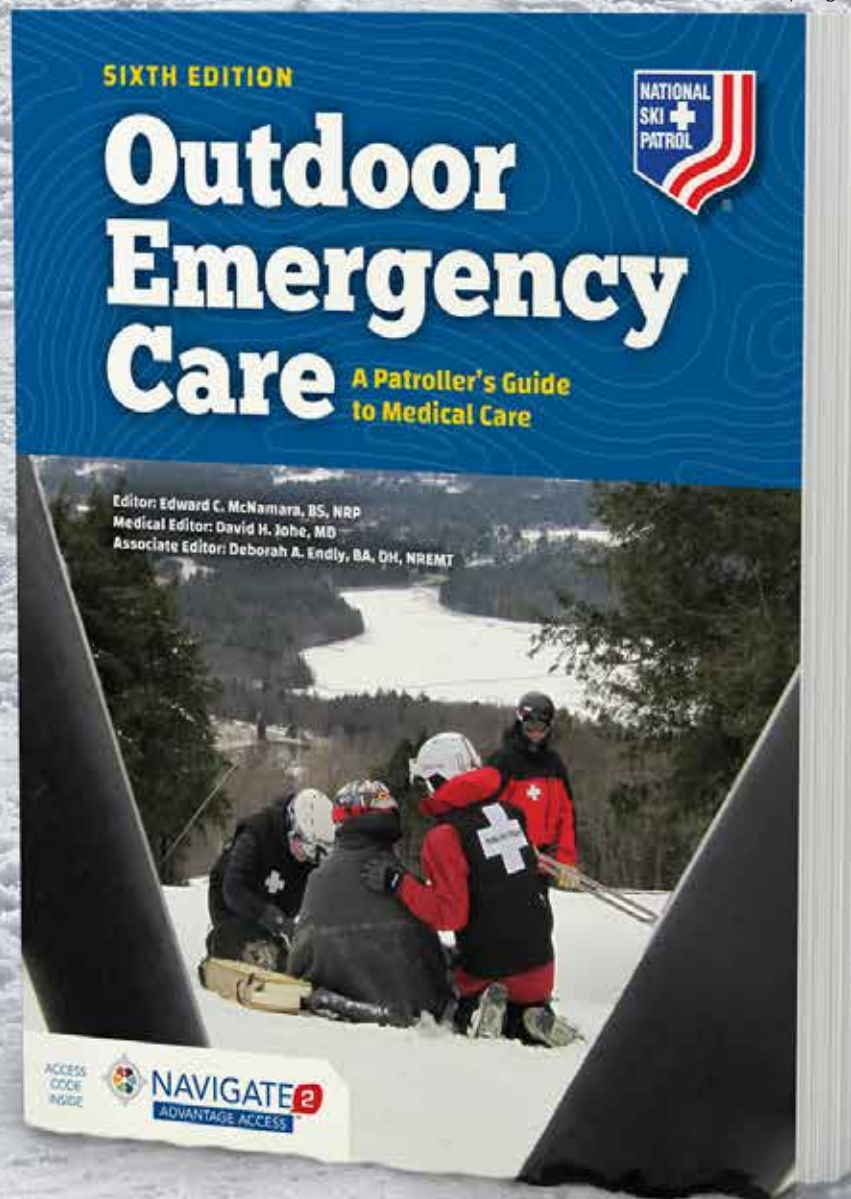




ski patrol

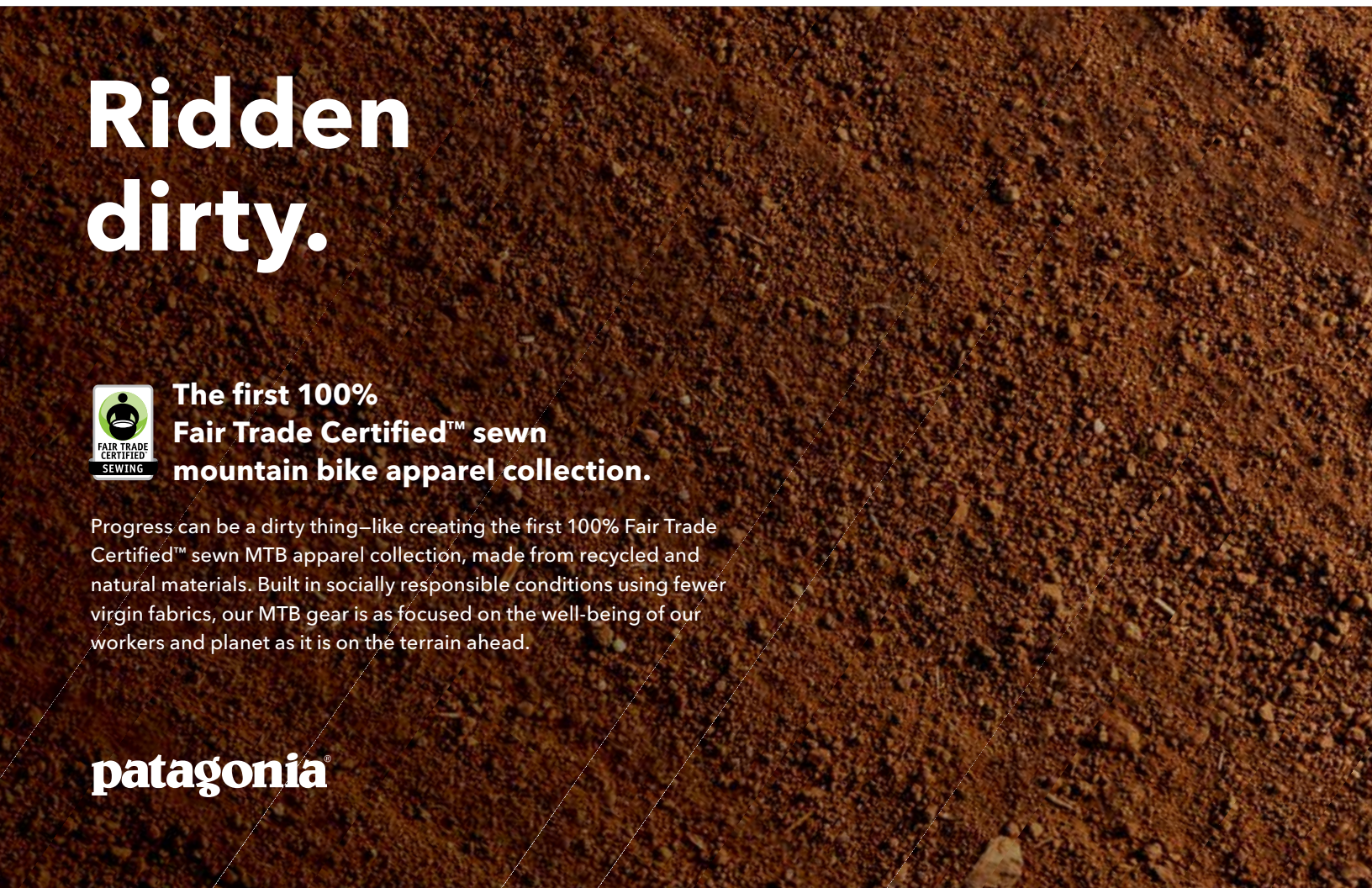
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Thank you to the 2020 National Ski Patrol Subaru Ambassadors.



Cover photo: Agnieszka Hansen
Left photo: Andre Gonsalves
Photo above: Kathleen Utley





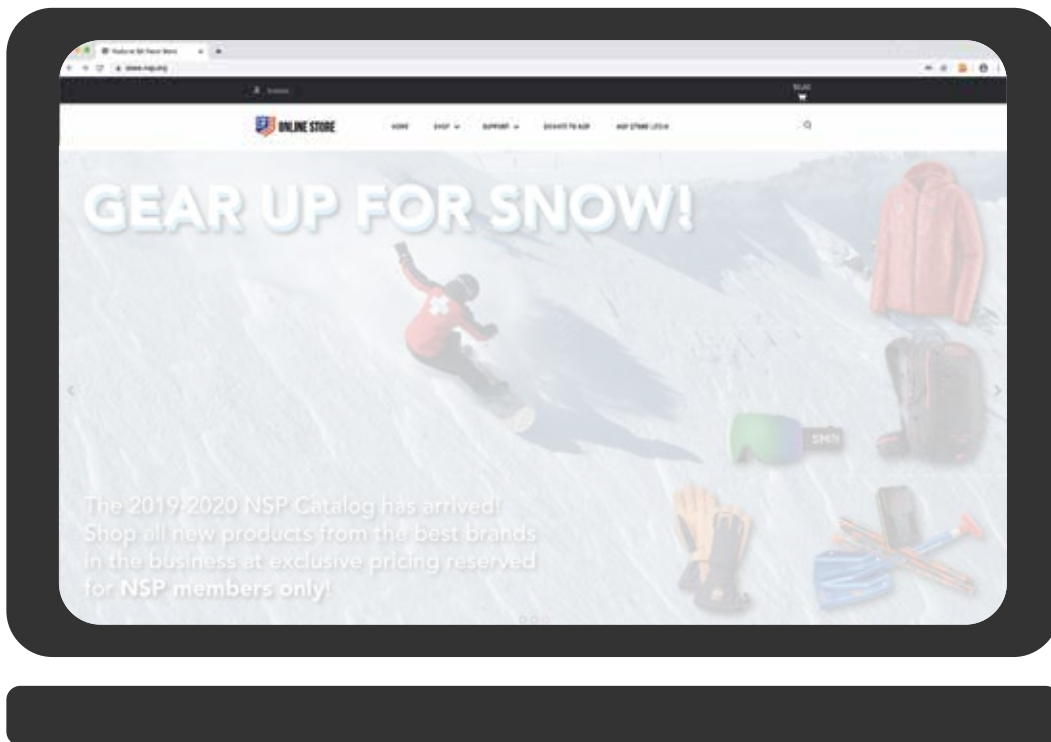
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Letters

from the Editor

By Candace Horgan, Editor



If you get a roomful of patrollers together and ask them what the most important aspect of patrolling is, I'm sure you'd end up with many arguments. Is it promoting safety on the hill by encouraging safer skiing and marking hazards? Is it avalanche mitigation? Is it helping that beginner skier learn to link a turn or two?

I, personally, would argue that the heart of ski patrol is what led Charles Minot Dole to found the National Ski Patrol in the first place: taking care of injured skiers. Dole was inspired partly by his own injury at Stowe in 1936, which required his evacuation on a piece of tin roofing. While he was recovering, his good friend, Frank Edson, died in a ski race on the Ghost and Shadow trails near Pittsfield, Massachusetts.

The NSP's training in first aid has evolved over the years. Originally, patrollers trained in American Red Cross first aid. In the 1980s, Winter Emergency Care was developed, and it later evolved into Outdoor Emergency Care. This summer, NSP will celebrate the release of *Outdoor Emergency Care*, 6th ed.

Whatever your level of prehospital medicine practice, the field is always evolving and changing for the better based upon peer-reviewed studies. At one time, pneumatic anti-shock pants (also called military anti-shock trousers or MAST pants) were considered a first-line treatment for shock. Paramedics were encouraged to dump a ton of IV fluids into patients to keep a normal blood pressure. These practices are no longer used because the field has evolved to better treat the patient and their injuries based on peer-reviewed medicine.

Outdoor Emergency Care, 6th ed., incorporates changes based upon the latest peer-reviewed medical studies. It includes evolved treatment guidelines for pelvic fractures, oxygen therapy, bleeding control, and examples of using tools such as a pulse oximeter for patient assessment. This is a text that will be a valuable addition to any patroller's bookshelf, from the rookie patroller to the 30-year veteran. We thank all the people who worked so hard to create this latest edition of NSP's

flagship medical textbook.

In this issue, former NSP National Medical Advisor David Johe, M.D., writes about the evolution of NSP's Outdoor Emergency Care Program and the newest edition of the textbook. He delves deeply into some of the changes you will find in the text, as well as how the new text might affect instructors. We thank Dr. Johe for this important article.

You will notice that there is a change in the polybag contents from previous summer issues of *Ski Patrol Magazine*, as the *Outdoor Emergency Care Refresher Workbook* is not included with this issue. Because of the changes that the new textbook is necessitating in the refresher, the *Outdoor Emergency Care Refresher Workbook Cycle A 2020* will be sent as a stand-alone publication later this spring or in early summer.

The changes in OEC aren't the only medical topics covered in this issue. Kathy Megyeri writes about the dangers of skin cancer, a topic that patrollers should likely be more worried about given how much time we spend outdoors in the sun. Kathy recently dealt with this issue on a personal level as her husband, Les, who is a patroller, had cancerous melanoma that he was successfully treated for.

Also in this issue is an article on toxicological emergencies that patrollers might have to deal with. Given that more and more resorts are holding summer events like music festivals, and that patrollers are often providing the first aid care for these events, this is a timely and important article.

Our regular columnists are back too, as Eryka Thorley interviews Big Bear Ski Patrol Director Josh Endsley about some of the challenges he deals with at his massive patrol in Southern California. Veterinarian Kimberly Henneman is back with another canine care column, this time looking at nutrition. We are also testing a new possibility for a regular appearance in the magazine as cartoonist Brett Gehrke, of the Belleayre Ski Patrol in New York, shares with us some of his patrol-centered cartoons. If you like his work and want to see more, please let us know by emailing editor@nsp.org.

It's hard to believe, as it seems like Powderfall was so recent, but the NSP Lakewood office staff has been busy preparing for the next Powderfall, which will be held at Breckenridge Resort in Colorado in April 2021. We have a "Save the Date" in this issue and will be diving more deeply into all the fun that you can have at Powderfall in our fall issue.

In the meantime, I hope you have a lot of fun this summer and enjoy looking through this issue! +



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Dale Atkins

With five decades of mountain rescue experience and working with avalanches, Dale Atkins trains avalanche professionals and mountain rescuers around the world. He has extensive avalanche knowledge and experience as a rescuer, forecaster, researcher, and educator. Many skills were fortified with 20 years spent working at Loveland Ski Area as a part-time professional ski patroller. Along the way, he has also participated in more than 40 avalanche rescues. Currently, Dale works for RECCO AB. He is a past vice president of the Avalanche Rescue Commission for the International Commission for Avalanche Rescue and a past president of the American Avalanche Association.



Linda Barthel

Linda Barthel, of Ann Arbor, Michigan, was the first NSP national Women's Program advisor and is a member of the Mt. Brighton Ski Patrol and Nub's Nob Ski Patrol in Michigan. She has both her Certified and a National Appointment Number and is an instructor trainer in Outdoor Emergency Care and Outdoor Emergency Transportation. She is also a Professional Ski Instructors of America Alpine Level III certified ski instructor and has a PSIA Central "Train the Trainer" accreditation. Barthel is one of the women responsible for developing the Central Division Women's Seminar, now celebrating its 20th year. In addition to all her work with NSP and PSIA, Barthel is a product scientist for a biotech company in Ann Arbor. If she isn't fishing, she is traveling around town doing visits with her therapy dog, Kipper.



Mandela Echefu

A writer, photographer, and patroller at Wisp Resort in Western Maryland, Mandela Echefu is an avid outdoors man who is passionate about getting more minorities out on the mountain to experience the joys of skiing. You can read more of his writing at his website, www.pacelinehome.blogspot.com.



Brett Gehrke

A pro patroller at Belleayre Mountain Ski Center in New York, Brett Gehrke serves as Mountain Travel and Rescue advisor and gondola evac instructor. He doesn't look far for inspiration and thanks all the patrollers lucky enough to be depicted, who will remain forever anonymous in his illustrations. He has worked as a mountaineering/climbing guide and trapeze instructor/catcher. Other seasons are spent fly fishing, sailing, golfing, and kayaking. He volunteers as a guide for Sam's Point Preserve, an EMT for the local squad, and an operator for invasive species eradication on the river. He lives with his wife, Dale, who is his art director and a patroller, on the Hudson River in New York. See more illustrations at Patrol Penguins on Facebook or contact Patrolpenguins@gmail.com.



Kim Henneman

Dr. Kim Henneman is a Utah Wasatch Range native. She moved to the Midwest to get her veterinary medical degree from Purdue, but quickly moved back to Utah for the outdoor life. She became certified in acupuncture and chiropractic in the early 1990s and worked on her first avalanche dog shortly thereafter. She has helped form the new specialty discipline of canine sports medicine and rehabilitation. As a veterinarian who is board-certified in both dogs and horses, Dr. Henneman currently writes and gives workshops all over the world, consults regularly with avalanche and SAR dogs, and helps canine athletes competing in numerous disciplines, including as a multi-year Iditarod trail veterinarian. Her goal is to bring knowledge from every discipline to help active dogs everywhere.



Douglas Hill

Doug Hill has served for 35 years on the Big Bear Ski Patrol in Southern California. He is the current Instructor Development Program administrator for the Southern California Region and serves on the National Instructor Development Committee. He is also an Instructor Development instructor and instructor trainer. He served as the patrol representative at Snow Summit for six years. Hill, a contributor to *Outdoor Emergency Care*, 4th ed., was the Outdoor Emergency Care Program supervisor for the Far West Division for five years and the OEC Program administrator for the Southern California Region. He received an NSP Distinguished Service Award in 2007.



David Johe, M.D.

David Johe is an active 30-year patroller at Holiday Valley in Western New York. He recently retired from the practice of orthopedic surgery and as the national medical advisor for the NSP. Having been involved with Outdoor Emergency Care's last three textbooks, he is the medical editor for the forthcoming *Outdoor Emergency Care: A Patroller's Guide to Medical Care* (OEC edition 6). David and his wife, Roslyn, enjoy breeding and training French bird dogs, restoring antique and muscle cars, and traveling. He continues to help his local patrol as their medical advisor.



Kathy Megyeri

Kathy Megyeri is the wife of Les Megyeri, a ski patroller who has served at Liberty Mountain Resort in Pennsylvania for 35 years. During that time, she has witnessed first-hand patrollers' dedication to NSP, the camaraderie and affection that patrollers develop for one another, and their total commitment to serve and aid fellow skiers. Kathy and Les live in Washington, D.C., but spend patrol and ski time at their slope-side chalet, where she bakes cakes for the A-2 shift and manages the couple's ski equipment. Kathy writes a monthly column for a Florida magazine, *Lifestyles Over 50*, and contributes to the *Chicken Soup for the Soul* series.



Les Megyeri

Leslie L. Megyeri has been a ski patroller for 37 years at Liberty Mountain Resort in Fairfield, Pennsylvania. He recently received the Distinguished Service Award for his service to Liberty and for serving as chair of the NSP Bylaws Oversight Committee. Les is a CPA, an attorney, a retired military officer, and he retired from the Judiciary Committee of the U.S. Congress. He is a licensed general aviation pilot and Harley Davidson rider but still regards his years of patrolling as the highlight of his accomplishments.



Eryka Thorley

A native of Michigan's Upper Peninsula, Eryka Thorley first headed to the mountains for college at Montana State and has since hailed the West as home. She started patrolling at Big Sky Resort in Montana 14 years ago and recently retired from patrolling at Eldora Mountain Resort. She lives with her husband, Jake, who is currently a ski patroller, and daughter, Wynter, in Nederland, Colorado. Thorley teaches avalanche courses in the Rocky Mountains and organizes hiking trips in the Alps for Alpinehikers, a U.S.-based company.

From the of Meegan Moszynski

NSP maintains the gold standard in outdoor emergency education

It's finally here! The editors, reviewers, and contributors of "OEC6" — the sixth edition of NSP's Outdoor Emergency Care textbook — have been working tirelessly for years to produce the new edition of NSP's core training material. What goes into a new edition of a text that is as established as OEC? What does it take to update OEC and maintain the gold standard of education and training for which NSP is so renowned? Who are the heroes behind these efforts? What does a new book mean for you?

The new OEC text will include updated medical information, best practices, and tools that will help NSP patrollers continue to be the best in the industry. The full content of the book, along with information about the significant knowledge-based and skills-based differences between the fifth and sixth editions, will be released around the same time that you receive this magazine and the launch of the 2020 Cycle A refresher.

Since the release of the last edition of OEC in 2011, NSP membership opportunities have expanded. Our bike patroller and bike host member classifications are two direct channels into year-round recreation. Presenting the OEC material in a year-round context for all-season users is a significant shift in focus for this new text, and it will be a great source of support toward NSP's continued efforts to incorporate mountain biking and other outdoor activities into its work.

Updating OEC takes significant expertise. The book's editors — former NSP National Board Chair Ed McNamara and former NSP National Medical Advisor Dr. David Johe — bring their experience in medicine, education, and patrolling to this new edition. They worked closely and frequently with the book's publishers, Jones & Bartlett Learning (JBL), to streamline all the work and communication necessary to stay on track. They also coordinated all the reviewers and the involvement of the National Medical Committee, in addition to individual chapter contributors.

It takes dedication to coordinate a project of this magnitude and significance. The publishers and editors speak every week or two, often with the Lakewood office and assistant editors included, on calls, in meetings, and via emails in order to track responsibilities and maintain the timeline.

It takes resources to ensure the quality and timeline of this product are met. The editors have met face to face for meetings with the publisher and to conduct photo shoots. The National Medical Committee focused their 2018 face-to-face meeting in Denver on the text. NSP's executive director, education programs manager, and former education director all contributed time and office resources to support the process. The resources that JBL will provide for online materials will be paramount to the book's success, and NSP will leverage its learning management system to support the material as well. Many divisions, regions, and individual patrols have



saved funds and conducted fundraisers to equip their instructors with the latest edition once it's released.

It requires taking a broad view on who NSP is and what NSP does. We are an education and training organization, and we now focus on more than just skiing and snowboarding. We also have mountain bike patrollers and hosts, and our vision 2030 includes broadening our reach into other sporting activities and events. We have many stakeholders to please, starting with our members and expanding into ski areas, industry partners, insurance providers, and the general public. We are the gold standard in Outdoor Emergency Care and training, and our new text will underscore that position.

The heroes behind OEC6 are numerous. First and foremost are the book's editors. Mr. McNamara and Dr. Johe have led the team in reviewing, writing, and editing the book's content. Deb Endly, the former NSP national OEC Program director and current OEC Refresher Committee chair, contributed as assistant editor and has been the lead on organizing all photos and visuals. The National Medical Committee and many other topic experts also contributed to the material and its review. The Lakewood office has helped procure photos, organize contracts and photo releases, and support overall communication. It takes a village, and for that village we are incredibly grateful!

I hope you enjoy this edition of *Ski Patrol Magazine* and the information that it provides about OEC6. The book's contributors, as well as the National Education Committee, the OEC supervisors, the OEC Refresher Committee, and a team of marketing and communications experts, have been working together to share all necessary information about the transition from the fifth edition to the sixth and the format and timing of the 2020 refresher cycle. If you have any questions, please reach out to your OEC division supervisor or contact the Lakewood office. We are all here to answer your questions to ensure a successful launch and rollout of this new edition of OEC.

Thank you all for all you do! +



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Chatting with the

The Why and What of Patrolling

BY BRIAN RULL, NSP BOARD CHAIR



“It is a great time to be a member of the National Ski Patrol, and I’m grateful to be afforded the opportunity to take the helm as your national board chair.”

As I sit here contemplating my first article for *Ski Patrol Magazine*, I reflect on where this journey started — back to 2012-13, when I served in my first NSP line leadership role as assistant region director (ARD) of the Southern Region of Central Division. I recall back then sitting at a laptop and outlining what I wanted to do as an ARD and how I was going to do it. This time, I’m going to reflect on the ultimate topic of that outline, which is just as relevant today as it was then.

When I was starting as ARD, I attended a leadership seminar where one of the topics was associate engagement as it relates to providing an outstanding customer experience. To summarize: if you ask an employee what they do and how they do it, you should expect a fairly concise answer. Job descriptions, training, policies and procedures, and supervision all play important roles in defining the “what” and “how” of what we do.

The presenter then provided a more difficult question for consideration: “Why do you do it?” Since a common response is, “for the paycheck,” the presenter provided an alternative scenario: what if you had enough money that you didn’t need the paycheck? Would you still get out of bed in the morning and go in and do what you do? Would you do the job for free?

