

Nácvik poskytování první pomoci při poranění a akutních stavech neúrazové povahy Seminář 3 hodiny

Klinika anesteziologie, resuscitace a intenzivní medicíny
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University Hospital Hradec Kralove

Kontakt na zdravotnickou péči, obsah informace, péče do příjezdu

- 155 versus 112 (ČR a zahraničí)
- www. zachranka.cz
- Hlasitý odposlech
- Strukturovaný rozhovor
- SBAR

SBAR	RSVP	Content	Example
Situation	Reason	◆ Introduce yourself and check you are speaking to the correct person ◆ Identify the patient you are calling about (who and where) ◆ Say what you think the current problem is, or appears to be ◆ State what you need advice about ◆ Useful phrases: - The problem appears to be cardiac/respiratory/neurological/sepsis - I'm not sure what the problem is but the patient is deteriorating - The patient is unstable, getting worse and I need help	◆ Hello, I am Dr Smith the junior medical doctor ◆ I am calling about Mr Brown on acute medical admissions who I think has a severe pneumonia and is septic ◆ He has an oxygen saturation of 90% despite high-flow oxygen and I am very worried about him
Background	Story	◆ Background information about the patient ◆ Reason for admission ◆ Relevant past medical history	◆ He is 55 and previously fit and well ◆ He has had fever and a cough for 2 days ◆ He arrived 15 minutes ago by ambulance
Assessment	Vital signs	◆ Include specific observations and vital sign values based on ABCDE approach ◆ Airway ◆ Breathing ◆ Circulation ◆ Disability ◆ Exposure ◆ The early warning score is…	◆ He looks very unwell and is becoming tired ◆ Airway – he can say a few words ◆ Breathing - his respiratory rate is 24, he has bronchial breathing on the left side. His oxygen saturation is 90% on high - flow oxygen. I am getting a blood gas and chest X-ray ◆ Circulation – his pulse is 110, his blood pressure is 110/60 ◆ Disability - he is drowsy but can talk a few words ◆ Exposure - he has no rashes
Recommendation	Plan	◆ State explicitly what you want the person you are calling to do ◆ What by when? ◆ Useful phrases: - I am going to start the following treatment; is there anything else you can suggest? - I am going to do the following investigations; is there anything else you can suggest? - If they do not improve; when would you like to be called? - I don't think I can do any more; I would like you to see the patient urgently	◆ I am getting antibiotics ready and he is on IV fluids ◆ I need help - please can you come and see him straight away

Obecné principy první pomoci

 **A**irway	Maintain airway with cervical spine control.
 **B**reathing	Assess breathing and ventilation. Apply high flow O_2.
 **C**irculation	Assess circulation with haemorrhage control.
 **D**isability	Check neurological status.
 **E**xposure/ Environment	Complete assessment of the patient but prevent hypothermia.

Typy krvácení, stavění krvácení, tlakové body, zásady a nácvik naložení škrtidla

- Typy krvácení a stavění krvácení
  - Tlakové body, jejich nevýhoda, možné použití?
- Nácvik manuální komprese místa krvácení, škrtidlo, praxe, záznam naložení, kontrola funkčnosti, kontrola vitality končetin





Iniciální komprese



Komprese dlaní



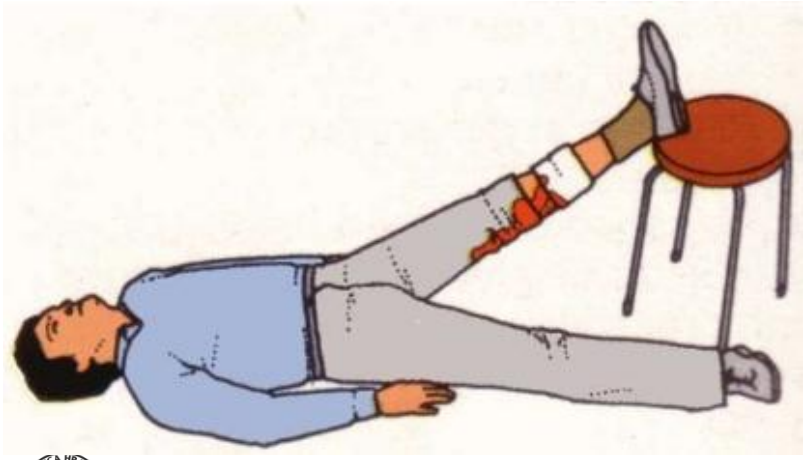
Tlakový obvaz

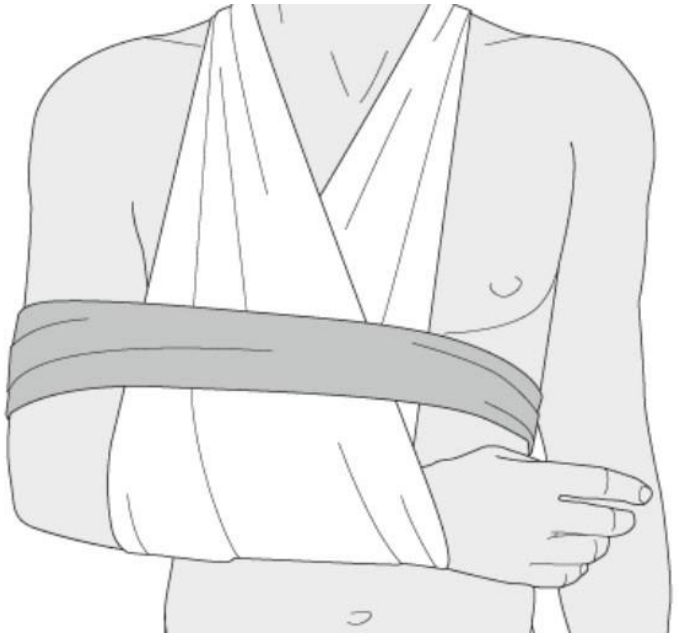
- Minimální šíře obvazu 7,5 cm
- Čas naložení
- Kontrola á 30 min



Elevace a imobilizace

- Nad srdce, pokud možné
- Ne u zlomenin nebo poranění páteře (podezření)
- Imobilizace končetin





Škrtidla


Trauma Wound Dressing
Hemorrhage Control Compression Bandage
First Care


OTHER SIDE
TO
WOUND
FIRST CARE PRODUCTS







Škrtidla

- Okamžité naložení
  - Pokles smrtnosti
- Po dobu 2 (max 4 hodiny) zápis času
- Analgezie
- Minimální šířka škrtidla 5cm





C.A.T. (Combat Aplication Tourniquet)



Škrtidla















Hemorhagický šok

- Objem krve 60-85 ml/kg dle věku

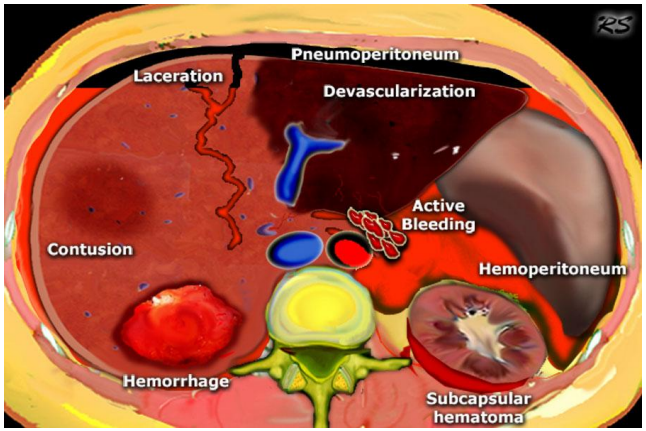




TABLE 3-1 ■ Estimated Blood Loss[a] Based on Patient's Initial Presentation[b]

	CLASS I	CLASS II	CLASS III	CLASS IV
Blood loss (mL)	Up to 750	750–1500	1500–2000	>2000
Blood loss (% blood volume)	Up to 15%	15%–30%	30%–40%	>40%
Pulse rate	<100	100–120	120–140	>140
Blood pressure	Normal	Normal	Decreased	Decreased
Pulse pressure (mm Hg)	Normal or increased	Decreased	Decreased	Decreased
Respiratory rate	14–20	20–30	30–40	>35
Urine output (mL/hr)	>30	20–30	5–15	Negligible
CNS/mental status	Slightly anxious	Mildly anxious	Anxious, confused	Confused, lethargic
Fluid replacement	Crystalloid	Crystalloid	Crystalloid and blood	Crystalloid and blood

[a]For a 70-kg male.

