

The Arctic Circle Race

Who:

Jennifer Mygatt '04 and Emily Chenel '04
Both members of the DOC and the Women's Nordic Ski Team

What:

We would like to compete in the eighth annual Arctic Circle Race, held in Sisimiut, Greenland from March 26-28 2004. It is a 3-day, 160-km Nordic (classical) ski race.

Trip Description:

The Arctic Circle Race is touted as the "toughest ski race in the world." Beginning in the coastal town of Sisimiut, on the Southwestern flank of Greenland, the course sends racers up into the mountains and back down to the fjords at sea level, turns tail, and then meanders back to Sisimiut. Along the way, racers spend two nights camping in a tent complex on the course. The fantastic foreign terrain coupled with the challenge of three marathons in a row becomes all the more luring when combined with the weather variability of Arctic spring: expected temperatures range from -25 degrees F to just below freezing.

Cast of Characters:

Racers gather for this epic event from all over the world, particularly from Scandinavia and Greenland, and they are predominantly male. Last year 101 men and 33 women participated, but only 3 of the women were American. As far as we know, we're the first female collegiate athletes to represent the United States.

WHY?!?

Why do we want to do this? This race is longer, more technically and physically demanding, and potentially more exhilarating than any of our prior racing experiences. The ACR race takes place in a gorgeous setting, that we will probably never see if we do not go now. After four years of training at a varsity level, and 6 or 7 years before college, we are as strong as we have ever been, and feel confident that we are ready to complete three ski marathons in three days in Arctic weather conditions. We see this race as an excellent culmination of collegiate racing and an eye-opening start to international adventure-racing. There is intrigue in the physical and mental challenges, the cultural setting, the foreign scenery, the temperature and other external challenges, and the teamwork and cooperation we will show to keep each other and ourselves psyched during the cold and tired kilometers of the race.

Why not? It's expensive, really really really expensive. But that is the only barrier that keeps us hesitant about this dream. If money is a bigger obstacle to us than extended

periods of cold and exhaustion draining our mental and physical vigor, then there is no excuse not to find a way to pay for this dream. There must be a way to make it happen!

Safety:

There is a checkpoint every 14 kilometers or so along the entirety of the race course, where there are hot drinks and a medical assistant, to check that each competitor is healthy and able to keep going farther (food, frostbite, hypothermia, energy). Furthermore, each participant is required to carry a survival pack with her/him at all time which includes a fresh change of clothes, insulating layers, a survival suit, aluminum foil blanket, whistle, 1500 Calories worth of food, and an additional 24-hour emergency ration, and full hot thermos so that in the case of a blizzard s/he will be able to survive a night out on the race course until the weather passes.

We plan to stick together throughout the competition because the length is so great and our ski speeds over long distances is highly compatible. This team mentality will add to the safety of our small group as we will be responsible for each other as well as ourselves. Jen has Wilderness First Responder Certification as well, and Emily has CPR and First Aid, all of which could definitely come in handy.

The ACR (Arctic Circle Race) website includes a comprehensive discussion of the risk factors associated with the race, including weather, arctic temperatures, body temperature balance, caloric intake, exhaustion, hypothermia, frostbite, snow blindness, and injury. (See Appendix A below for complete discussion by the ACR.) After reading all of the literature on the race, this first aid section was the longest and most expanded by far, and we feel like the ACR has not glossed any risk factors over, has realized that multiple risk factors compound each other dramatically, and presents it in a realistic manner to the race participants. Jen's dad actually told her he felt more comfortable with her participating in the Arctic Circle Race then he would having her spend a night out winter-camping with friends in the White Mountains, and he is a real stickler for safety.

Other Funding Efforts:

Jointly, we have submitted almost thirty letters requesting funds and various technical equipment (such as boot covers, expedition weight sleeping bags, etc.) Here is a list of the folks to whom we've written: Alpina, Athleta, Atomic, Berkshire Outfitters, Dartmouth Alumni Magazine, Fischer, Fitness Magazine, Food COOP, Ibex, Isis, Marmot, Mountain Hardwear, New England Nordic Ski Association, Omer and Bob's, Oprah Magazine, Patagonia, Rossignol, Self Magazine, Shape Magazine, Silent Sports, SkiTrax, Smartwool, Sporthill, Swix, The North Face, Title 9 Sports, Toko Wax, and the Women's Sports Foundation.

