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**KLINIKA DĚTSKÉ
ANESTEZILOGIE
A RESUSCITACE**

V jednoduchosti je krása, aneb máme k dispozici levná, ale účinná opatření?

Martina Kosinová (Brno)

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**M U N I
M E D**

Vzdělávání rezidentů

J Educ Perioper Med. 2018 Apr 1;20(2):E621. eCollection 2018 Apr-Jun.

Development of a Multiple-Choice Test for Novice Anesthesia Residents to Evaluate Knowledge Related to Management of General Anesthesia for Urgent Cesarean Delivery.

Lee AJ, Goodman SR, Banks SE, Lin M, Landau R.

Abstract

BACKGROUND: Teaching trainees the knowledge and skills to perform general anesthesia (GA) for cesarean delivery (CD) requires innovative strategies, as they may never manage such cases in training. We used a multistage design process to create a criterion-referenced multiple-choice test as an assessment tool to evaluate CA1's knowledge related to this scenario.

METHODS: Three faculty created 33 questions, categorized as: (1) physiologic changes of pregnancy (PCP), (2) pharmacology (PHA), (3) anesthetic implications of pregnancy (AIP), and (4) crisis resource management principles (CRM). A Delphi process (3 rounds) provided content validation. In round 1, experts (n = 15) ranked questions on a 7-point Likert scale. Questions ranked ≥ 5 in importance by $\geq 70\%$ of experts were retained. Five questions were eliminated, several were revised, and 1 added. In round 2, consensus (N = 14) was reached in all except 7 questions. In round 3 (N = 14), all questions stabilized. A pilot test of the 29-question instrument evaluating internal consistency, reliability, convergent validity, and item analysis was conducted with the July CA1 classes at our institution after a lecture on GA for CD (n = 26, "instructed group") and another institution with no lecture (n = 26, "uninstructed group"), CA2s (N = 17), and attendings (N = 10).

RESULTS: Acceptable internal consistency and reliability was demonstrated ($\rho = 0.67$). Convergent validity coefficients between the CA1 uninstructed and instructed group suggested theoretical meaningfulness of the 4 sub-scales: PCP correlated at 0.29 with PHA, 0.35 with CRM, and 0.25 with AIP. PHA correlated with CRM and AIP at 0.23 and 0.28, respectively. The correlation between CRM and AIP was 0.29.

CONCLUSION: The test produces moderately reliable scores to assess CA1s' knowledge related to GA for urgent CD.

