CORRECTIONAL SERVICE CANADA

CHANGING LIVES. PROTECTING CANADIANS.

Clinical Management of Patients with COVID-19

GUIDANCE DOCUMENT FOR HEALTHCARE PROFESSIONALS

UPDATED JULY 3, 2020

Created: April 8, 2020

Next Review: September 2020

Table of Contents

Clinical Management of Patients with COVID-19 1
Document History 3
Accountability 3
Introduction 3
Prevention Strategies/Measures 4
Clinical Presentations / Symptoms 4
Classification of Severity of Disease 4
Investigations of Suspected Cases of COVID-19 6
Management/Treatment COVID-19 (within CSC) 7
Monitoring/Follow-up 8
Additional Points for Consideration, Mild & Moderate 8
Plan of Care 9
Promoting Mental Health 10
Appendix A: Nursing Care and Management of a Patient with Mild COVID 19 Symptoms 11
Appendix B: Nursing Care and Management of a patient with Moderate COVID 19 Symptoms 12
Appendix C: Community acquired pneumonia (CAP) 13
Appendix D: National Early Warning Score (NEWS) 2 - Chart 1 14
Appendix E: National Early Warning Score (NEWS) 2 - Chart 2 15
Appendix F: National Early Warning Score (NEWS) 2 - Chart 4 16
Appendix G: Dietary Recommendations during COVID-19 17
Appendix H: Dietary Recommendations for a patient with COVID-19 - Confirmed or Suspected 18
Appendix I: Guidance on Staff Communication & Engagement with Patients about COVID-19, April 20, 2020 19
Appendix J: COVID-19 Clinical Corner, Issue #2, March 27, 2020 23
Appendix K: End-of-Life Care in the ED 26
Additional Resources 27

Document History

Document Date	Document Sections	Description of Revisions
April 9, 2020	Document was created	The document was approved by the National Medical Advisory Committee (NMAC) at the April 5, 2020 meeting.
May 1, 2020	Minor changes throughout the document were made. Other main sections included changes to the "Clinical Presentation/Symptoms", the addition of "Best Practices for Nasopharyngeal Swabs".	The document was reviewed and approved by NMAC at the April 30, 2020 meeting.
July 3, 2020	Added a description on frail older adults and those who are immunosuppressed, added spiritual care to Goals of Care, updated dietary recommendations.	The document was reviewed and approved by NMAC at the June 4, 2020 meeting. No changes were recommended at the National Medical Advisory Committee (NMAC) meeting, June 25, 2020.
September 2020		Next Review

Accountability

This policy was initially reviewed and approved by the National Medical Advisory Committee (NMAC) on April 5, 2020, and will be reviewed at least every 30 days by NMAC to ensure it remains consistent with the risks posed by the COVID-19 pandemic.

Introduction

COVID-19 is a respiratory tract infection caused by a newly emergent coronavirus (SARS-CoV-2) that was first recognized in Wuhan, China, in December 2019. Genetic sequencing of the virus suggests that it is closely linked to the SARS virus.

Most people with COVID-19 develop only mild or uncomplicated illness (81%), approximately 14% develop severe disease that requires hospitalization and oxygen support and approximately 5% require intensive care unit support.

Those with co-morbidities, who are immunocompromised or are older, are at an increased risk for severe illness and may decompensate or deteriorate quickly once mild symptoms are noted. The median day for clinical deterioration was approximately 8 to 9 days after symptom onset.

Note: This document is intended as a guidance tool for the management of patients with COVID-19. Clinical judgement continues to paramount in the application of these recommendations. Please be aware that the information continues to evolve in this area and all efforts will be made to update the information as it becomes available.

Prevention Strategies/Measures

- **Physical distancing** where possible minimum 6 feet (2 meters) apart.
- **Frequent hand hygiene** with soap and water or if not available, alcohol based hand rub for a minimum of 20 seconds.
- **Frequent cleaning and disinfecting** of frequently touched objects and surface.
- **Prompt identification and isolation** of those with symptoms.
- **Practice respiratory hygiene** (cover mouth and nose with tissue when coughing or sneezing or cough into the bend of your arm, discard tissue immediately in a covered bin, and perform hand hygiene).

Clinical Presentations / Symptoms

Clinical Presentations		
Symptoms	n=	7 239
Cough	5 411	(75%)
Headache	4 157	(57%)
Weakness	4 115	(57%)
Pre-Existing Conditions	n=	7 015
Respiratory disease	841	(12%)
Cardiac	795	(11%)
Diabetes	617	(9%)
Other	1 421	(20%)
Complications	n=	3 644
Pneumonia	445	(12%)
Dyspnea	286	(8%)
Abnormal lung auscultation	251	(7%)
Other	355	(10%)

Clinical presentation summary of COVID-19 cases reported in Canada, retrieved from the COVID 19 Daily Epidemiology Update, PHAC, April 20, 2020.

Epidemiological summary of COVID-19 cases in Canada

Frail older adults and those who are immunosuppressed can present with atypical symptoms. Fever, cough and dyspnea may be absent despite respiratory disease. In frail older adults, atypical symptoms may include milder symptoms, delirium or acute functional decline, little or no temperature elevation, mild hypoxia (O2 sat<90%) without respiratory symptoms. Patients on immunosuppressive therapies may not display normal, high spiking fevers, and their white blood cell counts may not be as high. (Reference: COVID-19 Clinical Corner: Treatment Considerations for Specific Patient Populations, Issue 3).

Classification of Severity of Disease

Mild Illness: Ambulatory COVID-19 patients, estimated mortality <1%: These are patients who would normally be managed outside of hospital, and do not require supplemental oxygen, intravenous fluids, or other physiologic support.

Symptoms of mildly ill patients include:

- Uncomplicated upper respiratory tract viral infection may have non-specific symptoms such as fever, fatigue, cough (with or without sputum production), anorexia, malaise, muscle pain, sore throat, nasal congestion, or headache.
- Rarely, may also present with diarrhea, nausea, and vomiting.

- Older and/or immunosuppressed patients may present with atypical symptoms.

