

Akutní respirační insuficience: diferenciální diagnostika a terapie v přednemocniční fázi

Roman Sýkora



KLINIKA
ANESTEZIOLOGIE
A RESUSCITACE

3. LF UK a FNKV



Přednemocniční neodkladná péče

ZZS KVK 2023

37810

n =

155 dušnost (non-trauma)

n = 3384

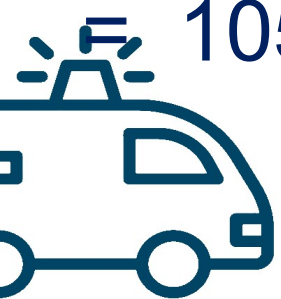
skutečná indikace 10,2%

n = 3868

lékař na místo 27%

n

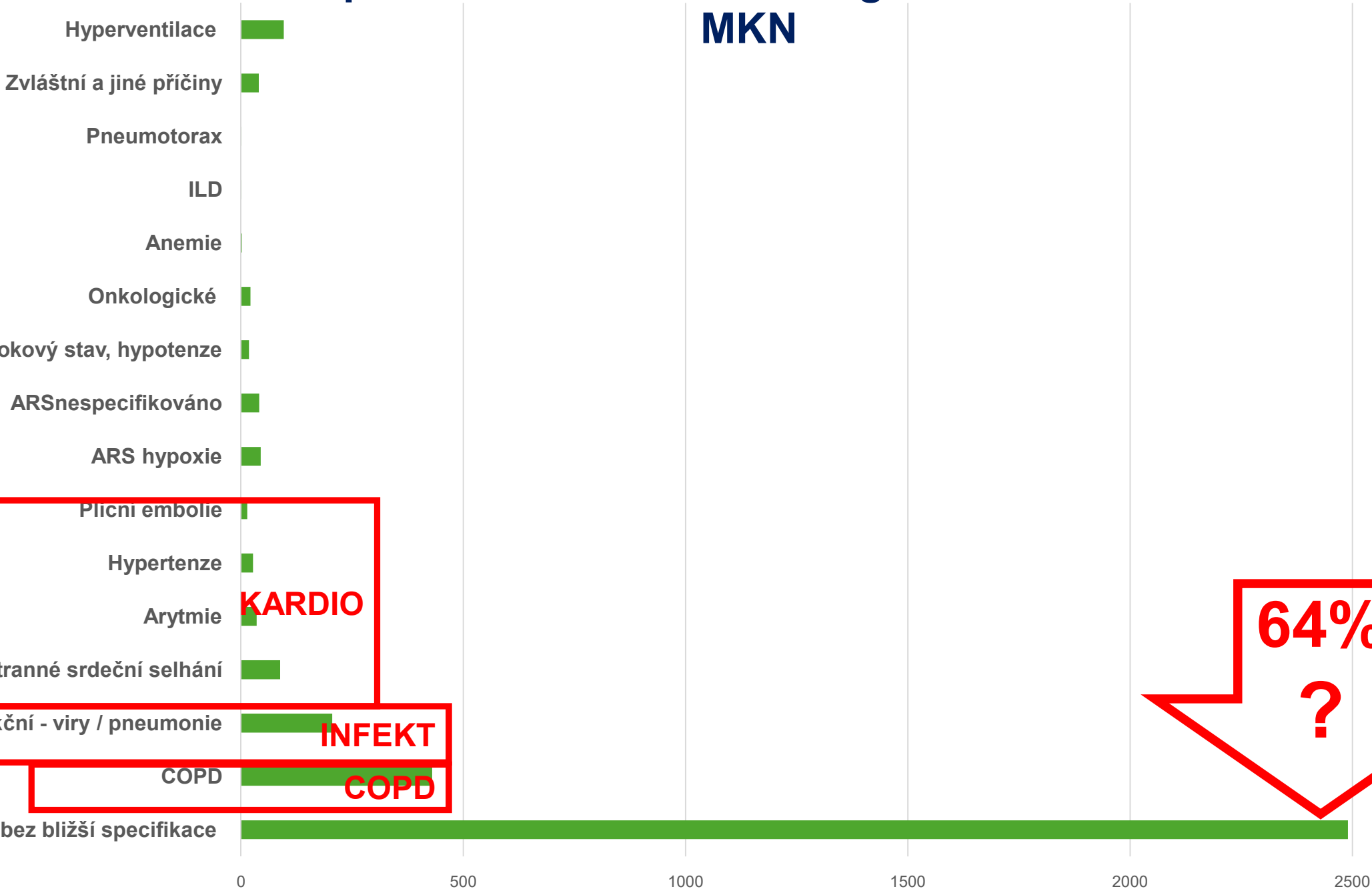
1050



Dušnost v PNP dle NACA

nezávažná 0-II ponecháno doma		24%	(n = 939) - 256
závažná III-IV		72%	(n = 2809)
kritická	$\geq V$	4%	(n = 120)

Dušnost u pacientů ZZS KVK 2023 dg. dle VS - rozčleněno dle MKN



64%
?