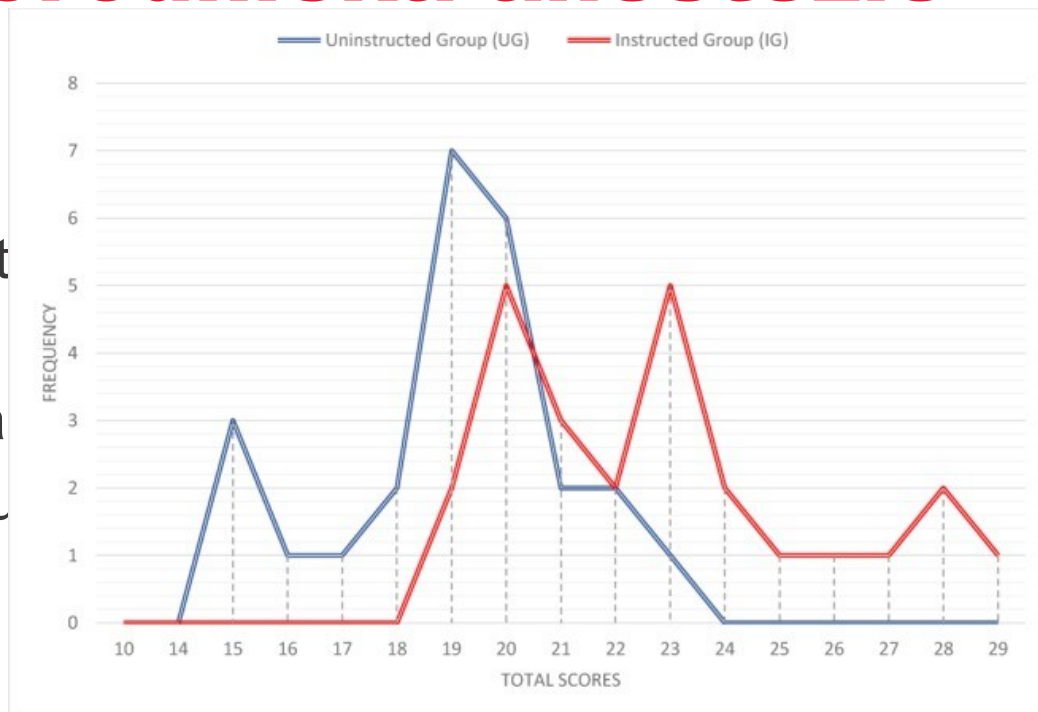
Residenti a porodnická anestezie

33 otázek

1. Fyziologické změny v t
2. Farmakologie
3. Dopady těhotenství na
4. Principy managementu

Sledovány 3 skupiny:

- Edukovaná skupina rezidentů
- Rezidenti bez lekce porodnické anestezie
- Skupina starších rezidentů a „attending anesthesiologists“



ARTICLE HISTORY

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KEYWORDS

Anxiety; cesarean section;
general anesthesia; pain;
spinal anesthesia

ISSN: 1476-7058 (Print) 1476-4954 (Online) Journal homepage: <http://www.tandfonline.com/loi/ijmf20>

Effects of preoperative anxiety on postcesarean delivery pain and analgesic consumption: general versus spinal anesthesia

Table 2 of 2

Table 2. Comparison of analgesic consumption and pain intensity in the patients with and without a State Anxiety Index score of ≥ 45 .

	State Anxiety Inventory Score <45			State Anxiety Inventory Score ≥ 45		
	General anesthesia	Spinal anesthesia	<i>p</i>	General anesthesia	Spinal anesthesia	<i>p</i>
	(Group 1)	(Group 2)		(Group 1)	(Group 2)	
	(<i>n</i> = 59)	(<i>n</i> = 62)	(<i>n</i> = 21)	(<i>n</i> = 18)		
Diclofenac consumption (mg)	150 (0–150)	150 (0–225)	.270	150 (0–150)	150 (0–150)	.490
Pethidine consumption (mg)	0 (0–100)	0 (0–100)	.605	0 (0–100)	0 (0–100)	.837
VAS 1 h	4.03 \pm 1.88	3.43 \pm 2.36	.114	4.58 \pm 1.69	2.87 \pm 1.55	.016*
VAS 6 h	3.85 \pm 2.11	3.25 \pm 1.54	.065	3.83 \pm 1.68	2.82 \pm 1.41	.034*
VAS 12 h	3.73 \pm 2.13	3.60 \pm 1.85	.614	3.82 \pm 1.62	2.58 \pm 1.38	.012*
VAS 18 h	3.00 \pm 1.57	2.60 \pm 1.47	.236	3.07 \pm 1.15	2.83 \pm 1.38	.651
VAS 24 h	2.33 \pm 1.18	2.26 \pm 1.15	.711	2.61 \pm 1.37	2.06 \pm 1.09	.148

*Statistically significant difference.

Předoperační postupy – premedikace?

Benzodiazepiny – vhodné u rodiček s výraznou anxiétou

Midazolam 0.025 mg/kg i.v. před vstupem na OS vede s snížením anxiety, nevede k ovlivnění novorozence (APGAR, NACS)



ELSEVIER

REVISTA
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Official Publication of the Brazilian Society of Anesthesiology
www.sba.com.br



SPECIAL ARTICLE

Premedication with midazolam prior to caesarean section has no neonatal adverse effects[☆]

Ahmet Can Senel*, Fatih Mergan

August 2012

Předoperační postupy – (pre)oxygenace?

O₂ u plánovaného císařského řezu vedeného v SAB/CSE 10L/min
obličejovou maskou

- Vede k zvýšení p_vO₂ i p_aO₂ v porovnání se vzduchem
- **Nevede** ke změně ostatních parametrů ABR novorozence či ovlivnění výskytu novorozeneckých či mateřských komplikací

U rizikových rodiček, známek hypoxie plodu je podání O₂ indikováno

[Am J Perinatol.](#) 2018 Jan;35(1):84-89. doi: 10.1055/s-0037-1606184. Epub 2017 Aug 24.

Supplemental Oxygen Study: A Randomized Controlled Study on the Effect of Maternal Oxygen Supplementation during Planned Cesarean Delivery on Umbilical Cord Gases.

[Simon VB](#)¹, [Fong A](#)², [Nageotte MP](#)².

