# Micronutrients and the patient perspective

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Collaboration for CMSM O Medical Supplementation O(1)O of Micronutrients

### A sepsis strikes you like lightning...



It's an overpowering experience It can leave you and your loved ones with long-term impact....

### My experience

First of all I'm a very grateful mother and wife, given a second chance. With great thanks to the ICU.

That's the first reason why I'm very happy to be able to speak to you today at all.





### But sepsis had a great impact on our family too

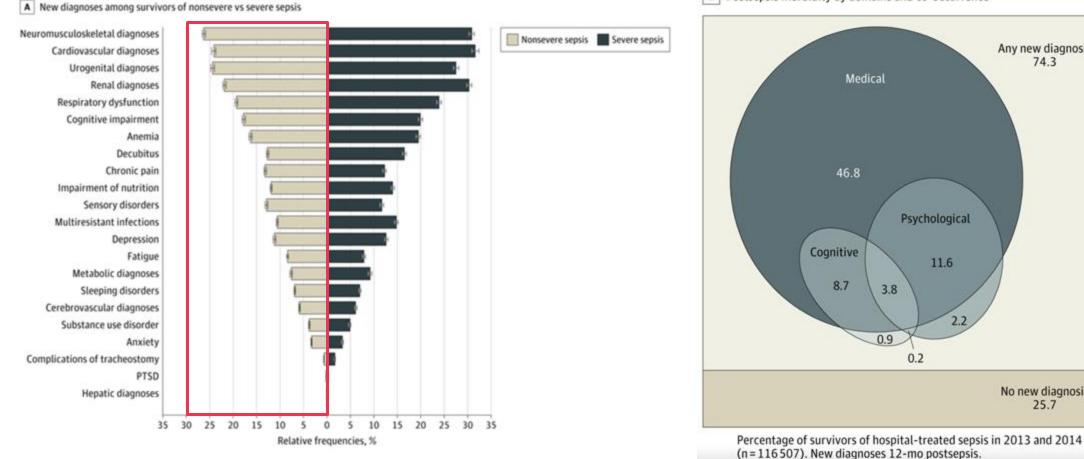
Especially my weakened immune system and many reinfections took their toll, including readmissions



### Post sepsis syndrome hits non-ICU patients as well

#### Figure 2. New Postsepsis Diagnoses in the 1 to 12 Months After Hospital Discharge Among Survivors of Nonsevere vs Severe Sepsis

#### and by Age Group



B Postsepsis morbidity by domains and co-occurrence

Any new diagnosis

74.3

No new diagnosis

25.7

Fleischmann-Struzek et al., JAMA, 2021

#### Supporting recovery with micronutrients

1 year after my sepsis: appointment with an orthomolecular doctor

I could see under the microscope with my own eyes: Increased white blood cell activity after taking micronutrient supplements for 3 months

I experienced my immunity and energy had improved

I got especially interested in the potential of vitamin C

All the efforts put in to survival, proving outcomes to be solid in terms of mortality, measured in RCT's

A big step forward but narrowing our view as well

Of course ongoing RCT's are of great importance

But regarding survival and quality of life after critical illness: what do patients prioritize when it comes to chances and potential benefits?



### Collaboration between patients and researchers is



I was impressed by so many properties of vitamin C found in literature I exchanged views with other survivors and experts like prof. Heleen Oudemans I was impressed by the research by Paul Marik, Anitra Carr and Angelique de Man









I got in to contact with Reindert Graaff and Manfred Eggersdorfer and the others of the team









? How can we get patients into the best possible condition to fight and overcome infection?

? How can we make use of the optimal function of micronutrients in order to reduce impact?

These are not just scientific questions...

# Vitamin C and sepsis: most research re-uses the same protocols, leading to similar results. Except a few:

Research | Open access | Published: 05 January 2022

Vitamin C for ≥ 5 days is associated with decreased hospital mortality in sepsis subgroups: a nationwide cohort study

Sun-Young Jung, Min-Taek Lee, Moon Seong Baek & Won-Young Kim ☑

Critical Care 26, Article number: 3 (2022) Cite this article

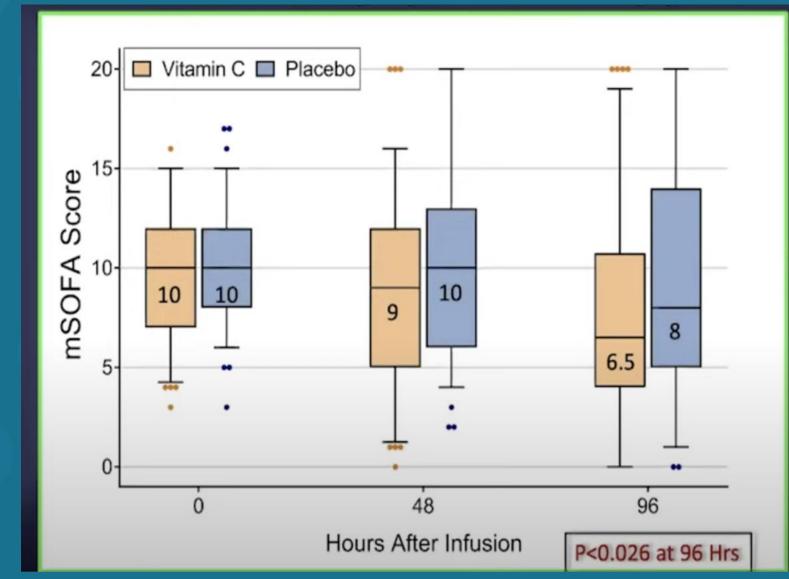
Research Open access Published: 12 October 2023