After giving us some time to reflect and get our thoughts down on paper concerning our jobs, the presenter then proceeded to ask for a show of hands on how many of us performed volunteer work outside the office. A vast majority raised hands, and the same three questions were asked about volunteer work. For me, the “why” question became a real focus point when it comes to NSP volunteerism. The primary motivation certainly isn’t for the paycheck, nor to contribute to the profitability of the area. It is much deeper — to serve a public good and be a Good Samaritan alongside my fellow patrollers. The why of such volunteerism is attributed to



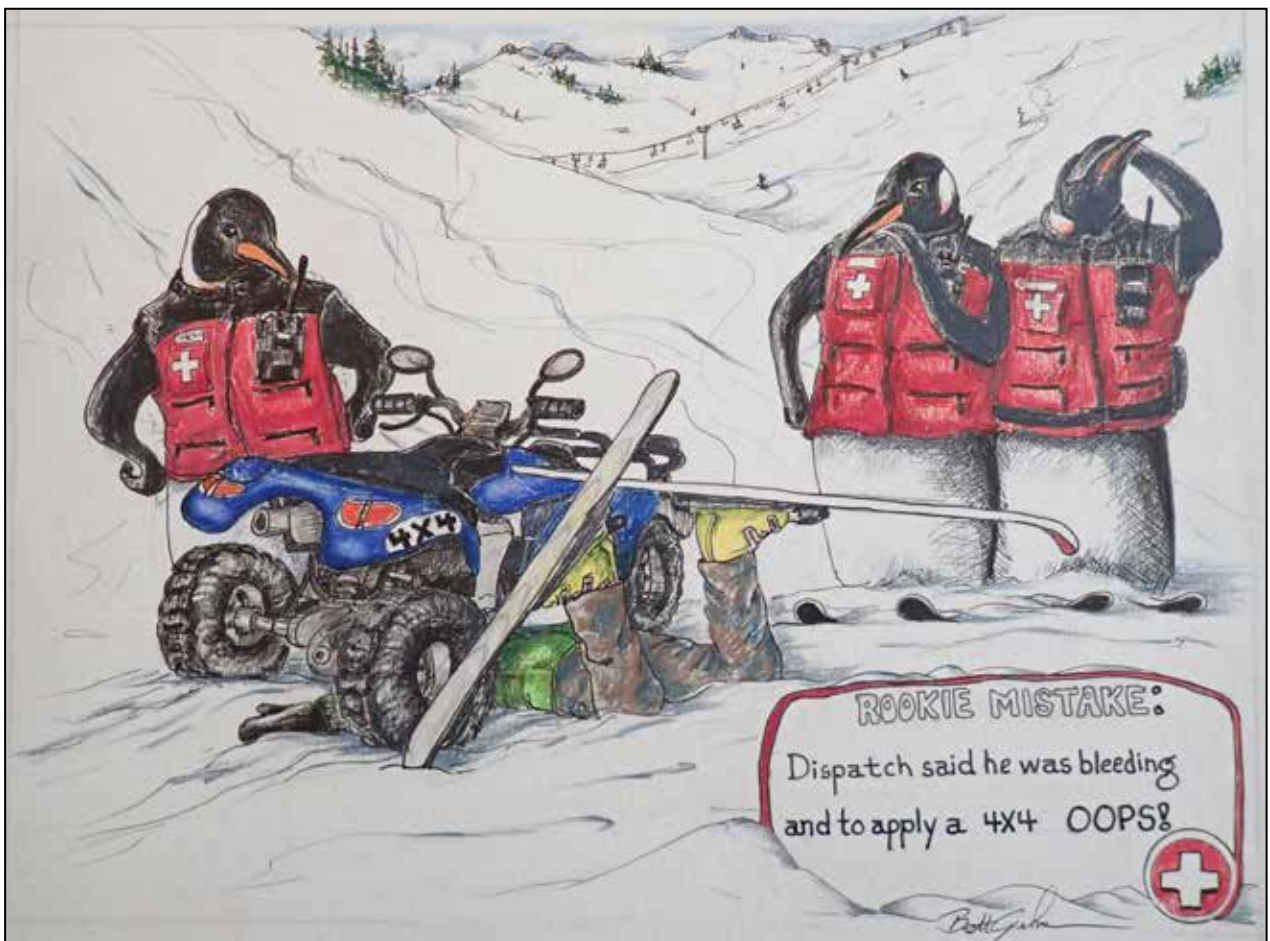
engagement. It is what keeps us out of a warm bed on a subzero midnight patrol shift and what gets us out of that warm bed at 7:00 a.m. the next morning to attend a Toboggan Enhancement Seminar. Quoting my wife (unknowingly quoting the great World War II General Anthony Clement McAuliffe): “Nuts!” “Maybe,” I tell her, but we are 31,000 strong!

My engagement in this organization ultimately got me to where I am today. I’m humbled to have the opportunity to serve the membership during a period of unprecedented growth and expansion. It is a great time to be a member of the National Ski Patrol, and I’m grateful to be afforded the opportunity to take the helm as your national board chair.

As we gear up for summer candidate classes and refreshers, there will be a lot of focus on WHAT we patrollers do and HOW we do it. The new *Outdoor Emergency Care*, 6th ed., will be chock-full of this stuff! Let’s not forget to save some time to share the WHYs, with the hopes of fully engaging our candidates, fellow patrollers, and perhaps even ourselves in the process. +

Patrol Penguins

BY BRETT GEHRKE



OFFICE VISITORS

THANK YOU ALL FOR STOPPING BY!



Kevin Johnson, Intermountain Division Director, Snow King Ski Patrol and Grand Targhee Mountain Bike Patrol, visited Jan. 10, 2020.



Tim Hendrickson, Mountain Guard and NSP Alumni, visited Jan. 29, 2020.



Alexis Dubois, Loveland Ski Patrol, visited Feb. 14, 2020.



Patrick Trimm, Rocky Mountain Division Director, Powderhorn Ski Patrol, visited Jan. 10, 2020.



Gail Matheny, retired patroller from Geneva Basin and Loveland Ski Area and member of the 10th Mtn. Division, visited Feb. 21, 2020.



Nancy Dach, Norsk Nordic Patrol, visited Mar. 2, 2020.



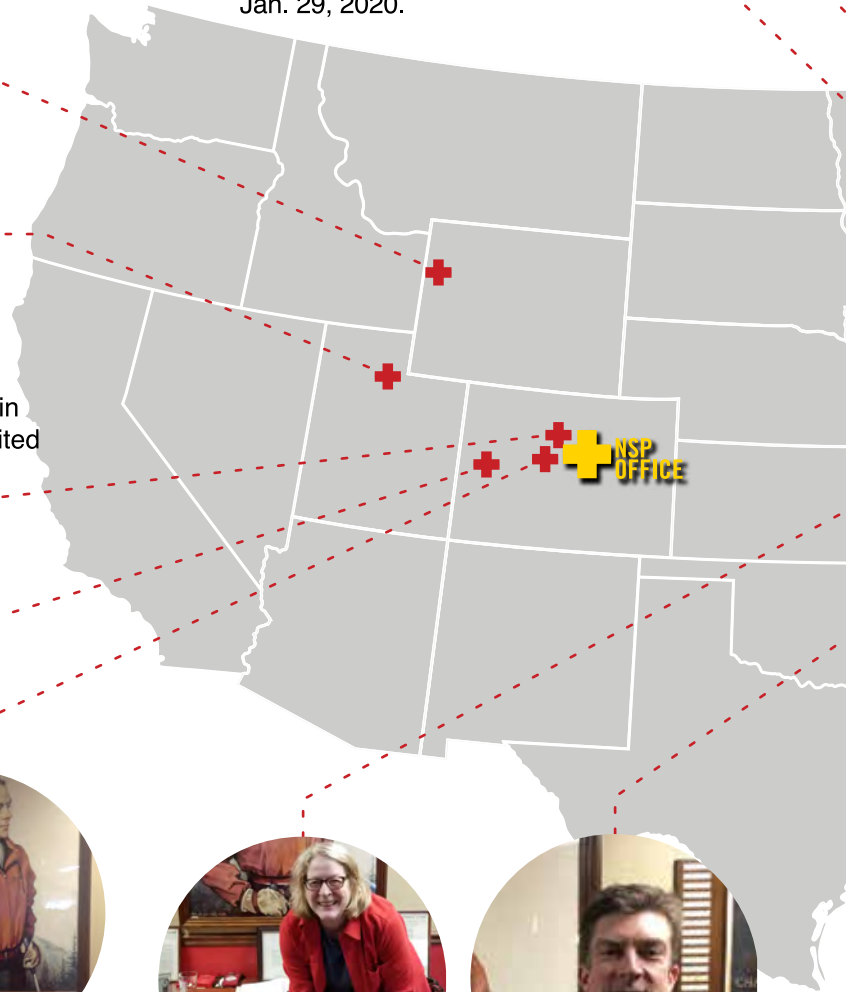
Brian Rull, Board Chair, Hidden Valley Ski Patrol, visited Jan. 10, 2020.



Tyler Thostenson, Afton Alps Ski Patrol, visited Jan. 29, 2020.



Philip & Matthew Keberlein, Nordic Mountain Ski Patrol, visited Mar. 2, 2020.





Mike Schons, Central Division Director, Pine Knob Ski Patrol and Clinton River Area Mountain Bike Patrol, visited Jan. 10, 2020.



Marc Abend, Board Member, Loon Ski Patrol, visited Jan. 14, 2020.



Wayne Arsenault and wife, Janet, of Black Mountain and Saddleback, visited Feb. 3, 2020.



John Kane, Eastern Division Director, Sunday River Ski Patrol, visited Jan. 10, 2020.



Joseph Steger and wife, Alissa, of Holiday Valley Ski Patrol, visited Feb. 20, 2020.



Chris Pringle, Board Member, Ski Bradford Ski Patrol, visited Jan. 10, 2020.



Dave Walker, Wachusett Mountain Ski Patrol, visited Jan. 10, 2020.



Rick Knight, Board Member, Mount Southington Ski Patrol, visited Jan. 10, 2020.



Tom Byron, Southern Division Director, Massanutten Ski Patrol, visited Jan. 10, 2020.



Jay Zedak, Board Member, Boston Mills & Brandywine Ski Patrol, visited on Jan. 10, 2020.



Richard Yercheck, Board Member, Beech Mountain Ski Patrol, visited Jan. 10, 2020.



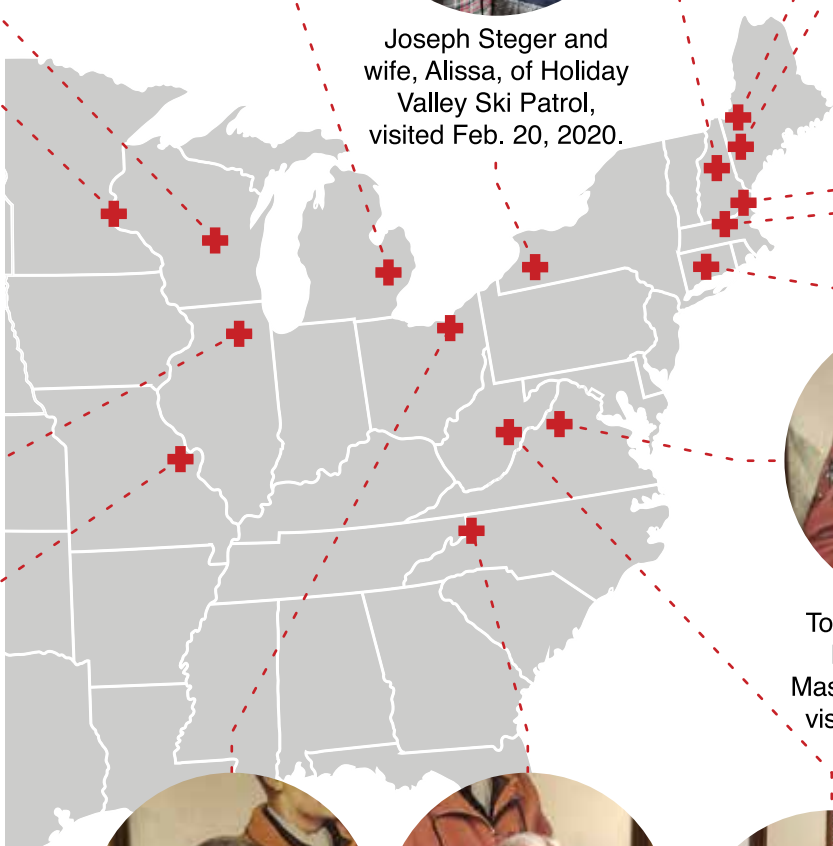
Franklin Hoppes, Snowshoe Ski Patrol, visited Feb. 14, 2020.



Bobby Poage, Snowshoe Ski Patrol, visited Feb. 14, 2020.



Les Stiers, Snowshoe Ski Patrol, visited Feb. 14, 2020.





PARTNER RENEWALS



We are proud to continue our partnership with **Hydro Flask**. Founded in 2009 in Bend, Oregon, Hydro Flask is the award-winning leader in high-performance insulated products ranging from beverage and food flasks to the new Unbound Series™ Soft Coolers. Each product they design is always premium, always better than anything else they've ever used, and never lukewarm. *(NSP Pro Deals Page and NSP Online Store)*

icebreaker Icebreaker has been a pioneer of merino wool apparel since 1994. Their wide variety of products offer you the perfect layering solution for any condition. Their continued dedication to ethical sourcing and the environment has kept them in front of their competition. *(NSP Pro Deals Page and NSP Online Store)*



Lenovo can make patrolling easier by providing patrollers incredible offers on laptops, desktops, tablets, workstations, and servers. Don't forget that every computer needs an accessory! Visit the NSP Pro Deals Page for great offers and save up to 30% on select systems! Think Savings, Think Lenovo. *(NSP Pro Deals Page)*



22 Designs manufactures high-performance telemark bindings. Based in Driggs, Idaho, all their bindings are produced in the United States. They test all their products in the Tetons, which they call home. Find out more about the Outlaw X, Axl, and Vice bindings by visiting their link on our pro deals page. *(NSP Pro Deals Page)*

NEW PARTNERSHIPS



The National Ski Patrol is proud to partner with **FirstNet**. NSP members now have access to FirstNet, built with AT&T. FirstNet is the nationwide wireless communications network designed for first responders and those who support them. Verified, OEC-certified ski patrol directors, patrol reps, and ski patrollers are eligible to sign up for FirstNet as first responders. See more in the Telecommunications Program article on page 91. *(NSP Pro Deals Page)*



Nikwax manufactures high-quality cleaning and waterproofing products. Nikwax prolongs the life and enhances the performance of clothing, footwear, and equipment. Whether you work or spend your leisure time outside, Nikwax keeps you dry. *(NSP Online Store)*

NSP AT OUTDOOR RETAILER

Again this year, National Ski Patrol parked our Subaru in the Colorado Convention Center for the Outdoor Retailer show. We also hosted a party for our partners, members, and Outdoor Retailer attendees to benefit SheJumps.

The party took place on a snowy evening at nearby Battery 621, which houses many outdoor products companies. Attendees enjoyed great music, conversation, and beverages. There was also a raffle where attendees got a chance to win some great swag. We look forward to next year's event! **+**



NSP Executive Director Meegan Moszynski runs the raffle at the NSP party. Photo by Beckett Stokes.



DJ Cavem spinning tunes at the party. Photo by Beckett Stokes.



Jon Legnard of Winter Park is the proud winner of a new pair of skis. Photo by Beckett Stokes.



The crowd at the NSP party at Battery 621. Photo by Beckett Stokes.

ALASKA DIVISION

Powderblast event at Alyeska offers skill development

This is my first year acting as the Alaska Division Women's Program supervisor, and we just had our first women's clinics during Powderblast 2020. Powderblast takes place at Alyeska Resort in Girdwood, Alaska, every two years.

We offered two toboggan clinics and two ski lesson clinics with instructors from the Professional Ski Instructors of America, as well as an information session to introduce the program to the division. Twelve ladies participated over the two days that clinics were offered, and we had an absolute blast. The women taking the toboggan clinics were particularly amazing! We were blessed to have some amazing toboggan instructors from other divisions leading the skills.

Alyssa Keill

Alaska Division Women's Program Supervisor



Toboggan practice at Powderblast. Photo by Marc Barlage.



Enjoying the steep and deep at Alyeska. Photo by Marc Barlage.



From L-R: Tanya Thomas, Sal Mascareñas, Kristen Barlage, and Marc Barlage.
Photo c/o Marc Barlage.



Hanna Wuttig on tail rope and Kara Kornhauser in the horns. Photo by Alyssa Keill.

EASTERN DIVISION

SheJumps event in Vermont draws many participants

On Sunday, Jan. 12, 2020, while the rest of the East Coast was experiencing record-breaking high temperatures, playing golf, and heading to the beach, 34 determined young ladies braved dense fog, freezing rain, and bitter snow squalls to attend a SheJumps Wild Skills Junior Ski Patrol event in Northern Vermont.

Kaitlyn Fowle, the patrol director at Bolton Valley Resort, along with the Northeast SheJumps directors, planned and coordinated this event. Bolton Valley Resort was kind enough to host us. Kaitlyn drew on the Eastern Division's Women's Program resources and a handful of enthusiastic female patrollers from Bolton Valley to staff the event. In total, there were nearly 60 participants.

Wild Skills Junior Ski Patrol is a day camp where young girls learn mountain safety and first aid while working with the strong and skilled women of patrol. This event is intended for intermediate to expert skiers/snowboarders ages 8-17 who identify as female.

This SheJumps Wild Skills event is structured as a full day camp experience. Parents/legal guardians drop their girls off, the girls are split into teams based on their age and ability, and the groups rotate through different skills stations.

Throughout the day, girls are taught a range of outdoor skills that are utilized by ski patrollers to keep the mountain safe. Girls work alongside female patrollers and volunteers to learn more about the many facets of mountain safety and first aid. The four skills stations offered at Bolton were first aid, toboggans, avalanche, and mountain machines.

The first aid station focused on learning basic first responder steps, learning to seek help while not putting themselves in

danger, learning to stop minor bleeding, working with splints and slings, and the importance of remaining calm.

The toboggan station provided an overview of how to care for and prep toboggans as well as safely run them, including ample opportunity for each participant to get in the handles and ride as patients.

The avalanche station gave girls an understanding of avalanche basics, including knowledge of how mountains and patrols prevent avalanches and how to identify avalanche areas.

The mountain machines station covered all things related to mountain safety, including learning how to identify hazards, different ways to mark them, knot tying, and even a primer on groomers, snowmobiles, and lift operations.

It was a busy day. The winds from the southwest in the early morning shifted abruptly to a strong blast from the northeast, and with it the temps dropped from 40 F into the low teens. It was a perfect learning opportunity that only Mother Nature could have provided, as we all needed to adjust our gear accordingly and quickly realize the importance of being prepared for whatever comes our way in natural settings.

Facing challenges successfully promotes self-confidence and empowerment. Facing them together makes it fun and develops the kind of camaraderie that comes with working as a team. This is what SheJumps is all about.

For more information on SheJumps and programs available in your area, go to <https://www.shejumps.org/wild-skills>.

Jane Williams

Eastern Division Women's Program Supervisor



Learning about toboggans and how to set them up.
Photo by Ayryn Sorworth.



Learning about avalanche beacons. Photo by Jaimee Rondeau.



SheJumps participants getting in the horns. Photo by Sue Kelly.

Winter Tip Off brings patrollers together for training



From L-R: Travis Meikle, Daryl Whitcher, Michael Marlow, Tanya Thomas, Jeffrey Weitz, and Marc Barlage. Photo c/o Michael Marlow.



Marc Barlage (in front) and Travis Meikle on the hill. Photo c/o Marc Barlage.



From L-R: Jeffrey Weitz, Marc Barlage, and Michael Marlow. Photo c/o Marc Barlage.

It was a dark and stormy Thursday night, and we were coming in quite later than we expected. It was piking snow, and the roads were terrible. If it got much worse, we probably would have needed to pull the toboggans from the back and put them under the truck wheels to make it to town. We pulled into Red Lodge, Montana, 15 minutes before the brewery closed, so we felt lucky. Quite the auspicious start to our annual Northern Division Winter Tip Off, as the snow gods were being friendly!

This is the Northern Division's premier winter event, focusing on all things Outdoor Emergency Transportation. Winter Tip Off started long before my time, but we have tried to improve upon it every year. It is usually held the second weekend of January every year. Our division directors accuse us of holding it then so they can't attend, as they are at the NSP board meeting in Denver!

This year it was held at Red Lodge Mountain just outside Red Lodge, Montana. It was our biggest in memory, with 65 participants including guest instructors. NSP National OET Program Director Marc Barlage, NSP National OET Program Assistant Director Jeffrey Weitz, Intermountain Division OET Supervisor Travis Meikle, Far West Division OET Supervisor Daryl Whitcher, and NSP National Women's Program Advisor Tanya Thomas were among the attendees.

After everyone had done a little morning warmup skiing, we started Friday at noon with an OET instructor continuing education course. This year we had a classroom instructor recertification first, then Tanya took us onto the hill and showed us the finesse, not the muscling, of a rescue toboggan. She had all the instructors try what she demonstrated, corrected some, and then gave us our instructing marching orders for when the rest of the patrollers arrived on Saturday.

Saturday morning offered a Toboggan Enhancement Seminar. We do something different in the Northern Division and invite our Professional Ski Instructors of America and American Association of Snowboard Instructors division clinicians to join us. Not only are we instructed in the proper way to run a toboggan with our OET instructors, we also have our PSIA clinicians train us on using the "5 fundamentals" while we are in the handles and on the tail rope. This way, we learn NOT to use the handles as a crutch in our control of the toboggan and NOT "water surf" the tail rope.

Saturday also offered a Senior OET Training Clinic led by Barlage, Meikle, Whitcher, Weitz and our very own Jeff Motley of Lost Trail Powder Mountain, along with a couple of the PSIA clinicians and 22 Senior candidates. Also, Tanya, along with our newly minted Northern Division Women's Program Supervisor Katherine Weber of Great Divide Ski Patrol, led a group of 12 women through the paces in toboggan handling and ski skills.

After a late lunch, the annual Toboggan Rodeo was held Saturday afternoon. Teams of three random patrollers were in the running for NSP gift certificates: \$100 to each first place patroller, \$50 for second, and \$25 for third. Last place gets their name inscribed on a tanned skunk hide for future posterity! There were 12 teams this year. First place went to the team of Marc Barlage (Brighton Ski Patrol, Utah), Adam Johnson (PSIA), and Frank Maus (Snowbowl Ski Patrol, Montana), which sure sounds like a stacked deck to me!

The event is timed and has stations like a toboggan slalom, an OEC station, a "pull a toboggan uphill around a circle of bamboo" station, a "switch positions in the sled" station, a "take a hula hoop around the team and the sled" station, a "turn your jacket inside out and run a toboggan backward through a set of gates and chug a pop" station, etc. It gets to be quite comical, and the only rule is that the toboggan must cross the finish line with all three participants in their respective positions.

Awards for the rodeo, and any special mentions, were handed out Saturday night at a banquet, and everyone broke for night-caps and bed.

Sunday morning offered a Snowsports Enhancement Seminar led by the PSIA team with up to five hours of small group instruction to help us learn to ski better, not just professionally but personally.

We couldn't pull this event off every year at our various ski areas without the help of our local PSIA team and the hospitality of the local patrols and local ski areas. Hats off to PSIA-AASI Rocky Mountain Division, Red Lodge Mountain, and the Beartooth Ski Patrol for helping on this one!

Mike Marlow
Northern Division OET Supervisor

PACIFIC NORTHWEST DIVISION

White Pass grows its patrol internally



From L-R: Viknesh Kasthuri and his father, Saravanan Kasthuri.

White Pass Ski Area at White Pass, Washington, is known to be a very family friendly area. In fact, ski area management adopted the hashtag **#whitepassfamily** on social media, a tag originally started by a group of locals. Many generations of skiers and riders have grown up on this mountain. So, it is no surprise that the White Pass Ski Patrol currently has several second- and third-generation patrollers.

Most of the younger generation grew up on the mountain skiing or riding with their parents. Some started out in backpacks going down the hill or around the Nordic track!

Children of patrollers at White Pass have joined the patrol family in several ways. Some waited until their own kids were a little older before trying out and going through the candidate program. However, many came up through the Young Adult Patrol (aka Junior Patrol) Program, which is very robust at White Pass Ski Area.

Young patrollers train with adults on CPR, Outdoor Emergency Care, and running toboggans on steep terrain. They are expected to pass the same rigorous tasks as the adult candidates. Once they turn 18, they can wear the red jacket. Several of the youth have gone to college and taken a leave of absence while continuing to participate in the White Pass OEC refresher or in refreshers in other parts of the country and patrolling when on their winter breaks. Upon graduation, the majority return to patrol at least part-time at White Pass.

Renee Williams and Joe Root
White Pass Ski Patrol, Washington



White Pass Ski Patrol



From L-R: Joey Lane with his father, Joe Lane.



From L-R: Brad Kessinger and his son, Alex Kessinger.



Brent Alderman (middle) with daughter, Katelyn Hanson (L), and daughter, Lauren Alderman (R).



From L-R: Ian Matthews and his father, Jim Matthews.

C-RAD winter training event at Vail draws dog teams from all over Colorado



At the base on the first day of the C-RAD winter training event. Photo by Scott Brockmeier.

Over five days in the first week of February, Colorado Rapid Avalanche Deployment (C-RAD) held its winter training event at Vail Resort in Colorado. C-RAD holds both a winter training event and fall training event every year. There were 33 dog teams in attendance representing several of the most popular resorts in Colorado, including Winter Park, Keystone, Arapahoe Basin, Breckenridge, Copper Mountain, Monarch Mountain, Vail, and Beaver Creek. Also represented were Tamarack Resort, Idaho; Grand Targhee Ski Resort, Wyoming; and a resort in Utah.

The event started with a check-in Sunday afternoon where participants learned about the expectations of the host resort and C-RAD, as well as the outline for the week's training. Lastly, the participants were broken into a total of five training groups.

"I'd say we had two beginner dog groups, so somewhere in the 10-12 range for numbers," said C-RAD President Doug Lesch. "Those are learning dogs, as well as dogs that maybe need to take a step back and work on the fundamentals of what search work is. Similarly, another 8-10 dog teams in the intermediate zone, and then another 6-8 or 8-10 in the more advanced zone.

"What we've really tried to do is not

necessarily always break the groups up by age. That definitely can be a factor, though. You get a six-month-old puppy, there's a good chance that they're still working on a lot of the fundamentals. We try to make sure that we're getting the dog and the handler in the right setting. You may have a more experienced dog that now has a second handler, so that dog is now living with a new person and that team is learning how to work together. They may start off in a beginner or an intermediate group to make sure that the foundation between the two of them is solid before just assuming that the dog will be the same as with its initial handler."

The training offered many challenges for the dog teams to meet over the course of the five days, including a mock rescue site. Vail Ski Patrol also brought in representatives from Vail Mountain Rescue, which is the search and rescue team for Eagle County, to work with the dog teams, just as they might on a real backcountry rescue.

"A dog team would be assigned to that site, as well as a tech, and they would run that for 20 minutes as they would for a first on-scene at an avalanche," said Lesch. "That was a pretty cool event. We've done a couple different things like that in the past. It was unique to what

Vail had to offer in terms of space and resources. Vail Ski Patrol brought in representatives from Vail Mountain Rescue to act as site coordinators and give them some experience and an opportunity to



A patroller enjoys a break in the training with a dog. Photo by Scott Brockmeier.

PROFESSIONAL DIVISION

C-RAD winter training event at Vail draws dog teams from all over Colorado (cont.)



C-RAD participants ride the chair up with their dogs. Photo by Scott Brockmeier.

work together with people that they don't necessarily train with on a day-to-day basis, but at the same time may very well meet on a larger scale incident."

Weather was a challenge as well. It snowed for two of the days, making the training more lifelike, according to Lesch.

"We've always kind of indicated and tried to get across to folks that any time you get to a training like this, the entire week is training, whether it's transportation, whether it's going to a new state, going to a new ski area, staying in a hotel, or riding a chairlift. We really try to get them in the mindset that they may not be doing eight or nine hours of back to back to back drills. Traveling safely to a new site, sitting and waiting for their turn, how do you keep your dog warm and how do you keep yourself warm? Vail was great in supporting us with some inside options for people to get warm at the top near their patrol headquarters. We put some of the younger dogs there that hadn't quite been exposed to this type of setting as much. I don't think it presented too many challenges operationally. We were able to execute everything we wanted to, including that last day of scenarios when the weather really rolled in."

