**O.C. High Adventure Team Training**

Sleep Systems – Insulation

**Sleeping Systems**

A sleeping system is more than a sleeping bag.

* Your sleeping system will have a great impact on your camping experience.
* In addition to your quality of sleep your sleeping system can affect your experience on the trial.

Sleep system can include: Sleeping bag or quilt, sleeping pad, a pillow, sleeping bag liner, thermal underwear, a cap, glove liners, compression bag and storage bag.

**Part of the BIG 3** = Tent, Backpack & Sleeping Bag

**Considerations**

* Kinds of trips you have planned.
* Temperatures you are likely to encounter.
* Your size and/or sex
* How do you sleep, warm, cold…
* Backpack space available
* Weight you are willing to carry
* Budget $$$

**How Sleeping Bags Work**

* **Sleeping bags** keep you warm by trapping and holding a layer of "dead" (non-circulating) air next to your body. Your body heat warms this dead air, and the **bag** forms a barrier between it and the colder ground or outside air. The less air space there is to heat, the faster you warm up and stay warm.

**Sleeping Bag Options**

* Fill Type: Down, Synthetic and Hybrid
* Temperature rating
* Shape: Mummy or rectangular
* Length: Regular or long, youth
* Sex: Unisex, men's or woman's
* Zipper: Left or right
* Water resistant: Yes or no

**Sleeping Bag Insulation Types**

**Down**

(Goose or Duck)

**Benefits**

* Lightweight
* Easy to compress
* Excels in cold, dry conditions
* Optional: Water resistant down

**Limitations**

* Expensive
* No insulation proprieties when wet
* No insulation properties under sleeper

**Synthetic**

(Usually a type of Polyester)

**Benefits**

* Lower cost
* Some insulation proprieties when wet
* Dries faster than Down
* Non-allergenic

**Limitations**

* Heavy compared to Down
* Bulky compared to Down
* Insulating reduced by repeated compressing

**Hybrid**

**Options**

1. A blend of synthetic & down insulation.
2. Bottom of bag synthetic and the top Down.
3. Sleeve to insert sleeping pad with Down top.

Hybrids provide the benefits of both materials and offset their imperfections.

**Down Fill Power Ratings**

**Fill Power Range: 550 (med) to 900 (very high)**

The fill power rating represents the volume in cubic centimeters of a single gram of Down fully lofted.

**1-gram of 800 Down is 800 cubic centimeters**

**300g of 550 fill Down equals 120g of 800 fill Down**

Of course the 550 fill Down bag for the same temperature rating of the 800 fill bag will weigh more!

**Temperature Ratings**

A bag's temperature rating is the lowest temp to keep an average person warm.

A "20-degree bag" means most users should remain comfortable if the air temperature drops to 20°F.

Ratings assume sleeper is in a tent, wearing a layer of long underwear top & bottom and on a sleeping pad.

The same bags rating for a man will differ from a women's rating. \*Male rating= 27⁰ / Female= 36⁰

**Sleeping Pads**

* Sleeping pads play two roles in your sleeping system: cushioning and insulation.
* Available in different shapes, lengths, widths and thicknesses.

1. **Closed Cell Foam Pad:** low cost, lightweight, low R-value, durable, bulky, and not very comfortable.
2. **Self-Inflating Pad:** mid-priced, less bulk, can puncture, varying R-values, weight & comfort.
3. **Air Pad:** higher-priced, least bulky, lightweight, can puncture, varying R-values & comfort.

**Other Sleep System Considerations**

* Down or Fleece Comforter
* Sleeping bag liner: Keep clean & add warmth
* Pillows
* Compression bags
* Storage bags
* Sleepwear: Thermal underwear
* Midnight bio-break
* Cleaning of sleeping bag – Nikwax Down Wash