SEPSE V PORODNICTVÍ


KRITICKÉ STAVY V PORODNICTVÍ 2018

8. prosince 2018 | Praha
Nová budova Národního muzea v Praze

Pořádá:
- Sekce analgezie a intenzivní medicíny v porodnictví při ČGPS ČLS JEP
- Gynekologicko-porodnická klinika 1. LF UK a VFN v Praze
- Česká společnost porodních asistentek
- Národní muzeum
- Nadační fond VITA ET FUTURA
- Aesculap Akademie

Věnováno památce prof. MUDr. Zdeňka Štemberv. DrSc.

JAN BLÁHA

Klinika anesteziologie, resuscitace a intenzivní medicíny
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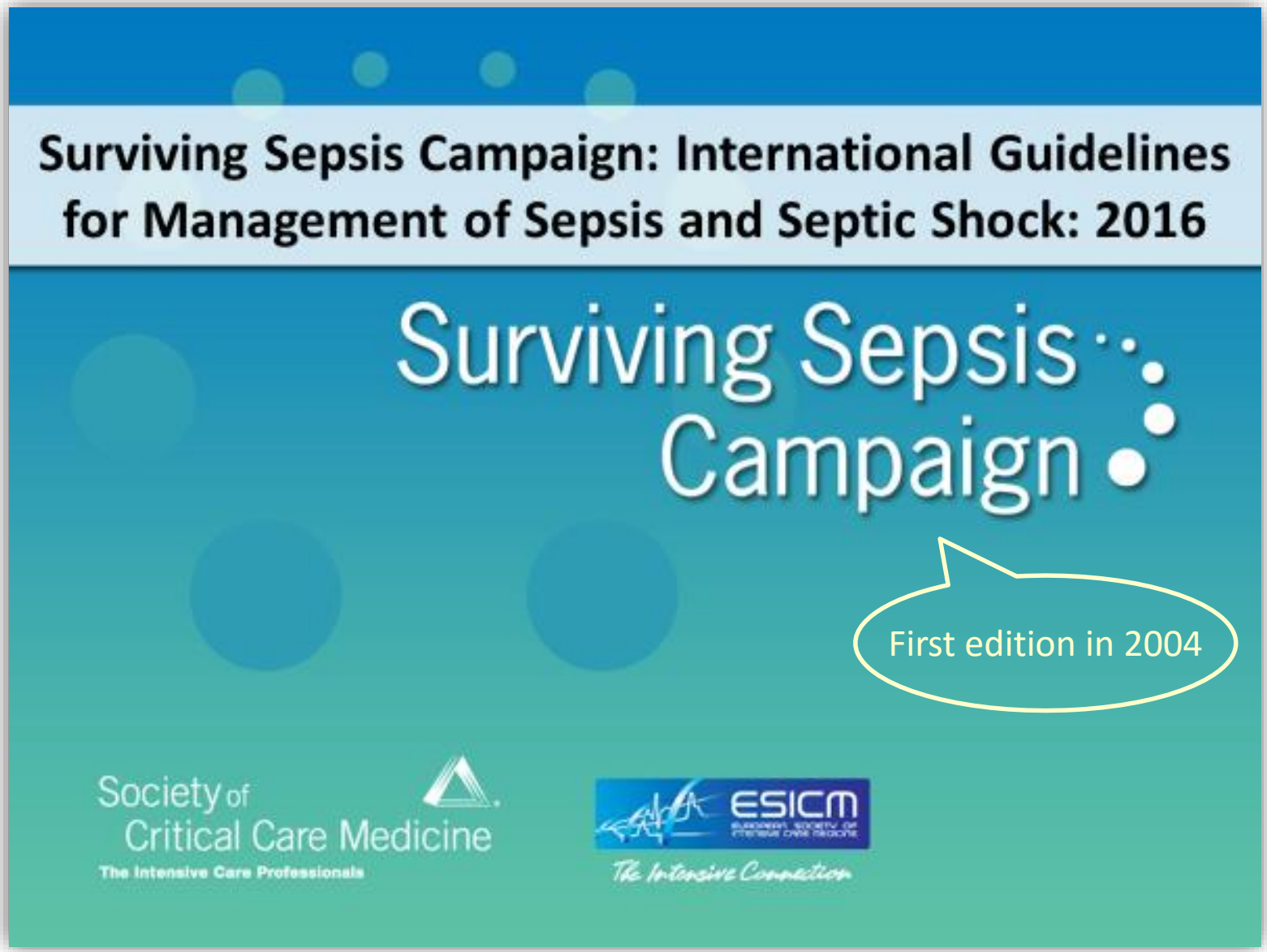
jan.blaha@vfn.cz


Surviving Sepsis Campaign: International Guidelines for Management of Sepsis and Septic Shock: 2016
Surviving Sepsis Campaign
First edition in 2004
Society of Critical Care Medicine
The Intensive Care Professionals
ESICM
The Intensive Connection

A Users' Guide to the 2016 Surviving Sepsis Guidelines

R. Phillip Dellinger, MD, MCCM
Christa A. Schorr, RN, MSN, FCCM
Cooper University Health and
Cooper Medical School of Rowan University
Camden, NJ

Mitchell M. Levy, MD, MCCM
Rhode Island Hospital and Brown University
Providence, RI

Critical Care Medicine:
March 2017 - Volume 45 - Issue 3
p 381–385

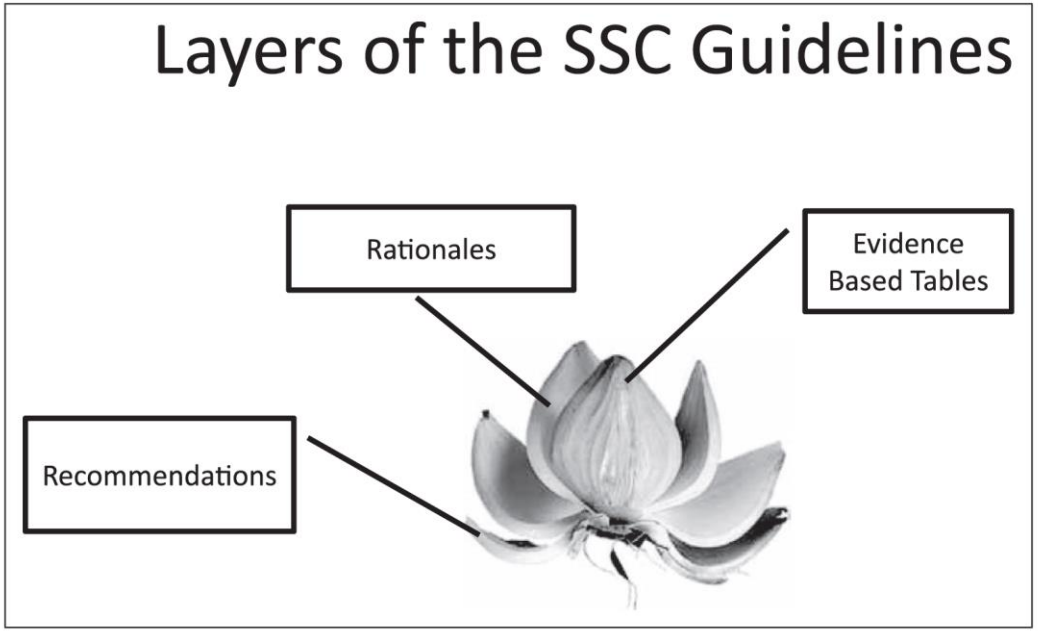


Figure 1. The layers of an onion are paralleled to the components of the guidelines document, reflecting the depth of exploration by the user. Photograph of onion from Je Suis Charlie Who? by Wade Fransson and courtesy of Something or Other Publishing. January 12, 2015.