Moderate Illness: COVID-19 Treatment Unit patients, estimated mortality <5%: These are patients who would normally be managed on a hospital medical/general ward. This could include low-flow supplemental oxygen (e.g., 1-5 L/min via nasal prongs)

Pneumonia can present as mild with no need for supplemental oxygen. However, pneumonia can be severe and can present as:

- Prolonged fever
- Respiratory rate >25 breaths/minute
- SpO_2 ≤93% on room air
- Tachycardia
- Temperature >39

Severe Illness: These patients require immediate transfer to outside hospital. These patients will have symptoms of severe respiratory distress which include:

- Respiratory rate >30 breaths/minute
- SpO_2 ≤93% on 5 litres oxygen
- Heartrate >130 bpm
- Signs of dyspnea or increased work of breathing (e.g. grunting, nasal flaring, wheezing)

Investigations of Suspected Cases of COVID-19

Initiate droplet contact precautions as per CSC Infection Prevention and Control Guidelines.

Mildly ill COVID-19 Patient:

These patients would not normally require any investigation but each patient should have a nasopharyngeal (NP) swab for COVID-19 and if requested by the physician, influenza.

Moderately ill COVID-19 Patient:

These patients would be admitted to the COVID Treatment Unit:

1) Initiate specimen collections for laboratory diagnosis;
2) NP Swab if not previously collected for both COVID-19 and Influenza;
3) Initiate Serology Specimens collection :

• CRP • CK • ALP • AST / ALT • LDH • Cr • eGFR • Lactate • Electrolytes	• CBC	• PT • PTT • INR • D-Dimer

4) Chest X-ray (portable, if possible)
5) ECG

Best Practices for Nasopharyngeal Swabs

Risk of transmission while collecting an NP swab from a patient can be reduced by placing a procedural mask over the patient's mouth. This can help contain coughing and sneezing. Persons in the room during the procedure should, ideally, be limited to the patient and the person obtaining the specimen. Proper PPE should be worn.

Persons performing the testing should stand to the side of the patient, not directly in front of them, and should move away from the patient (to more than 2 meters away) when the procedure is complete.

Patients should return mask to proper position (covering mouth and nose) after the procedure is complete. Hand hygiene should be performed by all persons.

Management/Treatment COVID-19 (within CSC)

Mildly ill COVID-19 Patient:

These are patients who if in the community would stay at home. They require simple supported care and monitoring. Please see nursing care for patient with mild COVID-19 (Appendix A).

Moderately ill COVID-19 Patient:

These are patients who will be managed in the COVID Treatment Unit. They will require close monitoring and nursing care. These patients will be cared for by a clinical team including a primary care physician, nurse, pharmacist and other health disciplines as well have access to an ID physician for consultation.

- **Nursing**: See nursing care for patient with moderate COVID-19 (Appendix B) ;
- **Fever**: Acetaminophen 500 mg PO/PR every 4 hours (as needed) ;
- **Antiviral Therapy**:
    - Antiviral therapies are not yet proven effective for treatment of suspected or confirmed COVID-19.
- **Antibiotics**:
    - If a superimposed bacterial pneumonia is considered to be present, this should be regarded as a community acquired pneumonia.
    - Before therapy is commenced if possible an ID physician should be consulted. Antibiotic therapy would be provided based on guideline for adult outpatient community acquired pneumonia (CAP). (See Appendix C) http://thehub/En/aboutcsc/sectors/health-services/pharmacy/Pages/default.aspx
- **Immunocompromised Patient**, consideration:
    - Recommend to consult ID Physician for **all** immunocompromised patients, for example (e.g., hematological malignancies, transplantation, immunosuppressive agents, etc.)

Monitoring/Follow-up

Mildly ill COVID-19 Patient:

- See nursing care for patients with mild COVID-19. (Appendix A)

Moderately ill COVID-19 Patient:

- See nursing care for patients with moderate COVID-19 (See Appendix B);
- Monitor for signs of symptomatic improvement;
- Close monitoring emphasized for patients aged 50 years and above with underlying comorbidities that may increase their risk of disease progression including:
    - Cardiovascular disease, cerebrovascular disease, chronic respiratory diseases, chronic kidney disease, chronic liver disease, diabetes, hypertension, cancer, immunocompromising conditions.
- Pregnant Women, consultation with obstetrician and ID Physician;
- The National Early Warning Score (NEWS) 2 aggregate scoring system may be helpful when monitoring for clinical deterioration that would warrant transfer to a higher level of care. (See Appendix D, E & F).

Additional Points for Consideration, Mild & Moderate

- Avoid nebulized medications ;
- Patients with inflammatory conditions on stable doses of NSAIDs could remain on them unless evidence changes (Ref #1 below) ;
- ACE inhibitors and Angiotensin Receptor Blockers – patients should be maintained on their therapy in the absence of clinical data suggesting risk, to avoid decompensation of cardiac disease (Ref #1 below) ;
- Use of ORAL corticosteroids is not recommended in patients with COVID-19. Inhaled corticosteroids are considered safe to use in those who have had them previously prescribed. There is no clinical evidence to support or deny the continued use of oral steroids in patients who have had them previously prescribed, it is known, however, that oral corticosteroids can increase the incidence of some respiratory infections, Consult with healthcare provider and pharmacy with regards to all corticosteroid use.

1. Reference: The COVID-19 Antimicrobial Management Working Group, Alberta Health Services. Recommendations for Antimicrobial Management of Adult Hospitalized Patients with COVID-19. https://www.google.ca/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=2ahUKEwiCkp0oMfoAhUHGuwKHdXYBzcQFjAAegQIARAB&url=https%3A%2F%2Fwww.albertahealthservices.ca%2Fassets%2Finfo%2Fppih%2Fif-ppih-covid-19-recommendations.pdf&usg=AOvVaw3eAEVUtUhn4cXRRBrPG7wk

Plan of Care

Treatment plan:

- All patients with suspected or confirmed COVID-19 should have a plan of care documented in the Electronic Medical Record.

Dietary Advice:

- Dietary recommendations during a COVID-19 pandemic and specifically for a patient with COVID-19 are provided in appendices F and G respectively.

Goals of Care:

- For each patient in the COVID-19 Treatment Unit or moderate illness, the clinical team should discuss goals of care up to and including specific patient wishes about end of life care (See Appendix I – Guidance on Staff Communication and Engagement with Patients about COVID-19).
- Spiritual care should be considered as an essential service in supporting patients with COVID-19.

