UNIVERSITY HOSPITAL BRNO
FACULTY OF MEDICINE
MASARYK UNIVERSITY

DEPARTMENT OF PAEDIATRIC
ANAESTHESIOLOGY
AND INTENSIVE CARE MEDICINE

TOP publikace z Monitoringu článků AKUTNĚ.CZ

Jozef Klučka

FAKULTNÍ NEMOCNICE BRNO

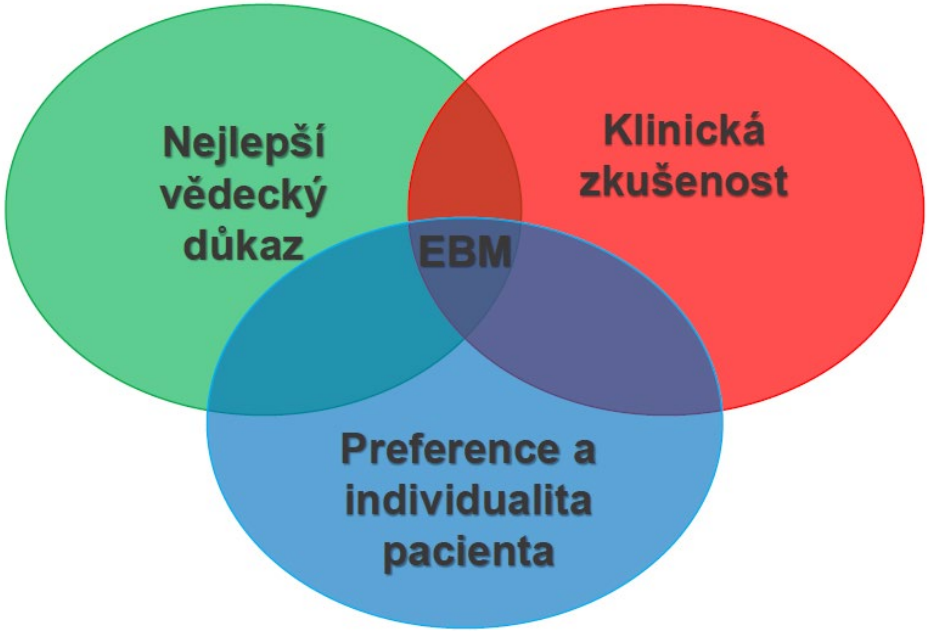
MUNI MED

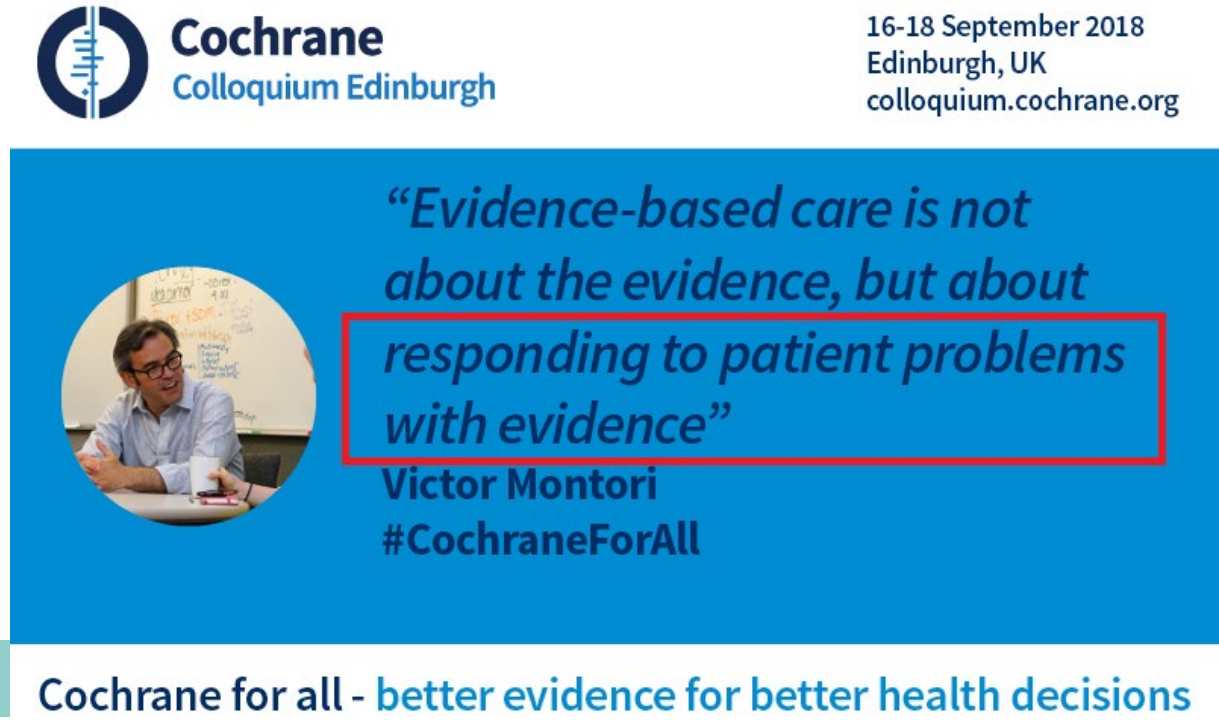
Obsah

- EBM vs. proč sledovat novinky?
- Kde hledat?
- TOP anesteziologie
- TOP intenzivní medicína
- TOP varia (COVID-19 ?!)

