

# PATOLOGIA DA VALANGA



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# LA PATOLOGIA DA VALANGA

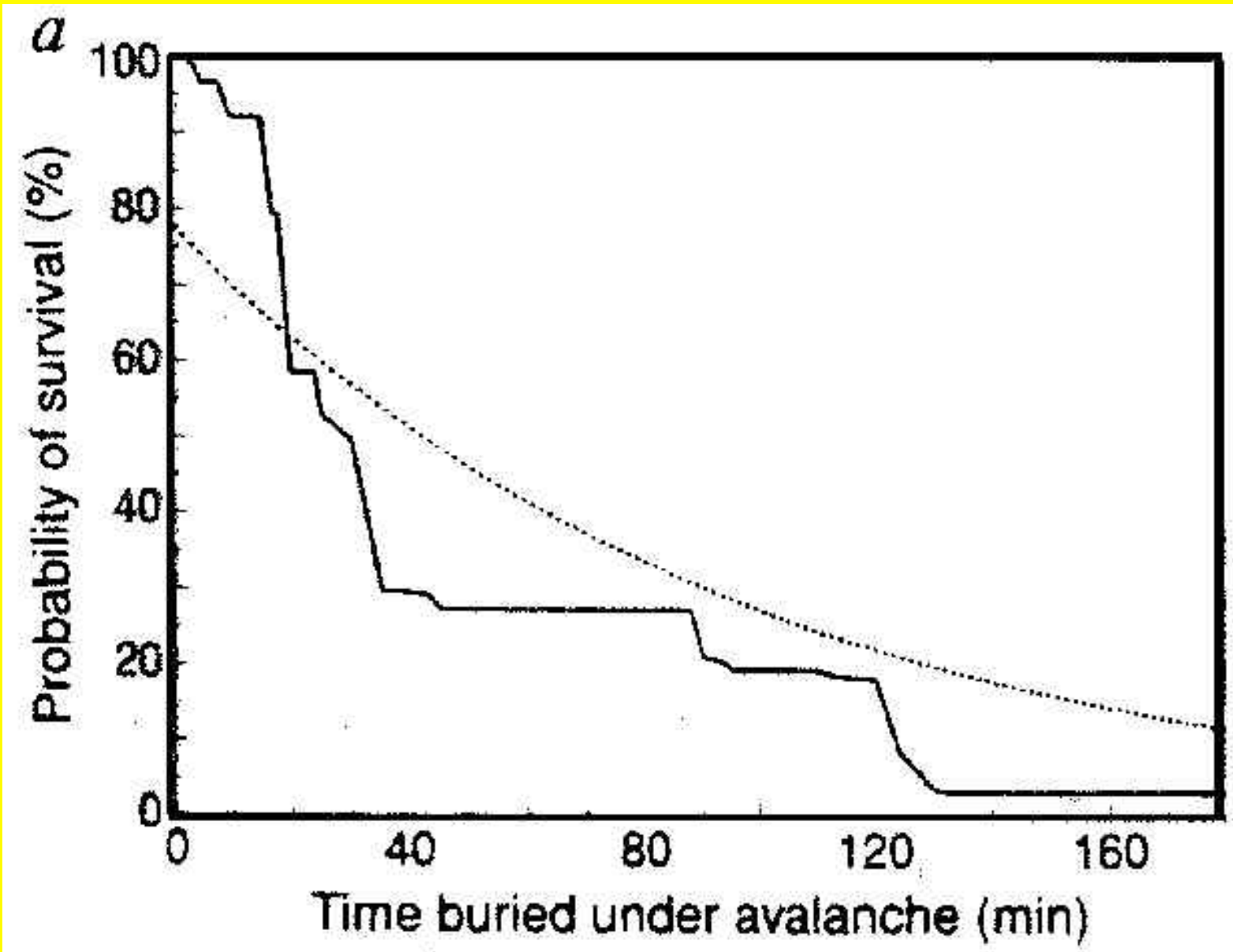
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