



NEST Stretcher - Petzl

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USAGE OF THE STRETCHER WITHOUT SPECIFIC TRAINING COULD BE DANGEROUS.

BEFORE USE ALWAYS READ AND UNDERSTAND ALL MANUFACTURER INSTRUCTIONS

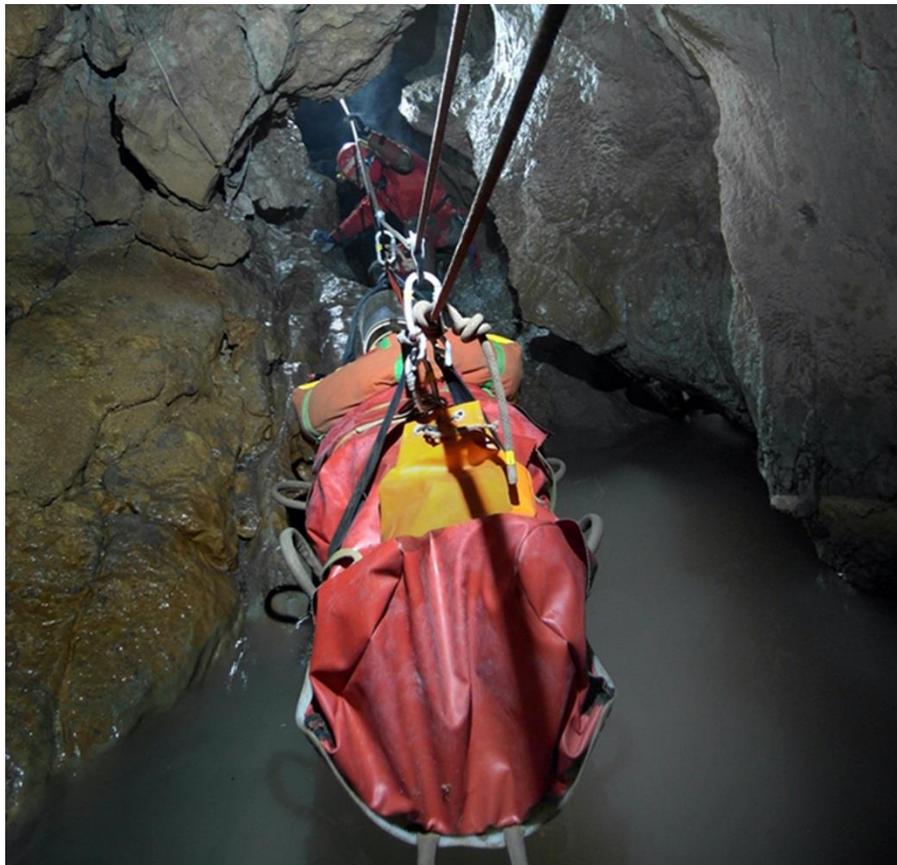
Croatian Mountain Rescue Service – Cave Rescue Commission (CMRS – CRC) from 1985 till 2003 use TSA (Technique(s) Sportives Appliuees) stretcher (Marbach) and from 2003 NEST stretcher (Petzl).

The NEST stretcher (www.petzl.com/en/Professional/Harnesses/NEST) was developed by Petzl in partnership with French National Cave Rescue Organisation (Spéléo Secours Français – SSF).

