

Cross-Border operations in cold conditions



Aspects of Rescue work in the Cold

HNS support issues



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Cold Protection

Personal Well being



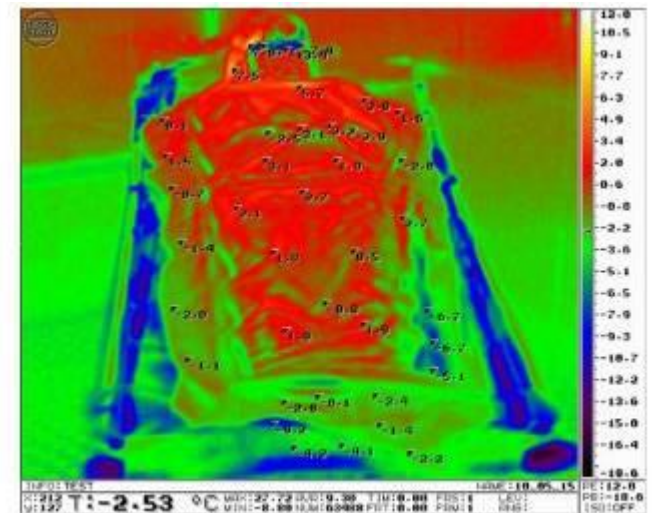
ICT and other Gear Protection



Keeping K-9 Functional



Patient protection





Intravenous line protection system test

Keywords: Intravenous, infusion line, protection systems, cooling of IV fluid, cold

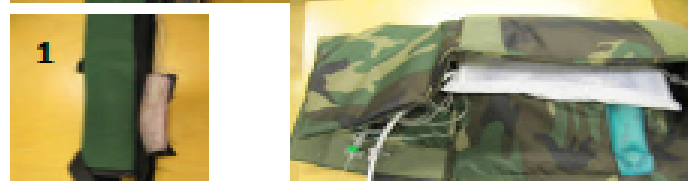
Background

Administration of intravenous (IV) fluid is used as treatment of e.g. hypotension, shock or dehydration of injured or ill person. Optimal IV fluid temperature is between 37 - 41°C. Cooling of the IV fluid is a problem if the treatment takes place during cold season. Cold intravenous fluid may cause local vasoconstriction and pain, induce hypothermia, trigger ventricular fibrillation and other severe complications to patients. There are available different types of IV line protection systems which are intended to keep IV fluid warm during the intravenous treatment in the cold conditions. The purpose of the test was to compare different types of IV line protection systems in the cold.

Development process and method

Fluid temperature in the IV bag and in the needle tip was measured by thermocouples. Sample interval was one second. IV bag fluid temperature was warmed to 37°C. Fluid flow was set to full speed by the roller clamp. Infusion line with the tested protection systems was placed to IV pole or on the table according to the type of the product. IV line protection systems were tested in the controlled ambient temperatures of -20, 0 and 20°C.

IV line protection systems tested were 1) IM-Medico (Sweden) with two reusable heat packs (bag and distal end), 2) insulating protection (Help&Rescue, Sweden) and 3) Heat-it (Finland) which is wrapped around arm, IV bag and a heat pack. IV line without protection was tested, too. The tip was exposed to ambient air but covered by a piece of felt.



Transportation

Driving in cold conditions presents special challenges to the mechanics of vehicles, as well as the drivers themselves. Drivers must be able to drive safely in slippery or snowy conditions, often with little or no external lights

Things to consider:

- Suitable Fuel
- Batteries
- Snow Chains etc.



Based on EU HNS Guidelines and Barents Joint Manual

- The level of HNS may vary according to the severity of the situation and will be subject to a prior agreement between the requesting and offering parties
- Compliance with the self-sufficiency requirements should be respected by the offering parties in order to avoid any burdensome requirements for the affected country
- The Joint Manual doesn't explicitly state anything on the subject but the original Barents Agreement stipulates in Article 12:

The response teams shall have the requisite amount of resources sufficient for independent operation in the emergency area for a minimum of 24 hours.

The Requesting Party shall, if necessary, provide the response teams with additional emergency response resources, as well as any maintenance and other services required. Proper medical care, food and accommodation shall also be provided to the response teams as and when required.

