a fabulous program of exciting topics and speakers— thanks, Karen VanHoesen!). I will endeavor to live up to the expectations of our society and to lead us all into a new era of growth and prosperity. But I know that all the enthusiasm in the world won't achieve much with out a team effort—and for next 3 years I promise to keep our lines of communication open. My inbox is always open—please communicate your thoughts!

So, what's the buzz? What's new about the Society? The Academy of Wilderness Medicine! I believe our new Academy is the future of the WMS, and the newest and most extensive valuable benefit of membership we've ever offered. While the academy offers many benefits (see Jim Liffrig's article on page 25), I'll use this opportunity to expound on just one of them that is of special interest to me.

A Credential in Wilderness Medicine—Not Just Another Medic

In the past, an outfitter or expedition team might have simply hired a doctor or medic to accompany their team, not sure what or how much that individual truly knew about wilderness medicine. Now, an expedition/travel company has a new credential to consider during the course of hiring its medical officers. They may assume that practitioners registered with the Academy have received additional training to deal with the unusual medical circumstances that may present themselves in the course of a wilderness trip.

In 2002, on a visit to Everest Base Camp, I identified a need for wilderness medicine training in some of the providers I met. I found some expeditions with no access to medical care or advice, and others were led by elite climbers (with little or no medical training) who dispensed prescription medications to their clients (sometimes with disastrous results). In wealthier camps, I met team doctors with very little or no expedition, altitude, or travel medicine training providing questionable care to their teammates. Some of these folks were sorely in need of the training described above. I talked with many from the expedition community who had learned the hard way. Occasionally a paramedic or nurse or medical doctor was not enough; a wilderness medicine trained medical professional is what they needed. But how to assure that a provider has that core knowledge? Now WMS can offer a credential to enable these teams to hire more selectively. Want to practice medicine for an expedition? Better be a fellow of the Academy!

Having spent a great deal of my time over the past years developing my practice in wilderness medicine, I took all that I knew to Mt. Everest Base Camp (5350m) to set up its first medical clinic in 2003. That first season was a test of all that I had learned – even after careful preparation, I still had to rely on adaptation and improvisation to deal with unexpected frozen medications, broken generators, and foot pedals for the hyperbaric chamber. So, in 2004 I returned for more – feeling smug in my experience and now armed with solar panels, double-walled tents, IV warmers, and a seasoned hyperbaric chamber. But the wilderness continually throws curveballs, and I was tested once again. I ended up using bystanders as human IV warmers when our system failed, a short circuit from our solar panel caught the tent on fire, and our hyperbaric bag exploded with a critical patient inside (and my face up against the wall of it!). But we improvised, and we saved lives, and in 2005 we'll be back – better prepared, but surely expecting to be tested again.

I have already signed up as one of the first enrollees in the Academy, because I know there is always more to learn in the interesting and challenging domain of wilderness medicine. Here's another little fact – no one is an instant holder of the title FAWM – not president of the WMS, not even Paul Auerbach, who edits the definitive WM text. While the Academy recognizes past achievements, we all have to work to achieve the honor.

So why should you become a fellow of the Academy? Because if you hold yourself out as a medical care giver while in the wilderness, and certainly if you are relied upon by an expedition team or a group of travelers to care for teammates, you will be expected to know your craft. And if you thrive on adventure, revel in nature, and want to share your medical skills while enjoying both of the above, you are all about wilderness medicine –and this is your opportunity to combine your profession with your passion.

Namaste!