Specifications

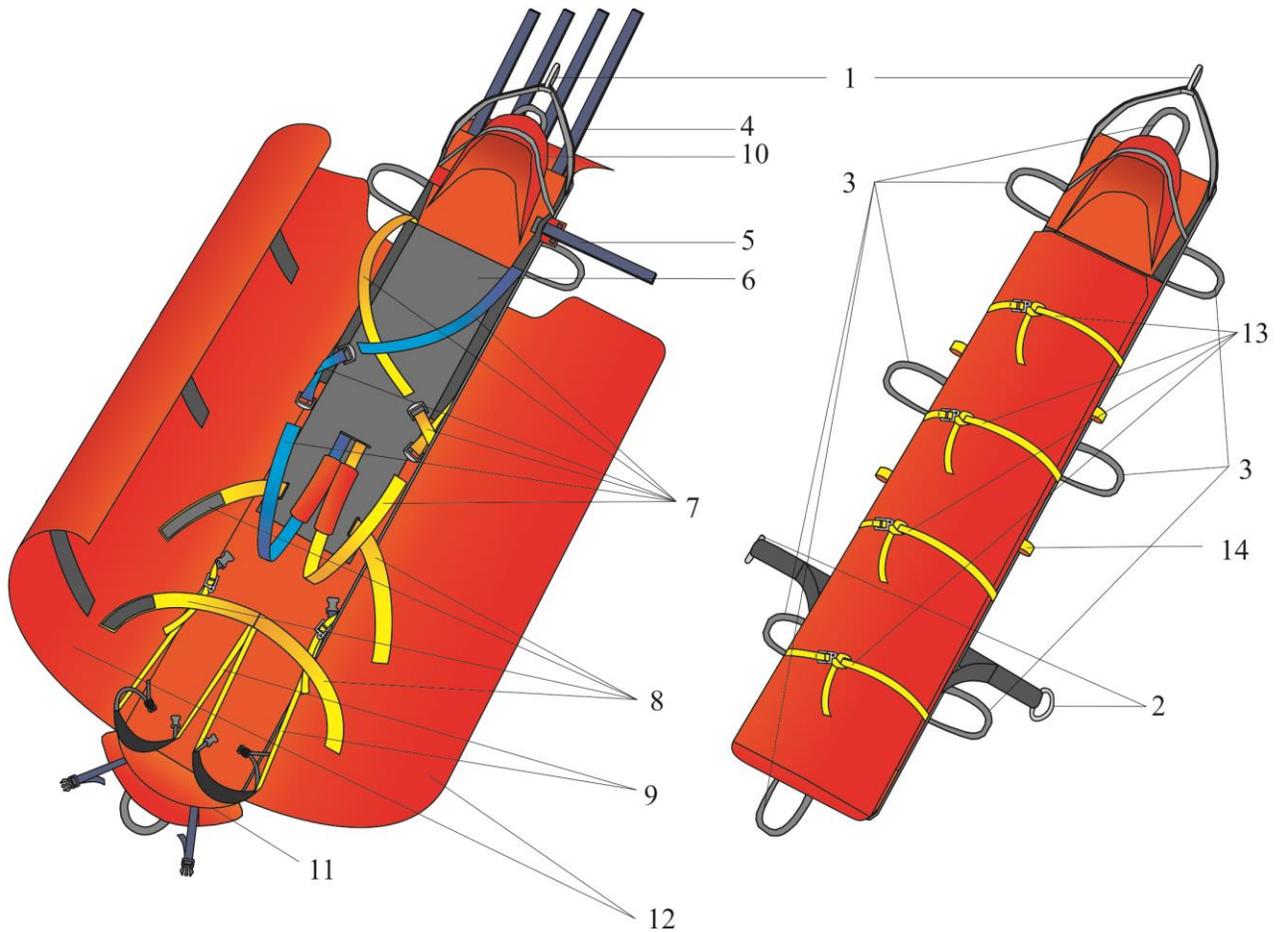
Materials:	TPU (thermoplastic polyurethane), nylon, polyethylene, aluminium
Dimensions:	200 x 50 x 5 cm
Weight:	12,8 kg

Designed for optimal comfort with casualty weighing 120 kg maximum and height between 1.50 m and 1.90 m





Stretcher parts



- 1) Head end attachment point (ring);
- 2) Side attachment points (2 rings);
- 3) Carry handle (8 pieces);
- 4) Moldings for longitudinal stretcher fixation (4 pieces);
- 5) Molding for transverse fixation;
- 6) Foam pad;
- 7) Body harness straps (2 for chest and 2 for crotch);
- 8) Positioning straps;
- 9) Foot support adjustment straps;
- 10) Head cover;
- 11) Foot cover
- 12) Body cover flaps
- 13) Body cover closure straps
- 14) Accessory attachment points



Equipment required with the stretcher

For the casualty:

- A protective garment. Dry clothes (underwears, socks, undersuit) and suit for casualty (for example www.steinberg.it)
- A pair of gloves
- A helmet (without lamp and battery box) with mounted visor or with a pair of goggles
- Heating device (for example The Heatpac System – www.normeca.no)

For the stretcher:

- Three D-shaped auto-locking carabiners – these should be attached to the stretcher main hauling ring

Inside small transport bag always with stretcher (due to the simplicity of presentation this transport bag will not be drawn at all stretcher illustrations)