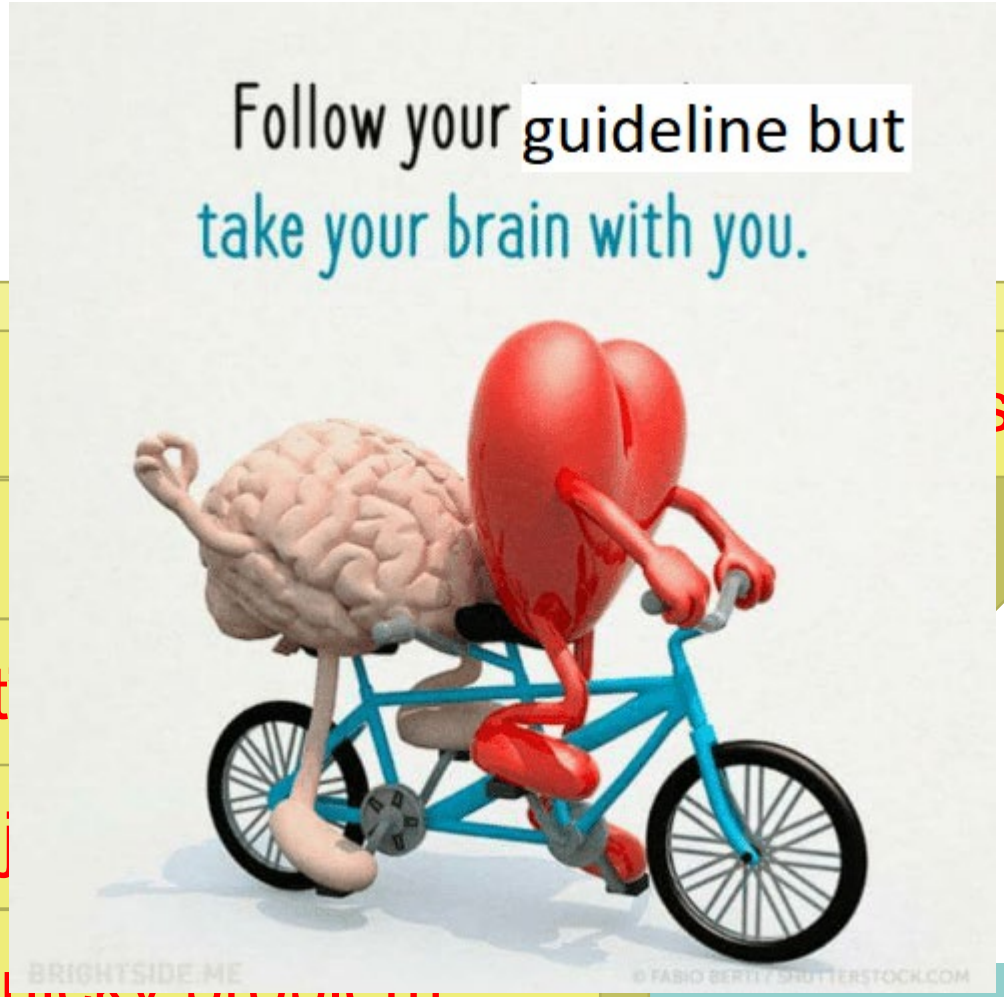
Evidence based medicine

- Medicína založená na důkazech = „Vědomé, zřetelné a soudné používání nejlepších současných důkazů při rozhodování o péči o jednotlivé pacienty“





Medicína založená na důkazech v praxi



5.

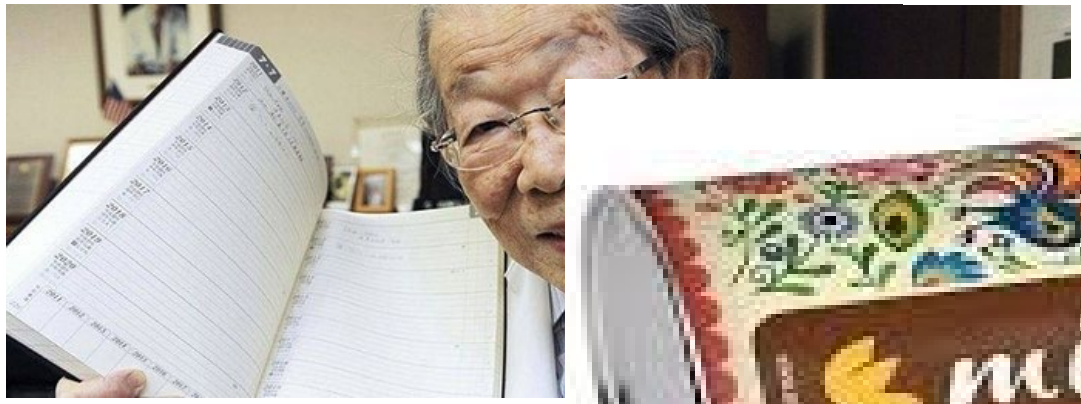
3. Zhodnot

2. Vyhledej nej

1. Identifikuj klinický problém

Takže kde?

