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COVID-19

Guidelines for Nutritional Management of Patients, Residents and Clients

Purpose:
Given the rapidly evolving COVID-19 situation, creative and innovative solutions are needed to minimize unnecessary patient/resident/client and staff exposure, while still allowing for safe and effective inpatient/resident/client care, enhanced nutrition and facilitation of patient flow (acute care).

Clinical Nutrition often deploys staff across several patient care areas. In some cases, multiple staff cover the same patient care area in order to support emerging care priorities and discharges (acute care). This model increases unnecessary risk of exposure for staff and patients/residents/clients.

Goals:

1. **Minimize patient/resident/ client and staff exposure to reduce potential for transmission**
    a. Decrease exposure to multiple units as much as possible.
    b. Designate as few staff as possible for each unit thereby decreasing the number of personnel on a unit.
    c. Conserve PPE stocks for patient, resident, client care and assessments deemed essential**.** Reduce unnecessary PPE use.
    d. Decrease crowding and exposure of all health care team members by exploring options for telephone or virtual solutions for discharge planning meetings

2. **Safe and effective nutrition care**
    a. Complete Nutrition Care Process (assessment, nutrition diagnosis, intervention, monitoring & evaluation) safely.
    b. Provide guidelines for nutritional management of COVID-19 patients
    c. Decrease risk of workforce disruption for Clinical Nutrition due to COVID-19 exposure and preventative isolation protocols
    d. Complete nutrition assessment and intervention safely

Planning: Essential Direct Patient/Resident Contact

- Clinical Nutrition leadership should review and provide guidance which assessments and interventions are essential. Assessments and interventions should **only be provided when there are clinical indicators**, so that staff exposure to patients/ residents/ clients with COVID-19 is minimized and PPE stocks are protected. Unnecessary review of these patients/residents within their isolation room is discouraged.
- Nutrition Care Process modifications re: COVID-19 have been developed for dietitians.
- Wherever possible dietitians should coordinate patient/ resident visits, to minimize the number of visits to and from patient/ resident care areas. This may include pairing with complimentary disciplines for assessments where more efficient (e.g. RD/Nursing/SLP)

- Where possible, work assignments should be redistributed to minimize the number of staff who are visiting the patient care areas.
- Staffing resources should be realigned to areas of need.
- It may be beneficial to schedule designated staff within each department, who will work with COVID-19 patients/residents.
- Team leadership should ensure their staff have demonstrated knowledge of PPE and understand the guidelines around dedicated equipment use for COVID-19 patients/residents.

Planning: Virtual/Telephone Patient/Resident and Team Connections – Inpatient/Resident Environment

- Regional Clinical Nutrition Leadership should evaluate treatments within their scope of practice. Consider which treatments or assessments are suitable for virtual or telephone visits.
- Nursing will refer patients/residents rather than Clinical Nutrition either screening (acute care) or automatically completing nutrition assessment on admission (LTC).
- Unit staff who are already accessing the patient should be leveraged where reasonable.
- Daily Action Rounds (Bullet Rounds), Complex Discharge Rounds and complex case meetings are of utmost importance to coordinate and plan for expeditious discharge. Options should be explored for telephone or virtual solutions for these meetings, to decrease crowding and exposure of all teams.

Planning: Virtual/Telephone Patient/Client Team Connections – Ambulatory Care Environment

- Wherever possible staff should coordinate patient/ client visits by virtual/phone contacts to minimize in-person visits.
- When access to electronic health documentation and general requirements for working from home are met, employees are encouraged to work from home.

Privacy and Security:

- Virtual (Microsoft Teams or Telehealth) and telephone visits must comply with professional standards and applicable legislation, such as the Personal Health Information Act. Always confirm the patient/resident/client's identity and confirm demographic information over the phone (e.g. can you provide me with your MH# and PHIN# or 2 person identifiers (name, DOB).