The teams also got an opportunity to interact with the public and

be ambassadors for the dog program and their resorts.

"We never set up any kind of formal outreach or public meet and greet," said Lesch. "We did have morning engagement right down at the bottom of Gondola 1, which is a pretty high-traffic area for their public. We were able to interact with and meet a lot of people who were interested in what the dogs were doing and share a little bit about what we're up to and what these dogs do. I think we are all ambassadors for working dogs, not just avalanche dogs. We have the opportunity to tell somebody about what these dogs do and why they do it, why maybe it's not the right time to come up to pet a dog because it is in the middle of doing something that's been asked of it. It was really cool to meet people who just organically came by the first day that we ended up seeing each morning the next three days. They would come out, talk to a different handler or meet a different person and just pick the brains of different people, even some of the instructors."

Ultimately, the greatest value of the training is for teams from different resorts to share best practices and what is working for them and also learn how teams are meeting different challenges at their resorts. It's an opportunity for dog handlers and techs to bring back different ideas to their mountains.

"I think any time you get this group of people together that has such a passion for it and wants to be seen as professional and taken seriously, it always raises the bar," said Lesch. "It does give them some connections and some information regarding challenges at their own resort. It's almost like building any kind of summit or seminar where you hear about the best practices of your industry. Getting this many people together to talk about how people are running their home programs, ultimately C-RAD is here to support these folks. I personally couldn't care less in terms of the growth of C-RAD as an organization as long as we're helping people who are coming to the training."

Candace Horgan



A dog enjoys a training drill. Photo by Scott Brockmeier.

ROCKY MOUNTAIN DIVISION

Women's Program event at Winter Park

The 2020 Rocky Mountain Division Women's Clinic was hosted at Winter Park Resort the weekend of Jan. 25-26, 2020, and approximately 25 people attended. There was also help from local Winter Park patrollers to make the event possible.

We were pleased to have patrollers from across the division, including patrollers from Granby Ranch (Colorado), Mt. Crescent (Iowa), Sunlight (Colorado), Powderhorn (Colorado), Snowy Range (Wyoming), Ski Apache (New Mexico), and Ski Cooper (Colorado).

There were ski improvement sessions and toboggan-handling sessions in both the morning and afternoon on Saturday. Winter Park's auxiliary patrol members hosted a baked potato bar lunch. After the mountain had closed, we had ski après at Sunspot Lodge.

A huge thank you to mountain management and the many people behind the scenes that made this event possible. Fun was had by all!

Kathleen Utley

Rocky Mountain Division Women's Program Supervisor 



Running an empty toboggan to a drill. Photo by Kathleen Utley.



The author (center) taking a group up the hill during the clinic. Photo c/o Kathleen Utley.



Rig running practice during the clinic. Photo by Kathleen Utley.



The women's clinic participants. Photo c/o Kathleen Utley.



From L-R: Jim Eiberger, Dave Hickey, Tracy Amidon, Briana Board, Jessica Diner, and Cindy Henderson. Photo by Kathleen Utley.

TIPS *from the* VET!

FOOD FOR WORKING NOSE AND BODY

BY KIMBERLY HENNEMAN, DVM, DIPLOMATE AMERICAN COLLEGE OF
VETERINARY SPORTS MEDICINE & REHABILITATION (EQUINE, CANINE)

PHOTOS BY SCOTT BROCKMEIER

Wouldn't it be nice if we could walk into a place selling dog food and just pick up a bag that said "Avalanche Dog Food?" It would make life for the avalanche dog handler so simple. Sadly, that magical bag of food is no easier to find than a menu specifically made for the human ski patroller. Instead, dog handlers must rely on recommendations from friends, advertising from the food companies, or guidance from veterinarians who may or may not understand the unique needs of the working dog. How does a handler pick the best food to keep their working dog going?

Feeding a working dog can be complicated, especially if one is trying to individualize a diet for a particular dog. The older Labrador might have different health and energy needs than a young Australian Shepherd. There are many aspects of diet that we will address in future columns, so for today we will look at making sure that avalanche (and other search and rescue) dogs get the basic nutrients needed for the energy of working and sniffing.

THE BASICS

Working dogs have greater energy needs than the average pet dog. Muscles (and, to a more minor degree, tendons and ligaments) prefer to have energy provided first in the form of glucose (carbohydrates), then fats, then, finally (and less preferred), proteins (amino acids). Nerve cells, critical not only for muscle movement but also for nose function, can only use glucose (carbohydrates). How much the body demands either fats or carbs depends on what length of time the dog is working, both with movement and scenting.

When exercise first begins, the first few seconds of work are sustained by glycogen, a form of sugar stored in the muscle cell itself (kind of like having cash in your pocket). It is just enough to get things up and rolling until the real money — glucose circulating in the blood — can get to the cells to keep the work going. Think of blood sugar like running to the ATM to get more quick cash when your pocket is empty. The availability of glycogen and oxygen are the most important factors limiting muscle energy



Feeding your dog properly can help it last when working.

and (probably) scenting brain energy. Eventually, even that blood sugar will run out and the body turns to stored fat for energy, which can be thought of as similar to a bank savings account. Fat is broken down into glycerol (an alcohol) and fatty acids that are used to create more sugars for the generation of more energy.

Another important note here is that insulin must be present for the glucose to get through the cell wall before it can provide needed energy, except in one unique situation that will be mentioned below.

THE BASICS OF THE NOSE

Dogs doing nosework have additional special energy demands. As mentioned above, nerves can only use glucose for energy. Fats and proteins are non-starters for creating the energy needed to take in, recognize, and process different odors. Nearly a third of the total mass of a dog's brain is dedicated to scent detection and discrimination. That's a lot of brain power — 40% more than in humans. When that scenting switch is turned on (but really, is it ever off?) all those neurons need to be fed. When the brain and sense nerve cells run out of sugar and energy, that's when dogs shut down.

However, research has shown that dogs fed diets higher in polyunsaturated fats (PUFA)* (chia seeds, salmon, flax, sunflower oil, some enriched egg yolks) and lower in protein are actually more successful in scent detection and discrimination tests¹. (*The research mentioned actually used corn oil as the PUFA supplement; due to the higher level of pro-inflammatory Omega-6 fatty acids, as well as the presence of petroleum distillate and pesticide residues in U.S. corn oil, this is not an oil I recommend using in dogs.)



A dog putting its nose in the snow could indicate it is dehydrated.



Pay attention if your dog seems to be “dipping” into snow frequently.

FEEDING THE ENERGY BATTERY?

So, for the avalanche rescue dog, is it fats or carbs, and how much of each or both? For the average avalanche rescue dog that sits then has long searches, it's actually both — fats for the sustained work foundation and carbs for the quick fix for both brain and muscles. For the long-term, find a food that is a bit lower in protein than what is currently recommended: 20-25% rather than 30-plus%. For carbs, find a food that is approximately 25-35%; most food bags don't list carbs (of course), so you can find carb levels in American dog foods at www.dogfoodadvisor.com. We like fat levels in the 15-20% range; if any particular kibble is low, additional fats can always be added.

Not only does an avalanche rescue dog's nose need energy, so does its body. Whether training on known terrain or working on a slide toe, muscles need to work as much as the brain — a unique double whammy for avalanche and other SAR dogs. Remember that glycogen in the cell only accommodates 20-30 seconds of work, then the blood sugar may allow for “sprinting-like” exercise for another 5-10 minutes. After that, the body starts accessing fats.

For the short-term recovery of both nose and muscle, here is a trick learned from both human and canine exercise physiologists that's very applicable to all working dogs — glycogen post-loading. Dogs who exercise for more than 20-60 seconds will use up all of that glycogen, as mentioned above. After exercise is finished, the body is so desperate to restock that glycogen that for a short period of time (approximately 30-45 minutes in humans and sprint sled dogs) the body will move sugar into the cell without needing insulin to open the cell gate. Studies have shown that muscle glycogen can be rapidly restored with quicker muscle and nerve recovery if dogs are fed an easily digested carbohydrate meal within 40 minutes of exercise — and the great thing is there are no insulin spikes. For working dogs, I recommend a couple of honey packets, electrolyte drinks or ice cubes made from powdered Gatorade® or the more organic Skratch Labs™ (make according to label directions, then dilute again in half), or yogurt/berries/bananas smoothies. If given after 30-45 minutes, the sugar creates high blood glycemia and a subsequent insulin spike, as well as more fat and inflammation.

DO WE NEED TO THINK ABOUT ELECTROLYTES?

So, what about giving electrolytes to dogs, especially in the cold? The jury is still out, but a recent study by Dr. Cynthia Otto at the University of Pennsylvania² showed that there was some benefit to hydration status and no negative side effects by providing an electrolyte supplement to dogs searching in hot environments. Very little work to date has been done looking at dogs working in cold versus hot environments, although it is being looked at. (Thank you, Department of Defense!) At a recent veterinary conference, Dr. Mike Davis' team at Oklahoma State University³ reported that water loss (and possibly electrolyte imbalances) may be higher in dogs working in colder rather than warmer environments. So, where does that leave our avalanche dogs?

First, the key thing for dogs working in colder environments is water, water, water. Make sure that dogs have access to plenty of fresh water, and pay attention if your dog seems to be “dipping” into snow more than normal — it could be a sign of dehydration. Second, offer dilute electrolytes as described above. I have played around with my avalanche and SAR handlers trying various strategies to help with hydration and electrolyte support during work. Electrolytes probably play a role, but maybe not as much as simply getting dogs to stay hydrated and recharging that glycogen “cash in the pocket.” That being said, we HAVE seen improvement in recovery and scent endurance in dogs to whom we give frequent water and electrolyte/sugar rests.

Handlers shouldn't forget to do the same for themselves! After all, it's a team of both dog and handler that forge out onto the snow to help others — you both need to be at peak ability. +

Refereneces

1Angle CT, Wakshlag JJ, Gillette RL, et al. “The effects of exercise and diet on olfactory capability in detection dogs,” *J Nutr Sci*. 2014;3:e44. Published 2014 Oct 13. doi:10.1017/jns.2014.35

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FROM THE *Director's* CHAIR

JOSH ENDSLEY,
BIG BEAR MOUNTAIN RESORT
SKI PATROL DIRECTOR

BY ERYKA THORLEY

PHOTOS BY JARED MEYER

For this issue's column, Eryka Thorley turns to the Far West Division and the Big Bear Ski Patrol in Southern California. Big Bear is one of the largest patrols in the Far West Division. The resort itself is a combination of two separate areas that are linked by bus transport. The patrol was named NSP National Outstanding Large Alpine Patrol for 2014-15 (see "2014/2015

National Outstanding Awards Winners," *Ski Patrol Magazine*, vol. 33, issue 2).

The patrol is led by Joshua Endsley, who after only four years was named his patrol's assistant director. Endsley helped lead the charge to pursue summer operations at Big Bear. Endsley was recognized as NSP National Outstanding Paid Patroller in 2015-16 (see "2015/2016 National Outstanding



Josh Endsley

Awards Winners," *Ski Patrol Magazine*, vol. 34, issue 2).

SPM: How long have you been patrolling, and how long as a director at Big Bear?

Josh: My first year was in 2002. I left for a while after that season to finish college. I've been full-time here since 2008 — 17 years. I've been the director for the last four years this month.



Members of the Big Bear Ski Patrol. Top row (left to right): Tony L'Ambrose, Darla Dargenzio, Brendan Cullen, Doug Rakow, Jake Shultz, Garrett Moos, Kyle McElfish, Rick Thomas, Adam McDonald. Bottom row (left to right): Kai Larson, Nick Starr, Louis Steiner, Simone Scherer, Chris O'Connell and his dog Nala, Josh Endsley, and Jerry Provencher.



Zak Hale enjoys powder at Bear Mountain.

SPM: Did you move up the ranks at Big Bear, or start at a different ski resort?

Josh: I started here at Bear Mountain in 2002.

SPM: Can you explain the Big Bear/Snow Summit/Bear Mountain difference?

Josh: A long time ago there were two resorts here. In 1952, Snow Summit was

started. A mile away there was a ski club called Goldmine, later named Bear Mountain, which became competition. In 2002, Snow Summit bought Bear Mountain and they became the same company, known as Big Bear Mountain Resort. They are not connected, but there is a shuttle that runs between the two. These are two different mountains that have very distinct attitudes, but

they are the same company. The patrol works at both Bear Mountain and Snow Summit. Big Bear Mountain Resort is the name of the two combined.

SPM: What got you first involved with ski patrol?

Josh: I was an avid snowboarder and now skier. I was an avid backpacker and an Eagle Scout. I started taking EMS courses in college, so I decided to take a quarter off in college to come up to Big Bear and ski patrol and then went back to school. I then came back in 2008 full-time and have stayed ever since. I went to college at the University of California, Riverside in Southern California. It's off the 215 freeway about an hour and half north of San Diego.

SPM: What got you skiing in general?

Josh: My family skied when I was really little. We lived pretty close to the mountains. When snowboarding became huge in the early '80s and '90s, it sparked my interest in participating in the sport, and then I started skiing again about seven years ago. Now I only ski. We're lucky that we have terrain that works for snowboarders and skiers, as a large portion of our job pool are snowboarders.



Third grade school program for learning to ski at Bear Mountain.



Andrew Branch hits a box at Bear Mountain.

SPM: Where are you from originally?

Josh: Yucaipa, California, about an hour away from Big Bear Mountain Resort. I grew up skiing at Snow Summit and Bear Mountain before they merged. I spent most of my time at Snow Summit until Bear became an all-mountain terrain park. I started going there most of the time to hit all the jumps. We definitely don't allow our employees in the terrain park while they are working.

SPM: What is the thing that keeps you coming back year after year to patrol?

Josh: There are so many reasons. A lot of it is the people that I work with. This department is like a family, and the whole resort is as well. Some of the people are my best friends now. Being outdoors, getting first tracks obviously, and learning new things. I love getting to train the rookies each year. A lot of it is the people.

SPM: What makes your mountain unique?

Josh: Like I said, it is two resorts within a mile of each other that are operated as one. We are two hours from Los Angeles and 2.5 hours from San Diego. On a clear

day you can see the ocean from our top peak. We have a huge customer pool. The most unique thing about our resort is that we have a huge crossover audience with the Southern California skate and surf scene, which influences what we offer

our guests in a major way.

SPM: Can you expand on that for me? When you say crossover with that demographic, how do you cater to that group?

Josh: We try to build our terrain to match



Chairlift ride during a night session at Snow Summit.



Crowd at the KROQ concert. The patrol works first aid for events like this.

our guests' other likes and style, like surfing and skating. A lot of what we do here is catered to that feel all over our resort so that they can feel like they are surfing on one feature but skating a downtown cityscape on another. We pride ourselves on our terrain parks here but offer a lot of family skiing too.

SPM: How many patrollers do you have at Big Bear? Full-time, part-time, volunteer?

Josh: We have 40 full-time patrollers, 20 part-time, and 160 volunteers. We do a lot of business, so we need a lot of help. Our volunteers do 12 duty days on the slopes plus two days of training. I stay removed from their nonprofit organization to keep a line between paid and volunteer for California labor law reasons. It can become a grey zone for volunteers here.

SPM: How many new patrollers do you hire each year?

Josh: Anywhere from 10-20 paid patrollers; it just depends on the year. As far as volunteers we can take on many more new volunteers each year.

SPM: What does your rookie training typically entail?

Josh: First, they are issued a training booklet, which is their skill signoffs. We have a combination of different types of training to meet everyone's needs. Their first week is 40 hours in the classroom and then two weeks on the hill training as a group. Once we get through that and see their skill set, we split the rookies up and have them shadow other patrollers. Once they finish their training book and pass their final scenario, we grant them the honor of wearing their bones. We take it very seriously wearing their cross. It's not easy to get here for sure.

SPM: Bones? I haven't heard it called that.

Josh: We call it their bones because we've always called them the crossbones. It's always been called that here and has stuck around forever.

SPM: What pass is Big Bear part of?

Josh: We're an Alterra Mountain Company resort. I think there are 14 other resorts now. We're directly competing with Vail and the Epic Pass, as

we are on the Ikon Pass. Every Alterra property is on the Ikon Pass. Even if we have snow, our business volume drops in the spring and summer because we are in Southern California and have to compete with things like surfing and theme parks. We usually close sometime around Easter.

SPM: Who's the longest serving patroller on your mountain? What's your average years in experience on your patrol?

Josh: Rick Thomas. He started in November 1979 and is going on 41 years of patrolling. The average years for full-time staff is about six years, more if you factor in our part-time patrollers.

SPM: What value do your part-time patrollers bring to your staff?

Josh: Most of our part-time patrollers are firefighters or medics and started their career at Snow Summit. Just having them there when it is the busiest part of the season brings this comfort to the mountain. They may not be at the resort all the time, but they have been in the past and they are a huge help because of their experience.

SPM: Do you have a young adult patrol program?

Josh: No, unfortunately we don't. At some point in the past our company decided not to continue that program.

SPM: How else do you engage with the local community around Big Bear?

Josh: Through the NSP (Big Bear volunteer patrol) we hold the SWAP program, "Ski With A Patroller," and we do that once a year with the public to get their feet wet and see what patrolling is all about and hopefully recruit them to help patrol in the future. Our volunteer patrol also helps with local hiking and biking trails in the summer with maintenance.

Yearly, we host a weekend event for the Scouts where they earn a ski and snowboard merit badge. Our patrol dog, Nala, does a lot of meet and greets with the public. They also have a stuffed animal in the sports shop named Nala. This meet and greet provides a captive audience to

understand what ski patrol does. A lot of the Southern California crowd doesn't have the ski culture to understand what ski patrol does. They often think we are just the ones yelling at them to slow down, so this gives us the opportunity to explain what ski patrol is and does.

SPM: What makes your resort unique compared to other ski resorts that you have been to?

Josh: The vibe is number one. It's like the spring break atmosphere at Bear, but a laid-back family atmosphere at Snow Summit. The weather is perfect and mild. We get storm cycles for sure, but more often than not the weather is perfect. Our terrain parks are unmatched.

SPM: What is your annual snowfall?

Josh: We get about 100 inches a season. Some years we'll get huge storm cycles; last year we saw 250 inches, but typically for Big Bear we only do about 100 inches a year. Our snowmaking system is state

of the art to help make up for our lack of huge snowfall.

SPM: When is typically the best time to ski at Big Bear?

Josh: February is usually our snowiest month with the coldest temps and avoids the freeze-thaw cycles of the spring.

SPM: What is the required medical certification and experience for your paid and volunteer patrollers?

Josh: For paid we do either EMT, OEC, or EMR, which is what a lot of the beach lifeguards have. The volunteers are all OEC. Our paid staff are not all NSP, but a large chunk of them are. A third of our paid staff are NSP, possibly more. I am NSP as well.

SPM: Do you have medical pros on the mountain? If so, what is their training level, and how do you utilize their support and experience?

Josh: We don't allow our medical pros to

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operate outside of our scope, but their knowledge and expertise help us make better decisions. We have a few paramedics on our part-time staff, including a flight medic. They bring a lot to the table as far as their professional life. They practice the same scope, but their knowledge and skill set really helps, especially on our major calls. We have a trauma doctor on our volunteer staff, and he does a lot of work with our new patrollers and does some debriefing and continuing education several times a season with our staff. He brings his doctor's point of view and gives people an idea of what happens post-delivery to advanced medical care.

SPM: What are some of the traditions on your patrol? What's the funniest tradition?

Josh: Some of our more PG traditions are given at our awards banquet each year for patroller and rookie of the year. Snow safety and room (base area) patroller of the year awards are also given out. We do an end-of-the-season party that includes some traditions that I have to remove myself from that are usually kept going by second-year patrollers. We have a rite of passage for our rookie patrollers, who can choose or not choose to participate, but that's out of my hands. They are unemployed by that time.

SPM: How busy is a busy day at Big Bear?

Josh: We see the highest visitation of all the ski resorts in Southern California. Mammoth is more central California and is 5.5 hours north of Big Bear. We definitely nip at the heels of Mammoth as far as skier visits, even though we have way less skiable acreage. Weekend visits are probably three to 10 times what you see during midweek.

SPM: How much time is spent on medical calls for your patrol? How many calls do you typically run in a year?

Josh: We hardly do any medical calls; it's almost all trauma. In the winter we typically do 2,500 calls, while we do 300 in the summer. We're busy. The average rookie patroller in late February is already at 100 calls this season. Most of them are trauma, but we do have some medical calls — likely 1% of our calls.

SPM: Do you have uphill traffic?

Josh: We don't typically allow it and don't have passes for that, but there is a lot of access from our resort to side

country and backcountry areas when we have a good snow year.

SPM: What summer operations do you have at Big Bear?

Josh: We do downhill and cross-country mountain biking. We have a zip line. We have a rock climbing wall. We have hiking trails, and we just started a mining program. You can buy a bag of dirt and mine out gems for the kids. We also do summer tubing on carpets. It's super fun.

We do a bunch of events like the Spartan Race, which is a huge event we do every May. We do an event called Crafts and Cranks that is a mountain bike race and freestyle event mixed with craft beers. We do an event called Above the Boom on the Fourth of July and have dining and seating at the top of the resort so you can see fireworks over the lake nearby.

We also do Hot Dawgz & Hand Rails. It's a summer event with snowboarding. We build this huge dirt terrain park and then truck in chipped ice for this winter season kickoff event. Last year we had NOFX play and there was downhill mountain biking with snowboarding happening all around. We also do the Fox US Open of Mountain Biking as well, which has all the biggest mountain bike pros.

We see more business in the winter but as far as events our summer months are busier. Because of our location we can host lots of events. Most of our business is in the winter, but we have been rated as one of the top five bike parks in the nation since we opened our bike park.

SPM: Do patrollers work year-round to help with these summer operations?

Josh: I and four others work year-round full-time. We have a number of our patrollers work full-time as bike patrollers, of which there are 20. There are no volunteers in the summer.

SPM: Thanks so much for your time,

Josh. Is there anything else you'd like to add that we haven't touched on?

Josh: One of the things that I've heard is that we've been one of the most decorated NSP alpine patrols in the past. The paid staff uses NSP as an educational organization. We don't care about the recognition or the awards but it's always nice. We don't do it for the money or the recognition, we just do it because it's awesome. +

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Making a tele turn at Winter Park. Photo by Dave Engle.

AN ODE TO THE TELEMARK SKIERS

RECOGNIZING THOSE WHO
CHOOSE TO DROP THE KNEE

BY MANDELA ECHEFU

THE SAYING “WE ALL BLEED RED” SEEMS TO BE PARTICULARLY APPLICABLE TO PATROLLERS, WHO WEAR RED JACKETS THAT MAKE US LOOK ALMOST IDENTICAL. WE MOSTLY ALL FEEL THE SAME TOO, GETTING EXCITED WHEN THE LEAVES CHANGE COLOR. WE SMELL IT IN THE AIR AND IMPATIENTLY AWAIT THE SNOWFALL THAT CREATES OUR WORKING PLAYGROUND. I HAVE MANY TIMES PONDERED THE SIMILARITIES WE SHARE AS PATROLLERS IN OUR DEDICATION TO THE CRAFT, OUR SKIING TECHNIQUE, AND OUR PREFERENCE IN GEAR. WE HAVE MUCH IN COMMON, EXCEPT FOR THE TELEMARK PATROLLER.

I remember the first time I saw a telemark skier. I was on the chairlift pondering why I could not get my dang skis to cleanly link up during a transition maneuver without picking up too much speed. There he was, rhythmically lunging one leg in front of the other, “freeing the heel,” as it is called. Of all the people on the trail, he was all I could see. He stood out among the horde of barreling, pizza-ing, and side-slipping skiers and boarders. It seemed like he saw the mountain more, felt it more, was truly one with the mountain. Many flew past him, but like one entranced in a ritual dance, he committed to his cadence, slowly and continually transitioning from one foot to the other. I sensed he loved skiing more than the rest of us.

In the years since, I have had the privilege of spending many days on the mountain with a few telemark skiers. I have also partaken in their quest for enlightenment by dropping the knee. I remain amused by the varied views other patrollers have about the



The author drops a knee at Wisp Resort. Photo c/o Mandela Echefu.

discipline. Some seriously respect the skill required to commit to it, others think it superfluous and, in the urban term, “extra.” They tease, “Fix the heel, fix the problem.” The shared view, however, is that even a bad tele skier is beautiful to watch.

Anyone who has researched telemark skiing is aware it began in the Telemark region of Norway, with Sondre Norheim credited as its originator. In the 1970s, it experienced a revival in regions of the United States like Crested Butte Mountain Resort, Colorado; Sugarbush Resort, Vermont; and Canaan Valley Resort, West Virginia. It was originally the primary means of accessing the backcountry, thanks to skis that are stiffer than regular Nordic skis and lighter than alpine gear. Early telemark skis were primarily Nordic skis with metal edges. In some circles, telemark skiing was referred to as Norpine, incorporating the best parts of both disciplines to enable better mobility and

easy access to the backcountry.

There is a deep, albeit unpublicized, connection of this discipline to the NSP. Rick Borkovec, one of those considered responsible for the revitalization of telemark skiing in the U.S., was a patroller at Crested Butte in the early ‘70s. He successfully used telemark technique to ski down the Headwall after setting explosives. Eventually, learning to telemark ski became a requirement to patrol on that mountain (30 years ago), as it was easier to get around the entire mountain on the gear. Jack Marcial, aka “Black Jack,” was another Crested Butte patroller and telemark legend well-known in ski guiding circles and for his passion to go shredding in the high mountains. Just like side-slipping and transition maneuvers, knee dropping runs deep in the patrol.

In general, the technique required for executing the fundamentals of patrolling on tele gear remains the same. Save for initiating and manipulating

turn shapes while free skiing, telemark patrollers generally manage a toboggan and do skills in an alpine stance. The most common challenge with telemark skiing is presented when one attempts to translate alpine skiing principles to telemark, especially the stacked stance. The stacked approach that is beneficial to alpine skiing ends up working against the fore-aft balanced stance required to effectively tele ski.

The first fundamental rule of Outdoor Emergency Transportation and the Professional Ski Instructors of America still governs telemark skiing: “Control the relationship of the center of mass to the base of support to direct pressure along the length of the ski.” In my opinion, this is much harder to do on telemark gear. The tendency to have most of your weight on your downhill ski while on alpine gear is hard to overcome and leads to new and even experienced tele skiers practically skiing on only their downhill ski.