Starší kolega



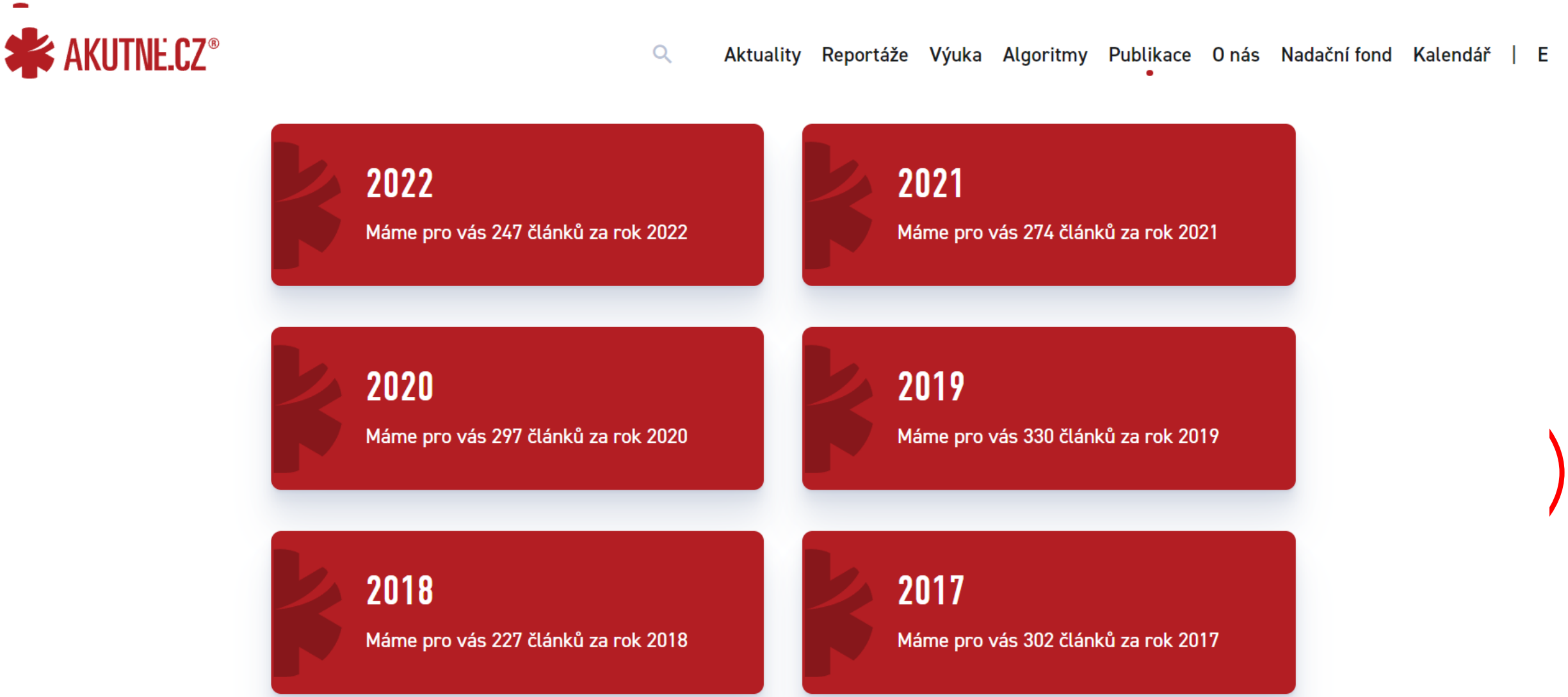
Knihy

EBM – peer-reviewed journals

Vzdělávací ak
přednášky, k

árodní spolupráce

Monitoring článků AKUTNĚ.CZ



TOP Anesteziologie

Anestezie v roce 1846

Anestezie v roce 2022

Study or subgroup	Videolaryngoscope Events	Total	Direct laryngoscope Events	Total	Weight	Risk ratio M-H, random, 95% CI
Aggarwal 2019	0	50	0	50		Not estimable
Akbar 2015	0	45	2	45	2.1%	0.20 [0.01, 4.05]
Altaiee 2020	0	50	0	50		Not estimable
Anandraja 2021	0	30	0	30		Not estimable
Ander 2017	0	39	5	39	2.2%	0.09 [0.01, 1.59]
Aziz 2012	6	149	12	147	10.7%	0.49 [0.19, 1.28]
Bakshi 2019	0	37	1	37	1.9%	0.33 [0.01, 7.93]
Bensghir 2010	0	34	2	34	2.1%	
Bensghir 2013	0	35	1	35	1.9%	
Bhat 2015	0	50	0	50		
Blajic 2019	0	60	0	59		
Cakir 2020	0	31	0	31		
Cavus 2011 (1)	0	100	6	50	2.3%	
Dey 2020	3	124	4	124	6.5%	
Driver 2016	2	103	8	95	6.2%	
Frohlich 2011	12	30	0	30	2.4%	
Gupta 2013 (1)	0	60	0	60		
Hastic 2016	1	52	1	40	2.4%	
Jungbauer 2009	1	100	8	100	3.9%	
Kaur 2020	0	40	0	40		
Kido 2015	0	25	0	25		
Kleine-Brueggeney 2017	41	120	52	120	18.5%	
Kucukosman 2020	0	30	0	30		
Lascarrou 2017	3	186	2	185	4.9%	
Lee 2009	0	41	0	44		
Lee 2012	0	25	1	25	1.9%	
Lin 2012	2	85	3	85	5.0%	
Maassen 2012	0	40	0	40		
Macke 2020	0	76	3	76	2.1%	
McElwain 2011	1	29	2	31	3.2%	
Ninan 2016	0	30	0	30		
Peck 2009	0	27	13	27	2.4%	
Ruetzler 2020	2	66	5	63	5.8%	
Sarkilar 2015	0	55	0	55		
Serocki 2010	1	40	4	40	3.7%	
Shimazaki 2018	0	20	0	20		
Shippey 2013	0	24	1	24	1.9%	
Teoh 2010	0	100	0	100		
Wallace 2015 (1)	0	52	0	53		
Yoo 2018	1	22	5	22	3.9%	
Yumul 2016	0	30	7	31	2.3%	
Total (95% CI)		**2342**		**2273**	**100.0%**	
Total events:	76		148			

Heterogeneity: t^2=0.26; χ^2=31.80, df=23 (P=0.10); I^2=28%
Test for overall effect: Z=3.83 (P=0.0001)
Test for subgroup differences: Not applicable

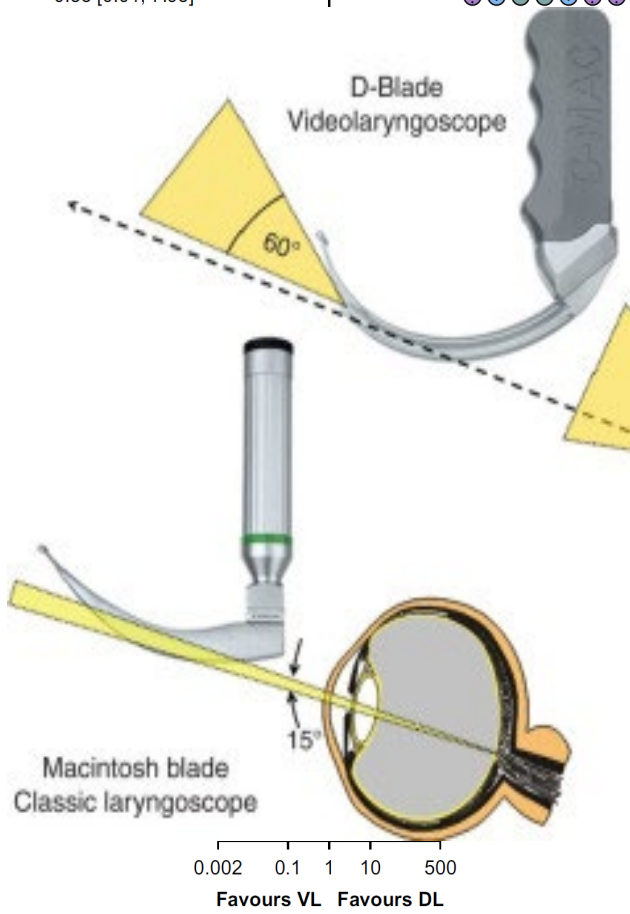
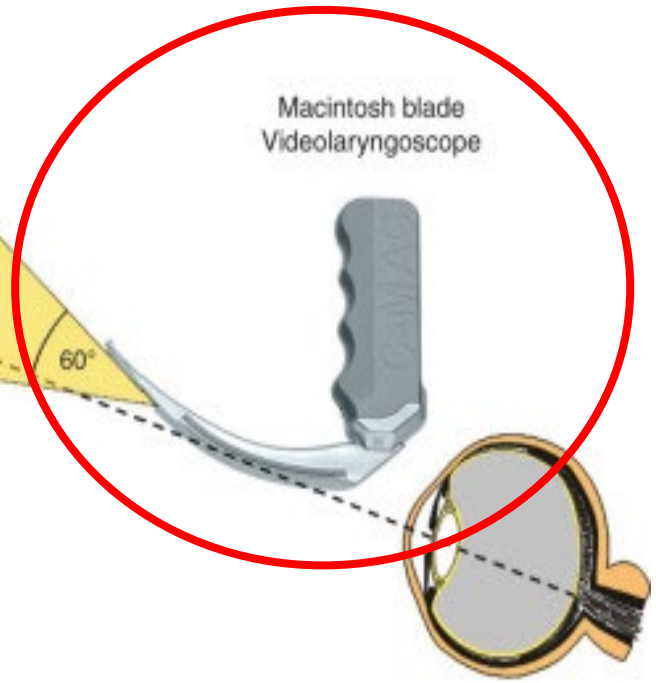


Fig 3. Forest plot for Macintosh-style videolaryngoscopy (VL) *vs* direct laryngoscopy (DL) comparison: failed intubation. CI, confidence interval; M-H.



Study or subgroup	Videolaryngoscope Events	Total	Direct laryngoscope Events	Total	Weight	Risk ratio M-H, random, 95% CI
Abdelgalel 2018	0	40	1	40	1.3%	0.33 [0.01, 7.95]
Abdelgawad 2015	0	40	0	40		Not estimable
Agrawal 2020	0	40	0	40		Not estimable
Ahmadi 2015	1	49	3	48	2.4%	0.33 [0.04, 3.03]
Al-Ghamdi 2016	0	21	0	22		Not estimable
Andersen 2011	0	50	2	50	1.5%	0.20 [0.01, 4.06]
Aqil 2016	0	40	0	40		Not estimable
Aqil 2017	0	70	0	70		Not estimable
Arici 2014	0	40	0	40		Not estimable
Arora 2013 (1)	0	54	0	54		Not estimable
Arslan 2017 (2)	0	80	0	40		Not estimable
Bakshi 2015 (3)	12	84	2	42	4.1%	3.00 [0.70, 12.79]
						0.56 [0.05, 6.09]
						Not estimable
						Not estimable
						Not estimable
						0.33 [0.03, 3.18]
						2.00 [0.19, 21.36]
						0.50 [0.14, 1.84]
						Not estimable
						0.07 [0.00, 1.15]
						0.76 [0.28, 2.09]
						Not estimable
						0.28 [0.01, 6.66]
						Not estimable
						11.00 [0.62, 194.90]
						Not estimable
						Not estimable
						Not estimable
						0.14 [0.01, 2.65]
						0.22 [0.14, 0.34]
						0.36 [0.17, 0.78]
						1.50 [0.16, 13.70]
						Not estimable
						2.00 [0.18, 21.67]
						0.05 [0.00, 0.82]
						0.50 [0.07, 3.38]
						0.25 [0.03, 2.08]
						0.14 [0.01, 2.72]
						3.00 [0.13, 68.26]
						Not estimable
						2.00 [0.53, 7.57]
						0.20 [0.01, 4.06]
						7.00 [0.37, 130.69]
						3.08 [0.87, 10.94]
						Not estimable
						0.25 [0.03, 2.14]
						0.06 [0.00, 1.03]
						0.33 [0.01, 7.87]
						Not estimable
						0.33 [0.13, 0.84]
						0.33 [0.01, 8.09]
						0.03 [0.00, 0.43]
						0.50 [0.03, 7.59]
						Not estimable
						Not estimable
						Not estimable
						3.00 [0.12, 72.20]
						0.33 [0.01, 7.78]
						Not estimable
						Not estimable
						0.08 [0.00, 1.31]
Yumul 2016	6	60	7	31	5.7%	0.44 [0.16, 1.20]
Total (95% CI)		**3786**		**3360**	**100.0%**	**0.51 [0.34, 0.76]**
Total events:	105		188			

