COVID Talks for DOCS #7
Managing chronic symptoms of COVID-19

March 31, 2021

Zoom technical support (+1.888.799.9666 ext 2)

Dr. Chester Ho
Dr. Brian Cornelson
Dr. Janet Craig (Moderator)
Live Recording

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We would like to recognize that we are webcasting from, and to, many different parts of Alberta today. The province of Alberta is located on Treaty 6, Treaty 7 and Treaty 8 territory and is a traditional meeting ground and home for many Indigenous Peoples.
Disclosure of Financial Support

This program has not received any financial or in-kind support.
• Chester Ho: AHS; University of Alberta
• Brian Cornelson: Medical Director, East Calgary Family Care Clinic; Clinical Professor, Dept. of Family Medicine, University of Calgary
• Janet Craig: AMA - physician contractor, PCN Honoraria, UofA teaching, Custom Learning Solutions, ACFP.
This webinar will respond to common and emerging questions from primary care and other generalist physicians (i.e., pediatricians, internal medicine) about potential long term health effects of a COVID-19 infection. Participants will have time to ask questions related to managing patients and practice needs during COVID-19, including:

- What are patients reporting as common lingering or chronic symptoms of COVID-19
- How to manage patients suffering from these symptoms & when to refer
At the end of this session participants will be able to:

- List the type, and impact of long-term symptoms following a COVID-19 infection
- Describe approaches for managing patients with long-term symptoms of COVID-19
Identification and management of post COVID symptoms

Dr. Brian Cornelson
Role of Primary Care

- Post-COVID-19 care is:
  - Community-based
  - Comprehensive
  - Coordinated
  - Continuing
  - Confidence-dependent
- Patient Medical Home fills the bill!
Definitions of Terms

- **Ongoing symptomatic COVID-19**: Signs and symptoms of COVID-19 from 4 to 12 weeks.

- **Post COVID-19 Syndrome**: Signs and symptoms that develop during, or after, an infection consistent with COVID-19; continue for more than 12 weeks; and are not explained by an alternative diagnosis.

- **Long COVID**: Signs and symptoms that continue or develop after acute COVID-19. This includes both ongoing symptomatic COVID-19 and post-COVID-19 syndrome (defined above).

Other Terms

- **Long hauler**: disparaging, discouraging, demoralizing, defeatist

- **Post-acute sequelae of SARS-Co-V2 infection/COVID-19 (PASC)**: fancy scientific term struggling valiantly to gain traction
Worldwide Stats

- **25%** have symptoms beyond acute infection (4-5 weeks)

- **10%** go on to debilitating symptoms 12 weeks out
  - May last months

Source: AHS - How to Support Your Recovery and Rehabilitation after COVID-19
Alberta Stats (to date)

- > 140,000 cases
- > 2000 deaths
- > 9000 hospitalizations
  - > 1200 ICU
- 62.6% of post-COVID-19 patients have visited ER
- 6.6% readmitted to hospital

Source: https://www.alberta.ca/covid-19-alberta-data.aspx
Pathophysiology

- Cellular damage
  - Direct
  - Endothelial damage
  - Microvascular injury
- Robust immune response
  - Inflammatory cytokine damage
- Pro-coagulant state
- Maladaptation of ACE2 pathway
- Sequelae of post-critical illness especially ICU

Source: Post-acute COVID-19 syndrome
Identification

- May not have had a positive COVID-19 test
  - Mild illness
  - Not readily accessible
  - False negative

- Antibody testing not reliable
Post-COVID Symptoms

More Frequent

- Shortness of breath
- Fatigue
- Cough
- Headache
- Loss of smell and/or taste
- Cognitive impairment/“brain fog”
- Muscle pain

Less Frequent

- Sleep impairment
- Chest pain
- Tachycardia, arrhythmia
- Gastrointestinal upset
- Muscle weakness
- Anxiety, depression, PTSD esp. if post-ICU

