SPOLEČNOST HORSKÉ MEDICÍNY

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CZECH MOUNTAINEERING ASSOCIATION

32ND PELIKAN SEMINAR "CURRENT PROBLEMS OF MOUNTAIN MEDICINE"

2022

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CONFERENCE REPORT -
32nd PELIKAN´S SEMINAR "CURRENT PROBLEMS OF MOUNTAIN MEDICINE" 2022 (NOTES FROM THE SEMINAR)

On the long weekend of 28-30 October, 53 participants of the 32nd Pelikan Seminar gathered in Medlová, Vysočina. This is a traditional meeting of those interested in mountain medicine organized by the Society of Mountain Medicine and the Methodological Commission of the Czech Mountain Medicine Association.

The Friday evening program was provided by **Igor Herrmann** with his presentation **Adventure repatriations from all over the world (M. Břeský)** and **Jan Pala** lightened the evening with an unconventional approach to photography with his lecture **Photographing women in the winter mountains - from history to the present.**

The main theme of the 32. Pelikan Seminar was "Women in the Mountains".

Ivan Rotman has compiled a historical overview on the subject **Women in mountaineering - their achievements and fates in the mountains and their works in literature.**

President of the Society of Mountain Medicine and member of the UIAA Medical Commission (UIAA MedCom) **Lenka Horáková** presented the upcoming new **UIAA MedCom recommendations "Women in mountaineering".**

Barbora Veselá: Exercise and Sojourn Aspects in pregnant women in the mountains

Exercise of women in pregnancy is recommended, but what should a woman do if she has "extreme" hobbies, such as climbing. Information is scarce, there are many unreliable sources on the internet such as various blogs etc.

B. V. reiterated the important physiological changes of a woman in pregnancy in the immune, cardiovascular, hematopoietic and respiratory systems. She shared her experience with increased swelling after a high-altitude climb, which then persisted until the end of her pregnancy.

She divided the activities according to their difficulty. It is known that hiking activity up to 2500 m above sea level does not endanger the mother or the foetus. At higher altitudes, the risk increases. Pregnancy itself is a peak sporting performance and high-altitude hiking adds an additional burden for the woman.

Ski mountaineering is demanding in itself, it is recommended only for women who practice this activity on a regular basis. It is wise not to set your goals too high.

The 3rd trimester is risky because there is a risk of abruption of the placenta.

Rock climbing is only possible in a full-body harness, there is even a special climbing harness for pregnant women. The important thing is that the joints and ligaments loosen, so the risk of injury increases.

First aid and medicines used for this are listed.

Jan Pala, Markéta Hanáková: Ten years with a pacemaker in the mountains

M. Hanáková has had a pacemaker (PM) implanted since 2009 as part of secondary cardiac prevention, at the age of 35. After about half a year she started to return to the mountains, first to the Czech mountains, then she reached 7219 m above sea in Hindukush level as well as Makalu Trek with several six- thousand peaks.

Subjectively, she is slower than without PM, the lower hills are actually higher for her. The important thing is that she has to train constantly. The climbing partner has to get used to it,

because she has to go at the "PM pace" as well.

A short film about her adventures. Cardiac surgeon MUDr. Vladimír Vinduška and cardiologist MUDr. Igor Herrmann added information about the functioning of the PM during physical stress.

Injuries in the mountains

M. Honzík: The command was clear: The rope has two ends, so two knots!
He prepared the presentation from his experience with climbers and accidents. This lecture followed the practical workshop that took place on Friday.

The figure of eight knot is often a source of error. Often we start to knot but do not finish it. A man crashed 10m after climbing UIAA IV, he didn't finish without a partner-check, he was distracted by his children. It is advisable to pull the rope and belay quietly, except for a visual check. Nowadays it is not even recommended to tie half of the rope through the fox loop, but it can cause the belay eye to slip and burn out. The recommendation is with a tap with two counter carabiners.

Instruct newcomers what they can and cannot handle, always double-check after handling. The knot at the other end of the rope is also important. On the rock, the length of the routes can vary. On a vertical artificial wall, it may be sufficient, but not on an overhang.

After a week, two climbers were climbing the same route, but suddenly the rope went through the belay device and a 5m fall followed, even though they were using the same rope, equipment, on the same route, same route alignment. The mystery was cleared up by the husband who cut a piece of rope for the kids to swing.

