



# ski patrol

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## 38 STOMPING SNOW

BY LINDSAY DEFRADES

The general public does not often see the grueling efforts of patrollers performing avalanche mitigation work. To better prepare the snowpack, some resorts still use old-fashioned foot power, as Lindsay DeFrades found out when she joined a bootpacking crew at Snowmass Resort in Colorado.

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BY BILL FINLEY

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BY SHEILA SUMMERS

The Lakewood office staff worked long hours over the summer implementing website and database updates. The website has a new look that will better serve members.

Cover/Left photo: Thomas Smiley/  
Smiley's Mountain Photo.  
Photo above: Lindsay DeFrates

Errata: In the summer *Ski Patrol Magazine*, in an article entitled "Keeping Backcountry Patrollers Safe," the writer, Alan Stark is misidentified as the Bryan Mountain Nordic Ski Patrol Director. Kelly Greene is the BMNSP patrol director. SPM apologizes for the error.





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# NATIONAL SKI PATROL

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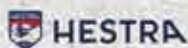
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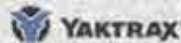
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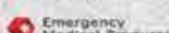
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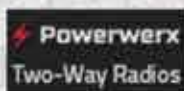
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# Letters

## to the Editor

### A&P clarification

Dr. Johe has provided a very helpful review of oxygen administration in the current issue of *Ski Patrol Magazine*. However, there is one statement on page 88 that is not quite accurate: "Sensors in our neck arteries detect the carbonic acid [in the blood] and send signals to the brain to regulate breathing."

While the receptors in the carotid arteries (carotid bodies) are the main receptors for low PO<sub>2</sub> (oxygen concentration in the blood), they play only a minor role in responding to low CO<sub>2</sub> (carbonic acid concentration). The main receptors that respond to low CO<sub>2</sub> and trigger breathing are in the medulla of the brain.

Steve Donelan

OEC Officer, Pinecrest Nordic Ski Patrol

### Reply from David Johe, M.D.

Steve has a very good comment on the article in the last issue of *Ski Patrol Magazine* regarding oxygen and breathing. He is correct regarding the carotid bodies in the neck. The carotid arteries in our neck have specialized chemical receptors called carotid body receptors. These receptors play only a minor role in sensing CO<sub>2</sub> as carbonic acid and are more sensitive to PO<sub>2</sub>. A part of the brain, the medulla, plays a more important role in sensing low CO<sub>2</sub>, which triggers an increase in breathing. The carotid bodies primarily respond to decreases in PO<sub>2</sub>. Thanks Steve, for that correction.

For a patroller, this is a complicated chemical/neurochemical pathway. These sensors and neuropathways monitor carbon dioxide (CO<sub>2</sub>) in our blood as carbonic acid and also monitor the oxygen (PO<sub>2</sub>). The importance to patrollers is that without this response by our body in sensing the need for more oxygen when hypoxic, we would not automatically breath faster.

David Johe, M.D.

Holiday Valley Ski Patrol

### Oxygen and traumatic brain injury

Dr. Johe's article on oxygen and pulse oximeters in the summer 2019 issue of *Ski Patrol Magazine* was a refreshing look at a more appropriate

and modern use of oxygen, guided by relatively inexpensive technology, i.e., pulse oximeters. The long-standing practice of fairly indiscriminate use of oxygen on patients who do not require it is expensive, and in some cases it can be harmful. As Dr. Johe pointed out, oxygen saturations as detected by pulse oximetry (SpO<sub>2</sub>) are generally acceptable when over 94 percent. The amount of oxygen attached to red blood cells drops precipitously when saturations are below 90 percent, so 94 percent gives us a buffer. On the other hand, oxygen given to patients with 100 percent saturation is nothing more than a waste of an expensive resource.

So, while I agree with most of what Dr. Johe conveys in his article, I have to hesitate on the paragraphs referring to head injuries. As we all know from CPR training, the brain is exquisitely sensitive to hypoxia, and the science shows us that hypoxia and hypotension are the two things that will worsen outcomes following a traumatic brain injury (TBI). A single hypotensive event with a systolic blood pressure less than 90 mmHg increases the odds of dying by 2.5, and a single hypoxic event triples the likelihood of death.<sup>1</sup> We should, therefore, make every effort to avoid those two conditions in the prehospital setting. Dr. Johe cited conditions in which the pulse oximeter may not be accurate, but additionally, there is an inherent delay between a change in the delivered oxygen and what shows up on the pulse oximeter. Hence, attempts to titrate oxygen delivery may result in periods of hypoxia to the brain, with its subsequent negative outcomes. It is safer to establish an oxygen flow that provides an SpO<sub>2</sub> greater than 95 percent<sup>2</sup> and then leave it alone.

As a point of clarification, Dr. Johe's point about carbon dioxide should be taken very seriously. It is very easy to over-ventilate a patient using an AMBU bag with an inappropriately rapid rate, driving the CO<sub>2</sub> down and limiting adequate blood flow, and therefore oxygen delivery, to an already damaged portion of the brain. Paying close attention to the rate at which you are squeezing that bag can prevent this from happening.

### References

- 1) Spaite DW, Hu C, Bobrow BJ, et al. "The effect of combined out-of-hospital hypotension and hypoxia on mortality in major traumatic brain injury." *Ann Emerg Med.* 2017;69:62-72.
- 2) American College of Surgeons Trauma Quality Improvement Program, "Best Practices in the Management of Traumatic Brain Injury."

David Shatz

Sierra Ski Patrol

Trauma/Critical Care Surgeon,

University of California Davis Medical Center



## Reply from David Johe, M.D.

I thank Dr. Shatz for his comments. He has very good points. My goal was to educate patrollers to decrease the use of unnecessary oxygen for many medical situations. We still recommend providing immediate high-flow oxygen by non-rebreather mask oxygen in the field for a traumatic brain injury (TBI), and once inside the aid room slowly and carefully titrate the oxygen saturation, keeping the SpO2 greater than 94 percent (between 94 and 99 percent) with a quality pulse oximeter while continuing to use a rebreather mask. Using a pulse ox in the field is fraught with problems, and accurate readings are hard to obtain. I think that oxygen concentrations higher than 99 percent SpO2 saturation when inside the aid room do not provide better care and may cause problems.

There are numerous articles in the peer-reviewed medical literature that show for hospitalized patients, too much oxygen (hyperoxemia) appears to have a detrimental outcome for TBI patients, i.e., less people survived. Whether this information crosses over to prehospital care is not yet known. There is a paucity of articles in the prehospital literature on this topic. The recommendation for prehospital care is to keep the SpO2 greater than 94 percent, as hypoxemia is bad, with adverse outcomes. Obviously, other factors such as hypotension contribute to the outcome of a TBI patient. Patrollers can do very little to prevent hypotension, except control bleeding.

Once red blood cells are saturated with oxygen (SpO2 greater than 94 percent), providing additional oxygen to the patient does not appear to help. Avoid hypoxemia, and treat appropriately with oxygen.

---

David Johe, M.D.  
*Holiday Valley Ski Patrol*

## Bleeding protection

The article in the summer 2019 issue of *Ski Patrol Magazine* regarding Stop the Bleed was well done. Information will be in the next OEC textbook regarding these methods. The picture of bare hands stopping the bleeding was probably taken during an emergency situation with gloves not available, so the rescuers were not using these. I would encourage all patrollers to wear non-latex gloves and have these available when stopping bleeding. Standard precautions, body substance isolation, and personal protective equipment like gloves are important concepts to protect you from communicable disease.

---

David Johe, M.D.  
*Holiday Valley Ski Patrol*

## Reply from the editor

Dr. Johe is correct on both his assessment of the photo being an emergency situation and the importance of using gloves for body substance isolation. However, Stop the Bleed is an initiative aimed at lay responders who may not have gloves available in an emergency situation. The course itself discusses the importance of using gloves if they are available and considerations for stopping bleeding in an emergency if you do not have them, especially since the lay responder may often know the person who is in danger from life-threatening bleeding.

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# Letter

## from the Editor

By Candace Horgan, Editor



It's been an interesting year for those who pursue the harvest of white gold, otherwise known as perfect powder. Many ski areas, especially those local to the National Ski Patrol office in Lakewood, Colorado, experienced record conditions and storms. It was the type of season to bring joy to those who love winter.

Of course, by August that was a distant memory, as July was the hottest ever month recorded in history. It seems that change is the only constant when it comes to those who pursue recreation in the outdoors.

However, before that record heat set in, the NSP had a party to end parties at Powderfall in April, with almost 800 people in attendance celebrating the esprit de corps that makes patrolling a family. The weather was variable, but we did get a couple of powder days during the week that the staff was there working overtime to make the event a success. Judging by the smiles on everyone's faces, Powderfall was a great triumph. Look at the photos in this issue from the event to see how much fun was had by all, and start planning now to attend Powderfall in 2021. It's always a blast!

When we do have winters like last season's, patrollers are often kept busy working early mornings and late evenings to ensure that the snowpack is safe and that the skiing public can enjoy the harvest. Some mountains still use old-fashioned bootpacking to disrupt the early season snowpack layers and provide a more stable base. Lindsay DeFrates, a resident of the Roaring Fork Valley in Colorado, worked on a bootpacking crew at Snowmass in December and reports on what the experience was like in this issue; hint: it involved lots of slogging and exhausting work.

While the snow and the skiing and riding is often what motivates people to start patrolling, the reality that patrollers know is it is hard work, and just like other emergency medical services (EMS) providers and first responders like firefighters, we need to be ready at a moment's notice to respond to potentially horrific events. Over time, seeing and working these types of incidents can take a toll on one's mental health. Increasingly, mental stress injury is a topic that is being addressed in the EMS community. In this issue, regular contributor Eryka Thorley writes about a pilot program addressing psychiatric first aid for patrollers at her home resort, Eldora Mountain Resort in Colorado. The program received support in its creation from Laura McGladrey, who patrols at Monarch Mountain in Colorado and has worked with many EMS responders to address the topic. McGladrey was also scheduled to present on this topic at the 2019 Flight For Life® Colorado Search and Rescue Conference. We will cover her talk as part of our annual retrospective on the conference in our winter issue.

Regular columns in *Ski Patrol Magazine* offer a sense of continuity in the publication. Thorley's "From the Director's Chair" continues to be a popular way to discuss the methods patrol directors address challenges at their home resorts; it is a great way to share best practices. In this issue, Thorley talks to Brendan Irving of Winter Park Resort in Colorado. We are also starting a new column in this issue that we find very exciting. Kim Henneman, a doctor of veterinary medicine, will be sharing tips on canine (and possibly even feline) care that those patrollers who work with avalanche rescue dogs will find very valuable. Even if you do not have an avalanche rescue dog, this column will be a valuable read for those of you with furry family members. The column is called "Tips from the Vet," and we here at *Ski Patrol Magazine* look forward to seeing what we can learn about caring for our fur babies in the future.

While Powderfall is one popular venue for patrollers to meet each other and share ideas, and *Ski Patrol Magazine* offers another avenue, the best learning often happens on the hill. Some resorts have patrol exchange programs with resorts in other areas of the world. Patrick Hansen, a patroller at Keystone Resort in Colorado, writes in this issue about Keystone's exchange program with Falls Creek in Australia. In addition to all the excellent learning and training that happens through this program, it has even led to a few patroller marriages!

As always in our fall issue, we have our annual "Gear Guide" that should have you lusting after those sweet new boards or boots. Also included with this issue in the polybag is our *National Ski Patrol Fall Catalog*. There is plenty of wonderful gear in it, from outdoor layering pieces to tuning equipment to medical gear. Be sure to keep the catalog handy all year long to inspire your shopping in the NSP Online Store.

Thanks for all you do as patrollers, and I hope to meet some of you out on the hill this season. Let's all hope we get a season like last year's! +





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## Lindsay DeFrates

Lindsay DeFrates is a freelance writer and mom of three who lives in Glenwood Springs, Colorado. She and her family adventure on the slopes, trails, and rivers of Western Colorado and Eastern Utah. She can be reached at [www.roaring-forkwriter.com](http://www.roaring-forkwriter.com).



## Patrick Hansen

Pat Hansen is in his third season patrolling at Keystone Resort in Colorado. He left his job in Chicago as a software engineer to live life outdoors and now enjoys weekdays and weekends equally. Whether it's solo backpacking in Wyoming's Wind River Range, ski touring with friends in Colorado, or getting scared on the rock walls of Mount Arapiles in Australia, finding ways to combine his passions for leadership, writing, and the untamed wild keeps Pat occupied year-round.



## 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 NSP 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 the *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.



## Jim Margolis, M.D.

"Doc" Jim Margolis has been active in ski patrol for over 30 years and is a past patrol representative from Homewood Mountain Resort in Lake Tahoe, California. As an alumni member, he continues to be the medical advisor for his patrol, an Outdoor Emergency Care instructor trainer, and the Eastern Sierra Region's recruitment and medical advisor. His long-standing commitment to patrolling has been recognized with a Leadership Commendation Appointment, Distinguished Service Award, Purple Merit Star, and several Yellow Merit Stars. He continues to practice medicine as a child psychiatrist and was recognized in 2009 by the Sierra Sacramento Valley Medical Society by receiving the Golden Stethoscope Award "Doc of the Year" award. He teaches medical students at both University of California Davis School of Medicine and California Northstate University College of Medicine. He has previously written two OEC articles for *Ski Patrol Magazine*.



## 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. Twelve years ago, at Big Sky Ski Resort in Montana, she first began her ski patrol career, which she continues to this day. She lives with her husband, Jake, a fellow ski patroller, and daughter, Wynter, in Nederland, Colorado, and is on the patrol staff at their local resort, Eldora Mountain Resort, where she organizes much of their continuing medical education. When not ski patrolling, Thorley teaches avalanche courses in the Rocky Mountains and organizes hiking trips in the Alps for Alpinehikers, a U.S.-based company.



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# SMITH



# From the of Meegan Moszynski

## The Meaning of NSP

By the time you read this, I hope that the air is crisper and cooler than it is on the day I am writing it! This summer has been a toasty one in Lakewood, Colorado, although it's been hot in more ways than one: we continue to work really hard in the Lakewood office to serve NSP's members as best we can and to prepare for the next busy season.

The Lakewood office has seen a few changes recently — most notably with the hiring of new Marketing and Communications Director Beckett Stokes and new Sales and Partnerships Director Matt Mears. Both have hit the ground running by digging deep into their roles and producing some exciting work right out of the gates.

Beckett's first project was the launch of our new website(s). Hopefully, you have had a chance by now to check out the new [www.nsp.org](http://www.nsp.org). When you visit this URL, you can choose between "Visit the NSP website" and "Member sign in." The first option takes you to our new, public-facing website, where we provide information on NSP's programs, new strategic plan, how to join, how to donate, and much more. The second option takes you to a reorganized and cleaner version of the member page, where you sign-in as usual to register for courses, access your profile, find important information under "Member News," read about the candidates running for the national board of directors, and more. We hope that these new sites will better position NSP to recruit new members, retain current members, access up-to-date news and information, and promote our brand to our partners.

Matt has been working with his team to streamline our partnerships process. We know that your access to pro deals and the NSP Online Store are some of the best member benefits that we offer, and we want to be sure that we continue to bring you the best deals for the best gear out there. In meeting with current and prospective partners, visiting trade shows like Outdoor Retailer and Outerbike, and learning from our seasoned team, Matt has already shown tremendous success and will bring some great new ideas to this part of our work in Lakewood. I'm very excited to see our partnerships continue to grow.

The Lakewood office staff also has been brainstorming on ideas about how to execute NSP's new strategic plan. As you may know, the national board approved the new Strategic Plan 2030 in April, and I have been working with NSP's Planning Committee on the next steps. A crucial component of that process is an analysis of the capabilities of the Lakewood office to implement this new vision via our three strategic objectives: programs; brand awareness, identity and value; and technology and infrastructure. We have a great team in Lakewood, and I am confident that we will be successful in implementing the new plan. I look forward to continuously updating the board and the membership on how we are working to meet these newly refined objectives and, ultimately, NSP's vision.

Another important piece of work has been our analysis on the outcomes from the fall 2018 member survey. We gathered an unprecedented amount of information through this survey, and we are still sifting through the results to see how we can work to meet the



expectations of our members and industry partners. The survey was an excellent tool for us to learn more details about what members want and need, and we are excited to deliver results to meet those requests. The Planning Committee has been working hard on this project too, with input from the office staff. I am grateful to everyone who shared their feedback with us; please know that your voice has been heard and that we are working hard for you!

By this fall, we will have renovated the front area of our Lakewood office to build two new offices. With the expansion of our member services and member records team, as well as the addition of our new e-commerce accountant, Jeffrey Tefft, we have outgrown our current space. We will be adding more offices to accommodate the phone volume and accounting work necessary to keep NSP up and running. We also should have our new refurbished chairlift, courtesy of Rocky Mountain Division Director Patrick Trimm and NSP's Fundraising Committee, set up in the lobby with the 100 pavers as its base. This chair was the subject of a significant fundraising project that contributed over \$8,000 to NSP's Education Endowment Fund. Thank you so much to all who donated! I hope you have a chance to come visit us soon to check out your customized brick at the base of this chair and take a memorable photo.

In one of my favorite projects to date, we spent a lot of time over the summer sifting through storage boxes full of NSP's history. We found countless items that we have catalogued and either contributed to our archives in the Denver Public Library or placed in the museum in the Lakewood office. The museum is all spruced up now and full of more old replicas, publications, rusty parkas, and photographs than ever! We also have a hard copy of all past issues of *Ski Patrol Magazine* on hand for you to peruse. We are working with NSP National Historian Rick Hamlin to ensure that we are properly and adequately maintaining NSP's rich history for all to enjoy. Please come by, spend some time soaking up some history, and sign our visitor book. We look forward to seeing you!

With the fall season comes the beginning of journeys around the country to meet as many of you as possible to hear your stories, shake your hand(s), and thank you for your service. I look forward to meeting new faces and seeing old friends at these visits to division meetings and industry gatherings. As always, I can't wait to hear how you are and to hear your feedback on how we're doing. Thank you all for all you do! +





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# Chatting with the

## Unified Leadership

BY RICK KNIGHT, NSP BOARD CHAIR



The National Ski Patrol leadership is made up of approximately 250 people contributing as board members, division directors, program directors, advisors, committee members, and staff to maintain and improve our programs, procedures, and products. I am very proud of what these people have been able to accomplish because we are working together and working efficiently.

One of our most significant accomplishments is a new program, Outdoor Risk Management. We have selected Mark Petrozzi to be our charter Outdoor Risk Management Program director. Mark will be selecting supervisors from each division, building the program, and creating the modules for the program. Modularizing the program will allow students to choose the areas that are of most interest to them, whether it is introductory or detailed aspects of risk. He and his supervisors will have a ton of work in front of them, but this subject is in significant demand from our ski area partners, as they want help in this important area. It just makes sense that the organization that stands for “Service and Safety” should become knowledgeable in risk management.

Another significant change for NSP is we made the Education Committee a standing committee. This recognizes the importance of this committee along with Finance, Governance, and Planning in the functioning of our organization.

Speaking of the Education Committee, they have been working on several initiatives. A new leadership course is available on the website thanks to the efforts of a small, hard-working team. Students will have the option of taking the e-course on the NSP website or combining the online portion with a classroom session for Senior credit (if approved). The target audience for this course is members who have a desire to advance to a leadership position; however, it will serve as a resource for those interested in the *NSP Policies and Procedures* and NSP Bylaws and will familiarize members with the website.

An updated Patroller 101 has been completed after many years of anticipation. The objective of this update is to provide an avenue for patrols to pick and choose subjects to teach prospective patrol candidates in a wide variety of patrol-related areas.

A group of industry experts, including NSP members and the National Ski Areas Association, have been working to create a new lift evacuation manual that will be the guide for a new NSP course delivered under the Mountain Travel and Rescue Program with support from the Education Committee.

Over the past several years, there has been an initiative to ensure that the Certified Program is delivered uniformly across all the NSP divisions. Recently, through the combined efforts of the Certified Program director and staff, they accomplished that objective. The six modules of the Certified Program will serve as a guide for all divisions, providing program continuity. These are all important and helpful initiatives driven by the Education Committee.

The Planning Committee has championed the update of our strategic plan. You can find our Strategic Plan 2030 with the mission, vision, and three pillars on the NSP website. The details of how we will meet these

objectives are being worked out now. This should provide guidance to the NSP board for the next few years until we update the strategic plan again.

As you probably know, we will be releasing a sixth edition of *Outdoor Emergency Care* in the spring. A great many people have been working very hard to complete this project, led by our editors, Ed McNamara and David Johe, M.D. The book will be smaller than the previous edition, and care has been taken to make the objectives very clear so people teaching and taking the course will be directed to what students need to learn. The test questions have been reworked to eliminate confusing questions, a major concern raised by instructors.

We have also appointed new directors and advisors. In addition to Petrozzi, we appointed Bill DeVarney our OEC Program director. Bill replaces Deb Endly, who termed out. Thanks, Deb! We appointed Chuck Allen, M.D., as our OEC national medical advisor to replace Dr. Johe, who also has termed out. Thanks, David! Lastly, we appointed Mike Husar as the Safety Team advisor. These are good people doing good things.

We created a Youth Safety Committee to create guidance for those working with young adult patrollers. The intent is to keep young adults safe by using state-of-the-art policies and procedures for running programs. Look for information on these procedures soon.

Other developments include a new budget that includes support for the Safety Team to re-energize their push for safety and allow more thorough participation in safety education events. We have authorized a new Outstanding Alumni Patroller Award to recognize those alumni members who remain active supporting the NSP in an outstanding way. Our Fundraising Committee, led by board member Brian Rull with the support of NSP’s executive director and NSP accountant Stephanie Zavislan, has been very successful utilizing new ideas to raise money, including Powderfall fundraisers and grants. We continue to send board members, division directors, and staff to NSAA regional meetings to give us an opportunity to share our messages with our ski area managers.

Now that nominees have been presented for the national board election, we realize that three of our current board members will be moving on. Dave Walker, who has done an outstanding job chairing the Education Committee and who has chaired many other committees in his time on the board and participated on many others, will term out at the end of December. Josh Masur who has ably chaired our Finance Committee and has been a member on many other committees, has decided to not run for re-election. Mike Huber who has chaired the Planning Committee and been a member of others, has also decided to not run for re-election. We will miss all three sharing their well-thought-out opinions and ideas.

As we move into our refresher season and get ready for our next ski season, I hope you are happy with your national leadership and the progress we have made as we look to the future to continue to improve our organization. Thanks for everything you do for the NSP! ➕



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# OFFICE VISITORS



BOB AND BRYAN ZIEGLER, OF THE  
BOYCE PARK SKI PATROL  
IN PENNSYLVANIA,  
VISITED ON FEB. 27, 2019.



RON HAGER, OF THE PERFECT NORTH  
SLOPES SKI PATROL IN INDIANA, AND  
FRIEND, KELLY HAY, VISITED  
ON AUG. 5, 2019.



NSP BOARD MEMBERS RICK KNIGHT,  
KEN KRAMER, AND BRIAN RULL  
VISITED ON JULY 18, 2019.



JEFF HANLEY, OF THE  
SUNDOWN MOUNTAIN SKI PATROL  
IN IOWA, VISITED ON JULY 3, 2019.



KEITH WILLIAMS, OF THE  
UPPER DELAWARE NORDIC SKI PATROL  
IN PENNSYLVANIA,  
VISITED ON JULY 3, 2019.



RUSSELL HIATT, OF THE  
APPALACHIAN SKI PATROL IN  
NORTH CAROLINA, AND SON, CARTER  
VISITED ON JULY 3, 2019.



KATHY BROOKS, OF THE PAJARITO MOUNTAIN  
SKI PATROL IN NEW MEXICO, AND BOB  
AND BARBARA SKAGGS, ALUMNI MEMBERS FROM  
ROCKY MOUNTAIN DIVISION,  
VISITED ON MAY 3, 2019.

**THANK YOU TO EVERYONE  
WHO HAS VISITED  
THE NATIONAL SKI PATROL OFFICE.  
IF YOU'RE IN THE AREA,  
WE ENCOURAGE YOU TO STOP BY!**





## Re-signing Partners

The following companies have re-signed their partnerships with the National Ski Patrol. We thank them for their support.

**YAKIMA** For 40 years, **YAKIMA** has been perfecting gear racks and storage solutions that allow their customers to roam to wild places. Yakima has called the Pacific Northwest home since the beginning, and their passion for exploring is evident throughout their product line. Yakima is a dedicated supporter of the outdoor community at both the local and national level. Whether you call the mountains, rivers, or oceans home, Yakima has a carrying solution for your adventuring needs. *(NSP Pro Deals Page)*



Since 1936, **HESTRA** has remained an independently run family business. Founded in Sweden, their gloves are now sold in over 30 countries worldwide. Hestra's Alpine line is the culmination of 80 years of glove-making experience. Hestra's ski gloves are built to withstand the wear and tear of everyday use in the harshest elements. *(NSP Pro Deals Page and NSP Online Store)*



**BACKCOUNTRY ACCESS (BCA)** combines industry-leading avalanche rescue equipment with their consumer education programs and customer service. With over 20 years of experience, they are building gear that saves lives and are providing resources to prevent unnecessary accidents from taking place. *(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 percent on select systems! Think Savings, Think Lenovo. *(NSP Pro Deals Page)*



**POWERWERX** is a leader in handheld radio communications at an affordable price. They offer a variety of handheld radios and radio accessories with exclusive discounts available to NSP members. Powerwerx also offers a complete line of DC power products, including power supplies, connectors, and wire. Contact Powerwerx for all your personal and patrol radio needs. *(NSP Pro Deals Page)*



**22 Designs** manufactures high-performance telemark bindings. Based in Driggs, Idaho, all of 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 Partners

The following company just started its partnership with the National Ski Patrol. Welcome!



**KULKEA** was born in 2009 from an ambition to create the most trusted gear packs for outdoor enthusiasts and adventure seekers, packs that have the technical features, functionality, and toughness for professionals and hardcore users in extreme conditions, yet are versatile and comfortable for recreational users. These packs can be displayed with pride for having superior performance and are manufactured in a socially ethical environment. Get packing with their pro deals! *(NSP Pro Deals Page)* +

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## CENTRAL DIVISION

## Villa Olivia Ski Patrol celebrates 50 years of service



The Villa Olivia Ski Patrol celebrates 50 years. Photo c/o Harry Remper.

Villa Olivia Ski Patrol celebrated 50 years of service on June 1, 2019, with a banquet honoring both current and past patrollers for their many hours of service and commitment to the sport we all love. The celebration included a wonderful buffet, commemorative tumbler, and celebratory cake complete with our 50th anniversary logo.

Villa Olivia was named after the original owner's daughter. The Villa Olivia estate was built in the early 1900s in the town of

Bartlett, Illinois. Among the luxuries of the estate was a golf course that now serves as one of the cornerstones of the Villa Olivia Country Club, purchased in 1966 by the Corrado Family.

The golf course was just the beginning of what Villa Olivia had to offer. In 1968, the Corrados realized the underutilized potential of their property during the winter months. As a result, a ski facility was opened, the Villa Olivia Ski Patrol organized, and area

enhancements finished by 1975. The ski operation currently offers nine lighted downhill runs and three tubing chutes serviced by a quad chairlift, six rope tows, and a Magic Carpet surface lift.

The Bartlett Park District purchased Villa Olivia in 2010 and made significant improvements to the ski operation, including a new ski lodge dedicated to skiing/boarding operations, the replacement of the 35-year-old Borvig chairlift with the new Doppelmayr quad chairlift, replacement of most of the snowmaking infrastructure, a Magic Carpet to service the tubing operation, and a new patrol room trailer.

Patrol membership peaked in the early '90s when the Villa Olivia Ski Patrol rostered over 80 patrollers. Current membership is 27, with many members having over 20 years of service. We are a close-knit family, with several second-generation patrollers. We look forward to serving Chicagoland skiers and boarders for years to come.

**Harry Remper**  
Villa Olivia Ski Patrol, Illinois

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## CENTRAL DIVISION

## Tips for a better ski and snowboard swap

Our patrol has held an annual ski and snowboard swap for more than 25 years. We've learned a lot during that time; one of the most important lessons is to quickly adapt to the rapidly changing ways to communicate with and sell to the public. This challenge is the same one faced by traditional brick and mortar stores. Below are some of the most recent lessons we've learned to keep our swap at its peak.

Have a website that lets the consignor enter their data and print their price tags. This makes item check-in easier, faster, and avoids erroneously interpreting someone's handwriting. Consignors should also be able to view the status of their items at any time, and shoppers should have the ability to view the list of items that will be available at your swap.

Get a great website name. It should be easy to remember, and it should be short enough to fit on a yard sign. We selected [www.SwapAV.com](http://www.SwapAV.com) (for Swap Alpine Valley) and forward it to the actual third-party website we use. It's not necessary to use capital letters, but showing it this way makes it much easier to remember.

Shoppers will undoubtedly compare eBay prices when they visit your swap, so make it easy for your consignors to also compare their prices with eBay when pricing their items. As consignors are entering their items into your swap's website, have a link to eBay showing recently sold similar items. Unrealistically priced items are a waste of your time and resources.

Use social media to educate potential buyers and keep the buzz level high. Create Facebook and Instagram pages as well as events for your swap, and invite prior consignors and season pass holders to join them. Regularly post tips, advice, photos, etc. Use NextDoor to mention your swap. Try to get local TV news, sports, or weather reporters to do an onsite report before or during your swap. Encourage everyone to spread the word by "liking" or sharing your Facebook page and event. Those who do so could be entered into a contest that gives winners the choice of early shopping (15 minutes prior to opening) or reducing the sales commission they're charged.

Make it a festival. Invite participation by companies or organizations that would appeal to your audience, such as cider and donuts with a local cider mill, a hot dog cart, food trucks, bike club or store, Jeep or

ATV dealer (offer rides up the hill), etc.

Get area management involved too! Area management won't give us their season ticket holder mailing list, so we provide the content of email messages that we want them to send on our behalf. Management might even offer a free lift ticket for season pass holders for every \$100 (or so) of merchandise they buy or sell at your swap. The free ticket could be given to a friend to encourage them to return and bring friends.

You should capture email addresses for future swaps. Obviously, an online swap website provides email addresses of consignors, but what about the email addresses of shoppers? Have a sign-up form at your check-out register or a field on your sales screen to capture email addresses.

Some consignors bring many items to sell. Prior to the swap, each store and large consignor is assigned a different color to use for their tags; everyone else uses our red tags (that we supply free at item check-in). Stores and large consignors use their assigned colored tags at all the local swaps. At the end of your swap, it's much easier to gather the unsold items.

Use beaded ties to affix the price tags. Tape the computer printed price tags (with bar code) onto the colored shipping tags and then use a beaded tie to attach the shipping tag to each item. Beaded ties fit through the tiny eye of a zipper more easily than a zip tie and cost a lot less. Use shipping tape to affix the shipping tag directly on skis and snowboards rather than a beaded tie.