Impact of the Surviving Sepsis Campaign protocols on hospital length of stay and mortality in septic shock patients: Results of a three-year follow-up quasi-experimental study*

Álvaro Castellanos-Ortega, MD, PhD; Borja Suberviola, MD; Luis A. García-Astudillo, MD; María S. Holanda, MD; Fernando Ortiz, MD; Javier Llorca, MD, PhD; Miguel Delgado-Rodríguez, MD, MPH, PhD

Crit Care Med 2010; 38:1036 -1043

Table 2. Comparison between the historical and the intervention groups

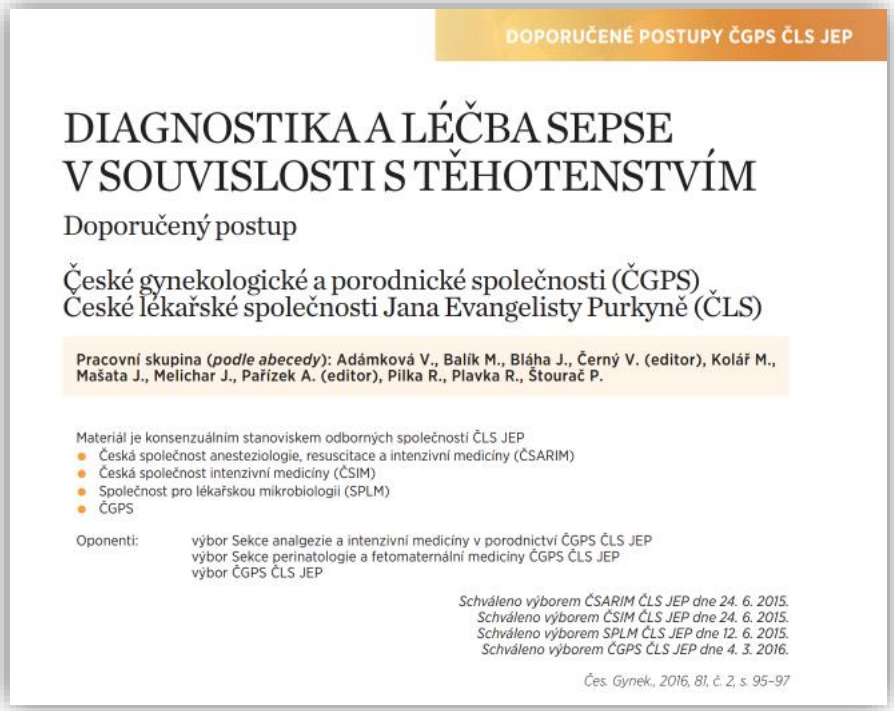
	Historical Group, n = 96 (20%)	Intervention Group, n = 384 (80%)	*p*
Time from severe sepsis presentation to ICU admission, hr	11.7 ± 13.5	9.2 ± 14.4	<.001
Compliance with 6-hr resuscitation bundle, n (%)			
Serum lactate measured	15 (15.6)	288 (75.0)	<.001
Blood cultures before antibiotics	36 (37.5)	210 (56.7)	.003
Early broad-spectrum antibiotics	47 (49.0)	220 (57.3)	.168
Intravenous fluids delivered	57 (59.4)	322 (83.9)	.037
Mean arterial pressure ≥65 mm Hg achieved	71 (74.0)	257 (66.9)	.187
Central venous pressure ≥8 mm Hg achieved	68 (70.8)	288 (75.0)	.435
Central venous oxygen saturation ≥70% achieved	53 (55.2)	215 (56.0)	.909
Outcome measurements			
Hospital mortality, n (%)	55 (57.3)	144 (37.5)	.001
Standardized mortality ratio	1.05 ± 0.18	0.75 ± 0.13	.139
ICU mortality, n (%)	51 (53.1)	117 (30.5)	<.001
Hospital LOS for all patients, days	26.5 ± 23.9	30.6 ± 33.2	.435
ICU LOS for all patients, days	9.9 ± 9.3	9.1 ± 10.4	.235
Hospital LOS for survivors, days	41.0 ± 26.3	36.2 ± 34.8	.043
ICU LOS for survivors, days	11.0 ± 9.5	8.4 ± 9.8	.004

Surviving Sepsis Campaign — International Guidelines for Management of Severe Sepsis and Septic Shock

SPONSORING ORGANIZATIONS:

American Association of Critical-Care Nurses
American College of Chest Physicians
American College of Emergency Physicians
American Thoracic Society
Asia Pacific Association of Critical Care Medicine
Australian and New Zealand Intensive Care Society
Brazilian Society of Critical Care
Canadian Critical Care Society
Chinese Society of Critical Care Medicine
Chinese Society of Critical Care Medicine-China Medical Association
Emirates Intensive Care Society
European Respiratory Society
European Society of Clinical Microbiology and Infectious Diseases
European Society of Intensive Care Medicine
European Society of Pediatric and Neonatal Intensive Care
Infectious Diseases Society of America
Indian Society of Critical Care Medicine
International Pan Arabian Critical Care Medicine Society
Japanese Association for Acute Medicine
Japanese Society of Intensive Care Medicine
Pediatric Acute Lung Injury and Sepsis Investigators
Society for Academic Emergency Medicine
Society of Critical Care Medicine
Society of Hospital Medicine
Surgical Infection Society
World Federation of Critical Care Nurses
World Federation of Pediatric Intensive and Critical Care Societies
World Federation of Societies of Intensive and Critical Care Medicine

Participation and endorsement:
The German Sepsis Society
Latin American Sepsis Institute


DOPORUČENÉ POSTUPY ČGPS ČLS JEP

DIAGNOSTIKA A LÉČBA SEPSE V SOUVISLOSTI S TĚHOTENSTVÍM

Doporučený postup

České gynekologické a porodnické společnosti (ČGPS)
České lékařské společnosti Jana Evangelisty Purkyně (ČLS)

Pracovní skupina (*podle abecedy*): Adámková V., Balík M., Bláha J., Černý V. (editor), Kolář M., Mašata J., Melichar J., Pařízek A. (editor), Pilka R., Plavka R., Štourač P.

Materiál je konsenzuálním stanoviskem odborných společností ČLS JEP
- Česká společnost anesteziologie, resuscitace a intenzivní medicíny (ČSARIM)
- Česká společnost intenzivní medicíny (ČSIM)
- Společnost pro lékařskou mikrobiologii (SPLM)
- ČGPS

Oponenti: výbor Sekce analgezie a intenzivní medicíny v porodnictví ČGPS ČLS JEP
výbor Sekce perinatologie a fetomaternální medicíny ČGPS ČLS JEP
výbor ČGPS ČLS JEP

Schváleno výborem ČSARIM ČLS JEP dne 24. 6. 2015.
Schváleno výborem ČSIM ČLS JEP dne 24. 6. 2015.
Schváleno výborem SPLM ČLS JEP dne 12. 6. 2015.
Schváleno výborem ČGPS ČLS JEP dne 4. 3. 2016.