Tele turns at Powderfall 2019. Photo by Candace Horgan.



Tele turns at Wisp Resort. Photo by Mandela Echefu.

I have concluded that there are some idiosyncrasies among people who decide to fully commit to telemark skiing and patrolling. These people seem easily bored by the mundane and repetitive. They embrace and relish a challenge and are often nostalgic about tradition. I see these traits in varying degrees with patrollers who free the heel. According to my unofficial investigation, in the Western Appalachian Region there are only two trainer/evaluators, no instructor trainers, and only one Certified patroller who attained those credentials on tele gear. Yes, there is a sprinkling of them on every patrol, but the vast majority of patrollers prefer alpine gear.

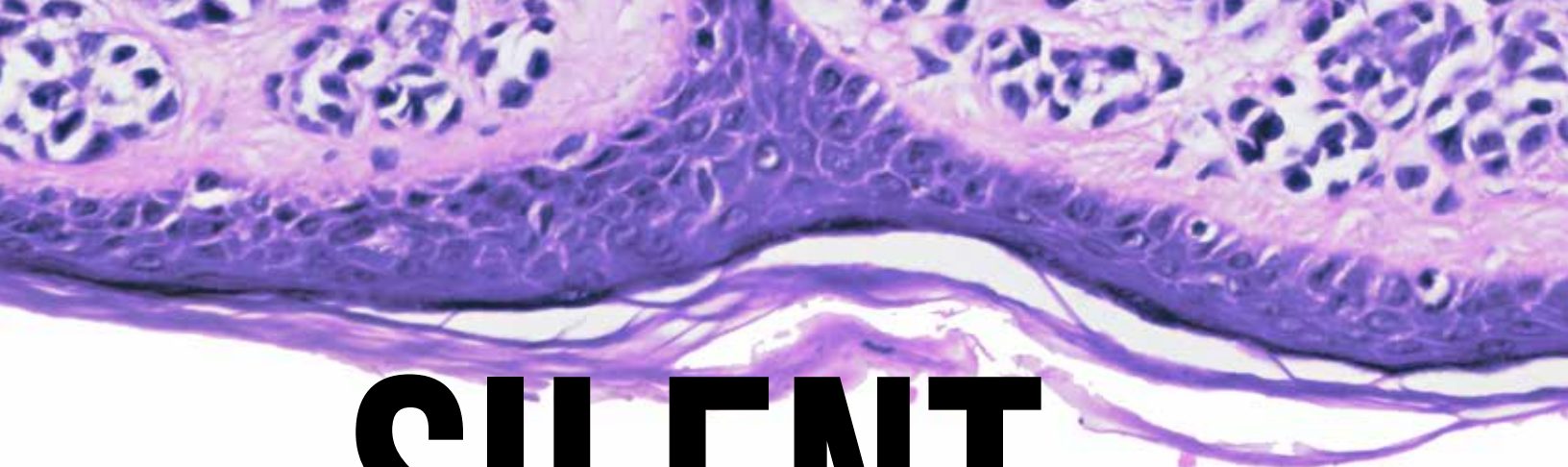
When asked why he chooses to patrol on telemark gear, Ron Kessler, a 29-year patroller on the Wisp Ski Patrol, states, "There is a playfulness about the telemark turn that makes me feel like a kid again. Several times people have asked me why I don't use alpine gear

that I know will result in a successful evaluation, and I always answer, 'What fun would it be to know the outcome in advance?'"

The state of telemark skiing is up for continual debate. One day it is considered a dying art, and another sees claims of a silent minority or resurgence. The one thing I am certain of is that for my money, they are a welcome addition to our ranks.

This is an ode to those members of our NSP family who dare to take the harder road and be different in a world that seems to reward conformity. How many of us have had trouble identifying who a patroller is from the chairlift in our homogenous red jackets unless they have a distinguishable article of clothing like a florescent green helmet? In our effort to be inclusive, sometimes we fail to celebrate our differences. We therefore offer a shout-out to our Zen masters and mistresses who free the heel, drop the knees, and let it flow. +

“Many flew past him, but like one entranced in a ritual dance, he committed to his cadence, slowly and continually transitioning from one foot to the other. I sensed he loved skiing more than the rest of us.”



THE SILENT KILLER

SKIN CANCER A DANGER FOR PATROLLERS

BY KATHY A. MEGYERI

I know you wear your helmet, gloves, goggles, and patrol jacket to patrol, so you probably think any mention of skin cancer isn't relevant, but please heed this warning from a patroller's wife who just saw her husband through a serious health scare.

It's only because my husband's co-worker lost the side of his face and half his jaw a couple of years ago due to an unattended cancerous melanoma that both my husband and I began getting yearly body scan check-ups by a dermatologist. If you saw my husband's co-worker today, you'd be shocked by the skin pouch on the side of his face, which is the result of skin grafts taken from his thighs. In his case, more plastic surgery is needed.

Our own body scans take only minutes, and the once-a-year exam is covered by our insurance plan. Surprisingly, most of our friends never seriously consider skin cancer to be a threat, ignore any changes in the size and color of moles, or in one case, as a fellow patroller said, "I really don't want to know if there's anything wrong!" So, read our story and learn.

About three months ago, my husband Les, a 35-year veteran patroller at Liberty Mountain Resort in Pennsylvania, noticed a speck of blood each time he shaved over a pinprick of a mark on his right cheek (see photo 1). Due for our annual body scan, Les didn't even think to mention the spot while being examined, but the dermatologist immediately noticed something amiss and took a skin sample for a biopsy. Unfortunately, it came back positive as a cancerous melanoma, and surgery was scheduled for a week later (see photo 2).

The surgeon performed Mohs micrographic removal, a procedure named after Frederic E. Mohs, who developed it in the 1930s. It is a precise technique used to treat skin cancer in which thin layers of cancer-containing skin are progressively removed and examined until only cancer-free tissue remains. It's considered a very safe surgery, but is time-consuming. Each thin slice of skin is removed with a sharp tool called a curette and tested by a lab before the surgeon continues. Some pain and tenderness occur at the site where the skin is removed. Depending on the size, the wound may take up to four to six weeks to heal and will leave a scar, but the Mohs technique leaves as much healthy skin as possible and maximizes options for repairing the surgical defect once the tumor is removed.

The reason the Mohs process for cancerous melanoma is preferred is because it examines 100% of the tissue margins under the microscope, whereas in standard surgical excisions only 1% of the margins are examined microscopically. Thus, Mohs surgery conserves the greatest amount of healthy tissue, giving one the smallest scar, and its success rate for a tumor being treated the first time is 99%. Three weeks after surgery, Les' stitches were removed and the remaining scar can be reconstructed, but no skin grafts, laser treatments, or plastic surgery are needed (see photos 3-5). The Mohs surgery is generally considered a medical service, not cosmetic, and is thus covered under most insurance plans.

Les' cancerous melanoma is not be confused with basal or squamous cell

(nonmelanoma) skin cancer. Four million new cases of those are diagnosed each year, and a low-dose radiation non-surgical treatment that only goes skin deep is used to treat them. Basal cell carcinomas account for more than 90% of all skin cancers and are the most common. They are slow growing and seldom spread to other parts of the body. Squamous cell carcinomas rarely spread but they do so more often than basal. Squamous cell carcinomas usually start as a firm red nodule or flat sore with a scaly crust. Basal cell and squamous cell carcinomas are unlikely to spread. Malignant melanoma, however, is a highly aggressive cancer that tends to spread to other parts of the body and may be fatal if not treated early. That's what Les was dealing with.

Although ski patrollers mostly deal with far more serious injuries on the hill, please don't dismiss melanomas. Skin cancer is the most common kind of cancer, according to the American Academy of Dermatology. More than one million Americans live with melanoma. Skin cells are damaged when exposed to ultraviolet light present in both the sun and in tanning beds. The rates are higher in men due to lower rates of sun protection.

Assistant professor of biology Dr. Scotty Buchanan of Virginia Beach, Virginia, lectures on human anatomy and physiology at Tidewater Community College in Portsmouth, Virginia. After a lecture on basal cell and squamous cell carcinoma and melanoma, a student in her 20s pointed to a mole the size of a pencil eraser on her thigh that looked like a regular mole, so Dr. Buchanan told her to

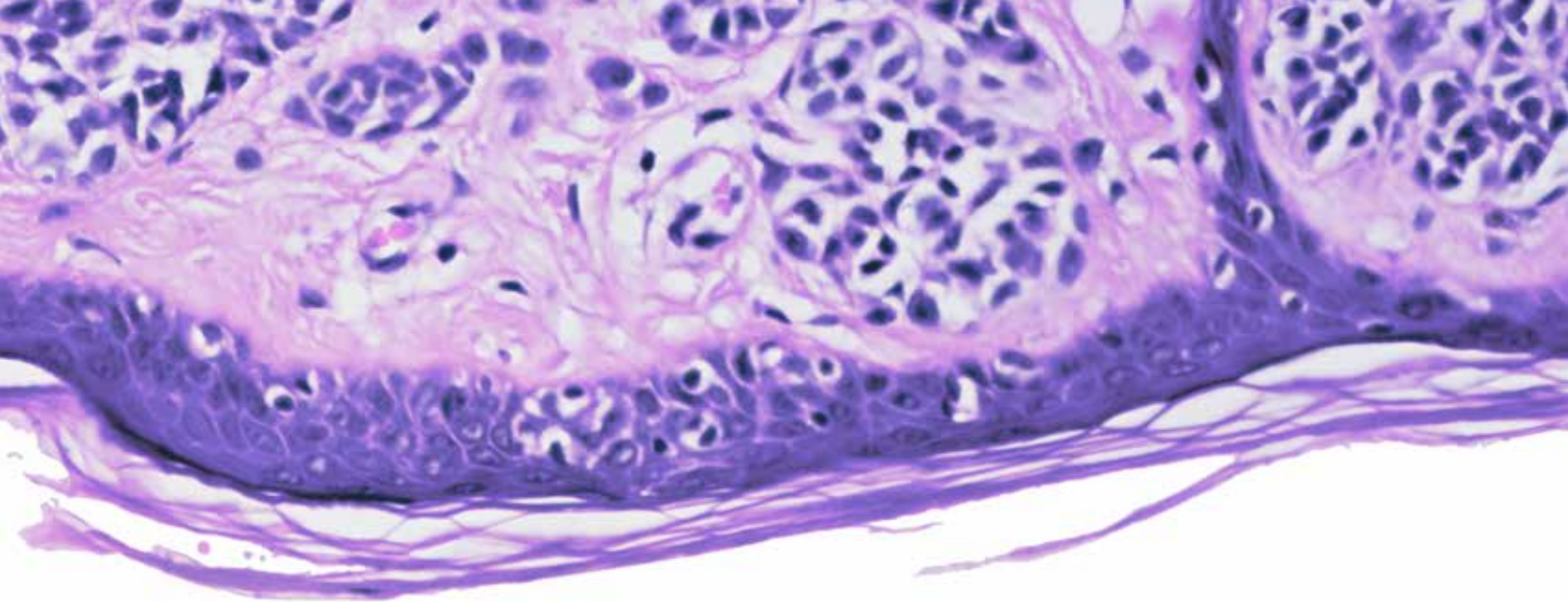


Photo 1. The mark on Les' cheek that turned out to be cancerous melanoma.



Photo 2. Les with a bandage post-surgery.



Photo 3. Stitches on the scar after surgery.



Photo 4. The recovery from the surgery.



Photo 5. No plastic surgery was needed, as evidenced by this photo of recovery.

get it checked by a dermatologist right away, but she put it off because she was supporting herself and balked at the cost of an exam. The spot had no multiple colors or variation in color and no ruffled edges, so there were none of the usual red flags. Dr. Buchanan made the girl promise she would get it checked. She consented and was absent from class for a while afterward. When she did return, she showed Dr. Buchanan the incision that ran from her thigh to her ankle and admitted that the mole had been melanoma, which is extremely invasive and fast growing. Dr. Buchanan explained to the rest of the class that skin cancer is increasing exorbitantly among young people due to tanning salons. Some dermatologists even refer to tanning beds as “coffins on wheels.” Their use before the age of 35 can increase the risk of melanoma by 75%.

Alison Kavanaugh, an acquaintance who lives in South Carolina, has had basal cell reconstruction, skin grafts, and laser treatments and now goes every three

months for check-ups. Another acquaintance, Ryan Glossup of Perth, Australia, noticed a sunspot on the back of his neck. Four surgeries and a year later, he's finally been given a “cancer-free” diagnosis, but each surgery required more skin on his upper back and neck to be removed. Finally, so much was taken (3 inches wide and 15 inches long), he needed more skin from the backs of his legs to cover the area. He said, “I have significant scars and will probably need reconstructive surgery, but it was thanks to a friend repeatedly pointing to the spot on the back of my neck that I finally went to the dermatologist.”

The statistics are staggering. Melanomas are diagnosed 192,000 times annually in the U.S. and claim 9,000 lives. More than five million nonmelanoma skin cancers are diagnosed annually, and every hour more than two people die from skin cancer. More than one person in five will get skin cancer. People with fair complexions, blue eyes, freckles, or a family history of skin cancer are

especially susceptible to the cancer-inducing rays of sunlight, and according to our dermatologist the number of cases increases with age.

Even ski patrollers with all their covering are still susceptible because they work outside in all kinds of weather, rarely use sunscreen, and seldom make yearly body checks by a dermatologist part of their own regimen.

As Dr. David Johe, former NSP national medical advisor, cautioned, “Melanoma is the worst skin cancer a patient can have. It can spread rapidly through both the bloodstream and the lymphatic system to distant organs. The upper body, especially the head and neck area, has extensive lymph nodes so metastasis to the lymphatic system and beyond occurs rapidly and frequently. Any melanomas on the upper body above the armpits are serious business because of glandular tissue and multiple nerve endings. Take this subject seriously.”

Need we say more? +

SIXTH EDITION



Outdoor Emergency Care

A Patroller's Guide
to Medical Care

Editor: Edward C. McNamara, BS, NRP
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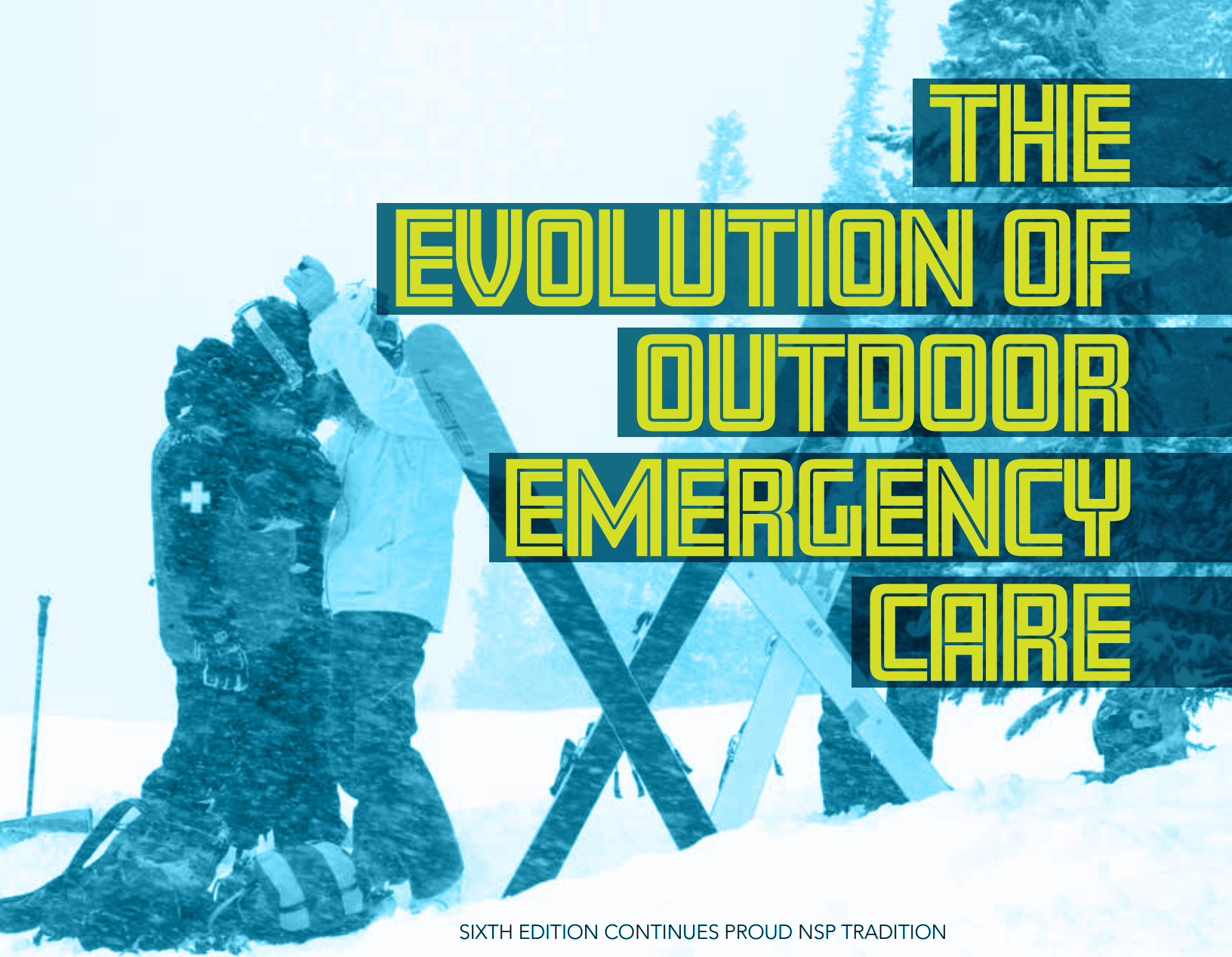


ACCESS
CODE
INSIDE



NAVIGATE 2
ADVANTAGE ACCESS

The cover of the sixth edition of Outdoor Emergency Care.



THE EVOLUTION OF OUTDOOR EMERGENCY CARE

SIXTH EDITION CONTINUES PROUD NSP TRADITION

BY DAVID JOHE, M.D., FORMER NSP NATIONAL MEDICAL ADVISOR

Approaching a scene. Photo by Dave Engle.

THE SIXTH EDITION OF *OUTDOOR EMERGENCY CARE: A PATROLLER'S GUIDE TO MEDICAL CARE* IS NOW AVAILABLE FOLLOWING AN EXTENSIVE AMOUNT OF WORK BY MANY PATROLLERS, MEDICAL PERSONNEL INVOLVED WITH THE NSP, PUBLISHER'S EDITORS, AND THE AUTHORS/EDITORS OF THE TEXT. THIS TEXT IS DIRECTED MORE TO THE EVERYDAY NEEDS OF SKI AND BICYCLE PATROLLERS THAN PREVIOUS EDITIONS. THE EDITORS MADE SERIOUS STRIDES TO SIMPLIFY MANY PREHOSPITAL CONCEPTS THAT ARE TAUGHT TO PATROLLERS. THE MATERIAL PRESENTED IS NOT DILUTED BUT SHOULD BE EASIER TO COMPREHEND.

HISTORY OF MEDICAL EDUCATION FOR THE NSP

Following the first medical training patrollers received using the *American Red Cross First Aid Manual* and the skiing supplement *First Aid for Skiers* written by Dr. L.M. Thompson, Dr. Warren Bowman took the lead in creating *Winter Emergency Care* for the National Ski Patrol in the early '80s. This text and educational curriculum, published in 1985, was directed to ski patrollers and emphasized the specific medical problems patrollers face.



Deb Endley



Ed McNamara (L) and David Johe, M.D. (R).



Ed McNamara

The NSP created a National Medical Committee to continue to provide patrollers accurate medical knowledge. Dr. Bowman was chair of the National Medical Committee for many years, and the physicians on this committee set the standard of medical training for patrollers. This committee has a doctor from each NSP division, as well as additional doctors who were hand-picked as specialists in the outdoor prehospital arena to help the NSP form its medical standard of training. Over the years, Dr. Bowman and the National Medical Committee introduced new material based on published prehospital medical publications, writing the next several editions of *Outdoor Emergency Care*, which now included warm weather training. I was on this committee for several years as the Eastern Division medical advisor and helped my dear friend and mentor Warren edit *Outdoor Emergency Care*, 3rd ed.

The NSP board then decided that the American College of Surgeons EMT textbook could be modified for patrollers. *Outdoor Emergency Care*, 4th ed., was essentially an adaptation of this text. Following Dr. Bowman's retirement, I as the new national medical advisor was charged with converting this text into a patroller's text, which was a difficult task. This text had its limitations, as it was directed more to the EMS system than to patrollers. However, this text did move patrollers in the direction of education more like EMS training, especially in assessing patients. This text allowed patrollers to learn how to communicate with EMS personnel, as many EMS concepts were included in the book.

Conflicting opinions regarding OEC were present in the NSP when it was decided to write *Outdoor Emergency Care*, 5th ed. Some administrative patrollers thought it was time to significantly

raise the standard of training. A new national medical advisor was appointed by the NSP board chair, and over 30 academic doctors wrote the first drafts of OEC5 at a very high level. Following some discussion after the initial drafts were completed and reviewed, the board changed direction, as there were concerns that the level of training was too high. The board thought it was best to continue to train at an Emergency Medical Responder level, plus additional information that was needed for patrolling. I was brought back after several months as national medical advisor to help in the middle of a challenging situation. I then worked with Ed McNamara, who was the glue in the production of OEC5 as the chapters were significantly revised, in keeping the EMR standard. A tremendous amount of work needed to be redone.

That brings us to the present and forthcoming sixth edition of *Outdoor Emergency Care*. The NSP board again changed publishers, and again Ed and I took the helm. Deb Endley, the former NSP national OEC Program director, was asked to help with the illustrations, pictures, and OEC curriculum. The "three

amigos," as we called ourselves, began work in 2018.

CHANGES ARE IMPORTANT

Many ski patrollers and other prehospital responders at the Emergency Medical Responder level have used the NSP's textbook either for preparation to become an OEC technician and patroller or to further their knowledge of prehospital care. In 2017, the National Ski Patrol added bicycle patrollers to the organization. With more than 20,000 OEC technicians using OEC for training in 2019-20, this textbook, along with the NSP's other education programs, continues to be the gold standard for almost all ski and bike patrols in the U.S. *Outdoor Emergency Care* is widely accepted by nearly all the ski areas that are members of the National Ski Areas Association.

Ski areas find the education in this text can be better than EMT training, as the NSP also trains patrollers for specific situations that occur in bad winter weather, at altitude, and in situations that involve a difficult extrication. On the ski slope, without an ambulance nearby, EMTs do not have the tools they are trained to use. OEC teaches patrollers to be creative in their approach to patients, sometimes thinking outside the box and using what they have readily available in their pack or toboggan. OEC teaches both urban and wilderness medical care.

This sixth edition of *Outdoor Emergency Care* has been updated in 2020 to include the latest peer-reviewed, medical-based evidence for prehospital Emergency Medical Responders (EMR) in outdoor and indoor settings. Medical care continues to evolve, so the authors and editors of this text have included the recent standard of training needed to comply with the national curriculum for Emergency Medical Responders set by the National



Checking SpO2. Photo by Dave Engle.



Warren Bowman. Photo c/o Dorothy Bowman.

Highway Traffic Safety Administration
Office of Emergency Medical Services.

The NSP board confirmed the decision in 2018 to keep the OEC Program standard of training at the level of an Emergency Medical Responder, plus put in additional information necessary for ski and bike patrollers. Ed McNamara and I were given the go-ahead to start the process. Ed was given the job as the main editor, while I would back him up as medical editor.

Before beginning the new text, a survey was done of patrollers and OEC instructors to determine what information needed to be included and how to present

it. Early on, a committee was created with members of the NSAA to help guide the process. Next, the National Medical Committee met and spent several days reviewing the fifth edition of OEC. At this meeting in Denver, discussions were held on possible changes, additions, and improvements for OEC. These suggestions were then compiled by the editors and reviewed, and the first drafts of the book were created. Objectives and key terms for each chapter were developed, as these would be used for the curriculum for the OEC course. Next, a process was used with three reviewers reading each chapter. These reviewers consisted of patrollers, OEC instructors, and ski patrol physicians. These reviewers' comments were then incorporated into the text as appropriate.

The key editors, having completed their own research, then went through the text again, making sure that the prehospital medical-based evidence was appropriate. Next, these three editors, who were

multi-year patrollers, went through the many illustrations, photos, and diagrams, deciding what needed to be placed in the text. New photo shoots were staged, and with the help of the publisher new illustrations were developed. A significant effort was made to make photos ski or bike patrol related. The publisher had their medical experts review the text to ensure medical accuracy. Last-minute changes were made based on medical-based evidence that was new since production on the book started.

The OEC Committee, led by Deb Endly at the time, developed new questions at the end of each chapter so OEC candidates could test their knowledge as they read through the book. These questions are objective based. New scenarios were incorporated in each chapter, most based on real-life patroller experiences.

It is important for OEC students to learn the medical vocabulary, the objectives in the front of each chapter, and the skills as presented throughout the text. This

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Preparing a pelvic binder. Photo by Candace Horgan.

not only will help with the final evaluation to become an OEC technician, it will also make the candidate able to care for most problems presented to them as an OEC technician. The final evaluation for the candidate OEC technician is based on the medical vocabulary, objectives, and skills.

The OEC Refresher Committee, with the direction of assistant editor Deb Endly and current NSP National OEC Program Director Bill Devarney, developed the refresher materials, with a special refresher planned for the 2020-21 season that will include new information in the text.

THE NEW AND IMPROVED OUTDOOR EMERGENCY CARE, 6TH ED.

Experienced patrollers will find new information in the pages of this book. OEC candidates will have the most current information as they learn to be an OEC technician. The editors tried to make the text read so that as the student or experienced patroller dives into it, it flows and gives important information at the same time.

Although the text contains comprehensive training for a patroller, almost any injury or medical illness can present to an OEC technician. No two problems that an OEC technician may encounter are the same.



The delivery of oxygen has updated guidelines. Photo by Candace Horgan.

From the occasional childbirth at a ski area to the most complicated multiple trauma patient, a patroller can be faced with almost any medical problem. OEC technicians are trained to handle nearly every situation, from a scratch on an arm to a multiple victim situation that includes patients with life-threatening injuries. You may think patients with a sprained knee all present and are cared for the same way, but the person could have comorbidities, have a psychiatric problem, or take a medication that complicates the problem.

