

Patient organizations and scientists are putting micronutrients on the map

Micronutrient research often dwarfs all other research in medical science. The initiators of this 'Center for Medical Micronutrient Supplementation', which was established in April '22, find this very unfortunate and unjustified. The publications concerning the role and effects of eg vitamins C and D give every reason to take the value of these and other micronutrients extremely seriously in helping to prevent the spread of infections and support the treatment of sepsis and other life-threatening conditions. The use of micronutrients is important to help prevent damage and support patient recovery so that the impact of acute illness can be minimized as much as possible. Therefore, representatives of patient and civil health organizations have sought to collaborate with scientists to constructively promote the use of micronutrients in the interest of patients.

Activities of the Center for Medical Micronutrient Supplementation

The 'CMMS' has developed from an initiative group into an important partnership and now has contacts with various renowned experts at home and abroad. See this page for an overview. At the end of 2021, in a letter to the Minister, attention was explicitly drawn to vitamin D supplementation (using Hidroferol, which can bring the vitamin D level up to the required level in 4 hours). This document was also distributed internationally in English. In addition, two Round Table meetings have now been organized (in August 2021 and recently on 2 June 2022). During the last meeting, Angelique de Man, principal investigator and intensivist working at the Amsterdam UMC gave a presentation on the important role of vitamin C and the supplementation of proven deficiency, the complexity of its determination and the various publications including 2 important articles by Hemilä and Chalker:

-“Vitamin C Can Shorten the Length of Stay in the ICU: A Meta-Analysis“, [in Nutrients \(2019\)](#)

-“Vitamin C may reduce the duration of mechanical ventilation in critically ill patients: a meta-regression analysis” in het [Journal of Intensive Care \(2020\)](#)

The above publications have contributed significantly to the development of the recommendations regarding vitamin C in the recent ESPEN-Guideline (see table 14) which recommends vitamin C in critically ill patients:

Daily supplement of vitamin C at 2-3 grams/day, intravenously, with the highest level of evidence and highest level of recommendation. The PDF of the ESPEN guideline can be found [here](#).

The article in Nutrients concludes:

“We found statistically highly significant evidence that vitamin C can shorten the length of ICU stay.”

The Journal of Intensive Care article concludes:

“We found strong evidence that vitamin C shortens the duration of mechanical ventilation, but the magnitude of the effect seems to depend on the duration of ventilation in the untreated control group. The level of baseline illness severity should be considered in further research. Different doses should be compared directly in future trial

The way forward

The CMMS sees an important task for itself in providing 'up-to-date' information such as drawing attention to the recent ESPEN Guideline to promote the application of these recommendations to Intensive Care Units in our country, both in terms of vitamin C as well as other micronutrients. We also want to make this information more accessible to patients, relatives and citizens. In addition, other important developments are underway, such as:

- the study on a mega-dose of vitamin C in the treatment of sepsis (Lankadeva et al., [Critical Care Medicine, 2021](#))
- early administration of vitamin C in the emergency department in patients with sepsis or septic shock (University Hospital Leuven, Vandervelden et al, [see this site](#))
- the REMAP-CAP study, in which a group of patients with COVID-19 who does not receive vitamin C is compared with a group that receives a high dose of vitamin C, [see this document](#)
- the LOVIT trial investigating the effect of a high dose of vitamin C in both patients with pneumonia and COVID-19, [see the website](#)
- the application of high doses of vitamin C in burn patients, the so-called VICTORY pilot trial, [see here for all study details](#)

In addition, the CMMS also wants to promote and support research into point-of-care measurement of vitamin C, so that the levels can be mapped more accurately for each patient. It is also important to determine the effects of various micronutrients in their mutual interaction. A website is currently being worked on.

Mission document

Interested immunologists, intensivists, ED physicians or nurses, patient representatives, and others from science or medical practice who agree with the purpose of the Center for Medical Micronutrient Supplementation and want to support our mission are welcome to join us.

The Mission Document (in English) can be read [here](#).

On behalf of the core group of the CMMS

Roland de Wolf

Idelette Nutma

Gaston Remmers

Reindert Graaff

Manfred Eggersdorfer

Chaja Hudepol

Interested parties, see above, who would like to contribute ideas, can contact Roland de Wolf, director of [St. Weerwolfhuizen](#).