Heterogeneity: t^2=0.46; χ^2=60.94, df=36 (P=0.006); I^2=41%
Test for overall effect: Z=3.32 (P=0.0009)
Test for subgroup differences: Not applicable

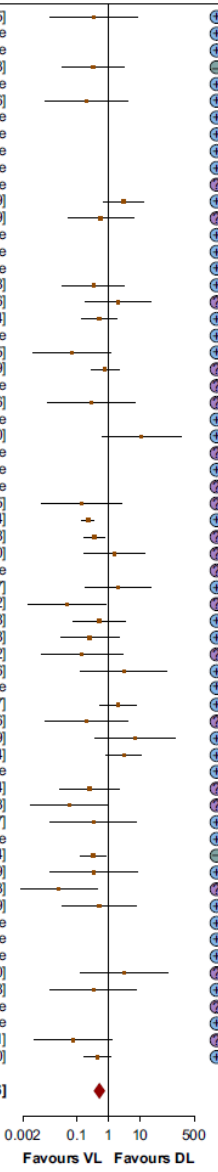


Fig 4. Forest plot for hyperangulated videolaryngoscopy (VL) *vs* direct laryngoscopy (DL) comparison: failed intubation. CI, confidence interval; M-H, Mantel-Haenszel.

ANESTHESIOLOGY

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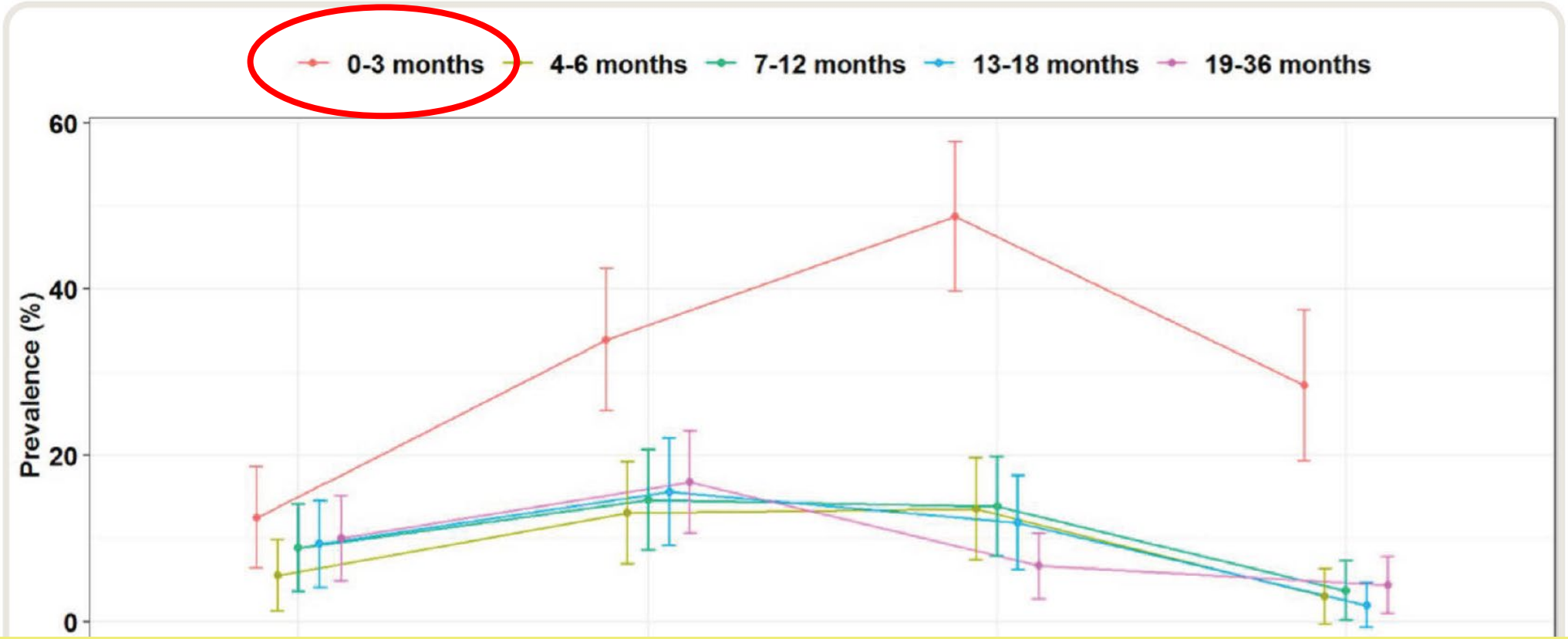

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ts, M.D., Ph.D.,
Szmuk, M.D.,
aborative

Izoelektrické EEG se vyskytovalo v dané kohortě pacientů v 32% případů s maximálním výskytem ve věkové kategorii 0-3 měsíce a se signifikantní variabilitou mezi centry.

Trabelsi *et al. Annals of Intensive Care* (2022) 12:91
https://doi.org/10.1186/s13613-022-01065-x

Annals of Intensive Care

RESEARCH

Compa
jugular
vein ca
a prosp

Becem Trabelsi[1*]
Mechaal Ben Ali

Table 2 Venous cannulation characteristics

	OOP-IJV group ($n = 125$)	IP-SSCV group ($n = 125$)	p
Primary outcome			
First attempt success rate (%)	63.2	83.2	0.001
Secondary outcomes			
US scanning time (s)	5.26 ± 4.05	16.54 ± 13.51	< 0.001
Venous puncture time (s)	19.55 ± 15.71	22.41 ± 18.68	0.19
Insertion time (s)	53.12 ± 40.21	43.98 ± 26.77	0.038
Overall access time (s)	57.95 ± 40.78	59.68 ± 36.13	0.73
Mean number of puncture attempts	1.47 ± 0.71	1.16 ± 0.39	< 0.001
Mean number of needle redirections	1.17 ± 0.95	0.69 ± 0.58	< 0.001
Success rate (%)	96.8	98.4	0.68
Guidewire advancing difficulties (*n* (%))	34 (27.4)	3 (2.4)	< 0.001
Venous collapse (*n* (%))	23 (18.4)	3 (2.4)	< 0.001
Adverse events (*n* (%))	17 (13.6)	11 (8.8)	0.22
Pneumothorax	0	1 (0.8)	0.31
Hemothorax	0	0	–

V dané kohortě bylo dosaženo signifikantně vyšší úspěšnosti a bezpečnosti při delším času skenování supraklavikulární punkce v.subclavia ve srovnání s v.jugularis.

