Pre-Season Fitness Training for JIRP

Physical fitness is always important for JIRP, but for JIRP 2021 it is more important than usual. Most years we can evacuate moderate athletic injuries (sprained joints, strained muscles, potentially fractured bones, etc.). If a medical professional in Juneau decides these folks can complete the traverse, they often fly back up to the program. In this case, an injury turns into a 1-5 day delay, not a season-ending injury.

At this time, we are not planning to allow anyone to join the program mid-season. This protocol is difficult to put in place, but necessary to protect the field team from COVID-19 infection.

Any injury that requires medical attention beyond what we can give in the field will require separation from the program and an early trip home.

The absolute best way to set yourself up for success in this situation is to train well and thoroughly this spring. Mountaineers become fit by doing rigorous cardiovascular training, rigorous strength training, and rigorous flexibility training. Individuals who are very fit are far less likely to require evacuation and early separation. Please protect your investment in this summer’s expedition by taking your responsibility to be fit seriously.

This information is to help you get in shape for the JIRP field season. It is written for people who have little or no experience training for a backcountry trip. If you have trained for a similar trip, you should augment all this with your personal experience.

Goal: The day after the hike from Juneau to Camp 17

Training is easiest when you have a goal to work toward. Our goal is the morning after the hike from Juneau to Camp 17 (our first camp). We want to train for the day after the hike because that’s the day your time on the Icefield starts. If the hike up to Camp 17 is a struggle, you’ll be tired and sore the next day. If you’re physically fit for the hike up to Camp 17, the next days and weeks will be far more fun and less exhausting.

Last updated: March 2021
The hike itself

Here’s the elevation profile of the hike from Juneau to Camp 17:

There are many factors that make the hike up to Camp 17 challenging; some you can train for, some you probably can’t.

Trainable:

➢ **Distance:** 8 miles/13 kilometers
➢ **Elevation gain:** 5,185 ft./1580 meters
➢ **Pack weight:** 30-50% of body weight
➢ **Time:** 8 - 12 hours

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You should work up to doing at least one hike that fits these parameters before arriving at JIRP.

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You want to train yourself, mentally and physically, to be ready for a trip that fits these parameters. Even for experienced and fit backpackers this is a big day. We’ll be doing this trip the twelfth day after you arrive at JIRP, so you should basically be ready when you arrive.

Not trainable:

➢ **Weather:** variable, but likely cold and rainy.
➢ **Jet lag:** if you’re travelling from far east or west of Juneau, you will likely be jet lagged. This will likely have worn off after 11 days of quarantine, but it’s good to think about.
➢ **Unfamiliar route:** makes the long day for mentally taxing for many people.
➢ **Unexpected events:** weather, wildlife, injuries, etc.

Because we can’t train for these challenges, our best strategy is to be fit enough that we have surplus energy to compensate.
**Other Icefield activities**

Without mechanized support, we rely on people power for many everyday tasks. You should be in generally good shape so you can carry water, groceries, and research equipment; tow sleds of research equipment on your skis; lift boxes; climb ropes during crevasse rescue practice; shovel snow for the water supplies; and get everywhere you want to go either on foot or on skis.

**Background fitness**

The first step is to get your body in good working order. If you haven't gotten a complete physical in the past year, we recommend doing that. We also recommend you take stock of your body and see any specialists you need to see including (but not limited to) a physical therapist for any chronic injuries, a mental health therapist, a dentist, an eye doctor, etc.

**Mountaineering-specific cardio**

Mountaineering requires an above average level of fitness in a couple key areas: cardiovascular fitness, strength, and flexibility. For cardiovascular fitness specifically, we strongly recommend you train going uphill and downhill. This works your body in a different way than training on flat ground. The best cardio options for training are to hike or trail run in the mountains, to run or walk stairs, and to use a treadmill to go uphill.

If you don't live near mountains, running stairs is a classic and effective training tool. Many people find it less mentally dull than a treadmill (although perhaps not exactly engaging). Running stairs is cardiovascularly challenging as well as working many of the same muscles as hiking uphill. This combination makes it one of the best flatland training substitutes. Starting for one or two runs a week, run laps of the stairs for 15-20 minutes. Work up from there to longer and more frequent sessions. If you're on/near a university campus, check out the stadium for some good outdoor stairs!

If you can't workout going uphill, the second-best option is to run/bike/swim/row on flat ground. If you go with this option, pay extra attention to strength training to compensate.