[b]The guidelines in this table are based on the 3-for-1 (3:1) rule, which derives from the empiric observation that most patients in hemorrhagic shock require as much as 300 mL of electrolyte solution for each 100 mL of blood loss. Applied blindly, these guidelines may result in excessive or inadequate fluid administration. For example, a patient with a crush injury to an extremity may have hypotension that is out of proportion to his or her blood loss and may require fluids in excess of the 3:1 guidelines. In contrast, a patient whose ongoing blood loss is being replaced by blood transfusion requires less than 3:1. The use of bolus therapy with careful monitoring of the patient's response may moderate these extremes.

Obvazová technika

- Obvaz má přidržet sterilní krytí rány, aplikovat tlak na ránu nebo imobilizovat část těla
- Obvaz nikdy přímo na ránu, nejprve sterilní krytí rány
- Obvaz by měl být pevný a těsný, ale neomezovat prokrvení

Obvazová technika





Při obvazování postupujeme od užší části těla k širší (směrem k srdci).

Obvazy prstů opačně – od zápěstí či hlezna směrem k prstům.

Obinadlo příliš neutahujeme ani nenecháváme volné.

Na začátku a konci obvaz vždy zpevníme kruhovou otáčkou.

Po celou dobu s pacientem komunikujeme.

Pravidelně kontrolujeme stav a funkci obvazu, prokrvení a citlivost distálních částí těla.

Typy obvazů

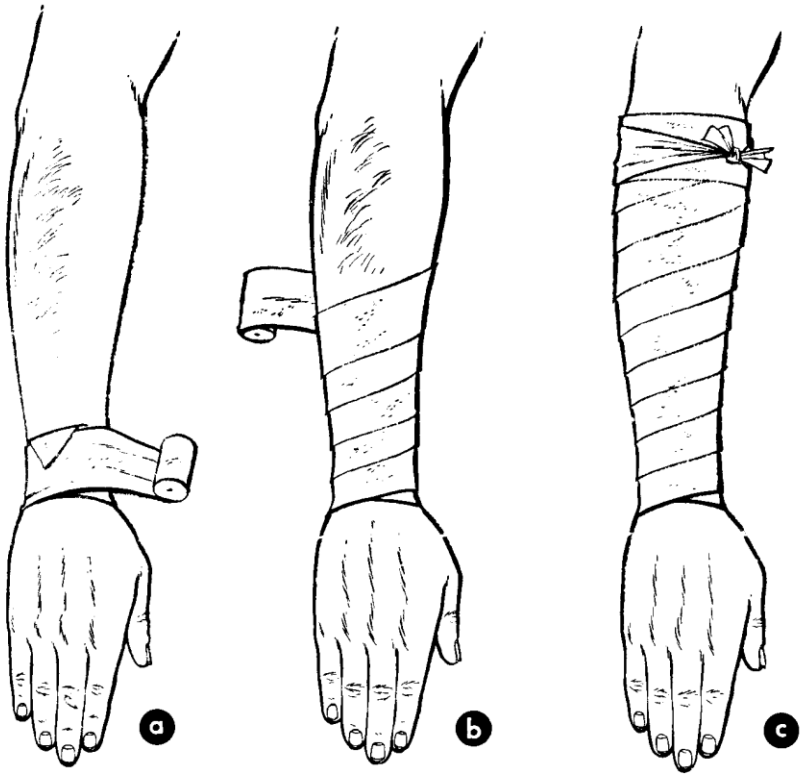


Figure 22. Spiral Bandage.

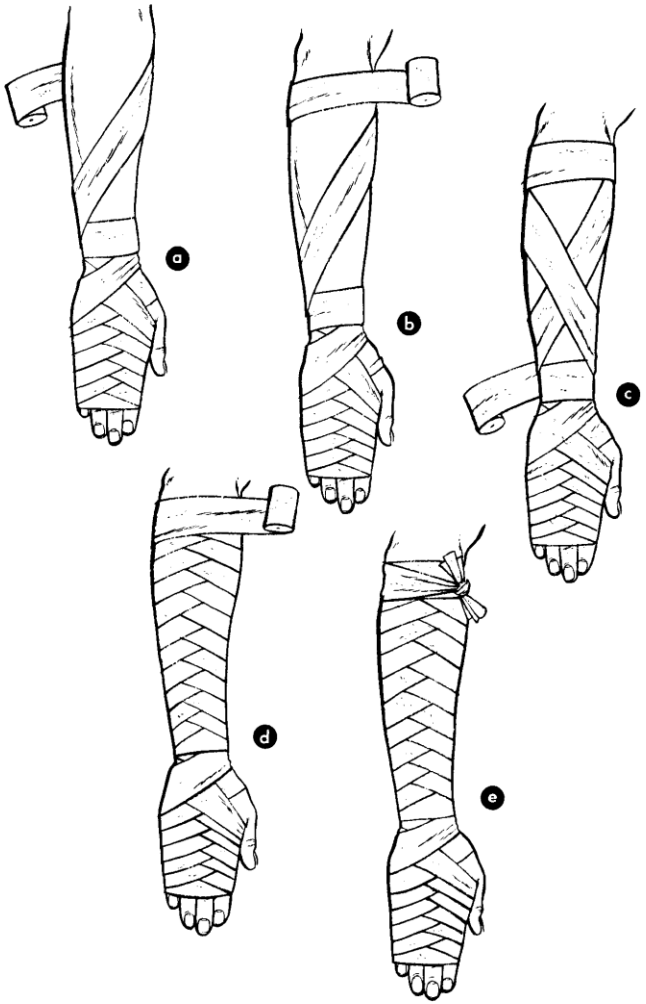


Figure 33. Figure-of-eight of forearm.