- As per College of Dietitians of Manitoba, dietitians who are working remotely, must adhere to CDM practice directions on Electronic Practice and Protection of Personal Health Information in Electronic Format. If you discontinue non-essential services, please note the requirements for discontinuing services as stated in section 1.14 of the Code of Ethics for Registered Dietitians

- Take precautions to ensure both provider and the patient/client are in a private setting. Patients/clients should be encouraged to use their own device where possible. For video visits, inform patients/clients of the inherent risks of using a third-party video app and obtain

their consent. When obtaining consent, **provider must use the script provided below**. Consent should be documented in the patient care record by the provider.

Obtaining Consent for Telephone or Virtual Appointment:

When scheduling a telephone appointment or virtual appointment (via MS Teams), ensure the below steps are followed:

1. Provide the following privacy information to the patient using the approved script below:

Your privacy is important to us and we have taken steps to select technological tools with reasonable assurances of confidentiality and security. However, these tools do not provide an absolute guarantee in respect to the security of information shared using this platform. By proceeding to receive information and communication with your health-care provider on this platform, you acknowledge and agree that there remains risk associated with this method of communication and waive any and all liability against the health-care provider for any damages or claims related to the use of this tool and platform.

Obtain Consent:

Ask the patient:

1. *Do you have concerns associated with this communication platform?*
2. *Do I have your consent to proceed with this discussion?*

French version

Votre vie privée est importante pour nous et nous avons pris des mesures pour choisir des outils technologiques offrant des garanties raisonnables de confidentialité et de sécurité. Toutefois, ces outils ne fournissent pas une garantie absolue en ce qui concerne la sécurité des renseignements divulgués sur cette plateforme. En recevant des renseignements et en communiquant avec votre fournisseur de soins de santé sur cette plateforme, vous reconnaissez et acceptez qu'il demeure un risque associé à cette méthode de communication, et vous renoncez à toute responsabilité à l'encontre du fournisseur de soins de santé pour tout dommage ou réclamation liés à l'utilisation de cet outil et de cette plateforme.

Obtain Consent:

Ask the patient::

1. *Avez-vous des inquiétudes relatives à cette plateforme de communication?*
2. *Ai-je votre accord pour poursuivre cette discussion?*

2. Document Consent in the Health Record

For any questions about the use of a patient's email please refer to the "COVID-19 – Emergency Preparedness & Privacy and Security Considerations" https://sharedhealthmb.ca/files/covid-19-privacy-security.pdf.

Nutrition Care Process: COVID-19 Pandemic

Use PPE as per Shared Health recommendations. To keep staff safe and to limit exposure and use of PPE we are recommending the following:

1. **Screening/referral: to reduce the amount of contact between diet technicians/diet clerk/dietitians and patients/residents,**
    a. Discontinue nutrition screening program if completed by Nutrition & Food Services staff.
    b. Nutrition referral criteria to be used by nursing to identify need for dietitian assessment. Dietitians should be consulted if one of the following exists: https://professionals.wrha.mb.ca/old/extranet/nutrition/contact.php
    c. Acute Care: Dietitian to review EPR for conditions to screen
    d. LTC: If assessment is required prior to clinical dietitian intervention nursing to initiate referral.

2. **Nutrition Assessment: includes,**
    a. Chart review
    b. Team member consultation (physical distancing)
    c. Patient/resident interview (done virtually when feasible) or proxy
    d. SGA: this is the cornerstone of our nutrition diagnosis of malnutrition. Completion of SGA during initial assessment with the following adaptations are recommended:
        - Visual physical assessment –
            - if patient is severely malnourished and one can diagnose without a complete SGA
            - if one is not severely malnourished, you can ask the patient/resident (if cognitively intact) to lower their gown so you can visually see the shoulders, etc
            - If hands-on assessment is required, complete assessment with patient/resident facing away from RD.

    e. LTC: Mealtime Management Procedure:
        Pre-Swallowing Assessment:
        - Complete via visual assessment as much as possible
        - Provide verbal cues as required and feasible
        - Stand to the side when requesting resident to cough

        Meal Observation:
        - Complete meal observation through visual assessment as much as possible

    f. LTC Assessment Time Frame: Complete nutrition assessment 2-8 weeks post admission (considering both history and transition to unit) unless more urgent assessment is required, as indicated by nursing referral.

