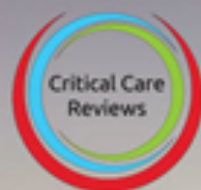


Nationale kliniske studier og fremtidig struktur

Fredag den 24. januar 2020
Intensiv Symposium, Hindsgavl



Critical Care Reviews Meeting 2020

Thursday & Friday January 16th / 17th
Titanic, Belfast

Trial Discussions

- **TRACT** Transfusion & Treatment for Malaria
- **ICU-ROX** Oxygen Targets during Ventilation
- **65** MAP Target of 65 in Vasodilatory Shock
- **ROSE** Neuromuscular Blockade in ARDS
- **COACT** Early vs Late Angiography in OOHCA
- **BIRDS** APRV in ARDS
- **SPICE III** Dexmedetomidine Sedation in ICU
- **SEPSIS-ACT** Selepressin in Septic Shock
- **CITRIS-ALI** Vit C in Sepsis-Induced Acute Lung Injury
- **HYPERION** 33°C vs 37°C post non-shockable arrest

Trial Result Presentations

- **PEPTIC** PPI vs H2RA for Stress Ulcer Prophylaxis
- **VITAMINS** Vit C, Steroid & Thiamine in Septic Shock

Plus

- John Hinds Lecture
- The Editor's View with Howard Bauchner of JAMA
- Panel Discussion on Trial Interpretation
- Panel Discussion on MEGA-ROX Trial
- Live Music on Nomadic
- Roof Top Party
- Free Childcare Limited Availability
- Free Morning Run
- Free Morning Pilates Class

Critical Care Reviews Meeting 2020
is proud to host the

Australian & New Zealand Intensive Care Society
Clinical Trials Group

VITAMINS

Trial Results

Vitamin C, Thiamine & Hydrocortisone
in Septic Shock

Presenter - Dr Tomoko Fujii (Melbourne, Australia)
Editorialist - Prof Paul Marik (Virginia, USA)



Prof. Paul Marik, Virginia, USA - Editorial

Svær sepsis

- Vitamin C: 1.5 gram/6. time
- Tiamin: 200 mg/12. time
- Hydrocortison: 50 mg/6. time

Før-og-efter studie med 47 patienter i hver gruppe

- 'Hospital mortality'
 - 40.4% i kontrolgruppen og 8.5 % i behandlingsgruppen
- ***Effective in preventing organ dysfunction and in reducing mortality. Additional studies are required to confirm these preliminary results.***

JAMA | Preliminary Communication | CARING FOR THE CRITICALLY ILL PATIENT

Effect of Vitamin C, Hydrocortisone, and Thiamine vs Hydrocortisone Alone on Time Alive and Free of Vasopressor Support Among Patients With Septic Shock

The VITAMINS Randomized Clinical Trial

Tomoko Fujii, MD, PhD; Nora Luethi, MD; Paul J. Young, MBChB, PhD; Daniel R. Frei, BSc, MBChB; Glenn M. Eastwood, PhD; Craig J. French, MB, BS; Adam M. Deane, MB, BS, PhD; Yahya Shehabi, MB, BS, PhD; Ludhmila A. Hajjar, MD, PhD; Gisele Oliveira, MD; Andrew A. Udy, MBChB, PhD; Neil Orford, MB, BS, PhD; Samantha J. Edney, BSN, PGDipNS; Anna L. Hunt, BN, PGDipHSM, PGDipClinRes; Harriet L. Judd, BSN, PGDipHC; Laurent Bitker, MD; Luca Cioccarri, MD; Thummaporn Naorungroj, MD; Fumitaka Yanase, MD; Samantha Bates, BN, PGDipCritCare; Forbes McGain, MB, BS, PhD; Elizabeth P. Hudson, MD; Wisam Al-Bassam, MBChB; Dhiraj Bhatia Dwivedi, BScNsg, MBA; Chloe Peppin, BN, PGDipCritCare; Phoebe McCracken, MPH; Judit Orosz, MD; Michael Bailey, PhD; Rinaldo Bellomo, MD, PhD; for the VITAMINS Trial Investigators

JAMA. doi:[10.1001/jama.2019.22176](https://doi.org/10.1001/jama.2019.22176)
Published online January 17, 2020.