Make sure to discount the items. If you've visited a consignment sale at a church or a moms-to-moms sale, you've likely seen many items marked down 50 percent on the final day (or hours) of the sale. You may not want to reduce prices by 50 percent, but perhaps 20 percent or 25 percent. An online computerized system should be able to automatically markdown items for those consignors who wish to participate. Selling items at a discount is better than storing them until next season or lugging them to the next swap. We use a "Dis: Yes" line on the tag to show that the item will be automatically discounted at check-out if it's still available on our second sales day. Place lots of signs around the sales floor and at the entrance/exit doors as well as notices on social media. We doubled our sales on Sunday while also increasing Saturday sales compared with the previous

year.

Lastly, build better display racks. We've built new ski racks (thanks to the Cataloochee Ski Patrol's design) that hold 30 percent more skis in the same floor space. They're also easier to store, set up, and dismantle, and much more stable when partially full. We also built "trees" for helmets, goggles, and gloves (saves a lot of table space), and two-level clothing racks. Our sales floor is much better organized and less cluttered.

I've created a Facebook page for ski and snowboard swap administrators. Feel free to join and share your tips at <https://www.facebook.com/groups/372232956576206/>. You can see how many of these tips are used by visiting [SwapAV.com](http://SwapAV.com).

Bob Cowen

Alpine Valley Ski Patrol, Michigan



## Junior patrol experience contributed to life-saving efforts of Michigan Conservation Officer

On March 21, 2019, at 7:18 p.m., 24-year-old Michigan Department of Natural Resources Conservation Officer Nick Ingersoll responded to a report of a kayaker overturned in the icy, 38 F waters of Lake Erie. Ingersoll launched his patrol boat and set out to rescue the freezing victim, who used his illuminated cell phone to help Ingersoll stay on target to his location.

Officer Ingersoll was able to throw a life-jacket to the struggling kayaker. Once the kayaker was secured with the lifejacket, Ingersoll encouraged him to let go of the kayak to be pulled into the boat. Ingersoll reported that the man was, “so cold he couldn’t move or step onto the ladder.” The kayaker, frozen and exhausted, needed encouragement from Ingersoll to keep from losing consciousness during the boat ride to the waiting ambulance.

Ingersoll, a graduate of Michigan State University, was once a junior ski patroller at Mt. Brighton in Brighton, Michigan. During his years as a junior patroller in 2007-10, Ingersoll completed Outdoor Emergency Care and was then paired with an adult patrol mentor for duty shifts. It was this ski patrol job shadow experience that offered Ingersoll the opportunity to learn the importance of remaining calm under stress. By witnessing how his patrol mentor managed critical accident scenes, he gained knowledge of how to make patients feel confident in the care of others.

Ingersoll stated, “Dealing with individuals who were hurt on the hill and staying calm with them” helped him out the most during the March incident. “We always tried to keep them calm or get them to laugh, and that’s what I did.”

Noticing signs of hypothermia and the stillness of the victim helped him understand that the patient needed rapid rewarming and expedited transport to the waiting ambulance. During the 10-minute ride, Ingersoll gave the kayaker his warm, dry jacket to cover up with and kept him engaged in conversation.

Junior patrol programs can enrich a student’s life, help them discover the direction of their higher education and career desires, understand the role and importance of teamwork, and expose them to unique and urgent situations. These programs offer a chance for students to grow and mature that is unique in the winter sports industry. Observing adults who routinely handle stressful situations in a calm and professional manner

is a huge gift for these students.

Will all these students become active ski patrol members as adults? Not necessarily, but what they give back to their communities in other ways, like Ingersoll, is priceless. For those that do return as adults to become members of the National Ski Patrol, prior patrol experience will only increase their effectiveness as they perform on-hill emergency care and take part in daily routine patrol work.

The kayaker made a full recovery at a local hospital. Officer Ingersoll was presented with a Lifesaving Award from the Michigan Department of Natural Resources for his efforts.

Consider what you and your fellow patrol



Officer Nick Ingersoll receives a Lifesaving Award for his actions that saved someone’s life last March. Photo by Michigan Department of Natural Resources.

members have to offer to today’s students and what running a junior patrol program could bring to your community. Our ski patrols are a gold mine for opening up new experiences for local students. Let’s think bigger.

Jane Bickerstaff  
Mt. Brighton Ski Patrol, Michigan

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## EASTERN DIVISION

## Learning how to P.L.A.Y. at Certified Boot Camp



Participants gather for the Sunday morning briefing. Photo by Chris Tota.

The National Ski Patrol Subaru Ascent was packed, and the trailer behind us had enough food and camping gear for a small army. Headed north on Interstate 95, we stopped for a picture with the giant moose statue at the Kennebunkport rest area in Maine on our way to “Hurri-Kane Cove” for the 11th annual Certified Boot Camp!

I have long wanted to attend this event hosted by Eastern Division Director John Kane at his place on Long Lake in Harrison, Maine. The Certified Boot Camp is for those interested in or already participating in the Certified Program. While I was there strictly as an observer, I was excited to see what it was all about, support however I could, and get some video footage to show off the Certified Program’s hard work.

During my six years on the Eastern Division Young Adult Program staff, we used an acronym that helped hundreds of young adult patrollers (and adults) have success, both in patrolling and outside patrolling: P.L.A.Y. The best part is it reminds us to have FUN in whatever we are doing! After my first experience at Certified Boot Camp, I can say that young adults are not the only patrollers



Checking in at the start of the day. Photo by Chris Tota.

learning how to PLAY!

**Participate:** Whether getting your feet wet in training or doing a cannonball off a rope swing, you need to participate to gain experience. This was a weekend of participation, regardless of who you were! We had everyone from the Eastern Division and beyond participating, including brand-new candidates who had just completed Outdoor Emergency Care, young adult patrollers, Senior patrollers, Certified candidates and examiners, region and division directors, and national board members. Among those in attendance were NSP Board Chair Rick Knight, NSP board members Wendy Aarnio, Jay Zedak, Dave Walker, and Brian Rull, NSP National Young Adult Program Advisor Jason Tamulen, and NSP National Nordic/Backcountry Program Director Rick Shandler. With nearly 90 Certified patrollers, candidates, and family present, we had a great crew for a fun weekend!

Besides the training, the camaraderie was palpable. Whether at the dinner tent, swimming in the lake, or hanging by the fire, old friends reunited and new friendships were made. Participants were there to take away everything they could, from new skills and knowledge to new memories with friends.

**Learn:** The learning at Boot Camp was phenomenal! There were hands-on stations for lift evacuation, low angle rescue, avalanche rescue, and patient assessment. The main event focused on risk mitigation and incident investigation, something every ski area faces and we, as patrollers, often deal with.

The weekend started with Mark Petrozzi, a Certified patroller who is the CEO of AlpenRisk Safety Advisors and the new NSP National Outdoor Risk Management Program director,



Patrollers playing customers in the chair during the lift incident investigation. Photo by Chris Tota.

giving an informative presentation on how ski areas deal with risk and how to properly conduct incident investigation. On Saturday, Certified candidates went through two scenarios, both based on real incidents. One was a mountain biker seriously injured on a jump, the other a child that fell off a lift. While each scenario only lasted 20 minutes, the next two and a half hours were spent conducting the investigation, documenting it, taking measurements, creating diagrams, getting witness statements, and reviewing the case with Petrozzi and Justin Guth, a Certified patroller and claims adjuster at Safehold Special Risk.

I’ve done my share of accident investigations, but this module was truly informative, demonstrating how crucial the investigation and documentation of an incident are down the road by ending with a mock courtroom trial complete with judge, lawyers, and expert witnesses. The documentation and evidence collected throughout the day were the key focal points as the lawyers argued in “court,” and everyone’s hard work paid off. I think everyone benefitted from this experience and learned something new about risk mitigation to bring to their home mountains.

**Articulate:** A key part of your knowledge and skills is the ability to articulate your thoughts or goals. With the level of training and expertise that goes into being a Certified patroller, being able to articulate and work with others is important to solving a problem and controlling a scene. In the sessions, patrollers needed to articulate to examiners and teammates how they wanted to conduct an investigation, asking the right questions in the right way. They needed to articulate how they wanted to approach treatment plans in their OEC scenarios to provide the best and quickest treatment

## EASTERN DIVISION



John Kane leads a discussion on Friday. Photo by Chris Tota.

possible. The two mock courtroom sessions required articulation on how an investigation was conducted and the facts that were derived from the investigation

*Yield:* In order to be a leader, you need to remember that sometimes you need to yield and support someone else. Regardless of experience,



Certified candidates package an injured mountain biker for transport. Photo by Chris Tota.

sometimes the best choice is to let others take their shot at solving a problem. This was a big theme throughout the weekend. The instructors were phenomenal at letting others jump in and get hands-on, especially with the large young adult group that attended this year.

Everyone who attended the Certified Boot

Camp had been challenged to participate, learn, articulate, and yield, but more importantly, everyone had a great time! I felt very similar to how I feel at the closing banquet of the Eastern Division YAP Seminar every year — sad to see it over, ready for a nap, and excited to get back next year! As John Kane often says, it is truly about our “ski patrol family” and helping to move our organization forward together, one step at a time.

If you are interested in the Certified Program, want to grow your skills as a patroller, or make new friends from across the country, be sure to attend the 12th annual Certified Boot Camp next year — I know I will! Video from the weekend is on the web at [bit.ly/certified-bootcamp2019](http://bit.ly/certified-bootcamp2019), or follow the Eastern Division Young Adult Program on YouTube. See pictures from the event on the Eastern Division Flickr page too!

Chris Tota

*NSP Subaru Ambassador and Eastern Division Young Adult Program Staff*




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## PACIFIC NORTHWEST DIVISION

## Iron Maidens celebrate Women's Patrol Day



There are some benefits to being the first woman on the mountain. Photo by Dan Hilden.

There was no celebration or fanfare, and social media did not explode with the news because few people, outside of the small group of participants, had any idea it was happening. There was no attention-seeking behavior from them because they didn't do it for the recognition, notoriety, or any other selfish pursuit. The only lasting symbol of the occasion was the T-shirt made by patrol director Tess Morris.

In celebration of International Women's Day on March 9, 2019, every patroller on duty that day at Mission Ridge Ski and Board Resort in Wenatchee, Washington, from the patrol director on down, was female.

That, at least, was the goal, and it was achieved in 2018, the inaugural year of Mission Ridge's Women's Patrol Day. This year, circumstances dictated that a few men needed to fill in. However, having a few men don the cross did not dilute the celebration of this remarkable team of women.

These women patrollers are not the attention-seeking type, and never have been. Like all patrollers at Mission Ridge, they are joyful, humble, and hard-working. They do it for the purest of reasons, showing up daily for the love of the mountain, its guests, and, most of all, each other.

This diverse group, ranging from 21 to 64 years young, hails from all over the world, coming from nearby towns like Leavenworth and Seattle or faraway locales like Ohio; Winnipeg, Manitoba; and Seoul, South Korea. While some have only three years' experience, others have over 30.

Some are professional patrollers, while others



Patrol Director Tess Morris dons the tools of the trade in preparation for the morning briefing. Her mountain roots run deep, back to her grandfather, a 10th Mountain Division veteran. Photo by Ted Edwards.

have paying jobs to support their volunteering habit like teaching, graphic design, acupuncture, working at local wineries, or working with behaviorally challenged kids. They are new mothers, and even new grandmothers.

Whereas some are the first in their family to patrol, others have been skiing with their patroller parents since they were 2 years old. One patroller has lineage tracing back to her grandfather, who served in the 10th Mountain Division. Another got engaged on the mountain while patrolling.

Leading this multifarious group is Mission Ridge Ski Patrol Director Tess Morris. Her grandfather served in World War II with the 10th Mountain Division as a medic. She followed his path, starting as a volunteer patroller when she was 17 years old, taking the Outdoor Emergency Care class alongside her mother. Tess turned pro when she was 21 and became patrol director at 23, making her likely one of the youngest female patrol directors of a mid-size mountain resort anywhere.

Despite this broad mix of backgrounds, varying ages, and experience, their response when asked individually about why they patrol was unanimous: they patrol for each other.

The diverse human pieces of this patrol puzzle mesh effortlessly into an efficient machine of first responders who love and care for their



Marysutton Carruthers is greeted by a morning visit from Mount Rainier. Photo by Dan Hilden.



Noni Clark is a seasoned patroller with the exuberance of someone a third her age. This smile rarely leaves her face. Photo by Dan Hilden.

guests, the mountain, and one another. Despite their wide separation in ages, experience, and backgrounds, their unifying trait is a servant's heart for their guests and their comrades in red and black. Constant belly laughs and smiles from first chair to last tell of their unified personality and love for the patroller next to them, despite their eclectic mix.

Nowhere will you find bigger fans of the women patrollers of Mission Ridge than their male counterparts. The men that serve alongside them are often their husbands, fathers, or brothers. During the previous year's Women's Patrol Day, the male contingent gladly donned aprons to serve them lunch, a literal and figurative gesture of support, even though some of them are questionable cooks.

However, the backing from the men is deeper and more dedicated than lunch served at dispatch on a flimsy paper plate with a side of giggles. There is a tangible sense of joy the men show in serving with a talented and selfless group of women who have every right to brag about their accomplishments, but don't. As many men as women bought the T-shirts Tess made for the occasion.

So, when a woman's voice comes over the radio calling in an accident, no one reacts or looks shocked. When the team that deploys to an accident scene is entirely women, everyone knows that solid patrollers are on scene and that a guest whose day has gone pear-shaped is getting the best care available. The guests simply put their trust in whoever shows up on scene with a cross on their back, regardless of whether they are male or female.

For one unheralded day in March, for one silently celebrated occasion, they were all women. Now, everyone knows.

Ted Edwards

Mission Ridge Ski Patrol, Washington

## PurpleStride: the walk to end pancreatic cancer



From L-R: Laura Friesell, Brian Beaudette, and Richard Heyman of the Mt. Crescent Ski Patrol work the PurpleStride. Photo by Terri Hammon.

Last year, I was asked to help cover first aid for a walk my cousin's wife was involved with. We had lost my cousin to pancreatic cancer a few years before. When I arrived, however, I found the event had hired a local ambulance company to also cover the event. So, I decided to cover this as a mobile unit on my bike.

During that time, the National Ski Patrol was starting a mountain bike patrol program. After the event, we started talking about starting our own bike patrol to cover the medical needs of walks/runs/rides in the area. When asked to help this year, we replaced the ambulance with Outdoor Emergency Care patroller volunteers from the Mt. Crescent Ski Patrol.

In the lead-up to the event, we found that many of our patrollers locally and nationally have lost a loved one or friend to this terrible disease. To understand why we became involved, you need to understand "The PurpleStride."

This event started in 2008 on a cold morning in May when a group of pancreatic cancer volunteers stepped into a park in Chicago. This group was determined to increase awareness for a disease that had touched them all personally. At that time, the five-year survival rate from pancreatic cancer was just 6 percent, yet this was only a blip on the nation's radar. This event, which raised more than \$380,000 for pancreatic cancer research, was the start of a movement.

The PurpleStride walk was launched nationwide with more than 50 events, the walk to end pancreatic cancer. Survivors, families, researchers, caregivers, and others



Richard Heyman working the PurpleStride. Photo by Laura Friesell.

touched by pancreatic cancer come together to rewrite the future of this deadly disease.

PurpleStride has raised more than \$101 million for pancreatic cancer research and patient services through community events from 2008-17. However, the true impact of their work together is measured in progress, not dollars. The five-year survival rate has



From L-R: Aaron Batt, Laura Friesell, and Richard Heyman at the PurpleStride. Photo by Terri Hammon.

increased by three percentage points since 2014 to 9 percent.

Purple ribbons don't rewrite the future of pancreatic cancer, you do. Contact the local Pancreatic Cancer Action Network to find out how your patrol can help.

**Robert Schmill**  
Mt. Crescent Ski Patrol, Iowa



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Photo: Cam McLeod





# TIPS *from the* VET!

NEW COLUMN ADDRESSES NEEDS OF AVALANCHE DOGS

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

Lumen working at Solitude Mountain Resort in Utah. Photo by Kimberly Henneman.

**I**t is said there is a first time for everything. Recently, as I was sitting on the deck of the Gornergrat Mountain restaurant in Switzerland, I witnessed my first natural avalanche. A sudden crack, then a rumble, was followed by the reverberation of snow and rocks cascading harmlessly into an area (fortunately) free of skiers. The sound immediately took me back to Snowbird Ski and Summer Resort in Utah and the first time I saw a Howitzer lob a shell into a bowl face, the explosion trying to trigger a slab fracture; that face also cracked and rumbled as it too missed taking any people into a tumble of snow and rocks.

Despite having spent my youth backcountry and alpine skiing in the Utah mountains, I was surprised to see experienced patrollers just as much in awe as I was of that trainload of snow heading down the mountain. As the dog I had come to see nuzzled my hand, I realized as a newby veterinarian that I knew nothing about these rescue dogs trained to look for anyone who could be trapped in an avalanche like that. What did those dogs really do, and how did their training and work affect them?

So, I volunteered to watch as well as be barrel-buried during training exercises. Boy, was it a sight when that snowy muzzle burst through the snow! That was when I realized that I wanted to get to know and care for these amazing canine athletes — because athletes they are. Now, 20-plus years later, I've had the great privilege of working with avalanche handlers and dogs from not only my home mountains, but also from all over the United States and the world.

The care and training of the avalanche rescue dog has evolved through the years as much as mountain safety techniques and equipment. Sometimes, however, evolution involves more than an upgrade of equipment — it takes a change in thinking. This is true when it comes to the overall recognition of working dogs as athletes. While the Labradors, Border Collies, and shepherds that ride lifts or helicopters up to mountain peaks are no different physically than those that play or hike as pets, they are as different in their needs as competitive athletes are to occasional gym users.

There are many different demands in the training and conditioning of the working dog. Different nutrition is needed to support the mental and physical aspects of training, as well as to restore the body after the physical and nasal effort of searching a slide toe. Different ways to evaluate movement and structure are needed to identify injuries earlier. Different injury management and rehabilitation techniques are needed to minimize recovery time and not interfere with scent detection. In all, different attitudes and observational skills are needed on the part of handlers, veterinarians, and management in order to maintain an avalanche rescue dog at its peak function and longevity.

Smokejumpers have a saying that “Every fire starts small.” This means preventing disasters involves catching problems as early as possible, and disaster prevention is all about awareness and education. The people responsible for any dog's health may come from different backgrounds and knowledge in terms of nutrition, training, exercise,

*While the Labradors, Border Collies, and shepherds that ride lifts or helicopters up to mountain peaks are no different physically than those that play or hike as pets, they are as different in their needs as competitive athletes are to occasional gym users.*

conditioning, injury awareness, and therapies, but together they comprise the team that is needed to keep a working dog functioning.

I come from a background of active snow and ice sports combined with years of medical management of various canine athletes. While the medicine part is important, I have also learned important management tips from handlers of SAR (wildland and urban), avalanche, sledding, agility, police, detection, and herding dogs, to name a few. The veterinary world has just recognized the importance of proper care for the working canine athlete by forming a specialty board in sports medicine and rehabilitation. Veterinarians and handlers alike need to make sure that everyone can understand and share the research and practical information starting to percolate between different dog disciplines. That is why this column about avalanche dog health topics is important.

With this regular column, we'd like to discuss various issues, concerns, and problems that can occur with the working avalanche/SAR dog, and for you Fernie Canadian Avalanche Rescue Cat Association folks, maybe even for the odd avalanche rescue cat! There are plenty of medical topics to cover, but maybe we can also discuss concerns that handlers have as well. To start us off, here are some basic questions and tips for working dogs, whether they work in the sun or snow:

- Can your dog's feet pass the credit (or gift) card test? Standing on a hard, firm surface, can you slide a credit or gift card between the ground and your dog's nails? If not, the nails are too long and need to be trimmed. Nails that touch the ground, even when the dog isn't walking, can strain and tear toe tendons over time, as well as set them up for early arthritis. Not much can be done for toe arthritis in dogs, so prevention is key here!
- Did you know that giving your dog a small sugar (glucose) snack after work can help with muscle and nose recovery? In humans it's called glycogen post-loading. Glucose or sugar ingested within 30-45 minutes AFTER exertion goes straight into the cell without the need for insulin. Nerve (smell, movement) and muscle (movement) cells recover much faster when you can give your dog honey, yogurt, berries, or an electrolyte shortly after finishing strenuous training, work, or play.
- No matter what food you give your dog, adding antioxidants such as Vitamin E and Vitamin C can help joints and muscles recover more efficiently. Dogs that weigh between 35-50 pounds can take 200-400 international units of Vitamin E and 250 milligrams of Vitamin C (discontinue if it causes diarrhea).
- Adding a joint supplement early in the life of a working dog can help protect joint structures and maybe keep your dog working longer (cats too). Find two supplements that you like made by different manufacturers, and rotate between them every few months.

Have a question about avalanche dogs? Send it to the editor at [editor@nsp.org](mailto:editor@nsp.org) for a possible future column! I look forward to sharing knowledge with all of you about dogs (and possibly cats)! +



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# FROM THE *Director's* CHAIR

BRENDAN IRVING,  
WINTER PARK SKI PATROL DIRECTOR

BY ERYKA THORLEY



Running a sled at Winter Park. Photo by Carl Frey/Winter Park Resort.

For her “From the Director’s Chair” column this issue, Eryka Thorley turns to the Rocky Mountain Division to catch up with Brendan Irving, patrol director at Winter Park Ski Resort in Colorado. Brendan is relatively new to the director seat, but far from a novice ski patroller. Beginning his ski patrol career with one year at Monarch Mountain in Colorado, Brendan is approaching 27 years with ski patrol, 26 of those at Winter Park.

On the slopes at Winter Park, Brendan leads a large crew of 70 pro patrollers and assists with a huge volunteer program of 130 volunteers. It’s apparent after speaking with Brendan that he believes patrolling is the best job anyone could ask for, and he cares deeply about the work he does and his ski patrol family. When asked what advice he has for a patroller just beginning in his or her career, he replied “There is a lot to it, but patrolling is really one of the best jobs out there.”

**NSP: How long have you been ski patrolling, and how long as a director at Winter Park?**

**BI:** I am going into my 27th season, and this will be my third year as the director at Winter

Park. I had one year at Monarch before I moved to Winter Park. I was looking to change things up, as I went to school in Gunnison, Colorado. When my wife got a job offer at the high school, we moved to Winter Park. I started on the patrol that same year.

**NSP: What got you first involved with ski patrol?**

**BI:** The skiing was for sure the biggest lure. When I was 19, I took a Wilderness EMT class, and it started my interest in the medical side of things. Soon after completing my course I saw an advertisement for the Monarch Ski Patrol outside Salida and decided to give it a shot.

**NSP: What brought you to Salida, Colorado, in the first place?**

**BI:** I was going to school at Western State in Gunnison.

**NSP: Did you end up at Gunnison for the skiing?**

**BI:** Yes, I pretty much went to school for skiing. My grades took a certain dive during the winter season. I went to school for theater and communications originally.

**NSP: Did you grow up in a skiing family?**

**BI:** Yes, more Nordic than alpine, but my brother and I quickly switched to alpine in junior high and high school. As kids, every weekend we were driving to the ski slopes.

**NSP: Where are you from originally?**

**BI:** I’m from Putney, Vermont. I grew up skiing at Stratton and Killington in Vermont.

**NSP: What is the thing that keeps you coming back year after year to patrol at Winter Park?**

**BI:** The group dynamics. We have a really fun team, great people. There is always something new happening or some type of change. The job never seems to get old.

**NSP: What makes Winter Park unique?**

**BI:** It has great diversity in terrain, with all different aspects. Really, it’s hard not to find good skiing somewhere. The layout of the mountain makes it easy to get around quickly.

**NSP: What’s your favorite part about Winter Park?**

**BI:** In general, our snow quality is great. It’s very consistent. We don’t seem to get the bigger, more southern type storms with a lot of snow. Instead, we see day after day of 5-7 inches of snow, which adds up. Regarding our unique snow, we are right on the edge of the (Continental) Divide, so often we have storms that will sit over us for days and days. This weather pattern really helps with our overall snow quality and quantity.

**NSP: Can you describe Winter Park for those who may not be familiar with it?**

**BI:** For people that are visiting, many of them are intimidated by Berthoud Pass, but it’s really a nice road that’s been vastly improved over the past decade. Most people think it’s harder to get here than it really is, but it’s one of the closest resorts to Denver. You drive up through Clear Creek County and come up over the Divide into Grand County. Winter Park is bumped up right against the bottom of Berthoud Pass.

For new skiers, it’s a great family resort. We have large areas designated for beginner skiers, keeping them away from more advanced skiing areas. It’s a large resort, so it’s easy to spread out away from the crowds and find a spot that isn’t so busy.

**NSP: How many patrollers are on your team at Winter Park?**

**BI:** We have 70 pro patrollers and roughly 130 volunteer patrollers. We have a few (3-4) patrollers that work shorter schedules, but they work during busier times, including full-time during our busier holidays.



Selfie of Winter Park Patrol Director Brendan Irving.

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**NSP: How many new patrollers do you hire each year?**

**BI:** We average six new patrol hires each year.

**NSP: What does your rookie training typically entail?**

**BI:** Someone's first year of patrolling is a full year of training. They have a lot of fun skiing, but it's a lot to learn. New patrollers start with the Outdoor Emergency Care class, which takes them into the beginning of December. They aren't set free on the hill until they have all of their OEC training completed. Typically when they get on hill, they move directly into toboggan training, as we try to have them checked off to run sleds on green and blue trails before Christmas so they can start helping during the holidays. After their first holiday season, we focus more on logistics and different aspects of the job. They have a training checklist that they need to accomplish by the end of the year.

**NSP: Does everyone on the Winter Park patrol have OEC training?**

**BI:** Yes, volunteers and juniors will do their training down in Denver, while the pros have a course up in Winter Park. A lot of our volunteers are already down in Denver, and they set up their course with more flexibility, including night classes. The pros at Winter Park start the course a lot later and run the classes five days a week during the day, which completes the course much quicker.

**NSP: Who's the longest-serving patroller on your mountain?**

**BI:** Greg Horstman is our longest-serving patroller. Last spring was his 50th season as a full-time pro patroller. He'll be coming back for



Winter Park patrollers during a dog drill. Winter Park Patrol Director Brendan Irving is on the left. Photo by Carl Frey/Winter Park Resort.

his 51st season this year.

**NSP: What's your average years of experience on your patrol?**

**BI:** Our average is 11 years of experience.

**NSP: Do you have a young adult patrol program?**

**BI:** Yes, we have about 30 junior patrollers who are all under 18 years old. It's run by the volunteers, but we have pro patrollers who assist in their training. They have all gone through an OEC course.

**NSP: Why do you think a junior patrol program is important?**

**BI:** I think junior patrollers are a great group to engage early on. Our junior patrollers are super enthusiastic and great skiers. Once they age out of the program, there are a large percentage that continue with the volunteer program and continue patrolling. Most are from the Denver Front Range area, so many of them are friends from school and come up to do this on the weekend. The kids who qualify for our program have all gone through the OEC class, which is intense and brings significant responsibility. I think the OEC class commitment boosts their maturity

right off the bat so by the time they're on the hill, they're ready to go.

**NSP: How else do you engage with the local Winter Park community?**

**BI:** Probably the most consistent thing we do is that we visit all the local schools, generally before the Christmas holiday and sometimes before spring break, and do safety talks for the students. We talk about what patrol is, what we do, how to recognize an emergency situation, and how to call for help. We've done community avalanche awareness classes and try to engage the locals more that way too.

**NSP: Speaking of avalanches, what is your avalanche mitigation program like?**

**BI:** We have 12 full-time snow safety patrollers. They rotate in with another group of patrollers on other days, but typically from January 1 until April 1 we have 12 people assigned just to snow safety. They come in early and have their own morning meeting where they review the weather and what's going on with the snowpack. Afterward, they travel out to our Vasquez Cirque and decide when to open it, use explosives, evaluate conditions further, etc. This area is all above treeline and can see serious wind-loading. The primary problem in this area is wind slabs. Persistent slab problems are not typical for us in this zone as we try to take care of the problem early on.

**NSP: You are so close to Berthoud Pass; do you ever respond if there is an avalanche accident in this area?**

**BI:** We do have a few Colorado Rapid Avalanche Deployment (C-RAD) avalanche dogs. Because Berthoud Pass is outside of our resort boundaries, our response changes on any given day as our primary responsibility is the resort, but if search and rescue or the sheriff's office calls us, we would do our best to respond given our resources.



Early morning setup. Photo by Carl Frey/Winter Park Resort.

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**NSP: What is your annual snowfall?**

**BI:** Our 10-year average is 314 inches. The lowest snow total we've seen was in 2011 with 187 inches, and the highest snow total was in 1982 with 492 inches.

**NSP: When is typically the best time to ski at Winter Park for snowfall?**

**BI:** The best time is probably February. It is still cold, and the snow is true powder but it's also far enough into the season that the mountain is 100 percent open and it's possible to ski everywhere with good coverage. February is likely our best snow-quality month.

**NSP: What is the most significant call or challenging call that your patrol has recently responded to?**

**BI:** Our most difficult calls are the ones that involve children, and generally it's when they are on vacation and have many family members with them. A scene like this can be very difficult to manage without getting distracted. The combination of having a child injured and trying to explain and talk with the parents is a team effort.

**NSP: Do you have medical professionals on the mountain?**

**BI:** No. We do have some EMTs on the hill, and we have a few paramedics who help us with monthly training and continuing education classes, but they practice on the hill and patrol under an OEC standard of care. They don't do anything above the rest of the patrollers on the hill.

**NSP: Do you have a clinic that is close by?**

**BI:** Yes, this is another one of the unique aspects of Winter Park. We have a Denver Health office adjoining our patrol room. We have doctors and trauma nurses staffed every day that the resort is open.

**NSP: Do you have the ability to bring a toboggan right to them?**

**BI:** Yes, if we have something serious, we can go straight into their clinic. We can also call a doctor or nurse from the clinic and transport them right to the scene via snowmobile if needed. This is an extreme situation that we've done a few times. For example, if we have a serious airway issue that we don't feel like we can solve, we'll call them in to intubate on the hill. It's a really nice setup as we can look at X-rays at the clinic and even assist with treatment if needed. The clinic is also a great learning aspect, as we have the ability to follow up if a patient is moved to a more advanced medical facility through the Denver Health umbrella.



Winter Park Bike Patrol from the 2019 season. Photo by Lisa Caruanna.

**NSP: With transported patients, how do you facilitate follow-ups or continuing education for your patrol regarding specific incidents?**

**BI:** For anything really serious, we have a debrief the day after. We often invite the Denver Health clinic staff to join in our debriefs, and they invite us to join in any patrol-related incidents they review as well.

**NSP: What are some of the traditions on your patrol?**

**BI:** Patrol and ski school have an ongoing ski race that I think may be one of the longest-running races in Colorado. We call it the Purple Garter, and it's a fun race that we facilitate a few times throughout the ski season. It's usually multiple races, a best-of-five series.

**NSP: What's the funniest tradition your patrol continues?**

**BI:** We have various awards that we hand out at the end of each season, like the Wreck Hog, the Most Improved Racer. We've got one for our new guys, the Black Carabiner award. The funniest is probably the Goob Move for the patroller who embarrasses themselves the most at work.