3. **Diagnosis: as per current practice**

4. **Intervention: see nutrition management below**

5. **Monitor/Evaluate:**

a. Reassessment: limit patient/resident contact; monitor outcomes by discussing with health care providers, patient/resident or proxy, reviewing chart, labs, weights and contacting patient/resident or proxy by phone if available
b. SGA in reassessment: SGA score may be changed through evaluation of non-physical parameters when there are improvements in outcomes. E.g. intake, weight, clinical status.

NUTRITION MANAGEMENT FOR COVID-19 PATIENTS

1. THE BASICS

Practical guidance for nutrition management for adults with COVID-19 has been reported worldwide and ultimately are site specific with general common recommendations

The following basic principles apply to all COVID-19 patients:

- Start Oral Diet or EN as early as possible.
- Once EN started, gradual introduction of rate while increasing to Goal Rate by days 3 to 5
- Manage Intolerances – i.e. gastrointestinal (GI) Intolerances related to diet or EN.
- Prokinetics – it is suggested to use prokinetics when intolerance issues persist.
- Minimize interruptions of nutrition support as much as possible.
- Small bowel feeding tube (nasoduodenal or nasojejunal (NJ) feeding) this form of EN can be used if intolerance issues continue with EN using nasogastric (NG)/orogastric (OG) route.
- Supplement with Total Parenteral Nutrition (TPN) or use exclusive TPN when needed.
- Refer to information below on specific information on Nutrition Support for 1) non-ventilated patient and 2) ventilated patients.

2. NUTRITION SUPPORT: NON VENTILATED PATIENTS

KEY POINTS: The patient's underlying medical condition (i.e. any comorbidities) should determine your nutrition assessment. See Clinical Nutrition Handbook for specifics on diseases and nutritional management.

DIET: A high energy, high protein diet is recommended.

ORAL SUPPLEMENTS: Provision of supplements (1.5 to 2 kcal/ml) should be a standard part of the oral diet or as soon as oral intake is commenced. Recommend Med Pass.

HIFLO OXYGEN: can dry and irritate the mucosa. These patients are unwell and therefore appetite, nausea, ability to eat can be an issue. Fluids are generally well tolerated. Dried foods are not a good option due to drying of the mucosa.

If there are plans for ventilation, the dietitian should then advocate for EN feeds earlier or on admission.

For patient's whose primary concern is COVID-19, they present as high nutrition risk due to a severe acute, inflammatory response and/or increased work of breathing. These patients should be assessed at minimum every 48 hrs.

ESTIMATED NUTRITIONAL REQUIREMENTS (ENERGY AND PROTEIN):

- Energy: 25-30 kcal/kg
- Protein: 1.5 g protein/kg

- Consider requesting placement of an enteral feeding tube if patients are unable to meet their needs orally.
- If unable to meet needs through either oral or enteral nutrition, consider use of TPN.

FORMULA SELECTION FOR EN:

- Start with a polymeric tube feed formula unless contraindicated (i.e. severe GI symptoms).
- A low-fiber polymeric formula may be tolerated even in the presence of nausea or mild diarrhea.
- Assess tolerance as required.
- Consider fiber-containing formula for longer term feeds.

3. NUTRITION SUPPORT FOR RESPIRATORY FAILURE (INTUBATED AND VENTILATED):

Guidelines are based on the nutrition management of critically ill patients. An emphasis is placed on the prevention of over feeding patients. If you suspect the patient may not be able to meet their needs with oral nutrition post-extubation, consider requesting placement of Naso-gastric feeding tube.