Similarities

- Chronic fatigue syndrome
- Fibromyalgia
- Myalgic encephalomyelitis
- Post-viral syndrome
- Lyme disease
<table>
<thead>
<tr>
<th>Risk Factors for long COVID</th>
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<tr>
<td>Severity of acute illness</td>
</tr>
<tr>
<td>Pre-existing respiratory disease</td>
</tr>
<tr>
<td>Obesity</td>
</tr>
<tr>
<td>Older age</td>
</tr>
<tr>
<td>Female</td>
</tr>
<tr>
<td>Black, Asian &amp; minority ethnic</td>
</tr>
<tr>
<td>Association with other acute COVID-19 risk factors not clear</td>
</tr>
<tr>
<td>May have none!</td>
</tr>
</tbody>
</table>

Source: Post-acute COVID-19 syndrome
Severity of long COVID

- May have no relationship to initial illness
  - May have had minimal or no symptoms
- Persisting
- More/less severe
- Relapsing/remitting
- Co-incident or unique
- “Just when I thought I was over it . . .”
Confounders

- Previously undiagnosed conditions (e.g. glucose intolerance)
- Pre-existing conditions worsened (e.g. COPD)
- Coincident new conditions not related to COVID-19 (e.g. fatigue due to anemia due to colon cancer)
Triage assessment and initial management

- Post-COVID-19 Functional Scale
- Primary Care Pathway for Post COVID-19 Rehabilitation
Investigations

- No general recommendations
- Expert recommendations vary widely
  - UBC lots
  - UA minimal
- Use clinical judgement
  - Ruling out other conditions
  - Tracking trends
- Normal results can belie symptoms
  - Normal CXR with significant SOB
  - No complaints with significant hypoxia ("silent hypoxemia")
Approach

● Accept
  ▪ It’s not all in their head

● Listen, bear witness

● Admit medicine’s—and your—limitations
### Advice

<table>
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<tr>
<th>Positive</th>
<th>Realistic</th>
<th>Pacing</th>
</tr>
</thead>
</table>
| • Most people slowly improve over time  
• Maintain optimism, positive outlook | • Will take time, not able to predict how long  
• Symptoms may come and go, don’t be discouraged by relapses  
• May never return to pre-COVID state | • Pushing ahead → further behind |
Management of post-COVID Symptoms

● Diet
  ▪ Healthy

● Physio
  ▪ Pacing
  ▪ Rehab Advice Line

● Supplements
  ▪ No good evidence ≠ evidence of no benefit
Stress exacerbates

- Physical (exercise)
- Cognitive (work, problem solving)
- Emotional (stress, social, mood disorders)
- “Pushing through”, “sucking it up” counter-productive
  - May reduce the threshold for relapses
- Pacing and patience are key
Specialty post-COVID-19 clinics

- Edmonton:
  - Post-COVID pulmonary clinic for family doctors
  - Edmonton North PCN COVID-19 Recovery Clinic

- Calgary
  - Peter Lougheed Centre
  - Rockyview General Hospital
Zonal Pathways

North Zone
- COVID-19 pediatric pathway

Edmonton Zone
- Edmonton North PCN COVID-19 Recovery Clinic
- Post-COVID Pulmonary Clinic for Family Doctors
- COVID-19 pathways (adult and pediatric)

Calgary Zone
- COVID-19 adult pathway
- COVID-19 pediatric pathways
- COVID-19 Variants of Concern pathway
- Post-COVID-19 Respiratory Clinic
- Specialty access for primary care

South Zone
- Contact local PCN for more info

*Pathways developed by each zone
Other post-COVID-19 rehab services

- Private clinics
  - Caveat emptor

- Workers Compensation Board
  - For workplace-related infections
Further resources for providers

- COVID-19 rapid guideline: managing the long-term effects of COVID-19
  
  [https://www.nice.org.uk/guidance/ng188](https://www.nice.org.uk/guidance/ng188)
  December 2020. NICE guideline [NG188]. UK.

- Practice Pointer: Management of post-acute covid-19 in primary care
  
  [https://www.bmj.com/content/370/bmj.m3026](https://www.bmj.com/content/370/bmj.m3026)
  August 2020. UK.
Summary

- Long COVID characterized by being
  - Complex
  - Confusing
  - Vague
  - Variable
  - Lacking clear paths and algorithms
  - Constantly evolving
Post COVID-19 Rehabilitation Response
A System Approach

Chester Ho, Senior Medical Director, NRV SCN
March 31, 2021
Rehabilitation is the next phase of the COVID-19 response.
Goal

To develop a provincial rehabilitation framework for COVID symptom assessment & management across the continuum of care
How?