TOP Intenzivní medicína

ICU v roce 1953

ICU v roce 2022

Poresuscitační péče

JAMA | Original Investigation

Effect of Lower vs Higher Oxygen Saturation Targets on Survival to Hospital Discharge Among Patients Resuscitated After Out-of-Hospital Cardiac Arrest

The EXACT Randomized Clinical Trial

Stephen A. Bernard, MD; Janet E. Bray, F
Hugh Grantham, MBBS; Cindy Hein, PhD
Catherine Martin, PhD; Sarah Hopkins, M

- Multicen
- Pacienti
- **Interven** **hem**
  transpo
- 1. outcor
- 2. outcor
- **Výskyt I**

Table 3. Outcomes Collected During Intensive Care Unit and Hospital Stay

Outcome	No. (%) Target Spo_2 90%-94% (n = 214)	Target Spo_2 98%-100% (n = 211)	Difference (95% CI)[a]	Odds ratio (95% CI)	*P* value[b]
Primary					
Survival to hospital discharge	82 (38.3)	101 (47.9)	−9.6 (−18.9 to −0.2)	0.68 (0.46 to 1.00)	.05
Secondary					
Rearrest					
Pre-ICU[c]	27 (12.7) [n = 213]	21 (10.0) [n = 209]	2.6 (−3.4 to 8.7)	1.30 (0.71 to 2.38)	.40
Prehospital	7 (3.3)	3 (1.4)	1.8 (−1.0 to 4.7)		
prior to ICU					

Během transportu vedla SATO2 98-100% k lepšímu outcome ve srovnání se SATO2 90-94% u pacientů s ROSC po KPR

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Blood-Pressure Targets in Comatose Survivors of Cardiac Arrest

J. Kjaergaard, J.E. Møller, H. Schmidt, J. Grand, S. Mølstrøm, B. Borregaard, S. Venø, L. Sarkisian, D. Mamaev, L.O. Jensen, B. Nyholm, D.E. Høfsten, J. Josiassen, J.H. Thomsen, J.J. Thune, L.E.R. Obling, M.G. Lindholm, M. Frydland, M.A.S. Meyer, M. Winther-Jensen, R.P. Beske, R. Frikke-Schmidt, S. Wiberg, S. Boesgaard, S.A. Madsen, V.L. Jørgensen, and C. Hassager

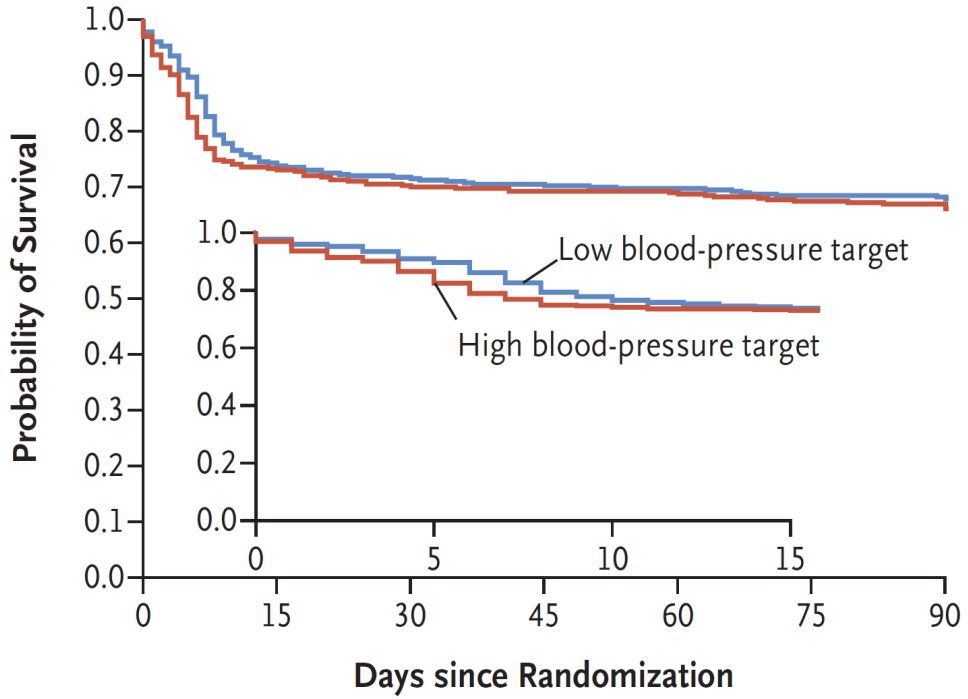
The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Oxygen Targets in Comatose Survivors of Cardiac Arrest

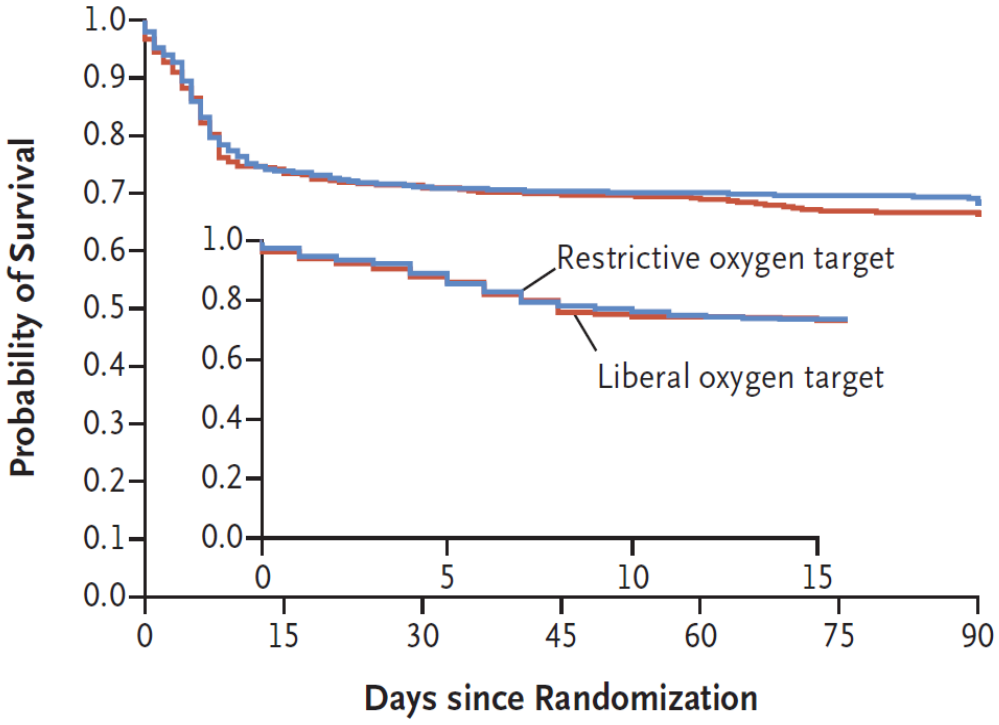
H. Schmidt, J. Kjaergaard, C. Hassager, S. Mølstrøm, J. Grand, B. Borregaard, L.E. Roelsgaard Obling, S. Venø, L. Sarkisian, D. Mamaev, L.O. Jensen, B. Nyholm, D.E. Høfsten, J. Josiassen, J.H. Thomsen, J.J. Thune, M.G. Lindholm, M.A. Stengaard Meyer, M. Winther-Jensen, M. Sørensen, M. Frydland, R.P. Beske, R. Frikke-Schmidt, S. Wiberg, S. Boesgaard, V. Lind Jørgensen, and J.E. Møller

