

Jaká doporučení EBM v praxi nerespektují

Peter Sklienka

KARIM FN Ostrava a LF OU

Nemám žádný konflikt zájmů

Při přípravě prezentace nebyla použita AI

Evidence based medicine (EBM)

EBM - koncept z počátku 90-tych let 20.století, Kanada (McMaster University):

„pečlivé, explicitní a uvážlivé používání nejlepších aktuálně dostupných důkazů při rozhodování o péči o jednotlivé pacienty,,

Základní kameny:

- systematický sběr, analýza a syntéza dat z metodologicky kvalitních klinických studií –
systematická review, metaanalýzy; 1993 - Cochrane Collaboration

Výstupy:

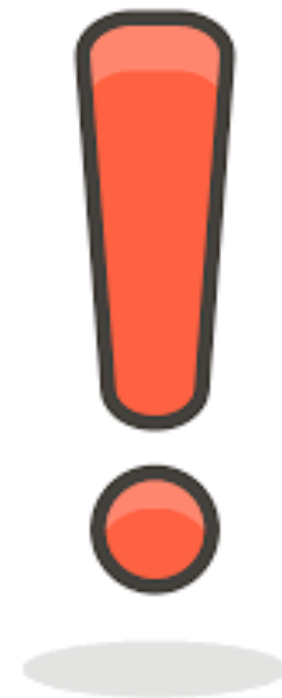
- **tvorba standardů péče a doporučení pro klinickou praxi**

Evidence based medicine (EBM)

Výstupy pro naši praxi - povinnost postupovat dle nejlepších současných poznatků
medicíny

EBM bez jakékoliv diskuse představují **základní kámen naší práce**

...postupy EBM by měly být dodržovány



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... vždy?



Evidence based medicine (EBM)

Problémy konceptu EBM:

1. Informační superdálnice; publikační etika
 - zcela protichůdné výsledky studií zkoumajících identický problém

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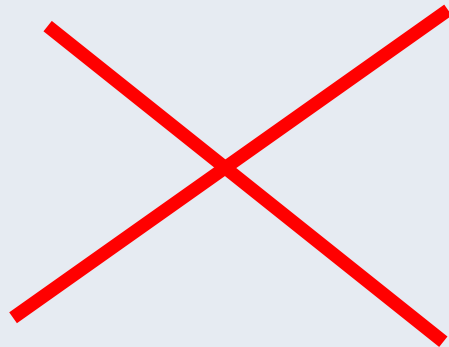
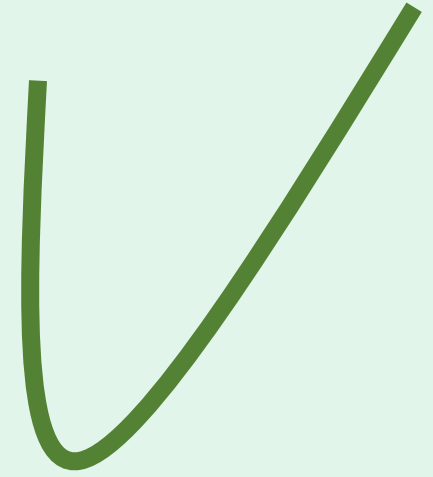
1. Informační superdálnice; publikační etika
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 - zcela protichůdné výsledky metaanalýz

Conclusions: In this meta-analysis, the use of albumin-containing solutions for the resuscitation of patients with sepsis was associated with lower mortality compared with other fluid resuscitation regimens. |

Delaney AC, Crit Care Med 2011

Conclusions: In this meta-analysis, a trend toward reduced 90-day mortality was observed in severe sepsis patients resuscitated with albumin compared with crystalloid and saline. Moreover, the 90-day mortality of patients with septic shock decreased significantly.

Xu JY, Critical Care 2014



Conclusions In this analysis, human albumin solutions as part of fluid volume expansion and resuscitation for critically unwell adults with sepsis of any severity (with or without baseline hypoalbuminaemia) were not robustly effective at reducing all-cause mortality.

Patel A, BMJ 2014

Conclusion: The present meta-analysis did not demonstrate significant advantage of using albumin-containing fluids for resuscitation in patients with sepsis of any severity.

Jiang L, PLOS ONE 2014

Evidence based medicine (EBM)

Problémy konceptu EBM:

2. Míra našich poznatků se neustále rozšiřuje – **mění se i závěry EBM**

Evidence based medicine (EBM)

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Intensive Care Med (2015) 41:1703–1706
DOI 10.1007/s00134-015-3733-1

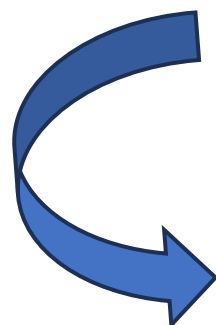
WHAT'S NEW IN INTENSIVE CARE



Anders Perner
John Myburgh

**Ten 'short-lived' beliefs in intensive care
medicine**

cca 2000



2015

1. Albumin zvyšuje mortalitu kriticky nemocných.
2. Časná a cílená hemodynamická resuscitace zlepšuje přežívání pacientů se septickým šokem.
3. Podávání aktivovaného proteinu C zlepšuje přežívání pacientů v septickém šoku s vysokým rizikem úmrtí.
4. Kortikosteroidy v nízké dávce zlepšují přežívání pacientů v septickém šoku.
5. Intenzivní kontrola glykemie zlepšuje přežívání kriticky nemocných pacientů.
6. Podávání roztoků obsahujících škrob je u kriticky nemocných pacientů bezpečné.
7. Dekompresní kraniektomie zlepšuje klinický výsledek u pacientů se závažným poraněním mozku.
8. Indukovaná lehká hypotermie zlepšuje klinický výsledek u pacientů po zástavě oběhu.
9. Cílená transfuzní strategie založená na zhodnocení biomarkerů (hodnota hemoglobinu, plazmatického laktátu a saturace smíšené žilní krve kyslíkem) zlepšuje výsledek léčby u pacientů v septickém šoku.
10. Podpora funkce ledvin vysokoobjemovou eliminací zlepšuje přežívání pacientů se selháním ledvin.