• Sponsored by ECC and ELT

• Provincial Post-COVID Rehab Response Taskforce supported by 5 working groups

• Multidisciplinary representation from 5 AHS zones, Covenant Health, Primary Care, senior leadership, operations, SCNs, patient and family advisors

• Internal/External Communication
Guiding Principles

- Adopt/adapt existing COVID processes & infrastructures
e.g. Primary Care COVID Pathway; Health Link; Rehab Advice Line

- Co-design with patient and family advisors

- Broad engagement / consultation

- Framework for customization by Zone operations
Key Deliverables

• Integrated Provincial COVID-19 Rehabilitation Response Pathways (across the care continuum)
  o Acute care and inpatient rehab
  o Post acute and continuing care
  o Primary Care and Community Rehab

• Tools to support implementation and decision making
  o Standardized tools for:
    o Symptom screening (Post COVID-19 Symptom Checklist)
    o Determining rehab level of care (Post COVID-19 Functional Status Scale)

• Educational resources for patients and providers
Post COVID-19 Functional Status Scale (PCFS)

a)

Can you live alone without any assistance from another person? (e.g. independently being able to eat, walk, use the toilet and manage routine daily hygiene)

Yes

Are there any duties/activities at home or at work which you are no longer able to perform yourself?

No

Do you suffer from symptoms, pain, depression or anxiety?

No

Do you need to avoid or reduce duties/activities or spread these over time?

Grade 0

No functional limitations

Grade 1

Negligible functional limitations

Grade 2

Slight functional limitations

Grade 3

Moderate functional limitations

Grade 4

Severe functional limitations

No

Yes

b)

How much are you currently affected in your everyday life by COVID-19? (Please indicate which one of the following statements applies to you most)

Corresponding PCFS scale grade

I have no limitations in my everyday life and no symptoms, pain, depression or anxiety related to the infection.

0

I have negligible limitations in my everyday life as I can perform all usual duties/activities, although I still have persistent symptoms, pain, depression or anxiety.

1

I suffer from limitations in my everyday life as I occasionally need to avoid or reduce usual duties/activities or need to spread these over time due to symptoms, pain, depression or anxiety. I am, however, able to perform all activities without any assistance.

2

I suffer from limitations in my everyday life as I am not able to perform all usual duties/activities due to symptoms, pain, depression or anxiety. I am, however, able to take care of myself without any assistance.

3

I suffer from severe limitations in my everyday life: I am not able to take care of myself and therefore I am dependent on nursing care and/or assistance from another person due to symptoms, pain, depression or anxiety.

4

FIGURE 1 Patient self-report methods for the Post-COVID-19 Functional Status (PCFS) scale. a) Flowchart. b) Patient questionnaire. Instructions for use: 1) to assess recovery after the SARS-CoV-2 infection, this PCFS scale covers the entire range of functional limitations, including changes in lifestyle, sports and social activities; 2) assignment of a PCFS scale grade concerns the average situation of the past week (exception: when assessed at discharge, it concerns the situation of the day of discharge); 3) symptoms include (but are not limited to) dyspnoea, pain, fatigue, muscle weakness, memory loss, depression and anxiety; 4) in case two grades seem to be appropriate, always choose the highest grade with the most limitations; 5) measuring functional status before the infection is optional; 6) alternatively to this flowchart and patient questionnaire, an extensive structured interview is available. The full manual for patients and physicians or study personnel is available from https://osf.io/ggpdv/ (free of charge).
# Post COVID-19 Symptom Checklist

**Sample Script:** The next part of the survey will be discussing any symptoms you are currently experiencing as a result of COVID-19. The symptoms are divided into categories which will help us determine how to best direct your recovery. If you have no symptoms in a category, please indicate N/A and we will move on to the next section. If you are unsure, we will ask for more detailed questions. For each question, please indicate if your symptoms are worse, the same or better than before your illness.