Because of the depth of this text, patrollers are equipped to care for all patients. Because summer activities are now taking place at many resorts, and because bicycle patrollers are now part of the NSP system, OEC technicians need to understand all seasonal medical problems, not just

winter ones. With the standard of training provided, many OEC technicians help with medical care at other events such as concerts, muddy-buddy races, and marathon events. Many Purple Merit Stars for life-saving events have been awarded to patrollers who have saved a life off the ski slope.

Included in the text is information regarding the “why” of the OEC technician’s care. The editors wanted to provide the OEC technician a good base and background understanding of medical problems. This gives the patroller the ability to think through the problem, not just perform a cookbook treatment plan. Although some may say all we should teach is to give oxygen when someone is having trouble breathing, understanding the reason for the shortness of breath may



Bike patrolling is becoming a core part of NSP.
Photo by Andre Gonsalves.

help the responder care for the patient better, perhaps by assisting with an inhaler for asthma. Also important now is how much oxygen should be given. The editors hope the OEC technician can think outside the box when necessary, having gained the knowledge to render care as a high-level Emergency Medical Responder. Not all patients present the same way. Having a broad medical background knowledge will help you in tough situations, allowing you to use your knowledge-based skills to provide the best prehospital care.

Much of the basic standard of training found in OEC6 is like that found in OEC5. Many treatments do not change. However, inserted throughout the text is revised and new material, bringing the training of the OEC technician up to speed with the current standard of training in 2020, using peer-reviewed medical information.



Patrollers deal with special populations more and more, such as pregnant patients. Photo by Craig Brown.

For example, the editors have incorporated new information on pelvic fractures, oxygen therapy, bleeding control, and examples of using tools such as a pulse oximeter for patient assessment. We have removed some information that is no longer appropriate.

The text is organized so each chapter is similar in nature: objectives, keywords, pertinent anatomy, a case study for you to review, and then information regarding assessment and care of the patient. Up-to-date skill guides are scattered through the chapters. Several questions are found at the end to test your knowledge of what you have learned.

Jones & Bartlett Learning, the new publisher, will offer an online version of the text. They also will offer a new teaching platform for candidates. This platform, Navigate, will have PowerPoints and teaching aids for instructors. There is a plan to develop a new test bank for students that will be more practical and based on the objectives that are taught.

One of the difficult tasks the editors faced was creating a text that trains patrollers at small, winter-only mom-and-pop ski areas and at the same time trains patrollers at major destination resorts with year-round activities and medical clinics at the base. Well over half of ski areas are moving toward year-round activities to help their bottom lines. Depending on where you patrol, there can be very different medical problems you may encounter, such as snakes in the summer in warm areas and plant and animal patient encounters in other areas. There have been unexpected obstetrical situations at resorts. Inclusion of many topics is needed. Although all material in the text and curriculum of the

OEC course needs to be covered, individual instructors may emphasize certain aspects of training based on individual needs for their location and patrol.

The length of the book provides OEC technicians with additional information and knowledge that helps them evaluate and treat patients better than other Emergency Medical Responders for their situations at ski resorts and bicycle parks. This additional material allows them to think through a patient's problems and understand the "why" of the care provided. If the editors created a cookbook for training, the care given would be less effective. This text is a reference book, not a book that should be memorized from cover to cover. However, the concepts in the objectives need to be learned.

The editors hope you will find this text educational and continue to use it as a reference for many years as you enjoy being an OEC technician. Knowledge is the key for patrollers as we continue to provide high-quality prehospital care to the public. +

Post note

I wish to thank Deb Endly and Ed McNamara for all their hard work in making this text a reality. During the process of completing this text, it was at times stressful but most of the time enjoyable. After almost 20 years as the national medical advisor, I have stepped down from the position and will continue to patrol on a local level at Holiday Valley in Western New York. Dr. Chuck Allen, a most capable emergency physician and seasoned senior patroller from the Northern Division, has become the new national medical advisor.



Women at the Nuts and Bolts clinic on Mount Hood. Photo c/o Linda Barthel.

WOMEN'S PROGRAM REACHES 10-YEAR MILESTONE

PARTICIPANTS PRAISE
THEIR EXPERIENCES

BY LINDA BARTHEL, NSP NATIONAL WOMEN'S
PROGRAM ADVISOR EMERITUS,
AND TANYA THOMAS, NSP NATIONAL WOMEN'S
PROGRAM ADVISOR



Southern Division women's clinic. Photo c/o Linda Barthel.

OVER 20 YEARS AGO I WAS AT THE TOP OF MY LOCAL SKI RESORT RUNNING THE ANNUAL OUTDOOR EMERGENCY TRANSPORTATION REFRESHER FOR A GROUP OF PATROLLERS. I NOTICED AN INTERESTING DYNAMIC DEVELOPING BETWEEN THE PARTICIPANTS, SOMETHING I HAD NEVER SEEN BEFORE. I THEN RECOGNIZED THAT FOR THE FIRST TIME I WAS TRAINING A GROUP OF ALL WOMEN. THAT WAS MY FIRST AWARENESS THAT THERE WAS SOMETHING UNIQUE ABOUT THAT ENVIRONMENT.



Women's clinic at Mt. Bohemia in Michigan.
Photo c/o Linda Barthel.



(From L-R): Meggan Robbins, Rhonda Smith, and Tanya Thomas at a Southern Division women's clinic. Photo by Linda Barthel.

“The NSP Women’s Program provides the avenue for women helping women become more effective leaders, which benefits the entire NSP.”

I am a self-attested ski gear geek, and as a member of the Professional Ski Instructors of America I’m keenly interested in the technical aspects of skiing skills. I was certainly aware of women-focused events offered in the ski industry and the new focus on designing ski equipment for women. What I didn’t have an appreciation for was how important the environment can be for women to broaden their horizons.

At that time, there were only two formal women’s events in the NSP system, one run by Trudy Nye at Heavenly Mountain Resort in Far West Division and the other by Deb Mithoefer in Eastern Division. One year later, Central Division launched its Women’s Program under the leadership of

Linda Murphy-Jacobs. Now, the Women’s Program reaches across all NSP divisions, with nine of 11 supporting an official Women’s Program supervisor. The NSP Women’s Program has completed its 10th year, offering a perfect opportunity to contact the division Women’s Program leadership to gain insight on the impact of women-focused events of the past decade.

Just what is the Women’s Program and why we need it is a very valid question that has been asked throughout the NSP. While there is no one answer, some responses resonate among the membership. Judi Kay, who patrols at Wintergreen Resort in Southern Division, states, “The NSP Women’s Program provides the avenue for women helping women

become more effective leaders, which benefits the entire NSP. Most importantly, the Women’s Program has given a safe, encouraging environment in which women can share their patrolling experiences, learn new skills, and develop lifelong relationships.”

Meegan Moszynski, the first female executive director of the NSP, recently accompanied NSP National Women’s Program Advisor Tanya Thomas to the Alaska Division’s Powderblast at Alyeska Resort, where the Alaska Division revisited establishing a formal Women’s Program. She notes, “The important thing to know about the Women’s Program is that it’s a skills-based program that helps women learn tools and tricks to become



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Eastern Division women's clinic. Photo c/o Linda Barthel.



Lori Serrano (L) and Julie Rousos Timmons (R) met at a women's clinic and discovered they have back-to-back National Appointment Numbers. Photo by Linda Barthel.



Four-handed toboggan practice. Photo by Linda Barthel.

more effective patrollers.”

Thomas summed it up by stating, “We’re a group of women who provide encouragement and support to women patrollers, building confidence through toboggan handling and organic conversation about how to ‘woman’ while being a patroller, whether it’s how to patrol through family life, moving, transitions, or just plain living. Sometimes we pull out crafts to decorate our helmets, but that doesn’t mean we’re sitting around gossiping and crocheting with each other — we’re creating ways to bond with each other to develop lifelong relationships that provide a path for inspiration. We hold each other up and account for one another.”

The Women’s Program supports women’s clinics and other events around the country to practice and develop skills and to meet other female patrollers. These events impact the participants in many ways. Eastern Division Women’s Program Supervisor Jane Williams states, “Suffice to say that the Women’s Program is gaining momentum and reaching more women (and men) than in the past. The NSP has benefited from the Women’s Program getting more women involved, not only locally but at the division and national levels. Look at the representation on the board and other leadership roles.”

Joy Jucker, the first Southern Division Women’s Program supervisor, provides insight on how the participants themselves have played a role in influencing the program. “My biggest smile comes from seeing the program grow annually. Our third advisor in the Southern Division, Amanda Perryman, is leading us into the 2020 clinic at Massanutten, Virginia. Again, many repeat attendees illustrate the retention on the patrol level. I believe the program gains strength by providing people fun with friends, creativity, and helping ladies reach their goals and challenges with feelings of achievement.”

When the NSP board of directors was considering a women-focused program, they sent an extensive survey to the membership. Feedback from that survey showed that skill development is very important to women patrollers, and it is the primary focus of the Women’s Program. Veronika Gunter, who patrols at Cataloochee Ski Area in Southern Division and has attended every Southern Division women’s clinic, had this to say regarding her experience with skill development gains at women’s clinics. “The training

provided through the Women’s Program has exceeded all expectations, specifically by providing technical instruction that has helped me make improvements in my skiing and toboggan handling. It offers specific insights based on physiology and the skiing/patrolling experience of the trainers.”

Murphy-Jacobs, who coordinated the development of the Central Division Women’s Seminar and was the first program supervisor, expanded on this, stating, “The synergy of women across the division has multiplied throughout the years. Any and all levels of skiers, any and all ages and experience levels, come together and lift each other up. By having a nationally recognized program, we are finally validating 25% of our very active members.”

The mentoring of women in the NSP and development of women in leadership roles has become a significant focus of the NSP Women’s Program, especially if that mentoring can start early in a patrol career. Katherine Fitzpatrick, a third-year NSP member at Ski Sundown in Eastern Division, says, “Thank goodness for the Women’s Program! I love my patrol at Ski Sundown in New Hartford, as everyone, women and men, has been supportive and truly kind, but having women mentors along the way has made a significant difference. I have been shy about attending women’s events, but I did attend Powderfall last year and the experience was amazing! Most notably, the women’s classes were significantly inspiring and helpful.”

Kerstin Hammarberg is the Central Division Women’s Program supervisor and believes the Women’s Program impacts leadership development by providing opportunities and role models. “Without the Women’s Program, I would not have learned some of the most valuable skills in patrolling. Some of those skills are toboggan handling, skiing, goal setting, leadership, teaching, working through frustration, and achieving amazing things! This program brings it all in a safe and nurturing environment.”

Barbara Reed, who patrols at Perfect North Slopes and is a member of the Central Division Women’s Seminar staff, adds, “I personally have been able to advance my skills and confidence in many ways. I know that this is true for most women who participate. The encouragement that we give each other is beyond amazing. This program will certainly continue to produce

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Heavenly women's clinic. Photo by Linda Barthel.



Sandra Sudduth of Ober Gatlinburg Ski Patrol at Powderfall 2017. Photo by Linda Barthel.



Women's clinic participants at Powderfall 2019. Photo by Linda Barthel.



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Women's group at Northstar California Resort. Photo c/o Trudy Nye.

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leaders in the organization. Hats off to the women who had the dream and made it reality.”

One byproduct of the Women’s Program comes from the camaraderie and bonding that is generated. Williams says, “What has had the most impact on me were the opportunities that we had to get together with other women regionally, divisionally, and, most important, nationally to share our experiences and knowledge as a collective. The Women’s Program has been a place for us to develop as leaders and share what we have learned with other eager and supportive women. The environment is more conducive to learning and sharing. This collaboration has been shown to be beneficial in all kinds of learning environments, not just snow sports.”

Questions about the growth of women in the NSP and the future of the Women’s Program lead to varied responses about what the Women’s Program can do. Fitzpatrick states enthusiastically, “As for my thoughts about the future of the Women’s Program, I want to be sure that, as women, we have a voice in the NSP and as such inspire women to have a voice in all aspects of their lives. My short experience with the Women’s Program has been encouraging, empowering, and inspiring.”

Moszynski discusses how interaction with other industry influencers may play a role. “I would love to see the Women’s Program help recruit more women patrollers. Women are currently about 25% of our total membership, and it would be so awesome to see that grow. How can we help with that? How can the program not only support current patrollers, but find future ones? Can we leverage our current partnerships with SheJumps and Share Winter? Should we partner with other organizations too?”

As the door to the next decade of the Women’s Program opens, we can certainly be assured the program has had a significant impact on the organization at many different levels. For the future, it will continue to be a dynamic program providing many different opportunities for all our members. +



Women's clinic at PEC 2012. Photo by Candace Horgan.

NSP WOMEN'S CLINICS: A FIRST-TIMER'S PERSPECTIVE

By Beckett Stokes, NSP Marketing and Communications Director

I am a relatively new staff member at NSP and a former patroller. I have had the privilege and pleasure of attending or stopping through two Women's Clinics this winter — one at Winter Park here in Colorado and one at McCauley Mountain in New York.

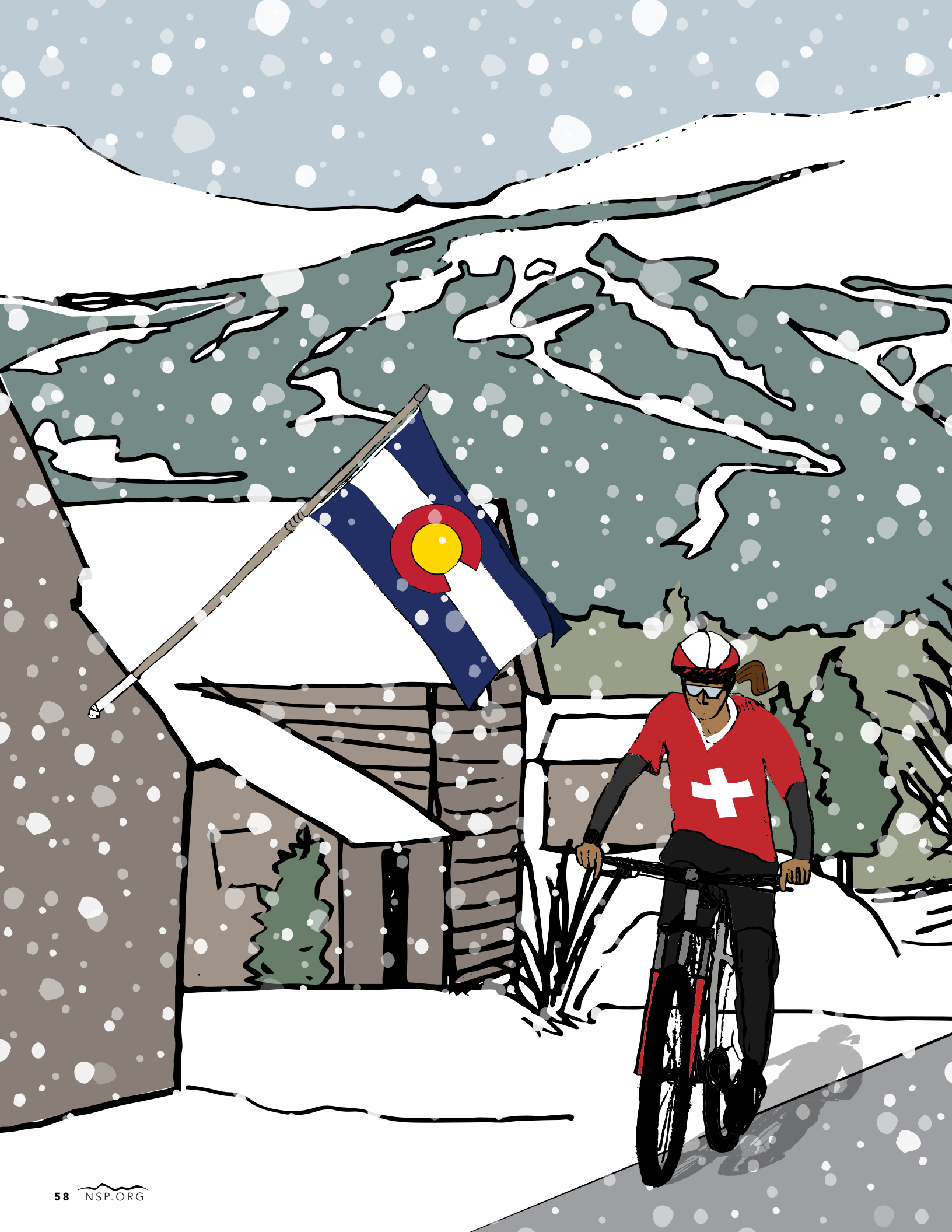
At both events, the women participants welcomed me warmly and included me, encouraging me to join in by fine-tuning my turns and side-slipping edges. I found that all the women in these clinics enjoyed being together and connecting. On lift rides, they compared notes on their mountains, their patrols, and their balance of other professional and family pursuits. As much as they were having fun, they were also focused on and serious about the work they were there to do — listening, asking questions, and actively practicing a skill or taking a turn with a toboggan.

In addition to seeing women learning, I also got to see women teaching. Instructors were knowledgeable, patient, and used a variety of ways to convey or refine a technique or skill. Women in the groups also openly volunteered their understanding and experience, ways that they had learned that were helpful, and alternative ways of explaining a skill.

Male patrollers were also teaching and offering feedback equally effectively.

I know from first-hand experience that women learn to ski and refine their skiing skills differently. While basic techniques are the same, our center of gravity is in a different place, so some traditional instruction and skiing techniques are counterproductive. My own skiing and mental confidence was transformed in a PSIA women's instructor clinic in my early adulthood, and I taught women whose enjoyment of skiing increased exponentially once they received instruction suited to their needs as women. So, while these women's clinics are about bonding, sharing, and mutual support, they are also incredibly valuable technically.

As we work to expand awareness of NSP and ski patrolling in the industry and with the skiing public, having strong and capable female patrollers can only help us. The "Ladies of the Jackson Hole Ski Patrol," a YouTube video posted in November 2019, has had more than 100,000 views, more than other Jackson Hole videos featuring their avalanche dog team or lifties. The NSP Women's Program is a vital piece of who we are and how we work. I feel privileged to be a part of it, and I look forward to seeing it continue to grow and evolve. +



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ALEX 'TELE' LIMKIN

SIPAPU, NM | @freeheelfreespirit

What is your favorite part of winter?

Waking up in the middle of the night in the middle of a storm, turning on the outdoor light to watch the snowflakes, and looking at the accumulation on the ground, imagining my skis running through it.



ANDREW HENNIGH

PARK CITY, UT | @desolationphoto

What is your favorite part of winter?

My favorite part of winter is standing on a mountain in strong winds with low visibility and heavy snow, making decisions with my route partners that could have severe consequences, and then later sitting in a patrol shack listening to everyone spin a yarn about their feats of survival.

Follow along @natlskipatrol



ANDREW WARKENTIN

VAIL, CO | @bigmountaincreative

What is your favorite part of winter?

Skiing and the freedom that it brings. As long as you have a pair of skis and some skins, you can get just about anywhere. I love exploring new places, but I am also a creature of habit and have so many favorite places that I return to ski each season.



CHRIS PRINGLE

SKI BRADFORD, MA | @pringle672

What is your favorite part of winter?

I love the squeak of fresh snow under my skis. I also like the early winter mornings after a new snowfall when it is really quiet.

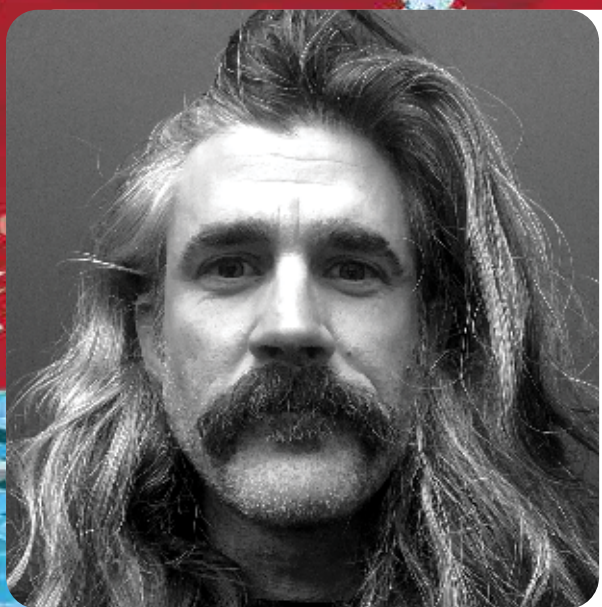


CHRISTINE WODKE

THE ROCK, WI | @run4cmt

What is your favorite part of winter?

I love being at home when we have a big snowstorm in Wisconsin. The freshly fallen snow is so beautiful. I've never been a fan of driving during a snowstorm. Now, I can look forward to plowing right through that snow with my all-wheel drive Subaru.



DAVE WATSON

MT. HOOD MEADOWS, OR

@luckydavewatson

What is your favorite part of winter?

My favorite part about winter is skiing powder with my friends and family.



JOHN KANE

SUNDAY RIVER, ME | @certified585

What is your favorite part of winter?

My favorite part about winter is that when the snow comes, it provides clean and beautiful landscapes. I love making first tracks whenever possible! I love the fresh, clean air winter brings and the crackling of a fire to warm you up.



MIKE SCHONS

PINE KNOB, MI | @nspcentraldd

What is your favorite part of winter?

I love watching the beauty of the falling snow from the top of a run and the feeling of exhilaration and calmness while accelerating downhill in these wonderful conditions.



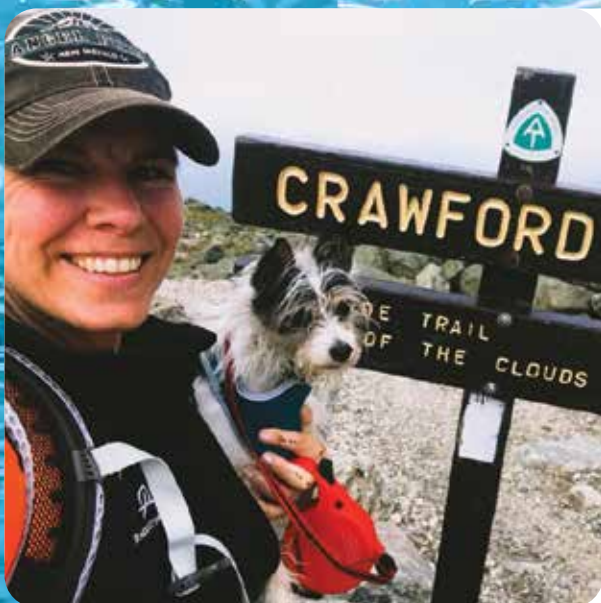
TARAH O'CONNOR

POWDER MOUNTAIN, UT

@she_skis_the_trees

What is your favorite part of winter?

Listening to loud music on the drive to work and then getting geared up for the day is one of my favorite routines. Then I love seeing snow sticking to tree branches and the quiet of a mountain before it opens.



YARROW FARNSWORTH

RAGGED MOUNTAIN, NH | @hdmoma

What is your favorite part of winter?

I love how insulated and quiet the night is after a snowfall, how bright the stars are, and how the snow squeaks under your boots. Full moon winter nights are my favorite.

MEET THE NEW NSP EDUCATION PROGRAMS MANAGER

NODIN DE SAILLAN BRINGS MUCH EDUCATION AND
INSTRUCTING EXPERIENCE TO ROLE

BY CANDACE HORGAN



Nodin de Saillan enjoys rock climbing. Photo c/o Nodin de Saillan.

In January 2020, the National Ski Patrol hired a new education programs manager, Nodin de Saillan. This was part of the restructuring of how the NSP Lakewood office staff would work together to manage education programs and their resources. de Saillan has a diverse education management background, and *Ski Patrol Magazine* sat down with him after his first month on the job to discuss how he can use his experience to help further NSP's educational mission.

SPM: Let's start by asking about your background. Where did you work before NSP, and what path did you take to get here?

Nodin: The most recent position I held was while finishing up a graduate degree at Colorado University in Boulder. I was at CU for seven years and taught mostly in the continuing ed division, so hybrid courses, part online, part in-person, with a pretty diverse demographic, lots of adult learners, lots of nontraditional students coming back to school and such. That's my foundation for learning new teaching techniques. I did that for five years, and then the last two years I was at CU I worked for their IT department developing online courses. They were

switching to a new online learning management system. I assisted not only instructors with moving content over, but also with developing best practices for various online platforms, different ways of teaching. It was a lot of hands-on. I would do workshops, things like that, but also create text-based and screen-cast tutorials to help folks figure out tools to do basic things on their websites or their webpage for their courses. That's when I got very interested in academic technologies and different ways to leverage those technologies for effective teaching practices and advancing pedagogical missions using technology.

SPM: You got a graduate degree; what did you get it in?

Nodin: I was studying environmental history and looking at the relationship between humans and their environment during the Little Ice Age in Europe.

SPM: Did you get a master's?

Nodin: A Ph.D. I was mostly focused on the period between about 1300 to 1650 or so. You see a lot of parallels between what we learn about how humans reckoned with their changing environment then to today with the changing climate. That experience was great

because while I was a historian working the humanities, I also worked with climate scientists, geologists, paleo climatologists, a diverse group of folks. Developing good ways of communicating across disciplines and collaborating across disciplines is something that is becoming more of a trend in academia, but it hasn't always been so. I think having a background of being able to talk to different people within different disciplines is certainly helpful, especially thinking about the National Ski Patrol and the organization of the various committees, working across various committees, and being able to talk and chat.

SPM: Have you ever had any prior experience with ski patrol, maybe locally on a mountain getting hauled off?

Nodin: Ski patrol? No. I grew up skiing at resorts, but the last five or seven years I've probably skied at a resort maybe once or twice per season. I've really focused pretty much entirely on backcountry skiing. In the last few years, I've gotten into ski mountaineering racing a bit. There's a Nighthawk series that goes on at Eldora every Wednesday night, and we've done the Five Peaks at Breckenridge and the

“We’re restructuring the course tools right now on our website, making things simpler, more concise, and clearer from the instructor side.”

Father Dyer outside of Leadville.