Figure 1. Flow of Participants in the Vitamin C, Hydrocortisone, and Thiamine in Patients With Septic Shock (VITAMINS) Trial

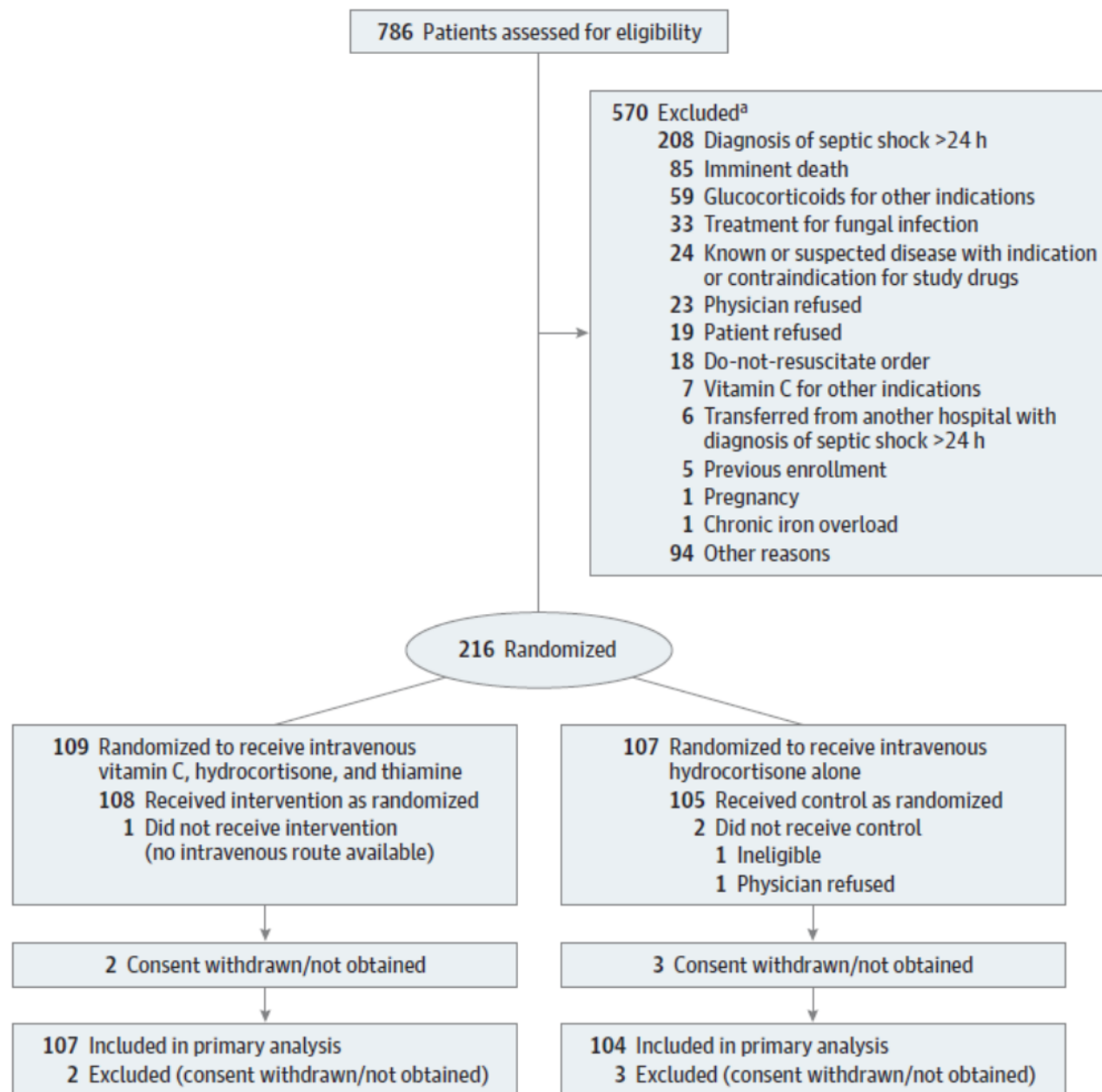


Table 1. Baseline Participant Characteristics

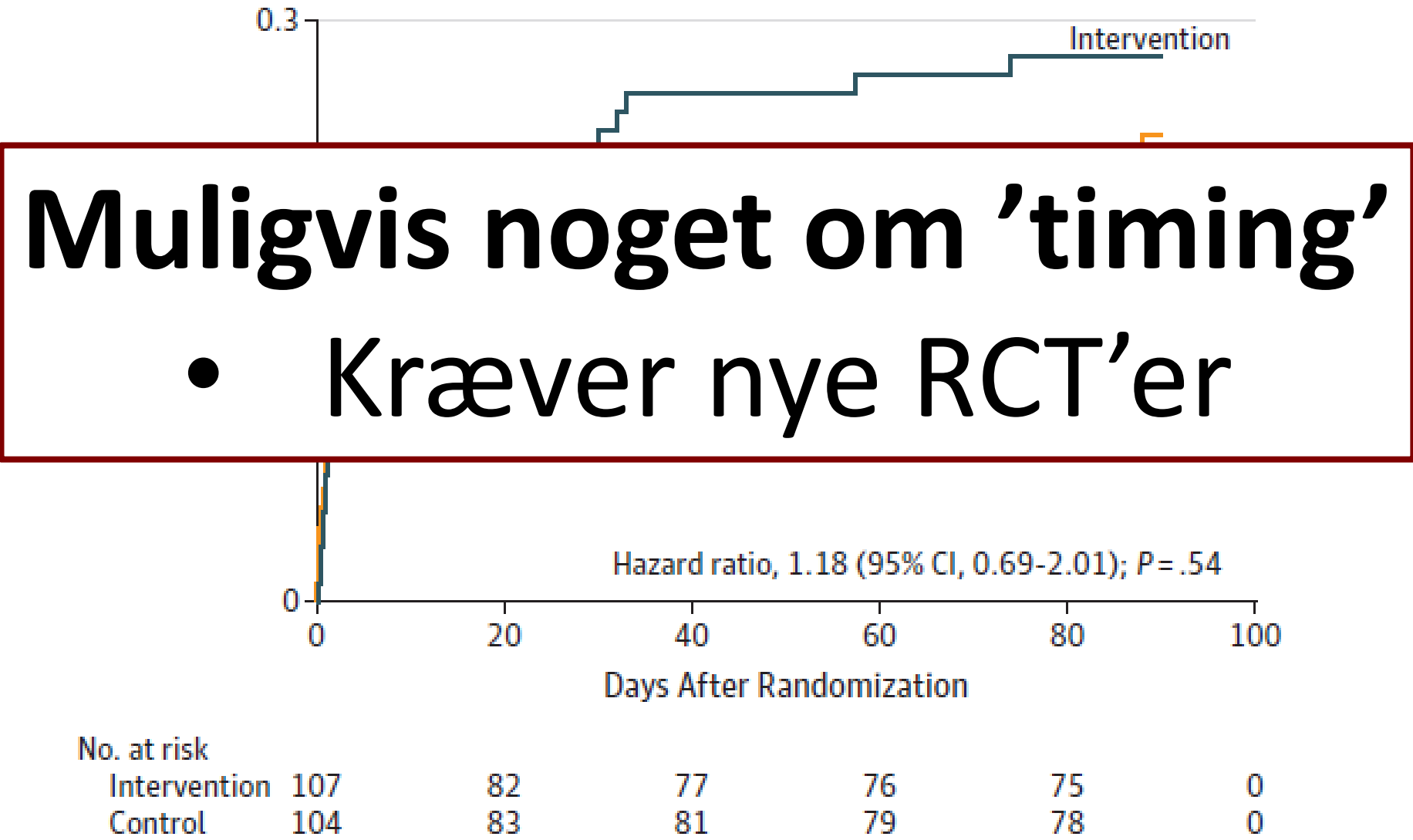
Characteristics	Intervention (n = 107)	Control (n = 104)
Age, mean (SD), y	61.9 (15.9)	61.6 (13.9)
Sex, No. (%)		
Men	68 (63.6)	65 (62.5)
Women	39 (36.4)	39 (37.5)
Weight, median (IQR), kg	81.0 (66.0-95.0)	83.0 (67.5-102.0)
ICU admission source, No. (%)		
Emergency department	49 (45.8)	49 (47.1)
Operating room after emergency surgery	20 (18.7)	14 (13.5)
Hospital ward	17 (15.9)	20 (19.2)
Transfer from another hospital	13 (12.1)	10 (9.6)
Operating room after elective surgery	4 (3.7)	7 (6.7)
Transfer from another ICU	4 (3.7)	4 (3.8)
Chronic health condition, No. (%)		
Diabetes mellitus	22 (20.6)	28 (26.9)
Chronic renal failure ^a	5 (4.7)	9 (8.7)
Hydrocortisone for septic shock before randomization, No. (%)	45 (42.1)	39 (37.5)