Photos courtesy of Luanne Freer

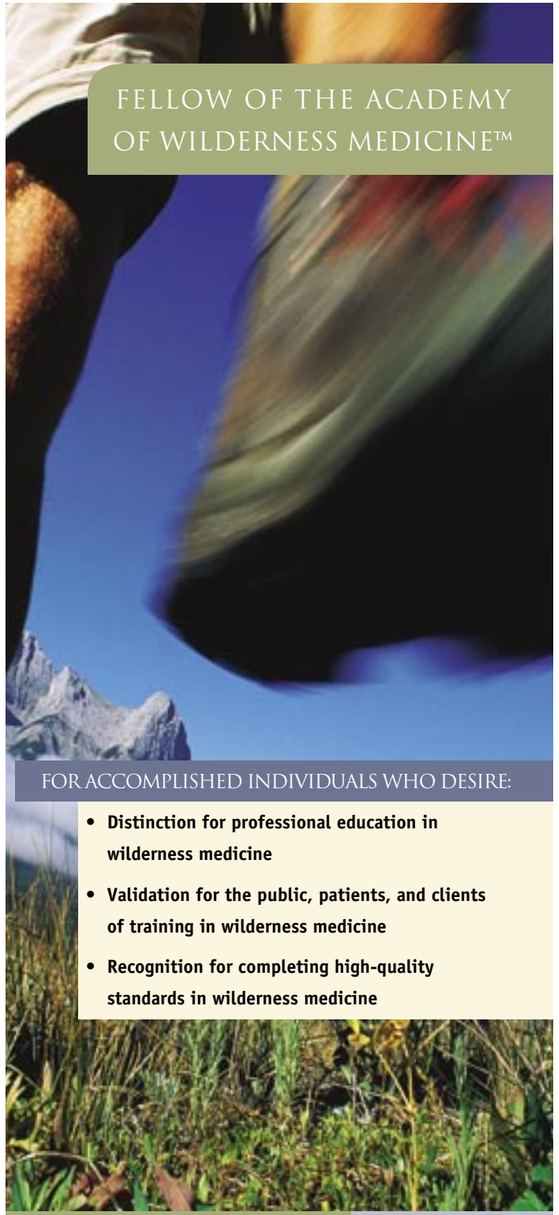
Executive Director's Report

David Just, Executive Director

Attending the WMS conference this August in Snowmass, Colorado was invigorating since it afforded me the opportunity to see old friends and tie faces to some of the people I have only communicated via email or phone. We have already confirmed July 23 – 27, 2005 for our next annual meeting in Snowmass and you can help support the WMS by registering for this conference early.

Several new programs are being rolled out this year, and if you were in Snowmass, you were introduced to our new Fellow in Wilderness Medicine program. We already have 30 members signed up and all of the WMS board members have signed up as well.

On October 23 and 24 the WMS is having a strategic planning meeting in Denver. I'm impressed with the commitment of our Board of Directors and some at-large members who are coming at their own expense. The focus will be on growing our membership and identifying what is important to the membership. I welcome your comments and suggestions. Please contact me at davidjust@wms.org or call at 719-572-9255.



If you have photos or an article to contribute, contact Dr. Christopher Van Tilburg at vantilburg@gorge.net.

Cliff Notes

Aaron Gladman, Student Representative

Hello everybody! I hope you all are finding time to get outside and enjoy your favorite fall activities. Since returning from the annual Student Round Table in Snowmass, Colorado in August, I have been reenergized by the enthusiasm and excitement the students brought to the conference. This year 15 medical students attended, with folks coming from as far away as Washington, Florida, and Nova Scotia. We had several good sessions on how to develop careers in wilderness medicine, how to do research in the field, and how to become more active on campus and on the national level. There was also time for everybody to join hands-on sessions, with topics like wilderness safety, GPS navigation, and helicopter rescue. We also did a great hike to Cathedral Lake at 9000+ feet. If you haven't participated in a Round Table yet, you're missing out! This meeting is a great way to improve your wilderness medicine skills and knowledge, while networking with other students and WMS faculty, members, and staff. The next Round Table will take place in July 2005, again in beautiful Snowmass.

