



The Overnight Bivi

Survival on the Short Term

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So you are out there in the woods, somewhere, and can't get back or you have found the search subject and they are not mobile.

There is always a chance that you might be in the field, stationary, overnight. This might be related to weather, staying with an injured person for morning evacuation or for other reasons.

If the subject is located deceased in a remote area late in the day or at night, it may be necessary for somebody to stay with the body until the investigators come in after daylight. Or it may be decided it is too dangerous to try to move the body at night.

It is very unlikely that you will have to stay more than one night.

Be prepared... remember: if your search subject isn't mobile, you aren't mobile.

Sleeping in the Field

- Make your sleeping spot as comfortable as you can.
- Insulate yourself from the ground.
- Exercise before bedding down (but don't get sweaty).
- Eat some energy food before bedding down.
- If you have to pee during the night – get up and do it, you will be more comfortable and sleep better.
- If you take hot water bottles in your bivi-bag make sure they are tightly sealed and get rid of them once they are no longer providing heat.
- Except for small items like socks, don't put damp clothing in your bag to dry them out.

You probably won't ever carry all this gear on a search but these are some good thoughts for things that might help you stay warmer.

Remember: DRIER = WARMER

Insulate yourself from the ground as it will conduct heat away from you faster than the air.

A warm, loose fitting, comfortable layer is preferred for wear when bedding down.

Munching food high in carbohydrates will help provide heat energy through the night.

Damp socks can be put into your sleeping bag to help dry them through the night.

Q. What about drying other, larger, items of clothing inside your sleeping bag?

A. Not usually a good idea, the moisture might keep you cold.

Create a Micro-Climate

- Wind Barrier
- Moisture Barrier
- Radiation Barrier



- Remember, most insulating fills lose at least some of their effectiveness when wet



Maintaining proper body temperature is priority number 1.

If it is cold you need to stay warm and if it is hot you need to stay cool.

Wind and moisture will pull warmth away from you on cold or chilly days and the sun's radiation can overheat you; protect yourself from them.

Most of our issues in the northeast will be with staying warm and dry.

A small shelter is easier to warm with your body; build it so you are well insulated from the ground, and protected from wind, moisture and the sun if it is hot out. Use spruce, fir or hemlock boughs underneath you for insulation. Pine will work but may be uncomfortable as they are largely woody material.

SHELTER REQUIREMENTS

- Waterproof
- Windproof
- Heat retentive
- Simple
- Minimal environmental impact



Simple and small is important; make it easy to carry, easy to build and easier to warm with your body heat. If there is more than one person stay close to share heat and keep the shelter just big enough to get into.

It can be easy to carry a couple small things to make your shelter such as an emergency blanket, paracord, bivy sack, tarp or even a large trash bag.

Keep in mind that while lighter is generally better with respect to weight in your pack, some 'space' blankets are so flimsy that they quickly rip into pieces when actually put into use.

WATERPROOFING

- Probably a tarp or space blanket
- Possible with a debris hut, but difficult



A small tarp or space blanket and some rope are the easiest to carry and the easiest to build your shelter with.

A debris shelter can be made by laying sticks on a blow down, covering them with pine boughs, fern leaves or anything else that will help shed water and block the wind. They take more time and are harder to get waterproof and windproof.

Put evergreen boughs or dry leaves on the ground to keep you dry and insulate you from the ground. (Leaves tend to compress more easily losing their insulating value.)

WINDPROOFING

- Again, probably a tarp or space blanket.
- Windproof against the current wind direction.
- Ideally, you should be able to shift this if the wind shifts.

Reducing the wind that hits you reduces the amount of wind chill you will be faced with and helps you stay warmer.

HEAT RETENTION

- Achieved by:
 - Insulation
 - Reflection
- Insulation from the ground is more important than insulation from the air.
- If you can insulate the top and sides, that's a bonus.
- The smaller the better for a shelter.

If you use a space blanket face the reflective side toward you.

The ground will conduct heat from your body faster than the air. Put something on the ground to insulate yourself (several inches is best).

Smaller shelters will hold your body heat and stay much warmer than larger ones. Your shelter should be just barely big enough to get into.

If you can build a fire, have something behind it like a big rock or cliff to help reflect the heat toward you and your shelter. Keep your fire small, it's easier to control and takes less wood.

HEAT RETENTION

- What are the two good insulators likely to be available?
 - Evergreen boughs
 - Snow
 - Leaves are a distant third



Evergreen boughs are readily available in most of Vermont and work well underneath you and over the top of your shelter.

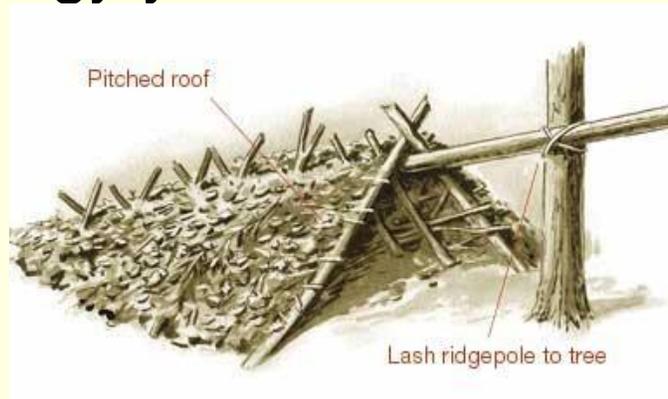
Snow caves or just building snow walls around you can provide a lot of protection from the wind and will retain warmth as well. Snow is an excellent insulator. While very efficient they can be extremely time consuming to build.