End of Life Care:

- When providing end of life care, attention should be given to non-pharmacological symptom management as well as medications for specific symptoms. With the patient's permission, family and friends should be updated regularly on the patient's condition.
- See CSC 's Palliative Care Guidelines.
- See Chart in Appendix K - End-of-life care in the emergency department for the patient imminently dying of a highly transmissible acute respiratory infection (such as COVID-19).

Communication with Community Hospital:

- Agreement should be reached with the community hospital on the clinical guidelines for transfer of care of a patient with COVID-19. The protocol to follow for transfer to hospital should be known by the clinical team and operations.

Promoting Mental Health

COVID-19: Promoting Mental Health and a Sense of Purpose and Meaning

Everyone is potentially vulnerable to the deleterious effects of stress and social isolation during a pandemic, and those with pre-existing mental or physical illness, multiple stressors and limited social supports even more so. The role of ongoing provision of mental health, spiritual and cultural services during such times cannot be overemphasized, and the role of health and mental health professionals, chaplains and Indigenous Elders is critical.

It is important for mental health services to identify and prioritize high risk or vulnerable patients for assessment and follow up. This includes prioritizing new referrals and patients already known to the service. Factors to consider in prioritizing cases include: those at increased risk for suicide or serious self-harm, on enhanced observation, acutely unstable and/or at risk of serious mental or physical deterioration (e.g. those with considerable or higher needs on the *Mental Health Needs Scale*). This would also include prioritizing those on medical isolation whose daily health visits should include inquiring as to how they are coping, their emotional well being, if they are having any suicidal urges and if they would like to see mental health staff, a chaplain and/or Elder. It can also involve asking people in medical isolation if there are any messages they would like relayed to significant others, and conversations where relevant around end of life issues and wishes. Virtual sessions using telephone or videoconferencing should be encouraged when possible for sessions with mental health staff, chaplains and Elders while social distancing measures remain in effect, otherwise a two metre distance should be respected.

It is important to allow people an opportunity to talk about their fears, and take the time to educate them about COVID-19 and the measures being taken. It is also important to focus on things they can control, including things they can do to lessen the chance of transmission, developing a schedule/routine, finding diversionary activities (e.g. Puzzles, drawing, music, TV, exercise, letters, journaling, reading, studying, etc.), and promoting spiritual and cultural practises as appropriate (e.g. readings, meditation, prayer). Mental health visits should involve review of relevant symptoms, including suicidal or self-harm urges, and medication, including for adherence and drug use, with adjustments to the treatment plan as indicated. Reframing distressing emotions (e.g. fear as indicative of caring for themselves and others) and teaching other stress/emotion regulation management approaches is also encouraged.

*For more details on strategies to promote stress management, resilience and mental health, please see COVID-19 Clinical Corner, Issue #2, March 27, 2020. (See Appendix J).

Appendix A: Nursing Care and Management of a Patient with Mild COVID 19 Symptoms

This document outlines the care plan when providing care for a patient experiencing **mild COVID 19 symptoms** - fever, chills, cough, fatigue, aches and pains, congestion, runny nose, diarrhea and sore throat.

Ensure you practice good handwashing and wear appropriate PPE.

Monitor and record Vital Signs BID, assess for changes, abnormal results or worsening of symptoms

- temperature
- heart rate
- respiratory rate
- blood pressure
- SpO2

Assess general appearance

When assessing respiratory status specifically assess for:

- SOB, at rest, when speaking or with exertion
- persistent pain or pressure in the chest
- bluish lips or face

Nutrition and hydration :

- Monitor nutrition and hydration (Is the patient eating and drinking well? Are they voiding & going to the bathroom regularly?)
- Monitor patient's own use of over the counter medications (i.e. Tylenol for fever and prescribed medications)

If you assess any of the following:

- SaO2 <95 on Room Air
- Increased work of breathing as assessed above
- increased respiratory rate
- increased heart rate > 110 bpm

  OR
- Any abnormal vital signs or worsening of any symptoms

Notify the physician immediately.

Appendix B: Nursing Care and Management of a patient with Moderate COVID 19 Symptoms

This document outlines the care plan for a patient experiencing **moderate COVID 19 symptoms** - fever, chills, cough, fatigue, aches and pains, congestion, and may have chest tightness or pain, feeling SOB, persistent fever, poor fluid intake.

Ensure you practice good handwashing and wear appropriate PPE.

Monitor and record **Vital Signs q4h**, assess for changes, abnormal results or worsening of symptoms:

- temperature
- heart rate
- respiratory rate
- blood pressure
- SpO2
- auscultation of the chest at least once daily

Initiate oxygen therapy to maintain SpO2 >93%:

- Start with 2 L/min by nasal cannula or mask and titrate to a max of 5 L/min.

Complete a general assessment including mental health:

- Assess for new confusion or drowsiness

When assessing respiratory status specifically assess for:

- SOB, at rest, when speaking or with exertion
- Persistent pain or pressure in the chest
- Bluish lips or face

Nutrition and hydration:

- Monitor nutritional status (Are they eating and drinking sufficiently? Record fluid intake and output and monitor bowel functioning).

Pharmacist to review medications on admission to the unit.

If you assess any of the following:

- respiratory rate > 25/min
- SpO2 <93 on NP 5L/min
- increased heart rate > 130 bpm
- increased work of breathing as assessed above
- change in orientation, confusion (for example, GCS <13)

  OR
- a NEWS 2 score of ≥5 (see Appendix D, E, and F)

Notify the physician immediately. Consider emergent transfer to outside hospital.

Appendix C: Community acquired pneumonia (CAP)

Adult outpatients: The CRB-65 (please see in notes/references) does not require any blood work & is used easily in an office setting to identify patients who may require hospital admission. Recommended to check pneumococcal vaccine status when patients are diagnosed with CAP.

<table>
<tr><th>Infection</th><th>Regimen</th><th>Usual Duration</th><th>Notes/References</th></tr>
<tr>
<td>CAP, mild to moderate OUTPATIENT without comorbidity/ modifying factors

Check pneumococcal vaccine status</td>
<td>1st line: Amoxicillin 1 g TID
2nd line: doxycycline 100 mg BID ;
Azithromycin 500 mg daily on first day then 250 mg daily x 4 days or 500 mg daily x 3 days;
Clarithromycin 500 mg BID</td>
<td rowspan="3">5-14 days
Depends on various factors such as clinical presentation, comorbidities, age, and drug selected.
Patients should be treated for a minimum of 5 days, be afebrile for 48-72 hours, and otherwise clinically stable before discontinuing therapy.
Exception: azithromycin</td>
<td rowspan="3">Review antibiotics prescribed for any type of infection in the previous 3 months; if significant exposure to particular antibiotic class, consider selecting an alternate class.