Obinadlový obvaz hřbetu/dlaně ruky









Bandage

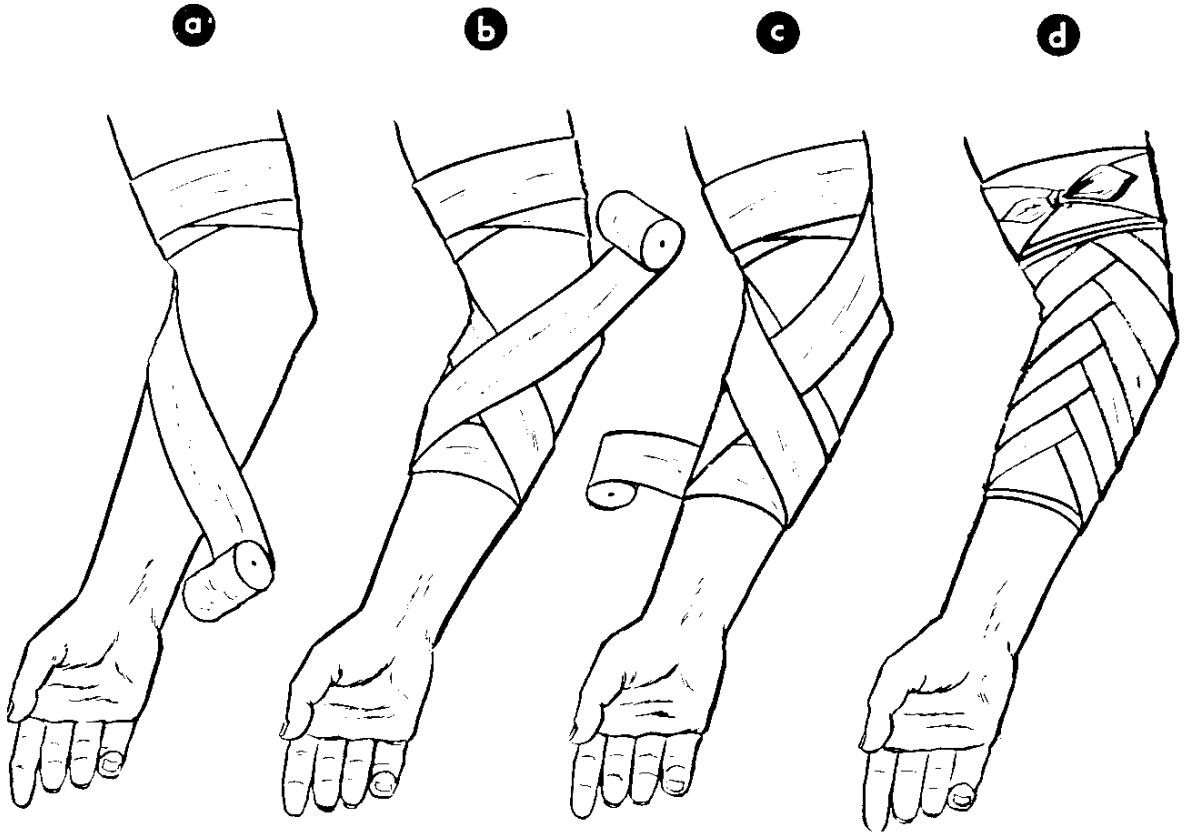
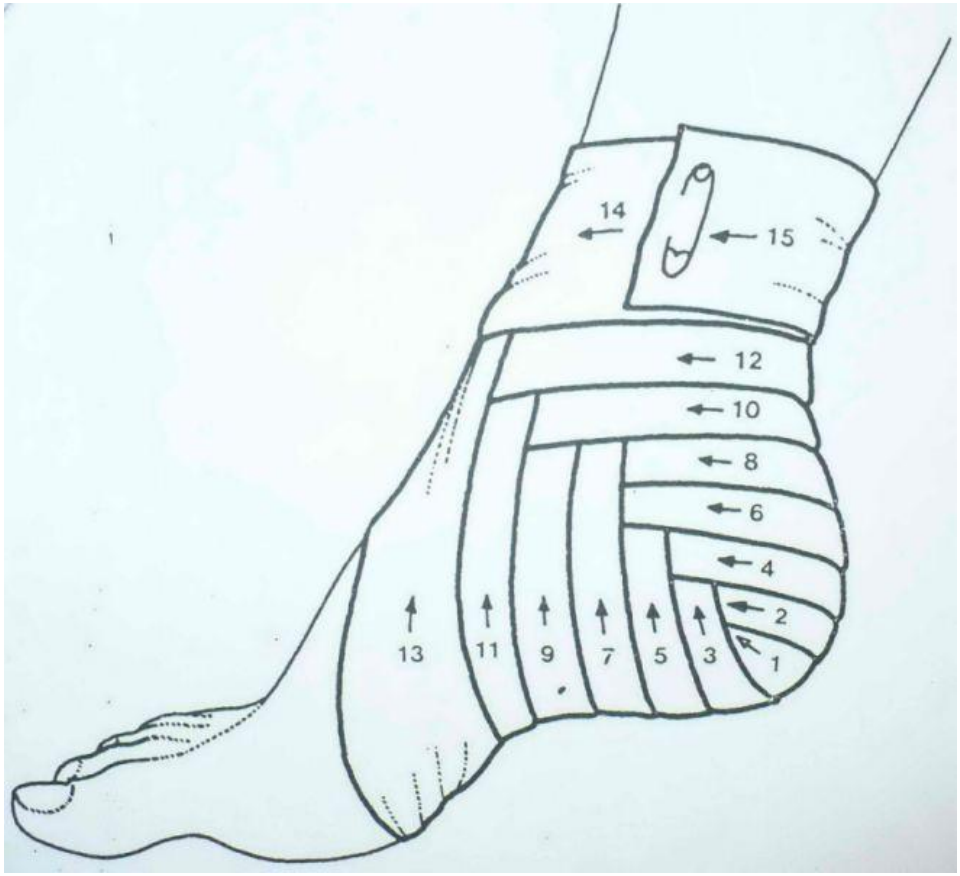
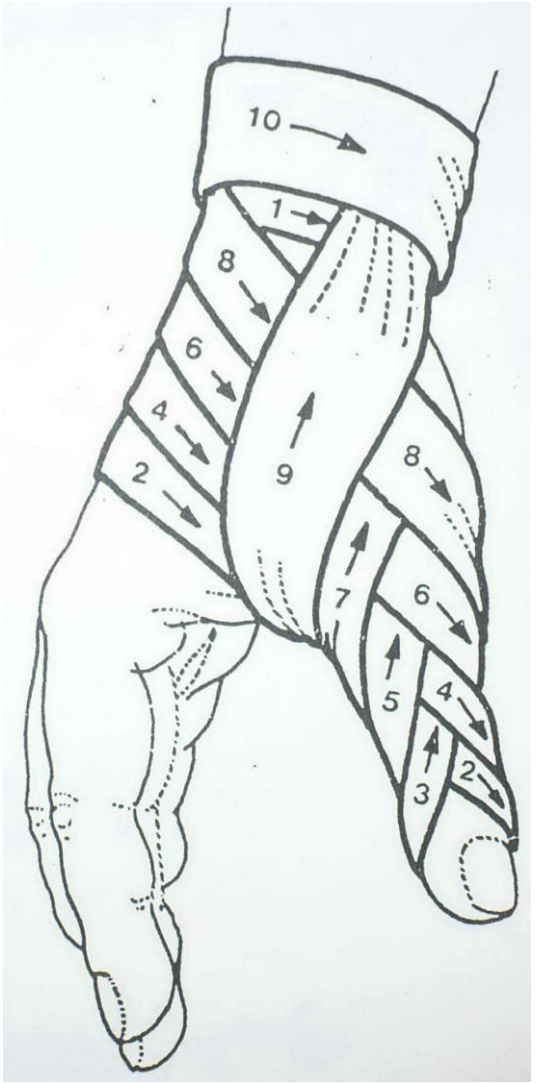
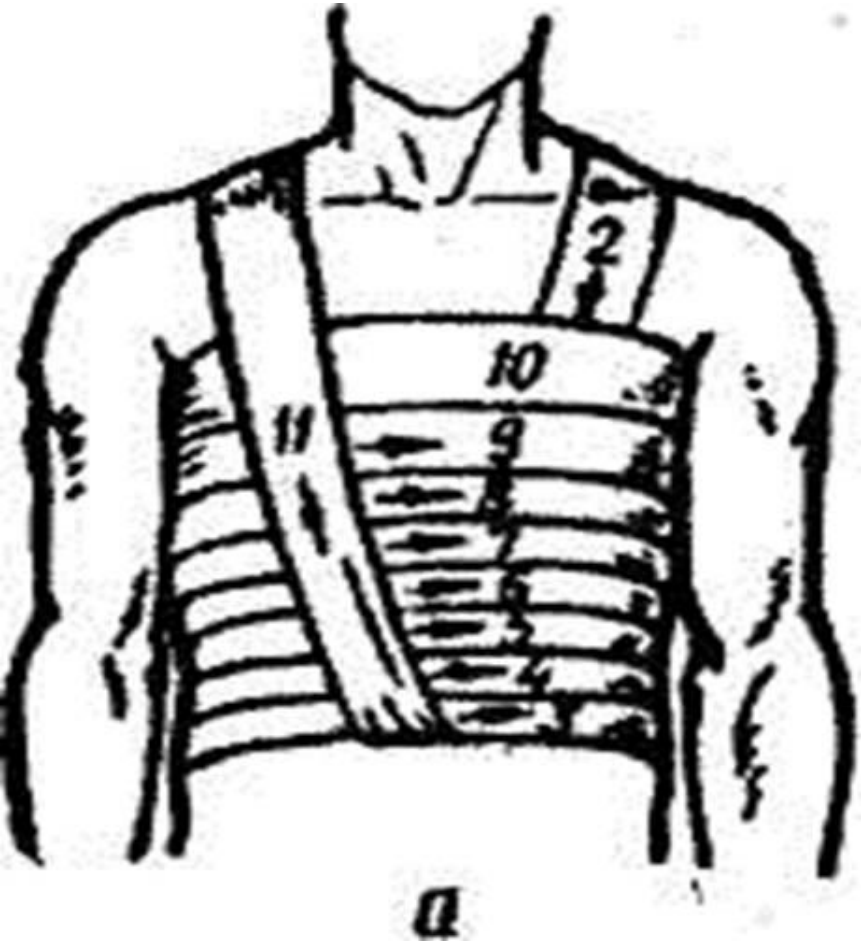


Figure 35. Figure-of-eight of elbow.