Evidence based medicine (EBM)

Problémy konceptu EBM:

3. EBM – stanovuje který postup je nejefektivnější při paušálním použití **v dané populaci pacientů**

Evidence based medicine (EBM)

Problémy konceptu EBM:

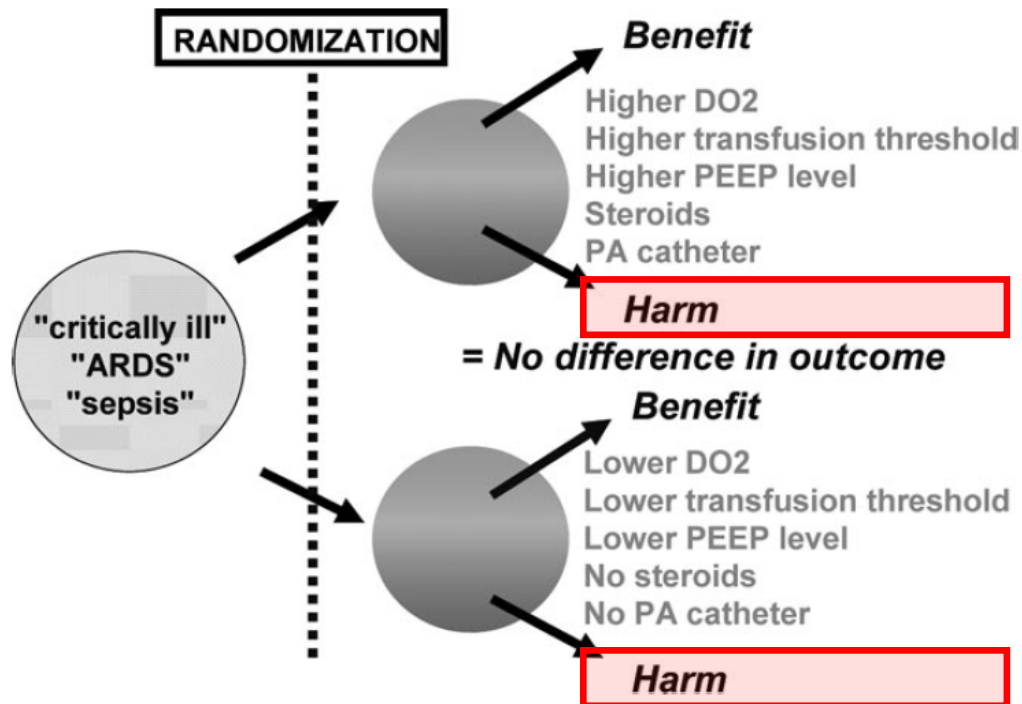
3. EBM – stanovuje který postup je nejefektivnější při paušálním použití **v dané populaci pacientů**

...ale bude efektivní i u mého **konkrétního pacienta?**

Evidence based medicine (EBM)

Problémy konceptu EBM:

3. EBM – stanovuje který postup je nejefektivnější při použití v dané populaci pacientů



...a co non-responders?

Surviving sepsis campaign: international guidelines for management of sepsis and septic shock 2021



Introduction

Sepsis is life-threatening organ dysfunction caused by a dys-regulated host response to infection [1]. Sepsis and septic shock are major healthcare problems, impacting millions of people around the world each year and killing between one in three and one in six of those it affects [2–4].¹ Early identification and appropriate management in the initial hours after the development of sepsis improve outcomes.

The recommendations in this document are intended to provide guidance for the clinician caring for adult patients with sepsis or septic shock in the hospital setting. Recommendations from these guidelines cannot

replace the clinician's decision-making capability when presented with a unique patient's clinical variables. These guidelines are intended to reflect best practice (Table 1).

Screening and early treatment

Screening for patients with sepsis and septic shock

Recommendation

1. For hospitals and health systems, we **recommend** using a performance improvement programme for sepsis, including sepsis screening for acutely ill, high-risk patients and standard operating procedures for treatment

Strong recommendation, moderate quality of evidence for screening

Strong recommendation, very low-quality evidence for standard operating procedures

*Correspondence: leevans@uw.edu

¹ Division of Pulmonary, Critical Care and Sleep Medicine, University

Personalizovaná medicína

Jaká doporučení EBM v
praxi nerespektují

Kdy a proč se v praxi
odchýlím od doporučení EBM

1. Tekutinová resuscitace septického šoku



LOW

5

For patients with sepsis induced hypoperfusion or septic shock we **suggest** that at least 30 mL/kg of intravenous (IV) crystalloid fluid should be given within the first 3 hours of resuscitation.

2016 STATEMENT



*"We **recommend** that in the initial resuscitation from sepsis-induced hypoperfusion, at least 30ml/kg of intravenous crystalloid fluid be given within the first 3 hours."*



Figure 1 Decrease in control group mortality from 2001 to 2014. The decrease in mortality of the control groups from the 2001 Rivers et al. study [14] and the 2014 Australian Resuscitation In Sepsis Evaluation study [16].

Therapeutic Intervention	Protocolized Care for Early Septic Shock					Australasian Resuscitation in Sepsis Evaluation		Protocolized Management in Sepsis	
	EGDT		Protocol-Based Standard Therapy			EGDT	UC	EGDT	UC
	EGDT	Control	EGDT	Protocol-Based Standard Therapy	UC				
Fluid from emergency department arrival to 6 hr ^a , mL	4,981	3,499	5,059	5,511	4,362	4,479	4,304	4,216	3,987
Difference between groups ^b , mL	1,482		−452 and 667			175		229	
Difference between groups (%)	42.4		16			4.1		4.4	
Fluids 6–72 hr, mL	8,625	10,602	4,458	4,918	4,354	4,274	4,382	4,215	4,366
Total fluids 0–72 hr, mL	13,443	13,358	7,253	8,193	6,663	6,906	6,672	5,946	5,844
Vasopressor 0–6 hr, %	27.4	30.3	54.9	52.2	44.1	66.6	57.8	53.3	46.6
Vasopressor 6–72 hr, %	29.1	42.9	47.6	46.6	43.2	58.8	51.5	57.9	52.6
Vasopressor 0–72 hr, %	36.8	51.3	60.4	61.2	53.7			60.5	55.0
Inotrope 0–6 hr, %	13.7	0.8	8.0	1.1	0.9	15.4	2.6	18.1	3.8



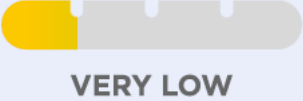
LOW

5 For patients with sepsis induced hypoperfusion or septic shock we **suggest** that at least 30 mL/kg of intravenous (IV) crystalloid fluid should be given within the first 3 hours of resuscitation.



MODERATE

34 For adults with sepsis or septic shock, we **suggest** using albumin in patients who received large volumes of crystalloids.



VERY LOW

44 For adults with septic shock, we **suggest** starting vasopressors peripherally to restore mean arterial pressure rather than delaying initiation until a central venous access is secured.



MODERATE

58 For adults with septic shock and an ongoing requirement for vasopressor therapy we **suggest** using IV corticosteroids.



LOW

5

For patients with sepsis induced hypoperfusion or septic shock we **suggest** that at least 30 mL/kg of intravenous (IV) crystalloid fluid should be given within the first 3 hours of resuscitation.



VERY LOW

6

For adults with sepsis or septic shock, we **suggest** using dynamic measures to guide fluid resuscitation, over physical examination, or static parameters alone.



LOW

7

For adults with sepsis or septic shock, we **suggest** guiding resuscitation to decrease serum lactate in patients with elevated lactate level, over not using serum lactate.