Realistically, we think it is unlikely that a majority of these companies will want to sponsor us financially, but are hoping that a few of them will be excited to pitch in. We expect that those who do contribute will probably do so with products. Of the four we've heard from so far, one of them is interested in giving us some base layer long underwear, and the other three are interested in our expedition! but unable to support us.

The Arctic Circle Race committee has agreed to give us a 10% price reduction for the race package (which includes airfare from Copenhagen) because we are fundraising.

In addition, we submitted a grant proposal to Balance Bar, which has a grant for amateur athletes who are passionate about an athletic dream, with an athletic goal that enriches their lives and could change it for the better. We fit the bill perfectly! But again, this isn't something we can bank on.

We also plan to submit two more grant proposals. One will go to the NewFund Circle of Champions within the next week, asking for a partial financial sponsorship. NewFund is a fund aiming to support young female athletes in their athletic endeavors. The other will go to National Cross Country Ski Education Foundation.

Emily is applying to the Arctic Studies Institute for a Stefansson Grant, as well as the Dickey Center for International Understanding, as she plans to stay in Greenland for a month after the race. During this time, she plans to put together an academic photography project which focuses on how outer power structures affect Greenlandic indigenous culture's allocation of natural resources and relationship with the environment. This is an entirely separate aspect of the trip, overlapping only in regards to airfare, and she is dealing individually with this funding.

Where the DOC Schlitz Adventure Fund comes in:

As you can see, we've put a great deal of time into these proposals already, and with luck, we'll be able to cover part of the cost of the trip, but as of now, we have none.

Expedition Costs:

The projected costs for the expedition are approximately \$5,000 for the two of us (before taking into account the 10% discount). With said discount, the costs are approximately \$4,650.

Airfare to Copenhagen, $\$530 * 2 = \1060

Arctic Circle Race Package, $1350 \text{ Euros} * 2 = 2700 \text{ Euros}$ (\$3,385.19 according to today's currency rates)

This package includes airfare from Copenhagen, race entry, and food and lodging pre-/post-race.

Race Food, $\$100 * 2 = \200

$\$1060 + \$3385 + \$200 = \4645

What We're Asking For:

We hope that the Schlitz Adventure Fund will consider financing the race entry (race fees, drinking stations, transport of luggage to and from camp, two nights in a tent, and gala dinner), which is \$460 per person (again, taking into consideration the 10% discount), a grand total of \$920. Recognizing that this is the upper limit of the quarterly Schlitz Fund budget, we realize it's a lot to ask: any percentage of this figure would be extremely helpful!

What We Are Prepared to Pay:

The ACR extended our registration deadline until the end of January so that we would have more time to look for, and organize, funding. However, this is still not enough time, and we are already fully committed to this race. Because of our commitment, we will each find a way to fund it personally if it comes to that, but it would mean multi-year loan agreements with our parents. With luck, we will get partial funding from the DOC, Balance Bar, some other companies, and NewFund, and with the support of these excellent organizations, be able to patch together a financially viable expedition.

Financial Aid:

Jen does not get financial aid from Dartmouth, but Emily does.

