



ABSTRACT

Optimizing nutrition throughout the COVID-19 trajectory: From admission, to ICU, to discharge

Nutri Virtual Symposium 2020

Nutrition Battling on Pandemic COVID-19: How to Survive

Link to DOI: [10.25220/WNJ.V04.S3.0008](https://doi.org/10.25220/WNJ.V04.S3.0008)

Journal Website: www.worldnutrijournal.org

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The nutritional consequences of COVID-19 infection must be recognized by health care professionals (HCPs) who are frontliners in the fight against COVID-19. At the time of admission, patients are likely to be suffering from some degree of malnutrition, and early nutritional assessment and care planning should be integrated into the overall therapeutic strategy, along with control of the viral infection, from supportive measures for mild to moderate illness, to the full range of respiratory, hemodynamic, and relevant organ support in critical illness in ICU. There are guidelines (international and local) on nutrition in Covid-19 patients and these should be adapted for various local settings. An algorithmic approach will be presented to cover key issues for optimizing the nutrition management of COVID-19 patients from admission, to the ward, or to ICU, and thence on to discharge.

Some specific issues about the nutrition of the COVID-19 patients from admission to ward to ICU should be emphasized. Nutrition therapy should be initiated early, within 48 hours of admission, with a high index of suspicion for the risk of refeeding syndrome. Enteral nutrition is preferred over parenteral nutrition. Gastric feeding is usually possible, even in the prone position, and should be delivered preferably by pump-regulated infusion. There are a myriad of considerations for preventing viral spread, and HCPs should be mindful of the need for extreme caution in the handling of aerosol-generating procedures, which include obtaining EN feeding tube access. PN is indicated if EN is impossible, contraindicated, or insufficient. However, a number of experts describe a lower threshold for shifting from EN to PN, mainly related to convenience in administration with considerably less risk for viral exposure to HCPs. Use of EN enriched with omega-3 fatty acids is recommended in case of ARDS, while fish oil-enriched IV lipid emulsions should be prescribed if PN is required. Protein-calorie deficits must be avoided, with an emphasis on protein to help preserve muscle mass, in view of the risk for ICU-acquired weakness (ICUAW). The need for micronutrients is often overlooked, but provision of vitamins, minerals, and trace elements are important for mitochondrial function, and several other metabolic processes. After the acute phase, nutritional support is crucial to promote recovery and rehabilitation and should be continued until the patient resumes sufficient oral intake. In this setting, clinicians should be mindful of the potential dysphagia resulting from prolonged extubation, as well as from ICUAW. At this point, most patients will be anxious to have all tubes removed, including feeding tubes, and maintenance nutrition with peripheral PN could be offered. At discharge, patients should receive detailed instructions on how to maintain nutrition intake to promote recovery, often requiring oral nutritional supplements to augment oral intake.



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Keywords: clinical nutrition, nutrition therapy, COVID-19 infections

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