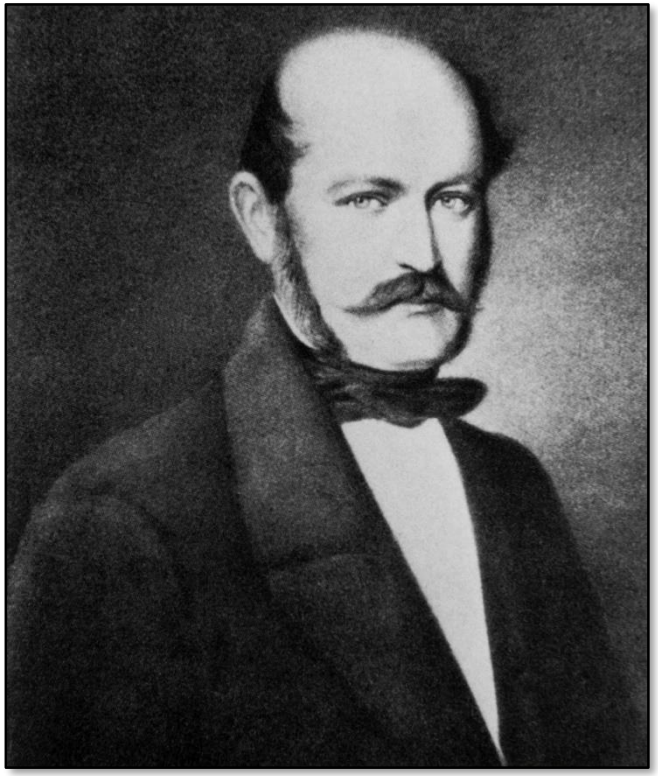
Čes. Gynek., 2016, 81, č. 2, s. 95–97

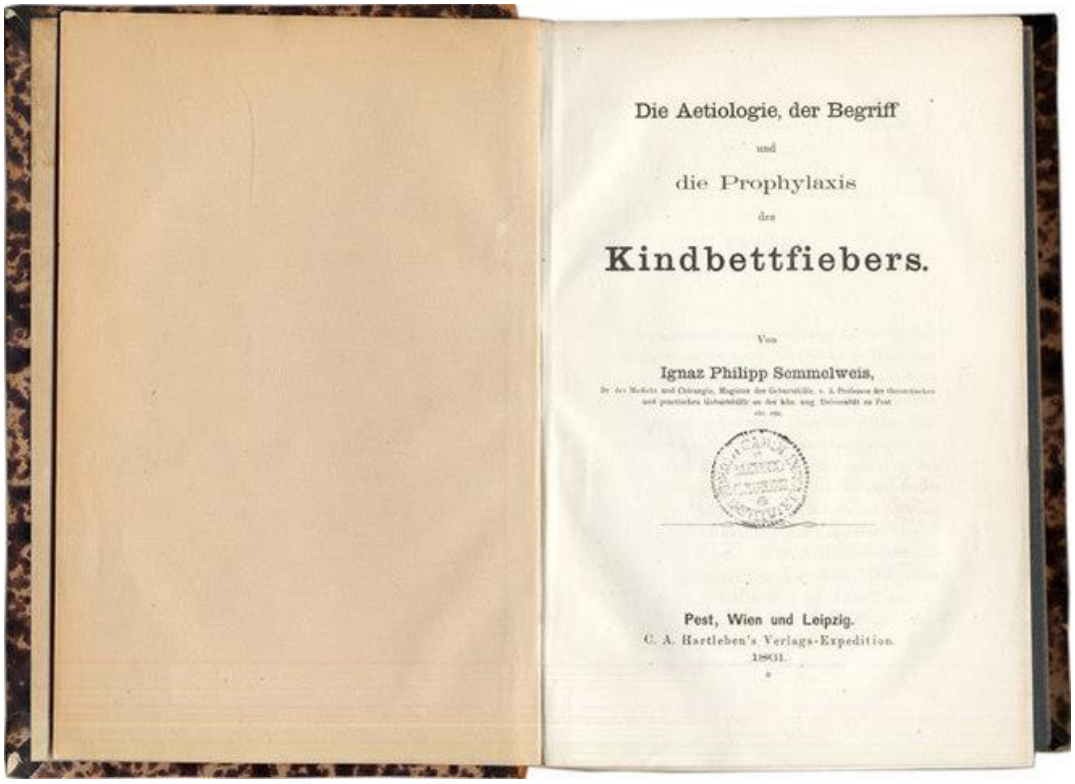

MEZIOBOROVÝ DOPORUČENÝ POSTUP

Diagnostika a léčba sepse v souvislosti s těhotenstvím

Adámková V., Balík M., Bláha J., Černý V., Kolář M., Mašata J., Melichar J., Pařízek A., Pilka R., Plavka R., Štourač P.

Anest. intenziv. Med., 26, 2015, č. 5, s. 298–302





Die Aetiologie, der Begriff

und

die Prophylaxis

des

Kindbettfiebers.

Von

Ignaz Philipp Semmelweis,

Pest, Wien und Leipzig.
C. A. Hartleben's Verlags-Expedition.
1861.

Puerperal sepsis in the 21st century: progress, new challenges and the situation worldwide

Bigna S Buddeberg, Wynne Aveling

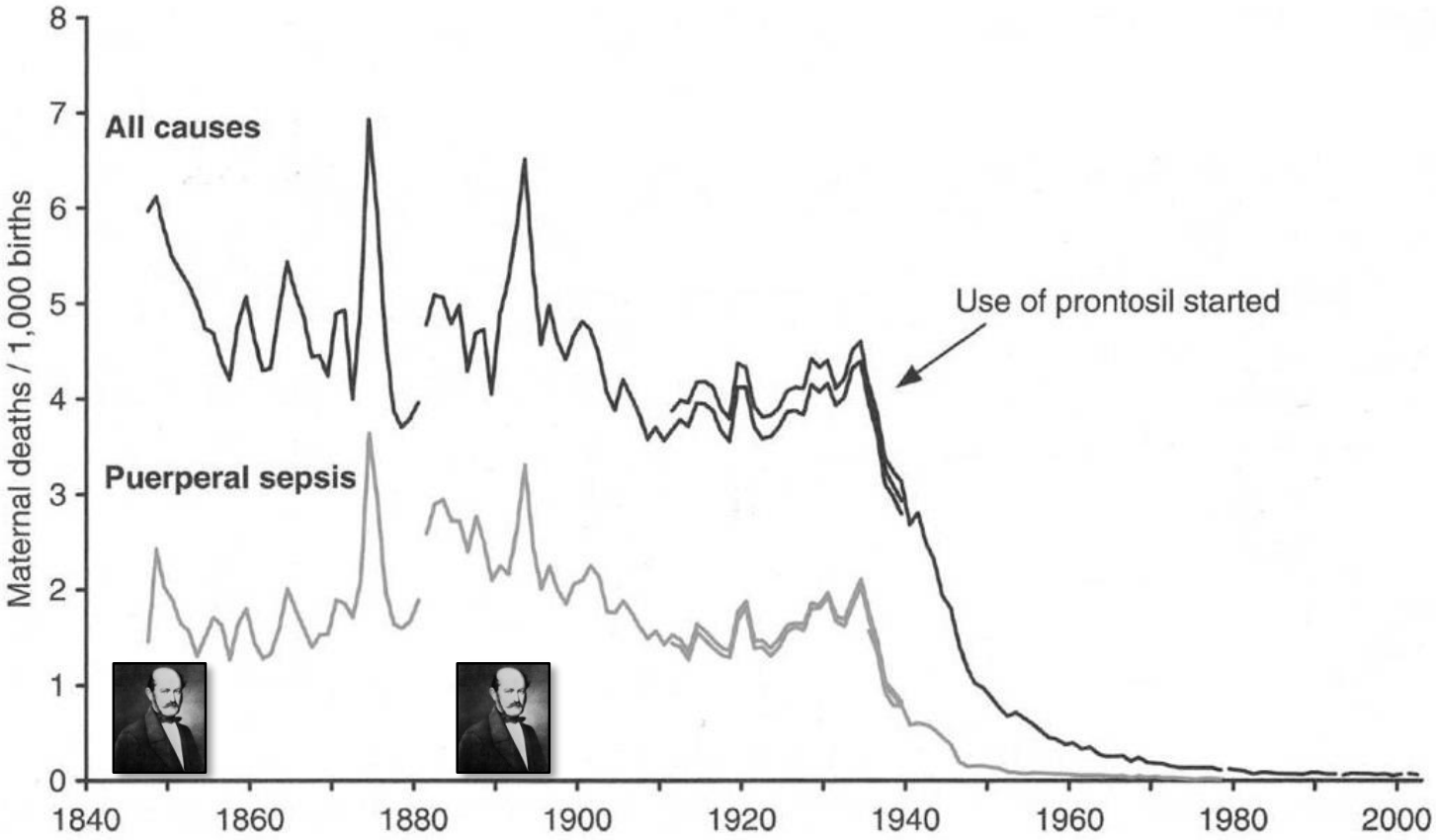


Figure 1 Maternal mortality in England and Wales, 1840–2000. General Register Office, OPCS and ONS mortality statistics.