SIMPLICITY

- The simpler you can make it
 - The quicker it is to construct
 - The more energy you conserve



US Navy SERE School



You don't want to spend a lot of time or energy building your shelter.

Remember it is probably for one night and only has to help you survive, not be a palace.

“Perfection is the enemy of good enough.”

ENVIRONMENTAL IMPACT

- In a serious survival situation, this is a **LOW** priority.
- Factors:
 - Seriousness of the situation
 - Are you on conserved land?
- In training, it is a **HIGH** priority.

In a survival situation, survival is all that counts. Minimize your environmental impact but not at the expense of your survival.

If you can protect yourself and the environment that is a big plus.

In training situations, put the environment first and work with it.

SHELTER LOCATION

- Not in a drainage
- Not in a road or trail (but close!)
- Not close to a lightning rod
- Check for ant hills, wasp nests, etc.
- Not under dead trees or limbs



Drainages can be a big risk if it has rained up hill from you or if it rains overnight: you don't want to get flooded out.

Set up your shelter close to the trail and leave signs right on the trail so if people come through there at night they will spot them and find you.

Stay away from mountain tops and the tallest trees or dead trees in the area as well. Tops of mountains attract lightning and dead trees have been called "widow makers" for years for a reason.

SHELTER LOCATION

- Take advantage of natural features that help provide shelter
- High spot that will drain
- Where you can build a fire safely
 - Preferably with a natural heat reflector
- Near a good supply of firewood
- Near water
- Near an opening in the canopy

Why near an opening in the canopy?

- Searchers may be out looking for you during the night with thermal detecting aircraft or drones
- Air moves better in openings which will make it easier for SAR dog teams to find you.
- When you think you have collected enough firewood for the night, go out and get the same amount again, because fires always use more wood than one thinks.

USE NATURAL FEATURES

- Fallen trees that you can simply throw your tarp over.
- Evergreens with low branches often are free of snow under the branches.
- Overhanging ledges



Keep it simple, quick and effective, use Mother Nature whenever you can.

USE OF FIRE



Piling rocks behind this fire would help by reflecting heat toward the person and enclosure.

Notice how small the fire is, you really don't need much.

The root balls shown in the previous slides make great heat reflectors too.

FIRE BUILDING

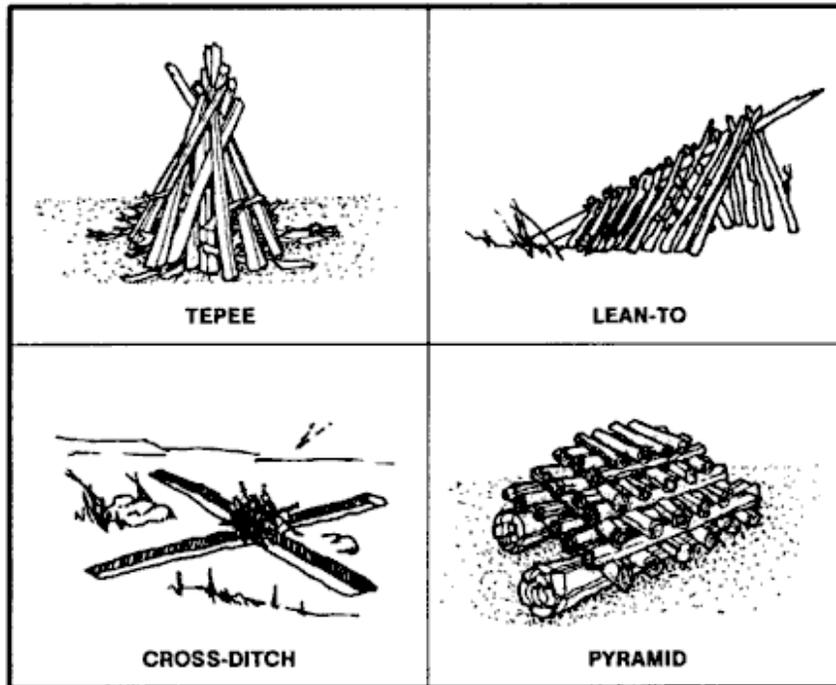


Figure 7-5. Methods for laying fires.

These are examples of methods of building a fire. You may want to use logs under your fire to get it off the ground if the ground is very wet.

SO WHAT SIZE STICKS?



Fire Wood

Kindling

Tinder



Tinder can be something you carry in your pack or you can find it in the field. Kindling can be as easy as the ends of a few dead branches on a tree nearby. Firewood doesn't need to be big, 2 inches in diameter should suffice.

Dry material is nearly always available, under the outer layer of a dead tree, under a large blow down, and firewood is easily taken off dead trees.

One quick test for a stick is if it snaps sharply when you break it, it's probably okay for a fire, but if it just bends it is likely green and will not burn easily.

One important thing is to have plenty of wood (and then get some more) as fires always seem to take more than originally planned for.

Congratulations, you have finished this module

You may close this window to return to the main course and select another module to complete.

Be sure you keep track on your course checklist so you know which modules you have completed.