**NSP: What's your average seasonal visits per year?**

**BI:** We aim to see one million skiers per year. We saw just over one million this past season and just under the year before.

**NSP: How many people do you usually see on a weekend?**

**BI:** A typical weekend might be 13,000 skiers. A busy day is anything over 16,000 skiers.

**NSP: How does your ski patrol transition to summer operations?**

**BI:** Our season seems to be stretching later and later into the spring. We had great skiing into the middle of May, so our down time is getting less. We are doing OK with this as we have a slow period from mid-May into June and then again from mid-October into November.

**NSP: Do patrollers work year-round to help with your summer operations?**

**BI:** We run a full-time bike patrol in the summer, which is now run by year-round staff. We have a 29 full-time bike patrol and trail maintenance crew.

**NSP: How are summer medical responses different than winter?**

**BI:** Our summer numbers are not as big as our winter numbers. Mountain biking is a rough sport, as there are no soft landings. I do think the clientele is really different, as most are super athletic people and often walk themselves out after a crash. In general, our mountain bikers are a pretty tough bunch. For the bikers it's not as much a family endeavor as it is with skiing. We have to make a lot of adjustments in the summer. In the summer, logistics are really difficult. In the winter you can travel all over the mountain on skis very quickly, but in the summer you have to shuttle patients to the road to be picked up by another means of transport.

**NSP: Can you tell me a bit more about your mountain bike summer operations?**

**BI:** We've got cross-country bike trails and freeride and technical type trails with big jumps and natural features. We host several mountain biking races. We hosted the USA Cycling Mountain Bike National Championships this year in late July.

**NSP: Do you have any final parting words for our National Ski Patrol readers?**

**BI:** I don't believe this is unique to Winter Park, but as far as people doing this job year after year I think patrols all over the country are a big family, and people enjoy the job so much that they have a hard time leaving. I hear from the people I work with that they "thought patrolling would be a fun job for a couple years" all the time. Our average years of experience at Winter Park is 11 years. That is a good chunk of time and says a lot about the job and patrol family, "best job ever." +



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# STOPPING

# SNOW

Above: Mike Tippett and Rob Dasaro bootpacking in Hanging Valley. Photo by Lindsay DeFrates.  
Below: Carson Spung and crew descending for the day's work. Photo by Lindsay DeFrates.

BOOTPACKING STILL A VALUABLE TOOL AT CERTAIN MOUNTAINS

BY LINDSAY DEFRADES







Left: Russell Shaffran and Adam Korenblat looking up at Hanging Valley. Photo by Casey DeFrates.

Top right: Chris Head and Jerry Doughty warming up at lunch. Photo by Casey DeFrates.

Top right: Hot dog en route to Jerry Doughty and Rob Dasaro. Photo by Casey DeFrates.

HANGING VALLEY HEADWALL LOOMED OVER ME, A VIBRANT BLUE-WHITE CLIFF ILLUMINATED BY THE REFLECTION OF SUN FROM THE ELK CAMP AREA OF SNOWMASS MOUNTAIN. THE DAY BEFORE THANKSGIVING AND OPENING DAY FOR THE 2018-19 SEASON MEANT THAT THE MOUNTAIN WAS HUMMING WITH EXCITEMENT AND LAST-MINUTE SETUP CHORES. YET FROM WHERE I STOOD, CHEST-DEEP IN SNOW AND SURROUNDED BY QUIET FIR TREES, THE BUSYNESS OF IT ALL SEEMED MUTED AND DISTANT.

**M**y task for the day was simple: all I had to do was walk in a straight line. I was even given plenty of good examples of what this should look like. The expert-only terrain above me was embossed with deep, military-straight lines, evenly spaced, traversing from one side of the wall to the other. The geometric precision of these lines was at odds with the rugged appearance of the high alpine cliffs and scattered pines through which they cut. There were over a hundred of these rows stomped across the Headwall alone, which was only a small section of the hundreds of acres of terrain already measured out by the relentless feet of the Snowmass Ski Patrol.

I looked back at my own line as it meandered

sadly over and around several boulders in a section known as the Viper Pit.

Carson Spung, a 12-year veteran of the patrol and a snow-safety tech for six, offered patient encouragement while he waited for me to finish my own track, one that would establish the slide protection he needed before moving forward with his line below me. I smiled in a way I hoped was more pleasant than desperate and returned to wallowing unprofessionally in the heavy snow. The rest of the crew was already finished with this traverse, and I could hear them taking full advantage of the relaxed pace I was creating for everyone.

I had joined the bootpacking crew for the day expecting to be challenged and looking forward to experiencing a unique part





Left: Wade Finn watching an early season bootpacking descent of Hanging Valley. Photo by Lindsay DeFrates..

Top right: Kristi Gray makes it look easy. Photo by Lindsay DeFrates.

Bottom right: The corkboard in High Alpine Patrol Hut. Photo by Lindsay DeFrates.



of an already specialized profession. What I was discovering quickly, however, was that whoever coined the term “boot packing” was an idiot.

Although boots are, of course, essential to the endeavor, it is in fact more of a cross between mud wrestling, ballet, and tractor pulling. It is the full-body answer to snow safety. CrossFit fanatics across the country would die for a chance at the burn I was experiencing in muscles I didn’t even know existed prior to that day.

I looked up ahead to where Kristi Gray, a sixth-season patroller, had completed her line and was waiting for me. About three

inches shorter than me, she was a petite powerhouse in her first season of bootpacking. Although she assured me that the first day is really the worst and that she still struggled quite a bit, she hardly looked out of breath.

Next to her, a little bit above on his line, was Rob “Monkey” Dasaro, who was completing his 31st season in the task, clocking in as the oldest member on the bootpacking crew at 55.

They were, once again, discussing breakfast burritos, and chants of “Funky Monkey, that spunky Monkey” drifted back to me on the breeze from another, louder member of the patrol, (Mike) Tippet.

There were 12 of us in total out there, and with each step through avalanche terrain, we were building foundational safety into the snowpack for future skiers and riders.

### A METHOD TO THE MADNESS

The science of bootpacking comes from the same premise as nearly all snow-safety precautions taken across the world. The problem it seeks to solve is that each storm and the following weather variations create uniform layers of snow. These layers, unbonded to each other, create instability in the snowpack. To prevent massive slides, these layers need to be disrupted and given the chance to bond



Lunch break in the sun. Photo by Lindsay DeFrates.

with each other. The feet (and whole bodies) of people can disrupt those layers, stabilizing them through a process known as “shear plane disruption.”

There are two ways in which shear plane disruption helps mitigate avalanche hazard in an area. First, the base layers which fall early in the season tend to be the most unstable, as they are exposed to dramatic swings in temperature and humidity. By interrupting the basal layer, major slides are less likely. The snow layers simply cannot fracture very far without encountering an interruption.

Nick Springstead, a 12th-year patroller in his sixth season as a snow safety tech, explains, “If we don’t get to an area during the bootpacking season, we end up having to spend more time there with avalanche mitigation all year. The hours we put in now save time and bombs in the long run.”

Secondly, once the surface of the snow is roughed up, there are more snow crystals with which future snowfall can bond, strengthening the resulting snowpack significantly.

Of course, avalanche mitigation is a year-round activity, and Springstead also informed me that once bootpacking is completed, they like to get the terrain open as quickly as possible.

“Skiers and riders are a vital part of our risk management strategy. Their lines continue to make sure the snow surface is rough and uneven. The sooner we can get them on a run after new snowfall, the better. This means that, contrary to popular belief, patrol wants the public on a run as soon as possible.”

Along with early-season bootpacking and ongoing skier compaction, the Snowmass Ski Patrol also uses explosives and other

techniques common to large resorts. While these same resorts often also use bootpacking to some extent, the program at Snowmass is unique in several ways.

The first aspect of its singularity is simply the vast amount of in-bounds terrain that is considered avalanche prone. Mark Falender, the Snowmass snow safety coordinator, shared some impressive stats.

“We have approximately 1,200 acres of ‘gated’ terrain. About 900 acres of this is double black diamond and/or extreme terrain where we focus our avalanche control efforts. (Longshot, Burnt Mountain Glades, and Powderhorn make up the difference.) There are also numerous small areas on or adjacent to non-gated runs that require occasional avalanche control.”

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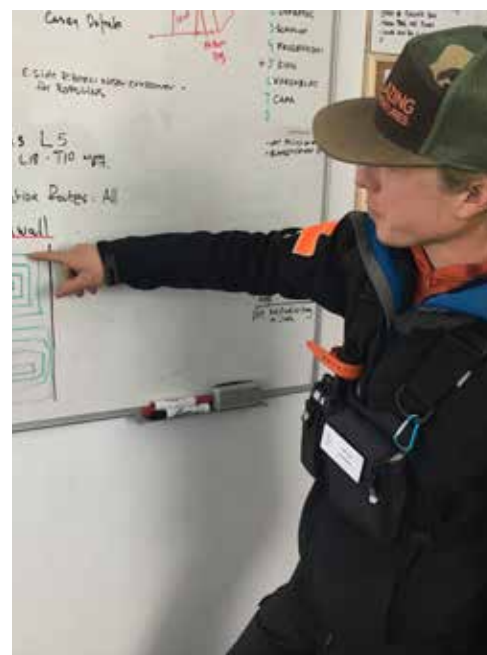




Above: Hanging Valley Headwall in all its bootpacked glory. Photo by Lindsay DeFrates.



Top right: The author rides back to the old stomping grounds in January. Photo by Casey DeFrates



Bottom right: Trevor Fredrickson points to the sketch of avy protection paths. Photo by Casey DeFrates.

## COST AND MANAGEMENT

In the early to mid-2000s, there was a bit of an arms race between major resorts to see who could open the most extreme in-bounds terrain. With the resulting acquisition of U.S. National Forest leases, many resorts, including Snowmass, were now faced with a dramatic increase in avalanche risks. Bootpacking went from being a small part of early season setup to a major offensive.

Karen Sahn, of Aspen Highlands Ski Patrol, published a paper for the 2010 International Snow Science Workshop that delves even more deeply into these foundational tenets. In her paper, “Avalanche Risk Reduction in

the Continental Climate: How to Implement an Effective Boot Packing Program” ([http://arc.lib.montana.edu/snow-science/objects/ISSW\\_O-058.pdf](http://arc.lib.montana.edu/snow-science/objects/ISSW_O-058.pdf)), she successfully explains how many resorts in the Rocky Mountain region are challenged to open steep terrain as early as possible in the season. The need for increased revenue is often at odds with the unstable and shallow nature of the snow available during that time of year. Bootpacking is the most common solution to this, and she suggests that more resorts should begin “Pack for Passes” programs.

Many resorts, including Snowmass’ sister resort, Aspen Highlands, already use a “pack

for passes” approach to bootpacking. In these programs, volunteers use boots and skis to pack basal layers for a certain number of days in return for a free or reduced-cost ski pass. Yet unlike Highlands, where the Highland Bowl is just, well, a bowl, Snowmass’ terrain is complex, spread out, and presents logistical challenges and major safety concerns for untrained volunteers.

Snowmass Ski Patrol Director Craig Chalmers explains, “We have to spread out small groups of bootpackers in so many directions, in dangerous terrain, just to complete a day of work. When you don’t have line of sight with nonprofessionals in those conditions, there is

too much hazard to make it worthwhile.”

As a result, all bootpacking days have always been paid days for the patrollers who are willing to participate. This does come at a tremendous cost, but risk management concerns make volunteers a non-starter.

Falender explains that while exact man-hours are hard to track, he estimates that around 250 patrol days (9-12 people, 4-5 days a week, 4-6 weeks a year) make up their bootpacking program.

With this cost in mind, I asked Springstead and Spung if there was any easier way. Can bootpacking be upgraded with new technology, or does it always have to remain this kind of old-school suffer-fest?

In response, they introduced me to the disruption roller.

### NEW TECHNOLOGY IN SNOW SAFETY

Conceived in the minds of Mark Boss and Craig “Sterbie” Sterbenz from Telluride Ski Resort, and machined to life in 2013, the disruption roller is introducing a little automation to this very man-powered industry. It works on the same principles as bootpacking, disrupting uniform layers by means of a large cylindrical roller interspersed with dull spikes a few feet in length. Lowered down by a winch and controlled by a handler with a remote control on the ridge above, the disruption roller is most often used to create a more stable base along the start zone of steep, open terrain.

In Colorado, Monarch Mountain, Winter Park Resort, Telluride Ski Resort, Copper Mountain Resort, and Arapahoe Basin Ski Area have adopted this tool so far.

According to the patrol director at Monarch Mountain, Zach Moore, “We love it; it is super effective.”

Because the disruption roller is most useful in the wide-open bowls of in-bounds terrain, as well as Monarch’s special use permit hike-to and cat skiing areas, it is incredibly valuable to the mountain. However, the financial benefit is not its main attraction. In his fourth season as patrol director, Moore seemed to think actual monetary savings were negligible, as the machine needs quite a bit of maintenance, fuel, and special parts.

“Its greatest value,” Moore says, “is the fact that it significantly reduces how much hazard my people, or volunteers, are exposed to every year. The more people I can keep out of

those touchy, dangerous areas, the better.”

Also known as the circ roller, it requires flat, wide-open approaches. Moore explained that the machine is wide and difficult to maneuver, requiring groomed cat-track access to even position it on the ridge. After that, line of sight is necessary for the handler to effectively maneuver the device.

Which brings us back to Snowmass. Unfortunately, according to Falender, this incredible piece of technology does not have wide enough application, despite the huge amount of terrain to be managed. Instead of wide-open ridgelines that are easily accessible, Snowmass has a massive number of complex drops that are often tiered and only accessible through narrow chutes or thick glades. Those chutes often open up quickly into some grand terrain, but a disruption roller handler would have no way to maneuver the machine to access anything beyond the initial entrance.

However, the hazard to life and limb is just as real. So, how exactly do the bootpackers address the many hazards associated with travel across unstable snowpack on steep terrain? What is their answer to the advanced technology being employed by competitors?

### ENTER THE WHITEBOARD. SAFETY FIRST, SECOND, AND THIRD

Two hours before I found myself swimming through the snow, I was tagging along on a *Planes, Trains, and Automobiles*-style approach to the Hanging Valley area. Because the mountain was still closed, and everyone else was scrambling to complete setup for the next day’s opening, bootpackers traveled across the mountain via a van ride, two hikes, and two lifts that were spun up just for us. At the top of the last lift, the crew took a few minutes to warm up in the High Alpine Patrol Hut with snacks and a safety briefing.

This station, one of six that accommodate the 80-member Snowmass Ski Patrol during the season, was a cross between a college sophomore’s dorm room, a holy shrine, and a pleasantly cluttered workshop. The walls and rafters were hung with memorabilia and miscreant photos, as well as tributes to beloved people, dogs, and places that have passed on.

There were incredibly useful things, like wire cutters, twine, and boot warmers, juxtaposed with seemingly nonsensical trinkets. A woodstove and much-loved couch created a homey effect with magnificent views out the window



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Left: Patrick Drake spooling boundary ropes. Photo by Lindsay DeFrates.



Top right: Snowmass avalanche rescue dog memorial at High Alpine Patrol Hut. Photo by Lindsay DeFrates.



Bottom right: Chris Head bootpacking the Viper Pit. Photo by Casey DeFrates.

of the Roaring Fork Valley, yet the bathroom lights didn't work, and one bathroom was out of toilet paper.

Before the mountain opened, the place still truly belonged to the patrol. Soon enough, well-meaning members of the public would stumble in, requiring that there be matching uniforms and polite greetings, but today, the grunge effect was completed by the mismatched individuals of the bootpacking crew sprawled out across the furniture, complaining happily about the world.

Among the nuggets overheard:

***"Damn rookie rode in the front seat again!"***

***"Worst energy tube I ever had."***

***"There is a time in a man's life when he realizes he bought the wrong thermos."***

***"I am not wiping with a paper towel!"***

***"I swear, she left that whole rotisserie style-chicken in her locker for almost three weeks."***

The camaraderie of the patrollers who bootpack was quite apparent to me throughout the day. For the most part, it seems to

rely heavily on a never-ending exchange of humor that falls somewhere between a five-year-old discovering fart jokes and Dave Chappelle at his raunchiest. These are the men and women who are completing an exhausting task in often brutal conditions, in a potentially life-threatening situation, completely trusting the people around them to keep them safe. That trust is more than just a warm, fuzzy feeling, though. In fact, for bootpackers, it looks a bit more like an old-school Atari game of Snake.

"We always blast an area a day or two before we pack it, but there is still a lot of instability, so we have a system to move through the area safely," says Springstead, who laid it out for me on the whiteboard. "The person highest on the traverse provides protection for everyone below by stomping through their line. The next person starts out about a meter and a half below and behind, and so on. That way, if something does slide loose, there is only a small section to go before it stops."

Just like a TV infomercial, that's not all, folks! The snow safety team takes their jobs

very seriously, whether it is the first or 10th day of bootpacking. While on station, nearly every member of the group ran through a rescue drill in the beacon park. After that, there was a rather musical group beacon check by Jerry Doughty:

***Check your battery and display,***

***To make sure you're good for the day.***

***Don't forget to end***

***In 'send.'***

Once that final check was complete, the crew ducked the "Closed Terrain" sign, and after a 30-minute scramble through previously completed sections, we arrived.

As I mentioned, for my tag-along day, the conditions couldn't have been more perfect. The sunny sky and still air made the temperature mild without being too hot. The snow was amenable to the process, without any heavy wind slab or melt-freeze crust to stomp through. All in all, I had the smoothest possible experience. This was unusually pleasant, yet by the end of the day I was practicing what I liked to think of as "bootpacking light,"

where I would let everyone complete at least one full traverse without me and then slow them down on the next pass.

## BOOTPACKING SURVIVAL GUIDE

There are various methods of survival employed to endure and survive the especially long days. Snacks, jokes, and candy abound. Pocket bacon is a particular favorite, allowing the wearer to enjoy a salty snack throughout the day while also increasing the likelihood of being the first one found by an avalanche rescue dog.

More often, bootpacking involves full days of exhausting physical labor in windy, freezing, overcast, or wet conditions. These men and women are not required to participate either. There is no version of a *Hunger Games* tribute chosen at random in order to complete the process. They are all volunteers.

While early-season pay is definitely an incentive, it is hardly enough to warrant a repeat experience. There are many patrolers who refuse to participate, citing the general misery and exhaustion. The ones who return day after day, week after week, season after season, are there for a variety of reasons. Yet, it is never an easy task. The patrolers who do choose to participate have their own reasons.

Seventh-season patroller Casey DeFrates offers this insight.

“Bootpacking is definitely not for everyone. One of the reasons I love it is because you get to know the terrain more intimately than you would at any other time during the year. Skiing at Mach 3 over a boulder field doesn’t help you identify the changes in terrain that would allow you to choose the most effective and safe path in the case of a rescue in that terrain.”

Doughty says, “You get to be outside and turn your brain off. What’s bad about that?”

According to Tippet, “It’s better than dealing with all that (gesture) on the front side right now.”

Monkey, the oldest bootpacker there, seemed to be most at peace with the sufferfest, exclaiming, “This is just a beautiful place to be. Look around. You get something done, then you go home.”

Whatever their motivation, these patrolers are largely responsible for Snowmass’ continued success in attracting skiers and riders who are seeking the extreme experience.

They put in hours of work at a task that is neither glamorous nor celebrated. With some crude humor, a penchant for personal suffering, and unrivaled professionalism, the bootpackers of Snowmass Ski Patrol lay the foundation for a world-class season.

Almost three months after this experience, on Feb. 11, 2019, I stood at the top of the Viper Pit again. Instead of blue sky above, however, the day was heavily overcast, with persistently flat light and intermittent snow. The approach, this time on my snowboard in a fully open resort, had hardly been any simpler than it was before the lifts were spinning. I had taken three lift rides, several long traverses, and a short hike just to reach the top of Hanging Valley Headwall. From there, I doubt I would have found my way back to the exact spot without a ski patroller to guide me through the maze of runs, chutes, and treed steeps whose names are known only to professionals and life-long locals.

The conditions were excellent, even five days after the last storm. The boulders with which I had become so intimately familiar were nowhere to be seen, slumbering under the more than 300 inches of snow received

by the resort so far. DeFrates, my guide for the day, said that since bootpacking season, they had done practically no mitigation work on that section. While the headwalls and exposed terrain required regular blasting due to wind-loading and other factors, the maze of Hanging Valley terrain greater than 35 degrees, for the most part, required nothing more than continued skier compaction.

Yet outside the boundary ropes, in the Elk Mountains, this constant storm cycle had brought with it the highest recorded number of avalanche deaths in more than 10 years. In fact, the toll had been heavy for the surrounding Roaring Fork Valley, with four of the five deaths being local to Aspen or Carbondale. This winter, it was snowing with a vengeance, and persistent slab avalanche conditions were to be assumed.

Back inside the resort, cliffs, chutes, steep tree turns, and a few “woo-hoo” drops were the fun for the day. Enjoying the protection built into this challenging terrain, I gave very little thought to the extreme dangers that, but for the efforts of bootpackers and flakes, would prevent the sport, and the industry, from thriving throughout the Rockies. +

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Big Sky, Montana.  
Ethan Greaves





# STRESS INJURY AND SKI PATROL

BY ERYKA THORLEY

It's a bluebird powder day. The ski resort is mostly quiet, and morning openings were uneventful. After a few glorious runs, you are ready for a rest in the patrol shack. As you enter, your fellow patrollers are eager to hear about the conditions and share a story or two from their own start to the day.

As you sit down with a cup of freshly brewed coffee and leftover pizza, you can't help but feel a moment of gratitude. This is one of the big reasons you patrol: the skiing, the glorious fresh tracks on a powder day.

As you indulge in your first bite of pizza, the radio crackles. "Dispatch has a report of a 10-50 in the natural half-pipe." You quickly put down your pizza and make brief eye contact with other patrollers in the room, sizing up their readiness as they assess their own. Dispatch continues, "This incident involved a skier versus tree, and bystanders report the patient was unconscious for an unknown amount of time and is now experiencing labored breathing. Who is in a position to respond?"

If this call sends your heart racing or your thoughts to a previous event that you assisted with or even experienced yourself, you're likely a patroller or emergency medical services (EMS) provider, and you're not alone. A physiological and/or emotional response to a potentially stressful stimulus is a totally normal human response (especially for EMS responders) and is ultimately meant to prepare us and propel us into action. The challenge with this physiological response, however, is that over time this



“stress response” can wear on our emotional and physical well-being. Over the course of an EMS responder’s career, it can reduce or take away satisfaction from things we’ve enjoyed all our lives or pull us into isolation and even depression.

Recognizing this, Eldora Mountain Resort started a pilot program this past season (2018-19) to help patrollers better react to stressful events. The ultimate goal in exploring this pilot program and related topics is to better recognize stress injuries and treat them before they become debilitating or change the path of someone’s life. We want to support patrollers in continuing to love what they do for the entirety of their career.

## WHAT IS A STRESS INJURY?

A stress injury is the term used by the U.S. military to describe occupational exposure to stress in an operational setting (*Combat and Operational Stress First Aid*, 2010). It can be the result of a single traumatic event or multiple events, but the defining element is that the stress of the trauma overwhelms a person’s ability to cope or integrate the event(s) into their everyday lives. A person’s ability to cope varies depending on a number of things, including the event itself, one’s resources, the culture in which they operate, and their own overall stress resiliency or where they are on the stress continuum given the time of the event(s).

They key to managing a stress injury is recognition and early intervention. As with any serious injury or trauma, there are various signs and symptoms that an individual can exhibit. Stress injuries demonstrate early and late changes to vital signs that are easier to recognize the more we communicate about their patterns and teach each other and the responder community about the impacts of stress. We need to integrate this education into standard EMS training.

## ELDORA’S STRESS RESILIENCE PILOT PROGRAM

Eldora Mountain Resort is a cozy, community-supported resort located almost 50 miles northwest of Denver. Its latest campaign slogan is “Closer to you,” but in the past it’s boasted taglines such as “Friends don’t let friends drive I-70,” since Eldora is the closest ski resort to Denver that doesn’t necessitate driving this busy interstate corridor. Eldora’s proximity to Denver sees a lot of skier traffic and the need for medical response.

Eldora Ski Patrol first met Laura McGladrey in 2017 during its annual EMT continuing education event. She introduced psychological first aid during her presentation. At the time, this was (and still is) not a common topic

for Outdoor Emergency Care providers. After regularly referencing her talk throughout the 2017-18 season, the idea was raised to train our entire patrol in psychological first aid skills at the 2018 refresher. During a summer brainstorming session, the idea for a pilot program was conceived and, a few months later, approved by upper management under the guise of employee retention. Luckily, the idea was supported by Eldora Ski Patrol Director Travis Brock.

“I did my research, crunched the numbers, and formulated a proposal that allowed me to justify the expense (to management), and in the end the process justified the means,” states Brock. “I did have astounding support from Eldora management for this program.”

During the refresher, the entire patrol was introduced to McGladrey. Laura, or “Glad,” as she is appropriately called, is a thoughtful and well-spoken force for good. She is a family and psychiatric nurse practitioner with a background in emergency, wilderness, and humanitarian medicine. She has worked in the emergency department and the START Center (Stress and Trauma Adversity Research and Treatment) at the University of Colorado and works with other groups such as law enforcement, fire, and EMS to mitigate stress injuries all over the country.

Even more relevant to her ski patrol work, she has taught National Outdoor Leadership School Wilderness Medicine for decades, works with rescue groups, national parks, and outdoor organizations, is a member of Portland Mountain Rescue, and is an advanced life support volunteer with the Monarch Ski Patrol in Colorado. This combined experience means she understands emergency medical care issues, and she’s made it her mission to share

stress resiliency concepts with rescue groups all over the country, including a new pilot program around the use of the stress continuum with Yosemite Search and Rescue.

At the refresher, the Eldora Ski Patrol began stress injury training with a four-hour presentation on psychological first aid (PFA) and the stress continuum from McGladrey. PFA is a natural introduction to stress injuries, as it initiates discussion around techniques that many patrollers already employ to help mitigate psychological injury for their patients. Instinctively, this topic can lead to a responder questioning their own stress injury prevention (not just their patients), and it was no surprise this happened at Eldora during our first group discussion.

After a few hours of presentation focused on the basics of psychological response to trauma and first aid techniques to mitigate its impacts, patrollers began brainstorming on techniques to better care for themselves based on their job exposure. It included an anonymous individual assessment regarding each patroller’s PFA and stress resiliency understanding at the start of the season, an establishment of each patroller’s own stress continuum (what these stages look like for them individually), the establishment of “green” choices, and tools for staying in the “green” for each individual. Most importantly, a shift in patrol culture was initiated that brought greater awareness of stress injury formation, a destigmatizing of mental illness, and related tools and resources.

## A QUICK REWIND — PSYCHOLOGICAL FIRST AID

McGladrey explains, “PFA was developed in the middle 2000s when a panel of world experts sought to introduce practical,



McGladrey 2018

Adapted by Laura McGladrey from COSFA, created by Eldora Ski Patrol





A morning patrol meeting at Eldora Mountain Resort. Photo by Tom Winter.

reproducible tools that would address trauma formation in real time, by responders and lay folk alike, rather than waiting for the experts to perform Critical Incident Stress Debriefs (CISD). The idea behind PFA is to help the survival mechanism designed to watch for ongoing danger register that the danger has passed and fire an ‘all clear’ signal.

“Stress injuries occur when a patient or rescuer interprets an event as overwhelming or a threat to life, especially in the presence of helplessness or watching the event or series of events happen to someone close to them or someone in their care. The goal of PFA is to reverse the process, using the five elements (Safety, Calm, Engagement, Connection, and Hope), to involve the person in their own rescue, sound the ‘all-clear’ signal, and use connection and a sense of future to re-establish that survival was achieved and the event is over. This allows folks to continue with life as usual, rather than forming a mechanism to shift priorities to constant surveillance at the cost of enjoying life and connections.”

More detail on the five key tools of PFA, along with specific tools, is available at <https://blog.nols.edu/2017/05/22/5-components-psychological-first-aid>. (Please note that ski patrol-specific techniques were developed by Eldora Ski Patrol during continuing education events in the 2018-19 ski patrol season. If you want more information on how Eldora adopted these techniques for patrolling, please email [editor@nsp.org](mailto:editor@nsp.org).)

It is not new, but many EMS professionals aren’t taught PFA during their initial medical training. Luckily, we’ve learned and documented that although stress injuries are not always alleviated by single interventions, first responders can begin to mitigate stress injury formation for a patient (and others involved) by utilizing the above PFA toolkit.

## INNOVATIVE PFA TECHNIQUES FOR THE SKI PATROL ENVIRONMENT

As ski patrols begin to intentionally integrate PFA techniques into their practice, new methods are emerging. One novel concept is dispatching two or more patrollers to a scene if there is a potential stress injury to a bystander or other person involved. For example, if there is a parent injured on the slopes and their child witnessed the accident, the child could be very concerned about their parent and in a heightened stress response as a result. Dispatching two patrollers allows one responder to assist and treat the injured parent while the second patroller can calm and connect with the child to ideally create a sense of calm in their brain and nervous system and ultimately begin the return process toward green.

Another novel concept is to integrate PFA into regular medical reports. If there is a “sick and sad” child (as we refer to them at Eldora) that enters the first aid room with a benign injury, we can instead recognize that treatment should return them to a sense

of calm through various PFA techniques instead of simply stating that no treatment was administered. EMS providers recognize that “no medical care” isn’t the case; in fact, recognizing and recording the treatment administered (PFA) will bring greater awareness to patient PFA care as well as the responders’ care for themselves.

## STRESS CONTINUUM SCALE

The stress continuum is a guideline to behaviors and feelings that an individual is likely to experience as they become more vulnerable to a stress injury. It can look very different, depending on the organization and overall culture of your patrol. At Eldora, a specific stress continuum was adapted that outlines specific behaviors, depending on resiliency levels and where individuals or the group are along this continuum. This scale provides a quick reference to where an individual (or group) may be given their behaviors and attitude and the appropriate interventions to escort and support the individual or group back to green.

## BACK TO ELDORA

Eldora’s 2018 patrol refresher launched several new stress injury prevention initiatives. The days following the refresher included a discussion on where to house the new stress injury prevention group and specific goals for the season. This discussion sparked the



Eldora Ski Patrol Director Travis Brock and his son, Emory, at the base of Eldora. Photo by Mark Griffin.

“Stress injury prevention is as much about recognition as it is about resources, and one person on your patrol can begin to shift the culture toward more awareness.”

current medical team to lead this charge, including the goal of five presentations during the season on the main tools of PFA and how they pertain to ski patrolling. Additional topics focused on emphasizing green choices, including family dinner community events, reformatting the traditional after-action review template, and creating more common emphasis on the employee assistance program (EAP) and other outside resources available for the integration of traumatic events.