Itinerary:

- March 17: Jen and Emily leave for Copenhagen from Boston,
- March 18-22: spend 5 days in Copenhagen seeing the sights, playing tourist, and resting for the race
- March 23: fly to Sisimiut (Greenland) airport
- March 24-25: register, gear check, wax skis, procession and church service, get to know the town and the beginning of the race course, sleep, eat!
- March 26-28: Arctic Circle Race
- March 29: Gala celebration
- March 30: Jen returns to Copenhagen, Emily stays on to start photography segment of the trip
- March 31: Jen flies back to Boston and heads up to Hanover for spring term

What We Can Offer The DOC:

We understand that the Schlitz Adventure Fund targets students in their freshman, sophomore and junior years, so that there is time for the grant recipients to give back to the DOC in their remaining 4 terms. Clearly both of us are seniors; I will be graduating in June, and Emily will graduate next year with the '05s. However, we are hoping that we can give enough back to the DOC during Jen's last term and Emily's next year to give enough back to the DOC to merit sponsorship. Our ideas include the prominent display of a DOC patch on our race rucksacks, a slideshow of our trip in the middle of spring term, creating a poster about our trip to hang somewhere in Robinson Hall or another visible place on campus, offering ski lessons to the DOC community next winter, writing one (or

a series!) of articles about the trip for The Dartmouth, and/or contributing an article to Woodsmoke. We are also exploring the possibility of writing articles for the Dartmouth Alumni Magazine, the Institute for Arctic Studies newsletter, the NENSA website, and SkiTrax Magazine.

Thanks so much for considering our proposal!
-Jen and Emily

Appendix A:

ARCTIC CIRCLE RACE FIRST-AID INSTRUCTIONS (from the ACR website, www.acr.gl)

Travelling in Arctic areas is a unique adventure and the ultimate dream for many people. Arctic nature is pure and untouched, and civilisation is far away. Of course, this is wonderful as long as the weather is good and everything is OK. But at the time of an unexpected incident, for example a twisted ankle, you might wish to be back in civilisation.

The Arctic Circle Race Committee attaches great importance to safety throughout the race.

Snowmobiles, dogsleds, and officials at the drinking stations and in the camp are there to help in the event of an emergency, thereby limiting the actual risk of an emergency situation. However, it is of vital importance that each ACR competitor be prepared for the worst from the beginning. Remember, it is always better to be able to handle an emergency situation by yourself than to be dependent on others. Make sure you have a first-aid kit and these instructions with you in your race rucksack.

First-aid kits will be handed out in Sisimiut before the race. Here is some advice on how to treat minor injuries and how to survive in the event of an emergency.

In all cases of serious injuries it is very important:

- to make a shelter from the wind for the injured person; use the survival sack
- to keep the injured person warm; use the aluminium foil blanket
- to call for help - use the whistle
- to stay on the track by one of the route marking sticks

A doctor will be on the track to take care of injuries during the race. Hospitals in Greenland are of the same standard as Scandinavian hospitals.

It is important to have the survival sack and the aluminium foil blanket in your rucksack and to have the whistle close by and ready for use. When using the sack it is important to avoid any lowering of the body temperature; therefore, take off wet clothes and put on warm, dry clothes. Afterwards you should huddle inside the "tent" and wait for assistance and change of weather.

Risk factors

Fluid and calorie balance, the body temperature and fatigue are closely related to one another. Separately, or in combination, dehydration, low blood sugar and hypothermia (low body temperature) can cause fatigue, which increases the risk of all kinds of injuries.

Fluid balance

An adequate fluid intake is always essential in order to avoid dehydration and fatigue. When using as much energy as this race requires, you will perspire a lot. However, the perspiration may not even wet your clothing, as the air is so dry. At the same time a high respiration frequency will increase fluid loss. The necessary fluid intake depends on the individual, but most people will need 6 - 10 litres per day during the race. Therefore, you should drink whenever possible and every hour throughout the race. You should collect 1 - 2 litres of sports drink from each drinking station in a thermos bottle. Dark-coloured urine is a sign of dehydration.

Calorie intake

Under normal circumstances the average calorie requirement of an adult would be around 1500 - 2500 calories. During the race calorie requirements will be increased, and for some they may increase threefold. Therefore, you must increase your consumption of carbohydrates. During the race it is a good idea to eat a little bit at every drinking station and to keep reserve provisions in your rucksack.

Chocolate, nuts, dried fruit, biscuits and energy bars are the traditional suggestions for race provisions.