ESTIMATED ENERGY REQUIREMENTS:

- 20 – 25 kcal/kg IBW or applicable equation to estimate energy needs
- Aim for the low end during the first few days.
- Adjust as needed for Refeeding Syndrome risk.
- If underweight, use actual body weight (BW).
- If feeding, optimize kcals to greater or equal to 25 kcal/kg IBW
- *Propofol:* Propofol provides 1.1 kcal/ml and must be accounted for in the provision of total calories. Decrease calories from EN or TPN prescription accordingly.
- *Dextrose- containing IV fluids*: If at a higher rate, factor in kcal provided (3.4 kcal/g dextrose)

ESTIMATED PROTEIN REQUIREMENTS:

- 1.5 – 2.0 – 2.5 g/kg IBW
- Requirements are adjusted for comorbidities:
  - Liver Disease: 1.0 – 1.5 g/kg
  - Renal insufficiency or dialysis
    - Chronic Renal Insufficiency (CRI) (no dialysis) – 1.0 g/kg
    - Continuous Renal Replacement Therapy (CRRT) – 1.5 – 2.0 – 2.5 g/kg
    - Intermittent Hemodialysis (IHD) – 1.2 – 1.5 g/kg

FLUID AND ELECTROLYTES:

Restrictive fluid management strategy is commonly used. Volumes of EN and PN may need to be limited. It is essential to find balance between fluid balance and meeting nutritional targets. Patients are at risk for developing AKI and may require low electrolyte EN. Critically ill patients are often in very positive fluid balance with fluid resuscitation and edema. Monitor IV fluid provision and discuss fluid goals with physicians and provide minimal water flushes/ adjust flushes as required.

FORMULA SELECTION:

- Starting with a polymeric formula is usually fine.
- Fibre is typically avoided in the beginning but can be considered as the patient stabilizes.

MONITORING ENTERAL NUTRITION:

- Intolerance = abdominal pain/distention; nausea/vomiting and elevated gastric residuals.
- High Blood Glucose – maintenance of normal blood glucose levels is inherent in the care of the patient as several causes are DM insulin sensitivity, critical illness.

MONITORING OF GASTRIC RESIDUAL VOLUMES (GRV):

GRV monitoring is not reliable for detection of delayed gastric emptying and is associated with a risk of aspiration and as such should not be utilized as a monitor of feeding tolerance in patients with COVD-19. Patients should be monitored by daily physical examination and confirmation of passage of stool and gas. These observations should be "clustered" with other provider activities to minimize healthcare team virus exposure.

As per ASPEN, for those ICUs where GRVs are still utilized, holding EN for GRVs <500 mL in the absence of other signs of intolerance should be avoided.

Accept GRV's up to 500 mL in the absence of other signs of intolerance. Once GRV's exceed 500 mL, trial prokinetic agents. If that does not work proceed to small bowel feeding tube.

INDIRECT CALORIMETRY: Although there is no conclusive consensus on the use of IC, most references suggest not using IC in patient with COVID-19. IC requires the disconnection of the ventilator circuit which risks exposing staff to the airborne virus. IC also takes considerable time to perform, which will also increase overall exposure to staff.

4. SPECIAL NUTRITIONAL CONSIDERATIONS

The following points have been identified as special considerations that have a nutritional implication.

1. Gastrointestinal (GI) intolerance
2. Proning
3. Glycemic control
4. Fluid restrictions

GI INTOLERANCE: GI Intolerances are common as the GI tract is affected by the shock of the infection. The patient can be hemodynamically unstable and require high dosages of vasopressors which indicate decreased perfusion to the organs including the GI tract. The GI system is also affected by the overall systemic inflammation and dysregulated microbiota. The effects of sedation medications can also induce constipation and gut paralysis. COVID-19 with GI involvement is often seen at home prior to admission to acute care/ ICU and therefore patients may be presenting with GI intolerance and/or may develop intolerances due to feeds. Appropriate monitoring and adjustment of the provision of nutrition support must be considered.