14
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Ošetření ran





Vybrané obinadlové obvazy a postup jejich zhotovení:

Obinadlový obvaz ucha



Obinadlový obvaz palce

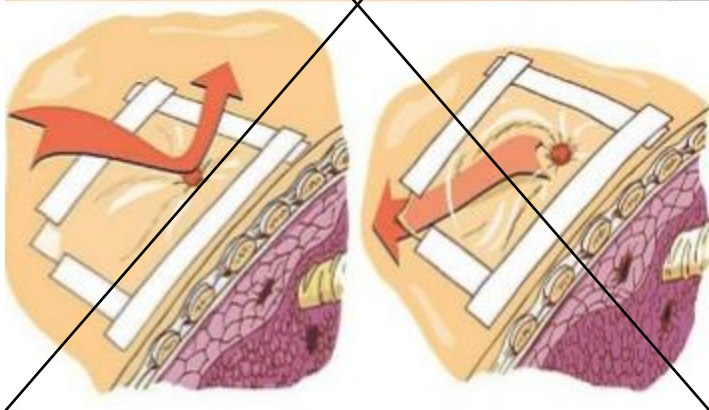


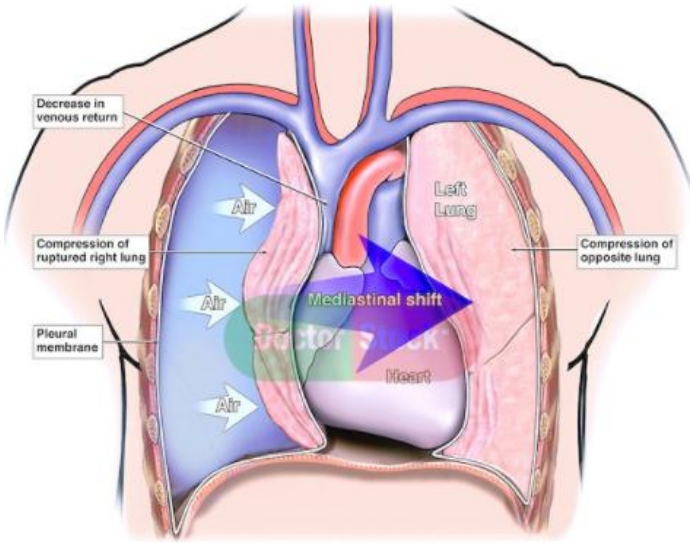
Otevřený hrudník

- Ponechání komunikace bez okluzivních krytí
- Kontrola krvácení na hrudníku přímým tlakem









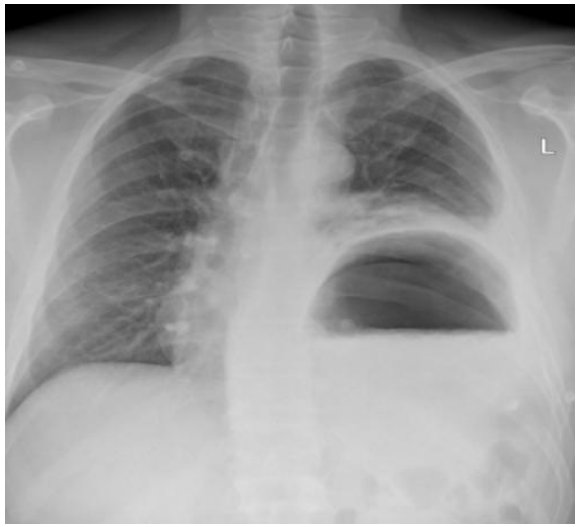
In a tension pneumothorax, air from a ruptured lung enters the pleural cavity without a means of escape. As air pressure builds up, the affected lung is compressed and all of the mediastinal tissues are displaced to the opposite side of the chest.

Břišní trauma





Břišní trauma









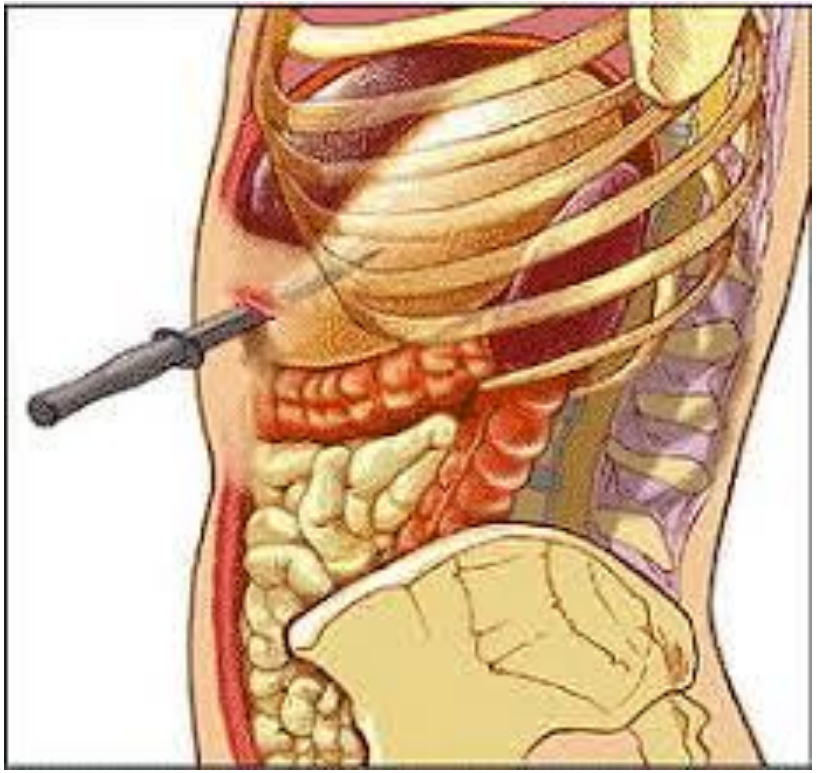


Známky nitrobřišního krvácení



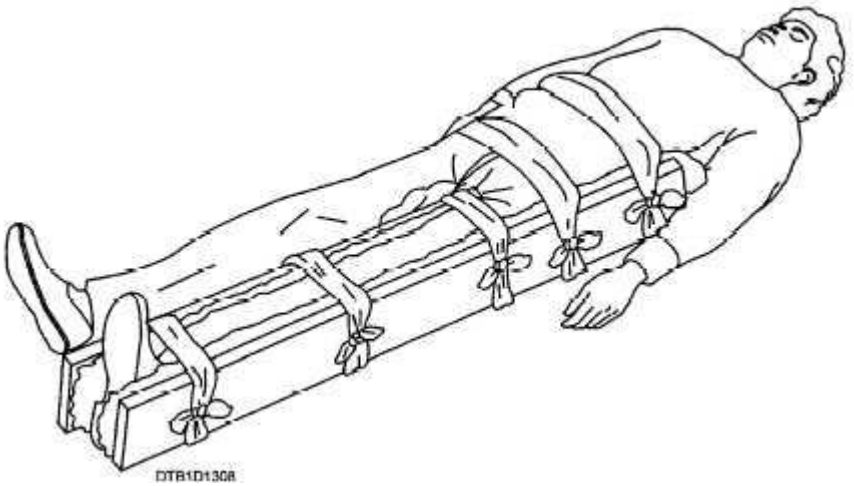
Bodné rány





Imobilizace zlomenin

- V nalezené pozici
- Bez repozice
- Imobilizace





Obecná pravidla

- Zavřené zlomeniny dlouhých kostí se šetrně znehybňují dostatečně dlouhou dlahou „přes dva klouby“.
- U otevřených zlomenin dezinfikujeme okolí rány, obložíme případné vyčnívající kostní úlomky a přiložíme lehký aseptický obvaz na ránu – úlomky nesmíme vtlačovat do rány.
- videa