While actively working on the above concepts, Eldora implemented a daily stress continuum check-in during morning meeting. The request was to write down your current location on the stress continuum (green, yellow, orange, or red) and where you could be the most at risk given the day. This personal risk assessment was intended to bring awareness to an individual's current stress status and ideally reduce their exposure to new injury for that day. This daily check-in remained independent and personal, but did keep the concept of stress injury and vulnerability to such an injury at the forefront of everyone's minds throughout the season.

## HOW TO START A PROGRAM AT YOUR AREA

The first step is to have a conversation with your fellow patrollers. Once you have a few people on board, bring it to your management and see if patrol-wide training is possible. If it is, get in touch with Responder Alliance at

[responderalliance.com](http://responderalliance.com). If it isn't yet time for a patrol-wide stress injury mitigation initiative at your resort, start exploring resources on your own. Stress injury prevention is as much about recognition as it is about resources, and one person on your patrol can begin to shift the culture toward more awareness.

Have a conversation about employee assistance programs available through your employer. What are the local crisis prevention resources available near your resort? Publishing these resources in a visible location in your locker room or duty stations can start to change the stigma around mental health as well. Talk about stress, check-in with your coworkers, and above all start to expand your own stress resilience network. Where are you on the stress continuum scale? How can you move yourself more toward green?

McGladrey summarized the importance of instituting stress resilience techniques beautifully, stating, “Most patrollers recognize the importance of stretching for resiliency and injury prevention at the beginning of each patrol day. We are trying to make stress injury prevention as understood and acceptable as stretching at morning meeting.”

Just as if you show up on a double black with your knee hurting from an injury the week prior and need to pull a toboggan you're likely going to get hurt without stretching, if you're not taking care of your own mental health and utilizing appropriate

resources to keep yourself in the green you're very likely going to get hurt during your next high-stress exposure.

## STRESS INJURY VERSUS POST-TRAUMATIC STRESS DISORDER (PTSD)

In a presentation given to EMS providers in 2018, McGladrey explained that PTSD was first identified in postwar Vietnam veterans and survivors of sexual assault in the late '70s and '80s based on a pattern of behaviors and symptoms. The challenge with PTSD is that

## STRESS INJURY — EARLY AND LATE CHANGING VITAL SIGNS

Laura McGladrey, 2018

Early Changing:

- Loss of vitality/creativity
- Dreading work
- Criticism
- Avoidance
- Lack of motivation

Late Changing

- Sleep disturbances
- Substance use/abuse
- Anxiety
- Isolation
- Hopelessness
- Depression
- Suicidal thoughts of intention



we are using it to recognize an injury type in a rescuer population that doesn't fit the original population of returning Vietnam veterans or survivors of sexual assault. This new group includes search and rescue responders, ski patrollers, firefighters, and many other types of first responders.

McGladrey explains, "PTSD is a late-change effect of stress exposure. It's actually the most adaptive response of our lives, meant to keep us alive. It certainly can make it very hard to live our lives to the fullest, but I'm not sure 'disorder' is the best way to describe it."

## STRESS RESILIENCE ON THE MOUNTAIN

After speaking with several ski patrollers, the feedback was overwhelmingly positive for Eldora's stress resilience pilot program this past season. When asked about it, Abby, a part-time paramedic at Eldora, responded, "I think this program opens the door to make talking about any of the issues someone may have more accessible. If you are establishing

that our mental well-being is something that we take pride in and is something that is an important aspect of our ability to work and play and live our lives, then if anything does come up people are more willing to reach out if they need help. They are more willing to take control of their own well-being before it even becomes a larger issue."

Brock also felt the program was valuable, stating, "I've seen the destigmatizing of mental health by people openly discussing challenges they've had with calls and stress injury as they've learned about it. Our staff are openly discussing their responses to trauma, and I've seen the establishment of a better peer-to-peer support network. This has in turn influenced morale from my perspective, which also improves retention and lowers rookie training costs.

"Our biggest successes this year were the introduction of the concept and the destigmatizing of mental health. The daily check-in and stress injury assessment and the dissemination of the employee assistance program

(EAP) program was huge, as was the educational piece from the medical team that taught these concepts to our staff. It was powerful to teach the psychological first aid topics in-house."

There were numerous points of intervention throughout the season, including a large family dinner following a difficult call in early December and the conversations that Abby references above for daily mental health care. Despite these tangible improvements, it will remain difficult to quantify the results of this program until a few years have passed. Next season, returning patrollers will provide an idea of its retention impacts, but this could also be a cyclical pattern based on incoming rookie numbers or other areas of influence.

Eldora performed a postseason individual evaluation that was identical to the preseason one. These numbers are not yet finalized but can be shared with other patrols once they are. This data will provide concrete numbers on the impact of the pilot program and changes in an individual's awareness and understanding of stress injury formation and their own PFA confidence.

Brock hopes to grow the program this coming season and feels it is a valuable concept for other patrols to pursue, stating, "First of all, it's worth it. We need to take care of our people, and it requires leadership but it's also very important for the program to grow legs from below. I'd encourage certain patrollers to pursue continuing education on stress resiliency for the group and allow space in a daily meeting for the topic. For example, we did our continuum snapshot on a daily basis, and I thought that was a huge part of our success this year. It allowed people to recognize where they are at on any given day and adjust their mindset given the day's operations. I think that daily check-in was probably the most powerful tool that we utilized this year.

"Prior to starting this program, I was aware of the national conversation emerging around stigmatization and resiliency around EMS and law enforcement work and how it relates to seasonal responders that are exposed to risk all the time from personal injury or traumatic injuries in high-stress environments. My experience in wilderness medicine is that there isn't much discussion, and I feel like this program was a good way to introduce this conversation and further integrate it into the ski patrolling culture at Eldora and beyond." +

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SCOTT



# IN STEPS WITH “GLAD”

Laura McGladrey, a Colorado Front Range local, joined our patrol during the 2018-19 season, offering an incredible opportunity for Eldora to begin the stress resilience pilot program under her expertise and guidance. Early on, it was decided she would become the stress and resilience adviser for the patrol, which was a resource position, not a therapist. McGladrey participated on the mountain about two days every month or every other week. She was a calming presence for everyone on the patrol and provided resources to individuals when appropriate.

In January 2019, I sat down with her to explore several aspects specific to stress injury formation and Eldora’s pilot program.

**Eryka: Why is this work so important to you?**

**Glad:** In all the settings I’ve worked in with first responders and humanitarians, I’ve seen consistent patterns of people whose lives become more narrow and limited after a traumatic experience. I’m passionate about this work because we lose these people to leadership positions. When someone starts avoiding rescues or calls, they may eventually not want to come to work again. I don’t think it’s fair to talk about other injury types (trauma, medical, etc.) and yet no one ever receives fair warning that stress injuries can hurt you. It’s actually one of the most likely injury types we’ll all encounter in our careers. We know that smoke inhalation can hurt you on the job as a firefighter, but if no one ever told you that and you ended up with cancer at the end of your career, that’s not fair.

Another example is a rock climber who falls and suffers physical injury as a result. They will receive medical care and likely get back on the rock relatively quickly. Another person in the same incident may not be physically injured but is exposed to a stress injury. If they don’t receive care, they may never rock climb again. We realized that we needed to go back upstream and figure out what happened in these two scenarios.

**Eryka: What can we do to better recognize and treat stress injuries?**

**Glad:** I think we need to recognize that a stress injury is an exposure injury that happens over time and needs to be mitigated. These are physical injuries as a result of stress and hormone secretion, and they have early and late vital signs that can be mitigated with early detection. It’s also important to recognize that stress injuries occur when there is a state of stress, and the more in the “red” (referring to the stress continuum) you are, the more likely you are to get hurt. We are trying to move the entire individual and team to more resources and pre-injury support so that the stress injuries are not as significant and difficult to recover from.

We’re talking about gravity. If you get the sexiest job of your life as a climbing guide in the Alps and someone asks you to respond to an avalanche rescue and you’re in the red, even if you are excited or motivated to work, you might get hurt. It’s like if you are immunocompromised when you’re deployed, you might get sick.

**Eryka: After working with Eldora last season, have you noticed a shift in their patrol culture?**

**Glad:** I walked into PHQ last week and one of the patrollers immediately said, “Did you see that?” referring to a recent in-bounds avalanche accident at another ski resort. And we just sat for a while and held space for how hard that was for them. We felt the weight on the shoulder of the forecaster I was talking to. It opened the conversation. I felt that was really powerful, to be able to sit there. People have also come to me and said, “Are you keeping an eye on so and so? They were on an intense scene, and I’m worried about them.” That’s a huge

culture shift.

Some of the changes are going to be difficult to measure, specifically where our capacity and ability to sustain trauma has increased. We will not be able to shift our rudder overnight, but the national conversation in rescue is changing. It’s good to see patrol leading this. Just having a goal of ending the season with more vitality and connection this year brings a new option to the conversation. In my generation, folks just expected to end their seasons burned out.

**Eryka: Thanks to yours and others’ hard work, NOLS recently classified stress injuries as a specific injury type next to other traditional injuries like head or spinal; why is this important?**

**Glad:** We were really intentional about taking stress injuries out of the back of the book where mental illness exists in wilderness medicine. It’s such a barrier to people approaching this topic if it’s stigmatized as a mental illness, and so often it occurs hand in hand with physical injury formation. Again, that climber doesn’t suffer a physical injury, but never gets back on the rock after seeing their friend’s accident or near miss. If we don’t call it an injury, we can’t support them.

**Eryka: If you are in the red, what do you do?**

**Glad:** I don’t have an easy answer. It’s based on combat emergency stress first aid techniques. If you are in the green or yellow, the support systems are in place to help you like your family, your team, making more space for greener choices. These connections with family and others make space for real closing and integration or time to heal. If you’re in the red, the support of a professional is likely a strong step.

If you are in the orange or red, you likely need outside help to get you back to a place where you can regenerate. First and foremost is connection to someone you care about that knows what’s going on with you. This could be a therapist or crisis support, but it’s important to realize that you find yourself in deeper water, and you can’t get out on your own. The more you get in the red, the more likely you experience isolation, less options, and less resources. It’s about resourcing the person and the team, and you can only do that when you recognize where you are.

Ultimately, the unrelenting effects of stress on the body can lead to physical injuries and illnesses and even fatalities. For some, a lack of hope that things will change can and does lead to suicide. The resounding message, now that we understand this, is we can support patrollers and move toward doing what we love for all of our lives. There’s lots of reason for hope. +







LEARNING FROM

# DOWN UNDER

*Wedding of Matt and Erica Zagorski at Keystone Resort, with Banjo Bauer, assistant director of Keystone Ski Patrol, performing the ceremony. Photo c/o Matt Zagorski.*

PATROL EXCHANGE AT KEYSTONE AND  
FALLS CREEK SPREADS KNOWLEDGE

BY PATRICK HANSEN

POSTED BY THE DISPATCH OFFICE INSIDE PATROL HEADQUARTERS AT KEYSTONE RESORT IN COLORADO IS A LIST OF FREQUENTLY USED AUSTRALIAN EXPRESSIONS AND THEIR MEANINGS. LIKE A POCKET GUIDE TO COMMON PHRASES IN A FOREIGN LANGUAGE, THE LIST IS THERE TO HELP PATROLLERS UNDERSTAND THE PHRASES OUR TEAMMATES FROM THE SOUTHERN HEMISPHERE USE FROM TIME TO TIME ON-SCENE, OVER THE RADIO, AND AFTER WORK.



Top left: Exchanging notes on various aspects of rope rescues. Photo by Patrick Hansen.

Top right: From L-R: Falls Creek exchange patroller Matt Zagorski and Eric Olsen enjoy a warm day at Keystone Resort. Photo c/o Matt Zagorski.

Bottom left: From L-R: Patrick Hansen and Graeme "Gra" Voss at Falls Creek. Photo c/o Patrick Hansen.

Bottom right: Falls Creek patroller Rob Moreland at the mountain's base. Photo by Patrick Hansen.

For instance, you put "petrol in a ski-doo," rather than "gas in a snowmo." "Bogan dust" is cheap coffee, "yeah, nah" just means no, and "dunny duty" means you have to clean the toilet.

One of the most commonly used phrases, however, is, "She'll be right." Roof's leaking at PHQ? She'll be right. Snow turned to rain? She'll be right. You double-ejected during a Hollywood lap beneath the chair? She'll be right. It's a catch-all phrase that reflects the easy-going Aussie belief that everything will turn out fine in the end.

The reason these expressions come up frequently is Keystone's prolific exchange program with several patrols from Australia and New Zealand. During the 2018-19

season, a full 10th of the 80 full-time patrolers at Keystone were current or returning exchangers.

Some were visiting Keystone for the first time, but Graeme "Gra" Voss, whose home mountain is Falls Creek in Australia, was back after almost 30 years away. Gra first exchanged at Keystone for the 1989-90 season, during the early years of the program.

"I had such a good time working with guys I had met who had come out to [Falls Creek] originally to exchange," Gra said. "To go back to Keystone and work with them in their own environment was a lot of fun."

When presented with the opportunity to return in 2018, it was an easy decision for him.

"I always looked forward to going back and doing it again." Gra notes that this time around, he "had gotten 30 years older, and funnily enough, found it a lot harder," but apart from that, it was much the same.

There are also patrolers from Down Under who have worked enough seasons at Keystone that they are no longer thought of as exchangers and are integral members of the team. Matt "Zags" Zagorski, one of Gra's teammates from Falls Creek, first came to Keystone in 2014 and hasn't stopped since. Rather than pick one patrol over the other, Zags has undertaken the Endless Summer's less sought-after counterpart — back-to-back ski seasons for five years.

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year (or five) isn't as glamorous as waxing up a surfboard and soaking up sun every day, but Zags has strong ties in both places.

Growing up in Mount Beauty, the town at the base of Falls Creek, Zags first got involved on the mountain as a junior patrol-ler. After some time away studying to be an engineering draughtsman, he returned in 2013 to begin his training as a patroller in earnest. Working at Falls Creek runs in the family for the Zagorskis — Zags' father and sister are both emergency physicians at the mountain's medical center, and his mother works up front keeping the clinic running smoothly.

At the start of Zags' second season as a volunteer patroller at Falls Creek, he met Erica, a 2014 Keystone exchanger. By the end of the winter, he was ready to follow her back to Keystone.

While a season abroad is a cool opportunity on its own, Zags says "[Erica] was certainly the main reason I first exchanged to Keystone." In 2018, Zags and Erica joined the small but esteemed club of married patrollers who met on exchange.

#### EXCHANGE VALUE

While the Falls Creek-Keystone exchange has a long and storied history, it is just one of five current exchanges at Keystone. Mount Hotham and Perisher in Australia, as well as Coronet Peak and the Remarkables in New Zealand, all have the opportunity to send one of their patrollers north for the boreal winter and host a Keystone patroller or patrollers for the austral winter.

The logistics aren't always easy, as many patrollers have families and other obligations at home, but to Keystone Ski Patrol Director Mike Daly, any small challenges are absolutely worth it.

"I value this program," Daly says, "and give 100 percent support to it."

Daly was an exchanger himself back in the 1999-2000 season, so he understands firsthand the numerous benefits that stem from exchange. "Having the ability to work with the different mountains and gain experience across many facets of ski patrol was incredibly valuable to me."

Daly also values the fresh perspectives that come to Keystone with exchangers, noting, "We had almost 75 years of experience from our visiting overseas exchangers (during the 2018-19 season), and many of the

*"Having the ability to work with the different mountains and gain experience across many facets of ski patrol was incredibly valuable to me."*

conversations that I had with these patrollers helped me with ideas on how we can improve our operation."

It's very common for a patroller to spend their entire career working at the mountain where they learned to patrol, which makes it easy to fall prey to the "this is how we've always done it, and it works" mentality.

That's not to say patrols aren't constantly updating their practices and protocols, but every mountain presents its own set of unique challenges that don't necessarily translate to another mountain — particular types of rescue, resort policies, and accessibility to higher medical care, to name a few. As a result, what works in one place doesn't always work somewhere else.

Additionally, making changes at the organizational level requires a consistent, concerted effort, working against the status quo.

When experienced patrollers from other mountains come to Keystone, and Keystone patrollers come back from a season abroad, they bring with them a strong impetus for change. As Zags puts it, "One of the great aspects of the exchange is the swapping of ideas and solutions that may not have been thought about at one's home mountain."

This is the most valuable benefit of the exchange for ski patrols. You don't just hear about a new piece of medical equipment, rig-running style, or dispatch software, you get to see it in action. You see it working and can imagine how it would fit in at your mountain back home.

#### TRAINING OPPORTUNITY

To the rest of Keystone Ski Patrol, heading south is seen as an outstanding training opportunity and life experience, so I was grateful this past summer to join the Falls Creek Ski Patrol for their season.

Since the program has been going on for so many years, all of the administrative

details have been worked out — visas, accommodation, and scheduling are just about seamless. Whereas a brand-new exchange program may be akin to an early-season trail with a thin, narrow snow covering, going to Falls Creek is like skiing down the marquee run midseason: perfect corduroy and helpful signage that allow you to just enjoy the ride.

Still, showing up on the first day to a new mountain with unfamiliar terrain, different medical protocols, and a whole new set of patient evacuation challenges is daunting, especially after you've become confident at your home mountain. It transports you back to being a rookie, helpless to respond to a call alone until you learn the ins and outs of the system.

While that vulnerability can be uncomfortable, when you combine it with a supportive environment, you've got a recipe for tremendous personal growth.

If you're fortunate enough to be at Falls Creek, the amazing folks of the patrol treat you as an honored guest. They are happy to train up an exchanger, especially since they do not often take on trainees. The majority of the patrol has been around for 10 or more years, with the average tenure around 20 seasons patrolling, and they keep coming back, which makes for a strong team that is rich in culture.

Rob Moreland, 72, began his patrol career at Falls Creek in 1981, but the fact that he was patrolling long before I was born doesn't change a thing — he treats his teammates with respect and compassion, and was eager to share with me what he's learned over the years.

Moreland is also one of the main figures behind Falls Creek's exchange program. He's exchanged five times personally: to Keystone three times, as well as to Kirkwood Mountain Resort in California and Whistler Blackcomb in British Columbia, and he's the one who prompted Gra to go to Keystone back in the late '80s. Zags, too, says he had "Moreland heavily encouraging [him] to go."

Moreland's faith in the program stems from witnessing first-hand a wealth of knowledge come back to Falls Creek from Keystone after the inaugural exchange in the 1983-84 season. The form for collecting patient information in the clinic, standards for marking hazards, protocols for radio traffic, even a trail name, Last Hoot, made the trip across the Pacific.

The 1990-91 season was Moreland's first exchange, and it came during an exciting time at Keystone: the set-up of the Outback. He was back there helping ready trails, thus becoming the "first Australian in the Outback," a proudly owned title that is perhaps lost on his fellow countrymen.

Years later, with a handful more exchanges under his belt, Moreland came over just for the preseason refresher in 2016, and when he went back to Falls Creek, he took with him a strong conviction for a new method of spinal immobilization: the vacuum mattress.

"I brought the system back to Falls Creek, and we changed all of our backboards and collars," says Moreland. Today, you can't find a backboard or a cervical collar at Falls Creek, and scoops are only used to transfer a patient onto a vac-mat — a testament to the ability of a smaller patrol, and one with a progressive mentality, to enact change quickly.

Of course, the transfer of knowledge is bidirectional. In 1993, a Falls Creek exchanger brought over photos of the ramp at the Falls Creek medical center that allowed access to the patient from three sides and made for

safer lifting onto a bed. At Keystone at the time, the ramp was up against the clinic, affording patrollers limited room to maneuver around a patient. The photos inspired a switch to the effective two-ramp system that is still in use at Keystone today.

More recently, Falls Creek has updated to an even more streamlined system for transferring patients from the snow to a bed: a powered lifting device that hangs from a truss and connects to a low-profile, waterproof litter that lies under every patient. The lifting device picks the patient up out of the sled using an electric winch, slides the patient along a suspended track through an opening in the back of the medical center, and then lowers the patient onto a bed inside — zero manual lifts required.

"I think every exchanger from FCSP has at least mentioned the lifting system," when they work with a new patrol, according to Zags. While it may not end up being the right fit at Keystone, the conversation alone inspires progress in a profession where manual lifts and bad backs are all too common.

Not all takeaways from the exchange are

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groundbreaking though — many occur quietly, on a daily basis. Patrollers at Falls Creek are experts with Akja toboggans, for instance, and helped me understand their nuances. On the other hand, Keystone patrollers run dozens of Cascades a year and can offer tips to exchangers from mountains where Cascades are less common.

Early on during my exchange at Falls Creek, I was setting up a rope line with another patroller. While the clove hitch is used around the world for rope lines, the patroller I was with became excited and curious when I tied a “cowboy clove.” After I explained the trick to him and told him what it was called, he let out a “Yeehaw!” and like that, we discovered our shared love for cowboy music and all things country. Later that week was the first official meeting of the Falls Creek Ski Patrol Country Music Appreciation Society, whose meetings continued weekly all season.

Therein lies the personal value of the exchange and what keeps patrollers going back, year after year. When you relocate somewhere totally new for five or six months and throw yourself headlong into a new community, you form relationships that last a lifetime.

“The stories, the history, and the camaraderie that come with [the exchange] are invaluable,” says Zags. “Not to mention some great friendships and a couple of weddings,” adds Moreland.

While there is clear value for the patrols organizationally, the interpersonal aspect is what makes an exchange worth it for the individual, and what makes some patrollers keep going back for more.

The translation sheet outside dispatch is more for fun than practical purpose, but it is a symbol of the exchange ethos — the eagerness of patrollers from different cultures to learn about each other’s ways of life and create a welcome environment.

In 2019, Zagorski obtained permanent residence status in the U.S. and decided to stick around for the summer — his first in five years. His presence was sorely missed at Falls Creek, but his teammates there were happy to see him get a full season of mountain biking, his other passion. Some worry that he’ll never return for another season at Falls Creek, but it’s a short-lived worry, because as they say, she’ll be right. +

Top left: The lifting system at Falls Creek — a seamless way to transfer non-ambulatory patients to a bed in the medical center. Photo by Pat Hansen.

Top right: Matt Zagorski at one of Keystone’s backcountry access gates. Photo c/o Matt Zagorski.

Bottom left: Matt Zagorski greets a member of the skiing public at Keystone. Photo c/o Matt Zagorski.

# EXCHANGE DETAILS

BY CHARLES BUCKMAN  
NSP REGISTRATION MANAGER

The National Ski Patrol has been using the Exchange Visitor J-1 program for 25 years to bring over international patrollers from other countries to patrol in the United States. The Exchange Visitor Program is run through the U.S. State Department and offers several programs for foreign nationals to come to the U.S. through a J-1 Visa sponsorship as a specialist.

This is an NSP member benefit that gives patrols the opportunity to work with international patrollers and often sends U.S. patrollers abroad as a form of exchange to reciprocate the experience for their U.S. patrollers. It offers U.S. patrollers the opportunity to learn more about best practices and experiences in international alpine communities.

In 2018, the Lakewood office sponsored a total of 24 international patrollers from five different countries: Argentina, Australia, France, New Zealand, and England. Thirteen different U.S. ski resorts participated in the Exchange Visitor Program, including resorts in Colorado, Wyoming, Utah, and California. In 2019, a total of 30 spots are available for J-1 sponsored patrollers to come to the U.S. It is up to the patrol director to start this communication with international patrols and establish the exchange. Once an agreement has been made, the U.S. patrol director should contact the NSP national office to begin the application process.

This program is available to all NSP patrols who are looking to bring over a full-time employee who is 18 years or older. The visa is available for the winter season, which can start as early as September 15 and go until May 15. All inquiries about applying to bring over an exchange patroller will be accepted from March 1 until December 31. To send an inquiry, please email [memberrecords@nsp.org](mailto:memberrecords@nsp.org).

There is a \$400 application fee per J-1 exchange patroller. NSP J-1 specialists are eligible to obtain separate J-2 visas for their family members accompanying them abroad, a key incentive when trying to invite over an experienced ski patroller. There is no additional fee for J-2 family members.

In addition to gaining experience by working with a patrol outside of their country, J-1 specialists have the opportunity to learn about NSP's Outdoor Emergency Care curriculum with certified instructors. Outdoor Emergency Care, NSP's core education and training program, is used by the majority of U.S. ski patrols. It is not a requirement for international patrollers to be OEC certified; however, it is a great



From L-R: Banjo Bauer (assistant director), Matt Zagorski, Nick Macuga, and Erica Zagorski. Photo c/o Matt Zagorski.

opportunity for them to learn and understand the training that NSP patrols use in the U.S. Since English is a second language for many international patrollers, the cultural experience of patrolling in the U.S. for a winter also allows them to enhance their skills on and off the mountain.

Previously, the program was run by NSP alumni member Robert Black. With Black's guidance, the NSP's Exchange Visitor Program now operates out of the NSP's national office in Lakewood, Colorado. NSP Registration Manager Charles Buckman works with NSP's

executive director to run the exchanges and communicate with the international patrollers.

We encourage NSP patrols who are interested in the international exchange of training, culture, and ideas to work with their international counterparts to determine the individuals needing sponsorship and then contact the NSP to begin the process. For more information on the program, and to learn about the initial requirements, please visit the NSP website at <https://nsp.serves.org/exchange-visitor-program/> or email the Lakewood office at [memberrecords@nsp.org](mailto:memberrecords@nsp.org). +

An advertisement for 22 Designs skis. The top half features the 22 Designs logo, which consists of the number '22' in a stylized font with a mountain range and a sun rising behind it. Below the logo, the text 'OUTLAWx' is written in a large, bold, black font. Underneath that, it says 'Lighter, faster, &amp; stronger, for \$399.95.' The bottom half of the ad shows a person in a red jacket and black pants skiing down a snowy slope. The person is holding ski poles and is in a dynamic pose. In the bottom left corner, there is a small logo for the National Ski Patrol, which is a shield with a red and white design. To the right of the National Ski Patrol logo, it says 'VISIT THE NSP PRO DEALS PAGE FOR EXCLUSIVE PRICING ON 22 DESIGNS.'



# GEAR GUIDE

## 2019



### YAKIMA SHOWCASE 20

Big space, sleek lines, glossy finish — the aerodynamic ShowCase 20 delivers exceptional cargo capacity with a clean, modern design. Big enough for extended trips with a car full of friends, loading up the entire family's ski gear, or heading out on the ultimate endless road trip, this spacious box easily fits larger wagons and SUVs.

**Weight:** 27,215 grams (60 pounds)

**Dimensions:** 91 inches long by 37 inches wide by 17 inches high

### YAKIMA FATCAT 6 EVO

The FatCat EVO is Yakima's sleekest, quietest, and sweetest ski and snowboard mount. It is wide enough to carry six pairs of powder skis — up to 136 millimeters at the tip — or four snowboards. FatCat EVO mounts tool-free on virtually any roof rack. The OverHang™ clamp attachment point makes it easier to reach your skis or boards. SKS locks are built in for added security, and the mirror black finish looks awesome on your roof. For T-Slot crossbars, add the SmarT-Slot Kit 2 for a super sleek setup (sold separately).

**Weight:** 5,783 grams (12.75 pounds)

**Dimensions:** 40.50 inches long by 3.75 inches wide by 5.25 inches high



## DALBELLO LUPO PRO HD

The Lupo Pro HD suits the hard-charging skier who wants touring functionality combined with a stiff, durable shell and tongue. Utilizing the popular Krypton architecture, this boot comes with tech inserts and a removable tongue that goes on and off in an instant. Built specifically for the local patroller and die-hard big mountain skier, the Lupo Pro HD is made from the same polyurethane used in Dalbello's race boots, yet still comes in at 1,990 grams in ski mode.

**Last:** 98 millimeters

**Flex:** 130

**Sizes:** 24.5-29.5

**Weight per pair:** 3,880 grams (8.55 pounds) (26.5)



## DALBELLO PANTERRA 120 ID GW

For skiers who demand the ultimate versatility and comfort, the all-new Panterra 120 ID GW ushers in a new era, retaining the legendary fit and variable last features in a slimmer, lighter, more attractive package. The new Panterra features Power Cage construction to improve energy transfer, a walk mode with a 50-degree range of motion, adjustable ramp angle, and Dalbello's proven 3D Grip texture. Pre-installed GripWalk soles give you better traction on and off the job!

**Last:** 100-102 millimeters

**Flex:** 120

**Sizes:** 24.5-30.5

**Weight per pair:** 3,440 grams (7.58 pounds) (26.5)



## TECNICA MACH1 130 LV

Mach1 stands for pure performance and precise fit with an ultimate level of customization. High-performance skiers looking to up their game will appreciate the directness of the new Asymmetrical Power Transmission shell. The newly redesigned, low-volume, 98-millimeter last, which is supported by the C.A.S. fit system, delivers the ultimate level of power, comfort, and control. The new LV 130 lives up to the Mach1 name.

**Last:** 98 millimeters

**Flex:** 130

**Sizes:** 24.5-30.5 (half-sizes)

**Weight per pair:** 3,990 grams (8.79 pounds) (26.5)





# GEAR GUIDE 2019



## TECNICA ZERO G TOUR PRO

The power of lightness. To date, ski touring has involved compromising downhill performance to save on weight. Those days are now over. The Zero G Tour Pro weighs just 1,320 grams, thanks to its carbon fiber-Grilamid® cuff, and boasts a 55-degree range of motion in hike mode. A four-buckle design with a true flex of 130 makes the ZG Tour Pro second to none in downhill performance. So, feel free to go farther, higher, bigger, and faster.

**Last:** 99 millimeters  
**Flex:** 130  
**Sizes:** 22.5-30.5 (half-sizes)  
**Weight per pair:** 2,640 grams (5.82 pounds) (26.5)



## ROSSIGNOL ALLTRACK PRO 130 GW

Chase untracked lines inbounds or out in the Alltrack Pro 130 GW. This no-compromise, free-touring boot features tech fittings for alpine touring binding compatibility and a releasable cuff for a natural range of motion on the skin track or boot pack. The 100-millimeter last balances comfort and control, while the Generative Design Grid shell is engineered for reduced weight and full power transmission for all-conditions skiing. The preformed liner is thermo-moldable for a custom fit. Includes pre-mounted GripWalk soles for a more natural walking motion and increased traction.

**Last:** 100 millimeters  
**Flex:** 130  
**Sizes:** 24.5-29.5 (half-sizes)  
**Weight per pair:** 3,700 grams (8.15 pounds) (26.5)



## LANGE XT FREE 130

Featuring Lange's revolutionary Dual Core technology and ultralight Grilamid® construction, the all-new XT Free 130 is a new benchmark in free-touring weight (1,800 grams) and performance. Dynafit® certified inserts and Lange's patented Power V-Lock ensure maximum mobility (43-degree range of motion) for the ascent and uncompromising downhill performance. The innovative Dual Core construction ensures unparalleled rebound and flex control for total control of your line.

**Last:** 100 millimeters  
**Flex:** 130  
**Sizes:** 24.5-29.5 (half-sizes)  
**Weight per pair:** 3,600 grams (7.93 pounds) (26.5)



## APEX HP CRESTONE

Named after the Colorado 14'er Crestone Peak, the highest summit of the Crestones, the HP Crestone is designed for all-mountain performance that will let you tackle any type of terrain in extreme comfort! Using the same architecture as the XP, the HP also has the benefits of being shorter, lighter, and more responsive.