ORIGINAL CONTRIBUTION

The Epidemiology and Outcome of Prehospital Respiratory Distress

Matthew E. Prekker, MD, MPH, Laura C. Feemster, MD, MS, Catherine L. Hough, MD, MS, David Carlbom, MD, Kristina Crothers, MD, David H. Au, MD, MS, Thomas D. Rea, MD, MPH, and Christopher W. Seymour, MD, MSc

19.858 z 166.908 [11.9%] ✓



polovina přijímána do nemocnice ✓



ALS crew ... 60% (dušnost eti?) ✓



z nich třetina na ICU

A
Prevalence of ALS Diagnostic Impression With Primary Discharge Diagnosis Among Patients Hospitalized After ALS Transitory Distress

Primary Discharge Diagnosis*	All Hospitalized Patients [†] (n = 3,997)	ALS Diagnostic Impression				
		Shortness of Breath (n = 2,433)	COPD (n = 454)	Asthma (n = 300)	Respiratory Depression (n = 477)	C (n = ...)
	615 (15)	477 (20)	39 (9)	14 (5)	54 (11)	3
Pneumonia	397 (10)	247 (10)	56 (12)	13 (4)	34 (7)	4
Respiratory failure*	927 (23)	471 (19)	126 (28)	76 (25)	181 (38)	7
	527 (13)	294 (12)	143 (32)	40 (13)	40 (8)	1
Coronary artery disease	240 (6)	90 (4)	11 (2)	123 (41)	9 (2)	1
Myocardial infarction	162 (4)	109 (4)	13 (3)	6 (2)	20 (4)	1
Pulmonary embolism	70 (2)	54 (2)	2 (<1)	0 (0)	1 (<1)	1
Cancer	32 (1)	24 (1)	1 (<1)	0 (0)	3 (1)	1
Of the above	2,970 (74)	1,766 (73)	391 (86)	272 (91)	342 (72)	19
Of the above	1,027 (26)	667 (27)	63 (14)	28 (9)	135 (28)	13

ICD 9) "Other diseases of lung"

Přístup v PNP

Tísňové volání ... geolokace
(Záchranka app, AML)

Telefonicky asistovaná první pomoc
(Video Emergency Call)

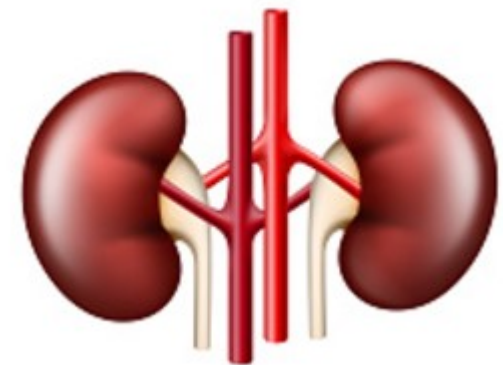
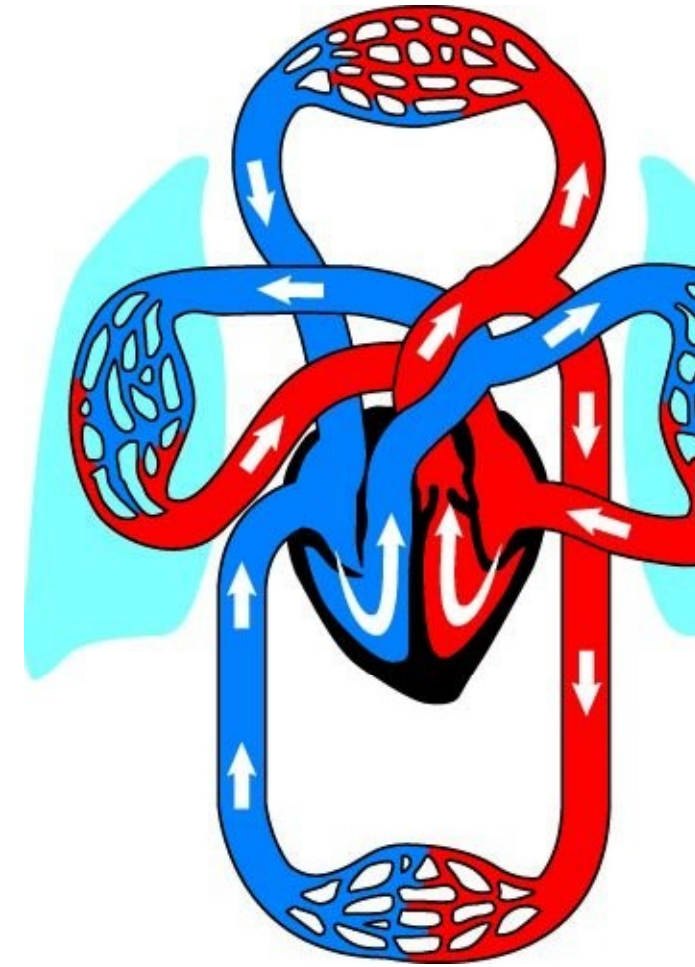