Horní končetina

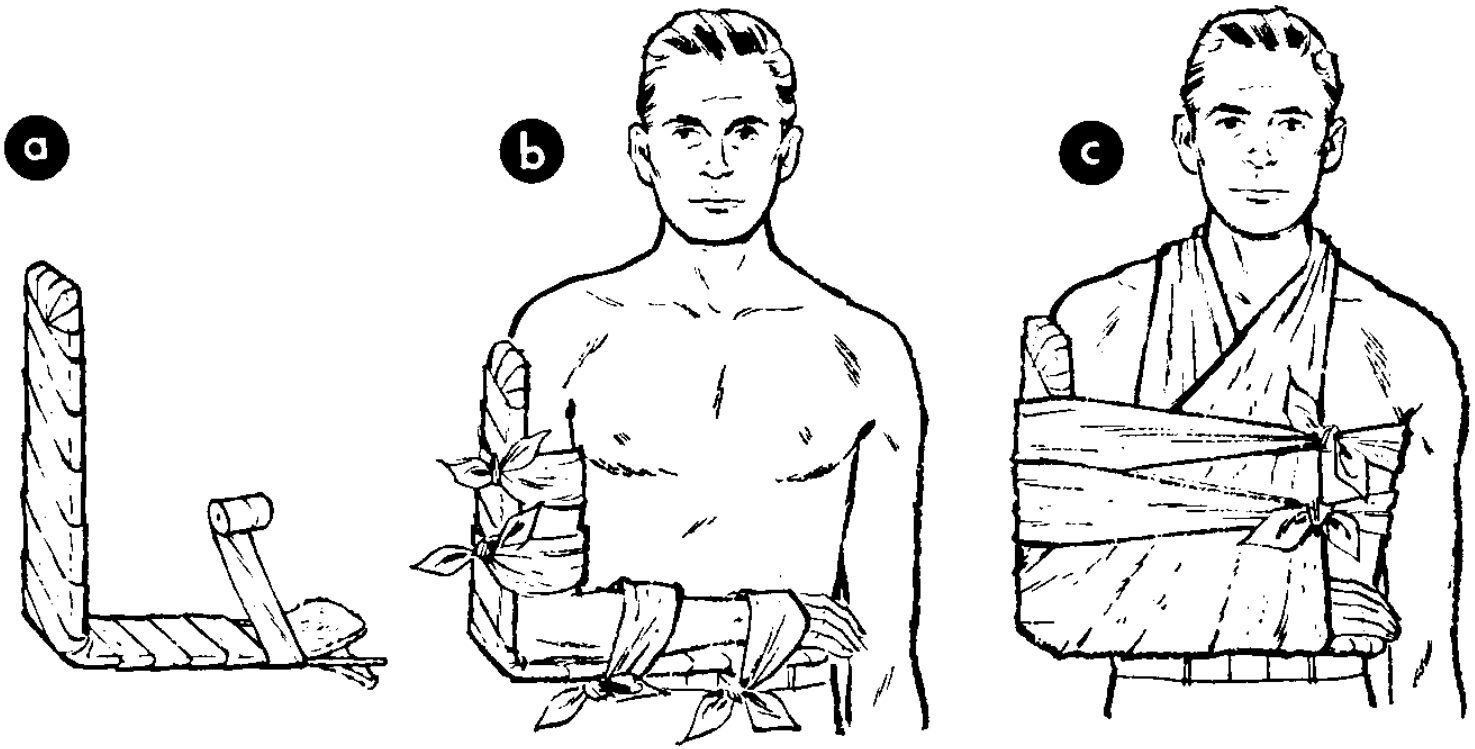


Figure 57. Wire ladder splint for fracture of arm (humerus).

Dolní končetina

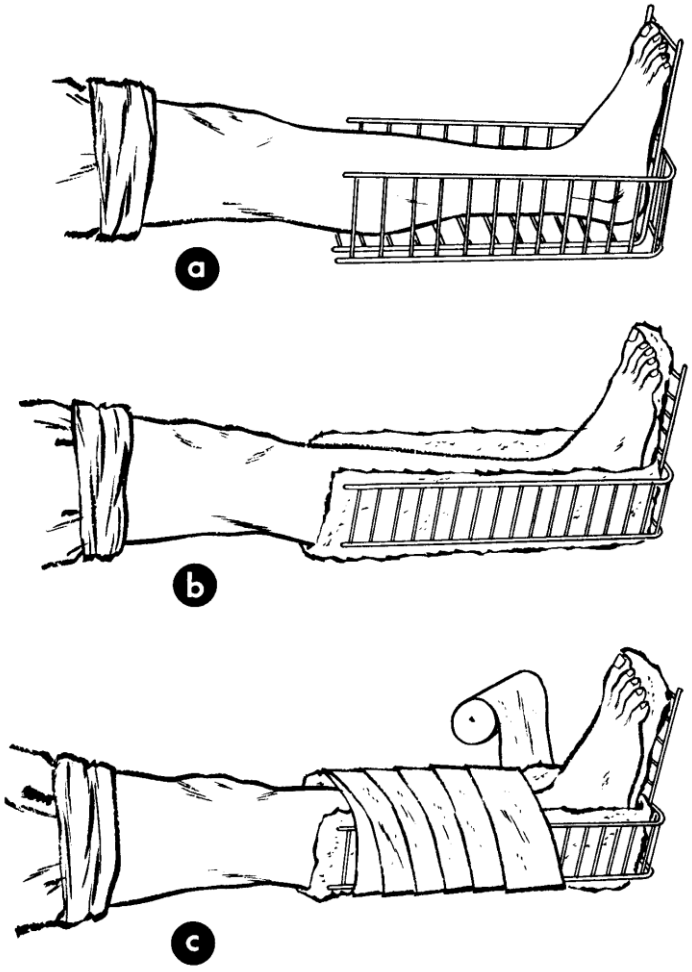
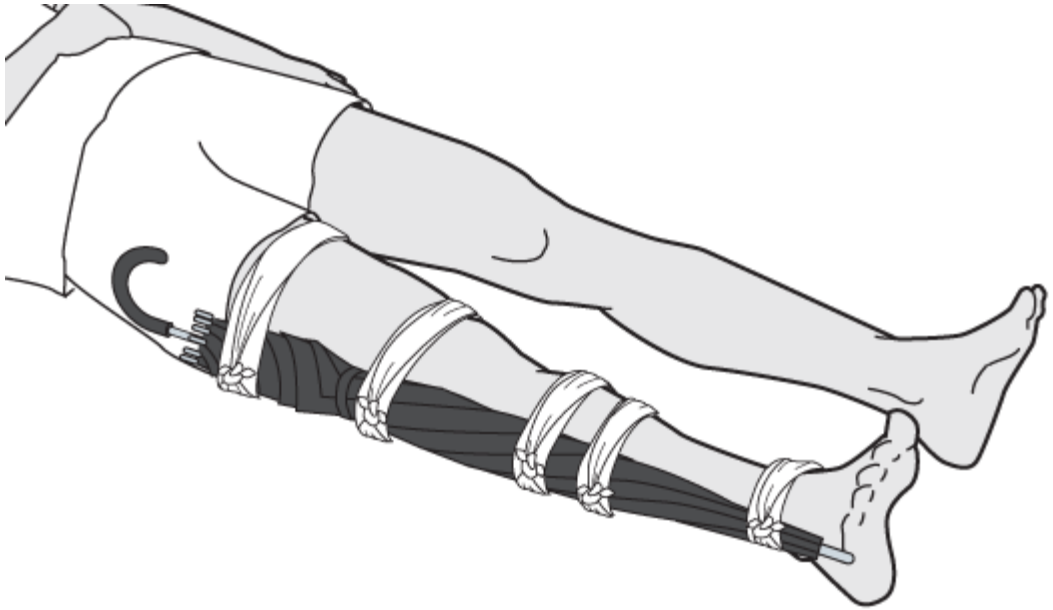


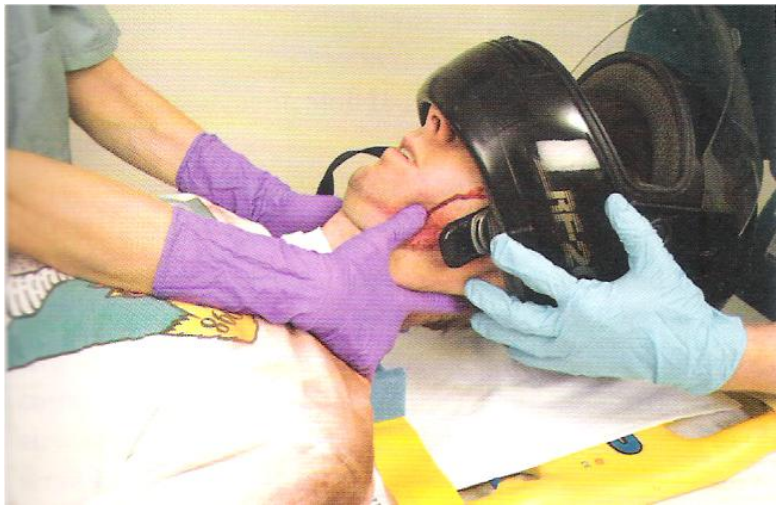
Figure 74. Wire ladder splint for fracture of lower extremity.