- 2:2 randomizace
- **MAP 63 mm Hg vs. 77 mm Hg** a **restriktivní (Pao2) 9-10 kPa** (68-75 mm Hg) vs. **liberální Pao2 13-14** kPa (98-105 mm Hg)
- **Primární outcome mortalita, negativní neurol. outomce** (Cerebral Performance Category (CPC) of 3/4 – těžké neurol postižení/koma) 90-denní intervalu
- Sekundární outcome NSE (48 hod), mortalita, Montreal Cognitive Assessment, modified Rankin scale, CPC – 3 měsíc
- 789 pacientů



No. at Risk

Low blood-pressure target	396	294	284	279	276	271	270
High blood-pressure target	393	288	276	272	271	265	263



No. at Risk

Restrictive target	394	290	279	276	275	273	271
Liberal target	395	292	281	275	272	263	262

Cíl perfuzního tlaku MAP 77 vs. 63mmHg a cíl PaO2 9-10 kPa vs. 13-14 kPa u pacientů po ROSC nevedl k rozdílu v mortalitě a/nebo nepříznivého neurologického outcome.

Teplotní management

Teplotní management – ICU – stp. KPR

Intensive Care Med (20
https://doi.org/10.100

Table 2 ERC-ESICM Recommendations for temperature control after cardiac arrest in adults

GOOD PRACTICE	We **recommend** continuous monitoring of core temperature in patients who remain comatose after ROSC from cardiac arrest.
LOW	We **recommend** actively preventing fever (defined as a temperature > 37.7°C) in post-cardiac arrest patients who remain comatose.
GOOD PRACTICE	We **recommend** actively preventing fever for at least 72 hours in post-cardiac arrest patients who remain comatose.
GOOD PRACTICE	Temperature control can be achieved by exposin… this is insufficient, by using a cooling device with …

ICM RAPID

ERC-ES… control

Claudio Sandron
Tobias Cronberg
Theresa M. Olasv…

Aneman et al. Critical Care (2022) 26:58
https://doi.org/10.1186/s13054-022-03935-z

Critical Care

RESEARCH Open Access

Target temperature management following cardiac arrest: a systematic review and Bayesian meta-analysis

Anders Aneman[1,2,3*], Steven Frost[1,4], Michael Parr[1,2,3] and Markus B. Skrifvars[5,6]

…sufficient evidence to recor…
…pulations of cardiac arrest …
…cidate this. We **recommend** …
…after ROSC to achieve nor…
…using prehospital cooling wi…
…r ROSC.

ORIGINAL ARTICLE

Hypothermia versus Normothermia after Out-of-Hospital Cardiac Arrest

J. Dankiewicz, T. Cronberg, G. Lilja, J.C. Jakobsen, H. Levin, S. Ullén, C. Rylander, M.P. Wise, M. Oddo, A. Cariou, J. Bělohlávek, J. Hovdenes, M. Saxena, H. Kirkegaard, P.J. Young, P. Pelosi, C. Storm, F.S. Taccone, M. Joannidis, C. Calla… Nichol, …, S. C… uer, T. … al, M. Ma… gquist, C. L… etti, A. Aw… eland, T. Lange, H. Friberg, and N. Nielsen, for the TTM2 Trial Investigators*

THE TTM2 TRIAL

FEATURE ARTICLES

**Therapeutic H
Improved Surv
With Sepsis: A**

Drewry, Anne M. MD, MSCI[1]; Mc
M. BA[1]; Doctor, Rebecca J. BA[1];

Author Information

Critical Care Medicine: June 20
doi: 10.1097/CCM.0000000000

SDC EDITOR'S CHOICE

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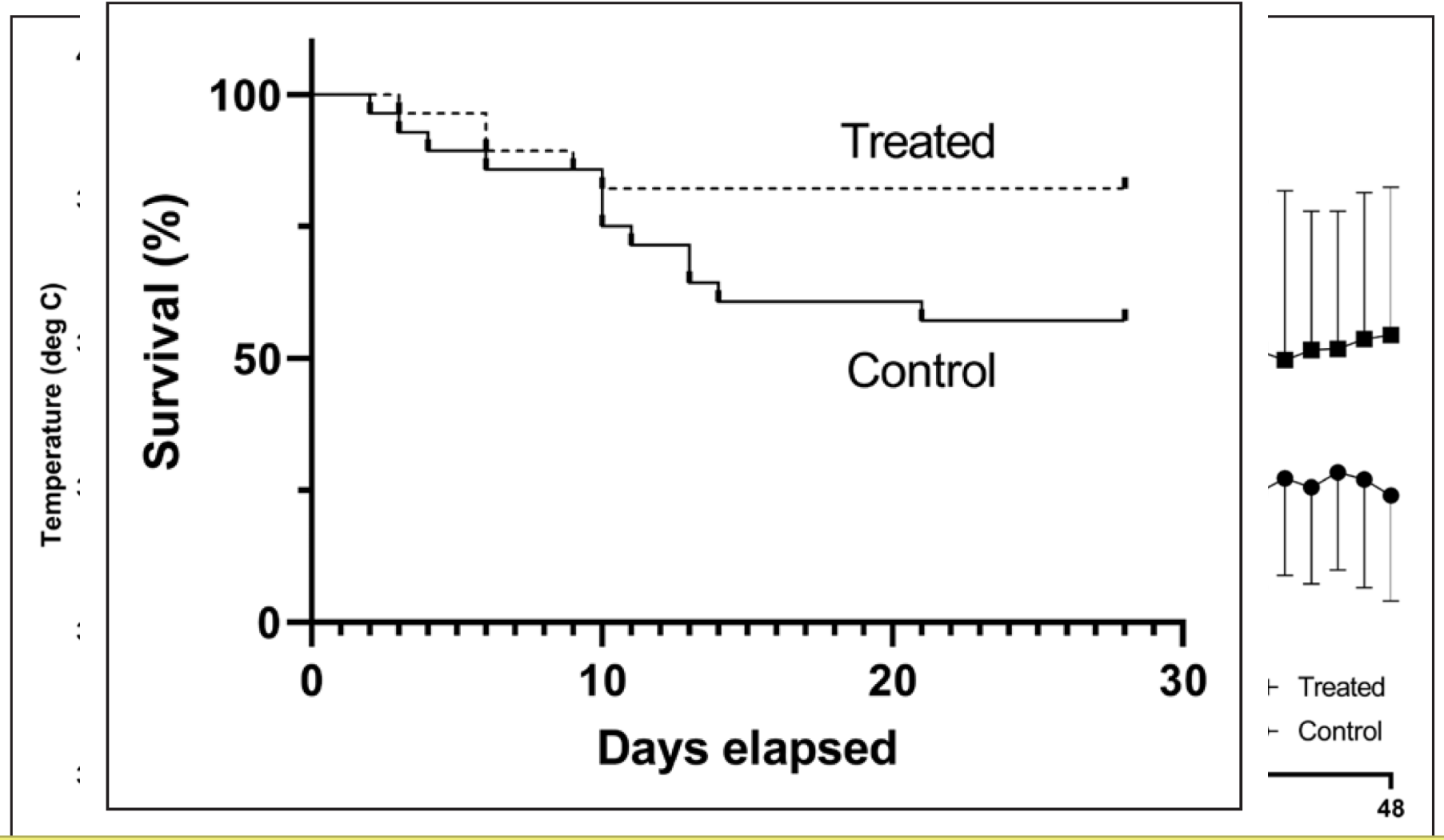

Treated
Control
48

o dobu

Pacienti s hypertermii měli nižší 28-denní mortalitu (18% vs 43%;absolute risk reduction, 25%) a větší počet dnů bez hospitalizace (2.6 d; 95% CI, 0–11.6).