Comorbidity/modifying factors: hospitalization in the past 3 months and/or chronic heart, lung, liver or renal disease, diabetes mellitus, alcoholism, malignancies, asplenia, immunosuppression, age>65 years

Consider using a macrolide in patients where atypical organisms are suspected (e.g., more severe illness, positive urine antigen test, or during summer months for Legionella) or in the case of severe penicillin allergy.

** In regions with a high rate (>25%) of macrolide resistant S. pneumoniae, consider use of alternative agents, including those patients without comorbidities.

Fluoroquinolones (FQ) should be reserved for treatment failures, comorbidities with recent antibiotic use, allergies or documented infections with highly drug-resistant pneumococci or Legionella due to concerns over rapid emergence of FQ-resistant pneumococci and C. difficile-associated disease.</td>
</tr>
<tr>
<td>CAP, mild to moderate OUTPATIENT with comorbidity/ modifying factors

Check pneumococcal vaccine status</td>
<td>1st line: Any one of the beta-lactam agents in COLUMN A plus one of the agents listed on COLUMN B
<table>
<tr><th>COLUMN A</th><th>COLUMN B</th></tr>
<tr><td>Amoxicillin-clavulanate 875mg BID</td><td>Doxycycline 100 mg BID</td></tr>
<tr><td>Cefuroxime axetil 500 mg BID</td><td>Azithromycin 500 mg daily on first day then 250 mg daily x 4 days</td></tr>
<tr><td>Cefprozil 500 mg BID</td><td>Clarithromycin 500 mg BID</td></tr>
</table>
2nd line/if beta-lactam allergic: Levofloxacin 750 mg once daily x 5 days; Moxifloxacin 400 mg once daily x 5 days</td>
</tr>
<tr>
<td>CAP, mild to moderate OUTPATIENT with comorbidity/modifying factors – suspected aspiration[a].

Check pneumococcal vaccine status</td>
<td>1st line: Amoxicillin-clavulanate 875 mg BID;
Clindamycin 300 to 450 mg QID</td>
</tr>
</table>

CRB-65

Criteria	Points
Confusion: new onset based on a specific mental test, or disorientation to person, place or time	1
Respiratory rate ≥30 breaths/minute	1
Low Blood pressure: SBP <90mmHg or DBP ≤60mmHg	1
Age ≥ 65 years	1

Score	Risk of Mortality	Suggested Management
0	< 2%	• Outpatient
1-2	~9%	• Consider hospital admission
≥ 3	>19%	• Hospital admission

If a recent urea is available, may use CURB-65 where BUN >7mmol/L = 1 point.

[a] *Anaerobic coverage is indicated in the classic aspiration pleuropulmonary syndrome in patients with a history of loss of consciousness because of alcohol/drug overdose or after seizures in patients with concomitant gingival disease or esophageal motility disorders. Consider aspiration pneumonia in patients with difficulties swallowing who show clinical signs of a lower respiratory tract infection*

CAP = Community-acquired pneumonia

Adapted from: Anti-infective Review Panel. Anti-infective guidelines for community-acquired infections. Toronto: MUMS Health Clearinghouse; 2019*; Rx Files Antibiotics and Common Infections. Stewardship, Effectiveness, Safety and Clinical Pearls. October 2016.*

Resources:

1. Rx Files. Antibiotics and Common Infections. Stewardship, Effectiveness, Safety and Clinical Pearls. October 2016. Available from: https://www.rxfiles.ca/rxfiles/uploads/documents/ABX-Newsletter-2016-COMPLETE.pdf. Accessed on February 20, 2019.
2. Toronto Central Local Health Integration Network. Management of Community-Acquired Pneumonia in Adults. Available from: https://www.antimicrobialstewardship.com/community-acquired-pneumonia. Accessed on February 20, 2019.
3. Metlay JP, Waterer GW, Long AC et al. Diagnosis and Treatment of Adults with Community-Acquired Pneumonia. An official clinical practice guideline of the American Thoracic Society and Infectious Diseases Society of America. Retrieved from: https://www.atsjournals.org/doi/pdf/10.1164/rccm.201908-1581S

Appendix D: National Early Warning Score (NEWS) 2 - Chart 1

Chart 1: The NEWS scoring system

Physiological parameter	Score 3	2	1	0	1	2	3
Respiration rate (per minute)	≤8		9–11	12–20		21–24	≥25
SpO_2 Scale 1 (%)	≤91	92–93	94–95	≥96			
SpO_2 Scale 2 (%)	≤83	84–85	86–87	88–92 ≥93 on air	93–94 on oxygen	95–96 on oxygen	≥97 on oxygen
Air or oxygen?		Oxygen		Air			
Systolic blood pressure (mmHg)	≤90	91–100	101–110	111–219			≥220
Pulse (per minute)	≤40		41–50	51–90	91–110	111–130	≥131
Consciousness				Alert			CVPU
Temperature (°C)	≤35.0		35.1–36.0	36.1–38.0	38.1–39.0	≥39.1	

Reproduced by: Royal College of Physicians. *National Early Warning Score (NEWS) 2: Standardising the assessment of acute-illness severity in the NHS*. Updated report of a working party. London: RCP, 2017.

Appendix E: National Early Warning Score (NEWS) 2 - Chart 2

Chart 2: NEWS thresholds and triggers

NEW score	Clinical risk	Response
Aggregate score 0–4	Low	Ward-based response
Red score Score of 3 in any individual parameter	Low–medium	Urgent ward-based response*
Aggregate score 5–6	Medium	Key threshold for urgent response*
Aggregate score 7 or more	High	Urgent or emergency response**

* Response by a clinician or team with competence in the assessment and treatment of acutely ill patients and in recognising when the escalation of care to a critical care team is appropriate.