We include a possible training plan further down that recommends interval training. Interval training is a cardio workout where you alternate 2 minutes of hard effort with 2-3 minutes of easy effort (jogging, biking, rowing, or swimming). This builds up your lung power.
Mountaineering-specific strength

Focus strength training on your legs and your core. Some great, classic body weight exercises for core strength are crunches and planks. For legs, we recommend lunges, squats, and step-ups.

*Note: Proper form is exceptionally important with strength training to avoid injury. If you are new to this, we strongly suggest you find a class or a trainer to learn the basics. Many university recreation centers offer good options.*

REI put together [this guide to mountaineering-specific training](#). They go through much of the same cardio training guidance as we do above and below. In addition, they walk through strength training exercises you can do at home with minimal equipment. They include videos and instructions for jumping squats, step-ups, planks, and others. We highly recommend these exercises.

Expedition-specific flexibility

Injuries can be surprisingly difficult to heal in the field because we are always on our feet and because your body is under extra stress living in a cold and damp environment. Because of these two mitigating factors, we recommend you build up your flexibility to avoid injury. Stretch often and after every workout. Additionally, focus on the muscles you’re building in your legs and core, and on any chronic injury sites.

REI put together [this guide to leg stretches for trail running](#). All of these tools apply equally well to hiking and mountaineering. They go over dynamic warm up stretches for before your workout. They also go through static stretches for after working out to increase flexibility in your calves, hamstrings, quads, hip flexors, glutes, and IT bands.

Training Plan

This is an optional training plan. Many experienced JIRPers don’t like to use a training plan, but it can be a very helpful place to start if you’re new to mountaineering or looking for some structure. This is a weekly plan. We suggest you follow it for 8-12 weeks before the program starts, increasing the difficulty and time every week.

It’s important to start where you are right now. That may seem obvious, but it’s easy to hurt yourself when you’re just starting a workout routine. If you haven’t been active this winter, start with 20 minutes of cardio the first week. By early June everyone should have worked their way up to at least 60 minutes of running 3-4 times a week.
Nutrition and Sleep

Training is hard on your body; make sure you’re taking care of yourself. There are tons of nutrition plans, diets, and expensive specialized workout food/supplements/drinks out there that promise to make you faster and stronger. If you know that one of these plans works for you, go for it. Otherwise we recommend ignoring them and following these guidelines:

➢ Balance carbohydrates, proteins, and fats in your diet; you need all three.
➢ Aim for whole foods (minimal processed) and plenty of fruits and vegetables.
➢ Drink lots of water.
➢ Cut back on alcohol and smoking.
➢ Get 7-9 hours of sleep every night.

No one is a saint, and we don’t expect everyone to overhaul their lifestyle this spring just to get in shape for JIRP. Every step you can take on these guidelines helps your body. A little bit is better than nothing!
Timing

JIRP may feel far away, but now is the time to start training. The more time you can give yourself, the better. Some parts of your body (especially your tendons and ligaments) may take many weeks or months to get used to a heavier exercise regime. Start now, give your body time to adapt.

Remember, start where you are and work up. A 20-minute jog is far better than doing nothing at all.

Tips and Tricks

➢ Make this fun! You’re more likely to stick with it. Try going to the climbing gym to build up your strength, or sign up for a new fitness or dance class at your university. If you hate running, you won’t stick with a running plan; figure out something you enjoy.

➢ Make a pump up playlist. Ask your friends for suggestions.

➢ Keep yourself accountable. Especially when you’re busy with school and work, it’s easy to put things off for a day, then another day, then a week. Commit to working out with a friend or make yourself a calendar and mark off every day you work out.

➢ Get outside. The real world is far more exciting in terms of weather and terrain than the treadmill. Explore new trails or nearby neighborhoods.

Miscellaneous

➢ JIRP is too low for altitude sickness. Healthy adults generally do not get altitude sickness below 5,000 ft/1500 m, and the majority of healthy adults don’t get altitude sickness below 10,000 ft/3,000 m. The highest we’re getting this summer is 6,000 ft./1800 m.

➢ Break in your boots. Wear them early and wear them often. Wear them around town, wear them in the woods, wear them around your house. This is one of the least energy-intensive things you can do to set yourself up for success at JIRP, but also one of the most important.

Parting thoughts

JIRP is a training program for Earth science students, and one of the things we teach is how to get in shape for a mountaineering expedition. If this new for you, that’s ok. Let us know when you have questions.