Sedace

Zhang et al. Annals of Intensive Care (2022) 12:81
https://doi.org/10.1186/s13613-022-01052-2

Annals of Intensive Care

Intensive Care Med (2022) 48:811–840
https://doi.org/10.1007/s00134-022-06712-2

REVIEW Open Access

Use of dexmedetomidine in patients with sepsis: a systematic review and meta-analysis of randomized-control trials

Ting Zhang[1,2†], Qimin Mei[1†], Shabai Dai[3], Yecheng Liu[1*] and Huadong Zhu[1*]

SYSTEMATIC REVIEW

Dexmedetomidine vs other sedatives ... mechanically ventilated adults: ...view and meta-analysis ... trials

...msi[3], Kallirroi Laiya Carayannopoulos[1], Anders Granholm[4], Joshua Piticaru[1], ...udhuri[1,2], Laura Spatafora[1], Yuhong Yuan[6], John Centofanti[1,7], ...erg[1,2], Dan Perri[1,9], Dale M. Needham[10,11,12,13], Anne Holbrook[2,9], ...[15], Kimia Honarmand[16], Begüm Ergan[17], Eugenia Khorochkov[18], ...ned Alshahrani[20], Tim Karachi[1], Mark Soth[1], Yahya Shehabi[21], ...leed Alhazzani[1,2] on behalf of the GUIDE group

Fig 5. Incidence of ICU delirium forest plot. CI, confidence interval; RR, risk ratio.

Conclusio
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increased

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gnificantly

Table 2 Network and absolute estimates evaluating the efficacy of the interventions for prevention of reintubation in critically ill adults

Comparison	Network odds ratio (95% CI)	Absolute risk difference (95% CI)	Number needed to treat	GRADE
NIPPV vs conventional oxygen	0.65 (0.52–0.82)	− 5.18 (− 8.09 to − 2.26)	20 (13 to 45)	Moderate[a]
HFNC vs conventional oxygen	0.63 (0.45–0.87)	− 3.84 (− 6.7 to − 0.98)	26 (15 to 102)	Moderate[a]
NIPPV vs HFNC	1.04 (0.78–1.38)	− 1.34 (− 4.4 to 1.72)	N/A	Low[a,b]
HFNC + NIPPV vs conventional oxygen	0.38 (0.19–0.74)	− 10.25 (− 18.49 to − 2.01)	10 (6 to 50)	Moderate[a]
HFNC + NIPPV vs NIPPV	0.58 (0.3–1.11)	− 5.07 (− 13.38 to 3.24)	N/A	Low[a,b]
HFNC + NIPPV vs HFNC	0.6 (0.33–1.08)	− 6.41 (− 14.13 to 1.31)	N/A	Low[a,b]

NIPPV noninvasive positive pressure ventilation, *HFNC* high-flow nasal cannula, *GRADE* grading of recommendations assessment, development, and evaluation, *OR* odds ratio, *CI* confidence interval

[a] Lowered for risk of bias

[b] Lowered one level for imprecision as CIs don't exclude harm

Elektivní (ne rescue) NIV a HFNC redukovali reintubaci ve srovnání s oxygenoterapii, bez vlivu na celkovou mortalitu. Výsledku podporují elektivní použití NIV a/nebo HFNC u kriticky nemocných v intenzivní péči

ICU prostředí

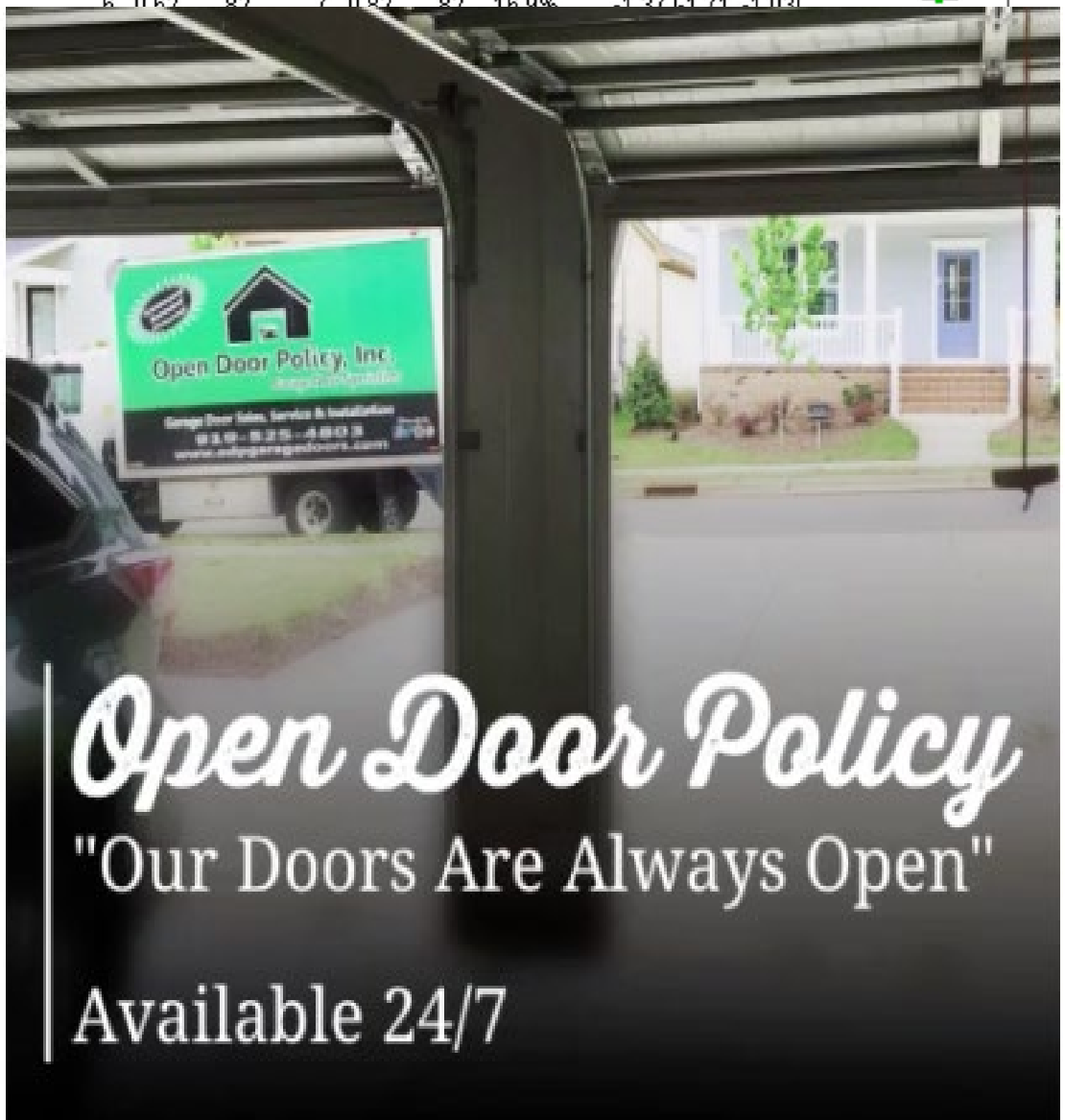
Study or Subgroup	UVP Mean	SD	Total	RVP Mean	SD	Total	Weight	Std. Mean Difference IV, Random, 95% CI
2.4.2 QEs								
Liping CH 2018	5.84	5.28	85	8.41	7.42	71	17.0%	-0.40 [-0.72, -0.08]
Malacarne P 2011	8.7	10.8	261	7.8	9.6	269	17.5%	0.09 [-0.08, 0.26]
Rosa RG 2017	3	0.89	145	4	0.87	141	17.3%	-1.13 [-1.38, -0.88]
Xiliang ZH 2020	6.86	1.78	42	8.07	2.24	43	16.4%	-0.59 [-1.03, -0.16]
Xueping L 2021	6	0.62	82	7	0.82	82	16.9%	-1.37 [-1.71, -1.03]