Telefax
Initial offer of assistance

Legal base:

Agreement between the Governments in the Barents Euro-Arctic Region on cooperation within the field of emergency prevention, preparedness and response, Article 7 Mutual Assistance.

To:			
Fax:	Date:	Time:	Pages:
From (name, title, signature):			

Relating to emergency incident in:

- Finland
- Norway
- Russia
- Sweden

Our point of contact:

Authority:	
Telephone:	
Telefax:	
e-mail:	
VTC address:	

We are able to provide the following resources (indicate scope and terms of the assistance that can be rendered)

**Any Special requests for HNS
for Cold Conditions**

Please notify the Assisting Party as soon as possible of the emergency response teams and resources accepted.

Barents Joint Manual/ Request for Assistance

Telefax



To:		
Fax:		
Date:	Time:	Number of pages, including this:

From (name, title and signature):
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EMERGENCY INCIDENT IN

- Finland
- Norway
- Russia
- Sweden

TYPE OF MESSAGE:

- Notification/early warning – for information only**
- Request of assistance** (may be repeated within 15 minutes if no acknowledgement of the request has been received)
- Exercise**

AUTHORITY IN CHARGE OF OPERATION:

Authority:	
Telephone:	
Telefax:	

POINT OF CONTACT ON SCENE OF INCIDENT:

Authority:	
Telephone:	
Telefax:	

Received fax date/time:

PLACE OF INCIDENT:

(Locality, municipality, province, geographic coordinates in lat. and long.)

TYPE OF EMERGENCY:

(One or more of the following alternatives)

- Natural disaster (earthquakes, storms, storm surges, river flooding, avalanches)
- Forest fire
- Major fires, collapsed buildings, etc.)
- Industrial calamity (explosion, mining accident, collapsed dam, etc.)
- Sanitary/phytosanitary emergency
- Maritime emergency (SAR, missing persons at sea) NB! IMO/ICAO procedure
- Aeronautical emergency (SAR, missing airplanes/passengers) NB! IMO/ICAO procedure
- SAR on land (missing persons)
- Traffic accident (highway accident, railway accident)
- CBRN-emergency (chemical, biological radiological, nuclear emergency) NB! IAEA procedure
- Medical emergency (mass or medically complex casualties, pandemic, etc.)
- Other emergency (including major military accidents)

TIME, CHARACTER AND SCALE OF EMERGENCY

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TYPE OF RESOURCES NEEDED:

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Any requirements for capabilities in cold conditions

HNS

2.	Prepare arrangements for	<ul style="list-style-type: none"> • In-country transport; • Accommodation (food, shelter and sanitary); • Medical support; • Communication (terms, systems, limitations, frequencies etc.); • Fuel supply; • Waive national transport regulations; • Waive tariffs/taxes, tolls and other fees; • Interoperability of technical equipment. 	<ul style="list-style-type: none"> • Vaccinations • Insurances • Self-sufficiency aspects • Interoperability of technical equipment
4.	Basic information	<ul style="list-style-type: none"> • Prepare country profile - national disaster response structure (including emergency command control), operational conditions, environmental/climate issues, cultural and political profiles, etc; 	<ul style="list-style-type: none"> • Prepare fact sheets on modules and/or teams.
12.	Security and safety	<ul style="list-style-type: none"> • Provide security to the international teams. Make sure the appropriate means are in place to keep personnel, locations, goods and equipment related to the international assistance, safe and secure. 	<ul style="list-style-type: none"> • Make sure the appropriate safety and security measures are in place to keep personnel, locations, goods and equipment related to the international assistance, safe and secure.

Conclusion

Rescue operations in cold conditions are subject to severe challenges not often seen elsewhere

Even the most experienced and skillful experts may need special assistance to support their work

In addition to agreements, equipment etc. this calls for training, sharing of lessons learned and joint planning.

And that's why we are now in Kiruna

Thank You.

References

- Agreement between the governments in the Barents Euro-Arctic Region on cooperation within the field of emergency prevention, preparedness and response
- Barents Joint Manual
- EU Host Nation Support Guidelines (EU HNSG)
- Manual for Cold Conditions, CMCFinland
- Smart practices in cold climates, CMC, DEMMA, MSB
- CoSafe The cooperation for safety in sparsely populated area. Project