LOW

8

For adults with septic shock, we **suggest** using capillary refill time to guide resuscitation as an adjunct to other measures of perfusion.

Kdy se odchýlím od EBM?

1. Pokud se doporučení týká **prostředku k dosažení konkrétního cíle** ale
cíl

Ize dosáhnout i bez doslovného naplnění doporučeného postupu

2. Trauma, f VIIa a EBM

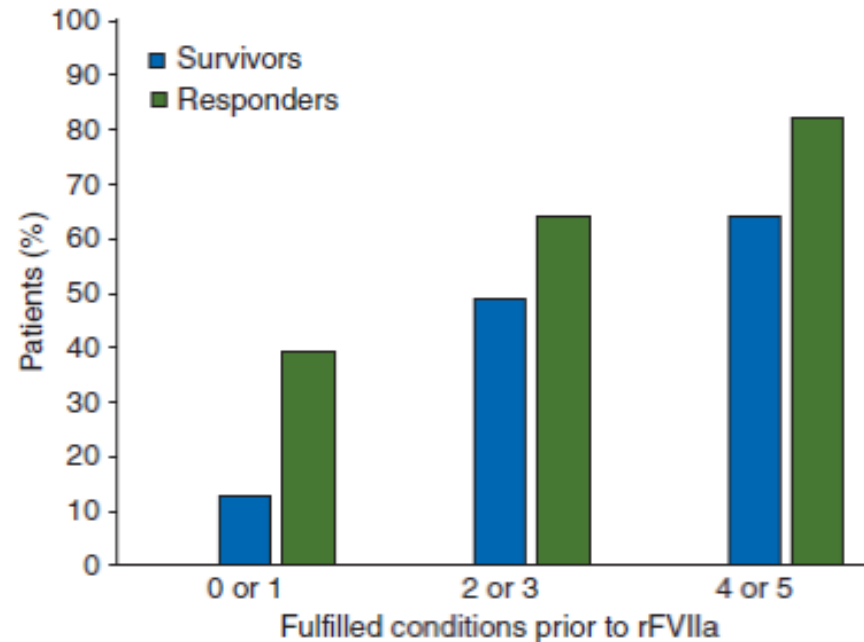
The European guideline on management of major bleeding and coagulopathy following trauma: sixth edition

Recombinant activated coagulation factor VII

Recommendation 32 We do not recommend the use of recombinant activated coagulation factor VII (rFVIIa) as first-line treatment (Grade 1B).

We suggest that the off-label use of rFVIIa be considered only if major bleeding and traumatic coagulopathy persist despite all other attempts to control bleeding, systemic homeostasis and best-practice use of conventional haemostatic measures (Grade 2C).

Reduced mortality by meeting guideline criteria before using recombinant activated factor VII in severe trauma patients with massive bleeding



Conclusions. In actively bleeding trauma patients, meeting guideline criteria before considering rFVIIa was associated with lower mortality and a higher proportion of responders to the rFVIIa

Recombinant factor VIIa for the prevention and treatment of bleeding in patients without haemophilia (Review)

29 studií „off label“ indikací; 19 profylaktické indikace, 13 terapeutické

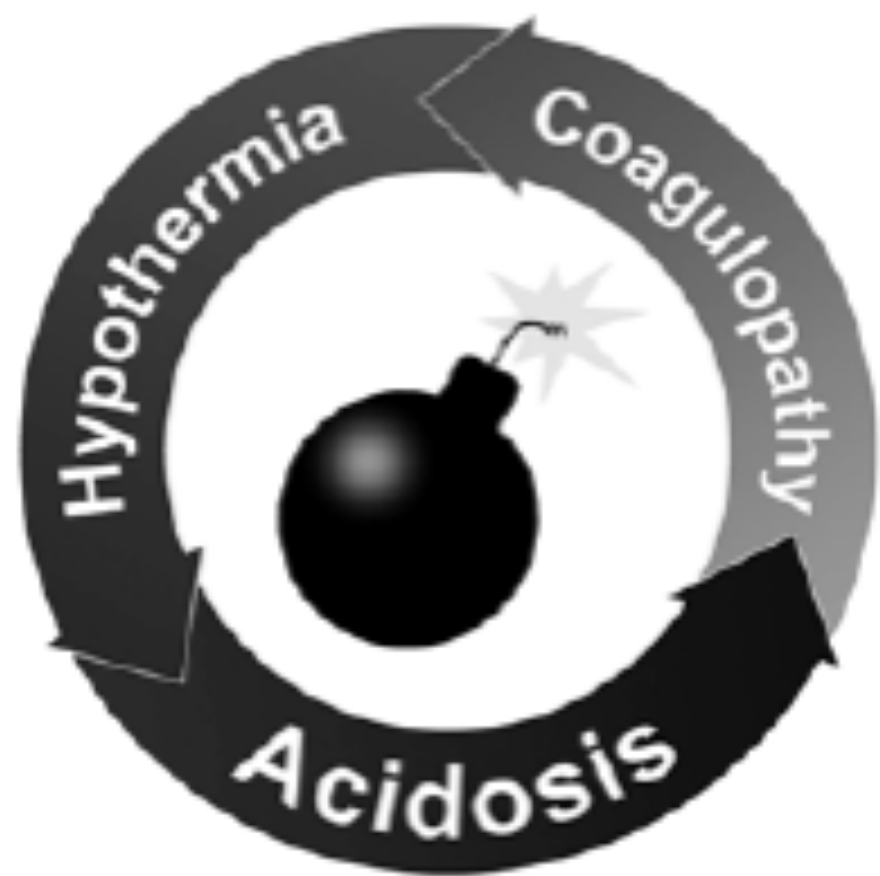
Conclusion: The effectiveness of rFVIIa as a more general haemostatic drug, either prophylactically or therapeutically, remains unproven. The results indicate increased risk of arterial events in patients receiving rFVIIa. The use of rFVIIa outside its current licensed indications should be restricted to clinical trials.

The Efficacy of Recombinant Activated Factor VII in Severe Trauma

You are beginning your shift and are receiving a sign-out on a 28-year-old man who was involved in a high-speed motor vehicle crash. He has received **multiple units of packed RBCs and fresh frozen plasma and is awaiting transfer to the regional tertiary trauma center**. His pregnant wife and his daughter are waiting apprehensively outside of the trauma bay. The accepting trauma surgeon has suggested the use of **recombinant activated factor VII (rFVIIa)** before transfer, suggesting that this **treatment might improve bleeding-related outcomes** for this patient. You know that rFVIIa was developed and approved by Food and Drug Administration for the treatment of bleeding episodes in patients with hemophilia who develop antibodies to factor VIII. You are aware that it has also been used off label in a number of bleeding conditions.

