Nutrition Notes for the COVID-19 Patient

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Healthcare, as we know it, has been altered by COVID-19. Though a lot of people have already recovered, the moderately to severely affected patients continue to inundate hospital capacity. The presentation is usually respiratory, dyspnea and oxygen/ventilatory support. A question that inevitably follows is: How can nutritional support make a difference for the recovery of COVID-19 patients?

Both the European Society for Clinical Nutrition and Metabolism (ESPEN) and Society of Critical Care Medicine (SCCM) with the American Society for Parenteral and Enteral Nutrition (ASPEN) have released guides for providing nutrition to the suspected and confirmed COVID-19 patients.

The following are the amalgamated statements from the guides to provide a simple note for the physicians caring for them:

1 Prevent malnutrition.

Patients may present with anorexia, and combined with the catabolic state, may accelerate this process.

2 Experienced professionals, such as dietitians and nutritionists, can help assure that patients receive the necessary supplementations that provide the appropriate energy/caloric requirements.

1. Energy needs: [1]

- 27 kcal per kg body weight and day; total energy expenditure for polymorbid patients aged >65 years
- 30 kcal per kg body weight and day; total energy expenditure for severely underweight polymorbid patients
- 30 kcal per kg body weight and day; guiding value for energy intake in older persons, this value should be individually adjusted with regard to nutritional status, physical activity level, disease status and tolerance

1. Protein needs: [1]

- 1 g protein per kg body weight and day in older persons; the amount should be individually adjusted with regard to nutrtional status, physical activity level, disease status and tolerance.
- 1 g protein per kg body weight and day in polymorbid medical inpatients in order to prevent body weight loss reduce the risk of complications and hospital readmission and improve functional outcome

3 Preferable route for nutrition is enternal.

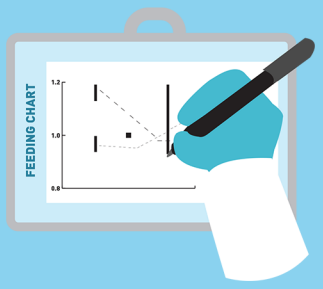
With intubated patients, this should be via a nasogastric tube. Continuous feeding is preferred over bolus.

4 Time your nutrition supplementation.

The SCCM/ASPEN guide recommends that early enteral nutrition (EN) within 24-36 hours of ICU admission or within 12 hours of intubation and mechanical ventilatory support should be the objective.

5 Adjust your feeding.

Initiate low dose EN, either hypocaloric or trophic, advancing to full dose EN slowly over the first week of critical illness to meet energy goal of 15-20 kcal/kg actual body weight (ABW)/day.



6 Monitor nutrition tolerance.

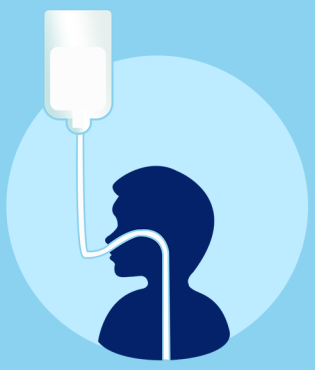
Gastrointestinal symptoms may be reflective of the severity of the illness of COVID-19. It has been recommended to note for enteral feeding intolerance along with other monitoring activities to minimise health provider exposure and decrease chances of transmission.

7 Enternal feeding during prone positioning is genereally well tolerated.

One of the ways oxygenation may be improved is to prone position patients who meet criteria. Keeping the head of the bed elevated (reverse Trendelenburg) to at least 10 to 25 degrees to decrease the risk of aspiration of gastric contents, facial edema and intra-abdominal hypertension, has been recommended by SCCM/ASPEN. Predigested short peptide preparations are recommended for better & faster intestinal absorption and utilization.[3]

8 Nutrition source is ideally a standard high protein (> 20% protein) polymeric isosmotic enteral formula.

As the condition improves and in the absence of gastrointestinal dysfunction, addition of fiber should be considered. Low levels or intakes of micronutrients such as vitamins A, E, B6 and B12, Zn and Se have been associated with poorer clinical outcomes with viral infections, so supplementation may be considered. [2]



As much as finding the medications that truly target COVID-19 are paramount, one weapon that may be missed in this fight is just in arm's reach - nutrition.

*For healthcare professionals only

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1. **Martindale R et al.,** Nutrition Therapy in the Patient with COVID-19 Disease Requiring ICU Care. Society of Critical Care Medicine and the American Society for Parenteral and Enteral Nutrition April 1, 2020
2. **Barazzoni R et al.,** ESPEN expert statements and practical guidance for nutritional management of individuals with SARS-CoV-2 infection, Clinical Nutrition, https://doi.org/10.1016/j.clnu.2020.03.022
3. **Liang T.** Handbook of COVID-19 Prevention and Treatment. 2020