I’ve experienced or been a part of several different kinds of incidences helping out folks who have been lost. I spend a lot of time up in Rocky Mountain National Park in the Long’s Peak Cirque and up above Emerald Lake climbing in the winter, and I’ve had multiple experiences running across people who have no idea where they are. Helping out with those sorts of things has been really great. I’ve been interested in volunteering with Rocky Mountain Rescue in Boulder. It’s a time commitment, of course. I’ve had a few experiences of having to get myself

out of tricky situations. I definitely am very interested and engaged in the world of mountain safety and rescue. The work that ski patrol does, it’s really interesting.

SPM: Speaking of, where did you grow up? Are you a Colorado native?

Nodin: I grew up in Greeley, Colorado, but lived up in Laramie, Wyoming, from the ages of 3-6. I learned to ski up at Snowy Range, which was fun, and then when we moved back to Colorado, Eldora was where I improved my skiing. In high school, I had gotten into snowboarding, or maybe middle school, and

did that for a few years, and then from there I had friends who were starting to get into backcountry skiing, so I learned how to telemark ski. Alpine touring stuff was around, but it was still not quite as prevalent. I guess that’s not that long ago, early 2000s maybe. I telemark skied for a long time, but then I lived in Grenoble, France, for a couple of years. I finished up university there and lived there for a little while longer. I was skiing with my French friends who were all on AT gear and realized that telemark gear was just so much heavier and burdensome, and then I shifted to AT gear.

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Nodin enjoys desert rock. Photo c/o Nodin de Saillan.

SPM: Telemark's more fun though!

Nodin: Yeah, it is more fun. I hit that point where I was skiing technical enough terrain and I was not as good of a telemark skier as I should have been to be able to ski with tele turns. I was making more parallel turns than tele turns, so I switched over and dropped some gear weight. My progression as a skier has been really focused on backcountry pursuits. I do a lot of ski mountaineering up in Rocky Mountain National Park and through the Indian Peaks as well, and a lot of human-powered bike to skin stuff, which is really fun.

SPM: You've been here for about a month now. How have you been integrating into the overall NSP structure, and talk to me about interacting with and getting to know all the various program heads.

Nodin: I've been on several committee calls over the last month and gotten to talk with a number of folks and hear about where committees are and where committees are moving toward with regard to their programs. Of course, Meegan (Moszynski, NSP executive director) and Carrie (Bulman, NSP member services manager) and others have been great guides in helping me learn about the various programs and the nuances of each of the programs and committees to figure out where to focus my early energy.

Outdoor Emergency Care is the big one right now with the new edition that's

coming out in May and helping to work on that rollout. I've been involved in the OEC Refresher Committee, the OEC Supervisors Committee, and then a newly formed OEC Rollout Committee. Being able to talk with all the passionate heads of the Avalanche Program, of Mountain Travel and Rescue, of Nordic/Backcountry, of Outdoor Emergency Transportation has been phenomenal. Also, the newly formed standing committee, the Education Committee, has been wonderful. The other two calls I've been on have been the subcommittees of Curriculum and Special Interests. It's definitely a lot to learn and a lot to wrap one's head around with regard to not only the organization of the various programs, but also what their vision is and where they're focusing their energies and helping to support them in those pursuits. I think the acclimation process has been going well. All the folks with whom I've interacted have been so kind, so nice, so passionate that it's hard not to be engaged and interested in the various programs.

SPM: You were talking earlier about learning management systems and transitions; how do you see yourself bringing your background into NSP and working with the different programs and education curricula?

Nodin: One big thing we're wanting to look at is how we can leverage the technology that we already have. We have a learning management system, Path LMS, we use right now where OEC refresher courses and hybrid courses are living. There are some other courses that will be there, the Instructor Development course for instance. I think it's just one small slice of the pie of what that LMS could offer our members as a real educational resource. Instead of it just being a place where a couple of courses live, one idea we have is to make it an education portal where one can access course materials and other resources such as information regarding various curricula and instructor-specific information and resources for OEC, OEC refresher, ID courses, and the other courses that folks might be teaching. It could also be a resource for some housekeeping things, tutorials about how to close a course, tutorials about how to generate a delinquency report. We're thinking about bringing a lot of the forms and materials that are scattered around our website into one place and organizing them in a way

that there's a clear and concise organizational structure to those for members when entering that education portal. That'll be one of the things we're starting to work on, really leveraging the technology that we have.

We're restructuring the course tools right now on our website, making things simpler, more concise, and clearer from the instructor side. Instructors won't have to do four steps, maybe just two steps, and then we're also making the language of those steps clearer as well. That's the big thing I've taken from working in an academic setting. You have lots of different folks with lots of different experiences with technology, so we're trying to make those processes as simple and as clear as possible. Then you'll have instructors and certainly patrollers who are spending less time with the administrative stuff and more time either teaching or being out on the mountain.

SPM: At the same time, it's a little different because in your previous world they were paid teachers, full-time teachers, and for the most part people who are instructors in NSP are volunteers and teach very part-time. Is there anything you see as far as growing the instructor corps and promoting that service to their patrols as instructors?

Nodin: Yes, absolutely. This is an interesting concept to think about, that you just have such a large base of instructors teaching different courses, being on committees, and being patrollers, and that's just volunteer work. They probably have a 40-hour a week job, and they're doing all kinds of other things like have a family. We can't really expect folks to go through all these different trainings on top of what is already expected of them. I think the big thing is making a lot of the processes that have been challenging in the past really simple and making it really clear what is expected of, say, an OEC instructor, but then also create an evaluation system to say why that work is so appreciated and how it reflects the good that they're doing for their specific patrol. Perhaps they get some continuing education credits by taking an Instructor Development course. They can then see that as valuable information that they can bring back to their patrol for their own teaching.

I've found with talking to a lot of instructors that they might be an accountant and on the volunteer ski patrol, but they're

“I think a lot of the high caliber of teaching and standards of teaching are intrinsic to the organization. I think it’s important to reaffirm that and let instructors and others involved in various aspects of NSP’s educational curricula know that their time is really valued.”

very passionate about the courses they teach. They take it very seriously and want to be the best instructor they can. I think a lot of the high caliber of teaching and standards of teaching are intrinsic to the organization. I think it’s important to reaffirm that and let instructors and others involved in various aspects of NSP’s educational curricula know that their time is really valued. Making those programs and the courses as well-tuned as possible is then a reflection of how much we appreciate what these volunteers are doing with their time. There are some other things we’re thinking about, too, such as how to grow an Avalanche Program. There’s more

and more interest in avalanche training from recreational users as well, and you can’t expect volunteer instructors to use more of their time to teach lots of courses, but perhaps they could be compensated for that. It’s expanding the scope of what NSP’s educational mission is. Obviously, we’re always focusing on our members, on patrollers, but also thinking about how other members of the community can benefit from the educational programs that we offer.

SPM: Is there anything else you want to tell patrollers?

Nodin: I guess I would just say that I had

always known that a lot goes into a patrol, but I have a new grand appreciation for what folks are doing with their time and how they can be so passionate. A number of the committees I’ve been on calls with have broken down how many years they have been involved in National Ski Patrol, and it’s incredible to hear 20, 30, 40 years, and to maintain that level of passion and be just as involved as they were when they were 20 is very impressive. It’s definitely an inspiring organization to be part of, and such a storied organization as well. I hope to do my part to further it. +



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ALUMNI PROGRAM PROVIDES AN ACTIVE NSP LIFE FOR MANY MEMBERS

ALUMNI STAY CLOSE TO NSP, PATROLS

BY TIM VIAL, NSP NATIONAL ALUMNI ADVISOR

Today, well over 4,600 National Ski Patrol members fuel the alumni ranks. Offering a wealth of experience, talent, knowledge, and dedication, they provide a vast resource of needed skills and expertise to supplement the efforts of the “active” membership. Many have found new ways to remain active alumni through assisting their former patrols or divisions or taking on renewed activity as mountain hosts or bike hosts.

There is no doubt that the collective experience of alumni can substantially add to the success of your former patrol or your region/division. There are many reasons to go inactive besides retirement: family responsibilities, relocating to a new part of the country, job responsibilities, health issues, and more. Likewise, a host of involvement opportunities exist for active alumni, including patrol or division community service events and expanding mountain host and bike host programs across the NSP. Let’s explore the active side of alumni membership.

Brian Fassler joined the NSP in 1992. After 20 years of service in the Central Division, he needed to bridge a registration gap by transferring to the Alumni Program. Such a move allows an option to transfer back to active patroller status when his life schedule allows. A retired U.S. Army sergeant major, Brian notes, “After my retirement from the Army Reserve in 2015, I felt a need to fill the void left from being a leader and mentor for young people. The National Ski Patrol is a first-rate volunteer organization; there is not a better group of individuals and leaders that exude the kind of values that the Army was built on, specifically selfless service and integrity. I feel like I can add value both to my life and the patrol.”

Robert Feldman (aka Ranger Bob) was a long-time patroller at the Wolf Ridge and



Brian Fassler

Cataloochee ski areas in the Southern Division. He went alumni in 2016 but has continued to be a presence at Cataloochee ever since. He always comes to Outdoor Emergency Care refreshers to help with logistics and serve as a patient. He is a master at repairing equipment such as snow fences, signage, coffee pots, and more. This past season, he installed pegs for wet parkas and rain gear in the patrol room to make life a little easier for working patrollers (it rains a little down South). On the snow, he assists at incident sites by directing traffic, carrying equipment, and providing other help when asked by the patrollers on duty. Ranger Bob is an example of a working alumni and is highly valued for his dedication to patrolling even after “aging out” of active duty.

Alumni take time to celebrate

In February, 22 NSP alumni and approximately 25 family and friends gathered in Whitefish, Montana, during the second NSP Alumni Celebration to ski, nosh, and

trade tall tales. Big mountain skiing, great food and nightlife in Whitefish, and side trips into Glacier Park made for an active and enjoyable time. The third Alumni Celebration is planned for February 28 to early March in 2021, so plan to join us!

Meanwhile, late-season alumni events are happening around the U.S.; if you don’t see one planned in your division, why not be part of the team that starts one?

Seeking new outlets for your energy as an alumni member? Connect with your former patrol, your region, or your division and ask what help they might need that your skills and time will allow. Want to burn some energy and get more involved? Look into growing mountain host programs or expanding bike patrols; check with your division alumni advisor for possibilities.

Wondering what your fellow alumni think of their service to the NSP and their alumni membership? Scan the highlights of the alumni survey done in early 2019, which garnered almost 1,200 responses. There, you will find what energizes many of these NSP veterans. Our division alumni advisors seek to help you follow your desires as an alumni, so don’t hesitate to reach out to them. To view the alumni survey and your division alumni advisor’s info, login to the NSP website and go to <https://www.nsp.org/NSPMember/Programs/Alumni/NSPMember/Alumni.aspx>.

Finally, as NSP patrols head into the summer, please take time to consider how alumni might be a bigger asset in the future. Suggestions include:

- Establish an alumni advisor for your individual patrol to take the lead on building alumni support and opportunities for alumni who wish to remain active.

- Advise current patrollers of life after active patrolling as an active alumni of the patrol and the NSP.
- Encourage current patrol leadership to implement ways to retain and involve your patrol's alumni and those contemplating going inactive.
- Share your patrol's alumni advisor's contact information with your region and division alumni advisor so individual patrols receive ongoing alumni updates and tools!
- Remind your alumni not to overlook alumni perks such as access to the NSP Online Store and NSP pro deals, as well as fun alumni activities.

To the many thousands of NSP alumni, we welcome your continued involvement in your local patrol, region, or division. Please feel free to send questions or comments to NSP National Alumni Advisor Tim Viall at tviall@msn.com or (209) 969-3875. Thanks! +



Alumni Celebration Week at Whitefish. Photo c/o Tim Viall.



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WHITE

DRAGONS

AND LESSONS LEARNED

STUDYING ACCIDENTS FROM THE LAST TWO WINTERS

BY DALE ATKINS

Controlled avalanche release hits a highway. Photo by Mark Mueller.



Avalanches have been called white dragons since the Middle Ages, no doubt for their ability to swallow up mountain travelers. While we seldom use the term in modern times, the avalanche beast is just as serious a threat to today's skiers and riders as it was to riders from generations ago and mountain travelers from centuries ago.

In the United States, 25 people died in each of the 2017-18 and 2018-19 winters, which is just below the 10-year average of 26. Avalanche accidents are basically recurring types of incidents where only the names of the victims change. While the accident themes may remain unchanged, ski patrol-ers can always learn some lessons that may help us avoid the trouble or sort out trouble with the white dragon. This short article will take a brief look at some lessons from several accidents and incidents. One of the accidents was high profile, but the others were fairly typical. Before addressing the accidents, a few comments about avalanche accident statistics are warranted.



In the last 20 years or so, avalanche accident reporting has become increasingly biased as fatal accidents get reported and minor accidents and incidents generally go unreported. While accidents (defined by having injuries or deaths) tend to get reported, fewer and fewer incidents get reported. An incident is an unexpected and unintentional event involving people but not resulting in injuries or deaths, or involving property with property damage, or it may have some other negative consequences, e.g., delays or closures on long mountain roads and railways. Close calls (sometimes referred to as near misses) are seldom reported but can be helpful additions to accident databases for identifying what people are doing right or wrong.

STATISTICS FROM 2017-18 AND 2018-19

While the total numbers killed tallied just shy of the 10-year average, over the two winters there was significant variability in where the accidents occurred and who was involved. Tables 1 and 2 show the differences; however, when averaging the two winters together, the tally is quite close to the 10-year average. Interestingly, no climbers have died in avalanches in the past three winters. Previously, the last winter without a climber death was 1999-2000.

TABLE 1. U.S. AVALANCHE DEATHS BY ACTIVITIES, 2017-18 AND 2018-19

STATE	17-18	18-19	10-year average
Colorado	3	8	5.9
Alaska	3	2	3.6
Washington	7	0	3.5
Montana	4	3	3.4
Wyoming	3	4	3.1
Utah	0	4	2.5
Idaho	3	1	1.8
California	2	0	1.2
Oregon	0	0	0.8
New Hampshire	0	1	0.2
Nevada	0	0	0.1
New Mexico	0	2	0.1
TOTALS	25	25	26

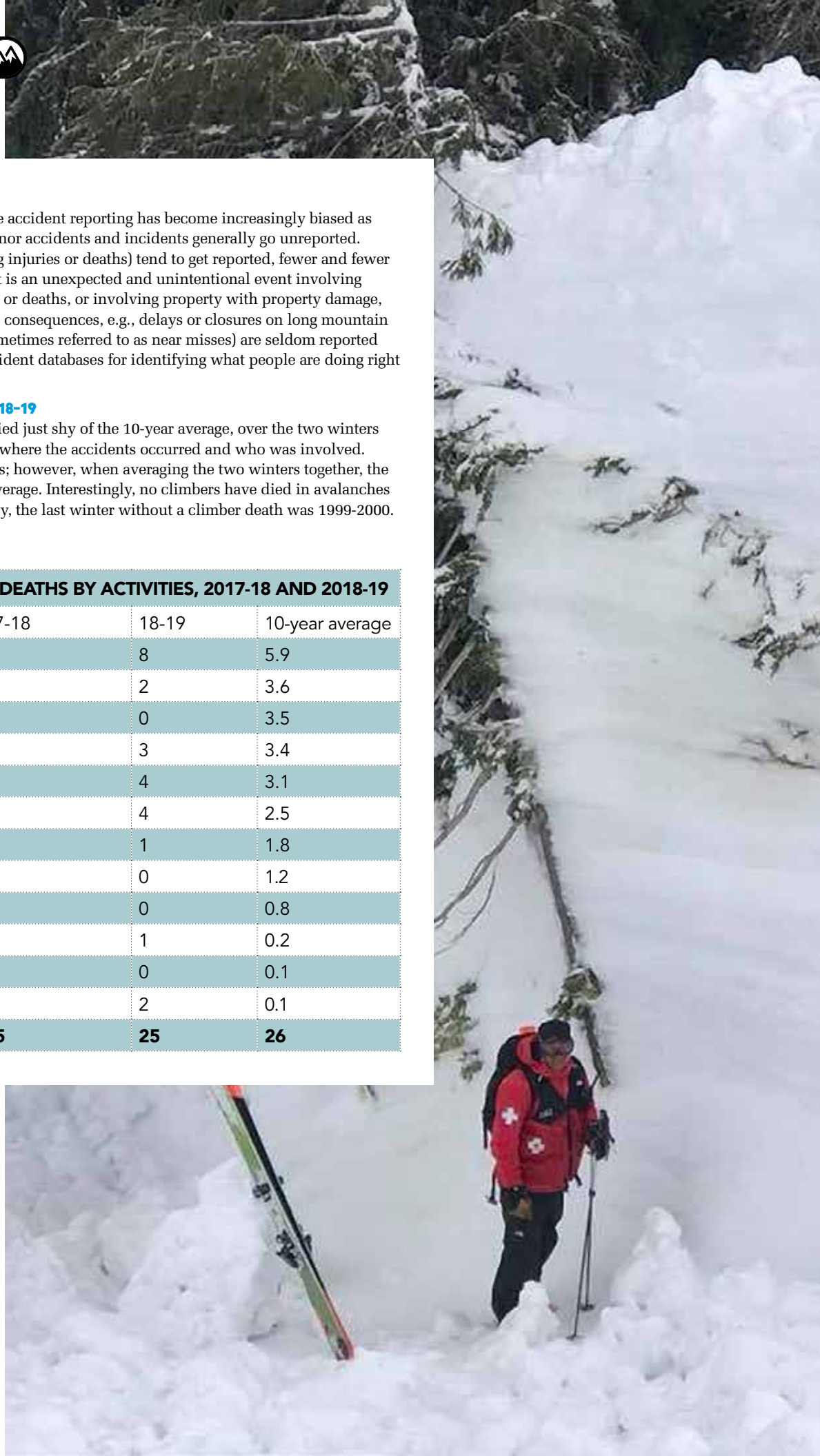




TABLE 2. U.S. AVALANCHE DEATHS BY ACTIVITIES, 2017-18 AND 2018-19

ACTIVITY	17-18	18-19	10-year average
Recreationalists			
Climbers	0	0	2.6
Backcountry skiers	4	11	6.2
Backcountry snowboarders	1	0	1.7
In-area skiers/snowboarders	0	2	0.6
Out-of-bounds skiers	4	0	2.3
Out-of-bounds snowboarders	0	1	1.0
Mechanized skiers/snowboarders	0	0	0.2
Hikers/snowshoers	2	0	0.7
Snowmobilers	11	8	8.3
Snowbikers	1	0	0.4
Misc. recreation	0	0	0.1
Workers			
Patrollers	0	0	0.7
Motorists/highway workers	0	0	0.0
Residents	2	2	0.9
Guides-mechanized	0	1	0.5
Guides-foot	0	0	0.1
Forecasters	0	0	0.1
TOTALS	25	25	26.0

When it comes to avalanche search and rescue, these days most avalanche victims are searchable since they wear transceivers. However, transceivers are not effective at saving lives (table 3). No doubt the number of people rescued alive with transceivers is significantly under-reported, but even if the actual number is, say, five times greater, survival would still be only 50 percent.

Looking deeper into the accidents that comprise table 3, the median burial time was 60 minutes. For those who died, the median burial time was 90 minutes. For survivors, the time was a quick 12.5 minutes. The average burial depth is about 1 meter, suggesting that is the depth at which we should practice searching for transceivers and RECCO® reflectors. The quickest death by asphyxia occurred in 7 minutes, and the longest burial time of a survivor from this sample is 2.5 hours. The bottom line inferred from table 3 is simple: getting buried is very bad for one's health.

A patroller looks at avalanche debris. Photo by Ben Leech.



TABLE 3. RESCUE METHODS FOR REPORTED U.S. AVALANCHE ACCIDENTS, 2017-18 AND 2018-19

	DEAD	ALIVE	TOTALS
Object attached to victim or body part out of snow	6	7	13
Hasty search or spot probe	0	0	0
Coarse or fine probe	8	1	9
Avalanche rescue transceiver	25	5	30
Inside vehicle	0	4	4
Inside structure	0	2	2
Voice	0	1	1
Avalanche dog	9	0	9
Found after melted out, or after considerable time	0	0	0
Never found	0	0	0
Found but not retrieved	0	0	0
Digging	1	1	2
TOTALS	49	21	70

Regarding avalanche deaths, on average the two seasons were typical in terms of locations, activities, and number killed. However, the real lessons for patrollers come not from the averages, but from considering individual accidents and incidents.

A FEW LESSONS LEARNED (OR REMINDERS)

In terms of ski area accidents, the one accident from this period on the minds of many is the tragic accident at Taos Ski Valley in New Mexico on Jan. 17, 2019. Two skiers died that day when a large avalanche ripped out of the K3 chute. Both were buried between 7 and 8 feet deep in an area the size of a football field.

The U.S. Forest Service review released six months later found the area followed its permit and operating plan, and there were no red flags or warnings in the operation. It seems the resort and patrol were doing the right things and what we know to do to manage snow and avalanches. Yet, the avalanche occurred. This is a painful and terrible reminder that we do not control avalanches. Uncertainty always remains; we can only mitigate the threat. While ski patrollers and resorts do a phenomenal job keeping guests safe (and having fun), they cannot eliminate the threat of avalanches. On some days, in some terrain, patrollers and even guests need to be extra wary of avalanches.

In the last couple of decades there is a disturbing trend arising from avalanche accidents inside ski areas. Accident data show that avalanches catch more riders today than avalanches a generation ago. In the '80s and '90s, in-area avalanches on average caught approximately 1.4 riders. In the 2000s, the number rose to 2.2, and in the 2010s the average jumped to 3.3 caught per avalanche. Part of the increase is possibly due to reporting changes.

The Forest Service stopped funding the Westwide Mountain Weather and Avalanche Network in 1993, and as such there is no formal data collection program for avalanches at ski areas. As most ski areas where avalanches are a concern are in the West and on Forest Service land, more data for isolated incidents involving staff such as patrollers used to be collected. Serious and larger events still make the evening news, but most stories get shared across social media.

There are two other reasons that likely contribute to the increase of in-bounds accidents: wider skis and snowboards and the improved abilities of riders. By the end



Avalanche just outside the boundary rope at Sun Valley. Photo c/o Sawtooth Avalanche Center.



Beacon practice. Photo by Candace Horgan.

of the '90s, shaped skis and fat skis were becoming widely available, and these skis (along with snowboarders) seemingly turned fair skiers into good skiers and good skiers into great skiers. Fat skis also made skiing difficult snow conditions much easier and more enjoyable. In the past couple of decades, the steep terrain that had been a playground for the few became play areas for many. In response to the demand of better skiers, resorts expanded into steeper terrain. Today, many more triggers (skiers and riders) ply the steep terrain than a generation ago. The combination of more triggers in more steep terrain results in greater potential for avalanche encounters and for encounters to involve more people.

Fortunately, no ski patrollers died in avalanches (the last such death occurred in 2016), but several accidents and incidents were reported with injuries and even burials. However, a trio of accidents offer up some different lessons. Unlike the Taos accident, no resort names are mentioned below. On the surface, the following accidents seem typical and could have happened at any ski area with avalanche threats. Yet, looking a little deeper, each accident reveals lessons learned that are not so typical. By fate, or simply bad luck, the three accidents occurred in the Pacific Northwest.

In the first, a patroller working in closed

terrain was caught and swept down in a very large avalanche. The patroller activated their avalanche airbag and ended up only partly buried but with serious injuries — enough to spend the night in the hospital. Was the partial burial a result of preparation meeting opportunity, or was it luck? We can never know. Using airbags can be an important piece of personal protection equipment (PPE); however, there is no guarantee it will save your life when called upon. Though very few details about the accident were reported, it is a good reminder that we should always ask ourselves, “If this slides, what will happen to me, and how will I get out of here?” If you don’t like your answers, regardless of PPE being used and even if “on the clock,” you probably shouldn’t be there.

In another avalanche encounter, a snowboarder outside a ski area triggered an avalanche that swept into the ski area. At the same time, at the bottom of the slope a ski patroller was doing a dog drill with their avalanche rescue dog when the avalanche plowed into the team. The patroller and dog were swept up, along with the snowboarder, and tumbled about. Fortunately, the patroller and dog were uninjured, but the snowboarder was injured. In busy areas — whether inside or just outside of ski areas, on mountain passes, or in crowded mountain canyons — do your best to keep track of others above and below you. That advice is



Avalanche at Squaw Valley from mitigation work. Photo by Ben Leech.



Strategic shoveling. Photo by Candace Horgan.

“All avalanche accidents, no matter how simple or repetitive they sound, offer lessons to be learned, even for crusty old-timers.”



Practicing digging someone out at Loveland Ski Area. Photo by Dale Atkins.

much easier said than done. These days we must expect others will be around — above and below — and sometimes you cannot see them. When engaged in a drill or work project, keeping track of others is difficult as your attention will shift away from the terrain around you, so use a spotter to keep an eye out for others.

The third patrol accident started when a patroller tossed a small explosive hand charge onto a suspect slope. With a boom, the charge released a much larger than expected avalanche that ripped out adjacent paths and ran full track to the valley floor. These sorts of avalanches — bigger than expected — are not uncommon because when an explosive charge detonates, no one knows how big or small the avalanche will be, if it even releases. Experience serves as an effective guide, but the problem with experience is that to truly learn involves surprises. The ski patroller was able to deploy their airbag and ended up on the surface with only minor injuries despite the huge size of the avalanche.

Several points about this accident are worthy of comment. Avalanche size and injuries are correlated to vertical fall, not overall size, and in a practical sense size does not matter because even small avalanches are larger and far more powerful than people. What matters more is the shape of the path and if obstacles are in the path. Many people have died or suffered devastating injuries in very small avalanches because of collisions with trees and rocks. Others have walked away unscathed after riding down monstrous avalanches. Luck is what determines survival, not skill or gear.

The avalanche also pulled back up onto the flatter terrain at the top of the slope, catching the patroller from behind. At the time, the avalanche problem was identified as a persistent weak layer, not a condition commonly experienced in the Pacific Northwest. Persistent weak layers tend to result in persistent slabs that, according to the Colorado Avalanche Information Center, “often propagate in surprising and unpredictable ways.” When dealing with persistent weak layers

and persistent slabs (and their volatile sibling, the deep persistent slab) safety margins must be increased to deal with the uncertainty. The usual spot from which to toss a hand charge and wait may be the wrong spot when conditions are atypical.