The Efficacy of Recombinant Activated Factor VII in Severe Trauma

“Your family member has sustained significant injury, and we are doing everything possible to save his life. In addition to all the available treatments that we have provided, there is a medication called rFVIIa that has been used in a number of bleeding conditions with the hope of reducing the amount of bleeding. **Unfortunately, there is very little scientific research evaluating the use of this medication in severe trauma. The use of this medication might be associated with increased risk of clot formation in the body.** The available research does not clearly indicate whether this treatment is helpful or harmful. Therefore, we cannot recommend using or not using this medication.”



Scientific and logistical challenges in designing the **CONTROL** trial: recombinant factor VIIa in severe trauma patients with refractory bleeding

studie předčasně ukončena:

- nízký počet pacientů (573 / 3 roky)
- **cross-over** (= podávání fVIIa mimo protokol studie)
- mortalita nízká, bez rozdílu v protokolové a kontrolní skupině (předpokládaná mortalita cca 25-30%, reálná cca 11% v obou ramenech)

Massive bleeding in polytrauma: how can we make progress?

Will it be possible to conduct trials in massively bleeding patients or in polytrauma victims?

What kinds of studies should we propose in order to define the place of rFVIIa or the newer procoagulants that are now emerging?

What can we reasonably do the next time we are about to lose a young trauma victim to exsanguination?

Should we give rFVIIa and risk being accused of off-label use of a drug without an accepted benefit – risk profile, or should we deny the patient the benefit of a potentially life-saving product that clearly reduces bleeding?

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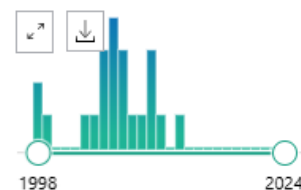


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21 results

<< < Page 1 of 3 > >>

RESULTS BY YEAR



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- ☐ 5 years
- ☐ 10 years
- ☐ Custom Range

TEXT AVAILABILITY

- ☐ Abstract
- ☐ Free full text
- ☐ Full text

ARTICLE ATTRIBUTE

- ☐ Associated data

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- ☒ Clinical Trial
- ☐ Meta-Analysis
- ☒ Randomized Controlled Trial
- ☐ Review
- ☐ Systematic Review

See all article type filters

Filters applied: Clinical Trial, Randomized Controlled Trial, Humans. [Clear all](#)

- ☐ 1 [\[Role of small-dose recombinant human coagulation factor VIIa for coagulopathy in patients with isolated traumatic brain injury\].](#)
 Cite Pei BB, Li CY, Lu X, Wu X, Gao L, Yu J, Wu XH, Jin Y, Sun YR, Du ZY, Mao Y, Hu J, Zhou LF.
 Zhonghua Yi Xue Za Zhi. 2013 Jun 18;93(23):1780-3.
 Share PMID: 24124708 Clinical Trial. Chinese.
 OBJECTIVE: To explore the role of small-dose recombinant human coagulation **factor VIIa** (rFVIIa) for coagulopathy in patients with isolated traumatic brain injury. METHODS: A total of 86 isolated traumatic brain patients with coagulopathy were treated at our neurosur ...
- ☐ 2 [Recombinant activated factor VII safety in trauma patients: results from the CONTROL trial.](#)
 Cite Dutton RP, Parr M, Tortella BJ, Champion HR, Bernard GR, Boffard K, Bouillon B, Croce MA, Dimsits J, Holcomb JB, Leppaniemi A, Vincent JL, Hauser CJ; CONTROL Study Group.
 Share J Trauma. 2011 Jul;71(1):12-9. doi: 10.1097/TA.0b013e31821a42cf.
 PMID: 21610529 Clinical Trial.
 BACKGROUND: Safety data on recombinant **activated factor VII** (rFVIIa, NovoSeven; Novo Nordisk A/S, Bagsvaerd, Denmark) in actively hemorrhaging **trauma** patients are limited. ...CONCLUSIONS: This represents the largest placebo-controlled dataset of rFVIIa ...
- ☐ 3 [Results of the CONTROL trial: efficacy and safety of recombinant activated Factor VII in the management of refractory traumatic hemorrhage.](#)
 Cite Hauser CJ, Boffard K, Dutton R, Bernard GR, Croce MA, Holcomb JB, Leppaniemi A, Parr M, Vincent JL, Tortella BJ, Dimsits J, Bouillon B; CONTROL Study Group.
 Share J Trauma. 2010 Sep;69(3):489-500. doi: 10.1097/TA.0b013e3181edf36e.
 PMID: 20838118 Clinical Trial.
 BACKGROUND: Traumatic coagulopathy contributes to early death by exsanguination and late death in multiple organ failure. Recombinant **Factor VIIa** (rFVIIa, NovoSeven) is a procoagulant that might limit bleeding and improve **trauma** outcomes. ...Intensive care un ...
- ☐ 4 [Global differences in causes, management, and survival after severe trauma: the recombinant activated factor VII phase 3 trauma trial.](#)
 Cite Christensen MC, Parr M, Tortella BJ, Malmgren J, Morris S, Rice T, Holcomb JB; CONTROL Study Group.
 Share J Trauma. 2010 Aug;69(2):344-52. doi: 10.1097/TA.0b013e3181e74c69.
 PMID: 20666712 Clinical Trial.





...při kontrole nálezu na DK pak **známky akutní ischemie LDK**, po rychlém ošetření stehenní kosti vlevo traumatologem, pokračujeme v levém třísele s revizi tepenného systému, **LDK kompletně trombotizovaná až do úrovně bérceových tepen**. Podáno 5000j Heparinu. Provedena embolektomie, přítok z pánve transponovanou vnitřní ilickou tepnou intaktní, **z periferie provedena embolektomie masivních trombů** pomocí 3,4,5 a 6F katetrů. Postupně se nám daří zprůchodnit tepenný systém což ověřeno peroperační dopplerometrií a po elevaci tlaku i hmatnou pulzací. RD do třísla, sutura AFC, uzávěr rány po vrstvách. na závěr z lumbální kraji otoverem po dopravní značce zaveden drén do retroperitonea a sutura rány.

Kdy se odchýlím od EBM?

2. Pokud' se jedná o emergentní život ohrožující stav a terapeutickou intervenci

s nesporným klinickým efektem

3. TBI a dekompresní kraniektomie

12. INTRACRANIAL PRESSURE MONITORING

LEVEL I AND II A

There was insufficient evidence to support a Level I or II A recommendation for this topic.

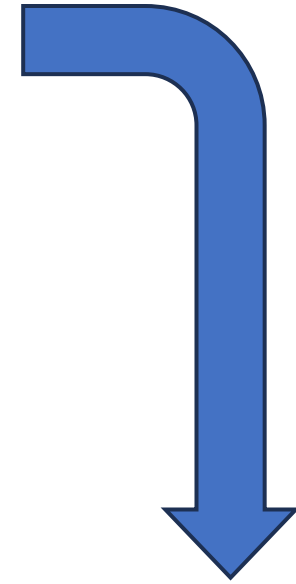
LEVEL II B

Management of severe TBI patients using information from ICP monitoring is recommended to reduce in-hospital and 2-week post-injury mortality.