The Student Interest Groups (SIGs) have been very active so far this year. At last count, there were 38 active SIGs and 550 student members worldwide, with groups in the US, Canada, the UK, and New Zealand. This is awesome! I am happy to be involved during a time of increasing popularity in wilderness medicine, and am proud to be a voice for the WMS student membership. I continue to receive daily news from both our fledgling and veteran SIGs, and am always willing to pass on ideas to the SIG leadership. Please keep the emails coming…it's great to hear from you! The deadline for SIG registration or re-registration is November 1, 2004. Visit the WMS student website for details and paperwork: http://wms.org/studentgroups/. Email me with any questions at wmsstudentrep@wms.org.

I hope to make our SIG theme this year "communication." Part of this will involve keeping our website up to date and useful. It will also involve the SIG leadership continuing to be responsive to members' questions and concerns. I also hope to get residents more involved in the Society. All SIG members should know that as long as there is no lapse in membership, you may continue to pay the reduced student yearly dues once you graduate and enter residency. We've also created a Membership Committee that will be sending timely reminders of registration deadlines and other announcements.

Check our website often and watch for email reminders. Upcoming announcements will include information on the SIG of the Year contest, the Academy of Wilderness Medicine, and new research opportunities. Once again, I welcome any questions you have. Keep up the great work with your SIGs! Until next time — work hard, play harder, and enjoy the outdoors.

Aaron Gladman is the Student Representative to the WMS Board of Directors and a 4th-year student at UC Davis School of Medicine. Currently, he is enjoying weekends full of mountain biking, hiking, and fly fishing while doing a month-long Pediatrics rotation on the Navajo Reservation in Arizona.

From The PA's Desk

Sara Squyres, PA-C

Guest speaker Aron Ralston and Sara Squyres following his stunning story of self-survival, "One Way Out."

Greetings! My name is Sara Squyres and I am a co-chair for the Coalition of Outdoor Medicine Physician Assistants (COMPAS), along with Christy Mayfield.

I recently returned from yet another exciting WMS conference in Snowmass. The Wilderness Advanced Life Support Course was intense and a lot of fun, especially the rescue scenarios. The lectures were extremely stimulating, as are all WMS conferences. I was eagerly awaiting Aron Ralston's talk on how he survived six days in the slots of Utah and had to amputate his arm. This piqued my interest because I just completed my master's thesis on traumatic amputation. The audience was in awe as we listened to his story of courageous survival. He is a kind, candid person, and we were very thankful that he shared his story, fielded questions, and took the time to talk to us afterwards. I am looking forward to the 2005 summer conference and all that it will have to offer.

Our new COMPAS website is now up and running, thanks to Ed Watson of Global PTM. We have some great pictures and a discussion board on http://compas.wms.org. It's simple to join COMPAS—just become a member of WMS, then visit our website.

USPS Statement of Ownership, Management, and Circulation

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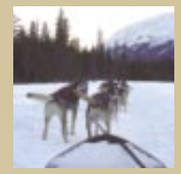
Wilderness Medicine Letter (Issue Date for Circulation Data, July 2004)

Extent & Nature of Circulation	Ave. # Copies Each Issue During Past 12 Months	Ave. # Copies of Single Issue Published Near Filing Date
# of copies (net press run)	3000	3200
Sales through dealers, etc.	0	0
Total paid and/or req. circulation	2805	2906
Free distrib. by mail	40	95
Free distrib. outside of mail	125	200
Total free distributed	165	295
Total distributed	2970	3127
Copies not distributed	30	73
TOTAL	**3000**	**3200**
% paid and/or requested circulation	94%	92%

THE WMS PROVIDES ITS MEMBERS OPPORTUNITIES FOR



ADVANCEMENT

Subscriptions to *Wilderness & Environmental Medicine* peer-reviewed quarterly journal and *Wilderness Medicine* magazine will keep you up-to-date and informed on wilderness medicine topics.

Discounts are available to members to attend WMS-hosted national and international educational conferences, which offer the latest insight on research and clinical training in wilderness medicine.

FELLOWSHIP

The Society offers networking and volunteer opportunities with medical professionals and wilderness enthusiasts worldwide who have expertise in numerous disciplines and specialties.