Fig. 8

Study or Subgro
2.1.1 RCTs
Fumagalli S 200
Rosa RG 2019
Subtotal (95% CI
Total events
Heterogeneity: C
Test for overall ef

2.1.2 QEs
Malacarne P 201
Rosa RG 2017
Subtotal (95% CI
Total events
Heterogeneity: C
Test for overall ef

atio
95% CI



Neomezené
vlivu na morta
spojeny s rec

i deliria, bez
bučasně byli
kci anxiety a

intenzivní péči

Study	Participants	OR [95% CI]	Weight %
Akgun 2010	309	1.37 [0.63, 2.94]	2.19
Blecha 2021	26711	0.78 [0.72, 0.85]	17.72
Combes 2009	1341	0.83 [0.65, 1.06]	10.79
Fowler 2017	21225	0.92 [0.73, 1.18]	10.81
Guidry 2014	2291	0.99 [0.85, 1.14]	15.06
Hessey 2020	15238	0.69 [0.55, 0.86]	11.65
Hollinger 2009	2087	0.78 [0.71, 0.87]	16.93
Mahmood 2012	261255	0.59 [0.50, 0.68]	14.86
Nachtigall 2011	709		
Shen 2011	5882		
Valentin 2003	25998		
Wernly 2020	7555		
Overall		**0.79 [0.70, 0.90]**	

Heterogeneity: $I^2 = 90.4\%$

Test of $\theta_i = \theta_j$: Q(11) = 115.00, p = 0.00

Less RRT in women <--> More RRT in women

Figure 2. Forest plot of mechanical ventilation (MV) use in

Figure 3. Forest plot of renal replacement therapy (RRT) use in women compared with men. OR = odds ratio.

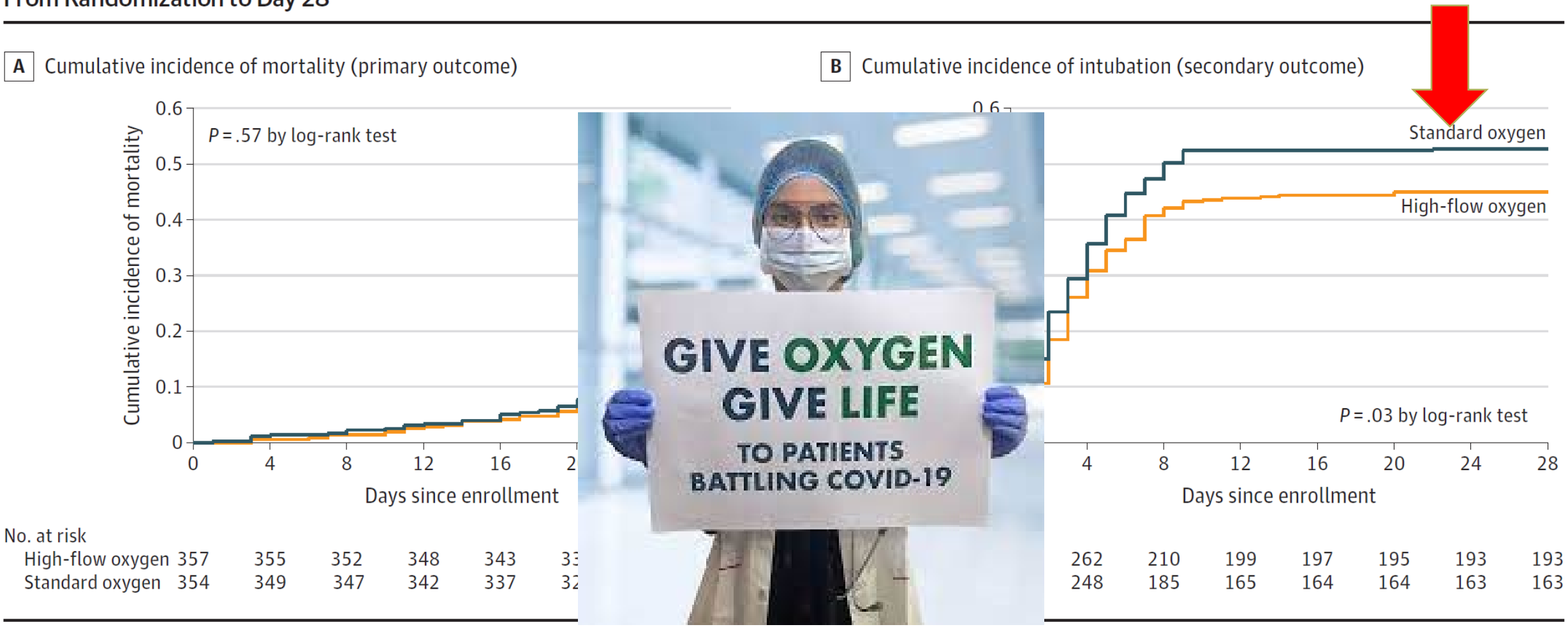
TOP VARIA vs. COVID-19

Španělská chřipka v roce 1918-1920

COVID-19 v 2019-2020-2021 …..

Ventilace o oxygenace – COVID-19

Figure 2. Kaplan-Meier Plot of the Cumulative Incidence of Mortality (Primary Outcome) and Intubation (Secondary Outcome) From Randomization to Day 28



The median observation time was 28 days (IQR, 28-28) in all treatment groups.

therapy.

[b] Multivariable logistic regression was performed with adjustment for baseline

[d] 95% CI of the difference of medians were estimated based on 5000 bootstrap resampling.

COVID-19: Awake Proning

REBEL COVID-19

Prokopová *et al. Critical Care* (2022) 26:221
https://doi.org/10.1186/s13054-022-04066-1

RES

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Kdo je inici

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Manager projektu

. Kateřina Rusinová, Ph.D

er

Děkuji za pozornost

Děkuji za spolupráci týmu sekce monitoring článků AKUTNĚ.CZ