Body Temperature

It is important to keep yourself warm and to avoid cooling of the body. Adjust your temperature by taking clothes off or putting clothes on according to your level of activity. At stops you should put on extra clothes immediately rather than waiting until you feel cold. In the camp you should always see to it that you get a change of dry clothes.

Tiredness and Fatigue

If you remember the three previous points, and run the race at your own pace, it is possible to postpone the point of tiredness to the maximum extent.

Cold Injuries

Cold injuries can be divided into two groups: hypothermia and local frostbite. All cold injuries occur as a combination of low air temperature and wind-chill factor. General hypothermia is a universal cooling of the body temperature where the core temperature of the entire body drops below 36 °C.

Mild Hypothermia

The most typical early symptom is feeling cold and shivering. At this stage it is possible to help yourself by putting on another layer of warm clothes and changing wet clothes for dry ones, re-establishing your fluid and calorie balance and increasing your level of physical activity. If it is impossible to increase your level of physical activity due to injuries, then it is important to reduce the loss of body heat as much as possible and to find shelter or protect yourself against the wind. Use the aluminium foil blanket and the survival sack.

Severe Hypothermia

In severe hypothermia, the body temperature has fallen below 33 - 34 °C. Shivering has ceased, and confusion and irrationality progress to incoherence and semi-consciousness. A common and important sign is neglect of or carelessness about protection from the cold. Another sign is that the affected person starts talking nonsense. This is a life-threatening situation, and it is of vital importance that those around the victim take action. Loss of body heat must be stopped by putting on warm, dry clothes, or by placing the person in a sleeping bag with another warm person. At the same time you can make hot-water bottles of your drink bottles, but be careful not to scald the person. If the victim is conscious enough to do so safely, he should be encouraged to drink warm fluids. Call for help so the victim can be moved for further treatment to a hospital.

Frostbite

There are three degrees of frostbite: 1st degree, 2nd degree and 3rd degree. The degrees describe the depth and duration of the cold injury. The signs of 1st degree frostbite are sensations of cold and pain and pallor of the affected skin. 1st degree frostbite is only a superficial injury. After thawing, the skin will be slightly red and sensation in the affected area might have altered slightly. In time, this effect will disappear completely. 2nd degree frostbite is deeper, develops blisters, and is very painful when treated. The skin will be whiter than with 1st degree frostbite.

The pain can last for as long as a month, and the victim may develop permanent intolerance to coldness. However, healing will be almost perfect. 3rd degree frostbite results in a very deep cold injury with dead tissue. The skin can turn red/purple instead of white. The symptoms of frostbite are insensibility, pallor and a reduced function in the area. Please note that frozen fingers can, in fact, move. Do not let yourself be fooled by this apparently comforting fact!

Frostbite is avoided by dressing in a sensible fashion and by avoiding dehydration, low blood sugar, hypothermia and tiredness. If you get frostbite, it is necessary to react very quickly before 1st degree frostbite turns into 2nd degree or 3rd degree frostbite. Fingers can be warmed on your stomach or under your arms. If your feet are cold, it is a good idea to increase your level of activity in order to supply warmer blood to your toes. If you get 2nd or 3rd degree frostbite you will not be permitted to continue the race, but must receive treatment from a physician.

Snow blindness is a kind of sunburn of the surface of the eye. There are several degrees of snow blindness, from a weak feeling of sand in the eyes to extreme pain. Snow reflects almost 100% of the sun's radiation, which makes the UV exposure very high. You need good sunglasses with UV protection covering the eye from all angles. Eye protection is just as necessary on a cloudy or overcast day as it is in full sunlight. Snow blindness is like any sunburn; the symptoms will increase if it is not treated relatively quickly. If you go snow blind, you will not be permitted to continue the race.

Accidents

In case of accidents or falls you must try to assess the seriousness of the injury: Can you continue unaided? Do you need help? If you can stand on your feet without severe pain, you have avoided severe fractures of the leg, and it will not aggravate the injury if you continue to the camp or a drinking station. There the injury can be assessed and/or treated. If it is very painful, do not force yourself, but try to stabilise the situation instead. Try to get the arm/leg in a position that appears normal. Try to make an improvised splint and protect the victim from the cold by using the aluminium foil blanket and the survival sack. Having stabilised the situation, call for help.