The Level II and III recommendations from the 3rd Edition of these guidelines are not supported by evidence meeting current standards because they were derived from descriptive studies, or from studies that do not meet the current inclusion criteria for this topic. While no evidence is available from comparative studies to support a formal recommendation, the Committee chose to re-state here the 3rd Edition recommendations. The rationale for doing so is to maintain sufficient recognition of the patient characteristics associated with risk of increased intracranial pressure.

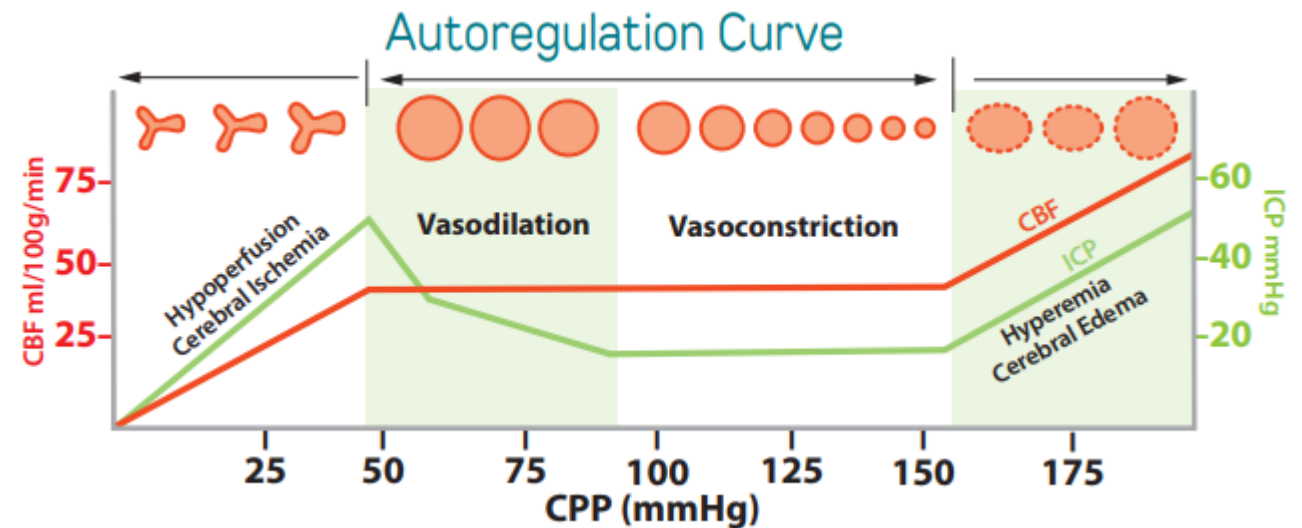
TIER 2

- Mild hypocapnia range 32–35 mmHg/4.3–4.6 kPa
- Neuromuscular paralysis in adequately sedated patients if efficacious²
- Perform MAP Challenge to assess cerebral autoregulation and guide MAP and CPP goals in individual patients³
 - Should be performed under direct supervision of a physician who can assess response and ensure safety
 - No other therapeutic adjustments (i.e. sedation) should be performed during the MAP Challenge
 - Initiate or titrate a vasopressor or inotrope to increase MAP by 10 mmHg for not more than 20 minutes
 - Monitor and record key parameters (MAP, CPP, ICP and $P_{bt}O_2$) before during and after the challenge
 - Adjust vasopressor/inotrope dose based on study findings
- Raise CPP with fluid boluses, vasopressors and/or inotropes to lower ICP when autoregulation is intact



TIER 3

- Pentobarbital or Thiopentone coma titrated to ICP control if efficacious⁴
- Secondary decompressive craniectomy
- Mild hypothermia (35–36°C) using active cooling measures



1. DECOMPRESSIVE CRANIECTOMY

LEVEL I

There was insufficient evidence to support a Level I recommendation for this topic.

LEVEL II A

Bifrontal DC is not recommended to improve outcomes as measured by the Glasgow Outcome Scale – Extended (GOS-E) score at 6 months post-injury in severe TBI patients with diffuse injury (without mass lesions), and with ICP elevation to values >20 mm Hg for more than 15 minutes within a 1-hour period that are refractory to first-tier therapies. However, this procedure has been demonstrated to reduce ICP and to minimize days in the intensive care unit (ICU).

A large frontotemporoparietal DC (not less than 12 x 15 cm or 15 cm diameter) is recommended over a small frontotemporoparietal DC for reduced mortality and improved neurologic outcomes in patients with severe TBI.

1. DECOMPRESSIVE CRANIECTOMY

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LEVEL II A

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Kdy se odchýlím od EBM?

3. Když se jedná o intervenci s prokazatelným fyziologickým efektem a doporučení jsou navzájem v kontradikci a neurčitého charakteru

4. ARDS a umělá plicní ventilace

UPV u ARDS se týkají doporučení:

1. Surviving Sepsis Campaign (2021)
2. ESICM guidelines (2023)
3. American Thoracic Society Guidelines (2024)

49 For adults with sepsis-induced ARDS, we **recommend** using a low tidal volume ventilation strategy (6 mL/kg), over a high tidal volume strategy (>10 mL/kg).

50 For adults with sepsis-induced severe ARDS, we **recommend** using an upper limit goal for plateau pressures of 30 cm H₂O, over higher plateau pressures.

51 For adults with moderate to severe sepsis-induced ARDS, we **suggest** using higher PEEP over lower PEEP.

52 For adults with sepsis-induced respiratory failure (without ARDS), we **suggest** using low tidal volume as compared to high tidal volume ventilation.

53 For adults with sepsis-induced moderate-severe ARDS, we **suggest** using traditional recruitment maneuvers.

54 When using recruitment maneuvers, we **recommend against** using incremental PEEP titration/strategy.



Recommendation 5.1

We **recommend** the use of low tidal volume ventilation strategies (i.e., 4–8 mL/kg PBW), compared to larger tidal volumes (traditionally used to normalize blood gases), to reduce mortality in patients with ARDS not due to COVID-19.

Strong recommendation based on expert opinion despite lack of statistical significance; high level of evidence.

This recommendation applies also to ARDS from COVID-19.

Strong recommendation; moderate level of evidence for indirectness.

