

# When Are You Cold

## Supplement to ITLS, Improving Patient Assessment

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Photo taken by Peter Symons EMT-P Crows Nest Highway Jun 6 2012

Table. Swiss Staging System of Hypothermia <sup>2</sup>			
Stage	Clinical Findings	Core Temp	Therapy
HT-I	Conscious, shivering	35°C to 32°C	Warm environment, clothing, and liquids
HT-II	Impaired consciousness, not shivering	32°C to 28°C	Cardiac monitoring, full body insulation, and active external and minimally invasive rewarming techniques (eg. heating packs, warm parenteral fluids)
HT-III	Unconscious, but vital signs are present	28°C to 24°C	HT-II plus airway control; if vital signs are unstable, CPB or ECMO
HT-IV	No vital signs		Attempt to restore vital signs with epinephrine, defibrillation, then rewarm with ECMO or CPB
Abbreviations: CPB, cardiopulmonary bypass; ECMO, extracorporeal membrane oxygenation.			

The ITLS eighth edition text discusses in many chapters the relationship between trauma and hypothermia. There are situations where hypothermia is in it's self the trauma and having an understanding of hypothermia is important. Getting an accurate assessment, including temperature can be critical to the treatment and transport of the hypothermic patient. Getting a temperature via hypothermic thermometer is the gold standard, but how often is this possible in the field?

This ITLS supplement will review the commonly used terminology from various agencies and compare them to a non thermometer based assessment system. The Swiss Staging system<sup>1</sup> is widely use in many countries and has been sited in many texts, including the New England Journal of Medicine<sup>2</sup>, and European Resuscitation Council, Cardiac arrest in Special Circumstances<sup>3</sup> .

<sup>1</sup>Durrer B, Brugger H, Syme D. The medical on-site treatment of hypothermia:ICAR-MEDCOM recommendation.

<sup>2</sup> n engl j med 367;20 nejm.org 1930 november 15, 2012

<sup>3</sup> Resuscitation 95 (2015) 148–201

## Terminology

The most common terminology used to describe hypothermia in the prehospital setting has been Mild, Moderate and Severe. There is however, a variety of opinions as to what temperature those terms might represent. Some systems use the cessation of shivering as the determinant between moderate and severe, while others use shivering cessation as the difference between mild and moderate.

Chart 1 shows the variation of terms with the approximate temperature used to describe the hypothermia. The Chart includes the following from left to right

The Swiss Staging System,  
an EMS protocol example,  
AHA (American Heart Association) as seen in the ACLS and ECLS -EP Text,  
ERC (European Resuscitation Council) as noted above.

Cold water boot Camp (Dr. Gordon Geisbrecht, PH.D) which is recognized by a number of government and non-government agencies in Canada and the USA.

The terms of mild, moderate and severe lose meaning without a clear reference point. Expanding those terms to Mild, Moderate, Severe and Profound may be very helpful in determining the best treatment and transport destination for the patient.

Temp (Noted under number) <small>Normal= 37C/98.6F</small>	Swiss Staging System	Simple EMS Model	AHA-ACLS & ACLS-EP	ERC	Cold Water Boot Camp
36					Normal Temp
35		Mild Based on S/S	Mild Based on actual Temp	Mild Based on actual Temp	Mild Based on actual Temp
34	HT-1 Continuous /c Shivering	Moderate Based on S/S	Moderate	Moderate	Moderate
33	32 Shivering almost stopped				
31	31 Shivering complete stop				
30	30 Increased Risk of VF				
29	HT-2 Consciousness impaired /s Shivering				
28					
27	HT-3 Unconscious /c s/s of Life				
26					
25					
24					
23					
22					
21					
20					
19					
18					
17	HT-4 Unconscious no s/s of Life				
16					
15	15 lowest intact survival Infant				
14	14 13.7 lowest survival-Adult				
13					
12					
11					
10					
9	9 lowest survival-Therapeutic	HT-5 - DOA		DOA	

