

*體溫過低 Hypothermia

山藝科持續訓練資料 (06/2025更新)

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*什麼是體溫過低

- *體溫過低 Hypothermia 的定義是指
核心體溫 Core temperature 低於 35°C ；
- *量度核心體溫應該是以肛探為最準。但因環境及器材因素，我們可用體溫在耳探或口探低於 35°C 時，作為體溫過低的指標；
- *體溫過低可導致身體器官嚴重損害，甚至出現心室顫動 (Ventricular Fibrillation)，導致心跳停頓，如患者中度或嚴重體溫過低，應視之為緊急狀況。

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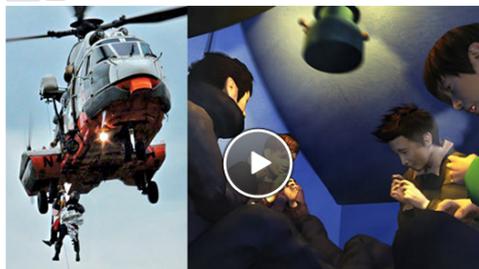
* 體溫過低成因

- * 長時間處於寒冷環境中，
身體保溫不足，
或頭部未遮蓋(頭部散失熱量 $\geq 20\%$)，
令體溫降至低於 35°C
- * 風寒效應
 - * 因風速，造成人體對溫度的感覺，
比實際溫度低(體感溫度)
- * 高度溫差
 - * 每升高1000公尺，氣溫約降 6°C

要聞港聞 2010年12月17日 0°C露營 九童冷僵入院

0°C 露營
九童冷僵入院

144,043



【本報訊】香港昨日經歷八年來最凍的12月天，天文台料今晨氣溫將進一步下降至 6°C 。九名參加外展訓練的中學男生，昨在西貢嶼上露營時，抵受不住 0°C 的天寒地凍，加上風雨夾攻，全身濕透發冷顫抖，紛紛出現不適向村民求助，事後由直升機送院治理，三人需留醫。「凍僵」學生事發時衣衫單薄，有專家質疑天文台早已預告有低溫襲港，領隊有責任探討隊員的應付能力，有需要應改變行程。記者：張培生、周志鴻

有學生僅穿上短袖衫及背心外套，等候直升機救援。張培生攝

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* UIAA Alpine Handbook 參考資料

Wind Chill Factor / Index		Temperature measured in $^{\circ}\text{C}$ (first row) and perceived temperature (other rows)									
Wind speed (km/h)	What to look for when estimating wind speed	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
10	Wind perceptible on face; wind vane begins to move.	-3	-9	-15	-21	-27	-33	-39	-45	-51	-57
20	Small flags flap in the breeze.	-5	-12	-18	-24	-30	-37	-43	-49	-56	-62
30	Wind blows loose paper, large flags flap and small tree branches wave.	-6	-13	-20	-26	-33	-39	-45	-52	-59	-65
40	Small trees begin to sway, and large flags extend and flap strongly.	-7	-14	-21	-27	-34	-41	-48	-54	-61	-68
50	Large tree branches move, telephone lines whistle and it is hard to use an umbrella.	-8	-15	-22	-29	-35	-42	-49	-56	-63	-69
60	Trees bend, and walking against the wind is difficult.	-9	-16	-23	-30	-36	-43	-50	-57	-64	-71

Source: Environment Canada

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* UIAA Alpine Handbook 參考資料

<http://www.ec.gc.ca/meteo-weather/default.asp?lang=En&n=5FBF816A-1>

Recommendations

Slight increase in discomfort. Dress warmly. Stay dry.

Uncomfortable. Risk of hypothermia if outside for long periods without adequate protection. Dress in layers of warm clothing, adding an outer wind-resistant layer. Wear a hat, mittens or insulated gloves, a scarf and insulated, waterproof footwear. Stay dry. Keep active.