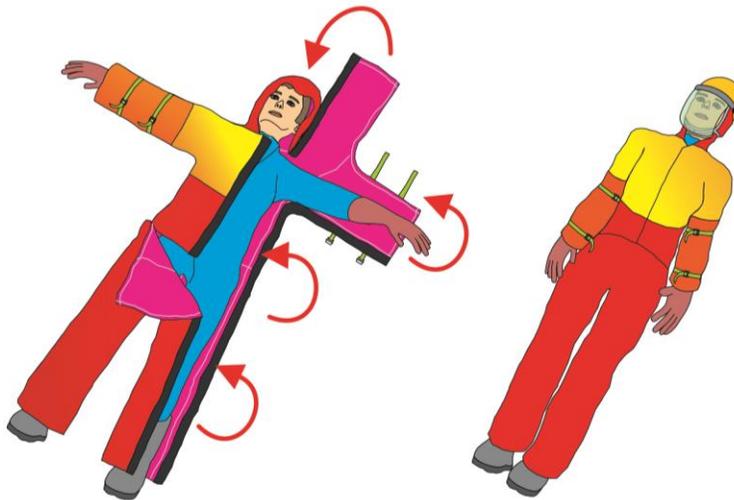
- Six oval-shaped screw-lock carabiners
- Two small-diameter ball-bearing pulleys
- Two ropes type A lengths of 5 m
- Stef





Installing the casualty

Suit for casualty (Steinberg)



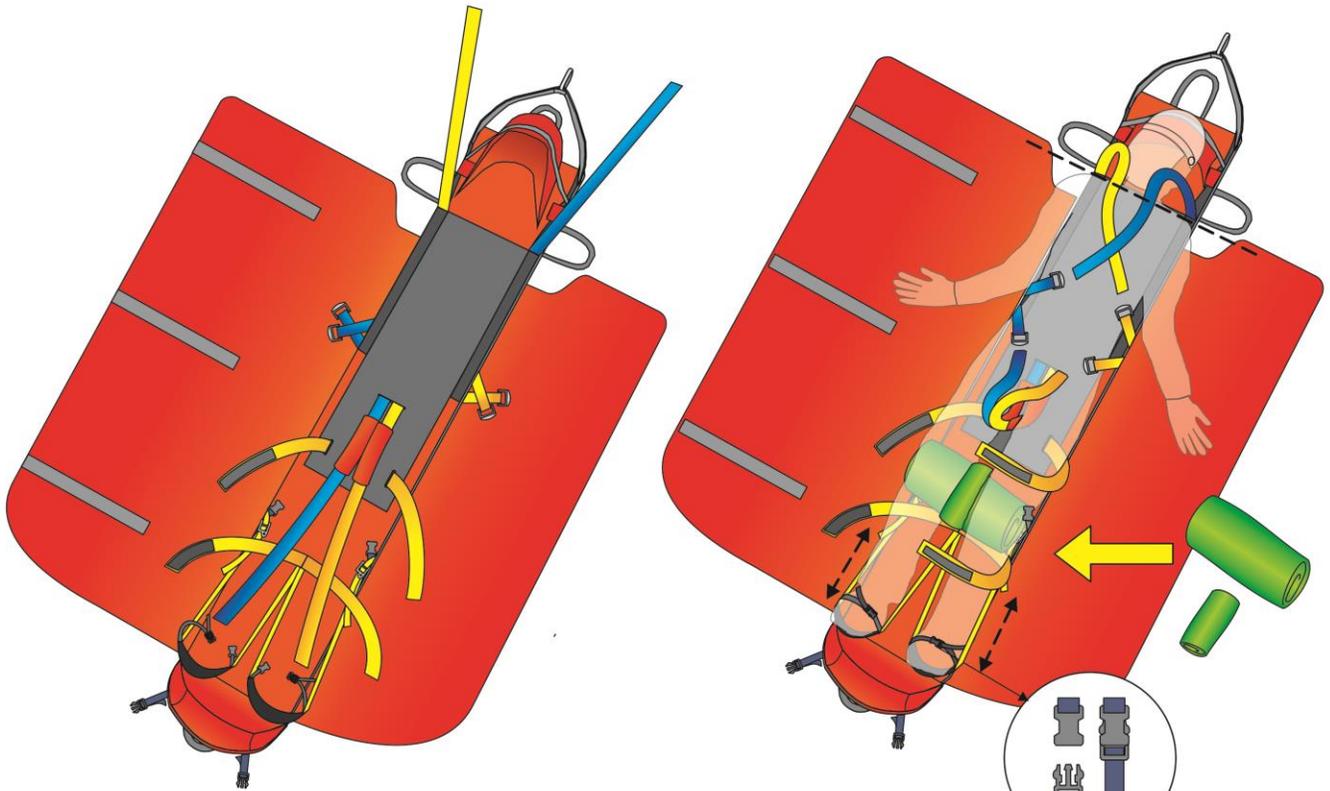
The casualty must have all caving gear removed before being placed in the stretcher.