Postgrad Med J 2015;91:572-578

Maternal Severe Sepsis in the United States

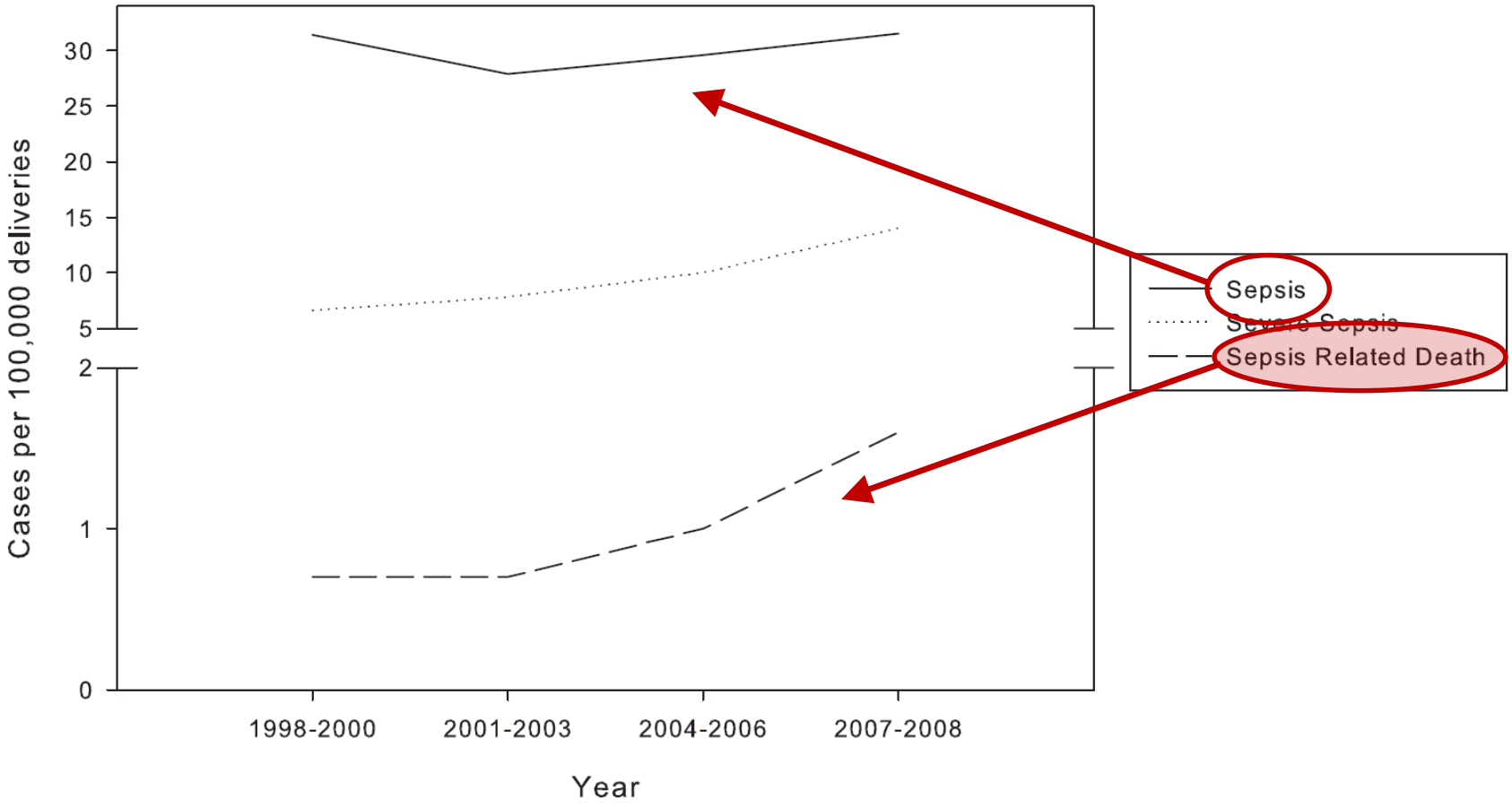


Figure 1. Temporal trends for maternal sepsis, severe sepsis, and sepsis-related death during hospitalization for delivery during 1998 to 2008 in the United States.

Bauer et al. Anesthesia & Analgesia 2013; 117(4):944-950

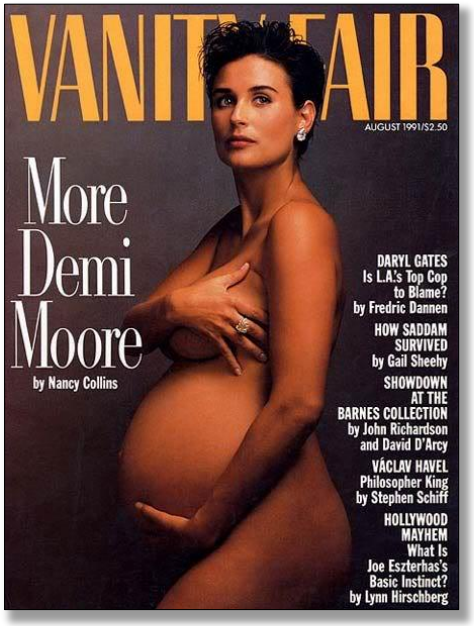
Table 1.4. Numbers and rates of leading causes of maternal deaths: UK 1985–2008

Cause of death	Rates per 100 000 maternities							
	1985–87	1988–90	1991–93	1994–96	1997–99	2000–02	2003–05	2006–08
***Direct* deaths**								
Sepsis	0.40	0.72	0.65	0.73	0.85	0.65	0.85	**1.13**
Pre-eclampsia and eclampsia	1.19	1.14	0.86	0.91	0.75	0.70	0.85	**0.83**
Thrombosis and thromboembolism	1.41	1.40	1.51	2.18	1.65	1.50	1.94	**0.79**
Amniotic fluid embolism	0.40	0.47	0.43	0.77	0.38	0.25	0.80	**0.57**
Early pregnancy deaths*	0.71	1.02	0.73	0.68	0.80	0.75	0.66	**0.48**
Ectopic	0.48	0.64	0.39	0.55	0.61	0.55	0.47	**0.26**
Spontaneous miscarriage	0.18	0.25	0.13	0.09	0.09	0.05	0.05	**0.22**
Legal termination	0.04	0.13	0.22	0.05	0.09	0.15	0.09	**0.00**
Other	0.00	0.00	0.09	0.00	0.00	0.00	0.05	**0.00**
Haemorrhage	0.44	0.93	0.65	0.55	0.33	0.85	0.66	**0.39**
Anaesthesia	0.26	0.17	0.35	0.05	0.14	0.30	0.28	**0.31**
Other *Direct*	1.19	0.72	0.60	0.32	0.33	0.40	0.19	**0.17**
Genital tract trauma	0.26	0.13	0.17	0.23	0.09	0.05	0.14	**0.00**
Fatty liver	0.26	0.21	0.09	0.09	0.19	0.15	0.05	**0.13**
Other causes	0.66	0.38	0.35	0.00	0.05	0.20	0.00	**0.04**
All *Direct*	**6.13**	**6.14**	**5.53**	**6.10**	**4.99**	**5.31**	**6.24**	**4.67**
Indirect								
Cardiac disease	1.01	0.76	1.60	1.77	1.65	2.20	2.27	**2.31**
Indirect neurological conditions	0.84	1.27	1.08	2.14	1.60	2.00	1.75	**1.57**
Psychiatric causes	–	–	–	0.41	0.71	0.80	0.85	**0.57**
Indirect malignancies	–	–	–	–	0.52	0.25	0.47	**0.13**
Other *Indirect* causes	1.90	1.91	1.64	1.77	1.93	2.50	2.37	**2.14**
All *Indirect*	**3.70**	**3.94**	**4.32**	**6.10**	**6.40**	**7.76**	**7.71**	**6.59**
Coincidental	**1.15**	**1.65**	**1.99**	**1.64**	**1.37**	**1.80**	**2.60**	**2.18**

2011 Centre for Maternal and Child Enquiries (CMACE), BJOG 118 (Suppl. 1), e12-e21

PROČ RIZIKO SEPSE V PORODNICVTVÍ ROSTE, když úroveň medicíny stále stoupá?