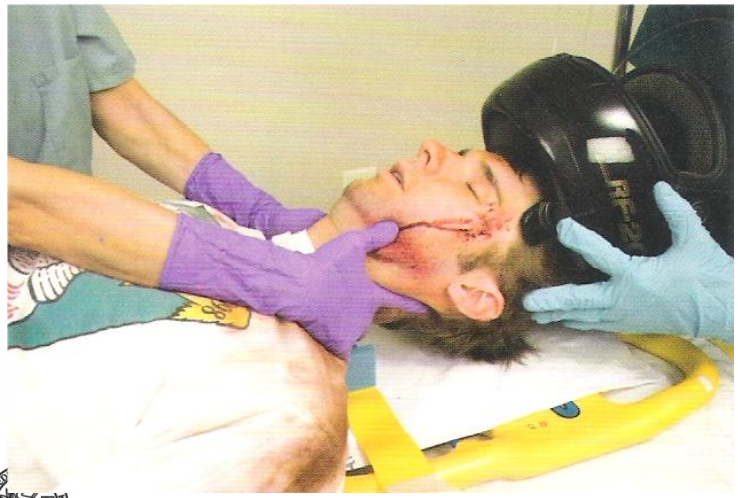
Improvizovaná stabilizace

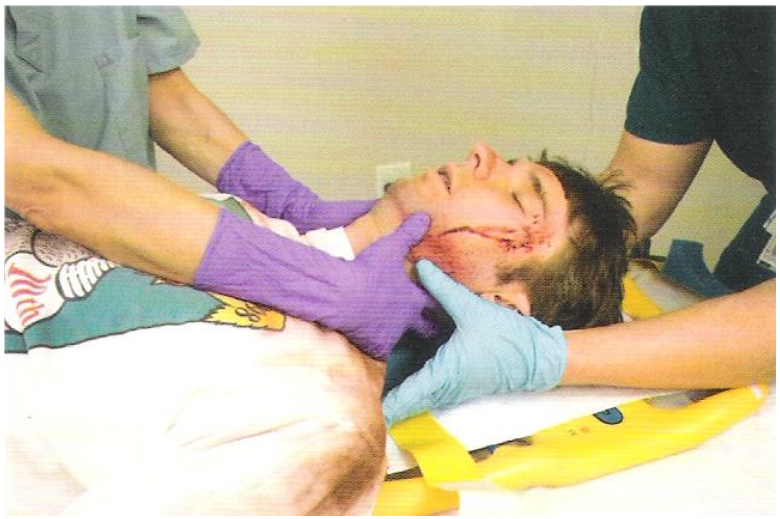


Fixace hlavy, sundání helmy









In-line manuální stabilizace (MILS)



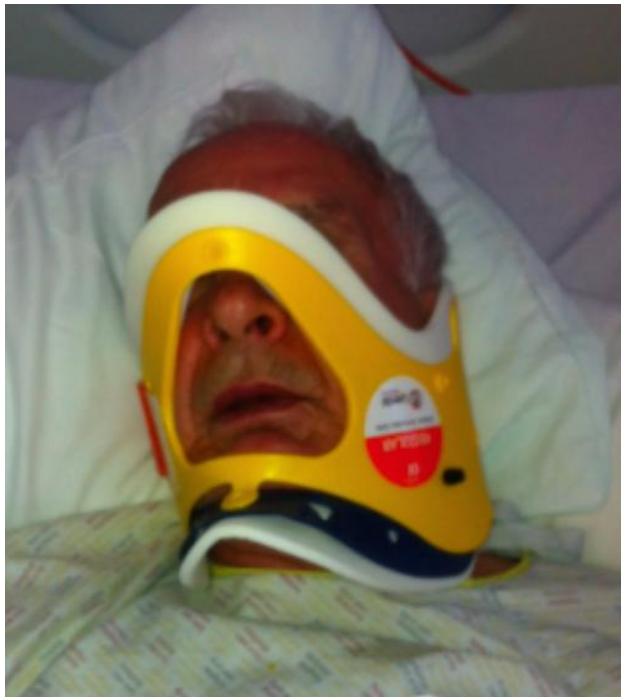
1. Kneel behind the patient and place your hands firmly around the base of the skull on either side.



2. Support the lower jaw with your index and long fingers, and the head with your palms. Gently lift the head into a neutral, eyes-forward position, aligned with the torso. Do not move the head or neck excessively, forcefully, or rapidly.

Správné nasazení límce správné velikosti



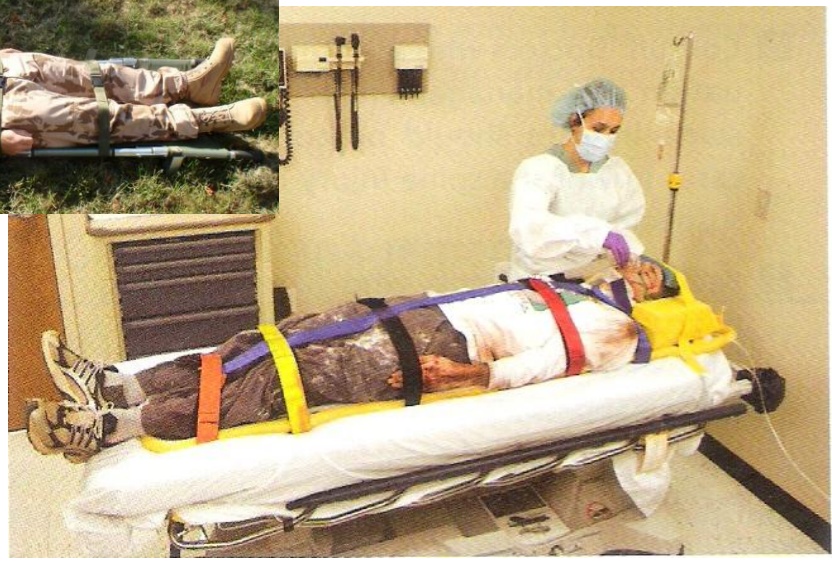


ace hlavy – bloky + pás



Backboard









■ **Figure 7-10** Cervical spine injury requires continuous immobilization of the entire patient with a semirigid cervical collar, head immobilization, backboard, tape, and straps before and during transfer to a definitive-care facility.



Otočení pomocí 3 osob









Pomoc při dušnosti, bolesti na hrudi

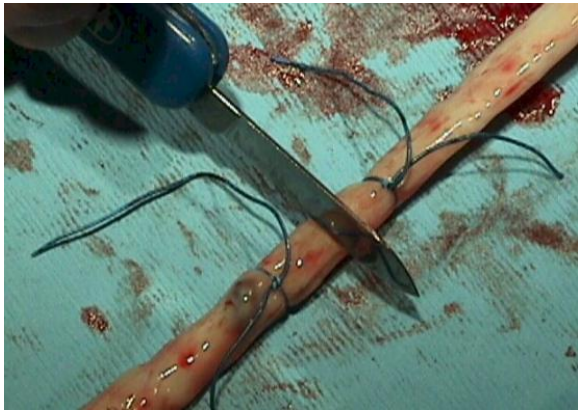
- Volat
- Klid
- Imobilizace
- Nic nepodávat

Orthopnoe





Porod



- Nezasahovat do průběhu porodu
- Ochránit hráz
- Ochránit dítě při vypuzení před pádem
- Zaškrcení pupečníku po minimálně 1 minutě
- Nedonošené bez sušení do igelitového sáčku (musí dýchat), a ke zdroji tepla (neuvařit)
- Donošené osušit, do sáčku a na matku (nejbezpečnější zdroj tepla)
- Převoz do nemocnice
- Placenta s sebou!

video





Chemické popáleniny

- 20 minut výplach
- Bez kontaminace zdravého oka
- Transport do nemocnice vždy
- Zalepit obě oči