Mega-dose sodium ascorbate: a pilot, single-dose, physiological effect, double-blind, randomized, controlled trial

<u>Fumitaka Yanase, Sofia Spano, Akinori Maeda, Anis Chaba, Thummaporn Naorungroj, Connie Pei Chen</u> Ow, Yugeesh R. Lankadeva, Clive N. May, Ashenafi H. Betrie, Darius J. R. Lane, Glenn M. Eastwood, <u>Mark P. Plummer</u> & <u>Rinaldo Bellomo</u> ⊠

<u>Critical Care</u> 27, Article number: 371 (2023) Cite this article

## Many similar trials show no benefit. But the CITRIS-ALI trial showed very clear leads



Fowler et al. JAMA 2020

#### How to move on?

Designing research(questions) together with patient representatives can make the outcomes more relevant

→ Thereby emphasizing the urgency and expressing the patient values underlying the research

→ This helps to address aspects like duration and continuity of application of vitamin C, also after ICU and hospital stay

# Educate and spread news and developments on micronutrients Like the ESPEN guideline

#### Interest of micronutrients in clinical practice – in the ESPEN symposium

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December (M. 1927) - DOI: 10(4) (10) (aug 12) 10(4) (aug, 2028) 12 (2021

#### Summary

#### Background & airro

The European Society for Clinical Number and Matabolism published its first clinical guidefines for use of micromutrients SMu) is 2022 A two-day web symposium was organized in November 2002 discussing how to apply the guidelines in stread practice. The present paper reports the main findings of this symposium

Convert evidence was decreased. The feat day being deviated to standying the biology underlying the guidelines, especially reparting the detention of dedicency, the impact of information, and the roles in anticektaint defences and incrusinly. The second day feased as clinical abartons with high previounce of MM depletion and deficiency. The inputience of the determination of MN status in persents at risk and chaptons of deficiencies is attaintuefficiently

perceival, consisting the essential core of MHG in annuure and endoxidant detercers. Epidemiological data show that encompany of anyong term (rear, orders, vitamon (1) are a photoel problem that affects human health and web?) access such as to vanimation. Clinical sorthours impusedly associated with MN deficiencies were due

Draw attention to the importance of better tests and measurements to individualize treatments and supplementation with vitamin C in future



### Advocate for application of what we know already!

Applying the best of our knowledge so far, Making (use of) space for compassionate use. *Emphasising ethics.* 

During the Corona pandemic a lot was possible. *'Perfection is the enemy of the good'.* Everyone felt there was little time.

### Sepsis is always a time-critical condition!



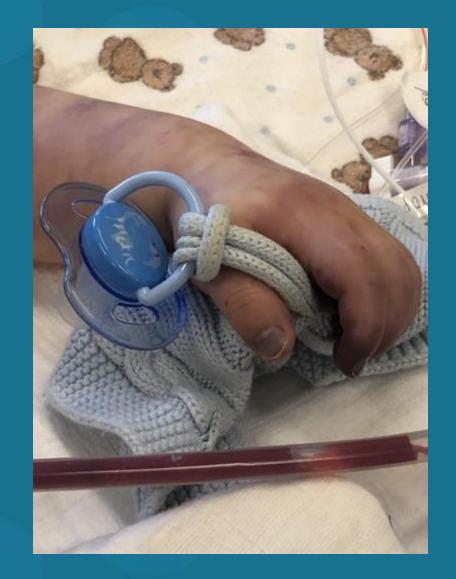
So let's think about this together, researchers and patients: How to use that precious time well?!

### Quality of life is being revalued

Right now, as we watch the treatment of Long Covid with off-label medication We're witnessing a shift, what can we learn?

A derivative of vitamin C (ascorbate) can possibly help reduce organ failure and long term impact. How can we bring this to the bedside?





This is why collaboration is so valuable!

→ Discuss our values and considerations together

→ Enhance research and application, addressing the needs of patients now and in the future

#### Collaboration for COLLABORATION COLLABORATION COLLABORATION COLLABORATION COLLABORATION COLLABORATION COLLABORATION COLLABORATION FOR COLLABORATION COLLABORATION FOR COLLABOR

Thank you for your attention! www.cmsm.nl