All avalanche accidents, no matter how simple or repetitive they sound, offer lessons to be learned, even for crusty old-timers. When reading or hearing reports of accidents, always put yourself in the shoes of the subjects and ask yourself, “Why did it make sense to them to do what they did?” If you can identify with their actions, you just learned their vulnerability, and if they were vulnerable you likely are too.

Because avalanches are sometimes uncertain, our ability to judge final outcomes can be poor. However, we are very good at recognizing vulnerabilities — whether with individuals or programs — as long as we look. Safety increases when we seek out and learn from and manage vulnerabilities. Safety never increases from telling people to be more careful. +



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WHY I DONATE TO THE NATIONAL SKI PATROL

LEAVING A LEGACY TO THE PATROL FAMILY

BY LESLIE L. MEGYERI

As you know, the NSP is dedicated to keeping people safe on the mountain and during other outdoor activities. One of its core values is camaraderie among patrollers, and to most the patrol is family. The bond among patrollers is special because it includes a sport they love, the companionship all humans seek, and helping others in their time of need.

In addition to making lasting friendships, patrollers keep their first aid skills current and, most importantly, help make skiing safer. We are lucky that the NSP family consists mostly of hearty members because all too often their skills must be executed under adverse wind speeds, treacherous snow conditions, and sub-zero temperatures, while most of the customers they serve are anxious, cold, and in pain. It's not unusual for a long-serving patroller to recount the most difficult experience any healthcare worker recalls: the loss of a patient they tried saving.

The patrol bond is unique because it's so lasting. Many meet other patrollers, marry, raise junior patrollers, spend an entire lifetime engaged in NSP activities, and then eventually become alumni patrollers. Career patrollers may need to take time away for work, travel, school, or family obligations, but they can remain attached to the organization. I have been a patroller for over 37 years, and the patrol has changed as patrolling couples have grown in number.

This last New Year's Eve, as fireworks greeted 2020, two of our slope's patrollers



Les Megyeri

became engaged at the top of the mountain amid a cacophonous cheering of congratulations. They will soon wed on the mountain with many patrollers in attendance. In many cases, both spouses are skiing and responding to accidents. Parents bring their small children to the patrol room and in a few years that same child is a junior patroller, patrolling alongside Mom and Dad and getting involved with training.

The senior patroller who retires and has more time to devote to skiing is becoming more the norm. I've known several patrollers who have served so long and been so dedicated to patrolling that they've been buried in their patrol jackets with their ski patrol fanny packs beside them, a real testament to the affection so many feel for ski patrolling. Recently, our slope lost a long-time patroller to leukemia, and the 60-person honor guard that presided over his funeral warmed the hearts of the many attendees. As designated in his funeral plans, his ashes were spread at the top of the mountain at sunrise. In almost military-type precision, the patrol escorted the family, stood for a lengthy time at parade rest, and saluted the memorial display of skis, helmet, and boots, then retired his jacket. A video of the entire proceeding was given to the family as a gift from the patrol.

Another change I've witnessed over the years is that even though the camaraderie and lifelong friendships remain constant, the responsibility and seriousness of patrolling has increased to the point that medical treatment seems to be the foremost topic of discussion when patrollers convene. No doubt patrolling will further evolve as EMTs and other healthcare personnel join the ranks instead of just good skiers who enjoy helping others and take the basic medical training offered. The shifts have become so cohesive and the camaraderie so strong because these skiing friends treat accidents similarly in protocol and know the strengths of one another.



A tribute to a fallen Liberty Mountain Resort patroller. Photo by Les Megyeri.

They arrange their own ski trips, and some faithfully attend NSP's biennial Powderfall.

So, like the obligation we feel to support our own families, I feel compelled to give annually to NSP as well, and I hope you, as my fellow NSP brother or sister, will do likewise. Just like when one leaves a monetary bequest to their family after one passes away, your gift to NSP will ensure your legacy lives on in years to come. In addition to making an unrestricted or memorial gift, you can designate your bequest be left to the Education Endowment Fund or the Charles "Minnie" Dole Service and Safety Memorial Fund. Since NSP is a 501(c)(3) and federally chartered organization, such gifts are tax deductible. I want my gift to support NSP because I care about the organization today, tomorrow, and for years to come.

These are my personal reasons for gift-giving to NSP, and I hope others will join me to be listed in NSP's annual report of donors. +

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NSP FUNDRAISING EFFORTS CONTINUE TO GROW

BY STEPHANIE ZAVISLAN, NSP ACCOUNTANT

In November, NSP participated in Giving Tuesday, a global movement designed to promote charitable giving amidst the spending frenzy of the holiday season. NSP offered an incentive for members who wanted to fundraise: create a Facebook fundraiser for Giving Tuesday and not only would the top three fundraisers win Patagonia jackets, 50 percent of whatever they raised would be donated to their local patrols!

Overall, we had almost 30 fundraisers, and NSP raised nearly \$8,000. The NSP Lakewood office passed funds to 26 patrols across the country.



Ted Johnson of Magic Mountain.

Ted Johnson, an assistant patrol director at Magic Mountain in Londonderry, Vermont, raised over \$2,800 from more than 50 donors through a personal Facebook fundraiser for Giving Tuesday. Ted was the winner of a Patagonia jacket, and we asked him how he created such a successful fundraiser for his local patrol.

"I just kept pushing the fundraiser, and I celebrated each little milestone. I wrote a personal thank-you note via private message to every donor." Ted has been associated with Magic Mountain for 15 years, which has a strong social media presence in its small, tight-knit community.

Ted's success is due in part to Magic Mountain Patrol Director Andy Belcher, who keeps up with NSP happenings through Sweep emails and NSP announcements. Once Andy read about the Giving Tuesday fundraising opportunity, he asked Ted to create a personal fundraiser. Ted has 500 Facebook friends and is well known in Londonderry and at Magic Mountain Ski Area. Ted is a local large animal veterinarian and a river guide in summer months. He attributes his fundraising success to being a "pleasant personality and a great representative of his patrol," as well as the obvious enthusiasm for his community. Magic Mountain is founded on local assistance and has a small, homegrown feel. People love to get involved.

NSP will continue its fundraising pushes this fall for Giving Tuesday and Colorado Gives Day and will offer a similar incentive for Giving Tuesday 2020. We'd love to feature our next top fundraiser in the summer 2021 issue of *Ski Patrol Magazine!* +



IS THERE ANY RISK IN THE NSP COURSES WE TEACH?

NSP'S GENERAL LIABILITY INSURANCE MAY HAVE OUR BACK

BY DOUGLAS HILL, SOUTHERN CALIFORNIA REGION INSTRUCTOR DEVELOPMENT PROGRAM ADVISOR



Toboggan practice on the hill. Photo by Andre Gonsalves.

I'm sitting here pondering if there is any physical risk involved in teaching my Instructor Development courses, all of which are normally conducted in a classroom setting. About the biggest risk I can come up with is that maybe one of my students falls asleep during one of my stimulating lectures and hits their head on their desk. Hasn't happened yet, but who knows? However, I think we can all agree that most of the other National Ski Patrol disciplines that we teach, such as Outdoor Emergency Transportation, Avalanche, Mountain Travel and Rescue, and even Outdoor Emergency Care could certainly have some potential risk to the students and the instructors.

We discuss in our Instructor Development course how to identify the potential risks and how to manage and mitigate these risks for our students and instructors, but the question usually arises in class regarding if something happens and someone does get hurt or some loss is incurred and who is liable in that case. The National Ski Patrol general liability policy may provide some protection in certain circumstances.

First, let me say that I am not an attorney or an insurance agent or any kind of expert in the field of law or insurance. I am a ski patroller like most of you, an NSP instructor in Instructor Development and Outdoor Emergency Care, and an American Heart Association CPR instructor. The information in this article does not come from me but from the National Ski Patrol Lakewood office and their insurance carrier.

What is a General Liability Policy?

A general liability policy protects business organizations and their employees against certain liability claims for bodily injury and third-party property damage arising out of premises, operations, products, and completed operations, as well as advertising and personal injury liability.

When Does NSP's General Liability Policy Apply?

Coverage applies during a sanctioned NSP education course or event as defined by NSP. A sanctioned NSP education course is one of the courses you can enroll in on the NSP website as an NSP member. A course number will be issued by NSP, and the instructor must follow the curriculum for that course based on the supporting NSP textbooks and manuals. A sanctioned NSP event is an event that has been specifically authorized and approved by NSP, such as the biennial Powderfall conference.

When Does NSP's General Liability Coverage NOT Apply?

- This coverage does not apply to losses arising from occurrences during the normal scope and duty of patrol work conducted at the ski resort.
- This coverage does not apply for losses arising out of the use of an automobile.

- This coverage does not include “Directors and Officers Insurance,” which is usually available at a division, region, and local level through other channels.
- This coverage does not apply to liquor liability losses.

Here are some hypothetical examples. The coverage determination is by the carrier and will be based on the facts, the pleadings, and a careful review of the policy language.

Hypothetical Example 1

During an NSP-sanctioned OET refresher class, an instructor is teaching an NSP patroller how to guide a toboggan down the hill. The party in the toboggan was not strapped down correctly and rolls out of the sled and suffers an injury. A claim of negligence is made against the NSP and the instructor by the injured party. As this is an NSP-sanctioned OET class, the NSP policy would respond to defend both NSP and the instructor.

Hypothetical Example 2

NSP patrollers at Rocky Bottom Resort are having their annual fundraising ski swap at the county fair. A guest is looking at ski poles when he pokes another person in the face, causing an injury to their eye. A claim of negligence is made against Rocky Bottom Resort and NSP. As this is not a sanctioned NSP event, coverage is not provided by the NSP. Coverage may or may not be provided by the resort based on whether the event was approved and sanctioned by Rocky Bottom Resort.

Hypothetical Example 3

NSP patrollers at Rocky Bottom Resort respond to an injured skier on the mountain. The patrollers treat the skier on the hill, transport them to the first aid room at the resort, and arrange for them to be transported to a local hospital via ambulance. Later,

a claim of negligence is made against the individual patrollers, Rocky Bottom Resort, and NSP alleging a failure to properly treat or transport the individual. As this is not a sanctioned NSP education event and is clearly within the normal scope of patrol duty, coverage is not provided by NSP. Coverage would most likely come from the resort and/or its liability insurance since the patrollers were acting on behalf of Rocky Bottom Resort. Patrollers should check with their resort regarding what coverage is afforded them while acting in a patrol capacity at the area.

Please note that under no circumstances shall this article or these examples be used in determining coverage provided by NSP's insurance policies, nor shall it create any obligation for NSP to defend or indemnify another party. It is strictly a brief summary designed to help explain NSP's current insurance program to NSP instructors and potential instructors, as well as all NSP members. There is further information available to members, as well as additional examples, on the NSP website under “Member Resources/Forms and Documents/Legal/Insurance FAQ,” which was the source of information for this article.

If you have any questions regarding NSP's general liability policy, you may consult your division legal advisor or contact the Lakewood office at memberrecords@nsp.org or (303) 988-1111.

If you are not currently an NSP instructor and have thought about teaching in one or more of the NSP disciplines, take the challenge and begin your NSP teaching career by enrolling in an Instructor Development course in your region. You can change patrollers' lives, and I think you may change your life as well.

For more information on the Instructor Development Program, or if you would like an Instructor Development course offered to your patrol, contact the Instructor Development Program advisor in your region or the Instructor Development Program supervisor for your division. If you have questions or comments regarding this article or ideas for future articles related to the Instructor Development Program, you may contact me at dch@cadwest.com. +



Steep terrain toboggan practice. Photo by Andre Gonsalves.



CARABINERS 101

CHOOSING THE RIGHT EQUIPMENT FOR THE RIGHT APPLICATION

BY MYRON ALLEN, NSP NATIONAL MOUNTAIN TRAVEL AND RESCUE PROGRAM DIRECTOR

On a bitterly cold January afternoon at your resort, you report to an area that the patrol has roped off to keep customers out of a deep, rocky gully. Unfortunately, a customer crossed the ropes and now lies injured at the bottom of the gully, surrounded by 50-degree walls. A few moments later, your patrol's rescue rigging kit arrives on scene. You pull out a gear loop bristling with an impressive array of carabiners of different types. Does it matter which you use?

ANATOMY LESSON

Figure 1 shows the anatomy of a carabiner. The gate is the part that swings open and closed; it attaches at one end to the rest of the carabiner by a spring-loaded hinge. The other end of the gate has a latch that articulates with the nose when the carabiner is closed. There are several common types of latches and noses. On locking carabiners, discussed below, the gate has a sleeve that, when deployed, prevents the carabiner from opening. The side of the carabiner opposite the gate is the spine, the strongest part of the device.

LOCKING VERSUS NON-LOCKING CARABINERS

In a rope-rescue setting, the few legitimate uses for non-locking carabiners are for loads that do not involve life safety. Locking carabiners suffice for every one of these uses, however. The International Commission for Alpine Rescue recommends using only locking carabiners with screw-lock gates or triple-action autolocking gates for the main or central attachments of ropes to other elements of rigging systems. To avoid ambiguity and confusion in high-stress operations, in rescue kits it is arguably wisest to include only locking carabiners of these two types.

Screw-lock gates and autolocking gates each have advantages and disadvantages. With a screw-lock gate, the user must screw the sleeve shut to lock the gate and unscrew the sleeve to open it. This type of carabiner has three main advantages:

- Most users find these gate locks intuitive to operate.
- A practiced user can unlock the carabiner, insert a device or rope, and lock the carabiner with one gloved hand.
- Screw-lock gates tend to be robust against dirt and ice.

There are two main disadvantages:

- Users must remember to lock them. Checking that all carabiners are locked must become one of the rescue team's rituals, practiced before loading any rigging system.
- In rescue settings where carabiners undergo cyclic loading and unloading, screw-lock gates can gradually come unscrewed unless oriented properly with respect to gravity — a condition that can be hard to guarantee in highly dynamic or time-consuming operations.

A triple-action autolocking gate has a spring-loaded sleeve that one can unlock only by manually rotating, pulling, and pressing. The main advantage of these gates is that they are more secure against user error and repeated jiggling. There are three disadvantages, however:

- Autolocking gates are more likely to malfunction when dirt or ice foul the mechanism.
- Most people need to use two hands to insert a rope or device into a carabiner of this type.



Figure 1. Anatomy of a carabiner.

- Some people find triple-action autolocking carabiners hard to operate with gloved hands.

Other locking mechanisms exist, and manufacturers are continually developing and testing new designs. Before committing to a specific locking mechanism, a rescue organization should practice using it in the harshest environments, including wet, cold, icy, and sandy conditions where rescuers must struggle with cold, gloved hands and a high potential for fouling.

CARABINER STRENGTH AND MATERIALS

Two organizations — the Union Internationale des Associations d'Alpinisme (UIAA) and the National Fire Protection Association (NFPA) — have established standards for minimum breaking strength for carabiners. Table 1 shows these standards for technical use and type K carabiners. (K is short for klettersteig, the German word for via ferrata.) The numbers show the minimum forces, expressed in kilonewtons (kN), that the carabiner must withstand under various types of loading. One kilonewton is approximately 224.8 pounds, roughly the weight of a male rescuer with a rescue pack. The standards cover three loading configurations:

- Along the major axis, that is, parallel to the spine;
- Along the minor axis, that is, perpendicular to the spine (often across the gate); and

TABLE 1. NFPA AND UIAA MINIMUM BREAKING-STRENGTH STANDARDS FOR CARABINERS

Axis	NFPA 1983 Minimum Breaking Strength (Technical Use)	UIAA 2018 Minimum Breaking Strength (Type K)
Major	27 kN	25 kN
Minor	7 kN	7 kN
Major (gate open)	7 kN	7 kN



Figure 2. Assortment of carabiner shapes. Clockwise from upper left: nonlocking D-shaped carabiner, locking oval carabiner, locking D-shaped carabiner, triple-action autolocking pear-shaped carabiner, screw-lock pear-shaped carabiner, and asymmetric locking D-shaped carabiner.

- Along the major axis with the gate open.

All major mountaineering gear manufacturers stamp their products with these three strength ratings.

Most recreational climbers and many alpine rescue teams use aluminum alloy carabiners that meet UIAA type K standards. These carabiners have two advantages:

- They are lightweight and therefore easy to carry in rescuers' backpacks.
- They resist oxidation and corrosion.

Aluminum alloy carabiners that meet UIAA standards provide sufficient strength for most ground-based ski patrol applications.

In many high-angle rescue environments, especially in urban settings, fires, and helicopters, steel carabiners are more common. Steel carabiners are stronger — around 45 kN along the major axis — but their weight discourages use by terrestrial rescuers in backcountry and alpine environments.

CARABINER SHAPES

During the past four decades, carabiner manufacturers have developed a bewildering array of carabiner shapes, each having advantages in certain applications. For rescue applications, we can sort these shapes into three categories: oval, D-shaped, and pear-shaped. Figure 2 shows examples of these shapes.

Oval carabiners represent the oldest shape. They distribute the stress of a load symmetrically between the spine and the weaker gate side. These carabiners are suitable for attaching pulleys and some other hardware, but in general this shape is not the best choice for rescue work.

D-shaped carabiners concentrate stress on the spine, which is the strongest part of the carabiner. For this reason, the D shape is the strongest and most versatile for rescue applications. A variant, the asymmetric D, also shown in Figure 2, has an angulated gate side to allow for a wider opening.

Pear-shaped carabiners are large-capacity locking carabiners specially designed for use with the Munter hitch. For this reason, alpinists often refer to pear-shaped carabiners as HMS carabiners, after the German word *Halbmastwurfsicherung* (“half clove hitch”) for Munter hitch. Because the Munter hitch is such an important knot for belaying and in lowering systems, a few pear-shaped carabiners belong in every mountain rescue kit.

In short, D-shaped and pear-shaped locking carabiners are the main types of carabiners used in mountain rescue.

CAVEATS

The use of carabiners in rescue rigging comes with two caveats. First, riggers must take care to load every carabiner along its major axis, parallel to the spine. Cross-loading, and especially loading on the gate, can lead to disastrous failures. Another, more subtle rigging error is to load a carabiner triaxially, as shown in Figure 3.



Figure 3. Triaxially loaded carabiner.

The second caveat concerns screw links, shown in Figure 4. These devices, commonly found in hardware stores and useful in other applications, are not designed for mobile rescue use. In particular, they are not subjected to the same type of testing required of rescue gear. In addition, screw links are difficult to use in rescues since they require multiple turns to open and close and after exposure to a wet, corrosive



Figure 4. Screw link.

environment can lose strength and require a wrench (or worse) to open.

THE UPSHOT

As your team puts on harnesses and leashes and adds clothing layers in preparation for the frigid job ahead, you make a quick accounting of the gear needs. You'll need at least five D-shaped locking carabiners, a rope, and three pulleys for a system to raise the loaded litter. To lower rescuers down to the patient, you'll need a rope and a pear-shaped locking carabiner. Because it's so cold, you opt for the screw-gate variety to make it easier for your team to rig the system with gloved hands. It's time to put those systems together! +

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The Toxicology Patient

RECOGNIZING INTENTIONAL AND UNINTENTIONAL TOXICOLOGICAL EMERGENCIES

BY CANDACE HORGAN, NATIONALLY REGISTERED PARAMEDIC

Patients on hallucinogens often have distortions in perceptions.

It's a warm summer day, and your patrol is covering the music festival at your resort. You are assigned to the aid room with one other patroller. The radio buzzes to life, and security says they are bringing an altered guest to you. The guest was found lying on the ground in the bathroom, and security states she seems sluggish to respond. You and your partner grab a pulse oximeter, blood pressure cuff, a pupil pen light, and oxygen to prepare for the basics.

When security arrives, you see a mid-20s woman who is stumbling. Two security guards are supporting the guest on either side of her. Her head is lolling on her shoulders, and she isn't tracking you when you approach. The guards sit the patient down on the bed, and you and your partner start a quick assessment. Your partner starts with vitals, while you question the patient with SAMPLE and OPQRST questions to try to elicit information on how she ended up in this state.

Toxicology

Humans have been consuming plants and other substances for thousands of years to alter their consciousness. According to a study by Professor Elisa Guerra-Doce, Neolithic humans were cultivating a variety of psychoactive compounds as early as 8,600 B.C., including opium and magic mushrooms (<https://www.livescience.com/49666-prehistoric-humans-psychoactive-drugs.html>). Farmers in Europe were cultivating opium in regions of Switzerland, Germany, Spain, and Italy by 6,000 B.C.

In the context of emergency medicine, toxicological emergencies include a wide variety of substances and routes of administration. A toxicological emergency can be the patient who has overdosed on recreational drugs, or it can be the patient who has suicidal ideation and has swallowed a bottle of Tylenol.

Depending on what substance a patient has ingested, they can be tachycardic or bradycardic, tachypneic or bradypneic,

hypertensive or hypotensive, and hyperthermic or hypothermic, so taking a good history of your patient and getting a good set of vitals is important.

Complicating your care for a patient suffering from a toxicological emergency is that the patient is often an unreliable narrator. I have treated patients suffering a toxicological emergency where I can see the remnants of cocaine in their nostrils, yet the patient repeatedly denies taking any drugs. They will also soft-peddle the amount of drugs they have taken. For instance, a severely intoxicated patient will almost always say they've had a couple of beers when you ask them how much they have had to drink.

As an emergency medical services provider, it is not a matter of if but when you will respond to a patient experiencing some sort of toxicological emergency.

Terminology

Toxicology is defined as the study of poisons and overdoses. A poison is any

substance that can harm the body, which, for all intents and purposes, is anything. For instance, water can be lethal when consumed in too large an amount because it causes massive electrolyte shifts inside the body. An overdose is when a patient consumes a pharmacological substance in amounts greater than recommended.

The therapeutic window is another concern with toxicological emergencies. The therapeutic window is how dosing of a medication is decided and is the difference between the lowest effective dose and the highest dose of a drug before the patient has adverse effects. Some recreational drugs such as cocaine have a very narrow therapeutic window. There are also prescription drugs such as digoxin that have a very narrow therapeutic window. Complicating matters further is that taking a drug from a similar class can also push the patient past the therapeutic window.

There are several routes a patient can take a drug by, including ingestion, inhalation, ocular, and injection.

Recreational drug toxidromes

A toxidrome is a combination of signs and symptoms as the body reacts to a drug, which can broadly be thought of as pharmacodynamics (the action or effects of drugs on the body). The study of how the body processes a drug is called pharmacokinetics, which includes four primary modes: absorption, distribution, metabolism, and excretion.

Opioids

As stated earlier, the human use of the opium poppy dates back thousands of years. It has been used for both its pain-killing and narcotic properties. Opioids include naturally occurring substances such as codeine and morphine, semi-synthetics like oxycodone and hydrocodone, and full synthetics like fentanyl and tramadol.



Patients suffering toxicological emergencies can become combative and violent. Photo by iStock.com/sturti.

The abuse of opioids is a large problem in the U.S. It is estimated that 50 million people in the U.S. abuse opioids and that 175 people die daily in this country from opioid overdoses. Abusers often have become hooked on prescription pain meds before turning to heroin because the latter is cheaper and easier to get.

Another problem with opioids is that cheap synthetics like fentanyl are often used as a “filler” in other drugs. There have been documented cases where people thought they were taking one drug, such as cocaine, and they ended up with an opioid overdose because the cocaine was adulterated with fentanyl. In 2017, a student at the University of Colorado Boulder bought what she thought was Xanax as a party drug from a dealer on the street. However, the pill was laced with fentanyl, and she died.

According to a study by the Drug Enforcement Agency, there was a 112 percent increase in samples of cocaine that contained fentanyl in the year 2018 (<https://www.addictioncenter.com/community/traffickers-mixing-fentanyl-cocaine/>).

With the narcotic antagonist naloxone easier to obtain, some opioid users are having “flatline” parties, where they will try to get as close to the edge of death as possible before having a “designated naloxone driver” administer the antidote.

Symptoms of opioid use include miosis (pinpoint pupils), respiratory depression (rates below eight can be seen with severe overdose), and CNS depression. Other symptoms include hypotension, nausea and vomiting, and seizure/coma/death.



“It is not a matter of if but when you will respond to a patient experiencing some sort of toxicological emergency.”



Concerts, such as this one at Red Rocks in Colorado, often produce many toxicological emergencies for EMS providers. Photo by Candace Horgan.

Naloxone is not without complications. It can cause severe withdrawal symptoms, and it can also cause noncardiogenic pulmonary edema. The administration of naloxone is outside the scope of an OEC provider, but if you have a waiver for it on your patrol from your medical director always remember to start with a low dose and give just enough to correct the respiratory depression, not enough to wake the patient up. The common saying for EMS providers is “Point five to stay alive,” referring to a dose of 0.5 milligrams.

Regardless, since opioid overdoses cause respiratory depression, it is important to provide ventilatory support to the patient, either by non-rebreather mask or bag valve mask.

Stimulants

Stimulants mimic or enhance the effects of catecholamine neurotransmitters such as norepinephrine, epinephrine, and dopamine. Stimulants include many different drugs, ranging from street drugs to prescription medications that are abused.

Cocaine, amphetamine, and methamphetamine are the drugs most people likely think of when they consider abused stimulants. Cocaine itself was first isolated in 1855 and was used for its anesthetic and bleeding control properties. It is estimated that 90 percent of the paper currency circulating in the United States contains trace elements of cocaine. Cocaine also blocks sodium channels in cell membranes, so it can lead to lethal cardiac arrhythmias.

Amphetamine was first synthesized in 1887 and is used as a component of cold

medications, nasal decongestants, and for the treatment of obesity, epilepsy, and Parkinson’s disease.

Methamphetamine was first synthesized in the 1920s. It is most commonly produced from pseudoephedrine (found in medications like Sudafed) and a variety of home chemicals. It is also highly addictive. Patients who have extensively abused meth will have dry mouth, will grind their teeth, and often pick and scratch at their skin because it feels like there are bugs underneath it.

Ecstasy was first synthesized by Merck in 1912 as an appetite suppressant. Users report a euphoric high and a sensation of loving everyone. When pure, it can enhance self-esteem and empathy.

Other commonly abused stimulants are ADHD medications such as Ritalin, Adderall, and Desoxyn.



Traces of cocaine can be found on up to 90 percent of U.S. currency.