Obvod krku a predikce obtížné intubace?

Saudi J Anaesth. 2018 Jan-Mar;12(1):77-81. doi: 10.4103/sja.SJA_385_17.

Does neck circumference help to predict difficult intubation in obstetric patients? A prospective observational study.

Riad W¹, Ansari T¹, Shetty N¹.

	Total sample (n=94)	Intubation		P
		Not difficult (n=84)	Difficult (n=10)	
Mallampati classification, n (%)				
I	33 (35.1)	31 (36.9)	2 (20.0)	0.002
II	58 (61.7)	52 (61.9)	6 (60.0)	
III	3 (3.2)	1 (1.2)	2 (20.0)	
Mouth opening (cm)	4.50 (4.375-5.000)	4.50 (4.125-5.000)	4.5 (4.375-5.000)	0.863
Thyromental distance (cm)	8.00 (7.50-9.00)	8.00 (7.50-9.00)	8.25 (7.875-8.750)	0.876
Sternomental distance (cm)	13 (12.5-14.0)	13 (12.5-14.0)	14 (12.375-14.000)	0.481
Hyomental distance (cm)				
Neutral position	3.50 (3.00-4.00)	3.50 (3.00-4.00)	3.10 (2.500-3.775)	0.206
Extension	4.75 (4.50-5.00)	5.00 (4.50-5.00)	4.50 (4.375-5.500)	0.444
Hyomental distance ratio	1.37 (1.25-1.50)	1.365 (1.25-1.50)	1.45 (1.257-1.50)	0.276
Neck circumference	34.00 (32.375-36.000)	33.75 (32.00-35.50)	35.75 (34.75-36.625)	0.011
IDS, n (%)				
Negative (IDS 0)	68 (72.3)	68 (81.0)	0	0.000
Positive (IDS ≥ 1)	26 (27.7)	16 (19.0)	10 (100)	
IDS	0.00 (0.00-1.00)	0.00 (0.00-0.00)	6.00 (5.00-6.00)	0.000
Difficult intubation, n (%)	10 (10.6)			
	95% CI (4.29-16.99)			

Data expressed as the median (interquartile range) or number and percentage. CI: Confidence interval; IDS: Intubation difficulty scale

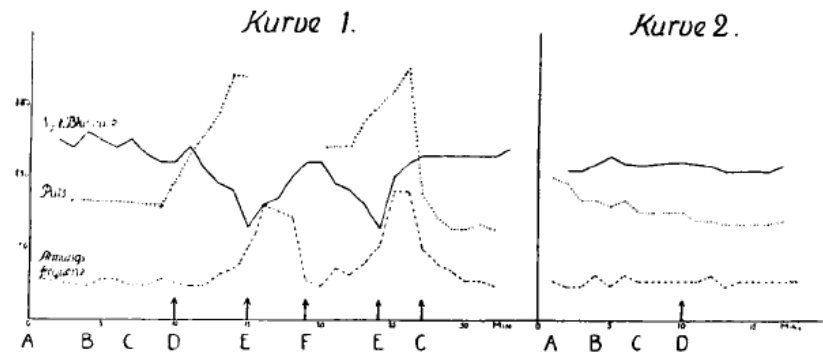
Acta Obstet Gynecol Scand 1933;13:67

AUS DER OBSTETRISCH-GYNÄKOLOGISCHEN KLINIK, AKADEMISCHES KRANKENHAUS,
UPPSALA. (STELLVERTRETENDER CHEF: DR. S. V. WAGENFELDT).

In Rückenlage eintretende Herzinsuffizienz bei
einer Graviden.

Von
GIDEON AHLTORP.

- 34/40 supinní poloha → nausea, dyspnoea, bledost, bezvědomí, cyanóza, vypadala „bez života“
- Doporučení vyvarování se supinní p.
- V supinní poloze vývoj hypotenze → Ukončeno položením na bok, zvednutím dělohy nahoru, pronací, 45° hlavou nahoru
- Císařský řez provádět v poloze 45° hlavou nahoru