Tying on a sail is dangerous when the sail is caught. Better to tighten the leader knot.

When rappelling – did a poll among the participants who ever ties.

This spring, on the tower, half rope, 80m rope. He straightened the rope to half, but twisted it and straightened it to the old half, sent out and a heavy fall. The Bicolor rope is tempting. Rope clump pulled the end of the rope over, although he originally saw the other end on the ground. The wife – a guarantee of safety - the friend who represented her did not make the knots.

Don't forget the partner-check: my knot and my partner's knot and the knots at the ends of the rope. We never throw the knots down, we have them clipped on the seat!!!

Rosťa Haruda, Jan Pala: Rescue forces in Norway, and especially at Midsund:
He introduced the ruggedness and problems in Norway, the vast length of the coastline. Breakdown of the territory by emergency services by country (Norway, Sweden, Denmark, Canada, USA, Russia). Over 30 000 accidents in 16 years since 2000, but mostly car accidents. They have the **Hjelp 113** app.

Entry into the fire brigade – physical tests, tactical obstacle course, dismantling pallets in a steel container where the fire is burning, at waist level 400 °C, then pulling 2x20kg barrels upstairs. Training lasts 5 weeks, including intervention at sea and from a burning house. At sea it is always secured with rope, one colleague was dragged into a hydroelectric power station inlet.

Travel medicine

Vladimír Vinduška: Vaccination (not only) for travellers
In the general practitioner's office, most often covid-19, tetanus and influenza. He mentioned important websites where we can learn about vaccinations. He pointed out "mandatory vaccination" which is really just yellow fever in defined states, even for their transit. Also, meningococcus on the pilgrimage to Mecca. The triad of typhoid, hepatitis A and B. Often the

risk of infection is unknown, varies by place of travel and behaviour.

Last year, 800 people, mostly elderly, contracted tick-borne encephalitis, with an incidence of 20%. The cost of vaccination is often less than the journey itself.

When to consider vaccination: for long stay 3 months, for shorter stay 4-6 weeks; offered an overview of the onset of immunity, and also abbreviated vaccination schedules.

Simultaneous administration of live and non-live vaccines is only possible, just to different sites. The spacing of subsequent administrations can be any number of times for non-live vaccines - which is the majority. But live is yellow fever. Again, spacing of previous vaccinations can be any, but it must be followed by a 30-day break. That's why it's usually given last.
It is a good idea to have the proper Czech vaccinations before your trip. Vaccination nowadays exclusively to the deltoid muscle, if necessary, use of both shoulders or thighs. An anaphylactic reaction occurs within one minute, it is recommended to wait at least 15 minutes.

Local or general symptoms for a maximum of 3 days.

He discussed particular diseases such as typhoid fever, jaundice, cholera.

Jitka Růžičková: Solar radiation has both positive and negative effects on human health
We could talk about vitamin D synthesis for a long time. 30min exposure of the whole body to the sun ~ 1 kg of salmon, but about 15 min on the face and arms twice a day is enough.

Risks of UVA include photoaging, photo dermatosis, damages the DNA of cells, UVB damages the top layers of the skin and causes sunburn. There are a number of factors affecting the effects of UV radiation... Kilimanjaro is typical. Don't underestimate a cloudy day!

Snow reflects 80% of the sun's rays, increasing the level of UV we are exposed to, whereas sand on the beach reflects only 15-20 %. Every 1000 m above sea level +19 % more UV exposure. Even in the shade under the canopy we can get sunburnt, it takes half of it. 0.5 m underwater is still 40 % UV compared to above the surface. Skin burn has 3 degrees, from redness and burning (1^{st}), to blistering (2^{nd}) to necrosis (3^{rd}). Watch out for sunburn over a bike helmet, for example.

Photoaging is manifested by pigment spots, thickened skin, deep wrinkles. Phytophotodermatosis, photo allergy to antiphlogistic creams. Causes of tumours – the most common is basalioma, the most common skin tumour ever, malignant melanoma accounts for only 4 % of all tumours but its incidence has increased about 5-fold in the last 30 years. They often arise on the base of a pigmented mole, once they have grown into the blood vessels they metastasize and the likelihood of a complete cure is low.