Popáleniny



- Rozsah popálení
- Popáleninové centrum
- Inhalační trauma
  - Nářezy



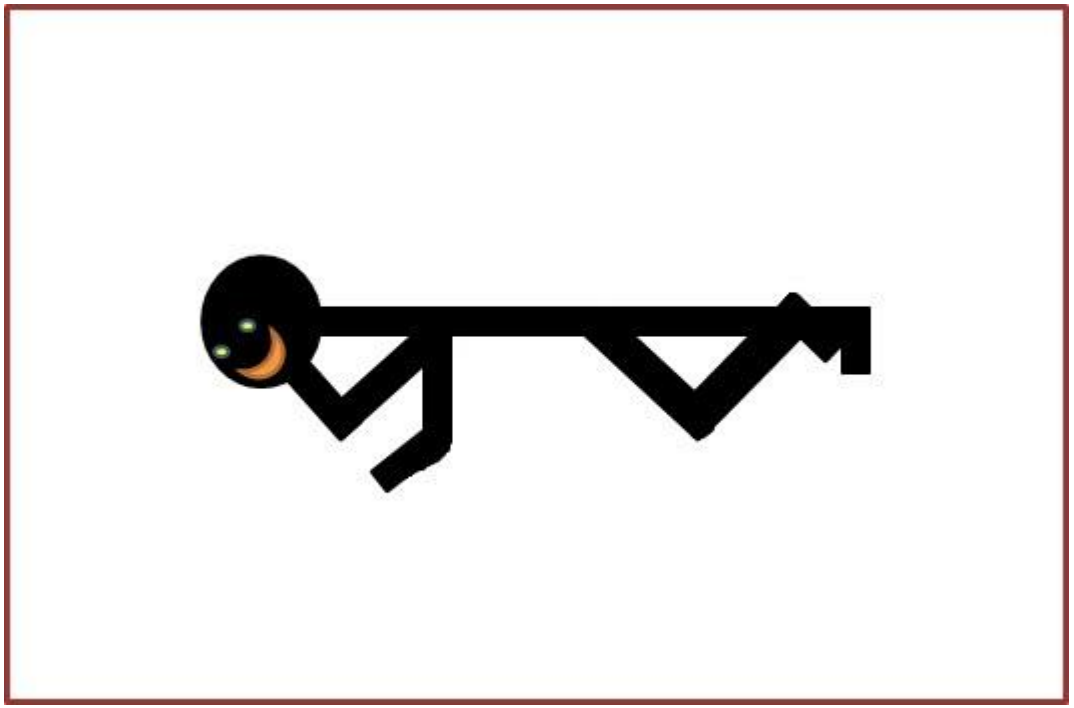
Popáleniny

- Aktivní chlazení 10 minut čistou vodou
- Pozor na hypotermii
- Sterilní krytí

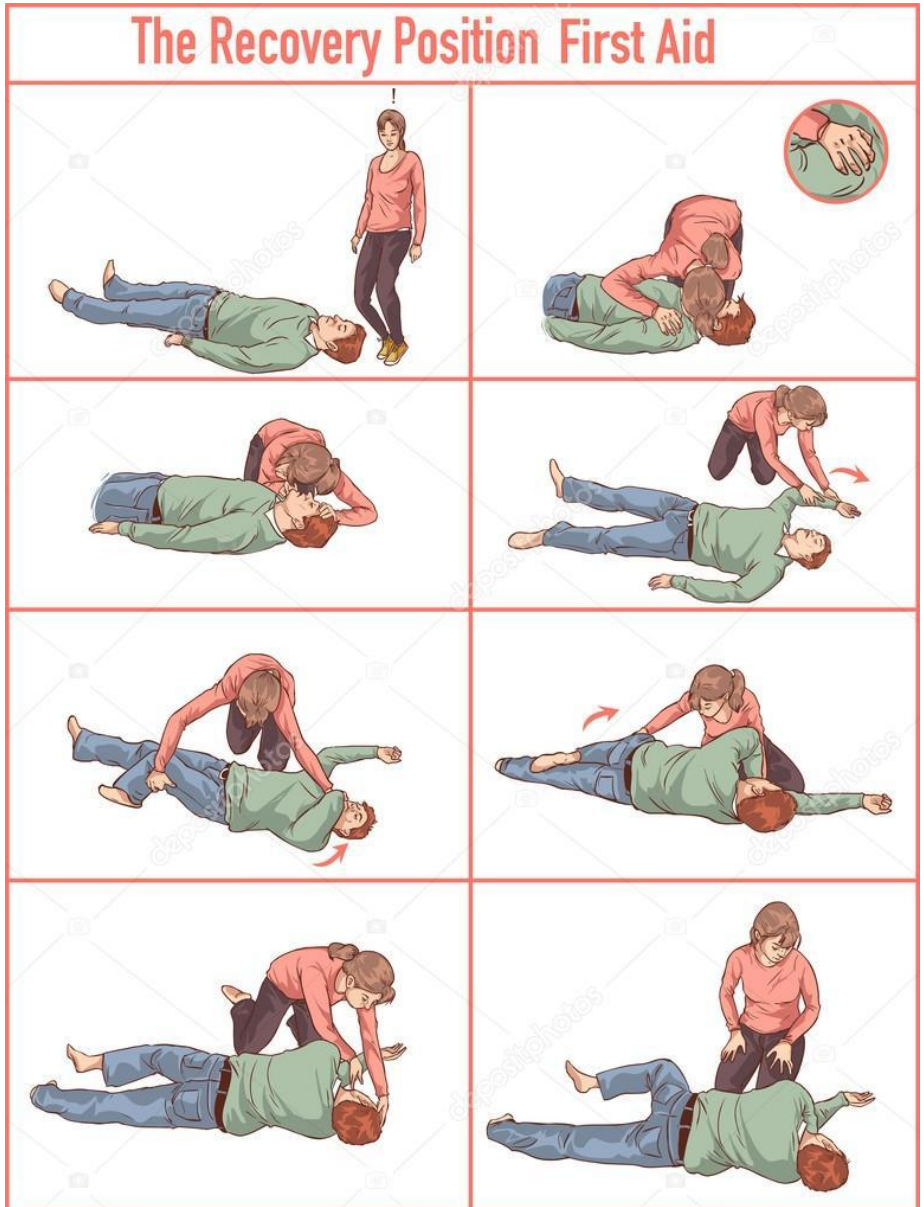




Recovery position

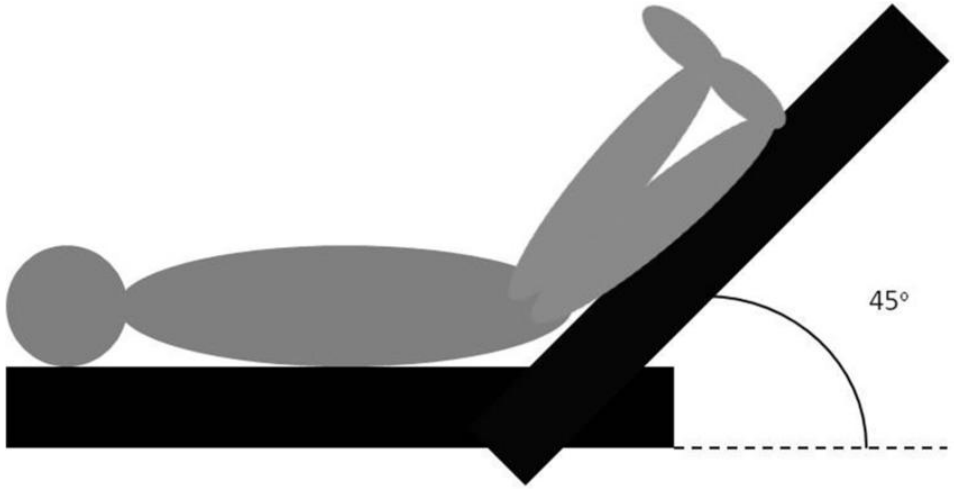


Zotavovací poloha



Poloha u traumatu, šok

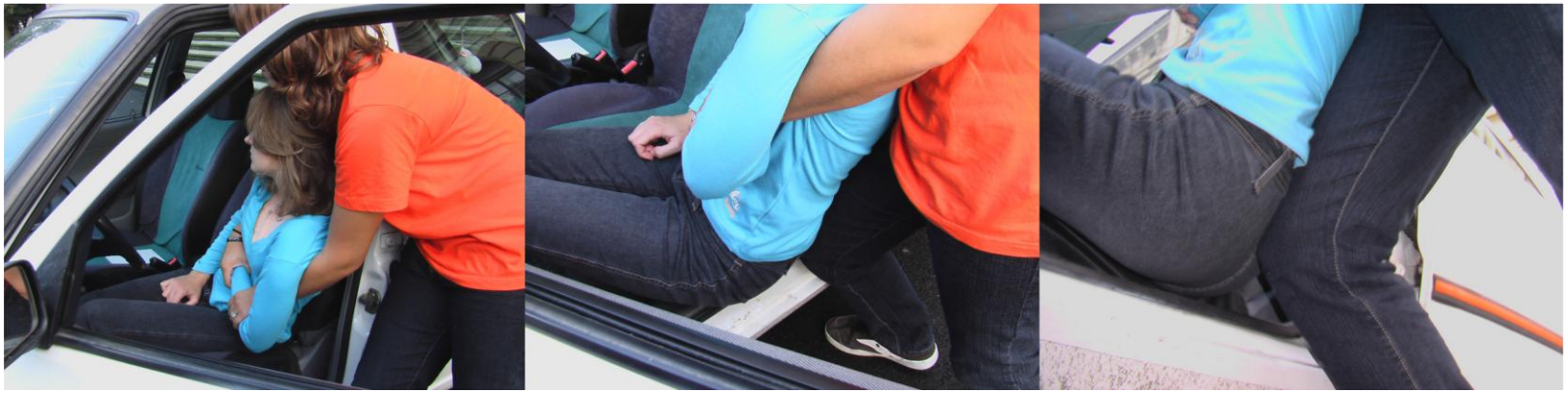
- Na zádech
- Pouze nejsou-li zn. traumatu končetin – zvednutí dolních končetin