NESTABILNÍ
PACIENT

DÝCHÁNÍ

HEMODYNAMIKA

VĚDOMÍ



FA

omí (13)

(20)

(100)

mluví? O₂ 15l/min

CAVE: peri arrest, inhalace

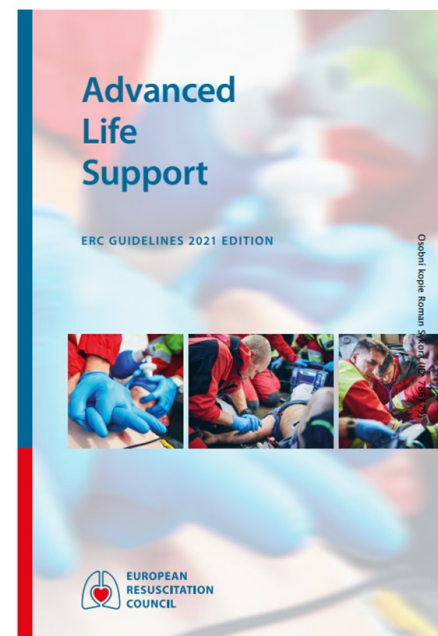
poslech, RR, SpO₂

hemodynamika (CRT, laktát), 12 sv. EKG

vědomí (GCS, AVPU) , glykemie

exposure - např. DKK, TT (AMPLE)

ONE SIZE
FITS ALL



ABCDE chart		
	EXAMINATION	INTERVENTION
A	<ul style="list-style-type: none">airway noisesposition of headforeign bodyfluid, secretionsoedema	<ul style="list-style-type: none">opensuctionsecureO₂
B	<ul style="list-style-type: none">look - listen - feel approachrespiratory rate and effortbreath and added soundssubcutaneous emphysemasymmetry of chest movementtracheal deviationjugular vein distentioncyanosis	<ul style="list-style-type: none">O₂ according topremonitionsinhalation therapyventilation
C	<ul style="list-style-type: none">heart rateblood pressurecapillary refill timebleedingskin colourblood samplesdiuresis	<ul style="list-style-type: none">IV / IO accesscontrol of bleedmassive haemorrhage protocolfluidsdrugstransfusion
D	<ul style="list-style-type: none">AVPU / GCSreactivity and symmetry of pupilsblood glucose levelbasic neurological examinationposturetoxicological examination	<ul style="list-style-type: none">glucoseantidotes
E	<ul style="list-style-type: none">head to toe examinationmedical historytemperatureinjuriesoedemasscarssigns of drug abuseskin changessigns of infection/verruca	<ul style="list-style-type: none">identified causetherapeutic optionstrauma treatmentinsertion of NG



EWS...

RETTS
NEWS2
qSOFA

Investigation | Emergency Medicine

Hospital Early Warning Scores to Predict Mortality in Patients Using Ambulances

Lindskou, PhD; Logan Morgan Ward, PhD; Morten Breinholt Søvsø, MD, PhD; Mads Lause Mogensen, PhD; Erika Frischknecht Christensen, MD

SOFA

ay mortality

pro NIMV

V pro IMV a přijetí na

Comparison of eight prehospital early warning scores in life-threatening acute respiratory distress: a prospective, observational, multicentre, ambulance-based, external validation study



Miguel A Castro Villamor, María Alonso-Sanz, Raúl López-Izquierdo, Juan F Delgado Benito, Carlos del Pozo Vegas, Santiago López Torres, Joan B Soriano, José L Martín-Conty, Ancor Sanz-García*, Francisco Martín-Rodríguez*



mSOFA

qSOFA

POCT do PNP ?