**Last:** 99-103 millimeters  
**Flex:** 95-115 (adjustable)  
**Sizes:** 25-31 (full sizes)  
**Weight per pair:** 5,000 grams  
 (11 pounds) (26)



## APEX ANTERO

Named after one of the highest peaks in our Colorado backyard, the new XP Antero builds on the highly successful, iconic Apex XP. The new Double-Stack Boa® design now takes Serpentine™ lacing to an even higher level of performance with super-powerful closure for boot top, midfoot, and forefoot. The addition of QPlush liner foam delivers support and custom moldability unavailable in any other boot on the market.

**Last:** 99-103 millimeters  
**Flex:** 115-135 (adjustable)  
**Sizes:** 25-31 (full sizes)  
**Weight per pair:** 4,600 grams  
 (10.14 pounds) (26)



## HEAD KORE 1

All of Head's Kore products share one key principle — maximum performance through minimal BS. Like other touring boots, the Kore 1 boasts light weight, a hike-ski mechanism, and pin binding inserts. Unlike any other touring boot, the Kore 1 is the world's first to incorporate the revolutionary material graphene, which promotes powerfully responsive, delightfully damp turns. Finally, every good skier knows that fit comes first, and the Kore 1 features the three keys to a top fit — a moldable shell (Form Fit), a moldable liner (Perfect Fit), and a brand-new, customizable ankle pocket (Liquid Fit).

**Last:** 100 millimeters  
**Flex:** 130  
**Sizes:** 25.5-28.5 (half sizes)  
**Weight per pair:** 3,260 grams  
 (7.18 pounds) (26.5)



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## SCARPA MAESTRALE XT

SCARPA's most powerful ski boot designed to provide hard-charging freeride performance on the biggest, steepest lines on the planet. The Maestrale XT features the same carbon-infused Grilamid® lower as the Maestrale RS with a stiffer, stronger, two-buckle cuff and RECCO® enabled power strap. Mold the Intuition® Cross Fit Pro Flex Ride liner for the perfect fit and optimal warmth. The Speedlock XT Ski/Walk mechanism is friction free and rock solid for long days on patrol where transitioning from skiing to walking is crucial.

**Last:** 101 millimeters  
**Flex:** 130-plus  
**Sizes:** 24.5-32 (half sizes)  
**Weight per pair:** 2,980 grams  
(6.56 pounds) (27)



## SCARPA MAESTRALE RS

The Maestrale RS lives at the intersection of freeride performance and backcountry functionality thanks to an innovative, carbon-infused Grilamid® shell that adds power and rigidity without adding weight. Also featured is an all-new power strap including RECCO® technology for increased avalanche searchability. Mold the Intuition® Cross Fit Pro Flex Performance liner for the perfect fit and optimal warmth. The Maestrale RS is perfect for patrollers who would like the perfect blend of comfort, uphill functionality, and downhill performance.

**Last:** 101 millimeters  
**Flex:** 125  
**Sizes:** 24.5-32 (half sizes)  
**Weight per pair:** 2,980 grams  
(6.56 pounds) (27)



## SCARPA MAESTRALE

The gold-standard and best-selling touring boot that redefined the backcountry category, the lightweight Maestrale continues to ski as well as it tours. Built for long uphill climbs, the Maestrale now boasts a new, sustainable shell made of plant-based Pebax® Rnew. The Maestrale also features an Intuition® Cross Fit Touring liner, Speedlock Plus Ski/Walk mechanism, RECCO®-enabled power strap, and a Wave Closure System for the perfect, comfortable boot for long days on your feet.

**Last:** 101 millimeters  
**Flex:** 110  
**Sizes:** 24.5-32 (half sizes)  
**Weight per pair:** 2,880 grams  
(6.34 pounds) (27)



## NORDICA STRIDER PRO 130 DYN

The Strider Pro 130 DYN brings a new level of downhill performance to the hike category. Built around an aggressive flex and a versatile 100-millimeter last, the boot tackles the toughest terrain with confidence and grit. Its alpine hike mechanism affords a generous 46-degree range of motion, yet when locked-out in ski mode its spine delivers unprecedented power and precision for the ride down. For a refined fit, its lightweight shell and liner can be fully customized. To keep feet warm and dry, it sports PrimaLoft® insulation. Dynafit inserts deliver additional versatility, while the Strider's soles feature a unique Michelin® tread for optimum traction, durability, and performance. The Strider PRO 130 DYN provides the freedom you crave and performance you can depend on.

**Last:** 100 millimeters  
**Flex:** 130  
**Sizes:** 22.5-31  
**Weight per pair:** 3,400 grams (7.49 pounds) (26.5)



## NORDICA PRO MACHINE 130 LV

Nordica took the all-day comfort and all-mountain versatility of its award-winning Speedmachine and fused it with the DNA of the top-of-the-line Dobermann race boot. The result: the power you demand, and the comfort you desire. The entire line of Promachine boots, which come in a 130, 120, and 110 flex, are the lowest-volume, most modern lightweight design that Nordica has ever created. Thanks to a 98-millimeter shell and anatomical 3D liner, all of the boots in the line are fully customizable, making for unparalleled responsiveness and precision. For a boot that combines performance with all-day comfort, look no further than the Pro Machine.

**Last:** 98 millimeters  
**Flex:** 130  
**Sizes:** 24-31  
**Weight per pair:** 3,780 grams (8.83 pounds) (26.5)



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## TECNICA MACH1 LV PRO W

Specifically designed for women, the new Mach1 Pro LV W combines comfort and warmth with top performance in a true 120 flex. Built on a women's-specific last, the C.A.S. system offers fitting solutions for the shell and liner, including the Cuff Adapt System that quickly and easily adapts to lower leg shapes. Merino wool and Celliant liners will keep you warm for long days on the hill. Asymmetric Shell Design allows you to access all the energy and power of the ski and lets you rip any slope or condition.

**Last:** 98 millimeters  
**Flex:** 120  
**Sizes:** 22.5-27.5 (half-sizes)  
**Weight per pair:** 3,380 grams  
(7.45 pounds) (24)



## TECNICA COCHISE 105 W DYN

The Cochise 105 W DYN is the ultimate work boot for female patrollers. A women's-specific, 99-millimeter anatomic lightweight shell and liner that has 42-degree range of motion in walk mode makes the next bootpack to that control route no problem. The four-buckle construction and flex rating of 105 give it impressive performance on the downhill. The merino toe box is a real bonus, keeping your toes cozy on the coldest of days.

**Last:** 99 millimeters  
**Flex:** 105  
**Sizes:** 22.5-27.5 (half-sizes)  
**Weight per pair:** 3,200 grams  
(7.05 pounds) (24)



## APEX ANTERO-S

The Apex Antero's Double-Stack Boa® design is being acclaimed as a performance breakthrough. Now, Apex offers all the benefits of Double-Stack Technology in a special, high-performance women's model — the Antero-S. All the Apex comfort, warmth, and convenience features with power and response never before available. This is patented Serpentine™ lacing taken to the highest level in a boot ready to take on any mountain.

**Last:** 99-103 millimeters  
**Flex:** 95-115 (adjustable)  
**Sizes:** 25-27 (full sizes)  
**Weight per pair:** 4,600 grams (10.14 pounds) (26)



# WOMEN'S BOOTS



## DALBELLO PANTERRA 95 W ID GW

The Panterra 95 W ID GW is geared toward skiers seeking the best blend of versatility, performance, and fit for unlimited access to every part of the mountain. Its three-piece Cabrio design is updated to a slimmer, lighter, more attractive package, includes a ski/walk mode, and provides responsive, consistent flex along with superior support. This new boot's liners are also tailored for a women's-specific fit. Pre-installed GripWalk soles give you better traction on and off the job!

**Last:** 99-101 millimeters  
**Flex:** 95  
**Sizes:** 22.5-27.5 (half-sizes)  
**Weight per pair:** 3,200 grams (7.05 pounds) (24)



## ROSSIGNOL ALLTRACK ELITE 120 W

Chase untracked lines inbounds or out in the Alltrack Pro 130 GW. This no-compromise free-touring boot features tech fittings for alpine touring binding compatibility and a releasable cuff for a natural range of motion on the skin track or bootpack. The 100-millimeter last balances comfort and control, while the Generative Design Grid shell is engineered for reduced weight and full power transmission for all-conditions skiing. The preformed liner is thermo-moldable for a custom fit. Includes pre-mounted GripWalk soles for a more natural walking motion and increased traction.

**Last:** 98 millimeters  
**Flex:** 120  
**Sizes:** 22.5-27.5 (half-sizes)  
**Weight per pair:** 3,200 grams (7.05 pounds) (24)



## LANGE XT FREE 110 W

Go beyond the boundaries. Featuring Lange's revolutionary Dual Core technology and ultralight Grilamid® construction, the XT Free 110 W is a new benchmark in free-touring weight (1,500 grams) and performance. Dynafit® certified inserts and Lange's patented Power V-Lock ensure maximum mobility (43-degree range of motion) for the ascent and uncompromising downhill performance. The innovative Dual Core construction ensures unparalleled rebound and flex control for total control of your line.

**Last:** 98 millimeters  
**Flex:** 120  
**Sizes:** 22.5-27.5 (half-sizes)  
**Weight per pair:** 2,600 grams (5.73 pounds) (24)



# GEAR GUIDE 2019

## WOMEN'S BOOTS



### HEAD NEXO LYT 110 RS W

"LYT Done Right" is more than a tagline — it's the central theme of Head's product design department. When light weight is a must, and comfort with top performance are requirements, the end result is always better. The all-new Nexo LYT 110 W is the embodiment of this philosophy. With its superlight, graphene-enhanced shell that can be molded around women's feet, and its luxurious Liquid Fit liner that embraces heels and ankles, even the most aggressive skier will find incredible comfort in the most memorable conditions.

**Last:** 98 millimeters  
**Flex:** 110/100  
**Sizes:** 24.5-26.5 (half sizes)  
**Weight per pair:** 3,430 grams  
(7.56 pounds) (26.5)



### SCARPA GEA RS

Scarpa's stiffest, most powerful women's-specific AT boot that thrives at the intersection of freeride performance and backcountry functionality, the Gea RS features an innovative, carbon-infused Grilamid® shell to add power and rigidity without adding weight. Mold the Intuition® Cross Fit Pro Flex Women's Performance liner for the perfect fit and optimal warmth. The Gea RS is aimed at patrollers who like the perfect blend of comfort, warmth, uphill functionality, and downhill performance.

**Last:** 101 millimeters  
**Flex:** 120  
**Sizes:** 22.5-27 (half sizes)  
**Weight per pair:** 2,500 grams  
(5.51 pounds) (25)



### SCARPA GEA

The best-selling women's touring boot that redefined the backcountry category, the lightweight Gea continues to ski as well as it tours. Built for long uphill climbs, the Gea now boasts a new sustainable shell made of plant-based Pebax® Rnew. The Gea also features an Intuition® Cross Fit Touring women's liner, Speedlock Plus Ski/Walk mechanism, RECCO®-enabled power strap, and a Wave Closure System for the perfect, comfortable warm boot for long days on your feet.

**Last:** 101 millimeters  
**Flex:** 100  
**Sizes:** 22.5-27 (half sizes)  
**Weight per pair:** 2,500 grams  
(5.51 pounds) (25)



## VÖLKL MANTRA 102

The Mantra 102 handles the days between storms with ease thanks to its new 3D Radius sidecut design, with three distinct radii that work together to allow an incredibly short turn on such a wide ski with no loss in float or stability. When it does start dumping, the wider, 102-millimeter chassis, Titanal Frame construction, and tip and tail rocker design give you the float and maneuverability of a powder ski. Introducing the new Western one-ski quiver!

**Dimensions:** 140-102-123 millimeters  
(177 centimeters)  
**Radius:** 20.1 meters (177 centimeters)  
**Sizes:** 170, 177, 184, 191 centimeters  
**Weight per pair:** 4,200 grams (8.99 pounds)  
(177 centimeters)

## VÖLKL KENDO 88

The new Kendo 88 sets the tone for 50/50 frontside/backside skis with a new shape featuring Völkl's revolutionary 3D Radius sidecut design and the proven Titanal Frame construction that first debuted on the M5 Mantra. The 3D Radius design delivers greater versatility by allowing the skier to switch from short turns to long turns at will, at any speed. Also featuring carbon tip inlays, a full sidewall construction, and a full multi-layer wood core.

**Dimensions:** 129-88-111 millimeters  
(177 centimeters)  
**Radius:** 16.6 meters (177 centimeters)  
**Sizes:** 163, 170, 177, 184 centimeters  
**Weight per pair:** 3,880 grams (8.55 pounds)  
(177 centimeters)

## ROSSIGNOL SUPER 7 HD

Celebrated from Alaska to the Alps, the Super 7 HD sets the bar for freeride versatility. A light wood core and carbon layup creates a powerful ski that transitions seamlessly between soft and mixed conditions. Slash, surf, or carve, the 116-millimeter waist rises out of the deepest snow and settles into high speed arcs for unrivaled big-mountain performance.

**Dimensions:** 140-116-130 millimeters  
(188 centimeters)  
**Radius:** 20 meters (188 centimeters)  
**Sizes:** 172, 180, 188 centimeters  
**Weight per pair:** 4,200 grams (9.25 pounds)  
(188 centimeters)



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## ROSSIGNOL SOUL 7 HD

Surf or carve, the Soul 7 HD blends instinctive versatility and energized performance to go anywhere the snow takes you. A lightweight wood core and carbon layup deliver a responsive and powerful ski that moves seamlessly between soft snow and mixed conditions. Cruise or charge, frontside or back, the 106-millimeter waist floats through soft snow and holds high-speed arcs back to the lift.

**Dimensions:** 136-106-126 millimeters  
(180 centimeters)  
**Radius:** 18 meters (180 centimeters)  
**Sizes:** 164, 172, 180, 188 centimeters  
**Weight per pair:** 3,800 grams (8.37 pounds)  
(180 centimeters)

## DYNASTAR LEGEND X 106

Designed for fans of wide-open spaces, the Legend 106, the widest ski in the Legend series, delivers instant float without feeling overly cumbersome on harder snow. With a marked rocker for float on demand and Powerdrive technology together with a Paulownia + Titanal sandwich structure for stability, dampening, and fluidity in all circumstances, this ski will help you explore the most beautiful off-trail terrain with complete confidence in all conditions.

**Dimensions:** 139-106-123 millimeters  
(182 centimeters)  
**Radius:** 17 meters (182 centimeters)  
**Sizes:** 173, 182, 188 centimeters  
**Weight per pair:** 3,800 grams (8.37 pounds)  
(182 centimeters)

## DYNASTAR LEGEND X 96

The Legend 96 is a real all-rounder, a 50 percent trail, 50 percent off-trail ski designed for good and expert skiers. The ultimate freeride ski, its agility and ease on all kinds of snow and powder are rivaled only by its robustness and reliability on piste. A Paulownia + Titanal sandwich structure offers lightness with no compromise on power, while the new Powerdrive technology provides smoothness and responsiveness combined with excellent dampening on all kinds of terrain.

**Dimensions:** 132-92-112 millimeters  
(178 centimeters)  
**Radius:** 15 meters (178 centimeters)  
**Sizes:** 171, 178, 186 centimeters  
**Weight per pair:** 3,400 grams (7.49 pounds)  
(178 centimeters)





## BLIZZARD BONAFIDE

The legendary Bonafide continues to set the bar in the all-mountain freeride world. A versatile all-mountain sidecut and reduced rocker profile makes this ski nimble and easy, while the proven Carbon Flipcore™ with two sheets of Titanal makes it calm, confident, and powerful. Attack the mountain in powder, crud, groomers, or rock-hard snow and feel the precision and exhilaration.

**Dimensions:** 135-98-119 millimeters (180 centimeters)  
**Radius:** 18 meters (180 centimeters)  
**Sizes:** 166, 173, 180, 187 centimeters  
**Weight per pair:** 4,200 grams (9.25 pounds) (180 centimeters)

## BLIZZARD RUSTLER 10

Rustler 10 will help you push the limits on snow. It is founded on two signature concepts: Carbon Flipcore D.R.T. Technology and an innovative waist concept where the longer the ski, the wider the waist, which gives ambitious, all mountain skiers more versatility and float. The smooth rocker-camber-rocker profile make it responsive and stable yet super playful in softer snow on any type of terrain. The Rustler 10 is the one-ski workhorse for the progressive skier.

**Dimensions:** 133-102-122.5 millimeters (180 centimeters)  
**Radius:** 17.5 meters (180 centimeters)  
**Sizes:** 164, 172, 180, 188 centimeters  
**Weight per pair:** 3,600 grams (7.93 pounds) (180 centimeters)

## ICELANTIC PATROL PIONEER 96

As a huge thank you to all the hard-working patrollers (and dogs!) out there, Icelantic designed a limited-edition ski to help you do your job even better! The Pioneer 96 is perfect for skiing, working, traversing, staking, stepping, and sledging all over the mountain. With tip and tail rocker, tapered design, and 5 millimeters of camber underfoot, this ski is truly an all-mountain tool. The Patrol Pioneer showcases artwork from Icelantic artist Travis Parr and features a red safety base for when you are addressing a situation on the mountain. All Icelantic skis are manufactured in Denver, Colorado, and are backed by a 3-Year "No Questions Asked" Warranty.

**Dimensions:** 131-96-118 millimeters (174 centimeters)  
**Radius:** 17 meters (174 centimeters)  
**Sizes:** 166, 174, 182 centimeters  
**Weight per pair:** 3,356 grams (7.39 pounds) (174 centimeters)



# GEAR GUIDE 2019

## ICELANTIC NOMAD 105

The award-winning Nomad 105 is Icelantic's flagship model, best-selling ski, and the foundation of the Nomad Freeride collection. Its 105-millimeter platform and bombproof construction allow for great flotation and stability all over the mountain. The Freeride series features Hybrid Flight Core consisting of poplar and paulownia wood, making the collection lighter and more poppy — allowing you to effortlessly play all over the mountain. This energetic freeride tool is best described as playful, surfy, and, most importantly, fun. Go ahead, see what everyone has been talking about and get on a pair. Handmade in Denver, Colorado, and backed by a 3-Year "No Questions Asked" Warranty.

**Dimensions:** 140-105-130 millimeters (174 centimeters)  
**Radius:** 16 meters (171 centimeters)  
**Sizes:** 161, 171, 181, 191 centimeters  
**Weight per pair:** 3,852 grams (8.49 pounds) (174 centimeters)

## HEAD KORE 105

For those of you who live on the edge, the Kore 105 will get you further out there. Prepare to lead your posse with the perfect blend of light weight and high performance. The Kore 105 balances the ability to both smear and carve with an ease that separates it from the competition. At an "everyday" 105-millimeter footprint, this is the ultimate secret stash seeker. *Powder Magazine's* "2018 Ski of the Year."

**Dimensions:** 135-105-125 millimeters (180 centimeters)  
**Radius:** 17.8 meters (180 centimeters)  
**Sizes:** 162, 171, 180, 189 centimeters  
**Weight per pair:** 3,710 grams (8.17 pounds) (180 centimeters)



## HEAD KORE 93

Sometimes it's deep. Sometimes it's tracked. Sometimes it's bumped. Lots of times it's groomed. If this is when and where you ski, then the Kore 93 is for you. Compared to its big brothers, the 93 will initiate the turn earlier, leaving nothing but smiles in its wake. Damp and stable, yet quick and light. #tothekore.

**Dimensions:** 133-93-115 millimeters (180 centimeters)  
**Radius:** 16.4 meters (180 centimeters)  
**Sizes:** 153, 162, 171, 180, 189 centimeters  
**Weight per pair:** 3,470 grams (7.65 pounds) (180 centimeters)

## NORDICA ENFORCER FREE 104

Day in and day out, the Enforcer Free 104 boosts your confidence. Although it's the newest addition to the Enforcer Free collection, it's already renowned for providing power and versatility in a design that's accessible and easy to ski — no matter the terrain or conditions. The Enforcer Free 104 pairs a balsa wood core with carbon and two sheets of metal to maximize stability and response. This also dampens vibrations for an especially smooth ride. For exceptional flotation in powder and easy steering through variable conditions, it features a high-rise tip and tail rocker. If you're a progressive skier searching for the perfect daily driver, it's time to meet your soulmate — the Enforcer Free 104. Powerful and poppy, it's at home everywhere and anywhere.

**Dimensions:** 105-104-124 (186 centimeters)  
**Radius:** 19.5 meters (186 centimeters)  
**Sizes:** 165, 172, 179, 186, 191 centimeters  
**Weight per pair:** 4,400 grams (9.7 pounds) (186 centimeters)





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## BLIZZARD SHEEVA 10

The Sheeva 10 is fun and forgiving while offering up stability and versatility. From pow to groomers and anything in between, this ski will make any turn shape at any speed in any terrain. Carbon Flipcore D.R.T. and W.S.D. — Women's Specific Design — construction combine to deliver a confidence inspiring, elevated skiing experience. Why work hard when you can play harder?

**Dimensions:** 131.5-102-121.5 millimeters  
(164 centimeters)  
**Radius:** 14.5 meters (164 centimeters)  
**Sizes:** 156, 164, 172, 180 centimeters  
**Weight per pair:** 3,100 grams (6.83 pounds)  
(164 centimeters)

## ICELANTIC RIVETER 85

Brand-new for the 2019-20 season, the Riveter all-mountain collection was designed to provide skis that could serve as a true one-ski quiver. The Riveter 85's tapered shape with tip and tail rocker combine with 5 millimeters of camber underfoot to create a ski that excels all over the mountain. At 85 millimeters underfoot, the Riveter is an excellent choice for a more manageable frontside ski. If you are a woman looking for a ski that is versatile enough to handle any condition that the mountain provides, the Riveter is the ski for you! Handmade in Denver, Colorado, and backed by a 3-Year "No Questions Asked" Warranty.

**Dimensions:** 120-85-108 millimeters  
(162 centimeters)  
**Radius:** 14.5 meters (162 centimeters)  
**Sizes:** 155, 162, 169 centimeters  
**Weight per pair:** 2,643 grams (5.82 pounds)  
(162 centimeters)

## ROSSIGNOL SOUL 7 HD W

Surf or carve, the women's Soul 7 HD blends instinctive versatility and energized performance to go anywhere the snow takes you. A lightweight wood core and carbon layup deliver a responsive and powerful ski that moves seamlessly between soft snow and mixed conditions. Cruise or charge, frontside or back, the 106-millimeter waist floats through soft snow and holds high-speed arcs back to the lift.

**Dimensions:** 136-104-126 millimeters  
(164 centimeters)  
**Radius:** 16 meters (164 centimeters)  
**Sizes:** 156, 164, 172 centimeters  
**Weight per pair:** 3,300 grams (7.27 pounds)  
(162 centimeters)



# WOMEN'S SKIS



## DYNASTAR LEGEND W 106

The Legend W 106 is the ideal ski for women off-trail skiers. With its dimensions and a tip and tail rocker for excellent float in powder, the Legend W 106 offers a smooth approach to freeriding. It features magnificent ski-snow contact, innate adaptability, and a surprising ability to absorb variations in the terrain, all made possible thanks to Powerdrive technology, guaranteeing reliability and comfort in all conditions.

**Dimensions:** 139-106-123 millimeters  
(173 centimeters)  
**Radius:** 15 meters (173 centimeters)  
**Sizes:** 173 centimeters  
**Weight per pair:** 3,600 grams (7.93 pounds)  
(173 centimeters)

## VÖLKL KENJA 88

The new Kenja 88 brings a new level of smoothness and stability for 50/50 frontside/backside skiers. Its new setup features Völkl's revolutionary 3D Radius sidecut design and the proven Titanal Frame construction that first debuted on the Secret. The 3D Radius design delivers greater versatility by allowing the skier to switch from short turns to long turns at will, at any speed. The new Kenja also features carbon tip inlays, a full sidewall construction, and full multi-layer wood core.

**Dimensions:** 129-88-111 millimeters  
(163 centimeters)  
**Radius:** 15 meters (163 centimeters)  
**Sizes:** 149, 156, 163, 170 centimeters  
**Weight per pair:** 3,540 grams (7.80 pounds)  
(163 centimeters)

## HEAD KORE 99 W

Engineered to blend the top traits of featherweight touring skis and super-stable all-mountain carvers, the Kore 99 W will help you achieve your perfect ski adventure. Though light in weight, its heavy-duty performance gives skiers a smooth, damp, and refreshingly responsive platform. If you've ever wanted a ski that can fly through freshies as easily as it trenches groomers — or for that matter take on any snow condition that's in front of you — look no further, the 99 is for you. #tothekore.

**Dimensions:** 131-97-118 millimeters  
(171 centimeters)  
**Radius:** 15.1 meters (171 centimeters)  
**Sizes:** 153, 162, 171 centimeters  
**Weight per pair:** 3,084 grams (6.79 pounds)  
(171 centimeters)



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## WOMEN'S SKIS

### SCOTT SCRAPPER 95 WOMEN'S

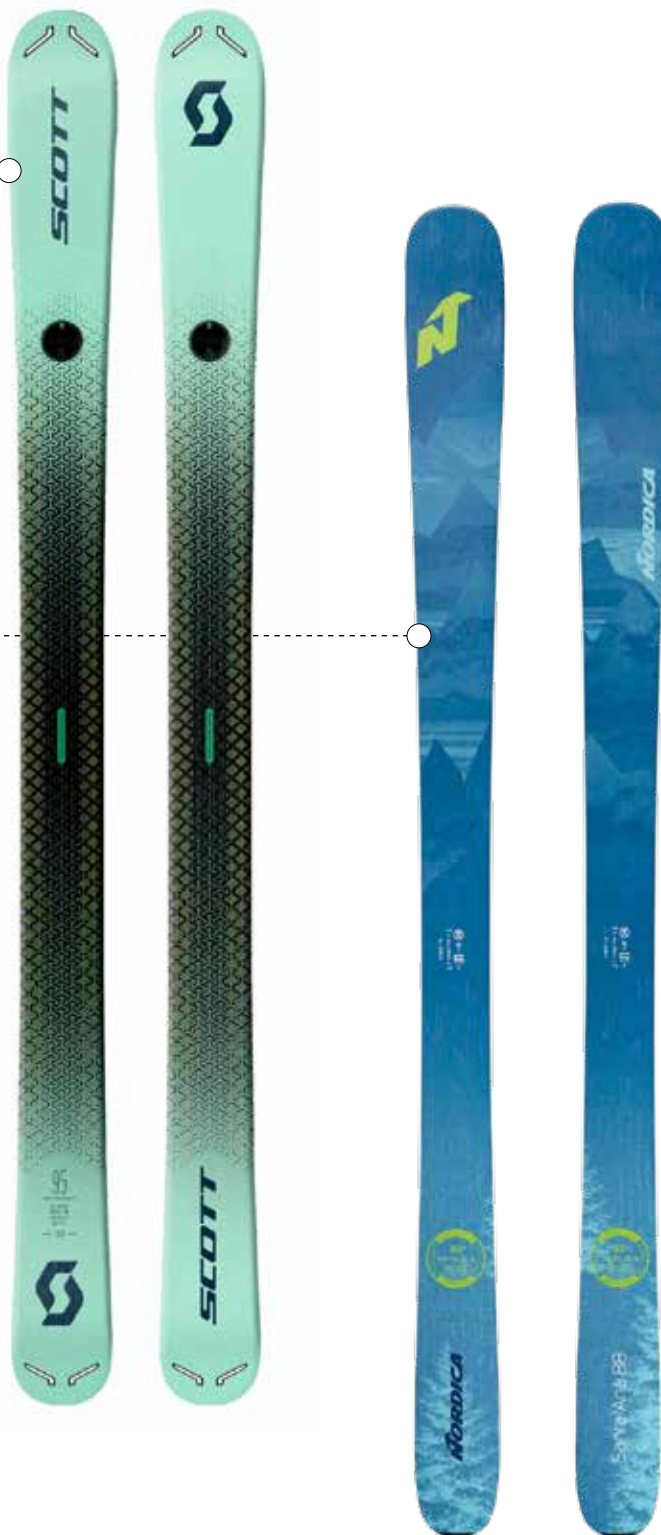
Scott's Scrapper 95 W has been specifically developed to handle all types of skiing and terrain. The Scrapper 95 Women's features a lighter, wood core construction and softer flex than the standard Scrapper 95. The Scrapper 95 W provides performance and versatility in all conditions.

**Dimensions:** 129-94-117 millimeters  
(168 centimeters)  
**Radius:** 18.7 meters (168 centimeters)  
**Sizes:** 160, 168 centimeters  
**Weight per pair:** 2,760 grams (6.08 pounds)  
(168 centimeters)

### NORDICA SANTA ANA 88

Powerful, playful, and precise, the Santa Ana 88 provides a whole new way to experience the mountains. Women who spend their days skiing on trails with friends love its stability and control. Equipped with a narrower waist, it pairs a balsa wood core with two sheets of metal and carbon, which dampens vibrations for an especially smooth ride. Although it's the newest addition to the Santa Ana collection, it's already earned a reputation for being powerful yet easy to turn. Its early rise tip and tail rocker profile enhances versatility, offering flotation in softer snow and the ability to readily absorb bumps. With an emphasis on fun, the Santa Ana 88 boosts your confidence and performance across the entire mountain.

**Dimensions:** 119-88-107 (165 centimeters)  
**Radius:** 15 meters (165 centimeters)  
**Sizes:** 151, 158, 165, 172 centimeters  
**Weight per pair:** 3,000 grams (6.61 pounds)  
(165 centimeters)





## MARKER GRIFFON 13 ID

The Marker Griffon 13 ID features SOLE.ID technology that allows both alpine and alpine touring boot compatibility, creating the most versatile freeride binding on the market today for advanced to expert skiers. Along with the Griffon, all of Marker's Royal Family bindings feature Power Width Design, with Marker's signature toe and heel designs engineered to make today's wider skis perform at their very best.

**Weight per pair:** 2,036 grams (4.48 pounds)

**DIN range:** 4-13

**Brake widths:** 90, 100, 120 millimeters



## MARKER KINGPIN M-WERKS

What happens when Marker pushes Pintech technology to the limits? Introducing another step ahead in the ratio of weight to performance, the new Kingpin M-Werks features modifications to the original Kingpin setup, seeking every opportunity to save weight and maximize performance for both climbs and descents. Updates include a new, carbon-reinforced pintech toe, ergonomic ski/walk lever, updated XXL Power Transmitter, ergonomic climbing aids, and a carbon-reinforced heel.

**Weight per pair:** 1,240 grams (2.73 pounds)

**DIN range:** 5-12

**Brake widths:** 75-100, 100-125 millimeters



## LOOK PIVOT 18 GW FORZA

The binding of choice for the world's most committed skiers, the Pivot is the most trusted and reliable in skiing. The classic "turntable" design with seven points-of-contact maximizes coupling strength for instant power transmission, precision, and ski control and offers the most effective shock absorption for confident retention and release. Compatible with both traditional alpine (ISO 5355) boot soles and GripWalk boot soles.