- Place the stretcher on a stable base, open body cover, undo all the straps;
- Place the casualty in the stretcher, shoulders should be at the top of foam pad;
- Fasten the harness straps (chest and crotch) and fasten the positioning straps;
- Adjust and fasten the foot straps with legs slightly bent.

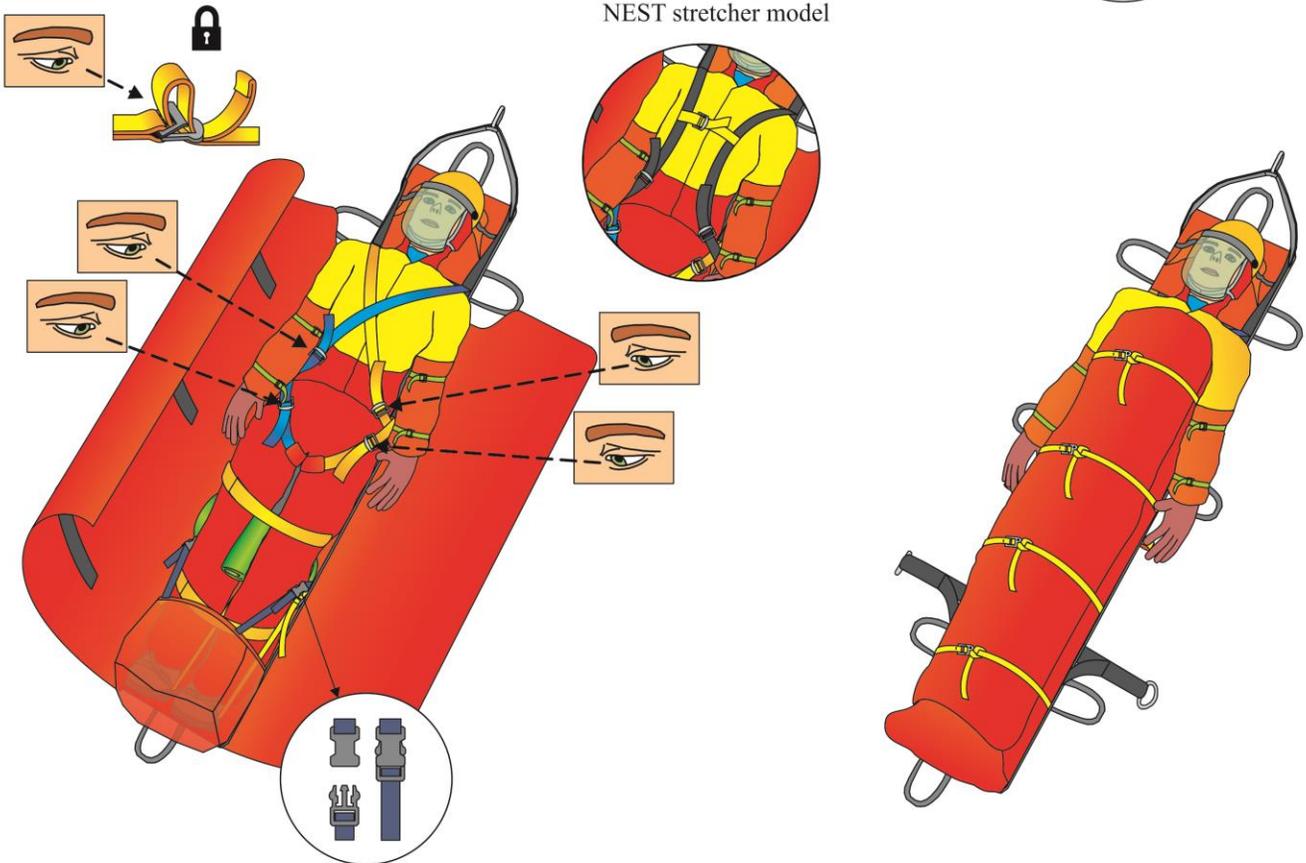
Make sure all of the straps are tight enough to hold casualty securely, without creating painful pressure points.