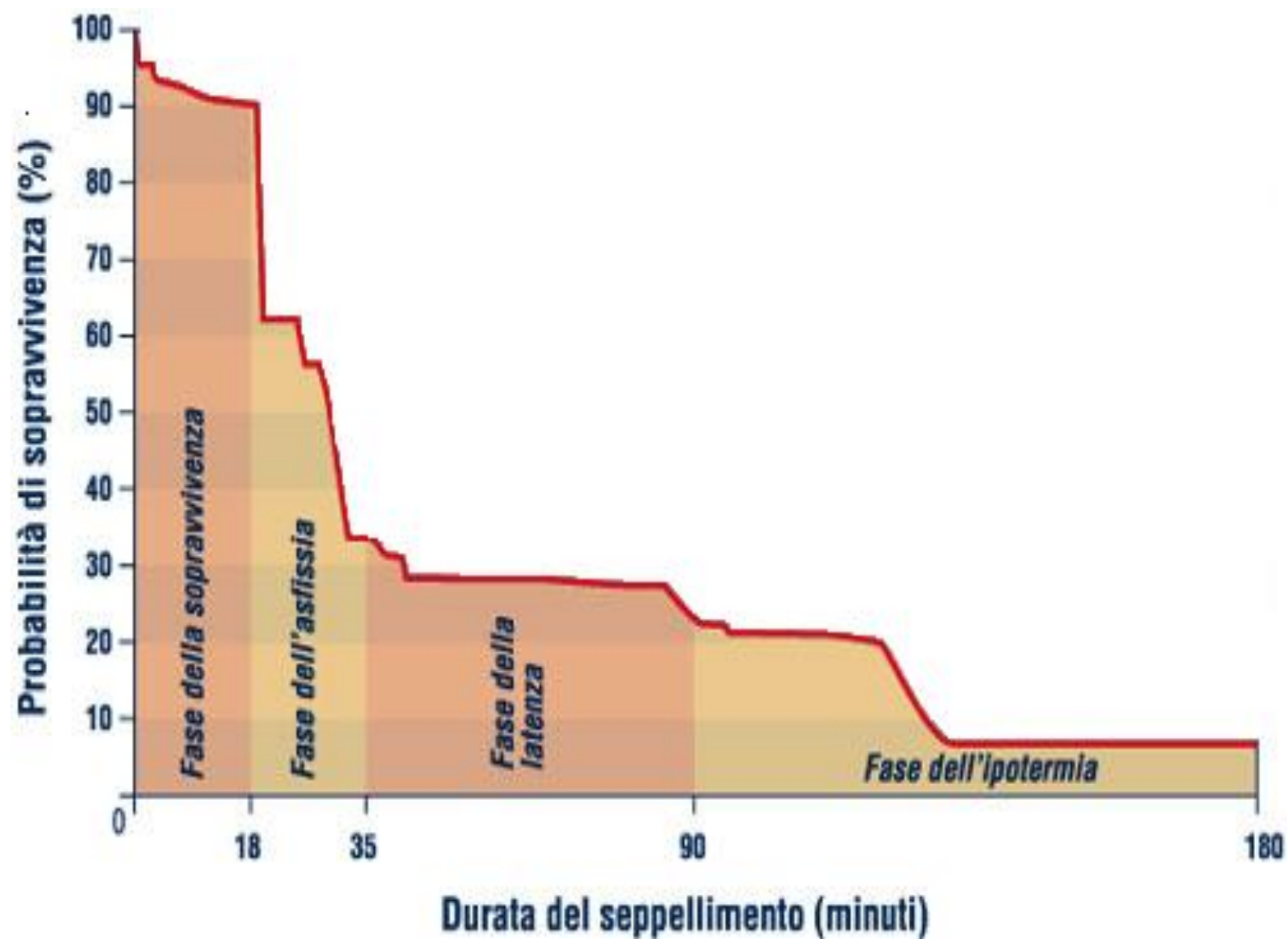
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- CIRCA 140 MORTI ALL' ANNO
- 40 TRA USA E CANADA
- 100 IN EUROPA