**The response team must also include staff with critical care skills, including airway management.

Reproduced by: Royal College of Physicians. *National Early Warning Score (NEWS) 2: Standardising the assessment of acute-illness severity in the NHS*. Updated report of a working party. London: RCP, 2017

Appendix F: National Early Warning Score (NEWS) 2 - Chart 4

Chart 4: Clinical response to the NEWS trigger thresholds

NEW score	Frequency of monitoring	Clinical response
0	Minimum 12 hourly	• Continue routine NEWS monitoring
Total 1–4	Minimum 4–6 hourly	• Inform registered nurse, who must assess the patient • Registered nurse decides whether increased frequency of monitoring and/or escalation of care is required
3 in single parameter	Minimum 1 hourly	• Registered nurse to inform medical team caring for the patient, who will review and decide whether escalation of care is necessary
Total 5 or more Urgent response threshold	Minimum 1 hourly	• Registered nurse to immediately inform the medical team caring for the patient • Registered nurse to request urgent assessment by a clinician or team with core competencies in the care of acutely ill patients • Provide clinical care in an environment with monitoring facilities
Total 7 or more Emergency response threshold	Continuous monitoring of vital signs	• Registered nurse to immediately inform the medical team caring for the patient – this should be at least at specialist registrar level • Emergency assessment by a team with critical care competencies, including practitioner(s) with advanced airway management skills • Consider transfer of care to a level 2 or 3 clinical care facility, ie higher-dependency unit or ICU • Clinical care in an environment with monitoring facilities

Reproduced by: Royal College of Physicians. *National Early Warning Score (NEWS) 2: Standardising the assessment of acute-illness severity in the NHS*. Updated report of a working party. London: RCP, 2017

Appendix G: Dietary Recommendations during COVID-19

Maintaining a healthy balanced diet will help to support a patient's resistance to the virus.

Meals

- Encourage patients to eat 3 meals per day;
- Encourage patients to try to eat as much as they can at each meal;
- If a patient has a low appetite, encourage them to eat more frequently (in between meals);
- Encourage patients to choose fruits and vegetables rich in colour (dark green, orange, red, etc.) to increase intake of antioxidants and other nutrients that support immune function.

Fluids

- Water is naturally part of many foods like vegetables and fruit; milk products; hot and cold beverages as well as soup;
- Encourage patients to drink cold or warm liquids according to their preference;
- Encourage patients to drink often, with meals and in between meals.

Other tips

- Encourage patients to get plenty of rest (at least 7 to 9 hours every night)
- If a patient is age 60 years or older, consider whether it would be helpful if they took a multivitamin.

A patient cannot "boost" their immune system through diet, and no specific food or supplement will prevent the patient catching COVID-19/Coronavirus. Remind the patient to good hygiene practice remains the best means of avoiding infection.

As no one food or supplement can prevent illness, remind the patient to eat a variety of foods to maintain a healthy balanced diet.

If a patient indicates their appetite is poor and/or they have lost weight, please contact the Regional Dietitian for advice.

Caution: If a patient has specific nutrition needs, it is important that they continue to follow the dietary recommendations made by the dietitian / doctor. If a patient has any dietary concerns, please request a consultation with the regional dietitian for advice.

Appendix H: Dietary Recommendations for a patient with COVID-19 - Confirmed or Suspected

Drink often

It is important that a patient drink often because fever makes a person sweat. This causes a person to lose water and electrolytes.

Water is naturally part of many foods like vegetables and fruit; milk products; hot and cold beverages as well as soup.

Encourage the patient to drink cold or warm liquids according to their preference.

Monitor for signs of dehydration:

- Extreme thirst, dry mouth and tongue, infrequent urination or very dark urine, feelings of dizziness, confusion or headaches.
- Encourage patients to report any concerning symptoms to Health Services

Sore throat

Hard candies or pastilles, preferably without sugar, can also be used to soothe a sore throat.

Fatigue affecting oral intake

It is important that to encourage the patient to eat and drink regularly even if you have a low appetite.

Encourage patients to eat fruits and vegetables rich in colour (dark green, orange, red, etc.) to increase intake of antioxidants and other nutrients that support their body's immune function.

Encourage patients to try to eat as much as they can at each meal;

If a patient's appetite is poor and they are having trouble eating, consult the Regional Dietitian for advice.

GI complaints (nausea, vomiting, diarrhea or severe abdominal pain) that may affect oral intake

It is important that the patient eat and drink, even if they are not feeling well.

If their appetite is poor and they are having trouble eating, speak with the Regional Dietitian for advice.

Appendix I: Guidance on Staff Communication & Engagement with Patients about COVID-19, April 20, 2020

Communication tips

The purpose of these Communication Tips is to help support Healthcare Staff in conversations with patients diagnosed with COVID-19.

As Healthcare Professionals, you are playing a critical role in identifying, reporting and managing cases of COVID-19 within CSC's Institutions.

As there is currently no cure for this virus, infection can sometimes lead to death especially for those most vulnerable (those aged 65 and older; those with compromised immune systems; and those with underlying medical conditions such as, but not limited to, diabetes, heart disease and asthma).

These are unprecedented times and while most of those who contract COVID-19 will recover, it is important to remind all patients to:

- focus on staying healthy;
- practice physical distancing as much as possible;
- wash hands frequently; and,
- follow their current treatment plans.

Acknowledge fears and feelings of uncertainty

Given the potential seriousness of the diagnosis, patients may show signs of anxiety and uncertainty. Some may verbalize their fears and express anxiety about what kind of care they will receive.

- It is important to acknowledge their fears and take the time to talk about their concerns.
- Asking what they are worried about in particular may open the dialogue.
- They may ask how they contracted the virus. Did they infect others?
- Some may be worried about their family and friends and ask if they can connect with them; some may seek spiritual care and guidance for comfort.
- All efforts should be made to reassure patients they will receive the appropriate medical care and that most with the virus will recover.
- In addition, it is important that patients understand the importance of staying as healthy as possible and to follow treatment recommendations for existing conditions.

Discuss goals of care

When a patient is diagnosed with COVID-19, it will be important to explain the kinds of care they will receive and assure them they will be included in all care planning decisions.