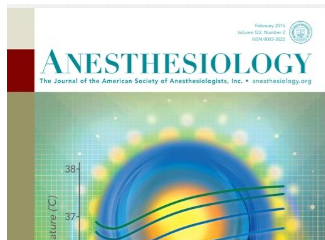
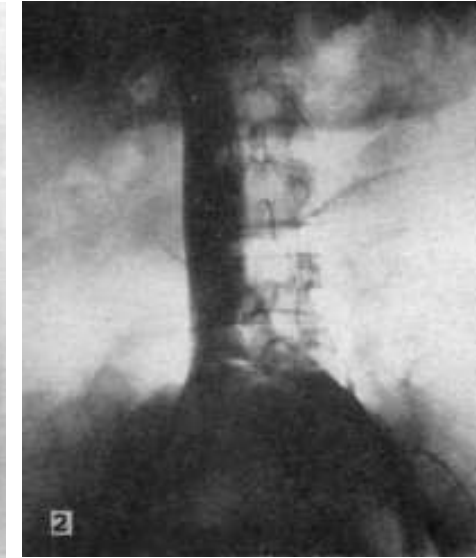
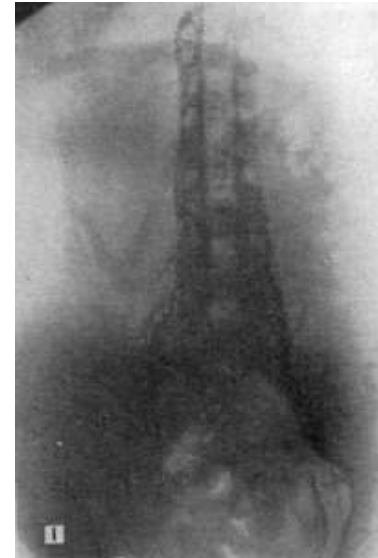


- A. Pat. steht auf.
B. Pat. setzt sich.
C. Pat. legt sich auf die Seite.
D. Pat. legt sich auf den Rücken.
E. Der Uterus wird hinaufgehoben.
F. Der Uterus wird hinuntergelassen.

Kerr, Scott, Samuel. 1964.

Studies of the inferior vena cava in late pregnancy.

Br Med J 1964;1(5382):522



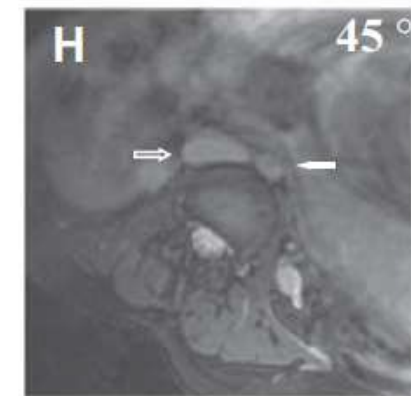
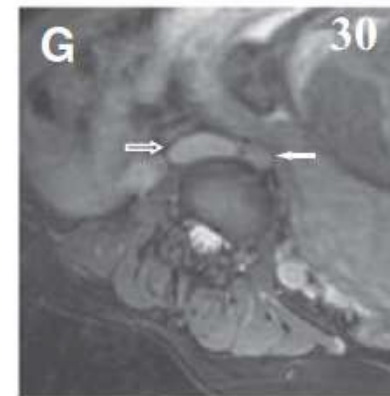
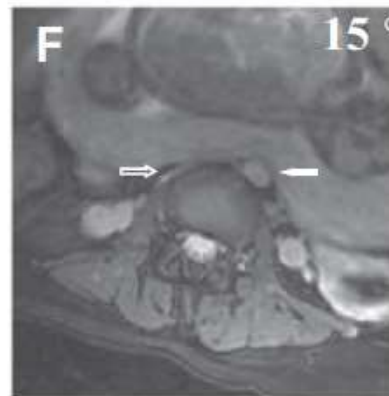
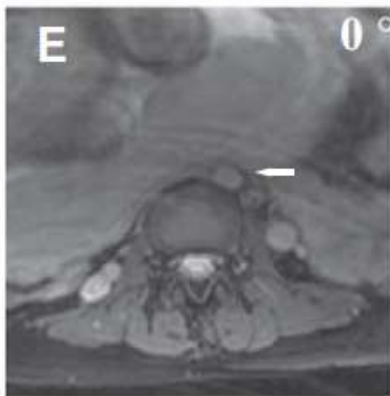
FREE

Perioperative Medicine | February 2015

Effect of Lateral Tilt Angle on the Volume of the Abdominal Aorta and Inferior Vena Cava in Pregnant and Nonpregnant Women Determined by Magnetic Resonance Imaging