In the Czech Republic, we are in the 25^{th} place in incidence, mortality does not increase even with a higher incidence, because there is better detection in the early stages. Repeated burning is a risk factor. Burning into blisters in childhood increases the risk up to 2 times. Sunburn is more risky than repeated long-term exposure (people working outdoors). Melanoma is most common on the back in men and on the lower legs in women. The risk of developing a skin tumor from excessive sun damage is higher than the risk of lung cancer in a smoker. Often in young people.

Self-examination of ABCDE signs is important. Always contact a dermatologist if any suspicion arises. Treatment options vary according to stage, excision is the mainstay, immunotherapy, radio and chemotherapy are also possible.

Photoprotection is perceived differently by men and women. Protective creams should be reapplied after 2 hours and should have both UVA and UVB filters. Do not forget any part of the body (earlobes, baldness), reapplication necessary.

Conclusion: it is not advisable to avoid the sun altogether, but we must remember that the risk is increased in the mountains.

Ladislav Sieger, Gabriela Hodková: Disinfection of water in the outdoors

The basic requirements for drinking water are physical, chemical and biological. Within the treatment, we more or less only deal with biological qualities, faults in terms of e.g. organic and inorganic pollution.

Water treatment methods are physical and chemical. Thermal disinfection is a certainty, but UV radiation is also possible.

The lecture focused mainly on chemical methods. Among the halides, chlorine is used, iodine to a limited extent, but not bromine. Oxygen in its nascent state, O_3 in large water treatment plants. Water cycle: pretreatment first, if necessary - depends on the source. Disinfection would dispose of 99.99% to 99.999% of bioagents, immune system should handle the rest. Treatment must be followed by immediate preservation of the non-consumed water.

Chemical methods have problems with multicellular organisms, just like if we drink chlorinated water, nothing will happen to us - mnemo! There are a number of chlorinated products, but sufficient exposure time is required. Concentrations vary for normal pollution or for shock treatment. 1mg Cl_2/L of water is at the limit of smell. Dechlorination is important as high concentrations of residual chlorine would destroy the gut flora. This does not apply to water that I will continue to heat because the chlorine will evaporate with heat.

The WHO now does not recommend iodine as a primary disinfectant because it is inappropriate in thyroid disease. But in an emergency, I can use 1-5 drops of iodine tincture and wait 60 minutes, depending on the water temperature. The boil kills in 1 min, but we don't drink the water right away anyway.

The most common contamination is coliform bacteria, but these are very sensitive to temperature. UV is very energetic but can cause damage and cannot be used in murky water, a replacement is required.

SODIS UNICEF project - just expose PET bottles to the sun - combination of thermal and UV disinfection of water, exposure of about 6 hours required.

Ceramic water filters are sophisticated, but to eliminate viruses, the pores must be small and the filters must not have noticeable cracks. The risk is freezing of the wet filter and cracks.

An example of an improvised composite filter made from a PET bottle and a coffee filter. The thermos by its very nature holds temperature - you can boil and treat water in it on the way.

Rudolf Brož: Physiotherapy for mountaineers:

Although he is a specialist in respiratory physiotherapy, he also specializes in sports physiotherapy. What about before a workout, a hike, a climb? Tennis players put a towel on their head before a match, which is supposedly to visualize the journey before the performance and prepare their musculoskeletal system for it. We can use this for our performance as well - to divide the load into several sections.

Warming up before training is an aerobic activity, so the muscles warm up, get blood flow, loosen up the structures. The protein brain-derived neurotrophic factor (BDNF) is released - stimulates memory, attention, speed of reflexes - better motor learning.

Nowadays, static stretching is no longer recommended, as it can reduce performance. On the contrary, mobility and stability training is important, especially for the legs. Manually relax the leg before loading with a ball or roller to massage the foot.

The disease of civilization is shortened hamstrings, by massaging the flanks, the back of the calf and thighs will relax, the hamstrings will also relax. Replenish fluids and minerals after exercise.

Long stretching has a minimal effect on lactate washout. It is better to foam rolling, ball rolling, compression stockings. From a physiological point of view, it is better to cool down and then

include light aerobic activity, e.g. go for a trot.

What to do in the mountains with pain? Pain is good and bad, taking analgesics will suppress the defense mechanisms that protect against damage.