Protože porodnictví se mění!



PROČ RIZIKO SEPSE V PORODNICVTVÍ ROSTE, když úroveň medicíny stále stoupá?

Protože porodnictví se mění!

- demografické změny těhotných žen
  - rodičky jsou starší, častěji obézní a s DM, …
  - častěji komplikace těhotenství (poruchy placentace, …)

- změny v porodnické praxi
  - invazivní diagnostické a terapeutické techniky, …

Cormack. Anaesthesia Tutorial of The Week 235, 8th August 2011

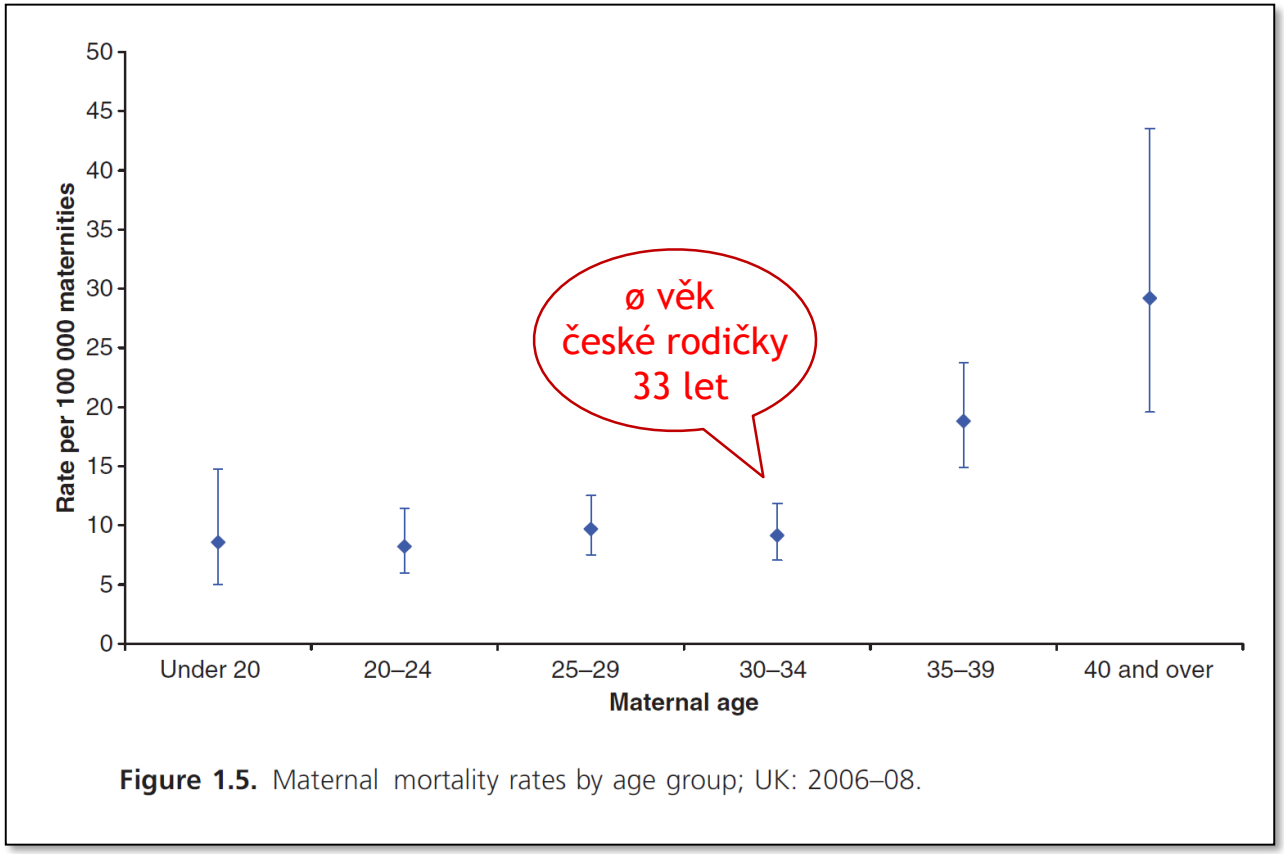


Figure 1.5. Maternal mortality rates by age group; UK: 2006–08.

The Eighth Report of the Confidential Enquiries into Maternal Deaths in the United Kingdom, 2011.

International Journal of Obstetric Anesthesia (2018) **35**, 42–51
0959-289X/$ - see front matter
https://doi.org/10.1016/j.ijoa.2018.04.001

ELSEVIER
www.obstetanesthesia.com

ORIGINAL ARTICLE

Labor analgesia in Czech Republic and Slovakia: a 2015 national survey

J. Bláha,[a,†] P. Štourač,[b,†] M. Grochová,[c] R. Klozová,[d] S. Richterová,[e] P. Nosková,[a] D. Seidlová,[b] V. Zenkner,[d] A. Novotný,[a] D. Schwarz,[f] J. Ščamburová,[g] M. Kosinová,[b] Ch. Kufa,[h] M. Kirchnerová,[i] J. Macková,[j] L. Várošová,[k] R. Toboláková,[l] J. Cepák,[m] J. Firment[c], OBAAMA-INT Study Group [‡]

Appendix B. Basic characteristics of parturients receiving labor analgesia

	CZE (n=794)	SVK (n=332)
Age (y)*	n=787	n=330
	30.2 (±5.0)/30.2 (21.9–38.4)	30.0 (±4.8)/29.9 (21.7–37.6)
≤25	111 (14.0)	56 (16.9)
26–30	272 (34.3)	110 (33.1)
31–35	267 (33.6)	108 (32.5)
36–40	119 (15.0)	51 (15.4)
>40	18 (2.3)	5 (1.5)

FYZIOLOGICKÉ ZMĚNY V TĚHOTENSTVÍ

- **hyperdynamická cirkulace -** zvýšení srdečního výdeje (+40%)
- redukovaná SVR
  = již bazálně zvýšená zátěž myokardu

- **zvýšená ventilace** = mírná respirační alkalóza kompenzovaná mírnou metabolickou acidózou
- snížení kompenzačních možností při rozvoji acidózy při sepsi

- **dilatace ureterů** (relaxace hladkého svalstva) + tlak dělohy
  = vysoké riziko pyurie a vzniku pyalonefritidy

- snížený sérový albumin – ovlivnění koloidně-osmotického tlaku (náchylnost k plicnímu edému)

Cormack. Anaesthesia Tutorial of The Week 235, 8th August 2011

PŘÍZNAKY A SYMPTOMY SEPSE

- **Horečka** >38°C
- **Hypotermie** <36°C
- **Perzistující tachykardie** >90/min
- **Tachypnoe** >20/min
- **Leukocytóza** >12.10^9/l nebo <4.10^9/l