**Weight per pair:** 2,490 grams (5.48 pounds)

**DIN range:** 8-18

**Brake widths:** 95, 115, 130 millimeters



## LOOK PIVOT 14 GW BLACK

The binding of choice for the world's most committed skiers, the Pivot is the most trusted and reliable in skiing. The classic "turntable" design with seven points-of-contact maximizes coupling strength for instant power transmission, precision, and ski control and offers the most effective shock absorption for confident retention and release. Compatible with both traditional alpine (ISO 5355) boot soles and GripWalk boot soles.

**Weight per pair:** 2,230 grams (4.91 pounds)

**DIN range:** 5-14

**Brake widths:** 75, 95, 115 millimeters



# GEAR GUIDE 2019

## BINDINGS

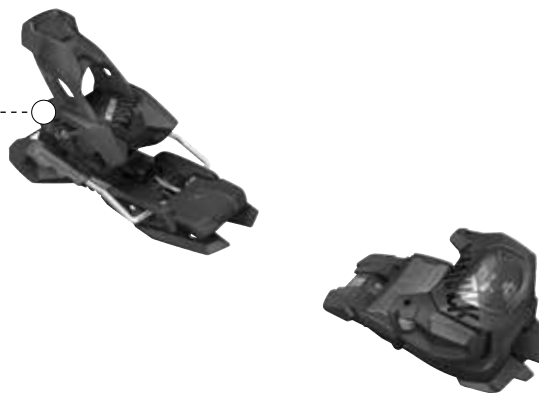
### TYROLIA AAATTACK2 14 AT

Tyrolia continues the tradition of “Keeps You Brave” by combining premium downhill performance with ultimate compatibility in the AAAttack2 14 AT. The redesigned FR Pro<sup>2</sup> Toe improves both elastic travel and return to center forces and accepts alpine, GripWalk, walk to ride, and touring soles. The three-piece NX FR heel ensures ease of use with rock-solid durability by connecting the binding to the ski with a metal heel track.

**Weight per pair:** 2,230 grams (4.91 pounds)

**DIN range:** 4-13

**Brake widths:** 85, 95, 110, 130 millimeters



### 22 DESIGNS OUTLAW X

The Outlaw X is an updated NTN binding, now with easier step-in and out, lighter weight, and improved durability. Still built the 22 Designs way with sweet flex, copious spring travel, rugged steel construction, and blazing uphill and downhill performance. An underfoot spring steel plate allows a lively flex while offering precision lateral control. A single long spring provides smooth travel, and an easy preload adjustment makes it easy to find the sweet spot.

**Weight per pair:** 1,590 grams (large); 1,520 grams (small)

**DIN:** N/A

**Brake widths:** 80, 95, 110, 125 millimeters



### 22 DESIGNS VICE

A resort skiing, 75-millimeter binding, the Vice features a bombproof six-hole mounting pattern, long-lasting chrome die springs, and a toe piece built of tough stainless steel. It provides three pivot positions to dial in to your skiing style and the snow you're on. 22 Designs has improved the solid, active design of the HammerHead to come up with the best-skiing binding on the market. If you liked the HammerHead, you'll love the Vice.

**Weight per pair:** 1,430 grams (large); 1,360 grams (small)

**DIN:** N/A

**Brake widths:** N/A





## BLACK DIAMOND TRAVERSE WR 2

The Traverse WR 2 ski pole is built for versatility. Featuring the new Whippet-ready grips, these poles can seamlessly transition from mellow backcountry slopes to mega-steep terrain by simply attaching the Whippet pick accessory to the pole's handle. FlickLock Pro adjustability allows for quick and secure length changes, and the pole's two-piece, all-aluminum construction is durable and ready to handle season after season of backcountry abuse. Whippet-ready grips accept the Whippet accessory (sold separately).

**Usable length:** 98-140 centimeters

**Collapsed length:** 98 centimeters

**Weight per pair:** 612 grams (1.35 pounds)

## BLACK DIAMOND RAZOR CARBON

Combining the durability of an aluminum upper with the reduced swing weight of a carbon fiber lower, the Black Diamond Razor Carbon ski poles are built for the dedicated backcountry skier. The Razor Carbon's grip offers improved ergonomics, while FlickLock adjustability allows easy and secure length changes. Also included is a rubber grip extension for choking up while side hilling on the skin track.

**Usable length:** 100-125 centimeters; 115-140 centimeters

**Collapsed length:** 92 centimeters; 105.5 centimeters

**Weight per pair:** 524 grams (1.31 pounds) (100-125 centimeters)

## LEKI SPITFIRE VARIO S

The Spitfire Vario S, Leki's successful freeride pole, now comes in a variable length, 110 up to 140 centimeters, which makes it a pole for every occasion. Freeskiers who ski all kinds of terrain highly value a pole with variable length. With the new Speed Lock +, the length of the Spitfire Vario S can be smoothly adjusted even when wearing thick gloves. The powder basket can be quickly changed for the alpine basket in the blink of an eye.

**Usable length:** 110-140 centimeters

**Collapsed length:** 110 centimeters

**Weight per pair:** 530 grams (1.16 pounds)



# GEAR GUIDE 2019

## POLES

### LEKI BLUE BIRD VARIO S

Sun, powder, backcountry, and the Blue Bird Vario. There, the effortless ascent and high spirits in your turns are guaranteed. The Blue Bird Vario S is continuously variable with the Speed Lock 2 and can be easily and exactly customized from 110-140 centimeters to adjust to the respective terrain and snow conditions. The 16-millimeter upper is made of high-strength aluminum, the slim, 14-millimeter base of 100 percent carbon. The "Grip-to-Tip" design runs like a blue thread from the well-known Trigger S grips to the Thermo grip extenders through to the Big Mountain Baskets.

**Usable length:** 140 centimeters

**Collapsed length:** 110 centimeters

**Weight per pair:** 530 grams (1.16 pounds)

### SCOTT WORLD CUP STRIKE

The World Cup Strike pole has a classic race look and features the high-performing Series 4 shaft with a Notch Grip.

**Size:** 110-140 centimeters  
(fixed lengths)

**Collapsed length:** n/a

**Weight per pair:** 560 grams (1.23 pounds)

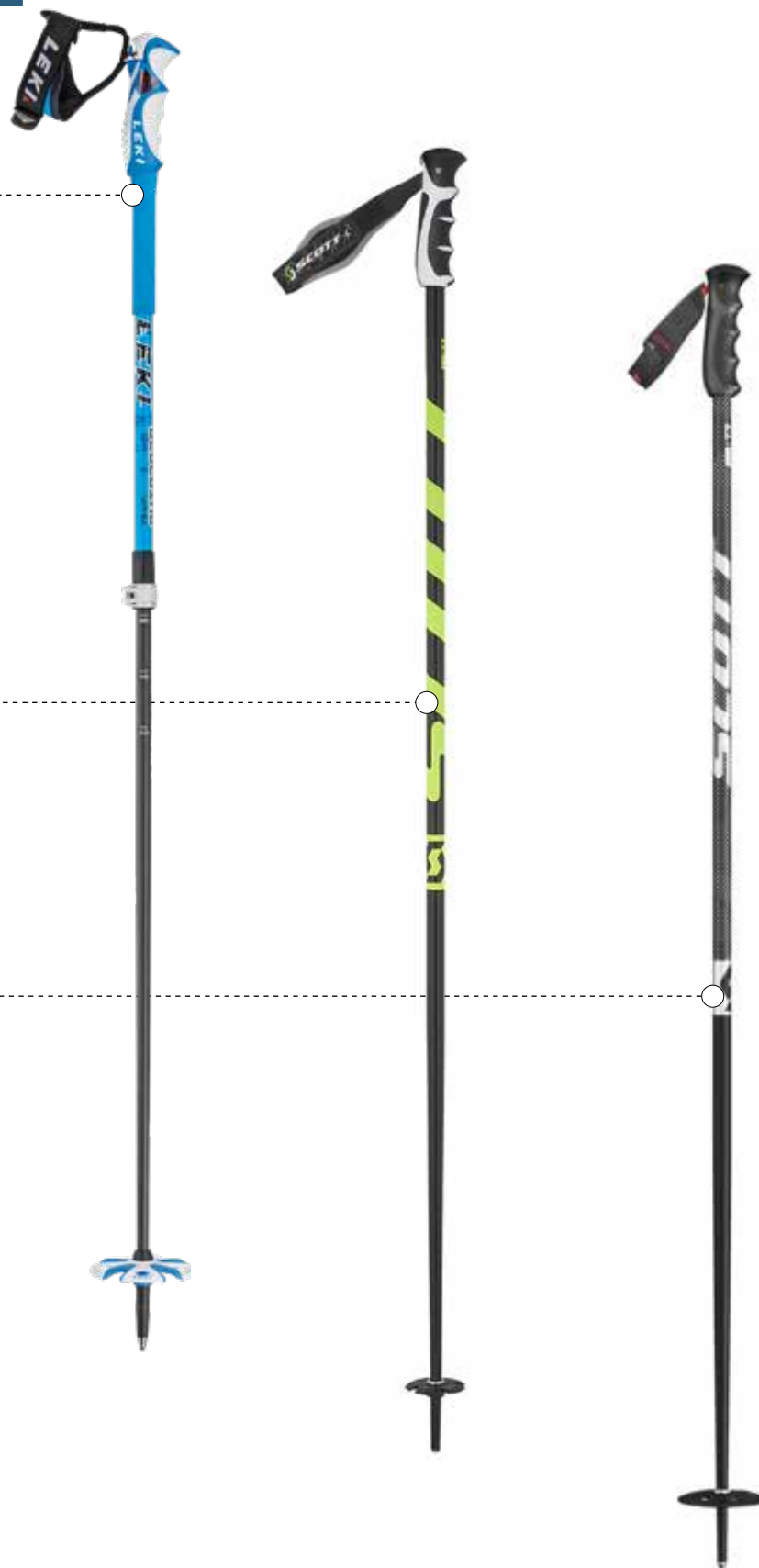
### SCOTT TEAM ISSUE SKI POLE

The Team Issue features the tried, tested, and true S4 aluminum shaft Scott's elite team of skiers believes in. The innovative Strap Release System (S.R.S.) releases the strap from the pole in sketchy situations to prevent injury.

**Size:** 110-135 centimeters  
(fixed lengths)

**Collapsed length:** n/a

**Weight per pair:** 580 grams (1.27 pounds)





## ROSSIGNOL BC X10

A versatile, lightweight, backcountry touring boot, the BC X10 offers confident downhill performance and uphill mobility when exploring off the beaten path. Tall, external cuff gaiters, ultra-durable stretch Cordura® lace covers, and Thinsulate® lining offer increased versatility, durability, and warmth. The pre-molded anatomic 3D cuff and Power Drive Tongue provide increased stability, power transmission, and control on the descent.

**Sizes:** 36-48

**Weight per pair:** 1,660 grams  
(3.65 pounds) (42)



## ROSSIGNOL BC 65 POSITRACK

Explore the path less traveled. The BC 65 Positrac ski moves comfortably from groomed tracks to off-trail exploring and back thanks to a lightweight wood core and full-length metal edges. The waxless Positrac base provides confident grip and glide in all snow conditions with no prep required.

**Dimensions:** 65-53-60 millimeters

**Radius:** N/A

**Sizes:** 165, 175, 185,  
195 centimeters

**Weight per pair:** 880 grams (1.9 pounds)



## LEKI PRC 700

The PRC 700 is a high-quality carbon pole for more fun on cross-country runs. It impresses with a racing basket, an angled tip made of hardened steel, and an anatomically shaped strap. The trusted Trigger Shark 2.0 system for quick release of the hand strap from the cork grip provides control at every stage of pole use.

**Size:** 170 centimeters  
(custom cut)

**Weight Per Pair:** 75 grams/meter  
(.16 ounces/meter)





# POWDER PATROLLERS, *and parties!*





Top left: Steep and deep toboggan session.  
Bottom left: NSP National OET Program Director Marc Barlage on tail rope for a bumps session.  
Top right: Pacific Northwest Division OET Supervisor Jack Ramsey running in the horns during a steep and deep toboggan session.  
Bottom right: PSIA National Alpine Team instructor for a telemark clinic.



**POWDERFALL 2019 A ROUSING CELEBRATION**  
**BY STEVEN BINNS, NSP MARKETING AND EVENTS MANAGER**  
**PHOTOS BY EDITOR CANDACE HORGAN UNLESS NOTED**

IN EARLY APRIL 2019, 735 NATIONAL SKI PATROL MEMBERS AND THEIR FAMILIES DESCENDED ON SNOWBIRD SKI AND SUMMER RESORT IN UTAH FOR THREE DAYS OF EDUCATION, CELEBRATION, AND CAMARADERIE. ATTENDEES CAME FROM 154 DIFFERENT PATROLS AND ALL 11 NSP DIVISIONS. THEY WERE MET WITH A RECORD HIGH SNOWPACK AND LOW VISIBILITY FROM CLOUD COVER. HOWEVER, THAT DIDN'T PREVENT ATTENDEES FROM RUNNING TOBOGGANS LIKE ALL-STARs DOWN SOME OF THE COUNTRY'S MOST DIFFICULT TERRAIN!





(Clockwise from top left:) Participants in an OEC scenario. Photo by Thomas Smiley/Smiley's Mountain Photos.

From L-R: Mary Godofsky, of the Whitetail Ski Patrol in Pennsylvania, and Far West Division Women's Program Supervisor Trudy Nye carry a toboggan up the chairlift during a women's clinic.

From L-R: Tim Hendrickson of MountainGuard and Kelli Johnson of #RideAnotherDay.

From L-R: Former NSP board member Tom Sherry and NSP board member Morgan Armstrong at the reception.

From L-R: NSP Safety Team member Sal Mascareñas, NSP Women's Program Advisor Tanya Thomas, and NSP Young Adult Program Advisor Jason Tamulen.

The patrols with the largest number of attendees were Boston Mills/Brandywine/Alpine Valley (Ohio), Cataloochee (North Carolina), Pine Knob (Michigan), Powderhorn (Colorado), Mt. Brighton (Michigan), and Wintergreen (Virginia).

Powderfall programs ranged from educational to practical to inspirational, and included Outdoor Emergency Care workshops, ski waxing tips, Professional Ski Instructors of America Alpine Team instructors, and a history of the National Ski Patrol accompanied by beer and appetizers. Multiple sponsors and industry partners joined attendees each night in the NSP lounge.

As the staff organizer of Powderfall, I personally would like to





thank everyone who helped make the event a success, including National Ski Patrol staff, all the amazing instructors, ski meetup leaders, and other volunteers. A very special thanks to all our sponsors, including MountainGuard, our opening reception speakers Chauncy and Kelli Johnson of the **#RideAnotherDay** campaign, Snowbird Ski and Summer Resort, the Snowbird Ski Patrol, and especially Snowbird Ski Patrol Director Tina Biddle and Assistant Patrol Director Kent Bernier. Your time, energy, and passion are very much appreciated!

NSP's Lakewood office is already searching for the location for Powderfall 2021. We will keep you posted and look forward to seeing everyone again soon! +

(Clockwise from top left): Lift evacuation demo of the pram by the Snowbird Ski Patrol. Photo by Thomas Smiley/Smiley's Mountain Photo.

Participants in the telemark clinic about to drop into Mineral Basin.

From L-R: Glen Dodge of Summit at Snoqualmie — Central Ski Patrol, former Pacific Northwest Division Director Liz Dodge, and Trent Wheatley of Summit at Snoqualmie — Central Ski Patrol.

Rocky Mountain Division Women's Program Supervisor Kathleen Utley demonstrates toboggan technique in the horns during a women's toboggan clinic, while Hillary Davis works tailrope.

From L-R: NSP National OET Program Director Marc Barlage and Travis Meikle of the Beaver Mountain Ski Patrol at the reception the first night.





(Clockwise from top left:) Group photo before a toboggan clinic. Photo by Thomas Smiley/Smiley's Mountain Photo.  
Former NSP board member Tom Sherry encouraging James Margolis, M.D., of the Homewood Ski Patrol in California, to support an NSP fundraising venture.  
Eastern Division Women's Program Supervisor Jane Williams.  
From L-R: Dana Zedak, NSP board member Jay Zedak, and Darcy Hanley.  
PSIA Alpine Team member leading a clinic up the chairlift.  
From L-R: Gloria McKelvey, of the Dodge Ridge Ski Patrol in California, with Far West Division Women's Program Supervisor Trudy Nye.





(Clockwise from top left:) From L-R: In yellow are Kris Lea and Laura Friesell, of the Mt. Crescent Ski Patrol, gearing up for the backcountry adventure.  
Swix waxing clinic.  
From L-R: NSP Telecommunications Program Advisor Dick Woolf and NSP Women's Program Advisor Tanya Thomas.  
From L-R: Former NSP MTR Program Director Rick King and Eastern Division MTR Supervisor Mike Balk.  
Lining up at the Terramar booth.  
Alpride avalanche airbag.  
From L-R: NSP Executive Director Meegan Moszynski and NSP board member Josh Masur.





(Clockwise from top left:) A PSIA National Alpine Team led clinic. Snowbird avalanche rescue dog. Photo by Thomas Smiley/Smiley's Mountain Photo. Hillary Davis, one of the NSP Women's Program Powderfall scholarship winners, is all smiles before heading out for toboggan running. From L-R: Kim Kircher and SheJumps Wild Skills Director Christy Pelland. Fundraising, one brick at a time. Christine and Ben Garrison, of the Ski Apache Ski Patrol in New Mexico, at the Terramar booth.





(Clockwise from top left) NSP OET Program Director Marc Barlage and Northern Division OET Supervisor Mike Marlow.  
 From L-R: Winter Park patrollers Dave Hickey, Ken Kramer, Jim Eiberger, and Kathleen Utley.  
 NSP board member Julie Stone ready for the backcountry adventure.  
 From L-R: NSP staff members Geoff Peck, Steven Binns, and Andre Gonsalves.  
 Eastern Division MTR Supervisor Mike Balk ready for the backcountry adventure.  
 A participant in the telemark clinic.  
 From L-R: NSP Safety Team Advisor Mike Husar with NSP Safety Team members Brett Henyon and Matt Chaffin.



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# MEMBERSHIP DUES REALIGNMENT AND INCREASE

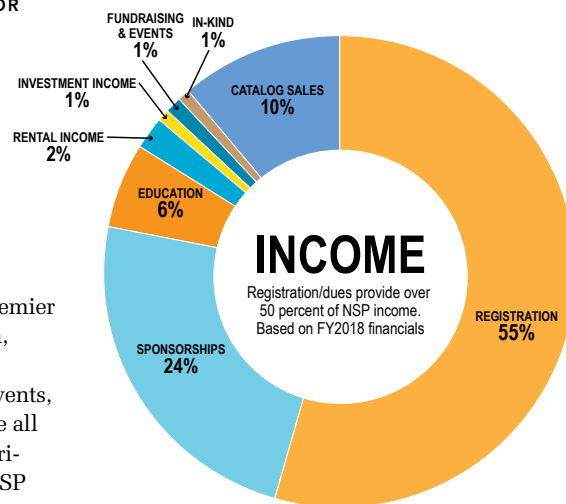
BY BILL FINLEY,  
NSP FINANCE AND OPERATIONS DIRECTOR

At NSP, our vision calls us to be the premier provider of outdoor rescue education, increase recruitment and retention, expand our reach into other sports and events, be financially self-sustaining, and provide all members with successful patrolling experiences. With this backdrop, in April the NSP board of directors approved a dues alignment and increase starting with the 2020 membership year.

The primary reason behind the dues increase is to ensure that NSP keeps up with inflation and continues to operate as a strong organization that delivers valuable member benefits, including high-quality education programs, pro deals, the NSP Online Store, *Ski Patrol Magazine*, monthly e-newsletters, and more. This also ensures that we can better support patrols' recruitment efforts, retain existing patrollers, develop host units, and provide paths for alumni members to maintain membership and medical certifications.

Another key aspect of the dues realignment is to ensure that regions and divisions can provide the needed support for associate and host units. In this new model, the dues are the same for all members in a region except alumni. As the number of mountain host units increases, strong divisions and regions will ensure that our education programs, including Outdoor Emergency Care and Outdoor First Care, remain the gold standard and are affordable for members.

Another goal of this dues increase was to shrink the dues gap between the professional and geographic divisions. Previously, Professional Division national dues were 75 percent of the national dues of a geographic division member. We have changed that to 80



percent to better equalize the benefits that all members receive from their NSP membership.

By keeping up with inflation, this dues realignment and increase allows NSP to remain a financially viable organization, which in turn allows us to maintain our properties and other capital investments, operate with a balanced budget, and continue to attract and retain highly qualified and skilled staff who assist our membership on a daily basis.

We consistently work to diversify our revenue streams and ensure that we are not solely reliant on member dues to fund NSP programs and operations. However, member dues still account for over half of all NSP income and are the primary source of revenue for most divisions and regions. While we have explored various options to keep our dues current with inflation, the model that seems to have the most support is one that imposes similar dues increases every three to four years.

If you have questions about the dues increase or where your money goes, contact your division director, explore the NSP page on Guidestar (<https://www.guidestar.org/profile/84-0398775>), view NSP's annual report (<https://nsp.serves.org/about-the-organization/>), or email NSP Finance and Operations Director Bill Finley at [bfinley@nsp.org](mailto:bfinley@nsp.org). +

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# EDUCATION UPDATE: WEBSITE AND DATABASE IMPROVEMENTS

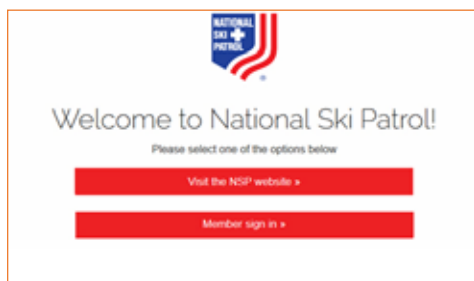
CHANGES BENEFIT MEMBERS

BY SHEILA SUMMERS, MEMBER SERVICES AND EDUCATION DIRECTOR

This spring and summer, the Lakewood office staff finalized some website and database changes that have been underway for several months. A major component of these changes is separating the primary member resources from information that is more relevant to the general public and for recruitment purposes.

## NAVIGATION UPDATES

Now, everyone going to [www.nsp.org](http://www.nsp.org) sees the options below and can select the option that suits their interest. One of the goals is that people who want to learn more about the organization and are thinking about joining a patrol or host unit can more easily find what they need. A separate goal related to members is streamlining their navigation of the member resources offered to them by removing some of the publicly available information from the member webpages.



Most members will see the page below after they sign in. “Member Resources” has not changed. You can still find links to the NSP Online Store, NSP Pro Deals Page, and NSP Online Learning Management System here, in addition to general member news and board of directors information.



The “Course Schedule” link now appears on the main horizontal menu so it is easy to find with just one click. Since members need to enroll themselves in courses, this change facilitates that process, which may only occur once or twice a year and is easy to forget. The “Programs” link includes education, interest group, skill development, and Telecommunications Program

information in one, easy-to-access location on a dropdown menu.

Members who are patrol representatives or patrol directors have another option on this main menu called “Patrol Rep/Director.” Members who are instructors in any discipline have another menu option, “Instructor Resources.” Essentially, the website resources are customized to the role or roles that members have.

In addition to these forward-facing changes, some significant database changes occurred as well.

## GENERAL FIXES AND IMPROVEMENTS

The Lakewood office staff worked in the office for two full days with two staff members from the database vendor. During that time period, we completed 21 separate projects of 29 that we have planned. Some of these fixes and improvements were pending for several months, have a positive impact on the general membership, and benefit instructors, instructor trainers, region education administrators, division program supervisors, and national program directors. I am highlighting a few of these here for you.

One of the most substantial updates is in the “My Enrolled Courses” section of the “Education/Roles” tab in the member profile. Previously, courses disappeared from this section on the course end date identified by the IOR (Instructor of Record) when the course was registered, whether or not the course was closed. This caused confusion for members when they did not see the course in this section or in the “My Courses Completed” section. Now, courses stay in the “My Enrolled Courses” section until the course is fully closed (regardless of the course end date) so members can check their own records to see which courses they are enrolled in and the status of those courses. Remember, the course closure process involves three steps: the IOR selects the “Course Complete” box on the website, the instructor trainer (IT) approves the course via email to [education@nsp.org](mailto:education@nsp.org), and the office staff completes the closure in the database.

IORs and ITs will see improvement as well.

The system was designed to generate an email notification to IORs when they register a course on the website. That functionality worked initially but has only worked sporadically recently. Now, IORs should be receiving a notification email overnight after they register a course.

### My Enrolled Courses

Date	COURSE Number	COURSE	LOCATION	IOR
6/04/2018	803180017	Instructor Continuing Education Clinic - IUTB		Tracy C. Anderson
12/14/2018	803180008	Instructor Continuing Education Clinic - Avalanche		Myron Allen

Sometimes, an IT needs to be selected from outside of the IOR's division, but that IT's name does not show on the IT dropdown list. While we know that having these names appear on the IT dropdown list is preferable, the system is designed with very tight restrictions on the patrol/region/section/division hierarchy. The vendor tried to address this issue previously, but unfortunately was unable to make the needed changes because of system limitations. Therefore, when an IT outside of the division needs to be assigned to a course, the IOR emails [education@nsp.org](mailto:education@nsp.org) to make this request. Previously, even when these edits were made in the system, the IT approval email was still sent to the original IT, rather than the edited IT. This issue has been corrected so the proper IT now receives the approval email when the IOR checks the “Course Complete” box.

## EASIER UNLOCKING

While it is not directly related to education programs, the account unlock feature was also updated. It is now available to staff through the member profile, whereas formerly this process involved a series of complicated steps that took more of members' time. We are now able to very quickly and easily unlock accounts. Remember that the fastest way for us to accomplish this is for members to email [memberservices@nsp.org](mailto:memberservices@nsp.org).

We are very excited about these updates and hope they serve members well. Please let us know if any of the reported new functionalities are not working for you by emailing [memberservices@nsp.org](mailto:memberservices@nsp.org), and we will do our best to resolve any issues. +



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# UTILIZING RETIRING *and* RETIRED SKI PATROLLERS

FOUR INNOVATIVE PROGRAMS IN THE FAR WEST DIVISION

BY JIM MARGOLIS, M.D., FAR WEST DIVISION ALUMNI ADVISOR

In my former capacity as Eastern Sierra Region Recruitment and Retention advisor, I have noticed three trends in recent years:

1. We are having increasing difficulty recruiting new patrollers; as evidence, we have not filled our Outdoor Emergency Care classes, and at least one patrol did not offer a class this past year.
2. All too often we dedicate hundreds of hours teaching OEC and basic patrolling and have over half our candidates and young patrollers drop out in a year or two. Long-term retention is hampered by the huge commitment patrolling requires and the demands of family, education, and work. Also, this is stressful work, and there is

significant loss due to burnout.

3. Our region enjoys a huge and ever-enlarging alumni population. The Far West Division has over 600 registered alumni who are a major source of trained, skilled, and experienced patrollers who could continue to make continued contributions to ski patrolling. Once a patroller completes training to become a basic patroller, the National Ski Patrol is very accommodating to students.

One option to promote a 20-year patrol commitment would include allowing young patrollers to take time out for education and job training by becoming an alumni member for a few years (making sure they attend

annual OEC refreshers) and rejoining as a full-time patroller for additional years.

My home patrol, Homewood, has allowed me to continue to be active as an alumnus for 10 years. I began my career with ski patrolling 35 years ago, starting as a doctor patroller for three years and actively patrolling for 21 years. I continue as an alumni-doctor, teach OEC, and respond to injuries on the hill. My uniform is an orange parka and resort name tag. This allows me to do customer service and first-aid care without confusing the public. When I retired from active patrolling, my wife, who is a very accomplished quilter, started making me a retirement quilt, but she said she would not finish it until I actually retired. I wonder if I will ever get it?

Here are examples of how a few resorts in the Eastern Sierra Region have set up programs that both facilitate recruitment and promote continued optimal participation as a retiring patroller or alumni member.

## Patrol A

This resort has some very advanced terrain and has always recruited for Senior alpine patrollers. Their volunteer patrollers often commit to 20-plus years, and they found that many were still fit and skillful but not able to ski and pull a toboggan on their very advanced runs. Three options are available to “less than able-bodied” (injury or age) patrollers:

- Complex 6: half-day speed control on their top-to-bottom exit run.
- Complex 7: assigned mid-mountain and are primarily responsible for skier assistance and less-advanced toboggan transport.
- If they are very limited by injury, assignment to mid-mountain walk-in clinic to provide first aid and guest services.

## Patrol B

This patrol has had a mountain host

## ANYBODY OUT THERE?

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Athlete: Sam Schwartz  
Photo: Fredrik Marmstater



Alumni gathering at Whitefish Mountain, Montana. Photo c/o Tim Viall.

program for about 25 years. It was under resort management until recently and is currently run by an NSP alumni member. All are Outdoor First Care (OFC) certified. They provide customer service at the base area, do speed and safety control, and assist with the care of on-hill emergencies. They have used this program as a recruitment tool, as several of their patrollers began in this program, and as a mechanism for patrollers to continue to serve as alumni.

### Patrol C

This patrol recognized the continuing skills and dedication of an elderly patroller who was suffering from severe and progressive medical problems. They allowed him to staff the mid-mountain aid station as his patrol assignment. When he became unable to even do this, he was always an active teacher or facilitator in their OEC refreshers and activities. They also were early pioneers in developing a mountain host program under NSP. This served as a good way to recruit and begin training for transition into active ski patrolling. A similar program is their mountain safety program, which provides on-hill safety and guest services.

I am sure there are many other examples throughout NSP of how retiring/retired patrollers can be utilized to continue working with their patrols and serve the snow sports public. Setting up unique programs like these can help with both recruitment and retention and utilize more of our alumni's valuable experience, training, teaching,

and mentoring so we can continue our commitment to provide care to the public.

In addition, we lose too many young patrollers because of real-life issues. Fostering alumni membership and maintaining their OEC training is a great way to facilitate long-term retention. +

### ADDITIONAL ALUMNI NOTES FROM NSP NATIONAL ALUMNI ADVISOR TIM VIALL

**Alumni program growth:** We are up 10.45 percent in membership over the last year, to well over 4,500 alumni members; thanks to our alumni for their interest and support!

**Alumni survey recap:** Thanks to over 1,100 NSP alumni who responded to the survey that went out in mid-February. The results were tabulated in March, and the survey was the focus of the division alumni advisors' meeting in early April. We asked nine questions, including "Why did you become an Alumni member?" For highlights of the survey, look on the NSP website under "Programs/Alumni/2019 Alumni Survey Results." For additional insight, write Tim for the PowerPoint presentation of the survey results.