The RICE principle: Rest, Ice, Compress, Elevate - it's a bit outdated, rather out of options. Possibly a cooling spray. Peace and loveProtect, elevate,... Alex Honnold - he started climbing with a cast.

It is important to avoid anti-inflammatory drugs, because physiologically inflammation is necessary. Taping is important for muscle relaxation, hematomas, and is able to excite flaccid muscle – it stimulates proprioception, improves coordination in the segment, which gatekeeper theory also reduces pain. Even larger injuries can be fixed with a firm tape.

Women in the mountains 2

Igor Herrmann: On the difference in the response of women and men to altitude

First, he welcomed Dina Štěrbová, the first Czechoslovak climber to ascend the eight-thousand peaks of Cho-Oju (184) and Gašerbrum (1988).

In his unique poetic way, he described the diversity of the female organism. The physiological prerequisites for acclimatization are individual, large and cannot be trained. Resistance to altitude is determined by oxygen transport.

He also mentioned the theory of an increased risk of thrombosis with the simultaneous use of contraception. There is a higher incidence of peripheral edema in women, independent of the menstrual cycle, the reason for which is unknown. He expressed the opinion that pregnant women can stay 9 months without activities in the mountains.

Women have fewer cases of frostbite and hypothermia. For one thing, they have a good distribution of fat to protect the foetus, plus they are more careful and take more precautions. They have a greater response to catecholamines, which increase HR, but this disappears as estrogen decreases at menopause.

Special guest of the seminar was **RNDr. Dina Štěrbová** (*1940), who presented her book Desires and Destiny - The First Women on the Eight Thousanders. She has collected materials about women's first ascents to the eight-thousanders.

In 1977 she set the Czechoslovak women's altitude record by climbing the *Nosgaq* (7 492m) in Hindukush in 1978, she climbed the *Korženěvská peak* (7 105m) in Pamir in the women's team. In 1980 she led a women's expedition to Manaslu. Two participants of this expedition, Božena Marušincová-Nývltová and Jana Koukalová, climbed the northern peak (7 056 m above sea level). In 1984, together with Věra Komárková, a Czech living in the USA after 1968, she climbed the peak of *Cho Oju* (8 201m), thus breaking own Czechoslovak women's altitude record. It was also the first Czechoslovak and the first female ascent of this mountain ever. The feat was done partly with oxygen (the apparatus soon stopped working), and the climbers who made the trip were Sherpas Norbu and Ang Rita (the latter had been on Mount Everest ten times in total). In 1988, together with Dr. Livia Klembárová, she climbed *Gasherbrum II* (8 035m) (Wikipedia).

Among her other activities, she presented her current work in Pakistan, where she has built a hospital and a school in a remote mountain valley.

The history of women's first ascents began before World War II. Claude Kogan, organized the first expedition to the eight-thousanders, during which she died, which led to the belief that the female body is not built for high-altitude climbing. The first woman reached the summit of the eight- thousanders in 1974 on Manaslu. Mt Everest was followed in 1975 (Junko Tabei), again by a Japanese team. Without supplemental oxygen - the first woman - New Zealander Lydia Bradey climbed Mount Everest in 1988.

About the law in the mountains

JUDr. Jiří Žák: Insurance – Part 2 or How not to go broke

Last year's lecture dealt with the EHIC "blue card", which allows the insured person to be treated in a health facility linked to the local public health system, with a limitation to Europe. However, this does not cover the costs of rescue, repatriation, liability insurance, etc.

But what is liability for damage caused to another person? Every person is liable, whether the damage was caused intentionally or involuntary. There must be a clear causal link. To what extent can you be liable? Expenses and costs for treatment and transport, pain and suffering, permanent consequences, compensation for earnings, damage to property, non-pecuniary damage can be claimed.

A model case of a trip to Italy via Austria with a hypothetical traffic accident. It is not always the case that in a mass accident, for example, there is always a guilty party to cover the costs. We can also be at fault and there are damages that must be covered. The green card covers part of it, but it doesn't apply in the case of a stolen car, a DUI, or an intentional act. There is also a problem with wildlife, which also won't reimburse me for damages.

For travel insurance, there are assistance services that often provide technical assistance. When to call the police? Major damage, unclear culprit, strange behaviour (drugs?), death, serious injury. Outside of motor transport, compulsory liability insurance does not apply - including bicycles.