Intervention at randomization, No. (%)		
Mechanical ventilation	66 (61.7)	65 (62.5)
Vasopressors ^b		
Norepinephrine	99 (92.5)	97 (93.3)
Vasopressin	22 (20.6)	22 (21.2)
Epinephrine	13 (12.1)	9 (8.7)
Metaraminol	8 (7.5)	10 (9.6)
Inotropes ^c		
Milrinone	6 (5.6)	2 (1.9)
Renal replacement therapy	12 (11.2)	12 (11.5)
Physiological variables		
White blood cell count, mean (SD), $\times 10^3/\mu\text{L}^d$	17.5 (11.3)	15.3 (10.4)
Platelet count, median (IQR), $\times 10^3/\mu\text{L}^e$	162 (104-239) [n = 106]	173 (107-251) [n = 103]
Lactate, median (IQR), mmol/L ^f	4.2 (2.8-5.9)	3.3 (2.6-4.9)
Serum creatinine, median (IQR), mg/dL ^g	1.73 (1.16-2.64)	1.78 (1.07-2.90)
Acute kidney injury, No. (%) ^h	74 (69.2)	75 (72.1)
Stage 1 (mild)	27	32
Stage 2 (moderate)	34	23
Stage 3 (severe)	13	20
APACHE III score, mean (SD) ⁱ	77.4 (29.7)	83.3 (28.8)
SOFA score, mean (SD) ^j	8.6 (2.7)	8.4 (2.7)
Primary site of infection, No. (%)		
Pulmonary	31 (29.0)	33 (31.7)
Gastrointestinal	31 (29.0)	31 (29.8)
Urinary	18 (16.8)	14 (13.5)
Skin or soft tissue	14 (13.1)	15 (14.4)
Blood	9 (8.4)	2 (1.9)
Other ^k	4 (3.7)	9 (8.7)

Table 2. Primary and Secondary Outcomes

Outcomes	Intervention (n = 107)	Control (n = 104)	Difference (95% CI)	P Value
Primary Outcome				
Time alive and free of vasopressors, median (IQR), h	122.1 (76.3 to 145.4)	124.6 (82.1 to 147.0)	-0.6 (-8.3 to 7.2) ^a	.83
Secondary Outcomes				
28-d Mortality, No. (%)	24 (22.6) [n = 106]	21 (20.4) [n = 103]	2.3 (-8.9 to 13.4)	.69
90-d Mortality, No. (%)	30 (28.6) [n = 105]	25 (24.5) [n = 102]	4.1 (-8.0 to 16.1)	.51
ICU mortality, No. (%)	21 (19.6)	19 (18.3)	1.4 (-9.2 to 11.9)	.80
Hospital mortality, No. (%)	25 (23.4)	21 (20.4) [n = 103]	3.0 (-8.2 to 14.1)	.60

Figure 2. Kaplan-Meier Analysis by Randomization Group



Nationalt i Danmark



- No sedation – Lancet 2010



- NOM

A protocol of no sedation for critically ill patients receiving mechanical ventilation: a randomised trial

Thomas Strom, Torben Martinussen, Palle Toft

- 6S – NEJM 2018

- TR

Unikt netværk med involvering af alle danske intensiv afdelinger

Insfonden
TEKNOLOGI & VÆKST I DANMARK



- SUP-ICU – NEJM 2018
- HOT-ICU – ongoing
- AID-ICU – ongoing
- Classic (NOVO Nordisk)

Threshold for Transfusion
in Septic Shock

Klaus J. Thornberg, M.D., Ph.D., Jørn Wetterslev, M.D., Ph.D., Jan Wernerman, M.D., Ph.D., Morten Steensen, M.D., Ph.D., Sari Karlsson, M.D., Ph.D., Pär I. Johansson, M.D., Ph.D., Morten Steensen, M.D., Ph.D., Marianne L. Vang, M.D., Robert Winding, M.D., Lars Nebrich, M.D., Bodil S. Rasmussen, M.D., Ph.D., Johnny R.M. Lauridsen, M.D., Jane S. Nielsen, M.D., Ville Pettilä, M.D., Ph.D., Maria B. Cronhjort, M.D., Lasse H. Andersen, M.D., Nanna Reiter, M.D., Jørgen Wiis, M.D., Jonathan O. White, M.D., Lene Russell, M.D., Klaus J. Thornberg, M.D., Peter B. Hjortrup, M.D., Rasmus G. Müller, M.D., Morten H. Møller, M.D., Ph.D., Morten Steensen, M.D., Inga Tjäder, M.D., Ph.D., Kristina Kilsand, R.N., Suzanne Odeberg-Wernerman, M.D., Ph.D., Brit Sjøbø, R.N., Helle Bundgaard, M.D., Ph.D., Maria A. Thyø, M.D., David Lodahl, M.D., Rikke Mærkedahl, M.D., Carsten Albeck, M.D., Dorte Illum, M.D., Mary Kruse, M.D., Per Winkel, M.D., D.M.Sci., and Anders Perner, M.D., Ph.D., for the TRISS Trial Group* and the Scandinavian Critical Care Trials Group