Leeds Covid-19 Recovery Follow-up in Primary Care

1. **Post-COVID patient presents to GP with ongoing symptoms**
   - Stratification of patients presenting might include:
     - High risk of complications - intensive care unit admissions/ventilated patients
     - Medium risk of complications - hospital ward admissions
     - Low risk of complications - ED / community patients

2. **GP consultation**: history and examination. Investigations in primary care, as required based on symptoms – Management of post-acute covid-19 in primary care, [https://dx.doi.org/10.1136/bmj.m3026](https://dx.doi.org/10.1136/bmj.m3026)
   - Symptom Specific Recommended Management-see below

3. **GP supports self-management of common symptoms**

4. **Symptoms improve**

5. **Care remains in primary care.**

6. **Symptoms do not improve** - Patient has any ongoing symptoms that do not resolve with self-management, or falls into any of the categories below to refer to SPUR using referral form, SPUR will triage and send to appropriate service, including those below. GP can also discuss referrals directly with SPUR or with Post Covid-19 Pathway Coordinator GP Covid Referral Form - S1 Final Version.

7. **Community Respiratory Team** for post covid assessment if:
   - Patient has underlying respiratory condition
   - Non-improving or worsening breathlessness
   - Patient requires short/long term ambulatory oxygen
   - Patient experiencing disproportionate shortness of breath or breathing patterns (often in association with anxiety and in the younger population).

8. **Community-based therapy for**: Holistic Assessment of need, symptoms severely impacting on life or not improving with time and self-management advice including:
   - Mobility
   - Self-care for daily activities
   - Ongoing post viral fatigue
   - Swallowing problems
   - Voice change
   - Weight loss/appetite persistently low

9. **Leeds Mental Wellbeing Service**
   - If patient experiencing Anxiety, depression, OCD, PTSD

10. **Community Respiratory team** for oxygen desaturation monitoring if:
    - Ongoing shortness of breath that is limiting daily activities (that they didn’t experience pre COVID-19).
    - GP if the patient has progressive, deteriorating breathlessness
    - These results, along with x results from primary care, are then reviewed with remote input from LTHT Respiratory team/ MDT if needed and advice given on any further investigations required or need to be seen in secondary care
    - For further advice contact Community Respiratory Team (Mon-Fri 8.30-18.30) 0113 8434200

11. **Patient discharged** with guidance for ongoing self-management

12. **Referral to Virtual Covid Rehab MDT**
    - If symptoms not improving within community services, the case is complex or there are needs spanning multiple domains, community teams refer to Virtual COVID Rehab MDT for discussion and advice.
## Symptom Specific Recommended Management

<table>
<thead>
<tr>
<th>Post Covid Symptom</th>
<th>Considerations specific to COVID-19</th>
<th>Initial investigations to consider as part of clinical assessment</th>
<th>When to deviate from the pathway: Red Flags</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fatigue</strong></td>
<td>- Very common post COVID</td>
<td>• Consider if blood tests are indicated in light of PMHx and clinical assessment.</td>
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<tr>
<td></td>
<td>- Consider impact of fatigue on role – e.g. caregiving, vocation, time off work and phased return.</td>
<td>- FBC, Fe, B12 and Folic Acid, renal function, TFTs, vitamin D</td>
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<tr>
<td></td>
<td>- Direct patient to NHSE/I <a href="http://www.yourcovidrecovery.nhs.uk">www.yourcovidrecovery.nhs.uk</a></td>
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<td></td>
<td>- Reassure that with time and self-management fatigue usually improves gradually</td>
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<tr>
<td></td>
<td>- If no improvement after 3 months, worsening of symptoms or impacting significantly on life, refer to Community Based Services via SPUR</td>
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<tr>
<td><strong>Anxiety, depression and PTSD</strong></td>
<td>- Common feature post COVID</td>
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<tr>
<td></td>
<td>- Consider if fatigue/ pain/ sleep disturbance/ cognition is also contributing or co-occurring.</td>
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<td></td>
<td>Online support:</td>
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<tr>
<td></td>
<td>- Consider a screening tools PHQ9 for depression or GAD7 for anxiety</td>
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<td>- Quality of life questionnaire - Work &amp; Social Adjustment Scale (WSAS)</td>
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<td></td>
<td>- PTSD more likely in context of premorbid trauma</td>
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<tr>
<td></td>
<td>- Suicidal ideation or immediate risk of harm to self or others refer to Mental health crisis team</td>
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<tr>
<td><strong>• PTSD especially in ITU survivors</strong></td>
<td><strong>• Mood impeding recovery/ causing protracted symptoms where physical examinations are normal.</strong></td>
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<tr>
<td>– ask about intrusive thoughts, flashbacks, nightmares, avoiding reminders of the event/illness. Also excessive/ obsessional cleaning/ checking, fear of going out.</td>
<td>– Complex presentation i.e. contribution of several factors/ lack of progress despite physical recovery/ difficulties completing ADLs or work. Consider referral to CMHT or Leeds Mental Wellbeing Service</td>
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</tr>
<tr>
<td><strong>• Concerns re PTSD and/ or other mental health issues not improving refer to Leeds Mental Wellbeing Service. In context of significant fatigue and/ or cognitive issues neuropsychological input will be required.</strong></td>
<td><strong>• Systemic distress/ carer strain contributing to reactive distress/ relationship breakdown/ loss of support. Refer to Leeds Mental Wellbeing Service</strong></td>
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</tr>
</tbody>
</table>