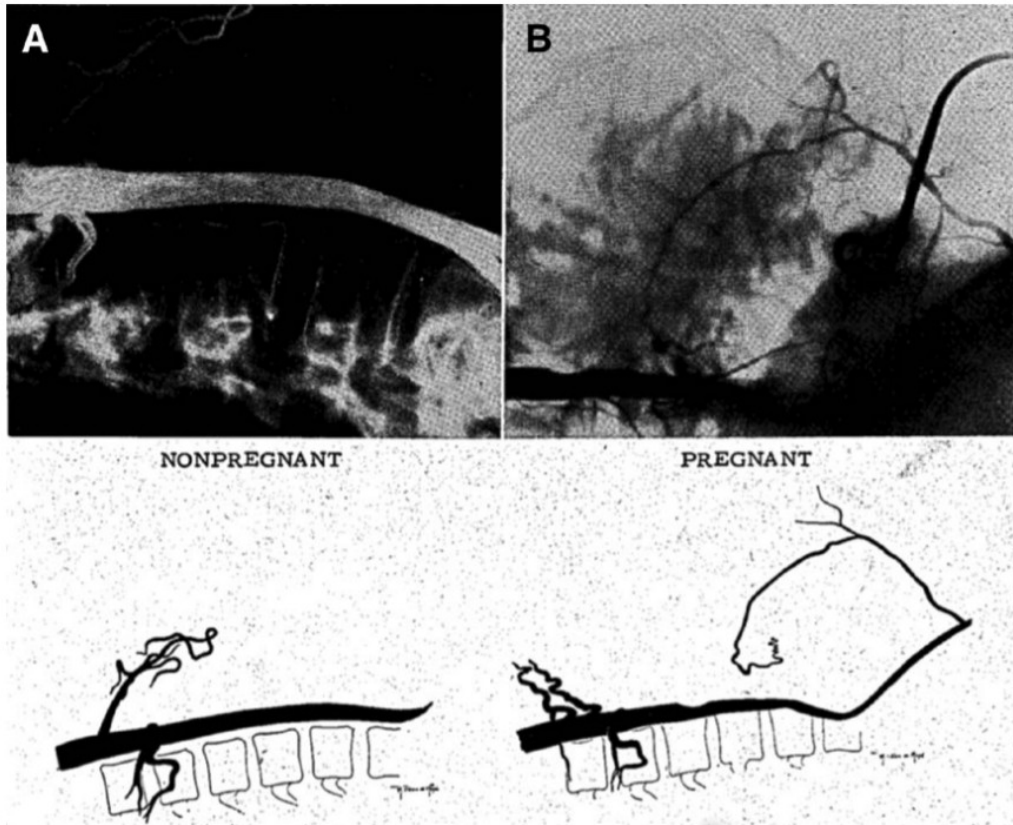
Hideyuki Higuchi, M.D.; Shunichi Takagi, M.D.; Kan Zhang, M.D.; Ikue Furui, M.D.; Makoto Ozaki, M.D.

L4/5



Aortocaval compression in pregnancy: the effect of changing the degree and direction of lateral tilt on maternal cardiac output.

Bamber JH¹, Dresner M.



What We Thought We Knew

- 15° of maternal left lateral tilt is sufficient to relieve compression on the inferior vena cava by the gravid uterus.
- The aorta is typically compressed in the supine position during late pregnancy.
- 15° of maternal left lateral tilt must be routinely instituted during cesarean delivery.

What This Review Adds

- Inferior vena cava obstruction is only significantly relieved by $\geq 30^\circ$ of left tilt.
- Magnetic resonance imaging reveals the aorta is not compressed in the supine position, although the distal aorta is not well visualized.
- Maternal tilt position during elective cesarean delivery of healthy women with uncomplicated pregnancies may not be necessary; maternal supine position is not detrimental to neonates if maternal blood pressure is supported with vasopressors and a fluid coload.
- The degree and significance of aortic compression by the gravid uterus during neuraxial anesthesia, in the setting of hypotension, and during uterine contractions, remains debatable.