BRUGGER, ICAR 2006

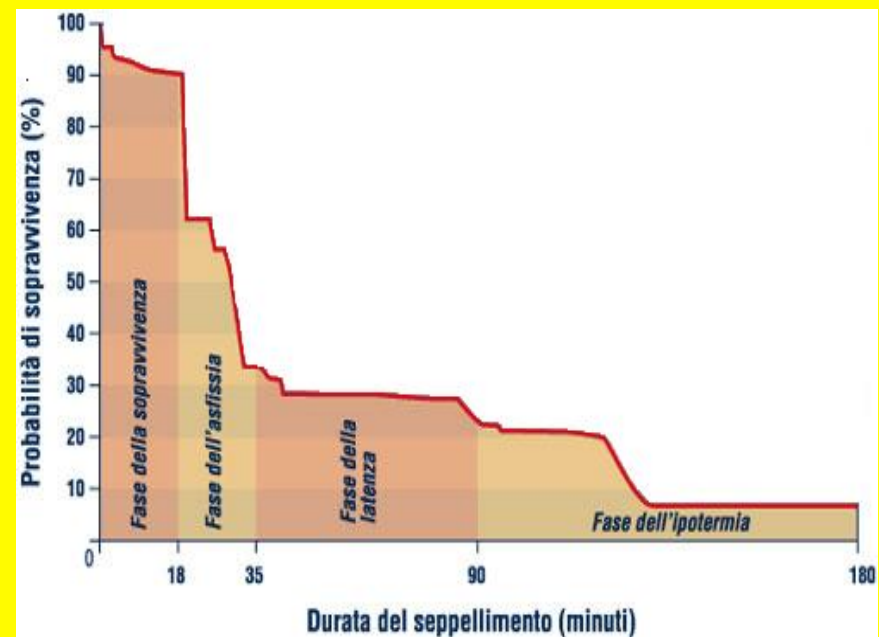
- 
- TRAUMA
  - ASFISSIA
  - IPOTERMIA





# TRAUMA

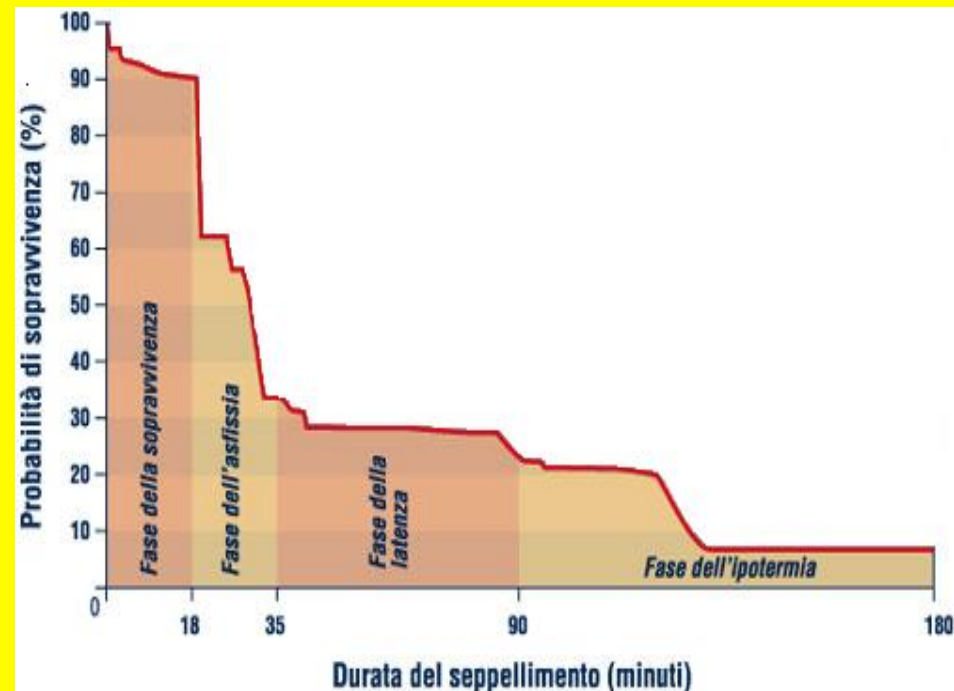
CAUSA DI MORTE  
"GENERICA",  
DOVUTA ALL'  
IMPATTO TRA IL  
CORPO DEL  
TRAVOLTO E LA  
MASSA  
VALANGHIVA E/O I  
MATERIALI IN ESSA  
CONTENUTI



# ASFISSIA

DETERMINATA DALL'  
IMPOSSIBILITA' DI  
VENTILAZIONE DA PARTE  
DEL SEPOLTO.