- Fold the head (not always necessary) and foot cover over and fasten them. Close the body cover flaps and tighten the flap straps. The casualty arms can be inside or outside of the stretcher.

Some safety elements may or may not be secure in place, depending upon the nature of the casualty wounds as determined by the physician, and the difficulty of the evacuation.

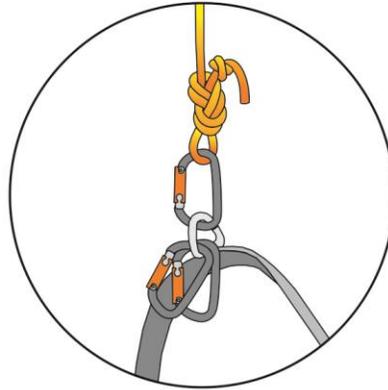


Chest harness straps on older NEST stretcher model





Vertical position evacuation



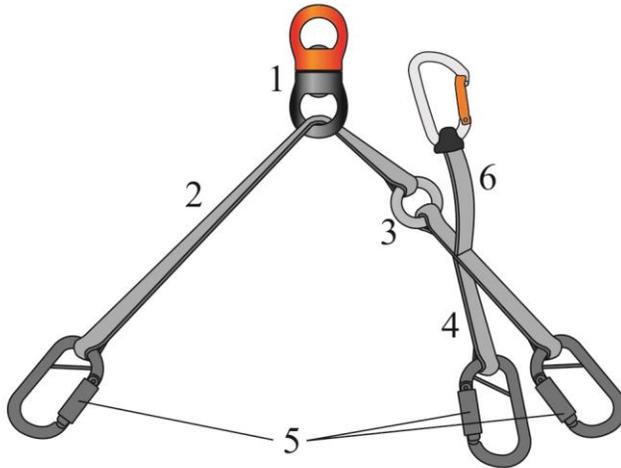
Vertical position evacuation is suitable for narrow cave parts. Limits rockfall risk but it is not comfortable for casualty.

Three D-shaped auto-locking carabiners should be permanently attached to the stretcher main hauling ring (head end attachment point). The hauling rope is attached by a figure of eight knot (marked with one supplementary knot) to one of the carabiners. The other two carabiners remain available for the next hauling rope or for secondary hauling rope that may be required at the top of a pitch or for safety rope (marked with two supplementary knots).



Changing position evacuation („Stef - balancing system“)

There are many stretcher changing position systems with NEST stretcher. To avoid misunderstandings we will describe just one system with Petzl „Stef“ and we call it „Stef – balancing system“.



1 – Swivel connector (main hauling connector) - three D-shaped auto-locking carabiners should be attached to it;

2- Head end single strap;

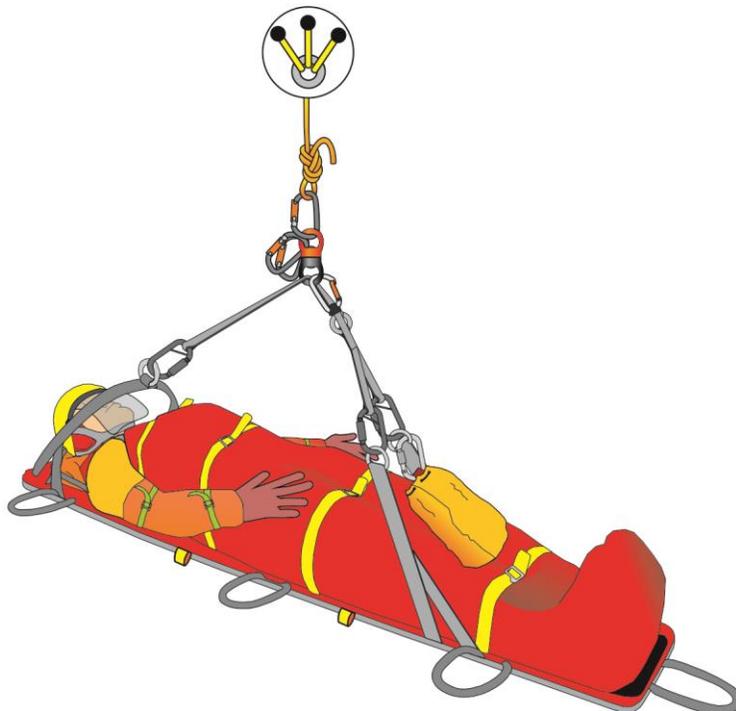
3 – Ring;