PRONING:

The evidence reviewed includes information on ARDS and proning. ARDS proning is used for improved oxygenation. Episodes of proning can last 12 hours or more. If the patient is fed by **NG** tube, it is suggested to turn off feeding 1 hour before prone position turn, NG tubes to be aspirated prior to any position changes and for EN to be recommenced as soon as possible to avoid unnecessary interruption to feeding.

WRHA/HSC local practice is to insert a **SBFT**. For patients who need proning, they are likely severely ill and on high dosage of sedation, paralyzed and have failed gastric feeds. If proning is part of the treatment plan, the nutrition plan should be formulated with the medical staff to insert a SBFT.

When EN is initiated during prone position it is recommended to keep the head of the bed elevated to at least 10 to 25 degrees to decrease the risk of aspiration of gastric contents, facial edema and intra-abdominal hypertension.

Glycemic Control: Diabetes: Glycemic control is problematic and made worse with stress response. Glycemic control is carefully monitored and followed in the ICU and protocols are in place that should be referred to with the medical team.

Fluid management

A restrictive fluid management strategy may be used for these patients and therefore volume of enteral and parenteral nutrition many need to be limited. Close communication with the medical team to manage the balance between fluid management and meeting nutrition targets.

OTHER NUTRITIONAL CONSIDERATIONS

RENAL PATIENTS

The COVID-19 pandemic has led to unprecedented challenges to the delivery of renal dietetic services. This will require significant planning and possible re-structuring of dietetic services to ensure that we are able to provide a safe and effective service during this time.

Changes to dialysis schedules: For patients, whose dialysis or treatment schedule is not affected, it is suggested that patients continue to be managed according to appropriate local, national and international nutritional guidelines; face to face contact should be avoided where possible; remote review of patients should be considered, unless this may compromise patient care.

NICE guidance (2020) states that dialysis units should develop individualized plans for patients so that their dialysis schedule can be reduced safely if that becomes necessary, to enable the on-going operational delivery of dialysis in the unit or at home if there are constraints because of widespread COVID-19.

Less frequent dialysis will lead to reduced removal of potassium and fluid on a weekly basis, with longer gaps for the build-up of these between dialysis sessions. For patients whose dialysis schedule is reduced, appropriate guidance should be considered to minimize risk of potential complications associated with hyperkalemia and fluid overload.

Potassium: Pre-dialysis serum potassium levels should be managed according to local policy, but in the absence of this suggest that levels should ideally be ≤5.5mmol/l, and no higher than 6.0mmol/l. If dialysis frequency is reduced, the frequency of monitoring for pre-dialysis serum potassium levels should be increased according to local policy. Non-dietary causes of high serum potassium should be considered and treatment provided according to local policy. Dietary advice should be provided to those patients with pre-dialysis serum potassium levels ≥5.5mmol/l, aiming to reduce dietary potassium intake to 50-70mmol per day. Local policies should address the prescription of potassium binders to allow the frequency of dialysis to be reduced, and the potential for their use should be explored on an individual patient basis. Consider reducing potassium contribution from protein foods by advising patients to reduce their dietary protein intake.

Fluid: Local policies should address the use of fluid restriction to allow the frequency of dialysis to be reduced. Inter-dialytic fluid weight gain (IDWG) should be <2.5kg or <5% of dry weight, in accordance with local policy. CNS guidance recommends reduced HD in patients with adequate residual urine output >600ml/day.

Dietary advice should be provided on the importance of reducing dietary salt intake to no more than 3g per day. (Kuehneman, T. et al. 2018 Kalantar-Zadeh, K. and Fouque, D. 2017.) Close communication with the medical and nursing team regarding fluid management targets and fluid allowances

Protein: Consider advising patients to reduce dietary protein intake to 0.8-1g/kg/d, particularly in patients who are complaining of uremic symptoms. The potential benefits and risks of protein restriction should be considered on an individual basis, dependent on current nutritional status and risk of protein energy wasting. Close monitoring of nutritional status, and adjustment of recommendations for dietary protein intake as necessary

Critical Illness: For renal patients who become critically ill and require critical care, the RNG recommend following appropriate guidance, e.g. Critical Care Specialist Group guidelines.