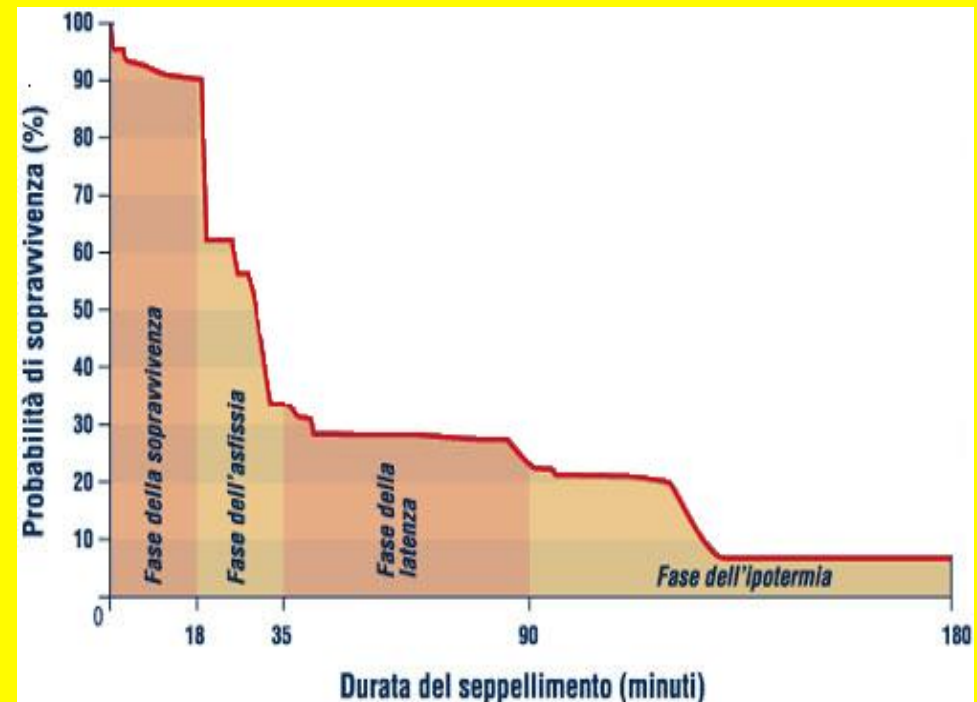
- ACUTA=NASO E BOCCA PIENI DI NEVE
- SUBACUTA=PRESENZA DI UNA CAVITA' AEREA DAVANTI ALLA BOCCA





# IPOTERMIA

TEMPERATURA  
CORPOREA  
CENTRALE  $< 35^{\circ}\text{C}$



# IPOTERMIA

<b>HT I</b>	<b>COSCIENTE CON BRIVIDO</b>		<b>35 – 32</b>
<b>HT II</b>	<b>CONFUSO SENZA BRIVIDO</b>		<b>32 – 28</b>
<b>HT III</b>	<b>INCOSCIENTE</b>		<b>28 – 24</b>
<b>HT IV</b>	<b>MORTE APPARENTE</b>		<b>24 - 15 ?</b>
<b>HT V</b>	<b>MORTE PER IPOTERMIA</b>		<b>&lt; 15 ?</b>