- **Oligurie**
- **Průjem** a/nebo **zvracení**
- **Bolesti v podbřišku**
- **Abnormální ozvy plodu**

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Original Research

Maternal Deaths Due to Sepsis in the State of Michigan, 1999–2006

Melissa E. Bauer, DO, Robert P. Lorenz, MD, Samuel T. Bauer, MD, Krishna Rao, MD, MS, and Frank W.J. Anderson, MD, MPH

(Obstet Gynecol 2015;126:747–52)

Table 2. Specific Maternal Early Warning Criteria and Temperature Findings of Patients Who Presented to the Hospital With Sepsis

Patient No.	Maternal Early Warning Criteria* Triggered	Heart Rate Higher Than 120 bpm	Respiratory Rate Higher Than 30 Breaths/Min	Systolic Blood Pressure Lower Than 90 mm Hg	Spo_2 Less Than 95% on Room Air	Temperature Higher Than 38°C
1	+	NA	NA	NA	+	–
2	+	+	–	–	NA	–
3	+	–	+	–	NA	–
4	+	–	–	+	+	+
5	+	+	–	+	–	–
6	–	–	–	–	–	–
7	–	–	–	–	NA	–
8	+	+	+	–	+	–
9	+	+	–	–	+	+
10	–	–	–	–	–	–
11	+	+	+	–	–	–
12	+	–	–	–	+	–

bpm, beats per minute; NA, not available.

* Maternal Early Warning Criteria are the following: systolic blood pressure lower than 90 or higher than 160 mm Hg, diastolic blood pressure higher than 100 mm Hg, heart rate lower than 50 or higher than 120 bpm, respiratory rate lower than 10 or higher than 30 breaths per minute, oxygen saturation on room air, at sea level, less than 95%, oliguria less than 35 mL per hour for 2 hours or longer, maternal agitation, confusion, or unresponsiveness; patient with preeclampsia reporting a nonremitting headache or shortness of breath.[11]

† Not part of the Maternal Early Warning Criteria.

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3	+	–	+	–	NA	–
4	+	–	–	+	+	+
5	+	+	–	+	–	–
6	–	–	–	–	–	–
7	–	–	–	–	NA	–
8	+	+	+	–	+	–
9	+	+	–	–	+	+
10	–	–	–	–	–	–
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6	–	–	–	–	–	–
7	–	–	–	–	NA	–
8	+	+	+	–	+	–
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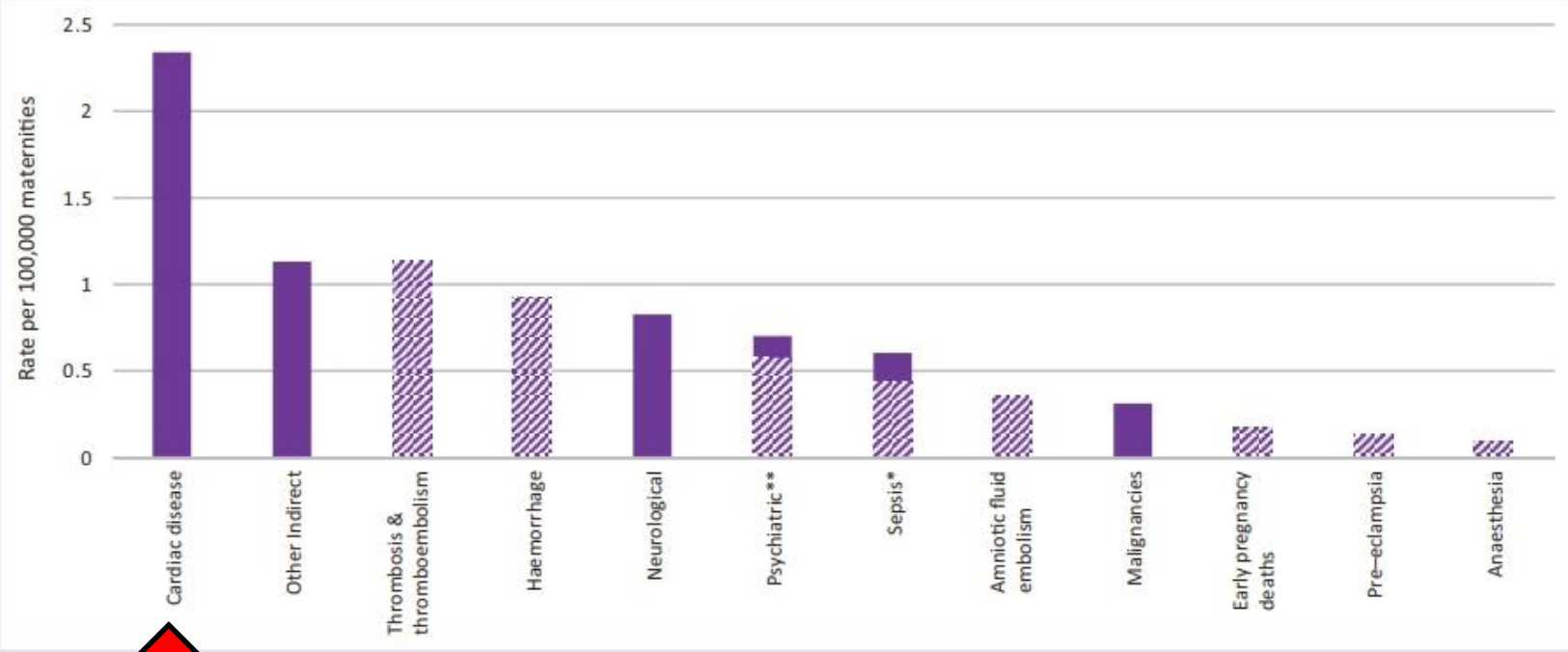
(Obstet Gynecol 2015;126:747–52)

Only 2 of 15 (13%) patients received appropriate initial antibiotics.

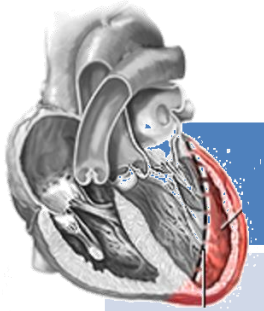
Delays of care were found in the majority of patients.

Figure 2.3: Maternal mortality by cause 2013–15



Hatched ba ow direct causes of death, solid bars indicate indirect causes of death;
*Rate for di sepsis (genital tract sepsis and other pregnancy related infections) is shown in hatched and rate for indirect sepsis (influenza, pneumonia, others) in solid bar
**Rate for suicides (direct) is shown in hatched and rate for indirect psychiatric causes (drugs/alcohol) in solid bar
Source: MBRRACE-UK

MBRRACE-UK - Saving Lives, Improving Mothers' Care 2017



PŘÍZNAKY

KARDIÁLNÍ SELHÁNÍ	TĚHOTENSTVÍ
snížená tolerance cvičení / únava	zvýšená tělesná hmotnost, fyziologická anémie
ortopnoe	větší tlak dělohy na bránici, vliv progesteronu a hyperventilace
dyspnoe	přítomno u 76% žen v 34. týdnu
palpitace	sinusová tachykardie
slabost / synkopa	aortokavální komprese
periferní otoky	vyskytuje se u 2/3 zdravých těhotných

ramaraj. cleveland clinic journal of medicine volume 76 • number 5 may 2009

Maternal, Newborn and Infant Clinical Outcome Review Programme

MBRRACE-UK
Mothers and Babies: Reducing Risk through Audits and Confidential Enquiries across the UK