NIBP

GCS

Ledviny (Kreatinin)

.... laktát

DEKOMPENZACE SRDEČNÍHO SELHÁNÍ

ARYTMIE, HYPERTENZE
(fyzikální vyšetření)

COPD (AB)
(Bronchospasmus)


STEMI
(EKG)

SEPSE - INFEKT
(qSOFA)

PLICNÍ EMBOLIE
(Exposure)



Prehospital risk stratification in patients with chest pain

Dennis Sagel ¹, Pieter Jan Vlaar,² Radboud van Roosmalen,³ Ingmar Waardenburg,⁴ Wybe Nieuwland,⁴ Roelof Lettinga,⁵ Robert van Barneveld,⁶ Edward Jorna,⁷ Roelof Kijlstra,⁸ Carien van Well,⁸ Antoon Oomen,⁹ Louis Bartels,¹⁰ Rutger Anthonio,¹¹ Vincent Hagens,¹² Sjoerd Hofma,¹³ Youlan Gu,¹⁴ Derk Drenth,¹⁵ Ryanne Addink,¹⁶ Thea van Asselt,¹⁷ Peter van der Meer,⁴ Eric Lipsic,⁴ Luis Juarez Orozco,⁴ Pim van der Harst¹

External validation of a prehospital risk stratification comparison with prehospital risk assessment in patients with suspected NSTEMI-ACS

Jesse P A Demandt ¹, Arjan Koks,² Dennis Sagel ³, Rutger Haest,⁴ Eric Heijmen,⁵ Eric Thijssen,⁶ Mohamed el Farissi,¹ Rob Eerdekenes,¹ Pim van der Harst,⁷ Marcel van 't Veer,¹ Lukas Dekker,^{1,8} Pim Tonino,^{1,8} Pieter J Vlaar¹

HEART

History (anamnesis)	Highly suspicious Moderately suspicious Slightly suspicious
ECG	Significant ST-segment deviation Non-specific repolarization disturbance/LBBB/PM
Age	Normal ≥65 years >45 and <65 years ≤45 years
Risk factors^a	≥3 risk factors or history of atherosclerotic disease 2 risk factors 1 known risk factor normal limit normal limit normal limit or lower