- Discuss the range of outcomes, noting that most people infected with COVID -19 virus have mild symptoms and recover. For example about 80% of patients have mild to moderate symptoms. Older persons and those with underlying conditions (hypertension, diabetes, cardiovascular disease etc.) are at higher risk for more severe disease. Therefore, it is important to carefully follow treatment recommendations for existing conditions to stay as healthy as possible.
- Assure the patient they will receive the care they need, including comfort care to avoid distress or discomfort.
- While there may be hope for a patient's full recovery, this is an opportunity to ask the patient whether they have an advanced care plan, should their condition deteriorate.
- Inquire as to whether or not they have completed a DNR.
- Have they identified a substitute decision maker?
- If no advance care planning is in place, initiate the conversation and document the patient's wishes.
- Ask if they have any wishes or messages for loved ones and assure them, you will do your best, within your power, to convey those messages.

Be honest, direct and empathic

- It is important to be honest, direct and empathetic when talking with a patient who has been diagnosed with COVID-19.
- Start the conversation early while the patient is well enough and has the energy for the discussion.
- As some patients may have limited literacy skills, it is important that the information shared, be in words the patient understands so they are better able to participate in discussions about their future care.
- You may also wish to take the time to explain the extra precautions Healthcare Staff are taking (i.e. face masks, gloves, etc.) to avoid the spread of the virus.

Take a moment to prepare yourself for the conversation

- You may be very familiar with the patient as you may have been providing healthcare to them for many years, especially those with underlying chronic conditions. They will be looking to you for reassurance that they are being kept as safe as possible.
- Given that the information on COVID -19 is evolving daily, provide a response based on the most current messaging from Public Health.
- Some discussions will not be easy. Take a moment, to gather your thoughts.

This is a difficult time in healthcare especially for those providing care in challenging environments such as correctional institutions. We recognize that as you come to work every day in CSC, you may also be worried about family and friends at home. We thank you for your professionalism, dedication and service.

CSC Health Services, April 20, 2020

Sources:

- *Coronavirus disease (COVID-19): For health professionals; Canada.ca/coronavirus. Government of Canada website.*
- *Tips to Make the Most Difficult Conversations Easier, ACP Hospitalist; Hospital Medicine, May 2014.*
- *Dying Well in Custody Charter- Self- Assessment Tool; A National Framework for Local Action, April 2018. EndofLifeCareAmbitions.org.uk/tag/prison*
- *COVID Communication Skills, A Playbook of Vital Talk Tips; Vital Talk 2020 website.*
- *What Recovery from COVID-19 Looks Like, Public Health, Scientific American; April 11, 2020.*

Appendix J: COVID-19 Clinical Corner, Issue #2, March 27, 2020

What are the potential effects of stress?

These are unprecedented stressful times, and stress is unavoidable for all of us and those we care for. Stress occurs when our mind perceives a threat, real or imagined, and it can have both positive and negative effects. With acute danger, stress can mobilize us to act to protect ourselves from imminent threat (e.g. fight, flight or freeze response). When the stress is imperceptible or chronic, it can still motivate us into action, but it can also be more prone to have deleterious effects – cognitive, emotional, physical and behavioural. These may include:

Cognitive:

- difficulty concentrating or thinking
- memory problems
- negativity or lack of self-confidence
- constant worrying
- difficulty making decisions

Emotional:

- moodiness or irritability
- anxiety or nervousness
- depression, sadness or guilt
- low morale, hopelessness or helplessness
- feeling agitated or unable to relax

Physical:

- headaches
- muscle tension or other physical pain or discomfort
- stomach problems, nausea, diarrhea or vomiting
- loss of appetite or sex drive
- rapid heart rate, high blood pressure
- insomnia
- fatigue

Behavioural:

- changes in appetite or sleep patterns
- social withdrawal
- nervous habits such as nail biting, teeth grinding or foot
- tapping
- increased use of caffeine, alcohol, drugs or cigarettes
- neglect of family or work responsibilities
- decline in performance or productivity.

Who is most vulnerable to the deleterious effects of stress?

All of us are vulnerable to the deleterious effects of stress, but some of us are more vulnerable than others. Factors that may make a person more vulnerable include:

- limited social support
- multiple stressors
- uncertainty
- pre-existing mental or physical illness
- difficulty regulating or balancing emotions
- lack self-confidence
- sense of helplessness or powerlessness

What can we do to manage stress during a crisis?

Know that stress is normal under these extraordinary circumstances, but we can all play a role to manage our stress so it can more likely be channelled constructively to promote mental health – our own mental health and that of our family, friends, co-workers and patients. In order to do this, a key to keep in mind is to stay focussed on what is in our control vs what isn't, that is to live by the Serenity Prayer:

> *Grant me the serenity to accept the things I cannot change, the courage to change the things I can and the wisdom to know the difference.*

What is in our control are our actions and words, not our automatic thoughts, feelings and urges, nor the actions, words thoughts or feelings of others. When we focus on what's in our control, we can then feel empowered and be more effective to influence some of these other things in a positive direction.

What we can do for our own health?

First and foremost, it is essential that we look after ourselves if we are going to be of help to others. We can do this by following any and all precautions and advice from public heath authorities to stay healthy, minimize our risk of contracting COVID-19 or spreading the disease. Prioritizing our own health will not only improve our own safety but also the safety and health of others. It will also improve our resilience, lessen our anxiety and allow us to better support and care for others (see Keep Informed under Resources for links to various public health agencies).

What can we do for our own mental health?

In addition to protecting our physical health, we can do additional things to promote our mental health and resilience. These include:

- **Connect with others:** It has become more important than ever to stay connected during this time of physical social distancing and isolation. Understanding, compassion and kindness go a long way to mitigating one another's stress. Reach out to family, friends, coworkers or your social or spiritual community, and support one another without judgement. Use the telephone, social media and messenger apps. Don't be afraid to tell others how you are feeling, and don't be afraid to ask for help, including professional help if you are really struggling.
- **Take time for yourself**: Set aside 20-30 minutes at least once and preferably twice a day to care for yourself. Do some mindful breathing, meditate, stretch, or take a warm bath. Do some activities you usually enjoy – listen to music, watch a movie, play games, or go for a walk. Be patient with yourself, and know that your stress can be channeled to keep yourself safe and to help others.
- **Honour and respect your feelings**: Know that stress and distress are normal at this difficult time, and are a testament to caring for yourself and for others. Be patient with yourself. Avoid blaming yourself if something unfortunate happens. Know that guilt is commonplace, and is not indicative of having done something wrong, but rather is a testament to wishing things were different. And if you did make a mistake, forgive yourself and allow it to promote learning. Talk to select others about your feelings, and consider journaling or using some other art form to express your feelings to avoid things from building up.
- **Live with intention by actively managing your own wellbeing**: Maintain routines where possible: eat regular nutritious meals, drink plenty of fluids, stay physically active and allow adequate time for sleep. Continue with any treatment for pre-existing physical or mental health conditions. Make a list of priorities and try to focus on one thing at a time.
- **Be grateful for good things**: Make it a point to take special note of those people and things in the world that you are grateful for. If it helps, you can write these down in a journal, say them out loud before a meal or post one thing each day on a gratitude tree. You can also invite others in your home or place of work to do same to build a small community of awareness of what there is to be grateful for.
- **Practise good sleep hygiene**: Go to bed and wake up at a regular time and allow

yourself enough sleep to be rested (8 hours for most of us); avoid sleeping in and curtail time in bed during the day and if you must take a nap, limit these to no more than 20-30 minutes; exercise daily, but not right before bed; avoid caffeine within 6 hours of bedtime; have a wind down pre-bedtime ritual (e.g. light reading, music, a light bedtime snack but avoid excess fluids before going to bed); insulate your room from excess light or noise; make sure you have comfortable pillows, set a comfortable temperature on the thermostat; void before retiring; and only use a sleep aid if these other things don't work (consult with your doctor as to which one).

- **Stay informed while managing exposure to media:** News is everywhere 24 hours a day. Too much exposure in such uncertain times can increase our fear and anxiety. To minimize its potential adverse impact, we can read, watch or listen to the news at a specific time each day to receive the updates we need while avoiding being inundated with sensationalistic stories. Use only reputable/reliable sources like the local, provincial or national agency of public health, the CDC or WHO.
- **Help others**: Helping others contributes to our own mental health by giving us a sense of purpose, meaning, value and self-worth (see below for how).

What can we do to help others?

Whether it's at home or at work, there is lot's we can do to help others, most of all by being a role model ourselves. Be aware that even small gestures can go a long way: a kind word, gentle encouragement, respecting social distancing, disinfecting a surface, or offering soap or a hand sanitizer. Be aware too that we help others by respecting those in need of physical isolation such as the elderly, sick or other people at increased risk, but do reach out to them to offer social support with a text message, phone call or facetime. Reach out to those known to be vulnerable to stress or who are struggling (e.g. those with mental illness or who are socially isolated). Ask others what they need, and offer support while respecting all precautions. Offer those in isolation to deliver food, medicine or other essentials leaving these 6 meters outside their door. And offer your kindness, patience and social support.

At home or at work, we can work with others to designate chairs, work stations, dishes, utensils, computers, telephones and bathrooms for use by a specific person, and assign particular responsibilities to those who are able (e.g. to disinfect high touch surfaces, clean the dishes, take out the garbage, prepare meals, do essential shopping). We can help by respecting any direction to work from or stay at home, and all directions in the work place to stay safe (social distancing, handwashing, use of PPE when indicated).

With our family, friends, co-workers and patients, we can also help by educating them about stress, and reminding them of the message of the serenity prayer to focus on those things that are in their control, such as the things listed in this Clinical Corner, to look after themselves and others.

You can also contact Employee Assistance Services at 1-800-268-7708, which is a 24/7 number. The TTY number is 1-800-567-5803.

Please send any other clinical questions, suggestions or resources related to COVID-19 to the following email account: GEN-NHQ Pharmacy

*Information presented in this Clinical Corner has been sourced from the websites of the Public Health Agency of Canada, Canadian Mental Health Association, Centers for Disease Control and World Health Organization

*See the following page for resources on keeping informed and managing stress

Resources:

Keep informed:

Public Health Agency of Canada (1 844-280-5020)
https://www.canada.ca/en/publichealth/services/diseases/coronavirus-disease-covid-19.html

Newfoundland and Labrador (811)
https://www.gov.nl.ca/covid-19/

Prince Edward Island (811)
https://www.princeedwardisland.ca/en/topic/covid-19

Nova Scotia (811)
https://novascotia.ca/coronavirus/

New Brunswick (811)
https://www2.gnb.ca/content/gnb/en/departments/ocmoh/cdc/content/respiratory_diseases/coronavirus.html

Quebec (1 877 644-4545)
https://www.inspq.qc.ca/

Ontario (1 866 797-0000)
https://www.publichealthontario.ca/

Manitoba (1 888 315-9257)
https://www.gov.mb.ca/health/publichealth/index.html

Saskatchewan (811)
https://www.saskatchewan.ca/residents/health/~/link.aspx?_id=6C6BF971659346E0B8E9DE4AE3B2AFF9&_z=z

Alberta (811)
https://www.alberta.ca/coronavirus-info-for-albertans.aspx

British Columbia (811)
http://www.bccdc.ca/health-info/diseases-conditions/covid-19

Nunavut (1 877 975-5772)
https://gov.nu.ca/health/information/covid-19-novel-coronavirus

Northwest Territories (911)
https://www.hss.gov.nt.ca/en/services/coronavirus-diseasecovid-19

Yukon (811)
https://yukon.ca/en/health-and-wellness/health-concernsdiseases-and-conditions/find-information-about-coronaviruscovid

Centers for Disease Control
https://www.cdc.gov/coronavirus/2019-nCoV/index.html

World Health Organization
https://www.who.int/emergencies/diseases/novel-coronavirus-2019

Stress and how to manage it:

Canadian Mental Health Association
https://cmha.ca/documents/stress

Heart and Stroke Canada
https://www.heartandstroke.ca/get-healthy/reducestress/manage-your-stress

My Health Alberta
https://myhealth.alberta.ca/youth-addiction-mentalhealth/stress/stress-self-care-resources

Healthlink BC
https://www.healthlinkbc.ca/health-topics/rlxsk

WebMD
https://www.webmd.com/balance/guide/tips-to-control-stress#1

Mayo Clinic
https://www.mayoclinic.org/tests-procedures/meditation/indepth/meditation/art-20045858

Positive Psychology
https://positivepsychology.com/stress-management-techniquestips-burn-out/