COMMITMENT

Member dedication and expertise stimulate the creation of new methods and practices in wilderness medicine which promote research and relationships between academia and field experts.

FUTURE DIRECTION

Participation in formulating guidelines, position statements, and policies help direct the future of wilderness medicine as an internationally recognized field of study.

Join us on an educational, adventurous journey that includes earning CME credits in an exciting area of medicine, meeting kindred spirits, and making friendships that will last a lifetime.

Alpine Adventure	Ice Climbing	Scuba Diving
Backpacking	Ice Fishing	Search and Rescue
Camping	Kayaking	Snowboarding
Canoeing	Medical Evacuation	Snowshoeing
Caving	Military Tactics	Space/Flight
Cross-Country Skiing	Mountaineering	Survival Skills
Expeditions	Mountain Biking	Telemark Skiing
Fly Fishing	Navigation	Traveling
Hiking	Rock Climbing	Whitewater Rafting
Hunting	Sailing	Windsurfing

The Wilderness Medical Society is classified as a 501(c)3 tax deductible organization, designating it a public charity for the public good with a responsibility to educate and serve the public

MEMBERSHIP FORM

PLEASE PRINT CLEARLY

Date _____

Please check one:

- ○ RENEWAL
- ○ NEW MEMBER

Member Information

Please add any missing information or make changes below.

Name: _____
(First) (Middle Initial) (Last) (Credentials)

Address 1: _____

Address 2: _____

Address 3: _____

City: _____ State/Province: _____ Zip/Postal Code: _____ Country: _____

Telephone: ( )_____ Fax: ( )_____ Medical Specialty: _____

E-Mail: _____ Birth Year: _____

Membership Dues **Check appropriate category and amount**

See back of this application for definitions of categories.

	1 Year	2 Years (Save with a 2-year membership)			
Full Member					
○ Doctoral	○ $150	○ $250	(Save $50)		
○ Military Doctoral	○ $95	○ $180	(Save $10)	Must be full-time active status to qualify	Branch ____ Rank ____
○ Retired Doctoral	○ $95	○ $180	(Save $10)	Must be 65+ to qualify	Birth Year ____
○ Non-Doctoral	○ $95	○ $180	(Save $10)		
○ Military Non-Doctoral	○ $75	○ $140	(Save $10)	Must be full-time active status to qualify	Branch ____ Rank ____
○ Retired Non-Doctoral	○ $75	○ $140	(Save $10)	Must be 65+ to qualify	Birth Year ____
Member-In-Training					
○ Resident	$75				
○ Student	$55				
Membership Amount	$	$			
***Research Amount**	$10	$10	**Strike out if you do not wish to give to the research program or if you want to add a larger contribution.**		
Total Amount	$	$			

Members-In-Training must provide:
INSTITUTION
TRAINING DIR/ADVISOR **NAME**
TRAINING DIR/ADVISOR **EMAIL OR PHONE #**

* 100% Tax Deductible Voluntary Donation to the WMS Research Grants Program. (This program provides grants including the Houston Award for medical students, the Research Training Award for physicians in training or doctoral candidates, and the Hultgren Award open to all WMS members.)

Method of Payment

- ○ Enclosed is a check payable to the Wilderness Medical Society
- ○ Charge it to my ○ Visa ○ MasterCard

Account # _____ Expiration Date ____/____

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$ _____ Q _____ Check # _____
M _____ A _____ Date Rec'd _____
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You may apply 4 ways:

Online: www.wms.org
Call: 719-572-9255
Fax: 800-967-7494
Mail: 5390 N Academy Blvd Ste 310
Colorado Springs CO 80918

Questions?