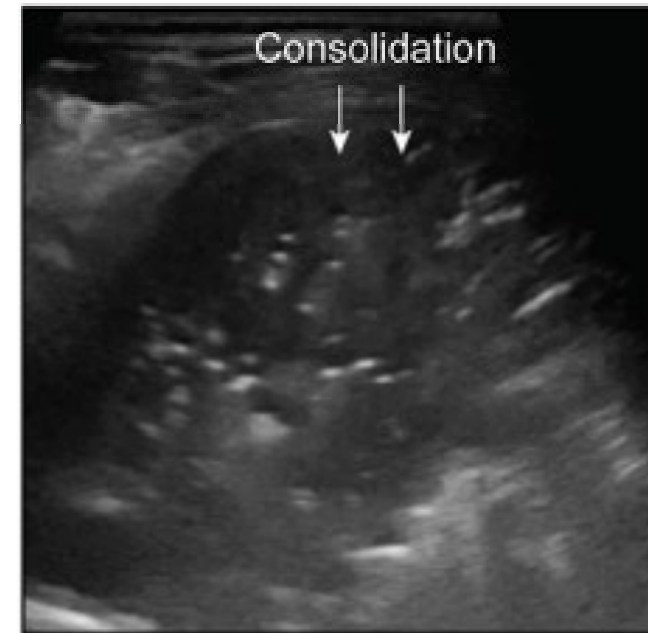
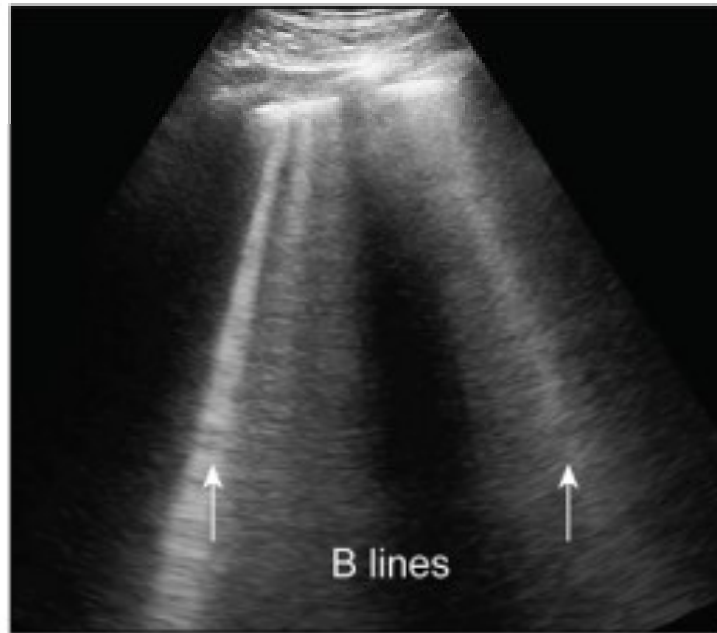
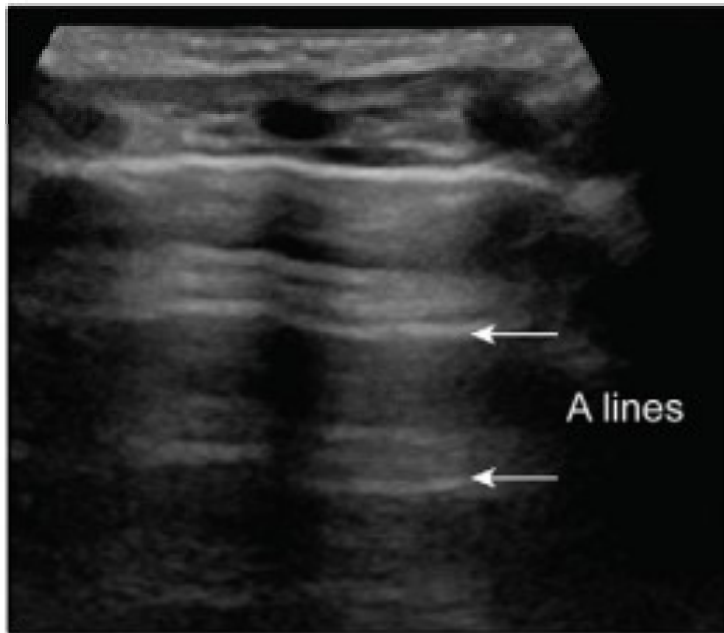
Total

TROPONIN DO PNP?

- ⇒ This prespecified analysis of a prehospital, prospective, multicentre study conducted in the Netherlands between 2021 and 2022 shows that in the prehospital setting, the preHEART and HEART scores demonstrate good overall diagnostic performance in the determination of NSTEMI-ACS among patients who are transported to a hospital.
- ⇒ Both scores were superior to Troponin-only methods. The Manchester Acute Coronary Syndromes score was superior to troponin-only methods.

lung Ultrasound: The Essentials

Gas J. Marini, MD • Deborah J. Rubens, MD • Yu T. Zhao, BA • Justin Weis, MD • Timothy P. O'Connor, MD •
Sam H. Novak, MD • Katherine A. Kaproth-Joslin, MD, PhD





Contents lists available at ScienceDirect

American Journal of Emergency Medicine

journal homepage: www.elsevier.com/locate/ajem



Diagnostic accuracy of prehospital lung ultrasound for acute decompensated heart failure: A systematic review and Meta-analysis



Frances M. Russell, MD^{a,*}, Nicholas E. Harrison, MD, MSc^a, Oliver Hobson^b, Nicholas Montelauro^c, Cecelia J. Vetter, MLIS^d, Daniel Brenner, MD, PhD^a, Sarah Kennedy, MD^a, Benton R. Hunter, MD^a

při akutním dekompenzovaném srdečním selhání

senzitivita a specifická 86,7 % a 87,5 %

(s podobným výkonem lékaře vs. záchranáře)

Oxygenace

oxygenoterapie (polomaska, nosní hroty)

Ventilace

inhalace (β 2M, anticholinergicum), i.v. methylprednison, (ev. terbutalin)

Systematic Review

Non-Invasive Ventilation in the Prehospital Emergency Setting: A Systematic Review and Meta-Analysis

Tommaso Scquizzato , Guglielmo Imbriaco, Federico Moro , Rosario Losiggio, Luca Cabrini, Filippo Consolo , ...show all

Pages 566-574 | Received 15 Feb 2022, Accepted 27 May 2022, Published online: 22 Jun 2022

... nižší riziko intubace než u standardní kyslíkové terapie,
... s podobným rizikem úmrtí, hospitalizací na ICU i LOS ...