Saving Lives, Improving Mothers' Care

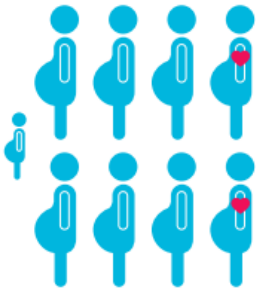
Surveillance of maternal deaths in the UK 2012–14 and lessons learned to inform maternity care from the UK and Ireland Confidential Enquiries into Maternal Deaths and Morbidity 2009–14

December 2016

University of Oxford · HQIP · University of Leicester · TIMMS · University of Birmingham · Sands · NHS Bradford Teaching Hospitals · npeu

Key messages from the report 2016

MBRRACE-UK
Mothers and Babies: Reducing Risk through Audits and Confidential Enquiries across the UK



8.5 **women** per 100,000 died during pregnancy or up to six weeks after giving birth or the end of pregnancy in 2012 - 14

2 **women** per 100,000 died from **heart** ♥ **disease**

Heart disease can happen

Women known to have **heart disease** are **high risk** and need specialist care

Persistent breathlessness when lying flat is **not normal** in pregnancy and may mean heart problems

Be aware severe **chest pain** spreading to the left arm or back may be **cardiac**

Good care makes a difference

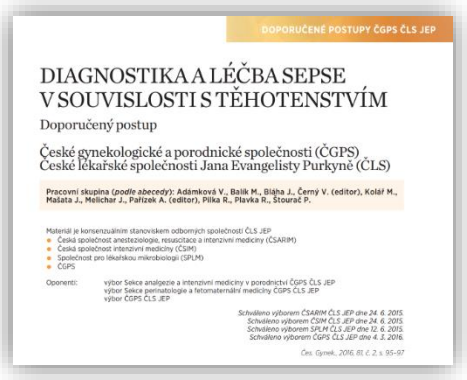
Less than **1 woman in every million** who gives birth now dies from **pre-eclampsia**, but to detect it blood pressure and urine must be checked at every antenatal visit

Objective measures used in the diagnosis of sepsis in pregnancy

- **Temperature** <36°C or >38.3°C
- **Heart rate** > 100 bpm
- **Respiratory rate** >24/minute
- **Acutely altered mental state**
- **Wbc** >20 or <4 x 10^9/l
- **Hyperglycaemia in the absence of (known) diabetes**

These parameters probably apply to pregnancy AFTER the first 20 weeks and up until the immediate postnatal period. **Under 20 weeks and more than 48 hours after delivery, it is probably safer to use the non-pregnant values, especially if the woman reports feeling unwell.**

National Steering Group NSAG/WEC RCOG, January 2013


DOPORUČENÉ POSTUPY ČGPS ČLS JEP

DIAGNOSTIKA A LÉČBA SEPSE V SOUVISLOSTI S TĚHOTENSTVÍM

Doporučený postup

České gynekologické a porodnické společnosti (ČGPS)
České lékařské společnosti Jana Evangelisty Purkyně (ČLS)

Pracovní skupina (*podle abecedy*): Adámková V., Balík M., Bláha J., Černý V. (editor), Kolář M., Mašata J., Melichar J., Pařízek A. (editor), Pilka R., Plavka R., Štourač P.

Materiál je konsenzuálním stanoviskem odborných společností ČLS JEP
- Česká společnost anesteziologie, resuscitace a intenzivní medicíny (ČSARIM)
- Česká společnost intenzivní medicíny (ČSIM)
- Společnost pro lékařskou mikrobiologii (SPLM)
- ČGPS

Oponenti: výbor Sekce analgezie a intenzivní medicíny v porodnictví ČGPS ČLS JEP
výbor Sekce perinatologie a fetomaternální medicíny ČGPS ČLS JEP
výbor ČGPS ČLS JEP

Schváleno výborem ČSARIM ČLS JEP dne 24. 6. 2015.
Schváleno výborem ČSIM ČLS JEP dne 24. 6. 2015.
Schváleno výborem SPLM ČLS JEP dne 12. 6. 2015.
Schváleno výborem ČGPS ČLS JEP dne 4. 3. 2016.

Čes. Gynek., 2016, 81, č. 2, s. 95–97

3.1.1.
Doporučujeme vypracování vlastního formalizovaného protokolu / standardu pro včasný záchyt pacientek se známkami sepse a definování procesu péče po aktivaci systému včasného varování na konkrétním pracovišti(1)[§]

Poznámka: Důležité je zavedení tzv. rapid response system (RRS, systém časného varování), kdy k aktivaci systému může dojít už na podnět středního zdravotnického personálu. Smyslem systému „časného varování“ je zabránit u pacientů časové prodlevě zahájení léčby. Časová prodleva zhoršuje klinický výsledek exponenciálně.


MEZIOBOROVÝ DOPORUČENÝ POSTUP

Diagnostika a léčba sepse v souvislosti s těhotenstvím

Adámková V., Balík M., Bláha J., Černý V., Kolář M., Mašata J., Melichar J., Pařízek A., Pilka R., Plavka R., Štourač P.

Anest. intenziv. Med., 26, 2015, č. 5, s. 298–302

3.2.1.
Doporučení: Jakákoliv významná změna zdravotního stavu / fyziologických funkcí nevysvětlitelná jinou příčinou by měla být považována za známku možného rozvoje sepse do doby jejího vyloučení. (1[§])

Name:	Ward:	Consultant:
Hospital Number:	Date of Birth:	Height:

Date:
Time:

Temperature °C: 39 38 37 36 35 — Individual Parameters >37°

Systolic blood pressure: 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 — Individual Parameters SBP>

MAP mmHg

Diastolic blood pressure: 130 120 110 100 90 80 70 60 50 40 — Individual Parameters DBP:

Heart rate: 170 160 150 140 130 120 110 100 90 80 70 60 50 40 — Individual Parameters Pulse Rate:

			Individual Parameters Resp. Rate:
RESP (write rate in corresp. box)	>30	>30	
	21–30	21–30	
	11–20	11–20	
	0–10	0–10	
Saturations	95–100%	11–20	
	<95%	95–100%	
Administered O_2 (L/min.)		%	

Date:
Time:

URINE	passed (Y/N)		passed (Y/N)
Proteinuria	protein ++		protein ++
	protein >++		protein >++
Urinalysis			
Oedema (Y/N)			
Amniotic fluid	Clear/Pink		Clear/Pink
	Green		Green
NEURO RESPONSE (✔)	Alert		Alert
	Voice		Voice
	Pain		Pain
	Unresponsive		Unresponsive
Pain Score (no.)	0–1		0–1
	2–3		2–3
Lochia	Normal		Normal
	Heavy/Fresh/Offensive		Heavy/Fresh/Offensive
Looks unwell	NO (✔)		NO (✔)
	YES (✔)		YES (✔)
Trigger	NO (✔)		NO (✔)
	YES (✔)		YES (✔)

Wound site check	
Blood glucose	
Nausea score	
Bowel action	
Daily weight	

Neuro Responses	
Alert	Patient is alert and concious
Verbal	Patient responds to verbal stimulus
Pain	Patient responds to painfull stimulus
Unresponsive	Patient is unresponsive to any stimulus

PAIN SCORE (assess pain on movement, deep breathing or coughing)		
	• No pain at rest or on movement • No pain at rest, slight pain on movement • Intermittent pain at rest, moderate pain on movement • Intermittent pain at rest, moderate pain on movement	0 1 2 3
NAUSEA SCORE		
	• None • Nausea • Vomiting	0 1 2

The MEOWS observation chart.

Singh S et al. Anaesthesia *2012*; *67*: *12–8*

Original Article

Anaesthesia
Journal of the Association of Anaesthetists of Great Britain and Ireland

A validation study of the CEMACH recommended modified early obstetric warning system (MEOWS)*

S. Singh,[1] A. McGlennan,[2] A. England[2] and R. Simons[2]

1 Consultant Anaesthetist, Barnet Hospital, Herts, UK. 2 Consultant Anaesthetist, Royal Free Hospital, London, UK

The MEOWS was 89% sensitive, 79% specific,

with a positive predictive value 39% and a negative predictive value of 98%.

