

Micronutrients and the patient perspective

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Collaboration for
**Medical Supplementation
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.



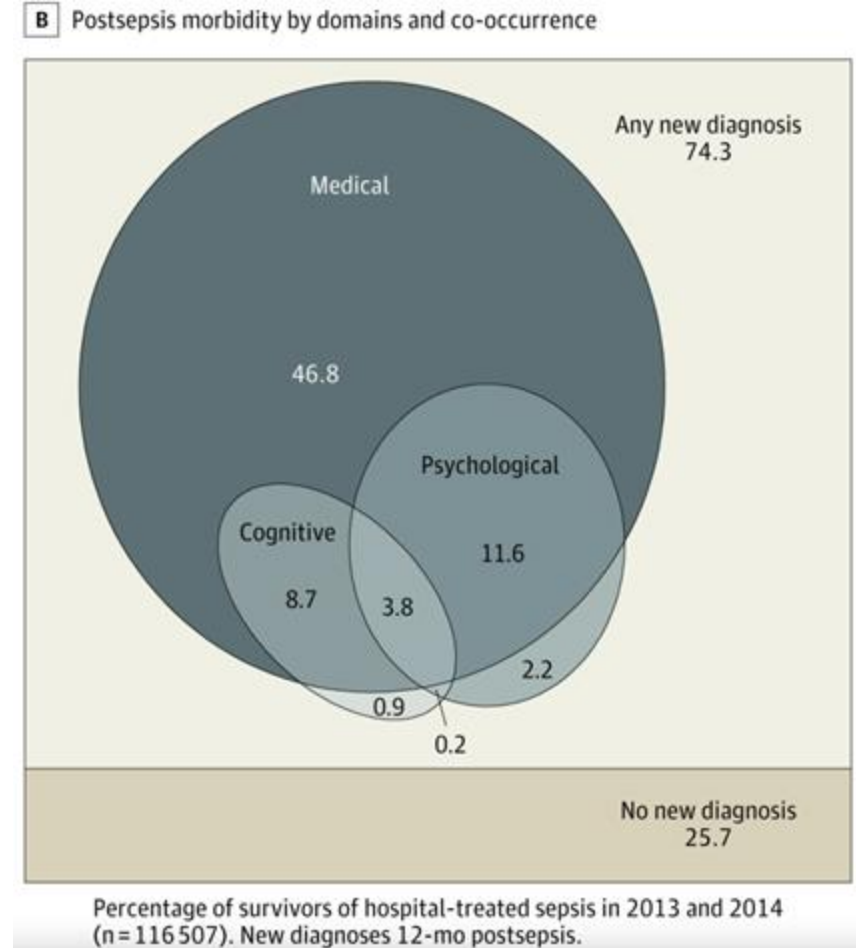
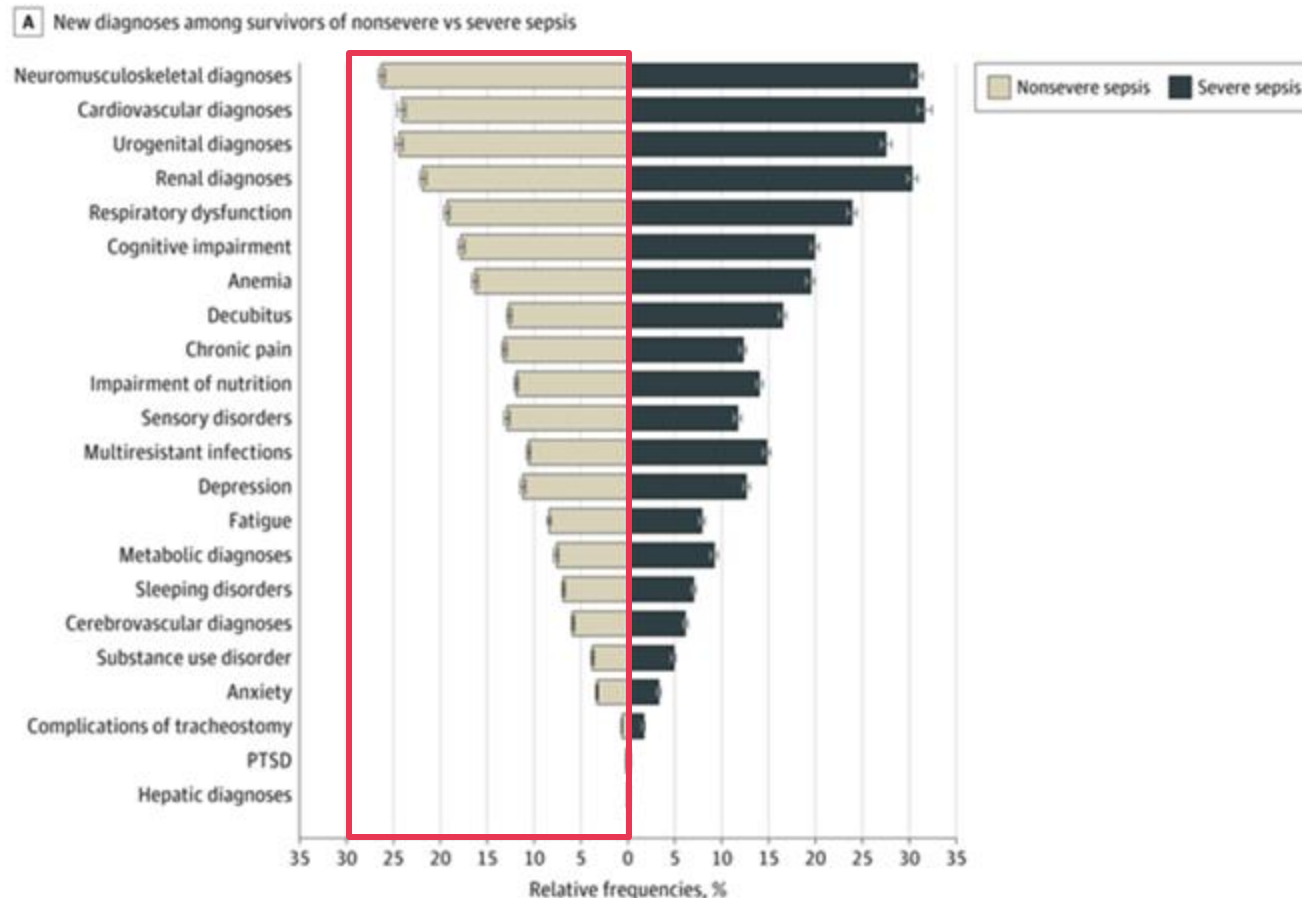
But sepsis had a great impact on our family too