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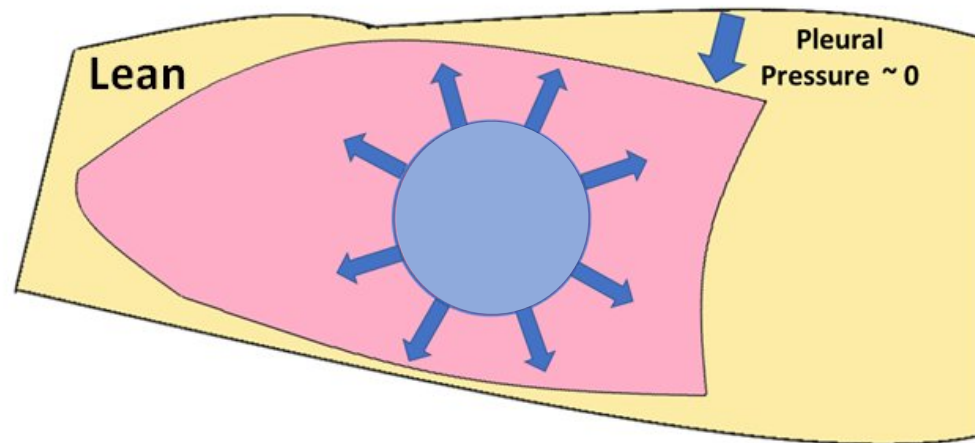
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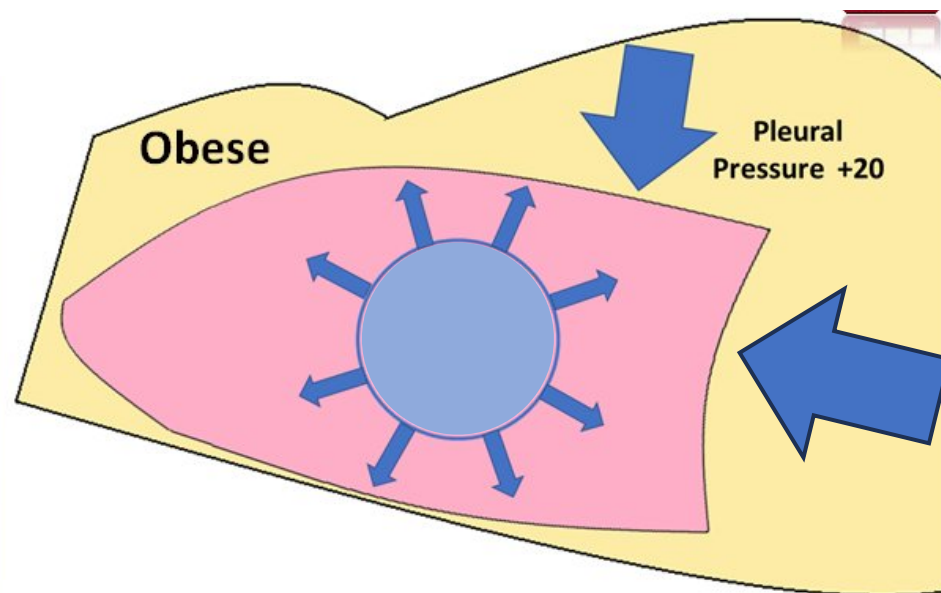
Virová pneumonie, BMI 24



PEEP 6
 P_{plat} 20
dP 14
 V_t 460 ml



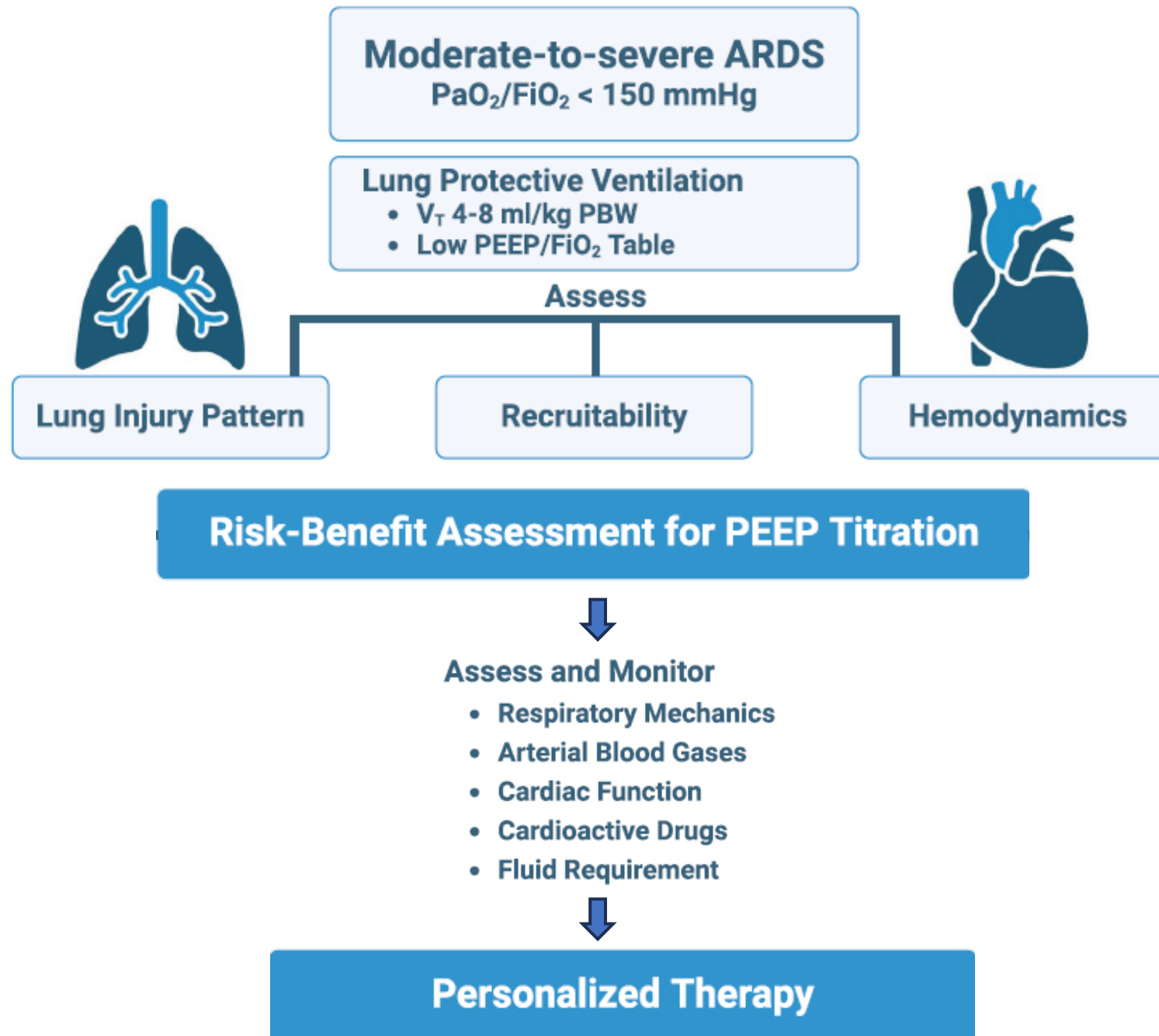
Sekundární ARDS při břišní katastrofe, BMI 42