OBAAMA-CZ ... OBAAMA-INT

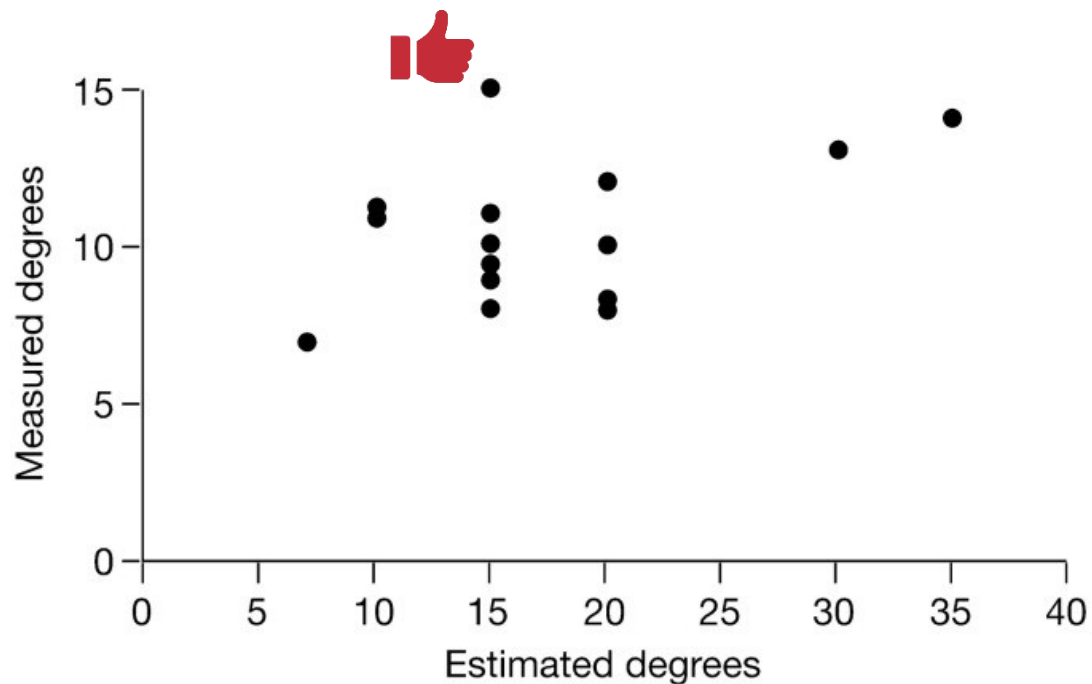
	Česká republika		Slovensko
rok	2011	2015	2015
Počet pacientek	1166	1689	859
Záda	758 (65%)	801 (47.4%)	568 (66.1%)
Levý bok	239 (20%)	165 (9.8%)	52 (6.1%)
Náklon pacientky 15°	104 (9%)	624 (36.9%)	209 (24.3%)
Anti-Trendelenburgova poloha	55 (5%)	68 (4%)	24 (2.8%)
neuveдено	10 (1%)	31 (1.8%)	6 (0.7%)

Short Communications

Comparison of measured and estimated angles of table tilt at Caesarean section

S.J. Jones¹, S.M. Kinsella², F.A. Donald¹  

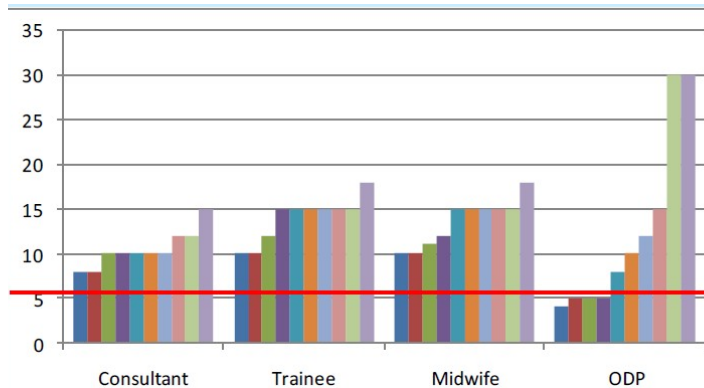
- 16 anesteziologů
- Většina považovala použitý úhel náklonu za přesný nebo větší, než je doporučený
- Vybavení operačních stolů zařízením měřícím úhel náklonu by mohlo vést jednak k připomenutí nutnosti náklonu a jednak k přesnému provedení



Jaký má zdravotnický personál odhad?



Torre pendente di Pisa



Dowse & Kinsella. Int J Obstet Anesth 2008;17: S28

Results: Estimated angle of tilt (degrees).

	Range	Mean (SD)
Anaesthetic consultants	8 – 15	10.5 +/- 2.1
Anaesthetic trainees	10 – 18	14.0 +/- 2.4
ODPs	4 – 30	12.4 +/- 9.9
Midwives	10 – 18	13.6 +/- 2.7



Supine hypotensive syndrome.