Especially my weakened immune system and many re-infections 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



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

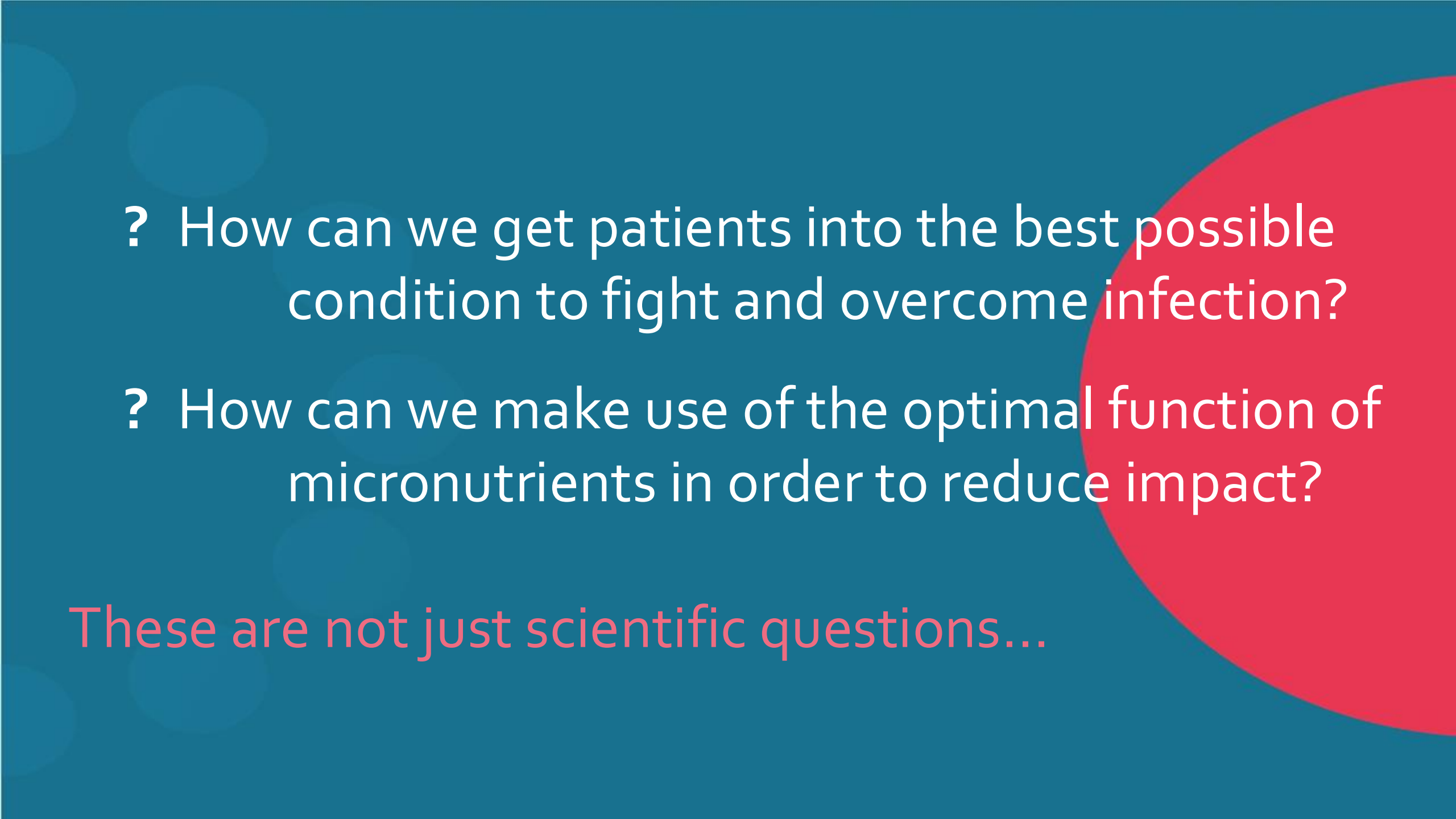
And then...