In Italy, from 1 January 2022, every skier/snowboarder on the slopes must have third party insurance. The certificate must be carried or the ski pass will be taken away. It is also forbidden to ski under the influence of alcohol. There are many reasons for liability insurance. AXA drink allowed - this is only for injury to the policyholder while under the influence of alcohol, not for damage to someone else. He also quoted helicopter and mountain service intervention prices. In Bohemia Czech does not pay for mountain rescue, but foreigner does. When arranging commercial insurance, it is imperative to pay attention to the comprehensiveness of the insurance, the amount of coverage and what risky sports are covered.

Beware of exclusions and deductibles.

The lecture sparked a heated discussion among the attendees about the limits of various insurance companies targeting climbers.

Avalanches and winter mountains

Vojtěch Tryzna: Selected avalanches in the Krkonoše Mountains

He first introduced himself as a first-time lecturer at the Pelikan´s Seminar. He repeated the basics of avalanche issues. A standard avalanche is usually a slab avalanche 80x100 m, in the northern sector with a slope of about 30°.

Anemo-orographic system of the Giant Mountains (Krkonoše): on Luční bouda, for example, it cannot be more than about 1.5 m, because it is blown away. In Bohemia, the prevailing flow is westerly. Thus, snow accumulates in the Elbe Mine (Labský důl), the Snow Pits (Sněžné jámy), which sometimes persists into the summer months. That's why there are 55 avalanche tracks in the Krkonoše Mountains in the Czech part alone, with Poland about a hundred, due to the accumulation of snow in the leeward parts and avalanches fall.

From 1961 to 2012/2013, 1100 avalanches fell, an average of 22 avalanches/season.

Avalanches in the Giant Mountains fall mainly in January, as the first snow that is not connected to the ground falls in early winter, and then in March slab to foundation avalanches in spring snow.

The first mention of an avalanche dates back to 1655 in Sklenářovice. The death of Hanče

and Vrbata in 1913 was the impetus for the establishment of the Mountain Service. Muttich's silent signs were created in 1923 for easier navigation. Since 2022, the first Recco devices in Špindlerův mlýn and Pec pod Sněžkou as a type of passive avalanche search, which does not only respond to the original Recco tag, but also to a mobile phone, etc. Unfortunately, this system has limited use in a water environment, which the winter games are.

He recalled the biggest avalanche disaster in Biele Jar in 1968. The monument that was erected in honour of the victims was torn down by another avalanche the following season. An avalanche also fell in the same place last year on 14 March 2021. This is typical of an avalanche in the northern area, with a slope of up to 48°. At the same time an avalanche fell on the Polish side, where there were persons without avalanche equipment (this intervention was discussed in detail during last year's Pelikan seminar by Martin Honzik).

A little snow is worse than a lot of snow, because small layers of snow can have a critical layer between them in which an avalanche will break off. The huge avalanche in the Blue Mine (Modrý důl) on February 10, 2015, between 1.59pm and 2pm, was without casualties, but was recorded by webcam, a swath of forest completely disappeared. The avalanche had been pre-simulated at the Czech University of Agriculture and indeed a year later it fell almost according to the model, the last avalanche that big fell there was in 1887.

He also presented the avalanche cadastre and the data that can be found there. The cadastres have recently been remodelled because originally the cadastres were based only on historical avalanches, but now computer technology is used for complex simulations.

He also mentioned the avalanches of 2022, first the Úpa Gorge (Úpská rokle) avalanche of February, where the volume of snow was 128,000 m^3,43,000 tons of snow, 67,000 m^2 , fortunately with no people in the avalanche site and no casualties.

Finally, he showed a list of the most important references on avalanches and avalanche prevention. The wind is an avalanche builder.

Ivana Sikulová: Avalanche accidents in Slovakia

She compared the situation with last season, there were now fewer accidents, 24 this year compared to 43 last year, but there was one more casualty this year.

It showed that again the highest number of accidents is at 2. avalanche danger level and there are repeated tragic accidents at the beginning of the season when there is little snow. The last accident was at the beginning of May. Last winter was typical in that there were many visitors to the mountains for lockdown. This winter, however, was heavy with snow, and after a few years, there was a Level 4 avalanche danger again, and 41 days of Level 3 avalanche danger. In December there was little snow, it was possible to ski on grassy slopes.