4 – Foot end double straps;

5 – OK Triact Lock Bar;

6 – SPIRIT - Fixing position strap;

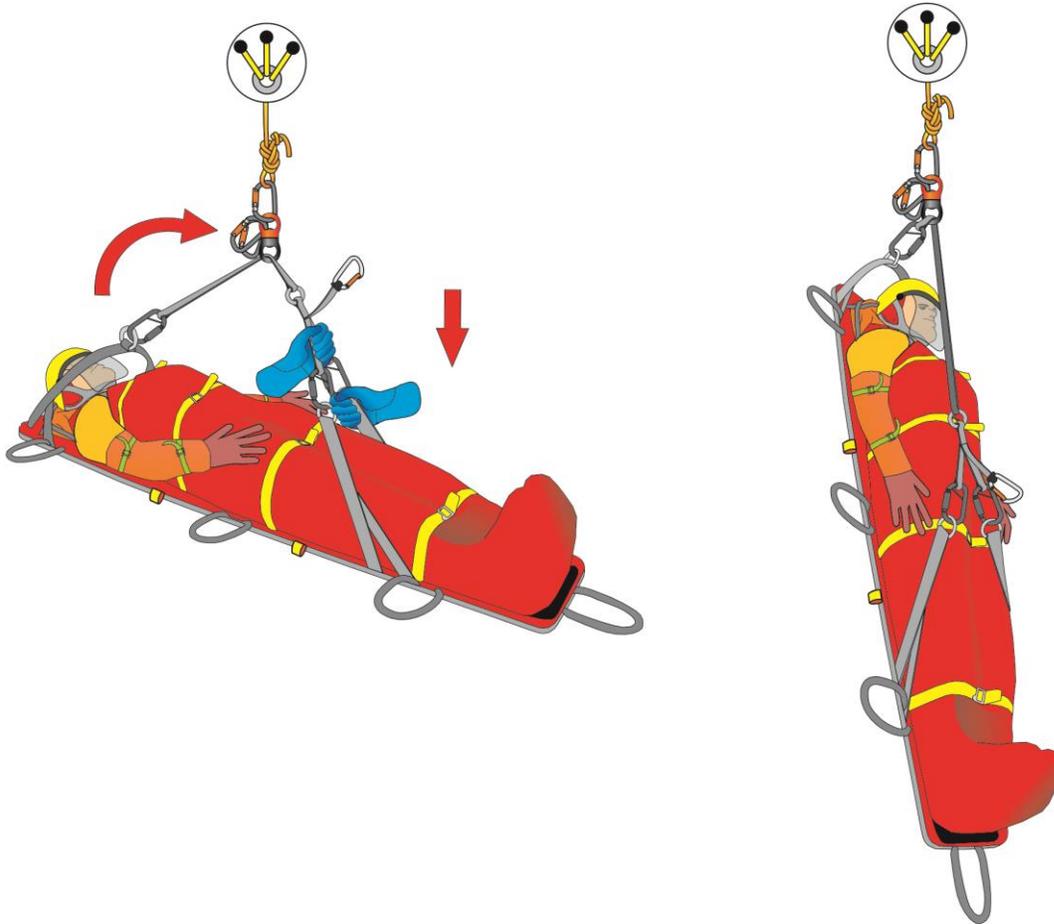
Horizontal position – „Stef – balancing system“



This position is most recommended for the casualty because it is most comfortable for him (her) but increases exposure to rockfall for casualty and rescuers.