PEEP 8
 P_{plat} 21
dP 15
 V_t 340 ml

PEEP 14
 P_{plat} 30
dP 16
 V_t 400 ml





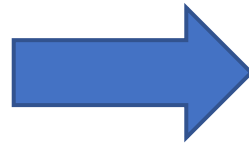
An Update on Management of Adult Patients with Acute Respiratory Distress Syndrome

An Official American Thoracic Society Clinical Practice Guideline



High PEEP

$\text{PaO}_2/\text{FiO}_2 \leq 200$



- Respiratory mechanics, hemodynamics, and response to PEEP should be continuously monitored
- Use additional caution in patients with severe hemodynamic instability or increased risk of barotrauma
- Prolonged recruitment maneuvers should be avoided

- Optimal strategy is unknown; selected strategy should be tailored to clinician expertise
- Potential strategies may include oxygenation-based titration or titration to maximal compliance or maximal safe plateau pressure
- Deleterious clinical response to higher PEEP (i.e. worsened oxygenation, dead space, compliance, or hemodynamics) should prompt re-evaluation of PEEP level

49 For adults with sepsis-induced ARDS, we **recommend** using a low tidal volume ventilation strategy (6 mL/kg), over a high tidal volume strategy (>10 mL/kg).

50 For adults with sepsis-induced severe ARDS, we **recommend** using an upper limit goal for plateau pressures of 30 cm H₂O, over higher plateau pressures.

51 For adults with moderate to severe sepsis-induced ARDS, we **suggest** using higher PEEP over lower PEEP.

52 For adults with sepsis-induced respiratory failure (without ARDS), we **suggest** using low tidal volume as compared to high tidal volume ventilation.

53 For adults with sepsis-induced moderate-severe ARDS, we **suggest** using traditional recruitment maneuvers.

54 When using recruitment maneuvers, we **recommend against** using incremental PEEP titration/strategy.



Recommendation 6.3

We **recommend against** use of prolonged high-pressure recruitment maneuvers (defined as airway pressure maintained ≥ 35 cmH₂O for at least one minute) to reduce mortality of patients with ARDS.

Strong recommendation; moderate level of evidence against.

This recommendation applies also to ARDS from COVID-19.

Strong recommendation; low level of evidence against for indirectness.

Recommendation 6.4

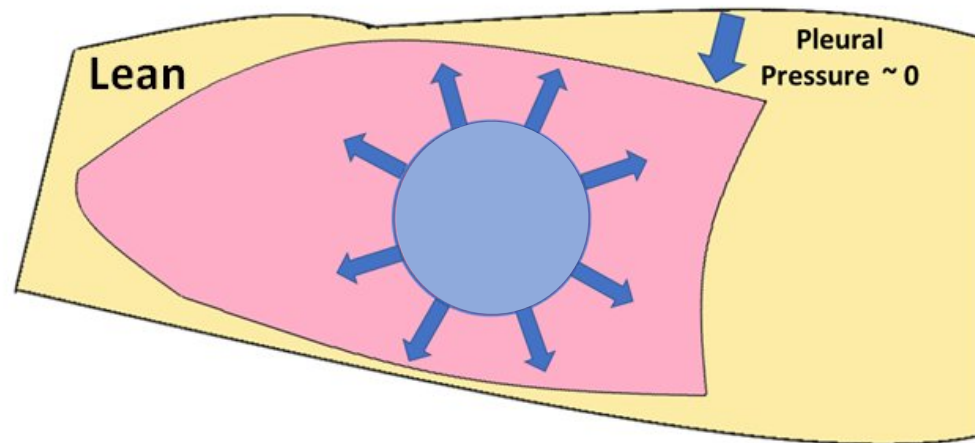
We **suggest against** routine use of brief high-pressure recruitment maneuvers (defined as airway pressure maintained ≥ 35 cmH₂O for less than one minute) to reduce mortality in patients with ARDS.

Weak recommendation; high level of evidence of no effect.

This suggestion applies also to ARDS from COVID-19.

Weak recommendation; moderate level of evidence of no effect for indirectness.