Vyproštění z vozidla – Rautekův manévr

- video



Anafylaktický šok

Anaphylaxis is highly likely when any one of the following three criteria is fulfilled:

1 Sudden onset of an illness (minutes to several hours), with involvement of the skin, mucosal tissue, or both (e.g. generalized hives, itching or flushing, swollen lips-tongue-uvula)



AND AT LEAST ONE OF THE FOLLOWING:



Sudden respiratory symptoms and signs (e.g. shortness of breath, wheeze, cough, stridor, hypoxemia)

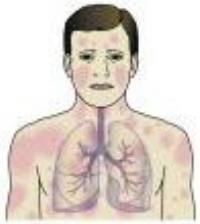


Sudden reduced BP or symptoms of end-organ dysfunction (e.g. hypotonia [collapse], incontinence)

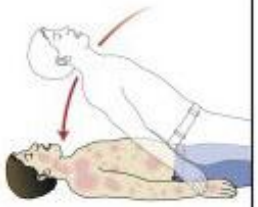
OR **2** Two or more of the following that occur suddenly after exposure to a *likely allergen or other trigger* for that patient* (minutes to several hours):



Sudden skin or mucosal symptoms and signs (e.g. generalized hives, itch-flush, swollen lips-tongue-uvula)



Sudden respiratory symptoms and signs (e.g. shortness of breath, wheeze, cough, stridor, hypoxemia)



Sudden reduced BP or symptoms of end-organ dysfunction (e.g. hypotonia [collapse], incontinence)



Sudden gastrointestinal symptoms (e.g. crampy abdominal pain, vomiting)

OR **3** Reduced blood pressure (BP) after exposure to a *known allergen** for that patient* (minutes to several hours):



Infants and children: low systolic BP (age-specific) or greater than 30% decrease in systolic BP***

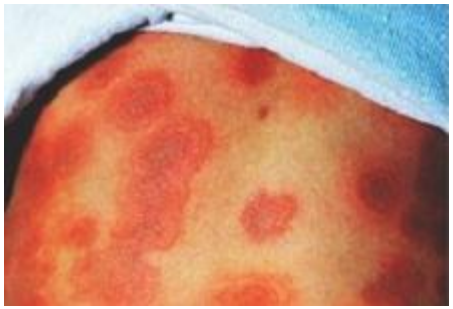


Adults: systolic BP of less than 90 mm Hg or greater than 30% decrease from that person's baseline

* For example, immunologic but IgE-independent, or non-immunologic (direct mast cell activation)

** For example, after an insect sting, reduced blood pressure might be the only manifestation of anaphylaxis; or, after allergen immunotherapy, generalized hives might be the only initial manifestation of anaphylaxis.

*** Low systolic blood pressure for children is defined as less than 70 mm Hg from 1 month to 1 year, less than (70 mm Hg + [2 x age]) from 1 to 10 years, and less than 90 mm Hg from 11 to 17 years. Normal heart rate ranges from 80-140 beats/minute at age 1-2 years; from 80-120 beats/minute at age 3 years; and from 70-115 beats/minute after age 3 years. In infants and children, respiratory compromise is more likely than hypotension or shock, and shock is more likely to be manifest initially by tachycardia than by hypotension.









Protišoková opatření – 5 T

- Teplo
- Ticho
- Tekutiny (p.o. rizikové, nevhodné, bude-li časně operován)
- Tišení bolesti (p.o. rizikové, snížené vstřebávání)
- Transport

Aplikace autoinjektoru

- Druhá dávka při přetrvávání příznaků za 5-15 min



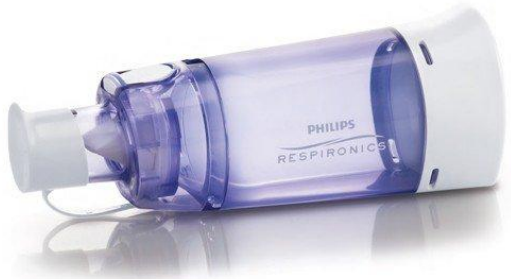




Inhalační aplikace léků, spacer

- Uklidnění, imobilizace
- Spreje, přes spacer







Rescue
Bronchodilator

Ventolin

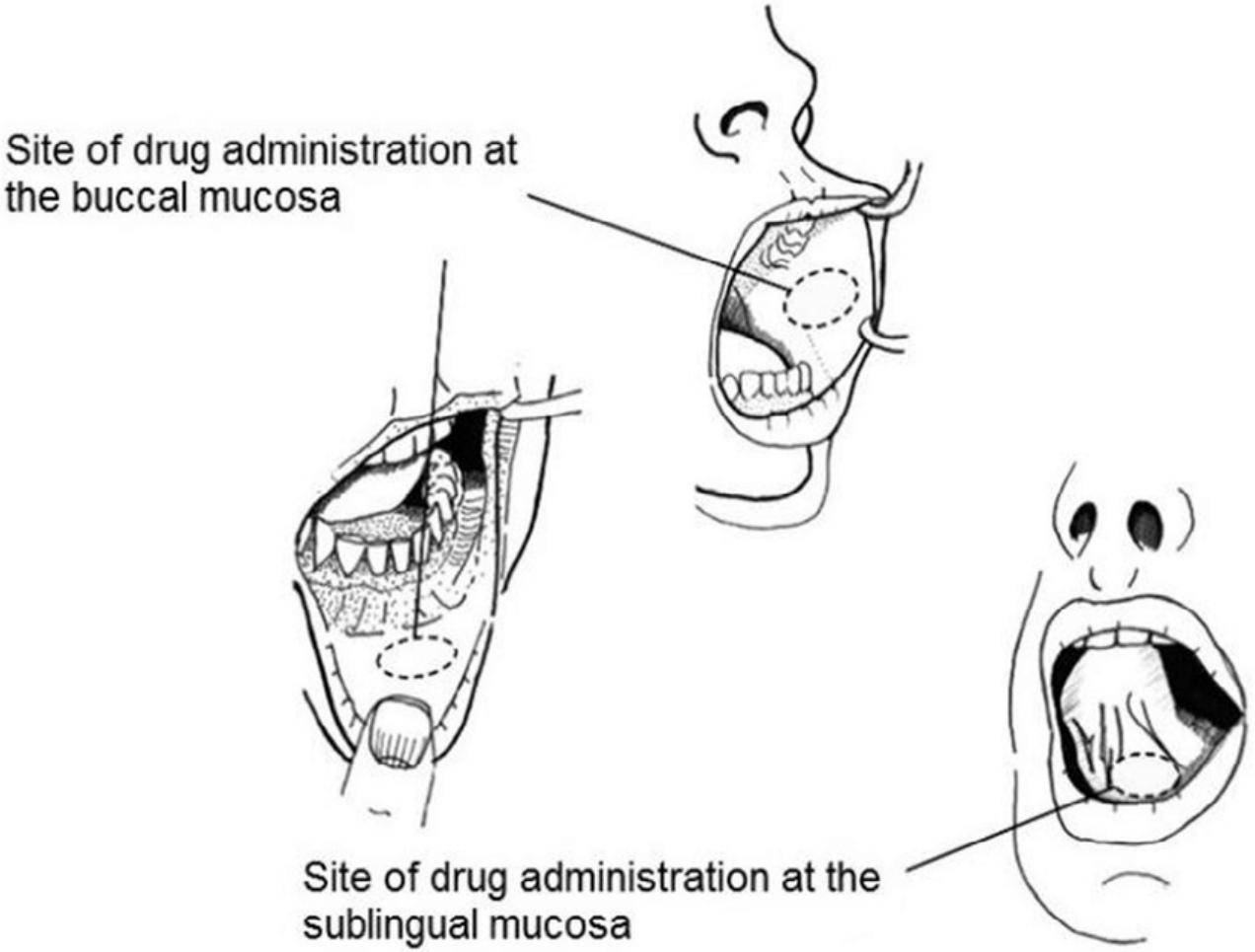
Controller
Corticosteroid

Budesonide





Sublinguální aplikace



Děkuji za pozornost.

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