# DIAGNOSI DIFFERENZIALE TRA MORTE APPARENTE E MORTE REALE

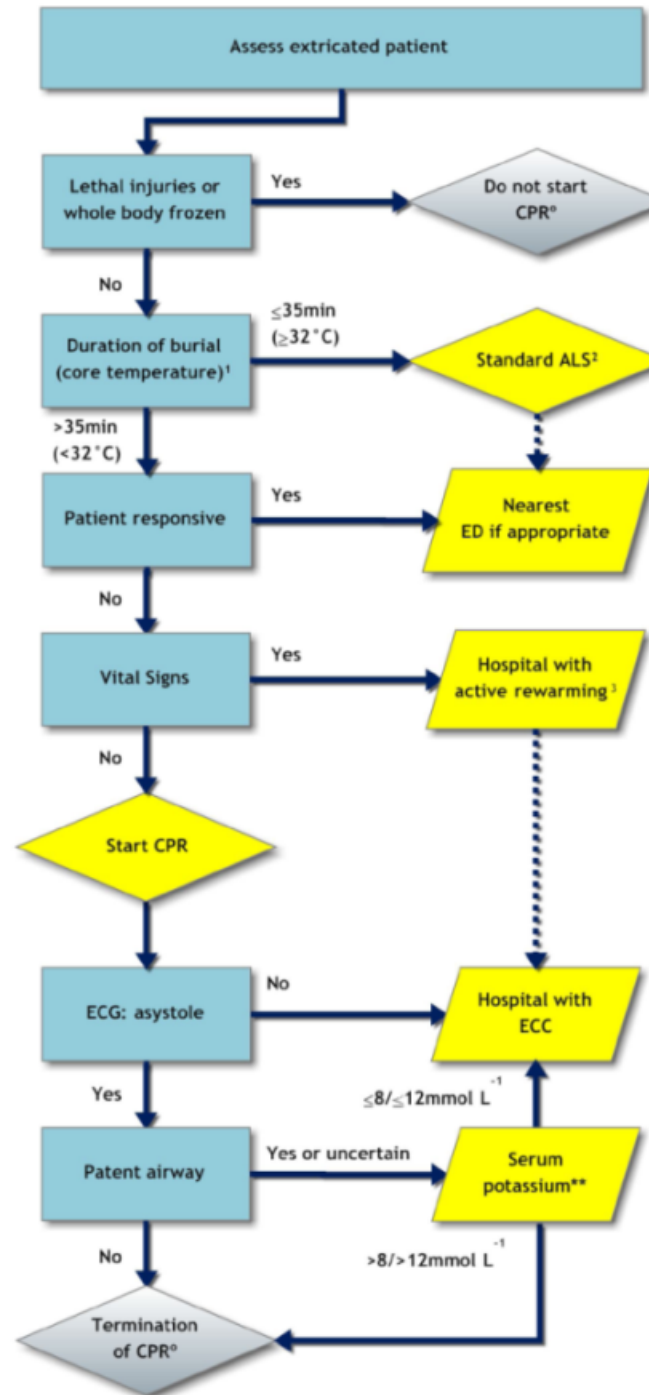
## MORTE APPARENTE

- NO SEGNI VITALI
- MUSCOLI PLASTICI
- TORACE COMPRIMIBILE
- FV/ASISTOLIA
- T. CORP.  $>15^{\circ}\text{C}$  (?)
- K  $<12$  mEq/l

## MORTE REALE

- NO SEGNI VITALI
- MUSCOLI RIGIDI
- TORACE NON COMPRIMIBILE
- ASISTOLIA
- T. CORP.  $<15^{\circ}\text{C}$  (?)
- K  $>12$  mEq/l

## Avalanche management algorithm



HIGH ALTITUDE MEDICINE & BIOLOGY

Volume 13, Number 3, 2012

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DOI: 10.1089/ham.2011.1096

# Termination of Cardiopulmonary Resuscitation in Mountain Rescue

Peter Paal,<sup>1,2</sup> Mario Milani,<sup>2,3</sup> Douglas Brown,<sup>2,4</sup> Jeff Boyd,<sup>2,5,7</sup> and John Ellerton<sup>2,6</sup>

TABLE 1. CONDITIONS WHEN TO WITHHOLD OR TERMINATE CPR IN A PATIENT WITH ABSENT VITAL SIGNS (BOYD ET AL., 2010; MORRISON ET AL., 2010)

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- |  |    |
|--|----|
| 1. Unacceptable risk to rescuer or rescuer exhausted   | OR |
| 2. Decapitation, truncal transection, and incineration or decomposition of the whole body                                  | OR |
| 3. Whole body is frozen solid  | OR |
| 4. Avalanche victim in asystolic cardiac arrest with obstructed airway (e.g. packed with snow) and burial time >35 minutes |    |
-

TABLE 2. TO TERMINATE CPR IN A PERSON WITH UN-WITNESSED LOSS OF VITAL SIGNS ALL CRITERIA HAVE TO BE PRESENT (ADAPTED FROM (MORRISON ET AL., 2006; MORRISON ET AL., 2009))

---

- |   |     |
|---|-----|
| 1. No return of spontaneous circulation during 20 minutes of CPR                      | AND |
| 2. No shock advised at any time by AED, or only asystole observed by ECG              | AND |
| 3. No hypothermia <sup>1</sup> or other special circumstances warranting extended CPR |     |
- 

AED denotes automated external defibrillator, CPR cardiopulmonary resuscitation, ECG electrocardiogram. <sup>1</sup> Clinical evidence of hypothermia, possibly confirmed by an esophageal temperature of less than 35°C if available.