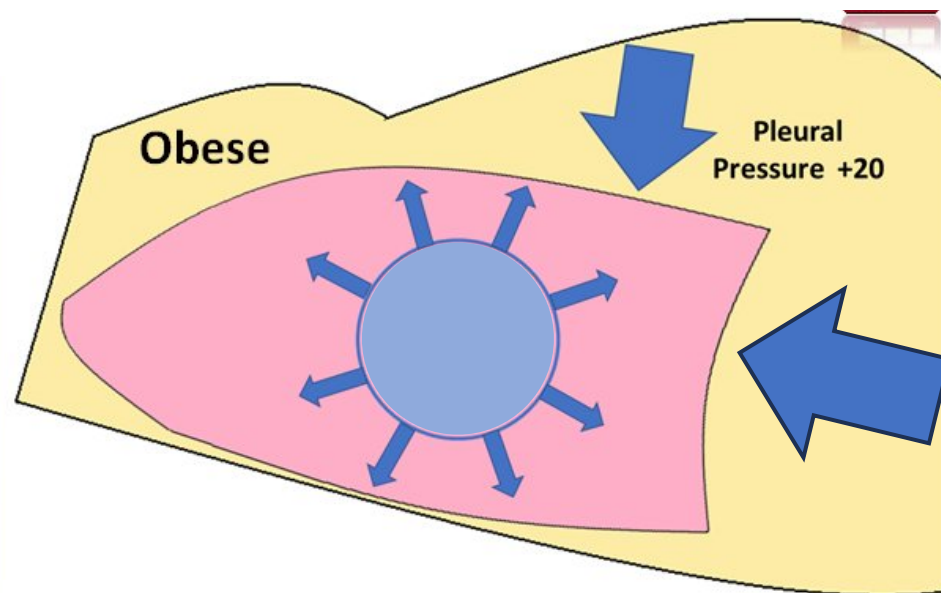
Virová pneumonie, BMI 24



PEEP 6
 P_{plat} 20
 dP 14
 V_t 460
 P_aO_2/F_iO_2 150



Sekundární ARDS při břišní katastrofe, BMI 42



PEEP 8
 P_{plat} 21
 dP 15
 V_t 340
 P_aO_2/F_iO_2 80



PEEP 14
 P_{plat} 30
 dP 16
 V_t 400
 P_aO_2/F_iO_2 120



PEEP 22
 P_{plat} 40
 dP 18
 V_t 560
 P_aO_2/F_iO_2 200



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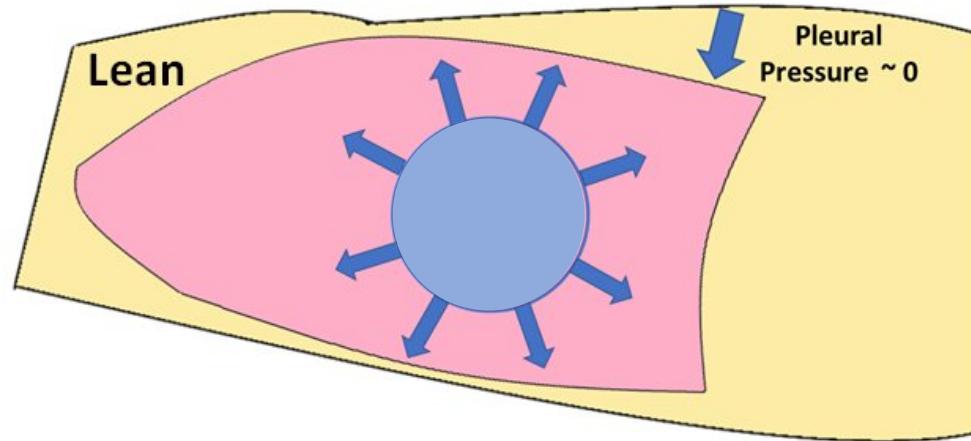
54 When using recruitment maneuvers, we **recommend against** using incremental PEEP titration/strategy.



„To keep the lung fully open after recruitment at a pressure of 45 cmH₂O, PEEP values greater than 20–25 cmH₂O are necessary.

During ultra-protective lung ventilation, a P_{plat} lower than 30 cmH₂O may encourage progressive lung collapse of the units previously opened by RM performed at pressures greater than 30 cmH₂O.“

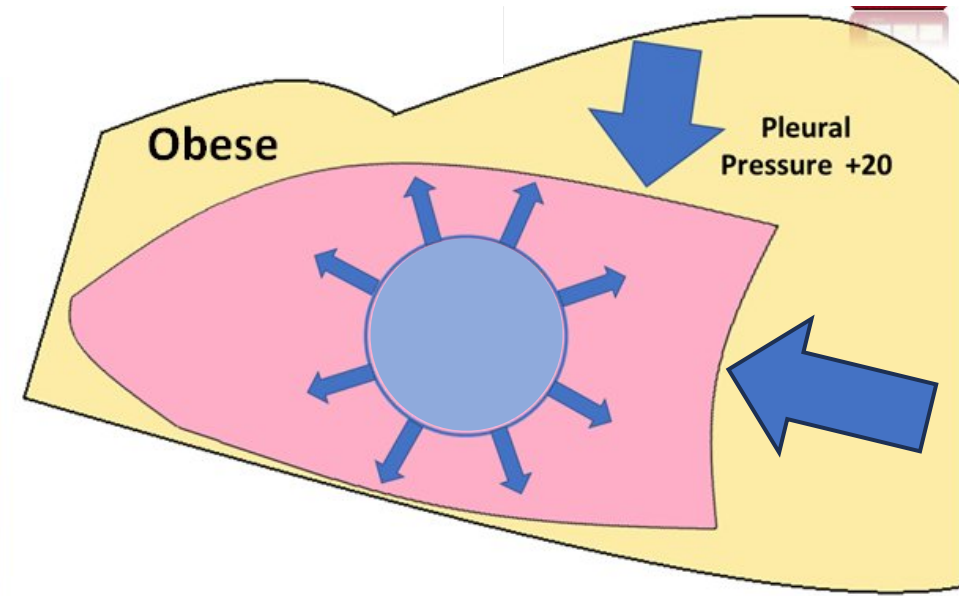
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Kdy se odchýlím od EBM?

4. Pokud' jsou fyziologické hodnoty v doporučeních postaveny příliš doslovně a u části pacientů nemusí reflektovat probíhající procesy

Závěry

EBM je základním pilířem správné klinické praxe

EBM není dogmatická – mnohá doporučení formulovány volně anebo umožňují širší výklad

Odchylka od postupů EBM musí být řádně zdůvodněna (dosažení fyziologických cílů) a uvedena v dokumentaci

Díky EBM jsme dosáhli nesporné pokroky v léčbě našich pacientů

The race against the “septic shark”



Figure 1 Decrease in control group mortality from 2001 to 2014. The decrease in mortality of the control groups from the 2001 Rivers et al. study [14] and the 2014 Australian Resuscitation In Sepsis Evaluation study [16].

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EBM není rigidní – doporučení pravidelně aktualizovány

...místo závěrů

Intensive Care Med (2015) 41:1703–1706
DOI 10.1007/s00134-015-3733-1

WHAT'S NEW IN INTENSIVE CARE

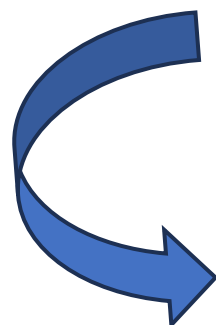


CrossMark

Anders Perner
John Myburgh

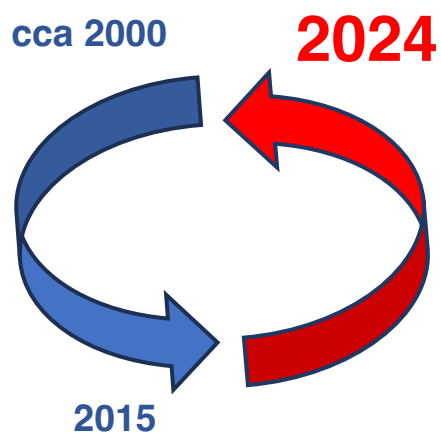
Ten ‘short-lived’ beliefs in intensive care medicine

cca 2000

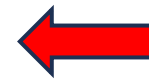


2015

- | |
|---|
| 1. Albumin zvyšuje mortalitu kriticky nemocných. |
| 2. Časná a cílená hemodynamická resuscitace zlepšuje přežívání pacientů se septickým šokem. |
| 3. Podávání aktivovaného proteinu C zlepšuje přežívání pacientů v septickém šoku s vysokým rizikem úmrtí. |
| 4. Kortikosteroidy v nízké dávce zlepšují přežívání pacientů v septickém šoku. |
| 5. Intenzivní kontrola glykemie zlepšuje přežívání kriticky nemocných pacientů. |
| 6. Podávání roztoků obsahujících škrob je u kriticky nemocných pacientů bezpečné. |
| 7. Dekompresní kraniektomie zlepšuje klinický výsledek u pacientů se závažným poraněním mozku. |
| 8. Indukovaná lehká hypotermie zlepšuje klinický výsledek u pacientů po zástavě oběhu. |
| 9. Cílená transfuzní strategie založená na zhodnocení biomarkerů (hodnota hemoglobinu, plazmatického laktátu a saturace smíšené žilní krve kyslíkem) zlepšuje výsledek léčby u pacientů v septickém šoku. |
| 10. Podpora funkce ledvin vysokoobjemovou eliminací zlepšuje přežívání pacientů se selháním ledvin. |



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Děkuji za pozornost