Centre for Addiction and Mental health
https://www.camh.ca/en/health-info/mental-health-and-covid-19

Finding Help
https://www.ementalhealth.ca/

Guided relaxation and anti-stress meditations:

English

https://www.youtube.com/watch?v=OS_iqfGjL78

https://www.youtube.com/watch?v=_DTmGtznab4

https://www.youtube.com/watch?v=YFSc7Ck0Ao0

https://www.youtube.com/watch?v=MIr3RsUWrdo

https://www.youtube.com/watch?v=CdbzDMSGsyg

Français

https://www.youtube.com/watch?v=DczdzpTrMFQ

https://www.youtube.com/watch?v=zCxHCJLSvrw

https://www.youtube.com/watch?v=jCdhiqhYWfM

https://www.youtube.com/watch?v=Z9cZbUlaO1g

https://www.youtube.com/watch?v=fTvbiw-u_O8

Appendix K: End-of-Life Care in the ED

End-of-Life Care in the ED for the patient imminently dying of a highly transmissible acute respiratory infection (like COVID19)

For all patients

- Document discussion around GOC and update category status
- Consider involving spiritual care or palliative care. Ensure COVID status is documented
- Place the patient in a private room with appropriate droplet/contact precautions
- Encourage telephone or video conferencing to minimize visitors
- Ensure my visitors are following appropriate PPE procedures

Non-pharmacological symptom management

- Frequent symptom assessment using validated tools for signs of distress
- Frequent patient repositioning
- Eye and mouth care (avoid deep suctioning)
- Emotional support to patient and and family
- Consider discontinuing any therapy or monitoring not contributing to patient comfort

Avoid the use of

- Fan
- Oxygen > 6 L/minute
- High flow nasal cannula oxygen
- BiPAP or CPAP
- ALL nebulized treatments

During withdrawal of life-sustaining therapy, do not extubate the patient in the ED, but decrease ventilatory support and ensure comfort throughout.

Pharmacological symptom management

Airway Secretions

- Glycopyrrolate 0.4mg subcut/IV q4h prn OR
- Scopolamine 0.4mg subcut/IV q4h prn (more sedating, may have a benefit with agitation)

Agitation/Delirium

- Haloperidol 0.5-1mg subcut/IV q2h prn
- 2nd line: Midazolam 0.5mg subcut/IV q30min prn
- Refractory: consider adding methotrimeprazine 12.5-25mg subcut/IV q4h prn

Pain

If opioid naive:
- Morphine 2.5-5 mg subcut/IV q2h prn OR
- Hydromorphone 0.5-1mg subcut/IV q2h prn

If opioid-tolerant, refer to opioid equi-analgesia and conversion tables

Dyspnea

If opioid-naive, low-dose morphine is the medication of choice:
- Morphine 1-2.5mg subcut/IV q30min prn
- or Hydromorphone 0.25-0.5mg subcut/IV q30min prn
- or Fentanyl 12.5-50mcg subcut/IV q15min prn

If opioid tolerant, give breakthrough doses to effect:
- Breakthrough dose = 10% of total daily dose of subcut/IV opioid in 24 hours

---

Second line: Midazolam 0.5-1mg subcut/IV q30min prn

For severe respiratory distress, consider Ketamine in dissociative dosing as a temporizing measure:
- Ketamine 1-2mg mg/kg IV or 4 mg/kg IM

Nausea

- Haloperidol 0.5-1mg subcut/IV q4h prn OR
- Ondansetron 4mg subcut/IV q6h prn

Fever

- Acetaminophen 650mg po/pr q4h prn

Infographic created by Dr. Shahbaz Syed, Department of Emergency Medicine, University of Ottawa
Hendin A., La Riviere CG., Williscroft OM., O'Connor E., Hughes J., Fischer, LM. End-of-life care in the Emergency Department for the patient imminently dying of a highly transmissible acute respiratory infection (such as COVID-19). CJEM. March 2020.

Image: EM Ottawa - https://emottawablog.com/2020/03/end-of-life-care-in-the-ed-related-to-covid-19/

Article: « End-of-life care in the emergency department for the patient imminently dying of a highly transmissible acute respiratory infection (such as COVID-19) ». Hendin, A., La Rivière, C., Williscroft, D., O'Connor, E., Hughes, J., & Fischer, L. (2020). CJEM, 1-4. doi:10.1017/cem.2020.352

Additional Resources

1. Clinical Management of Patients with Moderate to Severe COVID-19 - Interim Guidance, Retrieved April 2, 2020, Public Health Agency of Canada. This guidance document has been endorsed by: Canadian Critical Care Society and Association of Medical Microbiology and Infectious Disease (AMMI) Canada. https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection/clinical-management-covid-19.html#1
2. Infection prevention and control for coronavirus disease (COVID-19): Interim guidance for acute healthcare settings https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection/health-professionals/interim-guidance-acute-healthcare-settings.html
3. BMJ Best Practice. Coronavirus disease 2019 (COVID-19) Best Practice Clinical Guidelines. Retrieved March 24, 2020, from https://bestpractice.bmj.com/topics/en-gb/3000168
4. Centers for disease Control and Prevention. Interim Clinical Guidance for Management of Patients with Confirmed Coronavirus Disease (COVID-19). Retrieved April 3, 2020, from https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-guidance-management-patients.html
5. Public Health Agency of Canada. (2020, March 23). Government of Canada. Retrieved March 24, 2020, from https://www.canada.ca/en/public-health/services/publications/diseases-conditions/cleaning-disinfecting-public-spaces.html
6. World Health Organization. (2020, March 13). Clinical management of severe acute respiratory infection when novel coronavirus (nCoV) infection is suspected. Retrieved March 24, 2020, from https://www.who.int/publications-detail/clinical-management-of-severe-acute-respiratory-infection-when-novel-coronavirus-(ncov)-infection-is-suspected
7. ICD-10-CA Coding Direction for Confirmed COVID-19 Cases - https://www.cihi.ca/en/bulletin/icd-10-ca-coding-direction-for-confirmed-covid-19-cases
    - As direction from the World Health Organization (WHO), when there is documentation of a confirmed case of COVID-19, assign *U07.1* Emergency use of U07.1.
    - Note: Do not assign U07.1 when COVID-19 is only suspected.