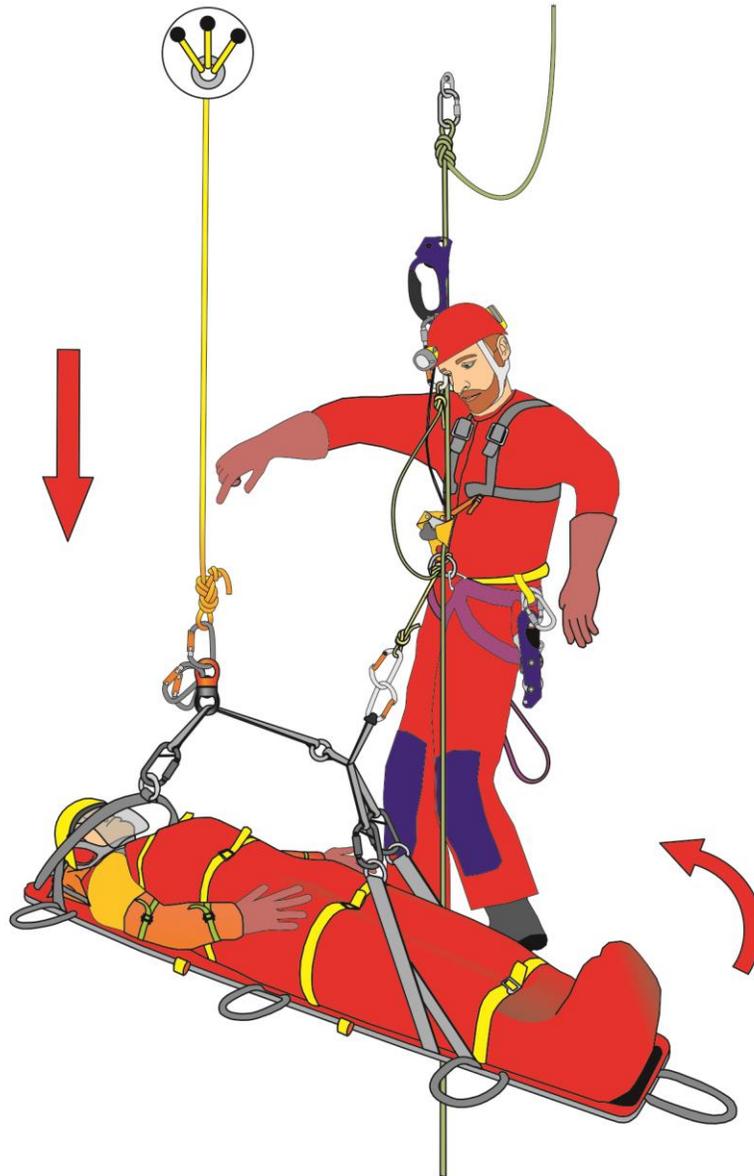
Near-vertical position - Changing from horizontal position to inclined position



The rescuer attached to an independent rope (progression line) get to the stretcher and lift a casualty legs just to detached SPIRIT (Fixing position strap). With both hands he catch Foot end double straps (not head end single strap because he may not be able to control the rate of tilt and because there is a risk of pinching hands) and tilts the stretcher (head up - legs down) possibly by pushing on the stretcher with his feet.



Changing from inclined position (Near-vertical position) to horizontal position



The rescuer attaches his short lanyard to the SPIRIT (Fixing position strap). This will serve as a fixed point to help guide the maneuver and helps ensure that the lanyard is taut.

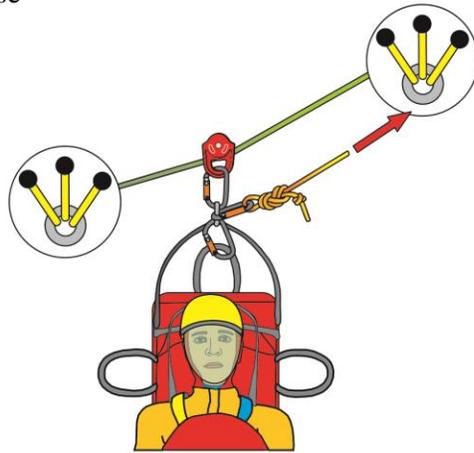
„Slack“ - The controller and counterweight carefully lower the hauling rope so the stretcher tilts naturally to horizontal position.

„Pull“ – The controller and counterweight carefully pull the haulin rope just enough to release rescuer lanyard. The rescuer unclips his lanyard from the SPIRIT and clips the SPIRIT to the SWIWEL to secure stretcher horizontal position.

It is possible to change rope attachment point from STEF to the head-end attachment point on the NEST depending on situation.