Kinsella SM¹, Lohmann G.

Supinní poloha

- 80% - bez většího vlivu
- 20% - tachykardie
- 8% - supinní hypotenzní syndrom

SAB



Supinní poloha +/- náklon

- 90% - hypoteze, nutná podpora vazopresory
- 2% - závažná hypotenze, nutné zvýšení náklonu/ poloha na boku
- 0.05% - šok, potřeba vybavení plodu

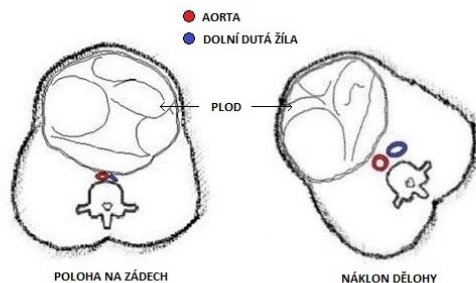
Left Lateral Table Tilt for Elective Cesarean Delivery under Spinal Anesthesia Has No Effect on Neonatal Acid-Base Status

A Randomized Controlled Trial

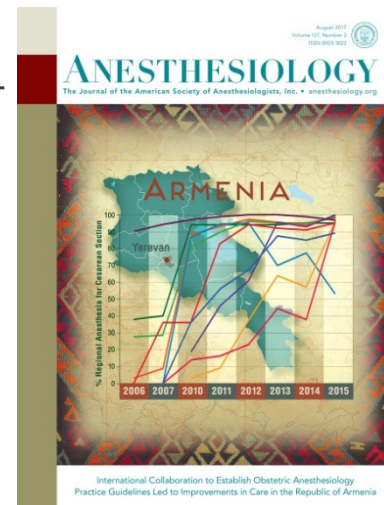
Allison J. Lee, M.D., Ruth Landau, M.D., James L. Mattingly, C.R.N.A., Margaret M. Meenan, C.R.N.A., Beatriz Corradini, M.Sc., Shuang Wang, Ph.D., Stephanie R. Goodman, M.D., Richard M. Smiley, M.D., Ph.D.

Supinní pozice rodičky před plánovaným císařským řezem

- Neovlivní novorozenecký outcome za podmínky udržení krevního tlaku rodičky pomocí co-loadu tekutin a vasopresorů



August 2017





Association between maternal sleep practices and late stillbirth – findings from a stillbirth case-control study

AEP Heazell , M Li, J Budd, JMD Thompson, T Stacey, RS Cronin, B Martin, D Roberts, EA Mitchell,
LME McCowan

Závěr:

- Pozice usínání těhotné na zádech ve 28. t.g. a vyšším je spojena s 2,3x vyšším rizikem porodu mrtvého plodu!

Cochrane Reviews ▾

Trials ▾

Clinical Answers ▾

About ▾

Cochrane Database of Systematic Reviews

Timing of intravenous prophylactic antibiotics for the prevention of postpartum infectious morbidity in women undergoing caesarean delivery

Cochrane Systematic Review - Intervention | Version 1.0

- i.v. ATB profylaxe předoperačně snižuje incidence srovnání infekcí ve srovnání s pečnicku!
- Podání ATB profylaxe předoperačně k redukci mateřské s infekcí.

OBAAMA-INT studie v roce 2015
Podání ATB profylaxe předoperačně
ČR: 21%
SVK: 10%

Surgical site infection after cesarean delivery: incidence and risk factors at a US academic institution.

Moulton LJ¹, Munoz JL¹, Lachiewicz M², Liu X³, Goje O¹.

Author information

Abstract

Table 3. Multivariate analysis for patients who underwent cesarean delivery for the development of postpartum SSI.



Variable	Odds ratio	95%CI		p Value
Cd for labor arrest	2.39	1.631	3.504	<.0001
Preterm labor	2.753	1.263	5.998	.0108
General anesthesia	4.411	1.979	9.832	.0003
Smoking during pregnancy	1.859	1.087	3.181	.0236
Maternal asthma	1.878	1.093	3.224	.0224
Body Mass Index	1.071	1.05	1.093	<.0001

For each one unit increase of BMI, the odds of SSI = yes increase by 7%, after adjusting for other covariates. In addition, general anesthesia is associated with 4.4 (2.0, 9.8) times than the odds of SSI compared to local anesthesia, after adjusting for the covariates included in the final model.

Brno



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