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



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- ? 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](#)

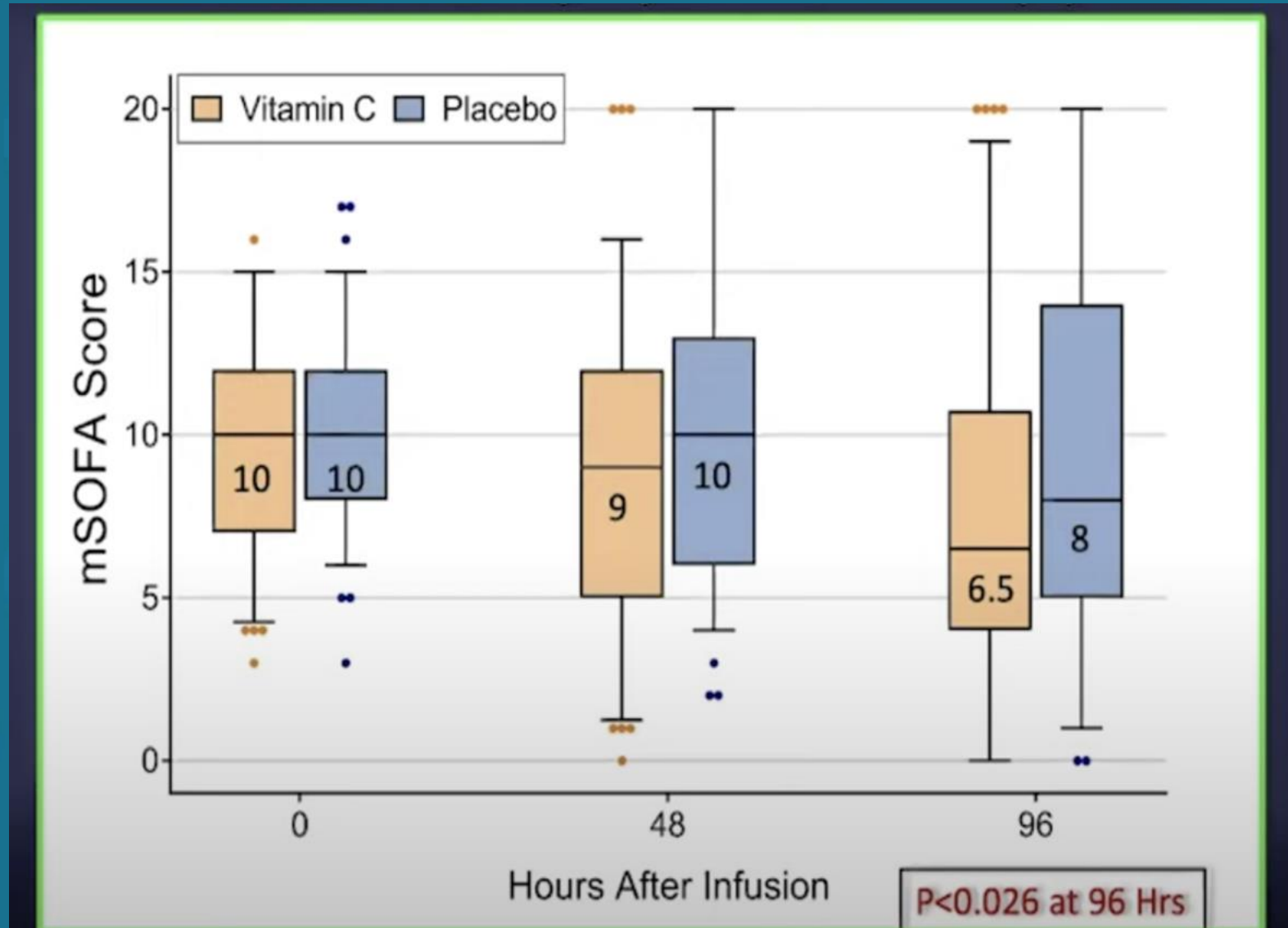
Research | [Open access](#) | Published: 12 October 2023

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

[Fumitaka Yanase](#), [Sofia Spano](#), [Akinori Maeda](#), [Anis Chaba](#), [Thummaporn Naorungroj](#), [Connie Pei Chen Ow](#), [Yugeesh R. Lankadeva](#), [Clive N. May](#), [Ashenafi H. Betrie](#), [Darius J. R. Lane](#), [Glenn M. Eastwood](#), [Mark P. Plummer](#) & [Rinaldo Bellomo](#) 

[Critical Care](#) **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



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



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Thank you for your attention!
www.cmsm.nl