Telephone 719-572-9255
Email wms@wms.org

CONFERENCE CALENDAR

Summer Wilderness Medicine Conference
July 23 - 27, 2005 **Snowmass at Aspen, Colorado**
Details in Jan. 2005 • www.wms.org

Related Conferences

When	What	Where	Contact
Oct 29 - 31, 2004	NOLS: Wilderness RiskManagement Conference	Banff, Alberta, Canada	www.nols.edu/wrmc
Oct 29 - Nov 3, 2004	UCSD: Southeastern Wilderness Medicine Conference	Chattanooga, Tennessee	http://cme.ucsd.edu
Nov 13 - 21, 2004	Tropical Medicine and Travel Medicine for Healthcare Professionals in East Africa	Lake Turkana, Northern Kenya & Southern Ethiopia	www.tropmedex.com
Nov 19 - Dec 3, 2004	Orvis Wilderness & Travel Medicine Seminar	Bhutan	www.orvis.com
Jan 16 - 18, 2005	Biology of Rattlesnakes Conference	Loma Linda, California	www.biologyoftherattlesnake.org
Jan 24 - 28, 2005	Colloque de Médecine de Montagne et d'Aventure	Mont-tremblant, Quebec, Canada	www.montagnart.com
Jan 29 - Feb 5, 2005	MedSail 2005: Medicine for Mariners & Safety at Sea	British Virgin Islands	www.med-sail.com
Mar 6 - 10, 2005	Orvis Wilderness & Travel Medicine Seminar,	New Zealand	www.orvis.com
May 8 - 13, 2005	Medicine for Mariners	Ft. Myers Beach, FL	www.offshore-sailing.com/CME/index.html
Jul 23 - 27, 2005	Summer Wilderness Medicine Conference	Snowmass, Colorado	www.wms.org
Nov 10 - 11, 2005	1st International Conference of the Journal of Travel Medicine and Infectious Disease	London, UK	www.travelmedicine.elsevier.com

TRAVEL MEDICINE IN THE 21ST CENTURY

New Zealand: Wilderness & Travel Medicine Seminar
Queenstown | Southern Alps | March 6–10, 2005

Queenstown is the gateway to New Zealand's Southern Alps, a popular destination for adventure travelers, veteran alpine climbers, cyclists and kayakers headed for Mount Cook, the Milford Track and Fiordland National Park. This four-day seminar takes place on the shore of Lake Wakatipu, where William Forgey, M.D., an expert in prevention and treatment of frostbite and hypothermia, and past president of the Wilderness Medical Society, and Philip Rasori, M.D., a leading authority on travel medicine and international health, will lecture on medical problems related to trekkers, moutaineers and adventure travelers.

16 hours category I CME

Cost

$1644 *Includes seminar, accreditation, lodging, transfers, breakfasts, lunches, banquet. Based on double occupancy.*
$749 *Spouses, non-cme guests. Includes lodging, transfers, breakfasts, banquet. Based on double occupancy.*
$895 *CME only, for participants who want to attend the lectures, but arrange lodging and transfers on their own. Lunches and banquet included.*

To reserve your space, please send a $300 deposit to
Orvis Travel | P.O. Box 798 | Manchester VT 05254

For complete information on the course, CME credit and travel details, visit our website www.orvis.com/travel, or call us at 800 547 4322.

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Then you need to join us in Snowmass next summer! The majestic Rocky Mountains provide the "classroom" for hands-on outdoor workshops and group sessions. If you have a passion for outdoors and treat patients who venture into extreme or remote environments, this conference is definitely for you. Where else could you be hiking in the Maroon Bells a half hour after your class ends? Fly fishing over your lunch break? Or plunging a raft into white water a few short miles away? You have to experience this kind of "backyard" classroom to believe it. So come play with us and study with us for 5 days in the majestic Rockies and earn your CMEs at the same time!

International Summer Conference on Wilderness Medicine

July 23 to 27, 2005

Join Us For The WMS Summer Conference In 2005

Snowmass at-Aspen, Colorado

Don't just ask what the world needs. Ask what makes you come alive and then go and do it, because what the world needs is people who have come alive.

-HOWARD THURMAN

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