Další terapie v PNP

Hemodynamika

nitráty
antihypertenziva
kličkové diuretikum
antiarytmika

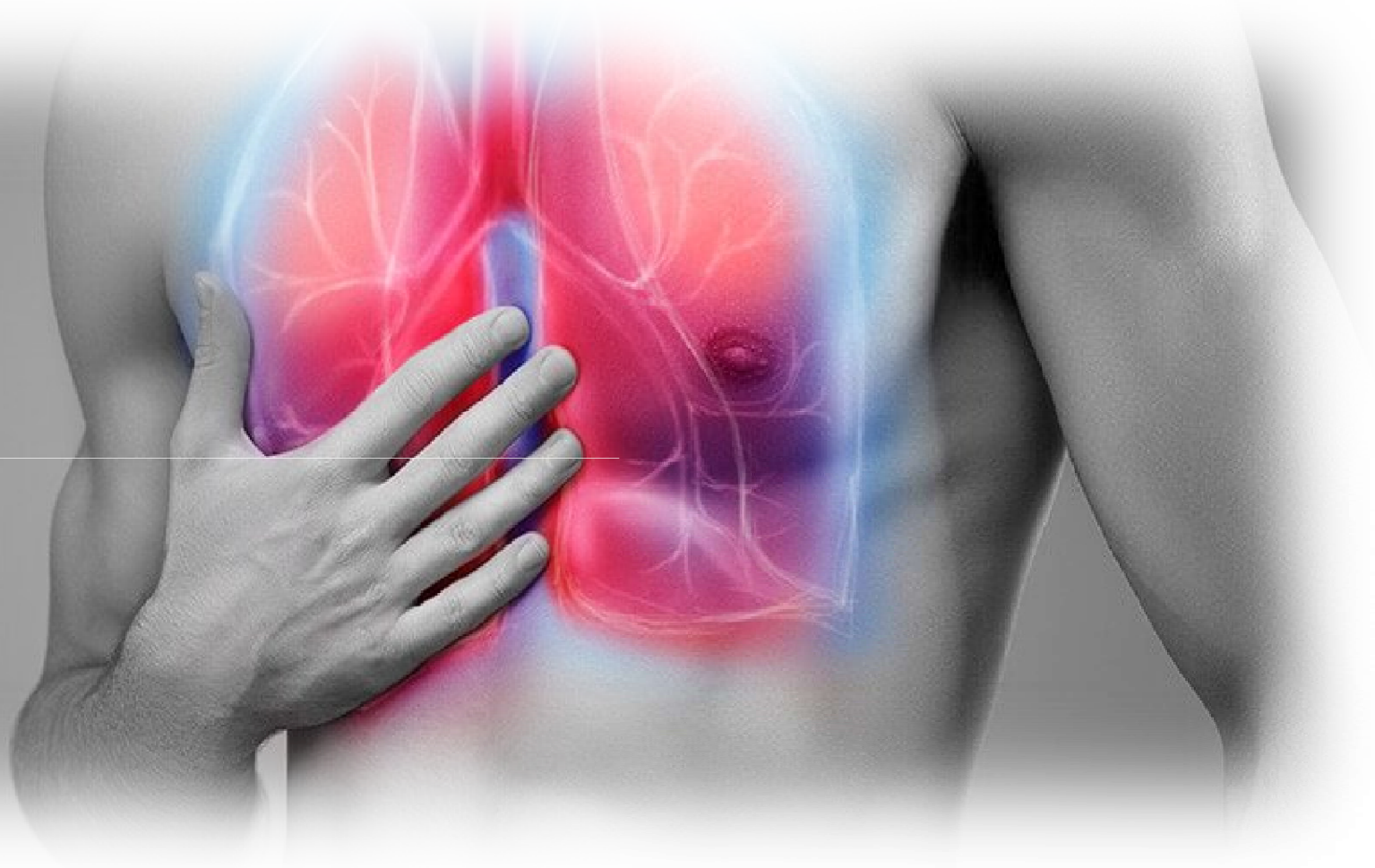
kardioverze

atropin
balancovaný krystaloid
noradrenalin
(inotropika)

stimulace

STEMI

heparin
ASA



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