<table>
<thead>
<tr>
<th>Cardiorespiratory Symptoms?</th>
<th>Neurological Symptoms?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>N/A</td>
</tr>
<tr>
<td>Shortness of breath at rest?</td>
<td>□ Worse □ Same □ Better</td>
</tr>
<tr>
<td>□ N/A</td>
<td></td>
</tr>
<tr>
<td>Shortness of breath with activity?</td>
<td>□ Worse □ Same □ Better</td>
</tr>
<tr>
<td>□ N/A</td>
<td></td>
</tr>
<tr>
<td>Lingering cough or noisy breathing?</td>
<td>□ Worse □ Same □ Better</td>
</tr>
<tr>
<td>□ N/A</td>
<td></td>
</tr>
<tr>
<td>Chest pain at rest?</td>
<td>□ Worse □ Same □ Better</td>
</tr>
<tr>
<td>□ N/A</td>
<td></td>
</tr>
<tr>
<td>Chest pain with activity?</td>
<td>□ Worse □ Same □ Better</td>
</tr>
<tr>
<td>□ N/A</td>
<td></td>
</tr>
<tr>
<td>Dizziness, fainting or loss of consciousness?</td>
<td>□ Worse □ Same □ Better</td>
</tr>
<tr>
<td>□ N/A</td>
<td></td>
</tr>
<tr>
<td>Musculoskeletal Symptoms?</td>
<td>Other Symptoms?</td>
</tr>
<tr>
<td>Yes</td>
<td>N/A</td>
</tr>
<tr>
<td>Generalized muscle weakness?</td>
<td>□ Worse □ Same □ Better</td>
</tr>
<tr>
<td>□ N/A</td>
<td></td>
</tr>
<tr>
<td>Muscle or joint pain?</td>
<td>□ Worse □ Same □ Better</td>
</tr>
<tr>
<td>□ N/A</td>
<td></td>
</tr>
<tr>
<td>Difficulty walking?</td>
<td>□ Worse □ Same □ Better</td>
</tr>
<tr>
<td>□ N/A</td>
<td></td>
</tr>
<tr>
<td>Difficulty doing own washing &amp; dressing?</td>
<td>□ Worse □ Same □ Better</td>
</tr>
<tr>
<td>□ N/A</td>
<td></td>
</tr>
<tr>
<td>Difficulty doing your usual activities (i.e. leisure or work)? □ N/A</td>
<td>□ Worse □ Same □ Better</td>
</tr>
<tr>
<td>□ N/A</td>
<td></td>
</tr>
<tr>
<td>Mood Related Symptoms?</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>N/A</td>
</tr>
<tr>
<td>Experiencing anxiety?</td>
<td>□ Worse □ Same □ Better</td>
</tr>
<tr>
<td>□ N/A</td>
<td></td>
</tr>
<tr>
<td>Experiencing depression?</td>
<td>□ Worse □ Same □ Better</td>
</tr>
<tr>
<td>□ N/A</td>
<td></td>
</tr>
</tbody>
</table>

* Upon completion, providers should ask clients about additional symptoms that may have been missed.
PCFS Scoring

Rehabilitation and recovery needs should be determined using a combination of the PCFS scale and the symptom checklist.

**ANY clinician (including physicians) can administer these tools**

PCFS Grade 0 to 1 (mild functional impairment):
• Consider **universal** rehabilitation interventions (self-management resources)

PCFS Grade 2 to 3 (moderate functional impairment):
• Consider **targeted** rehabilitation interventions

PCFS Grade 3 or 4 (severe functional impairment):
• Consider **personalized** rehabilitation interventions
Provincial COVID Rehabilitation Response Overview (for Adults)

Consultation / Provider Support
(Rehabilitation Advice Line)

Acute Care & Inpatient Rehab
- ICU
- Emergency Department
- Acute Inpatient Units
- Inpatient Rehab Units

Post-Acute (bedded) Care
- Sub-Acute
- Restorative Care

Continuing Care
- Hospice
- Home Care
- Long Term Care
- Supportive Living

Community Care
- Primary Care
- Ambulatory Care
- Community Rehab

Detailed Acute Care and Inpatient COVID Rehab Pathway
Detailed Post-Acute and Continuing Care COVID Rehab Pathway
Detailed Primary Care and Community COVID Rehab Pathway

1. Complete screening and assessment
2. Co-develop with patient a collaborative rehabilitation care plan
3. Ensure care coordination / discharge planning with primary care

Refer to appropriate rehabilitation setting as indicated
(Specific resources for tertiary, ambulatory & community rehab to be identified at the zone level)
ALL patients with COVID should receive self-management resources & symptom monitoring info