Singh S et al. Anaesthesia *2012*; *67*: *12–8*

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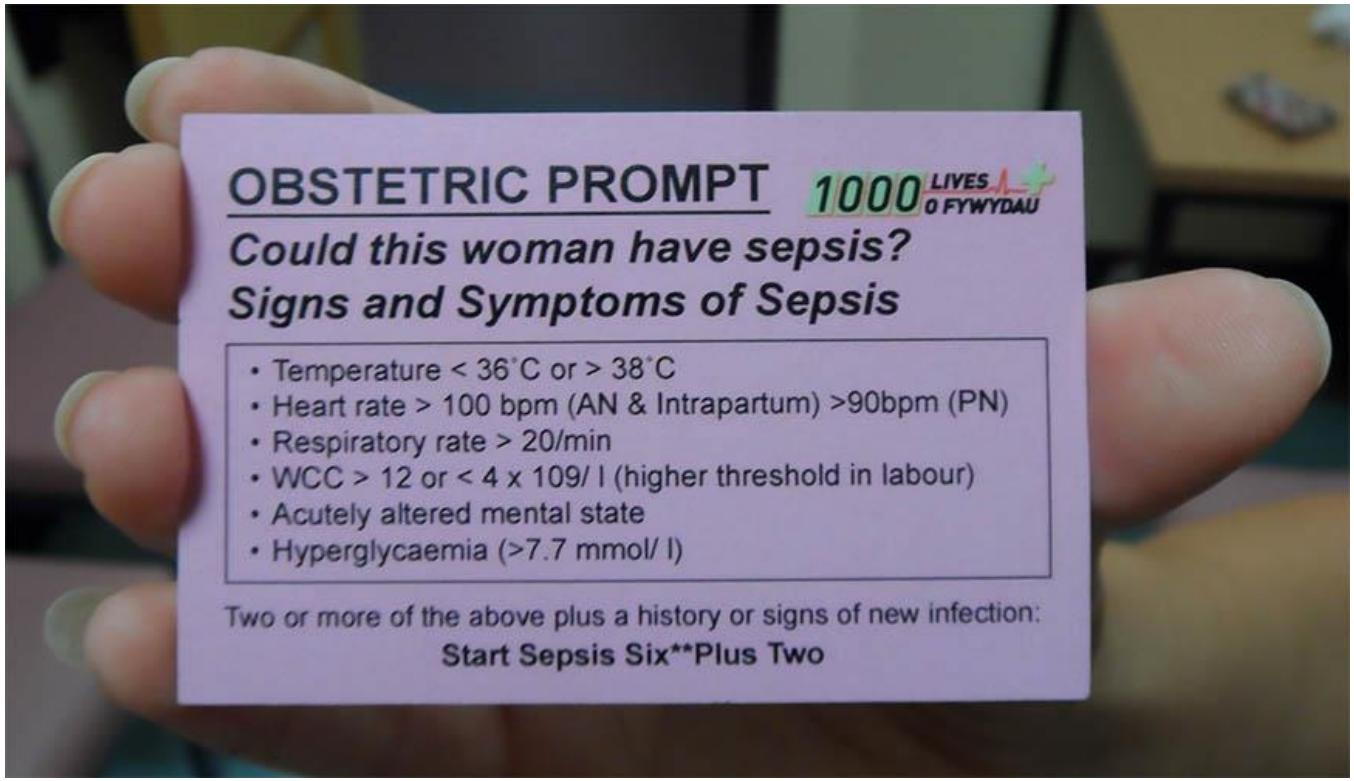

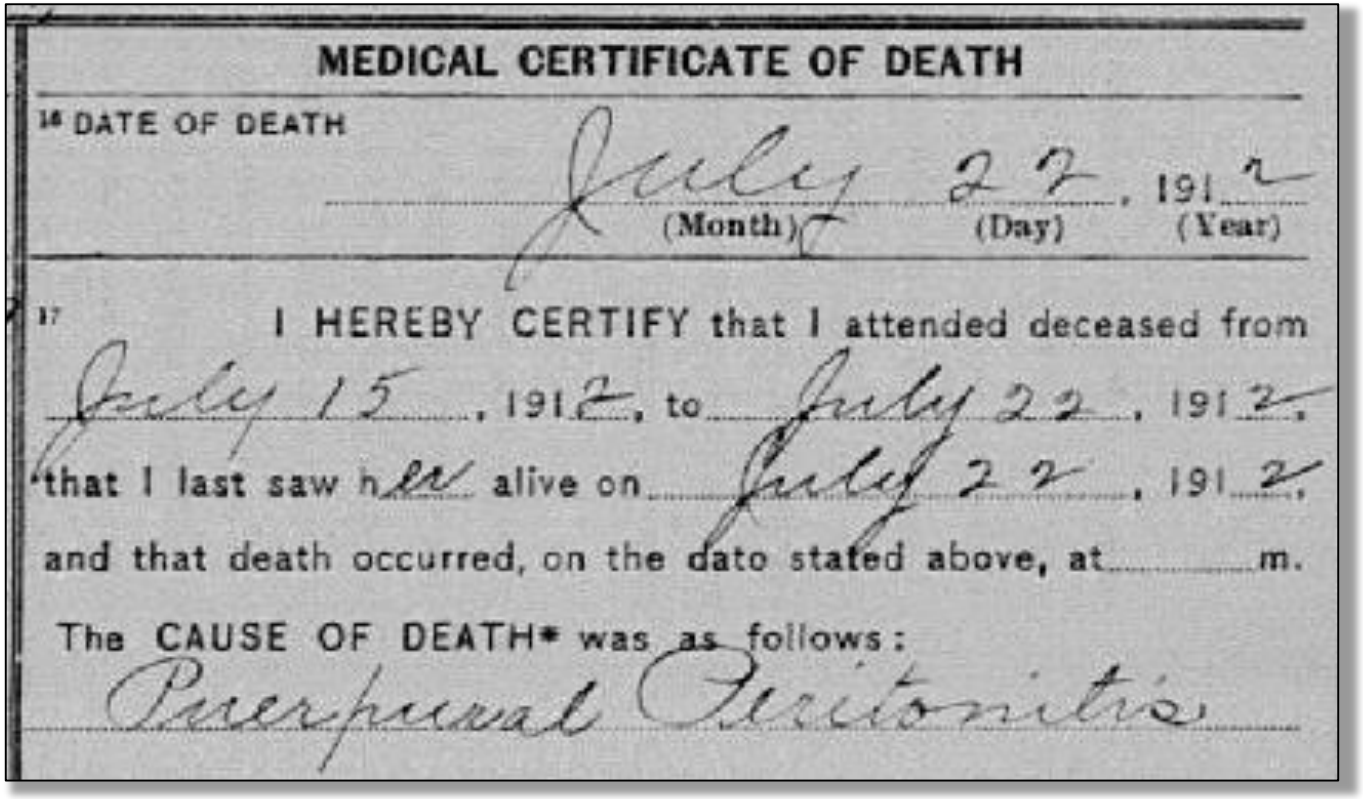

MEDICAL CERTIFICATE OF DEATH

16 DATE OF DEATH July (Month) 22 (Day), 1912 (Year)

17 I HEREBY CERTIFY that I attended deceased from July 15, 1912, to July 22, 1912, that I last saw her alive on July 22, 1912, and that death occurred, on the dato stated above, at ____ m.

The CAUSE OF DEATH* was as follows:

Puerperal Peritonitis.

jan.blaha@vfn.cz