The first avalanche was in Veľká Fatra Pod Křižnou on 13.12.2021: 4 experienced ski mountaineers tried to get off the ridge into the lee because of windy weather. They chose the more southern couloir, which had a lot of blown snow, where there were tracks from skiers from the previous day. They entered the chute from the ridge, split up. When the first two were in the chute, the avalanche broke off. 1 skier was buried up to mid-thigh, 2 were completely buried, the one at the top called for help. They didn't have avalanche gear - experienced, local, went there often. The helicopter brought rescuers and dogs, and Recco. They found one that day, but no sign of life at 1 m depth. He was still wearing his skis. The next day, a second skier was found 1.5 m deep, also found by Recco. Why? First day good conditions the day before, but then the weather changed, the wind blew the snow over, blowing the hard slabs where cracks spread very quickly and for a long distance and a small additional load, which 2 skiers are, it will crack above you. The skiers have no way to get off the slab.

It also showed a typical avalanche profile. Coarse-grained snow is dangerous, especially

when there is hard snow above it.

Mistakes: they didn't have avalanche gear, they had secured toe bindings, but that's a common mistake. The skis became an anchor that may have kept them under the snow. They didn't check the profile, probably the routine of a familiar place, the euphoria of the first run. Plus, the type of couloir that ended in a terrain trap, the deposit had nowhere to spill, creating a deep deposit.

December 23, 2021 video (pre-Christmas avalanche 2021). The avalanche ended well because the deposit spilled over a large area. They made the mistake of climbing both into the chute. January was warm and it rained a lot. It was not until the end of January that snowfall reappeared, adding 20-30 cm, but due to the typical Tatra wind it was not evenly distributed.

19 January 2022 already avalanche level 3, the first nice day after very cold and windy days, which is typical dangerous weather. West valley, it was warm, skiers had avalanche equipment. Rocky valley, they didn't know the terrain, they went by feel, they decided only on arrival where to go. The place is flat, but above that there are steep slopes that have a run up to the blue hiking trail. Halfway up, they put into a couloir that looked snow covered, but moved aside for steepness, made it to the ridge, and were not deterred by the fact that the adjacent couloir was not able to go up due to ice and steepness. They paused over a critical spot, there was hard snow piled up by the wind.

Board avalanches have the insidiousness that even a pro can't tell it's on a board unless you do a test, know the topography in detail, etc. Two skied in quick succession, the third took it in stride, the avalanche broke off and, taking down 2 skiers, the 3rd skied down and started looking, missed the first, found the 2nd, who he took a shovel out of his pack to dig in. He had a problem with the 2nd, he was at 1.7m, then the first one he dug out helped him, although he was injured. He was already showing signs of life when they dug him out, they called the Mountain Rescue Service (MRS), but he was only dug out after 45 minutes.

Reasoning, if he hadn't missed the first one, he certainly would have been kicking him for more than 15 minutes, so maybe the second one, which was easy to kick, wouldn't have been saved either. The second one was already unconscious, but after digging him out and clearing his airway, he came to and was able to dig himself out. They did a good job with the equipment, didn't waste time with a complete excavation.

Negative factors: they were in a Level 3 avalanche hazard, in unfamiliar terrain, on a slope ending in a "terrain trap", they did not do a compression test in the field that could detect a hazard layer, although it can only assess a very local situation. They skied right behind each other; they should have been spaced.

She showed the profile again, emphasizing the square-grained snow, depth and placement of the slab. The slabs vary even within the same slope, somewhere 20 cm, somewhere 50 cm, the crack spreads over a long distance. She showed 2 videos where in one the slab was 20 cm and 60 cm deep and the tap test had a completely different result.

At the end of January and the beginning of February, it was level 4, which discourages people from skiing. Since May, the Avalanche Prevention Centre has stopped announcing avalanche forecasts, and since 15 April there has been a spring closure in the Tatras due to nature protection.

10. 5. 2022 Baranie Rohy Mountain. Father and son without equipment at a time when the High Tatras have been closed for almost a month, they felt that there was no more snow, they reached the top on foot, but went down on skis. Although their ten-year-old son's ski slipped off, they did not pay attention to it. But then another slide took them into a chute, they flew over a frozen threshold with rocks. 10-year-old child. The father took off after him, drove onto the softened snow outside the avalanche path and tore off an avalanche that took him too. They

ended up at the bottom but were not critically buried. The boy was up to his thighs, the father was sitting on an embankment, though injured. They had seen Téry's hut, but felt they were just picking things up. However, after 2 hours one was still on the avalanche site, only then the MRS, sent a helicopter. They didn't have shovels, the boy got out of his ski skeletons and walked barefoot to Téry's hut to get help. Father with spine and leg injuries, hypothermia, boy uninjured.