Mild Functional Impairment
(grade 0-1)
Needs not significantly impacting function

Moderate Functional Impairment
(grade 2-3)
Less complex needs requiring targeted intervention

Severe Functional Impairment
(grade 3-4)
Complex needs with severely impacted function

Universal Rehabilitation
E.g. Self Management
(Most Patients)

Targeted Rehabilitation
E.g. Group classes
(Fewer Patients)

Personalized Rehabilitation
E.g. Individual Focus/ Multi-disciplinary
(Fewest Patients)

Ongoing self-management to support functional recovery

Patient, Family & Caregiver Resources
HealthLink (Rehab Advice Line, Mental Health Help Line), MyHealthAlberta,
Patients may initiate follow-up with Primary Care at any time
Unattached patients can connect with HealthLink to be attached to Primary Care

Self-Management COVID Rehabilitation Resources (Link)

Updated March 23, 2021
4. Primary Care Pathway for Post COVID Rehabilitation

- Patient presents to community/ambulatory health care provider (in person or virtual) with post COVID symptoms
  - More info: Post COVID definition & symptoms
- Screen for red flags
  - Red Flags
- Establish/confirm date of symptom onset, initial COVID-19 diagnosis and COVID immunization (if applicable)
  - More info
- Screen for Social Determinants of Health
  - Social Determinants of Health

**Complete Post COVID Rehabilitation Screening Tool**

- Mid functional impairment (Grade 6 to 1):
  - Consider universal rehabilitation interventions (self-management resources)
- Moderate functional impairment (Grade 2 to 3):
  - Consider targeted rehabilitation interventions
- Severe functional impairment (Grade 3 to 4):
  - Consider personalized rehabilitation interventions

All patients should receive self-management resources and details about symptom monitoring

- Consider need for further medical screening/assessment and/or specialist referral
  - Specialist Tele-Advice

**Universal Rehabilitation**
- Services available to all Albertans

**Targeted Rehabilitation**
- Designed for groups of people with a common need

**Personalized Rehabilitation**
- Designed to meet the unique needs of an individual
  - Multidisciplinary services providing individualized rehabilitation programs

- Ongoing self-management to support functional recovery
  - Rehabilitation Advice Line

Alberta Health Services
Patient and Provider COVID-19 Resources

Patient resources:
- Rehabilitation Advice Line 1-833-379-0563
- Self-management resource for Albertans developed by taskforce working group “How to Support Your Recovery & Rehabilitation After COVID-19”
  - Currently posted on internal AHS COVID-19 site [here](#)
  - Next step – being built onto MyHealth Alberta site
- List of patient rehabilitation resources
  - Currently an appendix to taskforce final report
  - Next step – post on external AHS COVID-19 Information for Albertans site under new section (under development) called “Getting Healthy After COVID-19”

Provider resources:
- Rehabilitation Advice Line 1-833-379-0563
- List of patient rehabilitation resources
  - Currently an appendix to taskforce final report
  - Next step – post on external AHS COVID-19 Information for Albertans site under new section (under development) called “Getting Healthy After COVID-19”
Next Steps

• Internal and external communication through AHS, Covenant Health, Primary Care and public awareness campaign

• Piloting tools and pathways in Edmonton Zone

• Feedback and learnings to inform modifications to tools / pathways / toolkits

• ECC Post COVID Taskforce – support customization and implementation at the Zone level
## Upcoming Webinars

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<th>Host</th>
<th>Topic</th>
<th>Registration Link / For More Info</th>
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<td>April 12</td>
<td>Pfizer</td>
<td>Overcoming Vaccine Hesitancy - Protecting Minorities and Marginalized Groups During Covid 19.</td>
<td><a href="https://us02web.zoom.us/webinar/register/WN_323i9j-vTFWEGgUk58HeIw">https://us02web.zoom.us/webinar/register/WN_323i9j-vTFWEGgUk58HeIw</a></td>
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Evaluation Link & CME Credits


CME Credits:

- Specialist physicians can only claim their credits *once* at the end of the webinar series.
- Family physicians can claim their credits individually after each webinar using the following session IDs. Please note that it may take two weeks or more to show in your member portal.

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<td>192413-015</td>
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<td>March 17, 2021</td>
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