Assessing the injury

Establish where it hurts, is there bleeding, have any bones been fractured, non-normal position of arm/leg, can you see bones protruding through the skin, does the victim have hypothermia or frostbite? Stabilise the situation.

Stop any bleeding by applying direct pressure to the wound. Make a bandage from sterile gauze or use strips of clothes. Put the person in a position where s/he feels the least pain. Make a splint for legs. If the person is unconscious s/he must be placed in the recovery position. Reduce any loss of body heat. If the person is unable to continue without assistance, you must try to reduce loss of body heat. The person must put on extra clothes and be wrapped in the aluminium foil blanket and the survival sack. If possible you can make hot-water bottles out of your drinking bottles.

Call for help

Depending on the situation, you must decide whether or not it is safe to leave the person unattended while going for help or whether you should stay with the person until other people arrive. If you leave you must remember to mark the spot on your map.

Blisters

Blisters can be very painful if they are not treated. Remember to bring plasters for blisters, and extra socks. Check your feet before beginning each stage. If you have weak, reddish skin, put on a plaster - this way you might avoid blisters. When discovering a blister

en route: prick a hole in it to drain the fluid, as this reduces the risk of frostbite.

Wounds

If a blister becomes infected: make a bandage directly against the wound and fasten it with a plaster.

Survival in arctic areas

As the table below and on the following page shows, the wind-chill factor increases the cold effect drastically; therefore, it is important to notice how the wind changes during the race and to be aware of the risk if you choose to continue or what to do if you need to make a stop and wait for a change in weather.

Snowstorms

If you are close to the camp or the town, try to get there as quickly as possible, and inform the registration staff of your arrival. If you are away from camp, stay close to the marked track, but try to find a place with some shelter, for example, near a rock. Dig a hole in the snow in which you can sit. Place a ski approx. 30 cm. from the hole. The ski should be 30 - 50 cm deep in the snow. Put up your windbreak. Wrap the straps on the outside around the ski and, voila! - you have a tent. Wrap yourself in your aluminium foil blanket, sit down inside your survival sack and wait for the weather to improve. In the tent you should sit on your rucksack and some of the windbreak so that the wind cannot enter the tent.

In case of a sudden storm and white out, you should be able to take care of yourself for at least 24 hours until rescue personnel can reach you. Therefore, it is very important to always have the first-aid kit on you and to have an emergency ration of food for at least 24 hours.

Travel Advisories

There are no travel advisories or restrictions for Greenland and Denmark. There is however a "world wide caution" which is still in place.

"This supersedes the Worldwide Caution dated December 21, 2003. It is being issued to remind U.S. citizens of the continuing threat that they may be targets of terrorist attacks even though the homeland security threat level has returned to Yellow (Elevated) from Orange (High). This Worldwide Caution expires on July 9, 2004.

The U.S. Government remains deeply concerned about the security of U.S. citizens overseas. U.S. citizens are cautioned to maintain a high level of vigilance, to remain alert and to take appropriate steps to increase their security awareness. We are seeing increasing indications that Al-Qaida is preparing to strike U.S. interests abroad."

<http://travel.state.gov/wwc1.html>

The U.S. Department of State has no advisories posted and there are no particular cautions on the Denmark site (the Denmark site also applies to Greenland). Below is the information provided:

"SAFETY AND SECURITY: Prior police approval is required for public demonstrations in Denmark, and police oversight is routinely provided to ensure adequate security for participants and passers-by. Nonetheless, situations may develop which could pose a threat to public safety. U.S. citizens are advised to avoid areas in which public demonstrations are taking place.

[For the latest security information, Americans traveling abroad should regularly monitor the Department's Internet web site](http://travel.state.gov) at <http://travel.state.gov>, where [the current Worldwide Caution Public Announcement](#), Travel Warnings and Public Announcements can be found."

http://travel.state.gov/travel_warnings.html