**NSP Alumni Celebration Week, Whitefish Mountain, Whitefish, Montana, Feb. 2-9, 2020:** Our first Alumni Celebration Week, held last February in Whitefish, Montana, drew over 35 alumni and friends for fun, good food, and great skiing. Participants received discounts on rooms at the Grouse Mountain Lodge and skiing discounts for veteran skiers age 62 and older. Join us for the second Alumni Celebration Week, Feb. 2-9, 2020! For more info, go to the NSP website and click "Programs/Alumni/NSP Alumni Celebration Week Feb. 2-9, 2020." +



## GOGGLES & SUNGLASSES

[RUDYPROJECTNA.COM/NSP](http://RUDYPROJECTNA.COM/NSP)







# FUNDRAISING STRATEGIES

FUNDRAISING KNOW-HOW SHARED AT POWDERFALL

BY STEPHANIE ZAVISLAN, NSP ACCOUNTANT

**P**owderfall 2019 was an event to remember! Patrollers from all over the country were able to attend seminars and activities that sharpened their skills and readied them for making their most substantial impact yet.

Two members of the Fundraising Committee, John Huynh and Tom Sherry, attended Powderfall and led three discussions about fundraising. Specifically, these committee members not only shared tools and resources that assist patrols with local fundraising, they also helped patrols share knowledge and celebrate success stories with one another.

Huynh and Sherry led a discussion where patrollers shared stories of effective



From L-R: NSP board member Jay Zedak, NSP Finance and Operations Director Bill Finley, NSP board member Brian Rull, former NSP board member Tom Sherry, and NSP board member Richard Yercheck readying for fundraising at Powderfall. Photo by Candace Horgan.



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fundraising for local patrols in a round-table format. Patrol reps talked about their successes hosting gear swaps and used gear sales, as well as assisting with events like bike races and marathons where sponsors give generously and help increase NSP's visibility in the community.

Huynh and Sherry also hosted a seminar where patrollers learned how the Lakewood office can help support local fundraising efforts. Meegan Moszynski, NSP's executive director, attended this discussion and shed light on some important things to consider when fundraising, including the differences surrounding local, region, division, and national fundraising, as well as how to appropriately use NSP's logo and name within these various levels of fundraising to keep the brand integral throughout the country.

The national fundraising team is dedicated to assisting patrols in their fundraising endeavors and has developed some specific tools to help each patrol meet their goals. Here are some of the most memorable takeaways from the discussion about how the Lakewood office can assist in fundraising:

- NSP recently installed a plug-in on our website called "Double the Donation," where donors can instantaneously check to see if their donations will be matched by their employers. This is a very fast and convenient way to ramp up fundraising and take advantage of millions of dollars that corporate entities give to nonprofit organizations every year! Patrols can take advantage of their members' volunteer hours and their employers who want to donate for volunteerism or community support. Some patrols make thousands of dollars each year from employers who support patrollers' volunteerism.
- When donors want to give to a specific patrol, the funds can still come through the Lakewood office. These funds are passed to a local patrol's account within 10-14 days as long as the office has account information from the local patrol and can connect with the patrol rep or patrol treasurer.

- It can be confusing to choose which National Ski Patrol entity should receive a donation, because many corporate or national databases show all divisions and the Lakewood office as options. We encourage donors to choose National Ski Patrol with a tax ID ending in 8775, so that the funds come by either check or electronic funds transfer and we can turn them around quickly. This is a member benefit, and there is no cost or fee associated with passing funds to patrols.
- NSP has a brand-new online giving site that makes credit card donations and automated clearing house (ACH) transactions easy, fast, and easily directed to a designated patrol or program. Anyone can use the online giving site to give to national operations or a local patrol. Just use the "Tell us about your

donation!" box to give specific direction about donations.

Finally, the website hosts several documents that can assist patrols in fundraising, including:

- Fundraising Guidelines (a must-use!);
- Planned Giving Sheet: a tool to give to a donor who'd like to include NSP or a patrol in their will or estate plan; and
- Pledge Form: a great way to get to know donors and their ultimate goals for giving and supporting NSP and/or a patrol.

Every patrol is an important part of NSP's legacy of "Service and Safety." Every patroller is an ambassador of NSP's brand. Each patrol's success is a success for NSP as a whole, and we are committed to not only flawless patrolling, but proficient fundraising as well. Thank you for your support! +



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# RECRUITING TO TRAIN THE TRAINERS!

BUILDING YOUR CADRE OF PATROL INSTRUCTORS  
BY DOUGLAS HILL, SOUTHERN CALIFORNIA REGION INSTRUCTOR  
DEVELOPMENT PROGRAM ADMINISTRATOR

It may happen from time to time that patrols or regions are short of instructors to provide enough courses to fulfill their needs. This could happen because of retirement, attrition, health issues, people moving away, career or family changes, or any number of other causes. To meet demand, the region or patrol needs to recruit instructors from within their ranks to fill those instructor positions to continue to provide NSP educational opportunities to their patrollers.

As most of us know, the first step in the process of becoming a new instructor is to take the NSP Instructor Development course. Unfortunately, sometimes it is the Instructor Development staff that has suffered from attrition, and as such there may be a shortage of Instructor Development instructors to offer this necessary first step. That being said, let's look at what it takes to fill that need for Instructor Development instructors.

The requirements to become an Instructor Development instructor are the same as any of the other disciplines. First, the NSP member must successfully complete all of the required courses for the discipline in which they desire to teach. Next, they must take the NSP Instructor Development

course, which can be either an eight-hour classroom course or the hybrid online course with a four-hour teaching skills session. Of course, if Instructor Development is your intended discipline, you don't need to take it again. Just as in the other disciplines,

it is extremely important to know and understand the material in the Instructor Development textbook, *Training the Adult Learner*, and the *Instructor Development Instructor Manual*. These documents are free downloads on the NSP website.

Next, the patroller must fill out an instructor application, available on the NSP website under "Member Resources/Forms and Documents" in the "Education" section. The patroller then contacts the region program administrator for their chosen discipline and requests they be assigned an instructor mentor to begin the instructor mentoring program. That phase consists of teaching sessions monitored by the mentoring instructor and by a discipline instructor trainer who will ultimately approve the instructor candidate and file the proper paperwork with the division program supervisor, who will certify the patroller as an instructor.

So, where do we find these new Instructor Development instructor candidates? Rarely do I receive a request from a patroller to



A member of the Professional Ski Instructors of America National Alpine Team teaching at Powderfall. Photo by Candace Horgan.



An OEC scenario at Powderfall. Photo by Candace Horgan.



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become an Instructor Development instructor. Admittedly, Instructor Development may not be quite as glamorous or intriguing as the other disciplines. You are not out on the snow teaching toboggan handling, avalanche mitigation, first aid, or mountaineering skills. Most Instructor Development courses are conducted in a classroom setting and teach the principles of adult learning, communications, administration, lesson planning, etc. However, that doesn't make it any less important to NSP education programs, as we are "training the trainers" who provide those educational opportunities to patrollers.

We may find potential Instructor Development instructors in the ranks of existing instructors. Almost every Instructor Development instructor I know, including myself, teaches in more than one NSP discipline. While it is certainly not a requirement to already be a successful instructor in another discipline (by the way, it used to be), it is helpful because much of the content of the Instructor Development course and mentoring program has to do with the history and workings of NSP, such as chain of command and reporting duties, administrative procedures, risk management and liability issues, etc. Contact the region program administrators to see if they have any instructors in their midst that are passionate about teaching, have good communication skills, are knowledgeable of their curriculum, and have good administrative skills. An existing instructor with these qualities may easily adapt to the Instructor Development instructor role.

Patrollers with careers in education may also be good candidates for the Instructor Development instructor role. While the Instructor Development course provides many of the tools and theory of teaching and learning, a patroller who works in education for a living can certainly bring some extra knowledge to the table with their experiences. Your region administrators may know of patrollers in their ranks with experience in education.

So, what's in it for the patroller who wants to become an Instructor Development instructor? It certainly is a bigger commitment of time and energy than just their normal patrol schedule. When I ask my students in my Instructor Development classes what their motivation is to become an instructor, I get responses such as, "My patrol representative encouraged me to get involved as we need more instructors in our patrol," or, "I want to

teach in order to keep my own skills sharp," or, "I have learned so many valuable skills in patrolling that I want to give something back to patrol."

One of the motivations I might offer to them that I have observed, and they probably don't realize yet, is seeing instructors they have trained now teaching patrollers the skills of their discipline. Those patrollers are now out on the slopes doing avalanche control, transporting injured skiers and riders, reuniting families, saving lives, perhaps winning awards at their patrol, region, or division level, and even going further to be recognized at the national level for their accomplishments.

One of my own most rewarding moments was when I received an email from one of my former students two days after Christmas thanking me for teaching him the skills he used to save a life the day before.

My last Instructor Development class had 15 students attend, all of whom successfully completed the course and are now instructors in Outdoor Emergency Care, Avalanche, Mountain Travel and Rescue, and/or Outdoor Emergency Transportation. If each of those students who became instructors only trains five patrollers per season, that means that class will have participated in the training of approximately 150 patrollers over the next two years. That is a lot of patrollers they have enriched with skills very few attain, and they have also touched and possibly changed a lot of lives for the better. That is my motivation for teaching Instructor Development.

If you are not currently an NSP instructor, but 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 administrator 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](mailto:dch@cadwest.com). +





# UPCOMING CHANGES IN MTR TEXTBOOKS

## IMPROVING ON A SOLID FOUNDATION

MYRON B. ALLEN, NSP NATIONAL MOUNTAIN TRAVEL AND RESCUE PROGRAM DIRECTOR

This past April in Snowbird, Utah, the Mountain Travel and Rescue Program Committee decided to update the MTR curriculum by changing the textbook for Mountain Travel and Rescue Fundamentals (MTR F), MTR 1, and MTR 2. Instead of using the second edition of *Mountain Travel and Rescue* (Mountaineers Books, 2012), these courses will begin using the ninth edition of *Mountaineering: The Freedom of the Hills* (Mountaineers Books, 2018), along with the second edition of *Introduction to Search and Rescue* (National Association for Search and Rescue, 2008).

### Rationales for the Change

The committee, which includes the division MTR supervisors and me, adopted this change for two reasons. First, these books will help the National Ski Patrol maintain its gold-standard

July 2019-  
June 2022

In MTR F, MTR 1, and MTR 2, instructors may use any of the following options:

- *Mountain Travel and Rescue*, 2nd. ed. (MTR2e) for the whole course;
- *Mountaineering: The Freedom of the Hills*, with MTR2e for SAR coverage; or
- *Mountaineering: The Freedom of the Hills*, with *Introduction to Search and Rescue* for SAR coverage.

Starting  
July 2022

In MTR F, MTR 1, and MTR 2, instructors must use *Mountaineering: The Freedom of the Hills*, with *Introduction to Search and Rescue* as a supplement for SAR coverage.

Table 1: Three-year timetable for transition in MTR textbooks.

level of training in our discipline. As reviewed in the winter 2019 issue of *Ski Patrol Magazine*, *Mountaineering: The Freedom of the Hills* has been the international mountaineers' bible since the publication of its first edition in 1960. It is arguably the best introductory textbook for mountaineering.

*Introduction to Search and Rescue* meets standards established by America's premier professional organization for search and rescue. This book also helps patrollers prepare for the SAR certification required for the Nordic Master rank. Adopting these books will enhance NSP's reputation and credibility by focusing on curricular materials widely recognized as the best in their fields.

Second, the new books reflect the up-to-date expertise of many authors, most of whom are professionals in their fields. *Mountaineering: The Freedom of the Hills*, for example, has dozens of authors, and The Mountaineers — the Pacific Northwest's most prominent mountaineering organization — updates the book roughly every seven years. This system has a seven-decade history of producing current, detailed, rigorously peer-evaluated volumes. Notwithstanding the dedication, expertise, and talent of NSP's volunteer authors, we have not matched this remarkable record.

### A Three-Year Transition

The transition to the new textbooks will occur over a roughly three-year period, as shown in Table 1. From now through June 2022, MTR instructors who teach MTR F, MTR 1, or MTR 2 have three options for textbooks. One option is simply the status quo: use the second edition of *Mountain Travel and Rescue* (MTR2e) for the whole course. Another is to use *Mountaineering: The Freedom of the Hills* as the main text, supplemented by MTR2e for SAR topics. The third option is to adopt *Mountaineering: The Freedom of the Hills*, with *Introduction to Search and Rescue* as a supplement for SAR coverage.

In any case, starting in July 2022, MTR instructors must use *Mountaineering: The Freedom of the Hills*, with *Introduction to Search and Rescue* as a supplement for SAR coverage.

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Coverage of MTR Core Topics

The MTR Program Committee left unchanged the 16 core topics taught in MTR F, MTR 1, and MTR 2. Committee members did spend time deliberating which portions of the new textbooks to cover in these courses. For *Introduction to Search and Rescue*, the answer is straightforward. At 154 pages of large-font text, this book provides an easy-to-read entry into a subject relevant to all ski patrollers, both in-bounds and in the backcountry.

For *Mountaineering: The Freedom of the Hills*, the answer is more complicated since this book treats topics, such as high-angle rock and ice climbing, that the MTR curriculum does not cover. Table 2 shows where to find coverage of the 16 core MTR topics, with the caveat that *Introduction to Search and Rescue* provides much more in-depth coverage of topic 15. Notice that chapters 12-15 and 18-20 of *Mountaineering: The Freedom of the Hills*, do not appear in this table. These chapters cover technical rock climbing, ice climbing, and glacier travel, which lie beyond the scope of NSP's MTR curriculum and outside the

MTR Core Topic	Coverage in <i>Mountaineering: The Freedom of the Hills</i>
1. Body Temperature Regulation	Chapters 2, 3, 24
2. Water and Hydration	Chapter 3
3. Nutrition	Chapter 3
4. Clothing	Chapter 3
5. Sleeping Systems	Chapter 3
6. Emergency Shelters	Chapter 3
7. Essential and Group Equipment	Chapters 2, 21
8. Travel Equipment	Chapter 16
9. Navigation	Chapter 5
10. Backcountry Hazards	Chapters 6, 17, 23
11. Environmental Awareness and Camping	Chapters 3, 7, 8
12. Weather	Chapters 27, 28
13. Group Dynamics	Chapter 22
14. Backcountry Medical Emergencies	Chapter 24
15. Search and Rescue Basics	Chapter 25
16. Emergency Rescue Techniques	Chapters 11, 18, 25

Table 2: Coverage of MTR core topics in *Mountaineering: The Freedom of the Hills*.



Climbers on the summit of Mount Rainier in Washington. Photo by Myron Allen.

Chapter	Title	Required Reading	Remarks
1	First Steps	14-16	
2	Clothing and Equipment	17-45	
3	Camping, Food, and Water	46-78	
4	Physical Conditioning	79-89	
5	Navigation	90-127	
6	Wilderness Travel	128-137	
7	Leave No Trace	138-145	
8	Access and Stewardship	146-149	
9	Basic Safety System	150-171	Ropes, knots, and hardware
10	Belaying	172-201	Includes anchors
11	Rappelling	202-222	
12	Alpine Rock Climbing	None	Beyond the scope of MTR courses
13	Rock Protection	None	Beyond the scope of MTR courses
14	Leading on Rock	None	Beyond the scope of MTR courses
15	Aid and Big Wall Climbing	None	Beyond the scope of MTR courses
16	Snow Travel and Climbing	330-365	Cover if terrain and weather permit
17	Avalanche Safety	366-390	Synopsis of NSP's Avalanche curriculum
18	Glacier Travel and Crevasse Rescue	None	Beyond the scope of MTR courses
19	Alpine Ice Climbing	None	Beyond the scope of MTR courses
20	Waterfall Ice and Mixed Climbing	None	Beyond the scope of MTR courses
21	Expedition Climbing	463-478	Equipment list is useful; rest is optional
22	Leadership	480-492	
23	Safety	493-499	
24	First Aid	500-521	Brief review of some OEC topics
25	Alpine Rescue	522-538	Covers rescue rigging systems
26	Mountain Geology		Coverage is optional
27	The Cycle of Snow	548-557	
28	Mountain Weather	558-567	

Table 3: MTR-related material in *Mountaineering: The Freedom of the Hills*.





Mount Olympus in Washington. Photo by Myron Allen.

terrain guidelines listed in the *MTR Instructors' Manual*.

MTR instructors may find it more convenient to view this information in another format. Table 3 shows the chapters in *Mountaineering: The Freedom of the Hills* that cover the 16 core topics in MTR F, MTR 1, and MTR 2.

### Depth of Coverage

Just as with the current textbook, a question remains about the depth of coverage in various MTR courses. The *MTR Instructors' Manual* provides useful guidance here.

- The target audience for MTR F and MTR 1 includes patrollers and members of the public who seek awareness and proficiency in skills needed to be assets in SAR operations, especially in the winter or

in mountainous terrain. MTR F does not require overnight camping; MTR 1 does.

- The target audience for MTR 2 includes patrollers and members of the public who seek to demonstrate proficiency in MTR skills at a level appropriate for team leaders in SAR operations in mountain and winter SAR operations. In particular MTR 2 students, many of whom will become MTR instructors, must pass a written test and demonstrate all required skills independently and without coaching.
- The change in textbooks will have less impact on the MTR Clinic (MTR C) and MTR Enhancement Seminar (MTR E). These courses focus on special topics of the instructors' choosing; see the *MTR Instructors' Manual* for examples. In these courses, instructors may use whatever materials they find appropriate as long as the content adheres to NSP's content and terrain guidelines.

### Conclusion

The transition to *Mountaineering: The Freedom of the Hills* and *Introduction to Search and Rescue* represents a significant change for NSP's MTR curriculum. It will help instructors deliver up-to-date material and enhance NSP's reputation for offering gold-standard training. As a side benefit, it will provide MTR students with two of the best-written, most highly respected books in the field — references that they can use for many years to come. +

### References

Myron B. Allen, "Mountaineering: The Freedom of the Hills: Classic Mountaineering Tome Gets a New Update," *Ski Patrol Magazine* vol. 36, issue 2 (Winter 2019): 75-77.

Linxweiler, Eric, and Mike Maude, eds. *Mountaineering: The Freedom of the Hills*. 9th ed. Seattle: Mountaineers Books, 2017.

Martin, Eric. *Introduction to Search and Rescue*. 2nd ed. Centerville: National Association for Search and Rescue, 2008.

National Ski Patrol, *Mountain Travel and Rescue*. 2nd ed. Seattle: Mountaineers Books, 2012.

National Ski Patrol, *Mountain Travel and Rescue Instructors' Manual* (15 May 2018), available to all NSP members at <https://nsp.org>. Follow the path "For Members > Programs > MTR > MTR Instructor Manual 2018."



Patrollers Chris Laursen and Ranie Lynds on Peak 10 in Colorado. Photo by Myron Allen.



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# Pelvis Fractures

USE A PELVIC BINDER TO SAVE A LIFE

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



Treating a pelvic fracture in the field. Photo by SAM Medical.

**T**he pelvic bones are some of the sturdiest bones in the skeleton. Because of this, significant external blunt force is needed to damage the pelvic bones and the structures inside the pelvic cavity. Pelvic fractures are seen in high-speed collisions with a fixed object, falls from a significant height, motor vehicle accidents, or penetrating injuries such as a gunshot wound.

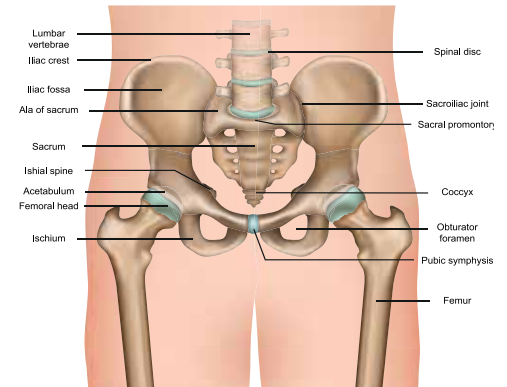
OEC technicians will see pelvic fractures after someone hits a tree or other fixed object. Ski patrollers and bicycle patrollers will see anterior pelvic fractures in someone who stops abruptly, such as crashing into a tree or the handlebars with their legs spread. This type of pelvis fracture, called a “straddle injury,” is seen when a person has a deceleration injury with blunt force trauma to the area in the front of the pelvis or symphysis pubis above the external genitalia.

Whenever a patient has experienced significant trauma, you must suspect a pelvis injury. Conversely, if in your evaluation you suspect a pelvis injury, other serious internal or musculoskeletal injuries may be present.

## Internal Injuries

Structures inside the pelvis that can be damaged with pelvic fractures include the urinary bladder, lower colon, reproductive organs, nerves, and small and large blood vessels. The urinary bladder, especially if full of urine when the trauma occurs, can rupture, spilling urine into the pelvic cavity. Internal and external genital injuries from blunt trauma to the anterior pelvis can be seen. Rarely, the lowest part of the colon, called the sigmoid colon, is damaged.

The most life-threatening injury occurs when large blood vessels and many smaller arteries and veins are damaged or torn from fractures to the pelvis, resulting in hypovolemic shock from acute internal bleeding. Bleeding from inside the bone marrow of the broken pelvic bones can also be significant. Up to 2,000 milliliters of blood can spill into the pelvic cavity from internal bleeding in a pelvic fracture. Since the bleeding is internal, standard methods to control this with a pressure bandage or tourniquet do not work. You must be ready with a pelvic binder for these injuries to prevent internal exsanguination.



Pelvic anatomy. Photo by iStock.com/medicalstocks.

## Evaluation

Always inform a responsive patient what you are doing, making sure they agree to the exam, especially when you are going to examine the external pelvic region. If you suspect a pelvis fracture, inspect the area where the patient says it hurts. Look for bruising or open wounds. During your exam, there are two important palpation maneuvers to perform. First, put one hand on each iliac crest and push inward, gently at first, then more pronounced if there is no response. If the lateral or posterior pelvic bones or sacrum are broken, the responsive patient will complain of pain. If the person is unresponsive, you may detect crepitus as the fracture sites move slightly.

The other palpation technique is used to detect anterior fractures of the symphysis pubic bones. Take one of patient's uninjured hands and place it over the symphysis pubis, then press down on the patient's hand. Pain or crepitus when found indicates a possible pelvis fracture. This technique avoids the patient feeling uncomfortable as you are touching them near their genitalia. Perform these palpation evaluations only once, as repeated exams may increase bleeding.





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### Pelvic Binders

Once you suspect a pelvis fracture, it is important to immobilize the pelvis with a pelvic binder on scene to help slow down internal bleeding. This is best done with a commercial pelvic binder. Several companies make these binders at a reasonable cost. Have one of these available that can be transported rapidly to an accident scene at your resort.

If a commercial pelvic binder is not available, one can be made from a large sheet folded lengthwise to a width of 12 to 16 inches. Applying this device can be lifesaving. It basically squeezes inward, putting pressure on the outside of the pelvic bones and closing fracture sites and holding fractured pelvic bones still so bleeding slows. By immobilizing pelvic fracture sites, the internal hematomas that have formed are not disturbed, allowing these clots to remain in place. This is the same principle when immobilizing a broken femur in a traction splint that holds internal fractured bone ends still, allowing the hematoma at the fracture site to form, slowing bleeding.

### Recent Information

A recent development regarding care for pelvic fractures has appeared in several places in the prehospital care literature. There have been cases of patients dying abruptly after being log-rolled before or after applying a pelvic binder. When the patient is rolled, the internal pelvic fractures that may be unstable move, creating additional bleeding. The blood clots that have formed around the fracture sites are disrupted when log-rolling the patient. This can occur even with the binder in place.

So, you should not log-roll a patient with a suspected pelvis fracture. Performing a coordinated, gentle bridge or BEAN lift, as you would do when you suspect a spinal injury, is best. BEAN stands for "body elevation and nonmovement." By gently using this lifting technique correctly, you will lessen internal bleeding and have less disruption of clots formed around pelvic fracture sites.

### Applying a Pelvic Binder

Gently lift the supine patient with a BEAN lift as another OEC technician places the commercial binder or sheet under the



- 1) Position the sheet.
- 2) Wrap the ends and cross them.
- 3) Tie the ends with a knot (square knot).
- 4) Use zip ties around the knot to secure it.

Photos by Chris Pringle.

patient's pelvis. The top of the device or sheet should be just above the top of the iliac crests, and the bottom at the level of the hips. After placing the patient gently back on the ground, fasten the front of the commercial binder or use the Velcro® to make the binder snug. Make sure the binder (or sheet) is secure around the pelvis. The

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BD Athlete Mike Barney 📷 Jeff Cricco

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patient will complain of pain when you apply it, but it is necessary to make it tight. If using a sheet, tie the rolled ends of the sheet together with a snug square knot. Then, again with a BEAN lift, place the patient in the toboggan or on a stretcher.

If the patient is not supine, you may need to be creative when lifting the patient and placing them supine on the binder, but you should not log-roll them. Log-rolling will put pressure on the side of the pelvis, pushing on the fracture sites. Always handle the patient gently, as rough handling may increase internal bleeding, causing hypovolemic shock, exsanguination, and death.

Some pelvic fractures may not be unstable with excessive internal bleeding, as the bones just have small cracks and remain in place. However, placing a pelvic binder on these patients does not cause harm.

Remember, unstable pelvic fractures need



Securing a commercial pelvic binder. Photo by SAM Medical.

proper handling. With appropriate care, prehospital responders can save the life of a trauma patient who has a pelvic injury. +

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## The next edition of *Outdoor Emergency Care*

NEW TEXTBOOK, COURSE, CANDIDATE EVALUATIONS, AND REFRESHERS ANTICIPATED IN 2020

Prehospital care for Outdoor Emergency Care technicians continues to evolve using peer-reviewed, published, medically based evidence. To keep patrollers current, the NSP's Medical Committee meets regularly to discuss new developments for the standard of training provided to OEC technicians. The doctors on this committee come from each NSP division, with additional physician experts involved in prehospital and wilderness medical care.

In 2018, the NSP Medical Committee met to discuss evidence-based medical training changes needed for OEC. Based on their medical specialty, each doctor was provided sections of OEC training to review and later discuss with their peers on the committee in a face-to-face meeting in Denver. Recommendations were given by the committee to the NSP national medical advisor.

Following the direction of the NSP board, the team of Ed McNamara, David Johe, Deb Endly, Bill DeVarney, and Sheila Summers has been at work creating a new book with Jones and Bartlett, which published *Outdoor Emergency Care*, 4th ed. The new textbook's chief editor, Ed McNamara, and medical editor, David Johe, have put new medical information in each chapter, based on the medical committee's recommendations.

A new OEC course for candidate patrollers with teaching aids will be developed using this textbook as a reference guide. The new text will also contain valuable medical information for the seasoned OEC technician. This new text should help all patrollers, new and experienced, provide better care for our patients.

The primary changes in the sixth edition include, but are not limited to, updates in the following areas:

- medical terminology;
- oxygen delivery;
- spinal motion restriction;
- anatomy and physiology included in the topic chapters, as applicable; and
- some chapter topic combinations designed to ease the learning process.

Making the learning process more user-friendly for the new OEC technician candidate is a goal. Remember, OEC provides a standard of training, and local protocols and standard of care are developed by your local medical adviser and management.

**David Johe, M.D.**

**NSP National Medical Advisor +**

# Ski Purchase Basics

MAKING SENSE OF TODAY'S OFFERINGS

BY MARC BARLAGE, NSP NATIONAL OET PROGRAM DIRECTOR



*Powder skiing often uses wider skis. Photo by Candace Horgan.*

**I**t's that time of year again. New skis are arriving on the market, and you have the bug for some new boards. The right equipment can help you maximize your skiing skills. Choosing equipment can be daunting if it's your first time making this type of purchase.

There are lots of different skis for different kinds of skiers. These days, new ski technology makes shorter skis more stable and faster, so where you might have skied on a 205-centimeter ski before, you might think about skiing on a 165-170-centimeter ski today.

New skis are fun, so let's look at which skis may be best for you.

## Factor 1: Gender and Age

The most basic considerations to start with are your gender and age. Men and women need different types of skis, since their bodies are built differently. Women's skis are specifically designed to be more flexible and lighter to compensate for the way their bodies distribute weight.

## Factor 2: Skill Level

There is no sense in buying skis that are not adequate for your skiing level. It is true that if you get skis with a little more performance to them than you need, it will leave room

to improve. However, skis that are designed with the advanced racer in mind will not help a beginner skier learn the basics.

## Ski Types

There are many types of skis available.

Powder skis are awesome to have in the right conditions, but can be a handful on packed or hard snow. Look for waist widths of 105 millimeters or above, and usually go to a longer length ski.

Freeride/all-mountain skis are usually the do-it-all skis for skiers in the West. Look for waist widths of 90-100 millimeters. There are lots of options for skis in this market for a wide variety of skill levels.

Frontside carving skis are usually sized a little shorter than average. Look for waist widths of 80-90 millimeters.

Touring skis emphasize light weight for climbing. They seldom have metal layers and have a variety of sizes and widths.

Park skis usually have twin tips and a centered mounting position. These can be all-mountain skis or strictly park skis.

After deciding which type of ski best fits your individual needs, it's important to look at some of the features and what the jargon really means.

Sidecut and radius are the amount of curve in the ski's hourglass shape when viewed from above. You will hear the terms tip (front edge), waist (center), and tail (rear edge). They are simply describing the width of the ski at these points on the ski. Together, the dimensions of the tip, waist, and tail make up the turn radius. Shorter radius skis offer the skier the ability to carve tight turns, while longer radius skis are more suited for carving longer turns or skiing powder.

Full rocker skis are bent at a constant curvature of the ski's entire length. This is common for powder skis.

Tip and tail rocker with camber underfoot is a very common rocker profile in today's market. All-mountain skis commonly use this profile.

Full camber used to be the only rocker profile on skis in the straight ski days. Currently, the only class of skis that commonly use this profile are race skis.

Look on the NSP Pro Deals Page for deals from NSP partners, or visit your local ski shop or area equipment rep to get some guidance and advice for your new ski purchase.

See you on the slopes with your new skis! +



*Carving is best on narrower skis. Photo by Candace Horgan.*





# Safety FIRST!

SAFETY TEAM HELPS SPREAD NSP'S MISSION

BY KEVIN MCQUILLAN, NSP CENTRAL DIVISION SAFETY TEAM ADVISOR

**T**he National Ski Patrol Safety Team is led by NSP National Safety Team Advisor Mike Husar and staffed with advisors from almost every division. The current Safety Team includes Kevin McQuillan (Central), Melinda Mingus (Eastern), Matthew Chaffin (Professional), Nicholas Pulice (Alaska), David Hickey (Rocky Mountain), Brett Henyon (Southern), Gary Wilson (Intermountain), Jodie Jeffers (Pacific Northwest), and Ron Wiggins (Northern), as well as NSP National Young Adult Advisor Jason Tamulen.

Why have a Safety Team? Our function is actually mandated by NSP's Federal Charter, the NSP Bylaws, and the original certificate of incorporation for the NSP.

## From our Federal Charter:

The purposes of the corporation are—

- (1) **to promote**, in every way, patriotic, scientific, educational, and civic

improvement activities and **public safety in skiing**, by **such means as the dissemination of information** and the formation of volunteer local patrols consisting of competent skiers trained in first aid **for the purpose of preventing accidents** and rendering speedy assistance to individuals sustaining accidents; and

- (2) to solicit contributions of money, services, and other property for, and generally to encourage and assist in carrying out these purposes in every way.

(Pub. L. 105-225, Aug. 12, 1998, 112 Stat. 1418.)