Symptoms of stimulant abuse include diaphoresis, hyperthermia, agitation, and seizures. The patient will also often have mydriasis (dilation of the pupils). In its worst form, stimulant abuse can lead to excited delirium, a true life-threatening emergency that needs intervention from ALS providers.

Excited delirium patients are usually hyperthermic and diaphoretic, leading many to remove their clothes. They also can have exceptional strength. There are videos online of excited delirium patients punching through fences and car windows. The condition more commonly affects men than women. Complications from excited delirium can include hyperkalemia, an increased blood serum potassium level that can lead to lethal arrhythmias, and rhabdomyolysis, where damaged skeletal muscle rapidly breaks down. Excited delirium causes an over-demand on the heart, and these patients can go into cardiovascular collapse.

If you have a patient suffering excited delirium, avoid restraining the patient in a hog-tied position, which can lead to positional asphyxia. These patients are extremely combative, so call for law enforcement and for ALS providers.

Hallucinogens

Hallucinogens include psychedelic drugs like LSD, mescaline, and psilocybin, as well as dissociative drugs like PCP, ketamine, and Dextromethorphan.

LSD was first synthesized by a Swiss chemist, Albert Hoffman, while he was working for Sandoz Laboratories in 1938. He didn't learn of its psychoactive properties until 1943 while re-examining it. The drug's effects can last anywhere from six to 24 hours, depending on how much has been taken. The "trip" the patient is on can either be pleasant and euphoric or cause the patient to become paranoid and frightened. Psychologically, they can lose their sense of space and time.

Mescaline is the active ingredient in the peyote cactus, which has been used for thousands of years by Native Americans in shamanic and religious rituals. The effects can last for 12-18 hours.

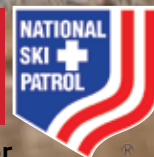
Psilocybin is the active component in more than 200 species of mushrooms. As a prodrug, it is rapidly metabolized by the body into the hallucinogen psilocin. Use of psilocybin mushrooms by Native Americans was documented by the Spanish in the 16th century. The substance was isolated in 1959 by Albert Hoffman.

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Patients on hallucinogens will have tachycardia, hypertension, diaphoresis, and increased body temperature. Patients on hallucinogens will also likely have mydriasis.

Sedatives and hypnotics

Sedatives and hypnotics include benzodiazepines like Xanax and Rohypnol, barbiturates, amyl nitrate, and GHB. When abused, these drugs can lead to hypotension, bradycardia, and respiratory depression, possibly leading to seizure/coma/death. Xanax is the most commonly abused benzodiazepine.

Cannabinoids

Cannabinoids have documented use as far back as 3,000 B.C. A non-psychoactive version, hemp, was cultivated in the early days of the Americas, including by such famous Americans as George Washington, Thomas Jefferson, and Benjamin Franklin. At present, marijuana is legal for recreational use in 11 states and legal for medical use in 33 states.

Patients on cannabis report a feeling of euphoria. They often have delayed reaction times and will have an elevated heart rate. Patients who use too much, as can often happen with edibles, can become paranoid and irritable.

Long-term abuse of marijuana can cause Takotsubo cardiomyopathy, a heart attack mimic, as well as cerebrovascular accidents, hyperemesis, and even cannabis psychosis.

With the increased popularity of edibles in states where marijuana is legal, ambulance responders and emergency departments are seeing pediatric patients who have overdosed on their parents' or grandparents' marijuana. The child's caretakers may not be forthcoming if this has happened, so make sure to do a thorough history.

Non-recreational toxicological emergencies

It is sobering to walk into a drugstore and look at all the products on the shelves that can lead to death when a patient



Toxicological emergencies can involve prescription and over-the-counter medications. Photo by iStock.com/Backyard Production.

overdoses. For instance, acetaminophen, which is found in over 600 over-the-counter and prescription medications, is severely toxic to the liver when too much is taken. Acetaminophen is a common medication taken by those with suicidal ideation. Within 72-96 hours, a patient who has overdosed on acetaminophen can get jaundice and GI bleeding and die.

Non-steroidal anti-inflammatories are the most commonly used drugs for pain. Sometimes patients accidentally overdose on NSAIDs because they don't realize that the different trade names are all for the same class of drug.

Other drugs that you may encounter in a toxicological emergency include aspirin, cough syrups like Robitussin, antihistamines like Benadryl, and psychiatric medications. Like cocaine, antihistamines and tricyclic antidepressants block sodium channels in cell membranes, which can lead to lethal arrhythmias.

Emergency management

The general treatment for any toxicological emergency begins with scene safety and BSI. If the patient is aggressive,

attempt to verbally de-escalate the situation, but call for additional patrolers and law enforcement if the patient seems violent or does not respond to verbal de-escalation.

Determine your patient's level of responsiveness, and consider the mnemonic AEIOU-TIPS if the patient is altered.

- **A:** alcohol and acidosis
- **E:** environment, electrolytes, endocrine, and epilepsy
- **I:** infection
- **O:** overdose and oxygen
- **U:** uremia
- **T:** trauma and tumor
- **I:** insulin
- **P:** poison and psychosis
- **S:** stroke, seizure, and shock

Most care is supportive in nature, focusing on the ABCs. Attempt to get a thorough history. If the patient is altered or is not willing to volunteer information, the patient's friends may be able to provide you with the needed information. Certain toxicological emergencies can be treated by ALS providers, so it may be

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“Be especially aggressive when managing a pediatric patient that you suspect is suffering a toxicological emergency.”

necessary to get an ambulance rolling to your location.

If the patient is responsive, there are several questions that you should ask. If possible, you should also locate the pills or substance the patient took and give it to the responding ambulance. Make sure to ask the following of your patient:

- What is the substance?
- When did you take it?
- How much did you take?
- What was the route of intake?
- Was it a suicidal gesture?

Providing oxygen can be an important part of managing the patient. When someone has overdosed on opioids or benzodiazepines, their respiratory drive can be severely depressed, and you may need to use a bag valve mask on 15-25 liters per minute of oxygen in combination with an oropharyngeal airway to properly ventilate the patient. You should also consider providing oxygen to patients who have overdosed on stimulants or hallucinogens, but the patient may find the non-rebreather claustrophobic and only tolerate a nasal cannula. Titrate your oxygen delivery with a pulse oximeter.

Be especially aggressive when managing a pediatric patient that you suspect is suffering a toxicological emergency. For instance, in a patient weighing less than 10 kilograms, one pill can be lethal. Among these “one pill can kill” are beta blockers, calcium channel blockers, diabetes medications, narcotics, nasal decongestants, and salicylates.

As an OEC provider, your primary goal should not be to focus on the drug that the patient has taken, but simply to take care of the patient. Make sure to follow your local protocols when responding to

any toxicological emergency.

You can also contact the National Poison Control Hotline at 1-800-222-1222 for help in identifying treatment options for an overdose.

Case study

Your patient refuses to volunteer any information except that she had “a couple of beers.” The patient appears to be an unreliable narrator. Your partner tells you that the patient’s blood pressure is 92/66 and her pulse is 60. You count her respirations and get a rate of 10, and your partner reports that the SpO2 is hovering at 89 percent.

You ask your partner to put the patient on oxygen via nasal cannula at two liters per minute. While they do so, you examine the patient’s pupils and find them to be pinpoint. You radio dispatch and ask for an ambulance response. Luckily, in preparation for the numbers of people at this festival your local ambulance company has a responding unit onsite.

While awaiting the ambulance personnel, the patient’s friends arrive. You ask your partner to stay with the patient while you ask the friends some questions. When the friends are initially closed off, you explain that their friend is in serious condition and that you need information so you can provide proper care to the patient. One friend reluctantly states that the patient took a pill that she had bought at the concert that was supposed to be Xanax.

The ambulance personnel arrive and load the patient into the ambulance. They state that based on the patient’s respiratory rate and level of responsiveness, they will not be administering naloxone. The ambulance departs with your patient, and you and your partner ready for the next patient. +



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Eight Biking Fundamentals

USE THESE TECHNIQUES FOR STRONGER RIDING

BY MARC BARLAGE, NSP NATIONAL OET PROGRAM DIRECTOR

Many ski patrollers are also bike patrollers in the summer. As skiers, we are familiar with the Professional Ski Instructors of America's "5 fundamentals" for alpine skiing and often take lessons at the beginning of the season to tune up our technique for the ski season. Mountain biking has just as steep a learning curve, but often we find ourselves just riding and not paying attention to technique. See below for some biking fundamentals to get you started on the right track this spring.

1. **Body position on the bike:** Stand tall and relaxed with a slight bend in the elbows, elbows and knees slightly pointed out, and use heavy feet with light hand pressure.
2. **Bike/body separation:** Lean the bike, hinge at the elbows, and widen your knees to let the bike pivot beneath you.
3. **Pedal position:** Generally, your pedals should be horizontal when going downhill to minimize pedal strikes.
4. **Eye movement:** Keep your head up and your eyes scanning ahead. Look far enough ahead to plan for terrain changes.
5. **Braking:** For good braking technique, apply steady pressure and don't skid, brace with your legs, and keep the heels down.
6. **Steering:** Plan ahead with line selection. Try to avoid sudden changes in direction and instead flow with the trail.
7. **Speed:** Keep a safe speed for your skill level.
8. **Gear and cadence:** Shift before you get to an obstacle. Try to keep a steady cadence while climbing based on your physical capabilities.

These fundamentals are applicable to riding your local trails, bike patrolling at a cross-country event, or lift-served mountain biking. Focusing on the fundamentals of mountain biking can help you enjoy the bike and get more skilled. Hopefully, these techniques will help you to be a more skilled biker and help you have a fun and safe mountain bike season. **+**



Bike patroller out on the trail. Photo by Melanie Hood.



Rider Brayden Barlage demonstrates good technique, with pedals level and eyes ahead. Photo by Marc Barlage.



NSP Looks To The Future With FirstNet

AGREEMENT SERVES FIRST RESPONDERS WITH PRIORITY SERVICE

BY DICK WOOLF,
NSP NATIONAL TELECOMMUNICATIONS ADVISOR

LLast December, NSP signed a partnership agreement with AT&T FirstNet, formalizing an effort that had been underway since mid-2017. NSP patrollers holding valid OEC certification were recognized as EMS first responders for purposes of qualifying for priority service, equivalent to state-issued EMT licensure.

FirstNet is a parallel cellular service operated by AT&T under contract to the federal government. FirstNet is available for police, fire, and EMS personnel who have been approved by their agency's chief of service or designee (in our case, the patrol director or representative). Each ski patrol has been set up as an individual "agency," just like a police or fire department. OEC-certified patrollers who have been listed on their patrol's "Local Control Portal" (roster) may purchase FirstNet service without the need to present credentials at an AT&T store, online, or by phone. OEC-certified patrollers have received an invitation to complete their personal profile to apply for FirstNet service. Once they submit their profile, they will receive an authorization code by email from FirstNet; this code is all that's needed to sign up for service.

FirstNet operates on an exclusive group of cellular channels called "Band 14." Because this band is specifically for FirstNet, it provides a higher level of call and data priority to FirstNet users compared with the regular consumer cellular bands. This will prove important during emergencies or large public events when regular cellular service is overloaded or unavailable. FirstNet users have access to this band even when there is no emergency or network overload.

A special "black" SIM card is required to access Band 14. This card is issued by AT&T to FirstNet users when you sign up for service. It replaces the regular SIM card in your phone. The phone must be capable of accessing Band 14. The phones with this capability are listed on the www.firstnet.com website.



Telehealth allows first responders to transmit data like an ECG.
Photo c/o North Huntingdon EMS/Rescue.

The biggest benefits of FirstNet for EMS providers will be in data technology, including telehealth. FirstNet provides a fully encrypted, HIPAA-compliant network, so patient diagnostic and other personal data may be safely sent to the next point of care. Non-invasive tools such as ECG and field ultrasound can be sent live to a remote clinician for interpretation and medical direction. These technologies are now being developed for first responder use. Live video from drones may be sent to multiple members of a search party. Interfaces called "gateways" can link conventional two-way radio systems (like patrols use today) to smartphone talk groups. Eventually, "mission-critical push-to-talk" technology on FirstNet smartphones may replace radio, but not in the short term.

FirstNet should not be viewed by patrollers as simply a lower-cost cell phone service with priority and pre-emption, but rather as the future of EMS telecommunications technology to provide better patient care.

Questions/comments on this topic may be directed to telecom@nspserver.org. +



WOMEN'S PROGRAM

Widens Horizons

DIVISIONS ADD
WOMEN'S PROGRAMS

BY TANYA THOMAS, NSP NATIONAL
WOMEN'S PROGRAM ADVISOR



Tanya Thomas (L) with new Northern Division Women's Program Supervisor Katherine Weber (R). Photo by Tanya Thomas.

The Women's Program is expanding! I was fortunate enough to receive an invitation from the Northern Division to attend their Winter Tip Off in January. It's a division-wide clinic that includes a toboggan instructor refresher, toboggan enhancement clinic, Senior Outdoor Emergency Transportation clinic, Professional Ski Instructors of America and American Association of Snowboard Instructors clinic, banquet, and for the first time ... a Women's Program clinic!

I arrived ready to give a talk about the Women's Program to a group of instructors prior to their OET instructor recertification course. It turns out Mike Marlow had me teach the Toboggan Trainer's Workshop! I was slightly unprepared, but with the help of toboggan masters Marc Barlage (NSP national OET Program director), Jeffrey Weitz (NSP national OET Program assistant director), Michael Marlow (Northern Division OET supervisor), Daryl Whitcher (Far West Division OET supervisor), and Travis Meikle (Intermountain Division OET

Women's group at Powderblast in Alaska. Photo c/o Tanya Thomas.



Women's clinic at Powderblast in Alaska. Photo by Tanya Thomas.



Women's clinic at Northern Division Winter Tip Off. Photo c/o Tanya Thomas.

supervisor), we split up the 16 instructors and worked on tips to finesse the toboggan in the handles and on tail rope, working smarter not harder, and encouraging good communication between toboggan handlers. All the instructors took away tips for not only teaching but for themselves.

The next day, Katherine Weber and I hosted a Women's Program toboggan clinic where we split into a half day skiing with a PSIA instructor and a half day tobogganing as a group of women. The ideas shared, confidence gained, and smiles all around are why I do what I do. Katherine has since been appointed as the Northern Division Women's Program supervisor, so if you're in the Northern Division look her up and seek information

on how to host or attend a clinic in the 2020-21 season.

In February, I made the long trek from South Carolina to Alaska for the Alaska Division's Powderblast. I was told it's like a "mini Powderfall" by some from the division. Alyssa Keill was appointed the Alaska Division Women's Program supervisor after attending Women's Program offerings at Powderfall last year. She came back to her home division and pushed to create a Women's Program for her fellow women patrollers.

Did you know Alaska only has 374 patrollers total? There were 65 registrants for Powderblast, and over three days we worked on toboggan skills, PSIA-AASI and Nordic clinics, and hosted women's toboggan clinics. We worked on "dances"

with the toboggan — a little wheelbarrowing and outside the handles work gave the women confidence to move the toboggan however and wherever they needed to without hesitation.

We had three candidate ladies from Fairbanks that hadn't had much time with the toboggan improve and start moving them like they'd been driving them for years. Moose Mountain has already hosted their own one-day clinic, and Alyssa hopes to increase participation in the program during the 2020-21 season.

Lastly, we have started back up with a nationally recognized Women's Program in the Pacific Northwest Division. I learned that Heather Van Houten has been hosting women's toboggan clinics since the late 2000s. Now that the division is sponsoring the program, we hope to see it grow even larger! I look forward to attending the Nuts and Bolts Clinic at Mount Hood this summer to host a women's clinic there again as well, and I encourage you to attend if interested in some skiing in June.

Remember, the goal of the Women's Program is to empower patrollers, advance skills in all aspects of patrolling, and develop leaders. We want to recruit and retain women by working with younger patrollers, recruit the moms, educate about alumni and how they can continue membership and come back, and encourage leadership by tapping someone on the shoulder and suggesting they become an instructor or run for an office.

See you out there! +



Women's clinic at Northern Division Winter Tip Off. Photo by Tanya Thomas.

Kort Plantenberg

Kort Miller Plantenberg, 28, of Avon, Minnesota, died on Dec. 5, 2019, in a Minnesota Army National Guard Black Hawk helicopter crash while serving as crew chief on a routine maintenance test flight. His death occurred while on a path to fulfilling his dream to be a helicopter pilot performing what he always has done: selflessly help people.

Kort joined the Powder Ridge Ski Patrol in Kimball, Minnesota, in 2007 and the NSP as a candidate in 2008 while a junior at Albany High School. Upon graduating, he attended the University of Minnesota Duluth to earn a degree in criminal justice. In college, Kort joined the Spirit Mountain Ski Patrol, where he served from 2009-14. Upon graduation, he returned to the St. Cloud area, where he was employed as a correctional officer.

From an early age, he was obsessed with helicopters and flying, his lifelong dream. With the most persistence and patience, Kort found a way to fulfill this dream. While eligible to enter the National Guard as an officer, he chose to enlist in the Minnesota Army National Guard on March 1, 2016, as an aircraft mechanic with the Guard's Company C, 2-211th General Support Aviation Battalion, known as the Northstar Dustoff. This route would not only afford him a chance to be a pilot, it would also satisfy his ever-present mechanical curiosity by requiring him to first be deeply trained on the aircraft's systems while saving lives and helping people.

His commitments to the Guard required him to travel for lengthy periods of training and deployment, which precluded him from active ski patrol service.

Regardless, he refreshed and would routinely stop by Spirit Mountain to lend a hand. In the Guard, Kort demonstrated his leadership skills and quickly attained the rank of sergeant. After completing electrical systems and mechanical training, he served a nine-month



Kort Plantenberg

deployment with the Northstar Dustoff Battalion in Kuwait and Iraq. The unit provided aerial medical evacuation and assisted with the evacuation of over 350 soldiers and civilians.

Kort returned from deployment on May 11, 2019, and was quickly hired as a federal technician Black Hawk mechanic. By demonstrating his exemplary service, strong leadership, aptitude, dedication, and skill, he was selected to begin the warrant officer program in March 2020, with flight school scheduled this fall. Once his flight training was complete, he looked forward to rejoining the ski patrol family. Any organization to receive Kort would truly have been receiving an amazing, thoughtful, and gifted member.

As an extraordinary athlete, Kort joined the Minnesota biathlon team for the Army National Guard, where he competed across the U.S. He enjoyed fishing and hunting, served as a lifeguard and on ski patrol, had a true mechanical gift, and was deeply giving in all his volunteer and professional endeavors.

He would drop what he was doing to selflessly help any person. He tirelessly contributed his time and skills to help friends and neighbors, loved solving problems, and met challenges with unbreakable determination. He was a man of dedicated service to his community, family, and friends. Kort will always be remembered for his quiet kindness, gentle strength, unwavering dedication and persistence, and generous spirit. He lived a life devoted to service filled with love for family, friends, animals, and nature. His legacy and life force are indelible.

Kort is survived by his parents, Steve and Laura; sister, Isabel; grandmother, Theresa Elliott; trusted canine companion, Max; and countless friends and coworkers, Northstar Dustoff family, and the Powder Ridge and Spirit Mountain ski patrols who will be forever thankful for his exceptional service.

Travis Davidsavor

Spirit Mountain Ski Patrol, Minnesota (with contributions from JJ Helm and Tim Burnett of Powder Ridge Ski Patrol, Minnesota; and Major Nathan Burr, Minnesota National Guard)

Franklin Smith

It is hard to believe that Kissing Bridge patroller Franklin L. Smith Jr., National Appointment Number 5504, was starting his 50th year and was on patrol duty skiing at Kissing Bridge one morning and in the hospital that same afternoon. He passed away April 3, 2019, leaving behind his wife, Diane, the current Kissing Bridge patrol director. The two met during his training year for the Glenwood Acres Ski Patrol in Western New York and married in 1975. He is also survived by their children, his two sisters and their husbands, and 10 nieces and nephews.

Born in 1938 in Buffalo, New York, and a graduate of the St. Mary's School for the Deaf, he was a retired employee of the Facilities Division of Erie County, New York. This gentleman was the essence of what it means to be a volunteer and serve others. He was a very quiet individual who avoided the limelight. While at Kissing Bridge, he always made time for those that needed a mentor or coach and was a person that would always lend a hand or pass on knowledge.

The distinguishing feature about Frank was that he was always ready to serve not only his own patrol but also the National Ski Patrol. He served as training officer numerous times throughout his career. He was highly involved with the Junior (now Young Adult) Patroller Program and traveled to assist at several Eastern Division and National Junior Seminars. He also was an Eastern Division Ski and Toboggan examiner for 10 years.

One of Frank's unique experiences included being highly involved with Fall Forums of the Eastern Division. He not only was involved with the planning stages of each event, he also was the person to turn to during the event to help make it successful.

As a Western New York patroller, he



Franklin Smith

participated as a field marshal at both the World University Games and Empire State Games. This exposed the National Ski Patrol in a very good light to the public.

Over the years, Frank has been recognized as Kissing Bridge Patroller of the Year and Western New York Region Patroller of the Year. He also was awarded two Blue Merit Stars and the Distinguished Service Award.

The smile never left Frank's face, and he would do anything for anyone. We learned to never ask Frank how the skiing was, because even if it was pouring rain and black ice on the hill, he would tell you the skiing was great. He would be on the hill no matter what the weather conditions were, always skiing in control.

Frank was the ultimate patroller, exemplifying everything a patroller should strive to be. He set an example for all of us, quietly going about doing those things that make the ski patrol the wonderful service organization that it is. We believe this attitude of service went far beyond the ski patrol; it was a way of life for Frank.

Mary Murrett and Duncan Black
Kissing Bridge Ski Patrol, New York

Harry Weldon

Harry Weldon, a long-time patroller, died on Sept. 26, 2019, at the age of 90.

Harry was born in Australia but came to the United States at the age of 2 when his parents returned. He grew up in California, joined the U.S. Coast Guard, and graduated from the University of California, Berkeley with a degree in structural and civil engineering. He worked as a construction engineer in California, London, Netherlands, Cameroon, Nigeria, Texas, Louisiana, and Las Vegas.



Harry Weldon

With all that, Harry managed to be a volunteer ski patroller for over 50 years, with the last 30 years spent with the Lee Canyon Ski Patrol. In addition, he led outings for the Sierra Club in different locations and served at the information desk at Red Rock Canyon National Conservation Area.

He will be missed by family, friends, and his long-time companion, Marianne. Harry was a mentor, always had a story to tell, and he enjoyed helping people in a time of need or just chatting to be friendly.

Marianne Slagle, Sam Scheller, and Patricia Sackin

Heinz Wolf

My uncle, Heinz Albert "Dutch" Wolf, 95, of Amherst, New York, passed away on March 19, 2019.

Dutch was born in Germany on June 10, 1923, and came to the Buffalo, New York, area with his family in 1928. His father decided to leave Germany to avoid the rising Nazi Party.

After being drafted into World War II, Dutch volunteered for the Army Air Corps. He wanted to be a pilot, but the Air Corps had enough pilots, so he became a waist gunner on a B-17. He flew over 30 missions over Germany in the Eighth Air Force. He was a member of the 350th Fighter Group 100th Bombardment Group, "The Bloody Hundredth." After his plane was hit by anti-aircraft fire, he survived a crash landing in England.

Dutch finished off his military service as a firefighter in the forests of Montana. He hitchhiked all around the West and fell in love with that beautiful, rugged country.

After his return to the Buffalo area, Dutch married Rita Delores Heany in 1946. He began an apprenticeship as a plumber and later joined the Buffalo Fire Department. Dutch was a Buffalo firefighter for 23 years and, at the same time, he and Rita operated Heinz Wolf Plumbing and Heating for over 30 years.

Dutch started skiing with Rita shortly

after they were married, first on small hills at local parks and then at Glenwood Acres Ski Area. He and Rita joined the Glenwood Acres Ski Patrol in 1952. When



Dutch Wolf

Holiday Valley Ski Resort opened in 1957, he and Rita were founding members of the ski patrol. The initial seven members of the patrol solicited donations from Ellicottville town merchants to purchase double-handled toboggans and necessary first aid supplies. Dutch was the first training officer and was a Ski and Toboggan trainer and examiner for many years.

Dutch became a Senior patroller in 1960 and was awarded National Appointment Number 2739 in 1964. He received the National Distinguished Service Award in 1996 and the Patroller's Cross in 2002 for many shoulder dislocations.

In 2002, Dutch and Rita each received their 50-year service awards and a National Certificate of Appreciation. Dutch retired from patrolling shortly after that but continued to ski until he was 88.

For many years, Dutch enjoyed skiing using the "Wedeln" technique, which carried him straight down the fall line as the tails of his skis swished from side to side. He was always looking for a powder run. In his long career of skiing, Dutch taught many friends, relatives, and patrollers to ski using his famous "Follow me!" technique.

Through the years, he and Rita enjoyed skiing at many ski resorts in the West as well as the Alps in Austria and Switzerland.

At the time of his passing, Dutch was an NSP lifetime member and NSP alumni.

His fellow patroller and wife, Rita, passed away in 2017. His daughters, Patty and Kathy, four grandchildren, and one great-grandson survive him.

Jim Decker
Holiday Valley Ski Patrol, New York

2010-PRESENT

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Congrats to our winner, Tracey Elder of the Eldora Ski Patrol in Colorado, and thanks to everyone for their submissions. Thanks to Dave Kennedy, of the Payette Lakes Ski Patrol in Idaho, for the photo. The sculpture was created by James Bryan of the Payette Lakes Ski Patrol.

WINNER

"Slow zone patrolled by archer. Speed at your own risk."

— Tracey Elder, Eldora Ski Patrol, Colorado

HONORABLE MENTIONS

"Our patrol director told us to keep busy today, so we created this."

— Lael Simmons, Boyce Park Ski Patrol, Pennsylvania

"I've warned you for the last time, no more ducking closure ropes!"

— Kelley Creamer, Bogus Basin Ski Patrol, Idaho

"Only the worthy may pass. I'd turn back if I were you, lest the fires and arrogance of your youth consume you and bring you to an untimely end."

— Barry Bennett, Boston Mills/Brandywine/
Alpine Valley Ski Patrol, Ohio

"Alright the next one of you jokers who tries to send it off my nose gets this here arrow for a chaser."

— Peter Tait, Silver Mountain Ski Patrol, Idaho



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