

# Winter evacuation systems - a comparison

by Mark Klassen

Sled, toboggan, evacuation system – call it what you will. Back in the day we could get away with a mess of hose clamps, a tarp and a wink and pretend we had a real winter evacuation system (that we usually didn't bother carrying).

Fastforward to the present and not only are guide candidates expected to run their unit through an obstacle course on the exam, but we are expected to actually carry one whilst guiding. Thankfully, there are a variety of commercial options to choose from, with a new product hitting the shelves every winter it seems. Time for an intrepid *ACMG News* test team to take them all out for a spin and see what happens.

**The team** – this consisted of myself, Aaron Beardmore (Mountain Guide and Parks Canada Mountain Safety Specialist) and Mike Koppang (Ski Guide and Kananaskis Country mountain rescue team member).

**The method** – we took all the units out on a short test run in K-Country one chilly December day. The course consisted of a ploughed parking lot of hard snow to set up in and start the pulling, a side-slope of soft powder snow, and an embankment from the plow that simulated hard avalanche debris. The length of the course was perhaps 100 m long and generally flat with only a few meters of up and down in both the soft and hard snow. Two of us would drag and one would act as victim. All sleds were lifted stretcher-style at one point.

For each unit we had the following gear available if needed:

- 5mm x 7m cords for pulling (2)
- 9m length of cord for packaging
- 3/4 length Therm-a-rest to lay the victim on; backpack for a headrest
- 1 pair of skis

If some of this equipment wasn't required it is mentioned in the comments. The weights in the table do not include the equipment listed above, so take that into account when you calculate weight and bulk for each system.

**The gear** – we tested six set-ups. All fit into one of three categories: burrito-style toboggan, taco-style toboggan, (both styles using skis inside providing rigidity) or sled. The burritos were able to be used as a multi-person emergency shelter and wrapped the victim entirely in nylon. The tacos had heavier-duty bottoms and folded over the victim but we had problems sealing the victim in entirely. The sled used the skis as runners with the tarp covering the victim's torso only. Note: the Integral unit is not in production yet.

The following are some comments on each system and a table you can use to compare statistics. These are the opinions of the testers and other users may think otherwise! Use this comparison only as a guide to help determine which system will work best for your needs.

## Alpine Threadworks – Ski Guide's Rescue Tarp/Sled (burrito-style)

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|---|---|
| <i>Pros</i>   | <i>Cons</i>   |
| <ul style="list-style-type: none"> <li>• Large shelter size (3+ people)</li> <li>• Lightweight/low bulk</li> <li>• Stable in all snow conditions</li> <li>• Webbing-on-webbing sewing creates "webbing cage"</li> </ul> | <ul style="list-style-type: none"> <li>• Dark colour</li> </ul> |

## Luv 2 Ski Custom Sewing - Rescue Toboggan/Tarp (burrito-style)

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|--|--|
| <i>Pros</i>  | <i>Cons</i>  |
| <ul style="list-style-type: none"> <li>• Lightest and least bulky unit</li> <li>• Bright color</li> <li>• Stable in all snow conditions</li> <li>• Webbing-on-webbing sewing creates "webbing cage"</li> </ul> | <ul style="list-style-type: none"> <li>• Smaller shelter size (2+ people)</li> <li>• No stretcher handles</li> <li>• Limited availability</li> </ul> |

## Integral Designs - Guides 3-in-1 Siltarp (burrito-style)

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|--|--|
| <i>Pros</i>  | <i>Cons</i>  |
| <ul style="list-style-type: none"> <li>• Large shelter size (3+ people)</li> <li>• Reasonable weight, low bulk</li> <li>• Stable in all snow conditions</li> <li>• Still in R&amp;D stage so improvements can be made</li> </ul> | <ul style="list-style-type: none"> <li>• Dark colour</li> <li>• Webbing on nylon sewing (no "webbing cage") caused package to rip when lifted stretcher-style</li> </ul> |

## Brooks Range - Eskimo Sled (taco-style)

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|---|--|
| <i>Pros</i>   | <i>Cons</i>  |
| <ul style="list-style-type: none"> <li>• Beefy construction</li> <li>• Bright colour</li> <li>• Pulling/package cords integral to unit</li> </ul> | <ul style="list-style-type: none"> <li>• Small shelter size - 1 person sitting</li> <li>• Heavy for shelter size</li> <li>• Tippy on soft sidehill but was manageable</li> </ul> |

## Rescuebubble.com - Rescue Bubble (taco-style)

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|---|--|
| <i>Pros</i>   | <i>Cons</i>  |
| <ul style="list-style-type: none"> <li>• Beefy construction</li> <li>• Bright colour</li> <li>• Pulling/package cords integral to unit</li> </ul> | <ul style="list-style-type: none"> <li>• Small shelter size - 1 person sitting</li> <li>• Heavy for shelter size</li> <li>• Tippy on soft sidehill but was manageable</li> </ul> |

## Brooks-Range - All-In-One Rescue Sled/Tarp (sled-style)

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|--|---|
| <i>Pros</i>  | <i>Cons</i>   |
| <ul style="list-style-type: none"> <li>• Emergency signal info included on unit</li> <li>• Instructions included on unit</li> <li>• Solid on "avalanche debris"</li> <li>• Most rigid unit for head/back injuries</li> </ul> | <ul style="list-style-type: none"> <li>• Small shelter size - 1 person sitting</li> <li>• Multiple pieces (tarp, 5 straps, 2 stretcher bars)/complex set-up</li> <li>• Short for tall person/short skis: leg injury may be less stable</li> <li>• Unable to finish course – submarined/tipped on soft sidehill</li> </ul> |

	Weight - g (weighed by team)	Bulk - cm (measured by team)	Shelter size - # people	Stretcher handles?	Snowboard compatible?	Cost
Alpine Threadworks	625	20 x 12 x 12	3+	Yes	Yes	\$250
Luv 2 Ski	442	18 x 10 x 10	2+	No	Yes	N/A
Integral	711	20 x 12 x 12	3+	Yes	Yes	N/A-not in production yet (pro-deal)
B.R. Eskimo Sled	835	22 x 16 x 7	1	Yes	Yes	US\$160 (pro-deal available)
Rescue Bubble	995	23 x 16 x 8	1	Yes	Yes	\$275
B.R. All-In-One	922	26 x 17 x 10	1	No	No (splitboard maybe)	US\$288 (pro-deal available)