## From the Bylaws:

(The following is a summary of the purpose as set forth by the original incorporators on the Certificate of Incorporation duly filed in the State of New York on Aug. 12, 1948.)

The purposes for which it is to be formed are:

**In any and all ways to promote public safety in skiing, including, without limiting the generality of the foregoing, the dissemination of information with respect thereto and the formation of local NSP registration units**, consisting of competent skiers trained in the administration of first aid, **for the purpose of preventing accidents** and rendering speedy assistance to persons sustaining accidents; to solicit contributions of money, services and other property for, and generally to encourage and assist in carrying out, the foregoing purposes in every way.

The Safety Team, with help from NSP divisions, regions, and local patrols, will promote public safety in skiing and disseminate information. One goal is to do such promotion, including at the grade school and high school levels, both at the ski areas and away from the areas.

Many ski areas, especially smaller ones, are not aware of the excellent videos, radio spots, and other materials promoting safety that are available from the NSP and its industry partners. For instance, we have the "Lead by Example" initiative that with further support can have even more of an impact on the skiing/riding public.

The NSP board of directors approved a budget for the NSP Safety Team to have a face-to-face meeting in August. Materials and programs developed out of that meeting will be posted on the NSP website. Each division can then tailor programs for their specific needs.

The NSP will also have an increased number of kits with safety materials, and the Safety Team members will need your help to disseminate the program materials to fulfill the important purpose of promoting safety to the skiing public.

If your division or region does not yet have a safety advisor and you are interested, contact your region or division director or assistant region or division director and offer your services. Also, talk to your area patrol about opportunities to support the division and region safety advisors!

Thank you all for supporting NSP's mission! **+**

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# Signal Coverage Improvement

## SOLVING THE "DEAD ZONE" PROBLEM

BY DICK WOOLF,  
NSP NATIONAL TELECOMMUNICATIONS ADVISOR

**M**any patrols experience signal coverage issues at their areas. These problems prevent patrollers from communicating directly with other patrollers or with their dispatcher. It is often necessary to have a third patroller "relay" the message in such areas. Relaying not only takes time, it introduces the possibility of an error in location, providing the initial "size-up" report, or the need for additional personnel or equipment at the scene.

Signal coverage problems have become more significant since the Federal Communications Commission (FCC) mandated the use of "narrowbanding" to increase the number of channels available (see "*Ski Patrol Magazine*, Winter 2011," available on the "Telecom" section of the NSP website). Narrowbanding may result in a loss of signal coverage at the fringes of existing coverage; in other words, signal may decrease further in places where signal was already poor.

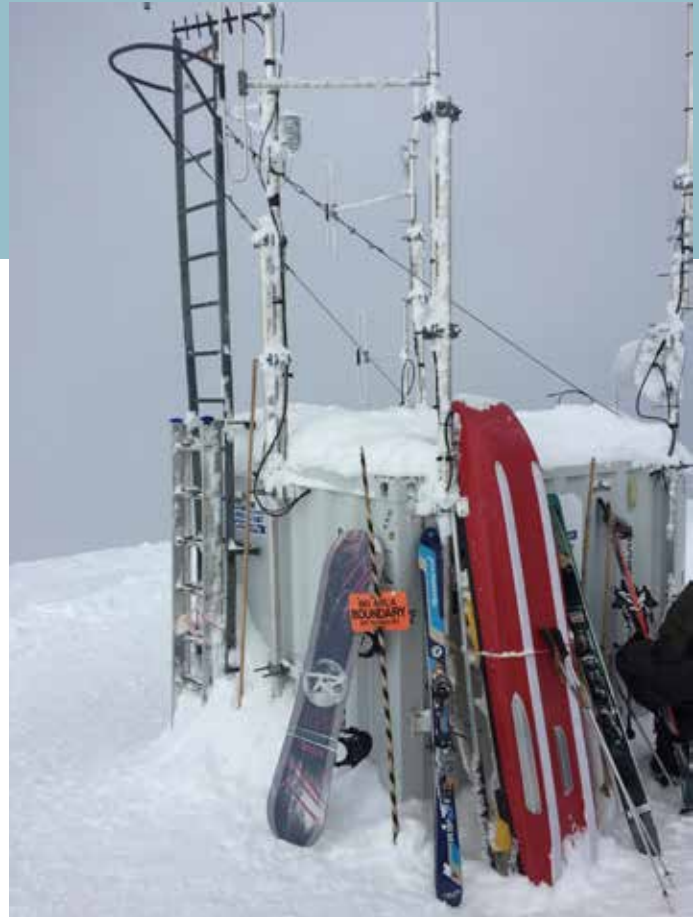
Many patrols do not have a dispatcher and thus no base station with an antenna to pick up weak signals from patrollers' radios. Patrollers then depend on radio-to-radio communication to arrange response, summon personnel and specialized equipment, arrange transportation, and coordinate external resources (ambulance, helicopter, search and rescue, etc.).

Patrols with signal coverage issues should consider adding a repeater to their operations. A repeater is a specialized type of base station that automatically and simultaneously relays communications from one radio to another. By placing the repeater at a central point, communications between patrollers are instantly improved.

Where should the repeater be located? This is the most important question. You should find a location that has good radio-to-radio coverage throughout the ski area. Since the repeater operates unattended, it need not be located at the dispatch location. It may not need to be at the top of the mountain either. Some patrols have placed repeaters at a mid-mountain location; others, at the base lodge. If your patrol operates on both sides of a mountain, the summit is the most likely point so that communications from the bottom of both sides of the mountain can be repeated.

Electric power or solar-charged batteries may be used to power the repeater, so having access to reliable power is a necessity. This may limit possible repeater locations.

The selection of an antenna is very important in planning a repeater installation. If a particular antenna design concentrates the signal at the horizon, you will lose coverage below the horizon — in other words, on the trails. You don't need coverage 50 miles away, you need coverage close in. If the repeater is located at the base lodge, perhaps a directional antenna will be needed to concentrate signal on the face of the mountain, not to the other side of the highway.



Radio communications tower on the mountain. Photo by John Leonardelli.

What channels should be used? Ski patrols that have NSP-issued public safety radio licenses can have their license modified to permit repeater operation. Similarly, patrols operating under area management licenses can have management's license modified. NSP will assist management with this task.

If a repeater is installed, what happens to the existing radios? Portable, mobile, and base station radios can be reprogrammed so that they will work through the new repeater. It is important to program a "direct" or "talk-around" mode in each radio in the event of repeater failure or if the radios are used away from the ski area.

Is a repeater digital or analog? Both types of repeaters are available, but it is important to understand that adding a repeater does not require that your patrol migrate from analog to digital. There is no regulatory requirement mandating migration to digital equipment, regardless of what some vendors claim.

Adding a repeater to your existing radio system is a somewhat technical project. Contact your division telecom advisor for help, or email [telecom@nspserver.org](mailto:telecom@nspserver.org). +





# WONDER Women!

NSP WOMEN'S PROGRAM RE-ENERGIZED AT FACE-TO-FACE MEETING

BY TANYA THOMAS, NSP NATIONAL WOMEN'S PROGRAM ADVISOR

PHOTOS BY EDITOR CANDACE HORGAN



From L-R: Former NSP National Women's Program Advisor Linda Barthel and NSP Eastern Division Women's Program Supervisor Jane Williams training during the Women's Program face-to-face meeting. Central Division Women's Program Supervisor Kerstin Hammarberg is in the background

THE NATIONAL SKI PATROL WOMEN'S PROGRAM WAS BUSY IN APRIL 2019! THE WOMEN'S PROGRAM TEAM MET IN THE DAYS LEADING UP TO POWDERFALL 2019 AT SNOWBIRD SKI AND SUMMER RESORT, UTAH, FOR WHAT NSP CALLS A "FACE-TO-FACE" MEETING. BEFORE I BECAME INVOLVED IN THE WOMEN'S PROGRAM, I ONLY KNEW ABOUT BOARD MEETINGS!



Women's Program division supervisors get some rig running in. From L-R: Linda Barthel (former national advisor), Tanya Thomas (current national advisor), Cindy Henderson (Rocky Mountain proxy), Amanda Perryman (Southern, seated), Trudy Nye (Far West), Kerstin Hammarberg (Central), Kolina Coe (Professional), and Jane Williams (Eastern).

We met in a room in the Cliff Lodge for two days and discussed where the program has been and where we want it to go. We did a SWOT (strengths, weaknesses, opportunities, threats) analysis of the program and put together a new mission statement:

**To empower patrollers by advancing skills and developing leadership in a women-focused program!**

The Women's Program IS about empowerment! We leaders shared how much we enjoy putting women "in the handles" to strengthen their confidence as patrollers. In the handles doesn't always refer to toboggan work; it's an opportunity for growth, whether it's a new leadership position, becoming an instructor, or leaving your local area to attend a clinic.

With the new mission statement come new goals. Did you know we're here? If you're reading this, I hope so! Tell a friend and help raise awareness of the program!

Skills development has always been a focus of the program, but we want to expand to mentorship, increase female representation at the regional and higher levels, and broaden opportunities within the program (by coordination with other programs).

Have you participated in non-NSP women's programs? The Women's Summit is a program put on by the Professional Ski Instructors of America/American Association of Snowboard Instructors, but is open to



NSP National Women's Program Advisor Tanya Thomas sled training during the face-to-face meeting, with Eastern Division Women's Program Supervisor Jane Williams riding.



From L-R: Dore Bietz, of the Dodge Ridge Ski Patrol in California, and Laura Friesell, of the Mt. Crescent Ski Patrol in Iowa, at the Thursday morning Women's Program breakfast.

NSP members and is a place for collaboration among women in snow sports. Next year's will be held in the first week of March at Snowbird — watch for registration details! Also check out SheJumps, a program that encourages women and girls to get outdoors. We also need to support those sponsors that encourage women in the outdoors!

We offered four scholarships to Powderfall 2019 — we hope to continue to offer funding to allow women to attend who are unable to travel without monetary assistance.

At Powderfall, the Women's Program offered a breakfast meeting open to all NSP members for sharing our new goals, new logo, and open discussion. Attendance far exceeded expectations, and I'm so happy to have gotten to meet so many patrollers that support the program. On-snow courses included progressive and



From L-R: PSIA National Alpine Team member Heidi Ettlinger and former Crystal Mountain Ski Patrol Director Kim Kircher at the Women's Program breakfast.

steep and deep toboggan classes, as well as a course for instructors of both sexes with tips on how to teach women toboggan skills. We want to give a shout out to Cascade Rescue for letting us use the sweet pink toboggan each day for class!

I came away with many new friends from Powderfall, both male and female. I am always so energized after getting together with groups of patrollers — we all have the love of helping others, yet know how to have fun!

I enjoyed the terrain that Snowbird offered and am excited to be back for Women's Summit 2020. Registration information should be out by publishing. Visit [www.thenowpros.org](http://www.thenowpros.org) and click on "Events -> Women's Summit" for registration information.

See you out there! +

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## Nick Collins

After 73 years of dedicated service to the National Ski Patrol, Nicholas Herman Collins took his “final hike,” as he called it, on Feb. 14, 2019.

Nick was born in Brattleboro, Vermont, on March 2, 1932. He grew up within walking distance of the Guilford Street Ski Tow (Brattleboro Ski Hill). He was six years old when his mother presented him with his first pair of skis. They were well used, ratty, and worn, but to him they were “sure super.” At the age of 14, he joined the Brattleboro Ski Patrol, and at 16 he passed and earned his patroller status. In 1952, he became a Senior patroller and received his National Appointment Number 3532 with the National Ski Patrol.

Nick attended Norwich University as an ROTC cadet, earned his MBA from George Washington University, and joined the United States Army in 1955 as an armor officer. He was deployed to Germany for tank school and assigned to the Military Traffic Management Command in Rotterdam, Netherlands. He served in South Korea in the demilitarized zone with a tank battalion and in Vietnam twice as a transport officer, making sure weapons, vehicles, parts, equipment, and supplies reached troops at the front line.

On a second deployment to Rotterdam, he served as an operations officer for combat convoy outfitting and deployment to Holland, Belgium, and Germany. Just prior to his retirement in 1984 as a lieutenant colonel, he was assigned as the deputy director of the Army's Cold Regions Research and Engineering Laboratory in Hanover, New Hampshire.

Throughout Nick's military career, if on U.S. soil he would drive 20 hours round trip to fulfill his responsibilities to the Brattleboro Ski Patrol. As a member of the National Ski Patrol, Nick was an Avalanche and Mountain Travel and Rescue instructor for the Southern Vermont Region and the Eastern Division. He taught Avalanche and Mountain Travel and Rescue courses to military personnel, including members of the 10th Mountain Division. He spent two stints with the International Division at Garmisch-Partenkirchen (1956-57) and Berchtesgaden (1975-76).

In 2011, he received the Eastern Division Patriot Star Award. Dr. Gretchen Rous Besser, then National Ski Patrol historian, featured Nick in the

winter 2008 issue of *Ski Patrol Magazine* in an article about patrollers that had served 60-plus years with the National Ski Patrol. Nick served many years as Brattleboro Ski Patrol leader/director.

Nick served Hanover Troop 45 as its



Nick Collins

scoutmaster and committee chairman for several decades. He served seven National Jamborees, working logistics to keep 30,000 Scouts fed. He was a Wood Badge instructor and had the privilege of learning and instructing at Gilwell Park in England, home of adult Scouter training. Nick ran 57 Wood Badge courses and trained thousands of Scouters who went on to teach hundreds of thousands of Scouts across the nation. He was honored at the council and regional level with the Silver Beaver and Silver Antelope awards.

Nick's passion for Brattleboro and the little hill he skied at age six was unending. When the town of Brattleboro closed the ski lift due to an aging lift and lack of snowmaking capabilities, Nick volunteered and worked tirelessly for 20 years to ensure that the local Brattleboro Ski Hill remained open. He helped keep it financially sound and become what it is today. Nick realized that this small ski area could provide a skiing experience at an affordable cost to the community and surrounding areas.

We all know that it takes a team to resurrect an aging ski area. Nick helped form a new nonprofit organization, Living Memorial Park Snow Sports, Inc. (LMPSS). He devoted his time to acquiring needed parts, materials, and labor to refurbish the ground lift and snowmaking system. He was pivotal in securing finances to cover the snowmaking guns from the Brattleboro Rotary Club and assisted in the purchase of the first snow groomer. Nick dreamed of having a maintenance building to house the groomer and equipment (currently stored outside). LMPSS will dedicate the building in Nick's honor and has plans to start construction as soon as funds become available. Donations to honor Nick can be sent to LMPSS, PO Box 1945, Brattleboro, VT 05302.

Nick is survived by his sister, Ellen Brouillette; son, Wesley (Susan); granddaughters, Alexandra (Andrew) Collins Gambarani and Kaitlin (Joshua Chastain); and great granddaughter, Imogen Wendy. He is also survived by countless veterans, patrollers, Lions Club brothers and sisters, Scouts, Scouters and fellow Buffalo whom he called “friend.” He was predeceased by his wife, Ellen, in 2001 and daughter, Wendy, in 1977.

**Ruth Lane and Barbara Gilmore**  
*Brattleboro Ski Patrol, Vermont*

## Daniel Homstad

Daniel Homstad, age 51, of Apple Valley, Minnesota, ended his life after a prolonged battle with depression on May 28, 2019. Dan was a member of the Buck Hill Ski Patrol in Burnsville, Minnesota.

While a patroller, his enthusiasm was contagious!

He was involved with our new candidates as their mentor and was working to be an Outdoor Emergency Care and Outdoor Emergency Transportation instructor. He was mentoring to be part of Buck Hill Ski Patrol's leadership team. During training, Dan always made sure that all the new candidates knew it was OK to take a fall while practicing and demonstrated it beautifully every season.

In his professional life, Dan was a former public defender and prosecutor before opening his own law firm. Dan described himself as an attorney, dad, husband, Civil War student, baseball enthusiast, Minnesota Vikings fan, author, ski patroller, and cat aficionado.

Dan's wife, Heidi Larson, said the family quickly decided to be open about how he died. The local newspaper obituary quoted, “They had two choices, she said: Simply to note that ‘He died unexpectedly at 51,’ or remove the stigma of depression and suicide and perhaps spark a conversation for others.”

Throughout Dan's adult life, alcohol addiction and depression lurked. “On Memorial Day, two days before his death, my dad was so excited to tell us that he'd made it to 330 days [alcohol free] — almost a year,” said his daughter.

Services have been held. In lieu of flowers, memorials can be donated for suicide awareness.

**Kerstin Hammarberg**  
*Buck Hill Ski Patrol Director, Minnesota*

## Judy Marr

It is with sadness that we recognize the passing of the beloved co-founder of the Giants Ridge Ski Patrol (GRSP), Judy Marr.

Judy became a member of the National Ski Patrol System in 1961. She was 22 years old at the time, full of enthusiasm and a desire to establish a ski patrol to serve Giants Ridge Ski Area in Biwabik, Minnesota. Judy, along with her husband, Bill, worked hard to recruit and retain patrollers and attracted a group of people who loved to ski and help people. She even recruited some who could not ski and taught them how so they could join the patrol.

Judy served the patrol in many capacities, including as a trainer, patrol director, on the regional awards committee, and more. She and Bill were the first aid instructors for many years, and as the patrol grew and others helped with training, Judy still oversaw the training program and taught



Daniel Homstad



Judy Marr

even as we transitioned to Winter Emergency Care and then Outdoor Emergency Care. She was also a CPR instructor for the patrol. Judy was known for her generosity in the time she dedicated to the patrol, her passion to strive for excellence in patient treatment, running a tight ship at refreshers, her written tests (which were intense), and the breakfast she would make for traveling patrollers at every refresher. Her fear of heights was also well known, and when chair evacuation training became mandatory, Judy participated despite her great fear.

Judy fostered a family atmosphere among the patrol, encouraging married couples to join, organizing parties and activities for patrol families to participate in, and inviting everybody to their cabin every summer for a patrol party. Her efforts created many wonderful memories for the patrol families of the GRSP.

Judy received National Appointment Number 3518 in 1969 for her leadership, good character, diplomacy, positive attitude, good judgment, exemplary patrolling qualities, a genuine desire to serve the skiing public, and extraordinary service to the NSP. She also received an NSP Yellow Merit Star in 1977 and was awarded the Distinguished Service Award in 1999. Judy patrolled until 2010, then transitioned to alumni status. She is recognized as having 58 years of service with the National Ski Patrol.

Judy and Bill moved to Bozeman, Montana, in 2013 to be closer to family for Bill's health concerns and their condo at Big Sky. Bill passed away in March 2014.

Judy's dedication, passion, and drive for excellence were instilled in the patrol members she trained, and her legacy lives on as the Giants Ridge Ski Patrol continues to be recognized as an outstanding ski patrol for the National Ski Patrol.

Sandi Larson, with contributions from Bob Kosmalski and Dave and Mary Engblom  
*Giants Ridge Ski Patrol, Minnesota*

## George Preston

The Beaver Mountain Ski Patrol and the Intermountain Division lost a true icon on May 20, 2019, with the passing of George W. (Judd) Preston. Judd started patrolling at the fledgling Beaver Mountain Ski Area in 1948 when he was 16. Over the next few years while

patrolling, he assisted the hill owner, Harry Seeholzer, in installing a rope tow, a T-bar, and a chairlift. He was a member of the Beaver Mountain Ski Patrol for 60 years, except for three years while he was on active duty as a pilot in the U.S. Air Force, when he patrolled with the Terry Peak Ski Patrol in South Dakota.

Judd served his first term as patrol director from 1953-55. He was instrumental in the Beaver Mountain Ski Patrol joining the National Ski Patrol System in 1954.

From 1960-62, Judd again served as patrol director. He wrote the bylaws for the patrol during that period, most of which are in effect today. He was an American Red Cross first aid instructor starting in the late 1950s, and he participated in Winter Emergency Care and Outdoor Emergency Care courses until he retired. He received National Appointment Number 2744 in 1963. He then completed his Avalanche Level 1 and 2 courses, became an Avalanche instructor in 1964, and completed Mountain Travel and Rescue 1 in 1972.

While patrolling, Judd continued to fly the C-119 and B-36 for the Air Force Reserve and maintain his law practice in Logan, having achieved his Juris Doctor at the University of Utah in 1960.

Judd served as the Beaver Mountain Ski Patrol legal advisor for most of his career. He was also the Intermountain Division legal advisor for several years. He was elected to his third two-year term as patrol director in 1976. No other Beaver Mountain patroller has served more than one two-year term as patrol director, which is an indication of his dedication to the patrol and the respect in which he was held. He also served on the Intermountain Division Awards Committee for several years during the 1980s.

Judd was named the Beaver Mountain Patroller of the Year in 1981, and he received Beaver Mountain management's Harry Seeholzer Memorial Award in 1988, recognizing his many contributions to the Beaver Mountain Ski Area during his patrolling career.

From 1999 to 2001, he played a key role in the creation of the Beaver Mountain Ski Patrol building, which is recognized as one of the best patrol facilities in the Intermountain Division. Beaver Mountain rests on Utah property, and the ownership of the building was a complex legal issue. He helped in the building of the facility, but his major contribution was the legal agreement that assured that the building could be owned by the patrol.

He continued to fulfill all his patrol duties and provide help to our skiers in an exemplary manner until his retirement from the patrol in 2008 at the age of 80. At that time, Judd was one of the few fully active patrollers his age

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in all the NSP. After retiring, Judd continued to stay with his patrolling roots as a lifetime member of the NSP.

Judd was an avid outdoorsman, participating in sailing, off-road motorcycling, and black powder shooting, among other activities. He served as Bear Lake (Utah) County district attorney for several years after his retirement from private practice. He had an acute sense of humor and would demonstrate elegant Royal Christie turns on request, even at 80 years old.

Judd continued to ski at Beaver Mountain from his retirement until his death. He was a friend and a model for several generations of Beaver Mountain patrollers. Judd was the first inductee into the Beaver Mountain Hall of Fame in 2018, in recognition of his many contributions to the leadership of the patrol and his 60 years of dedicated patrolling. His laughter and guidance will be remembered by all of us.

Judd was preceded in death by his brother, Patrick, and his wife, Janet (Eggen), and is survived by his three children, three stepchildren, and grandchildren and great-grandchildren. He was loved by many and will be sorely missed by those who were fortunate enough to have known him.

John Keith  
*Beaver Mountain Ski Patrol, Utah*

## Myron Robertson



*Myron Robertson*

California, and moved to Big Bear Lake, California, in 1964.

Myron began visiting Big Bear with his high school ski club during the '50s. He and his friends joined Snow Summit in the early days and helped to develop the volunteer National Ski Patrol program at the area. He knew Jo Alexander and Tommy Tyndell and would talk to Jo about the speed and recklessness of her then-teenage son, Dick Kun (later CEO of Bear Mountain Resorts), as they couldn't really rip his ticket.

Kun in turn gave my dad a lifetime pass after 30 years of volunteer service (1952-1982), which my dad utilized fully. He was 81 years old his last season on skis. In more recent times, he was in awe of the jumps and obstacles that were built on the ski runs, as he came from the days where they

During the early hours of Jan. 27, 2019, Myron Robertson passed away at the age of 84. Heaven added a most adventurous spirit, and we lost a truly great man. Myron grew up in San Diego and Compton,

had to knock down jumps and clear obstacles. He often wished he were younger so he could take part, but he stuck to the more mellow jumps on the family runs.

Myron could tell a good story, which was always combined with his hearty laughter. He was in the Army and was on the ski patrol in Germany as part of the European Ski Patrol in 1958-59. He loved Big Bear and nature. During the summers, you often would find him on his mountain bike with his backpack removing trash along the trail. His neighbors jokingly called him the honorary mayor of Big Bear. He had a thrill-seeking nature, and above all he was kind and willing to always help others.

Anne Talbot

## Manny Schweitzer

On Feb. 28, 2019, the National Ski Patrol lost a 65-year patroller, and we lost our father, when Manny Schweitzer, age 89, died after a few years of declining health. He is survived by his wife, three children, and five grandchildren.

Born in 1929, Manny started skiing in his early teens in Van Cortland Park in the Bronx, a borough of New York City, when a friend of his paid off a debt with a set of skis, poles, and boots. It was love at first run, so much so that according to family lore, on their wedding day his mother told his new wife to never get between Manny and skiing.

As a young man, he financed ski trips by working in a ski shop. In 1954, he became a member of the Silvermine Ski Patrol and a member of the National Ski Patrol. He left Silvermine in 1963 to become patrol leader at Snow Valley Ski Patrol, and in 1965 became patrol leader at Dutchess Ski Area. After Dutchess closed in 1975, Manny patrolled at Catamount Ski Area for a couple of years before being invited to join the West Point Ski Patrol in 1977. West Point became "home" for the next 38 years.

While patrolling at West Point, Manny started to take on more administrative roles. He was section chief for the Metro NY/Long Island Section from 1980-84, assistant region director of the Southern New York Region from 1985-93, Southern New York Region director from 1993-94, and Lift Evacuation advisor from 1981-84. In 1985, he became the patrol director at West Point, a position he held for 20 years.

We are not sure how to count all the positions Manny held in the NSP. He was, for example, a Senior examiner before there was Senior Emergency Medical Management (SEMM), and then a SEMM trainer/evaluator. He was an American Red Cross first aid instructor (starting in 1965), an NSP examiner (back when there

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Manny Schweitzer

was only one exam), an Outdoor Emergency Care instructor and instructor trainer, a Ski and Toboggan trainer, and much more.

Whatever his many positions held, both NSP and his home patrol recognized his work.

He was awarded National Appointment Number 3744 in 1971, was awarded Volunteer of the Year by the U.S. Military Academy in 2008, a Distinguished Service Award from NSP in 2010, as well as other awards. He stopped skiing at age 85 and finally retired from teaching OEC during the 2015-16 season.

During his 65 years of patrolling and 70 years of skiing, he saw many changes in technology. We find it fascinating that Manny spent a few years as a teen working in a ski shop routing and installing steel edges on skis. Edges were an accessory! When he first ran toboggans, they were quite literally toboggans with nothing but a Stokes litter on top. The "front" person grabbed the curved wood of the toboggan and steered, while the tail rope person did the majority of the speed control and braking. Perhaps it was this early pain that made it possible for him to run a Cascade sled with brakes and chains in his early 80s.

Manny was not only a skier, he was a member of his local volunteer fire department, where he taught first aid and was an EMT and firefighter. After retiring as a jewelry manufacturer, he taught sailing and CPR at a local parks department summer program.

He always seemed to view new situations as welcome challenges. His position as a sailing instructor was an excuse to get his U.S. Coast Guard Captain's License. Of course, this was reflected in his patrolling as well. Shortly after the "Circle A" course was announced, he was certified. When a Nordic certification was available, he got certified and then maintained a secondary registration at a Nordic area for many years. When West Point hosted Amateur Ski Instructor Association classes, he became an ASIA-certified instructor.

Manny instilled a sense of service in us (his children). Two of us are long-time patrollers, and four of his grandchildren have been members of NSP. Many long-time patrollers are "his" recruits, including a recent NSP board chair, Bela Musits, who was a junior patroller at Dutchess, as well as some current Certified patrollers, region directors, and patrol directors. He was responsible for training some 25 cadets (and a few officers and "community people") each year at West Point. Over 1,000 young men and women at West Point alone learned emergency care with him. It was not uncommon for cadets to return as officers after a few years with stories of how what they learned in the ski patrol paid off with favorable outcomes

in combat situations. It was also inspiring to them that Manny was skiing with the cadets on their off-campus training trips well into his 70s.

He was a teacher, a mentor, and an inspiration to many people. We are sure that the many patrollers who knew him will miss him.

Carl and Eric Schweitzer  
Alumni, Eastern Division

## John Vande Castle

It is with great sadness that the Sandia Peak Ski Patrol announces the peaceful passing of John Vande Castle, age 65, after courageously battling pancreatic cancer.

John joined our patrol in 2015 as a successful Outdoor Emergency Care candidate. He immediately impressed the patrol with his tireless energy and dedication to service. In each of his three years of patrolling, he was the patroller with the most duty days at Sandia Peak Ski Area. In addition to eagerly completing Outdoor Emergency Transportation, John stepped up to become an OEC and CPR instructor, ensuring that the patient care skills of our patrol members were the best they could be.

John's contributions were not limited to winter season operations or to Sandia Peak Ski Area. He served as secretary and assistant patrol director on our board of directors, and he joined the Pajarito Ski Patrol in Los Alamos, New Mexico. He supported summer mountain bike operations at both Sandia Peak Ski Area and Pajarito Ski Area, and he directed Sandia Peak Bike Patrol operations for two seasons.

John was always willing to help with anything needed, and more often than not he was usually doing something that needed to be done before the rest of us realized it was necessary. The sight of John in lower patrol at the start of a morning was always a great way to begin a shift.

John earned a doctorate in aquatic biology and computer science, and he held professorships at multiple universities. He was passionate about ecology and loved the outdoors, whether hiking, skiing, pedaling, or paddling his way through it with his family, friends, and dogs. John was a patient, cheerful, gentle soul who brought comfort to all around him, whether they were patients

or patrollers. We are grateful for the time we had with John.



John Vande Castle

Bruce Bowles  
Sandia Peak Ski  
Patrol Director,  
New Mexico



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# WRITE A CAPTION FOR THIS PHOTO

Send *Ski Patrol Magazine* your captions for the photo to the right. Scribe of the winning caption will receive a \$25 gift certificate to the NSP Online Store and recognition in the next issue. Send entries to [editor@nsp.org](mailto:editor@nsp.org), or mail them to 133 S. Van Gordon St., Suite 100, Lakewood, CO 80228. Only NSP members are eligible. Remember *SPM* if you have a humorous photo for next issue's caption contest. Send it in high resolution (at least 225 dpi) to [editor@nsp.org](mailto:editor@nsp.org).



1<sup>st</sup>



Congrats to our winner, Debby Riehl of the Summit at Snoqualmie — Central Ski Patrol in Washington, and thanks to everyone for their submissions. Thanks to Nate Richards, of the Winter Park Ski Patrol in Colorado, for the photo.

## WINNER

"We were on board when the area mandated helmets. But when they insisted on full body armor, we drew the line."

— Debby Riehl, Summit at Snoqualmie — Central Ski Patrol, Washington

## RUNNERS-UP

"Unfortunately, the Sponge Bob Patrol over on the bunny slope didn't work out as well as originally planned"

— James Wight, Bittersweet Ski Patrol, Michigan

"Tower Pad Safety Check: Here's the plan troops. Strap on the lift tower pads. Get a snowmobile tow up to 25 mph. Execute a 180-degree turn and smack into Tower 2. Let's see what these pads are made of. Don't forget that 180-degree turn!!"

— Don Beier, CAMPGAW Mountain Ski Patrol, New Jersey

"High Speed Descent Workshop — 'Remember to lean back as you crest the headwall to ensure a soft landing.'"

— Darren Mercier, Ski Brule Ski Patrol, Michigan

"After multiple deliberately induced high-impact falls while towed via snowmobile, four heroic test patrollers determined the new experimental NSP buttock protectors to be a resounding success."

— John Stevens, Bradford Ski Patrol, Massachusetts



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