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Suspensionstrauma

Suspensiontrauma

When working in a fall endangered area an incident may occur that leads to a free hanging in the rope.



Accident at RWE Power Grevenbroich 2008

Beware that this can be a deadly threat



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Suspensiontrauma

Suspended trauma means the health effects which are caused by a circulatory collapse during free hanging in a harness.

Circulatory collapse with orthostatic shock

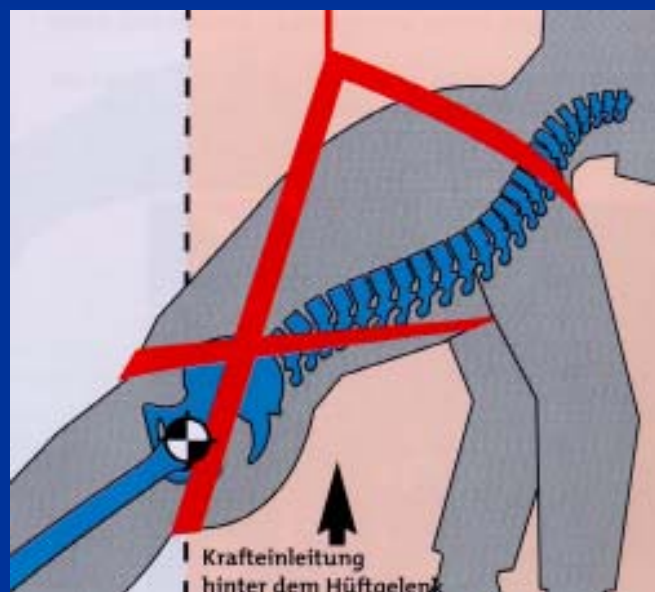
Suspensiontrauma

Triggering factors

- hanging position
- Immobility
- hang time
- Pain
- associated injuries

Suspensionstrauma

- The upright suspension position leads especially because of immobility of the legs (loss of muscle pump) to a orthostatic reaction in the legs. This reduces the venous return to the heart and the blood pressure drops.



Suspensionstrauma

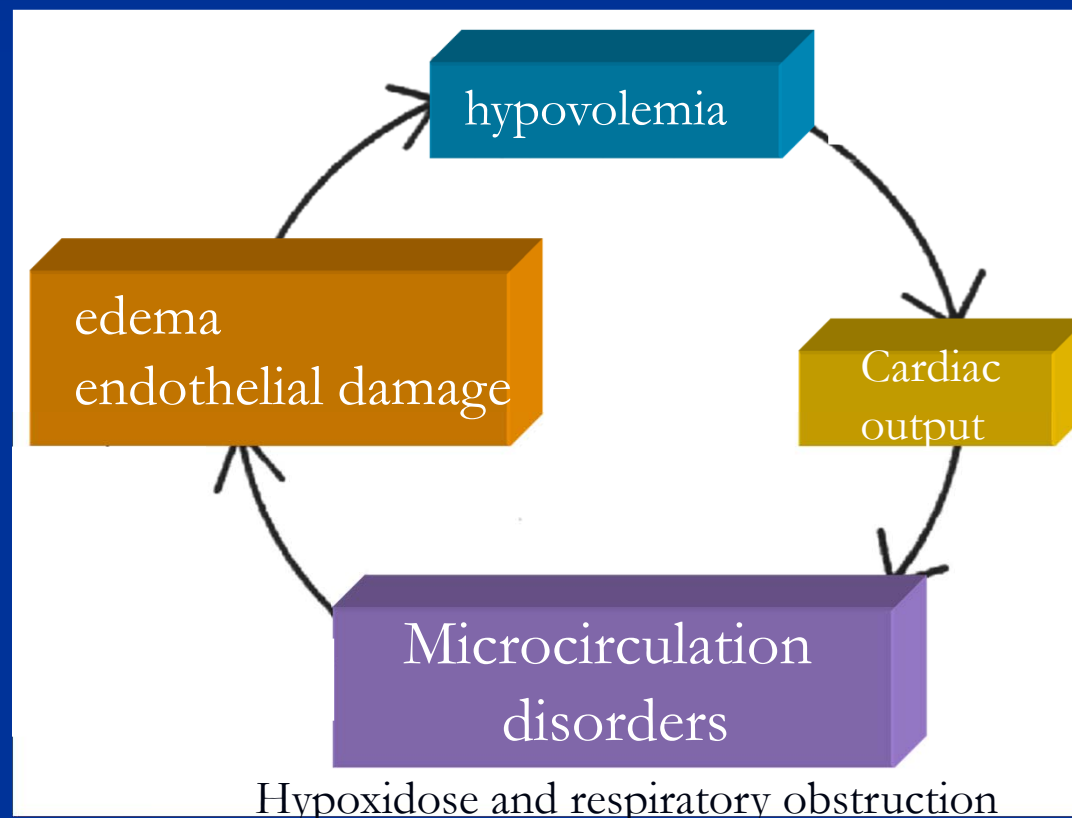
Reduction of the venous return to the heart and blood pressure drops.

- Liquid poverty

Cardiac output

- Circulatory disorder

cell damage



Suspensiontrauma

Possible symptoms of suspension trauma

- Pallor
- sweating
- shortness of breath
- Initial pulse rise
- Increase of blood pressure
- Visual defect
- Dizziness
- Nausea
- Pulse drop
- Blood pressure drop

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Prevention of the suspension trauma

- When hanging in the rope blood circulation can be supported by regular movement of the legs (the muscle pump activity).
- Discharge of the harness by a foot loop

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Rescue of the person hanging in the rope:

- **Fix safeguard rope**
- **attract attention and reassure**
- **ask for any personal injury**
- **Encourage to move**
- **Lower from top to bottom**
- **Body in an upright position**
- **Alarming medical rescue service**
- **Alarming rope rescue team**

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It is an urgent matter if a person is hanging unconscious in the rope, because.....

Leaving an unconscious person hanging in the rope can lead to his death in less than 10 minutes.



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First Aid principals:

- Some sources state that this group of patients should be treated in a special way. This is not correct.
- These patients should be treated according to normal ABCDE principals, especially for non-medical personnel.
- This also apply for medical personnel, but keep in mind the possibilities for delayed arrhythmia.

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If the rescued person is unconscious, but breathing normally:

- Normal ABCDE approach
 - Focus on airway management
 - Recovery position
 - Constant monitoring of A-B-C
 - Hospitalization is urgent

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If the rescued person is unconscious and not breathing normally

- Standard procedure of resuscitation
- 30 chest compressions alternating 2 rescue breaths

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Medical emergency measures:

- Give oxygen
- venous access with a Normal crystalloid solution
- Basic monitoring (possibility of critical arrhythmia)
- Cautious fluid resuscitation
- Possibility of hypoglycemia
- hospitalization