Risk of frostnip or frostbite: check face and extremities for numbness or whiteness. Risk of hypothermia if outside for long periods without adequate clothing or shelter from wind and cold. Dress in layers of warm clothing, with a wind-resistant outer layer. Cover exposed skin. Wear a hat, mittens or insulated gloves, a scarf, neck warmer or face mask, and insulated, waterproof footwear. Stay dry. Keep active.

High risk of frostbite: check face and extremities for numbness or whiteness. Risk of hypothermia if outside for long periods without adequate clothing or shelter from wind and cold. Dress in layers of warm clothing, with a wind-resistant outer layer. Cover all exposed skin. Wear a hat, mittens or insulated gloves, a scarf, neck warmer or face mask, and insulated, waterproof footwear. Stay dry. Keep active.

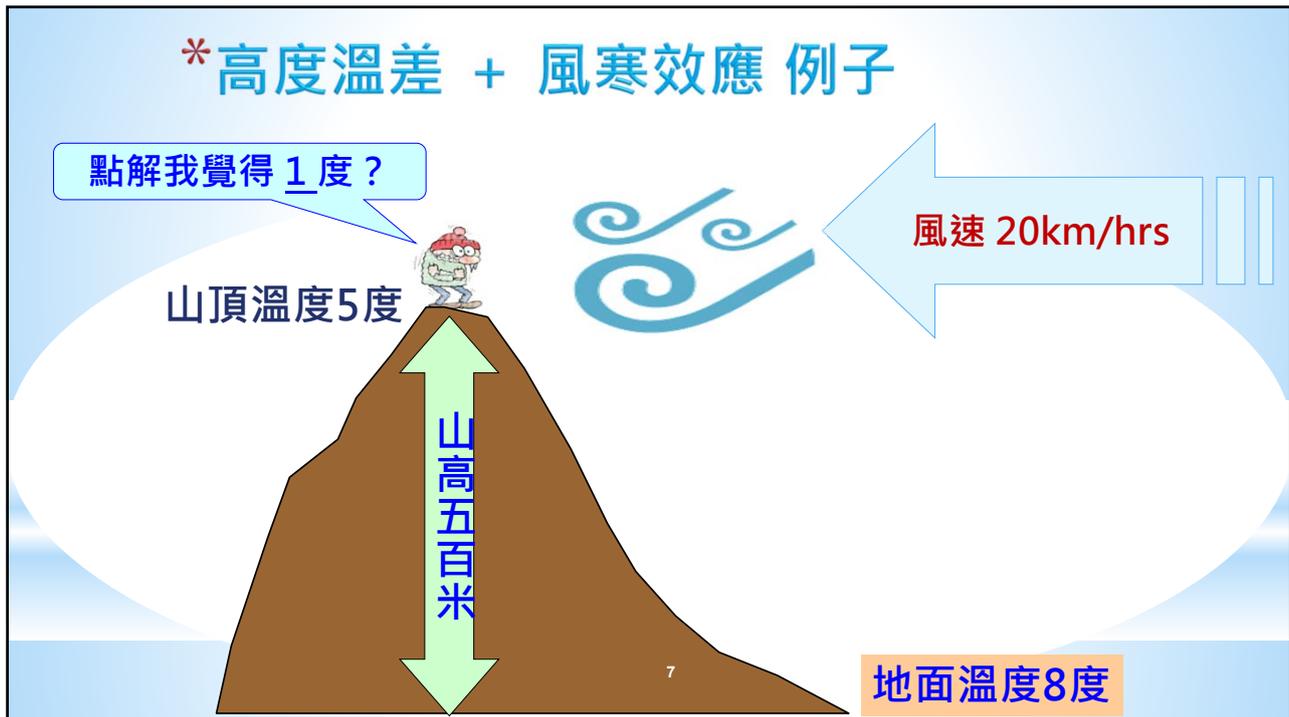
Very high risk of frostbite: check face and extremities frequently for numbness or whiteness. Serious risk of hypothermia if outside for long periods without adequate clothing or shelter from wind and cold. Be careful. Dress very warmly in layers of clothing, with a wind-resistant outer layer. Cover all exposed skin. Wear a hat, mittens or insulated gloves, a scarf, neck warmer or face mask, and insulated, waterproof footwear. Be ready to curtail or cancel outdoor activities. Stay dry. Keep active.