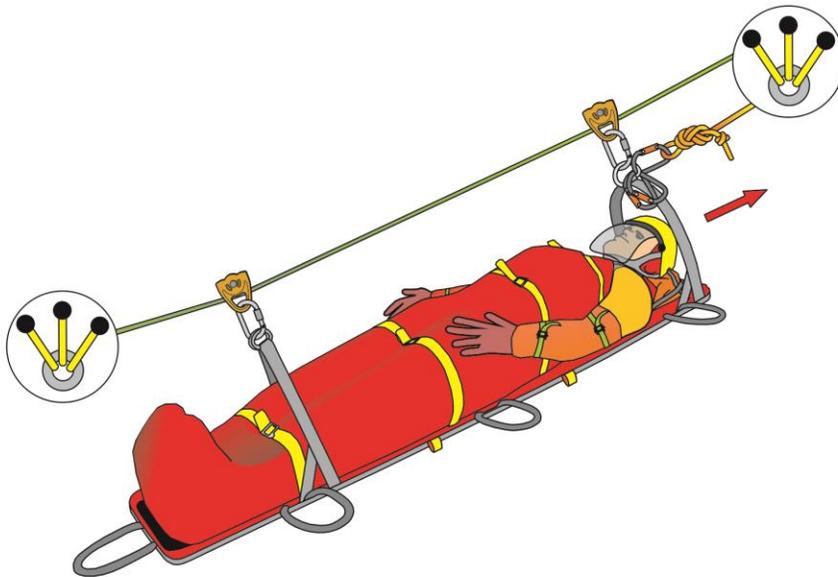


Tyrolean traverse



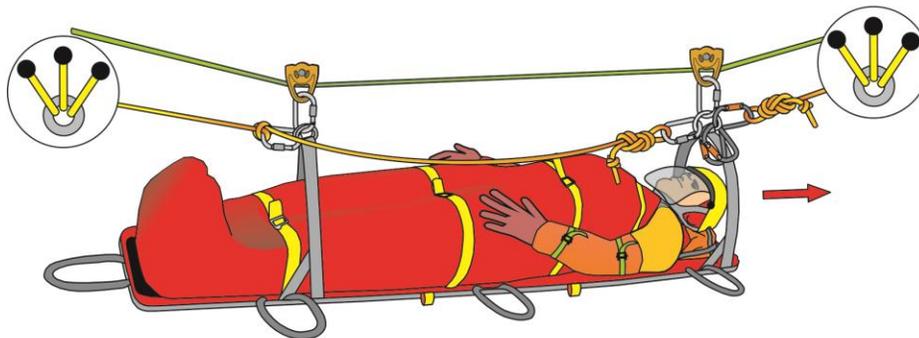
Vertical position

Suitable for horizontal and inclined Tyrolean traverse in narrow vertical meanders.



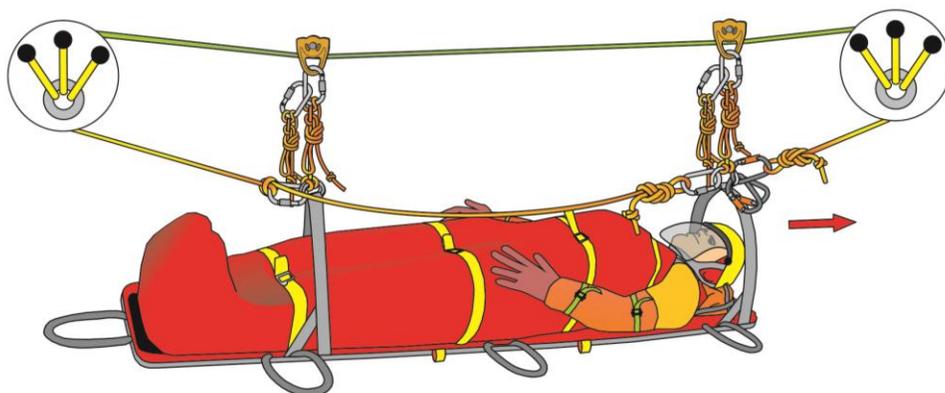
Horizontal position

Suitable for horizontal and inclined Tyrolean traverse.





Tyrolean traverse



Moving from one traverse line to another

This method requires just one rescuer to transfer stretcher between traverse lines but it takes particularly long time. It could be in use in places where it is not enough space for several rescuers.

Stretcher history in Croatia



1971

Photo by Božić Vlado



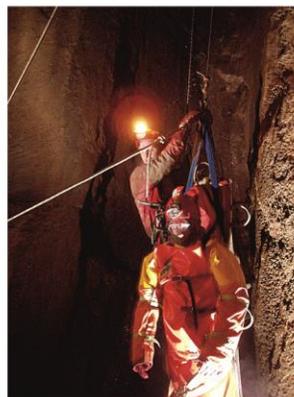
1983

Čepelak Marijan



1995

Lacković Damir



2004

Bakšić Darko



2014

Glušević Marin