Acute Kidney Injury: The incidence of Acute Kidney injury (AKI) in hospitalized patients with COVID 19 is relatively low (29%), in comparison to severe lung injury which requires mechanical ventilation (71%) (Malha *et al* 2020). For patients who develop AKI, either with or without pre-existing kidney disease, it is recommended following appropriate national and international guidelines for nutritional management.

RESOURCES / REFERENCES

1. Nutritional Management of Critically Ill Patients – WRHA Clinical Handbook
2. ASPEN Nutrition Support in ICU – PDF document
3. Nutrition Therapy COVID-19_SCCM-ASF
4. ASPEN Nutrition Support in ICU.pdf
5. https://www.espen.org/guidelines-home
6. Editorial (in Press) to be published in the Journal of Clinical Nutrition titled: The ESPEN expert statements and practical guidance for the nutritional management of individuals with SARS-CoV-2 infection. (See attached)
7. WHO interim guidance on Clinical management of severe acute respiratory infection (SARI) when COVID-19 disease is suspected. (See attached)
8. https://www.who.int/docs/default-source/coronaviruse/clinical-management-of-novel-cov.pdf
9. https://www.eatrightpro.org/coronavirus-resources
10. https://www.ifpri.org/blog/lessons-aids-epidemic-how-covid-19-may-impact-food-and-nutrition-security
11. https://www.bda.uk.com/resource/covid-19-renal-nutrition-group-guidance-on-management-of-renal-nutrition-and-dietetic-services-during-the-covid-19-pandemic.html
12. https://www.bda.uk.com/resource/best-practice-guidance-enteral-feeding-in-prone-position.html?utm_content=bufferf1e96&utm_medium=social&utm_source=twitter.com&utm_campaign=buffer
13. https://dcjournal.ca/doi/full/10.3148/cjdpr-2019-023
14. https://www.nnng.org.uk/2020/04/covid-19-statement-and-information/
15. https://www.nutritioncare.org/Guidelines_and_Clinical_Resources/Resources_for_Clinicians_Caring_for_Patients_with_Coronavirus/
16. Covid Barazzoni et al - ESPEN expert state
17. Covid Martindale et al - Nutrition Therapy
18. COVID19-SSC-Critical-Care-Guidelines.pdf
19. COVID - CCSG BDA Guidance .pdf

20. https://www.indi.ie/

ANZICS-COVID-19-G
uidelines-Version-1.p
21.
22. www.diabetes.ca
23.

Covid 19 Australian
Group (3).pdf
24.

Canadian Alternative
GDM guidelines during
25.

26. Nutrition Support for Critically Ill patient with COIVID 19 Disease Top 10 Key Recommendations: https://www.youtube.com/watch?v=dNmMW3ybXdY

Nutrition Therapy
COVID-19_SCCM-ASI
27.
28.

COVID19 Nutrition
and Hydration ASPEN
29.

Renal-Nutrition-Grou
p-COVID-19-Guidanc
30.

BLENDERIZED_TUBE
_FEEDING.pdf
31.
32. https://www.csncommunity.ca/docs/CSN_COVID-19_EP1.pdf
33. https://www.csncommunity.ca/docs/CSN_COVID-19_EP2.pdf
34. Kuehneman, T. et al. 2018. Academy of nutrition and dietetics evidence-based practice guideline for management of heart failure in adults. J. Acad. Nutr. Diet. 118;12: 2331-2345.
35. Kalantar-Zadeh, K. and Fouque, D. 2017. Nutritional management of chronic kidney disease. N. Engl. J. Med. 377;18: 1765-1776.