DANGER! Outdoor conditions are hazardous. Stay indoors.

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Wind Speed V_{10m} (km/h)	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45	-50
5	4	-2	-7	-13	-19	-24	-30	-36	-41	-47	-53	-58
10	3	-3	-9	-15	-21	-27	-33	-39	-45	-51	-57	-63
15	2	-4	-11	-17	-23	-29	-35	-41	-48	-54	-60	-66
20	1	-5	-12	-18	-24	-30	-37	-43	-49	-56	-62	-68
25	1	-6	-12	-19	-25	-32	-38	-44	-51	-57	-64	-70
30	0	-6	-13	-20	-26	-33	-39	-46	-52	-59	-65	-72
35	0	-7	-14	-20	-27	-33	-40	-47	-53	-60	-66	-73
40	-1	-7	-14	-21	-27	-34	-41	-48	-54	-61	-68	-74
45	-1	-8	-15	-21	-28	-35	-42	-48	-55	-62	-69	-75
50	-1	-8	-15	-22	-29	-35	-42	-49	-56	-63	-69	-76
55	-2	-8	-15	-22	-29	-36	-43	-50	-57	-63	-70	-77
60	-2	-9	-16	-23	-30	-36	-43	-50	-57	-64	-71	-78
65	-2	-9	-16	-23	-30	-37	-44	-51	-58	-65	-72	-79
70	-2	-9	-16	-23	-30	-37	-44	-51	-58	-65	-72	-80
75	-3	-10	-17	-24	-31	-38	-45	-52	-59	-66	-73	-80
80	-3	-10	-17	-24	-31	-38	-45	-52	-60	-67	-74	-81

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* 體溫過低徵狀

- * 輕微
 - * 顫抖、手足冰冷、四肢麻木及喪失靈活性
- * 輕度(35 - 32°C) -
 - * 顫抖，平衡、活動能力及判斷力下降
- * 中度(32 - 28°C) -
 - * 言語不清，難集中注意力，清醒程度下降
- * 嚴重(≤ 28 - $\leq 25^\circ\text{C}$) -
 - * ($\leq 28^\circ\text{C}$) 失去活動能力，喪失意識，呼吸淺，脈搏弱
 - * ($\leq 25^\circ\text{C}$) 出現心室顫動，導致心跳停頓

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* 體溫過低處理

- * 找擋風雨地方藏身
- * 脫下濕衣服和抹乾身體(如有需要)
- * 以求生氈包裹著患者身體，避免體溫流失
- * 飲暖飲品暖身(最快提升核心體溫)
- * 吃高熱量食物及
- * 與同行人士靠攏一起取暖
- * 如患者出現中度或嚴重體溫過低情況，需啟動緊急應變程序去處理。



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<https://www.youtube.com/shorts/ZSDXH0T2PCM>

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* 預防勝於治療

- * 留意天氣預告，確保自己及隊員帶備足夠裝備；
- * 身處寒冷的野外環境時，注意頭部保溫；
- * 在野外需要保持身體乾爽，防水裝備不可缺；
- * 在嚴寒季節帶備鋼膽保溫壺，準備熱水應急；
- * 有體溫過低初期現場時，馬上處理；
- * 領隊如發現有隊員出現體溫過低時，要有其餘隊員均有可能出現同樣情況的 **警覺性**。

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* 聲明

- * 以上內容只供參考，除了計算風寒指數外，還有其他因素均會影響體感溫度。
香港嚴寒的日子不多，因此外國採用的指數不一定完全適用於香港。
- * 重點是教員們對嚴寒下進行野外活動時的潛在危機有警覺性。
- * 處理體溫過低患者時，請依照閣下急救證書簽發機構所述的方式處理；
- * 如因不適當處理而導致醫療事故，中國香港攀山及攀登總會及本資料的製作小組恕不負責。