Conclusion: underestimation of the 2nd and 1st level of avalanche danger, in the windy Slovak mountains, compacted snow slabs are forming even from day to day. Lack of avalanche equipment, 1st nice day after snow and wind. Late start to the hike, ascent and descent in a large amount of softened incoherent snow. Unsuitable chosen terrain, couloirs with terrain trap with rock thresholds.

Jaroslava Říhová: Current treatment challenge of frostbite

Next year it will be 20 years that he has been working on frostbite. She reiterated the frostbite classification by stage and its prognosis. She stressed the importance of good insurance.

Case report 1, 30 years old, frostbitten, went on a ski tour in the Bernese Alps in the snow, at night, reached the hut at 2 after midnight. Frostbite, 4 days of infusions in Lucerne. Didn't want any meds, not even NSAIDs, didn't show up for scintigraphy, but accepted HBOx (ENT examination) and acupuncture.

Acupuncture and moxing wake up the immune system. HBOx is no longer reimbursed for frostbite by insurance, unless: a diagnosis of a non-healing wound must be given at the time of indication. He didn't show up for the scintigraphy. He has to wait for tissue demarcation.

Case 2 from Pakistan, treatment lasted 14 months, necrosis and infection on the little finger, the last link on the little finger had to be removed. Scintigraphy beautifully reveals the extent of the damage.

A curious case report of a man who suffered frostbite after directly applying frozen gel pads to his toes.

She listed alternative treatments, including homeopathics and herbal remedies.

Jan Pala: A case of frostbitten fingers during a ski mountaineering hike or when you take pictures and don't look at your fingers

He cited his case from 2018: although the forecast was good, it was the coldest day in Slovakia that year. He took some photos with his gloves off. His fingertips were white and numb. Immediately contacted our expert on frostbite, Jarka Říhová, ski hike next not recommended, but he didn't accept it. The photos showed the progression, and how he wore his fingers in a feather glove. Even frostbitten he still managed 36 days on skis. The consequences: fingers are more sensitive to cold, tingling fingertips, volleyball only in July and August.

Dita Podhadská: Layman's first aid

She first asked about the number of paramedics in the auditorium. She pointed out that in the mountains with a basic first aid kit we actually become lay people.

She discussed an ABCDE algorithm and how it is for lay people. The difference is in knowledge and skills. Before we start addressing our own safety, it is good to protect those who are not yet injured. It's a good idea to call for help as soon as possible because there may no longer be a signal at the victim.

Martin Honzík also stressed to call the MRS as soon as possible, there may not be a signal lower in the mountains anymore. Moreover, in case of a secondary avalanche, there will be no one to call. Then, the rescue operation is already underway, it will take time. The call takes 2-3 minutes, but we have to take off our gloves.

V. Tryzna added, Rescue App “Záchranka” is a super app. It's also good to call verbally, someone can hear us.

What do I have available? Which I also have to consider before I get to the situation.
For example, she emphasized thermal comfort even in the summer months.
Don't forget to take a medical history because you may be the last one to ask.
It is good to make a plan for every problem.
Solution decision: transport?0

Practical workshops

Under the guidance of Martin Honzík, a member of the Methodological Commission of the Czech Climbing Association, and Michal Vesely, a demonstration and training of safety techniques for beginners and experienced climbers took place.

The second workshop was prepared by Iva Sikulová and Jan Pala, experts on avalanche issues. Despite the absence of snow, the participants could try out a practical solution to an avalanche accident with one or more buried under a layer of leaves.

During the Saturday workshops, those interested practically practiced their physical preparation for climbing under the guidance of experienced physiotherapist Rudolf Brož and Ladislav Sieger, an expert on survival in extreme conditions, showed traditional and non-traditional ways of preparing drinking water.

Lenka Horáková, MD (autumn 2022),
Edited by Ivan Rotman, MD (April 2024)

Photos Jiří Žák