Other resources:

- [https://www.bps.org.uk/coronavirus-resources](https://www.bps.org.uk/coronavirus-resources)
- [https://www.mind.org.uk/information-support/coronavirus/](https://www.mind.org.uk/information-support/coronavirus/)
- [https://www.leedscommunityhealthcare.nhs.uk/our-services-a-z/leeds-mental-wellbeing-service/covid-19-support/](https://www.leedscommunityhealthcare.nhs.uk/our-services-a-z/leeds-mental-wellbeing-service/covid-19-support/)
- [https://www.mindwell-leeds.org.uk/home/information-on-coronavirus](https://www.mindwell-leeds.org.uk/home/information-on-coronavirus)

| **• Neurocognitive problems in the presence of a new or pre-existing neurological diagnosis; refer to Community Neurological Rehab Team** |
| Breathlessness | • Very common post COVID  
• Exertional breathlessness often persists for many weeks. Usual pattern is a gradual recovery.  
• Review at 3 months post Covid if not improving.  
• Unexplained crackles on auscultation refer for CXR. Depending on the results of this a HRCT scan may also be indicated.  
• Consider increased risk of VTE / PE post-COVID |
| CXR. If abnormal, repeat at 6 weeks if symptomatic, or 12 weeks if symptoms have resolved. |
| • Bloods: FBC, U&E, LFT, Ca\(^2\), TFT, BNP  
• Consider sputum sample if productive cough  
• ECG  
• O2 sats  
• Consider referral to Community Respiratory Service for oxygen desaturation monitoring if indicated (as per box 10 above) via SPUR. |
| • Acute onset (<48 hours) /severe sob  
O2<93% (if new for the patient)  
Bradycardia <60bpm  
Tachycardia >100bpm RR > 30 breaths/minute  
Refer PCAL for exclusion of Acute Pathology inc. PE.  
Myocardial ischaemia (chest pain)  
Syncope/postural dizziness  
Heart failure  
Shock (hypotension) |
| Cough | • Cough is a common symptom.  
• Dry cough likely to be post-viral and self-limiting though can persist for weeks as airways remain hyper-sensitive. |
| • Consider sputum sample if productive cough  
• Treat with antibiotics according to current guidelines. If no improvement after 6 weeks request CXR  
• Follow the Leeds Cough Pathway.  
| • Haemoptysis  
• Unintentional weight loss night sweats  
• and/or a strong smoking history  
• urgent 2 week referral is appropriate |
<table>
<thead>
<tr>
<th>Pleuritic chest pain</th>
<th>Palpitations / tachycardia</th>
<th>Anosmia</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Flitting chest pains 6-8 weeks post COVID not unusual and do not signify PE in absence of other typical clinical features. Oxygen saturation normal: PLUS normal chest x-ray: • Consider non-respiratory causes (e.g. infection or inflammation elsewhere). PLUS chest x-ray abnormal/showing consolidation: • Symptoms may be explained by pneumonia and assess and treat appropriately</td>
<td>• Palpitations are common. Up to 30% at 3 months • Tachycardia may be driven by infection • If symptoms persist with no clear cause or if associated with Red Flags, Refer via usual pathways</td>
<td>• Very common-up to 50% • 9 out of 10 patients significant improvement within four weeks • Reassurance, Olfactory training and safety advice. <a href="http://www.entuk.org/loss-smell-video-interview-professor-claire-hopkins">http://www.entuk.org/loss-smell-video-interview-professor-claire-hopkins</a> <a href="http://www.Fifthsense.org.uk">http://www.Fifthsense.org.uk</a> <a href="http://www.abscent.org">http://www.abscent.org</a> • Reassess</td>
</tr>
</tbody>
</table>
### Abnormal liver function (mild rise in liver transaminases)

- Mild abnormalities in ALT <3xULN will be common post Covid-19.
- Approximately 25-30% of tested population in Leeds have abnormal ALT.
- Check any past LFTs.
- Check alcohol history
- Stop any NSAIDS. Do not introduce statins at this stage.
- If abnormalities are mild, statins could be continued in diabetic patients

<table>
<thead>
<tr>
<th>Observation</th>
<th>Action</th>
</tr>
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<tbody>
<tr>
<td>ALT &lt;3xULN and new: Monitor monthly. It should normalise. Investigate at 3 months if not</td>
<td>ALT &gt;x3ULN and new: Monitor again 2-4 weeks. Investigate at 1 month if not normalised or reducing. Address any history of excess alcohol, optimise diabetic control, introduce exercise as possible. Isolated raised bilirubin: Request conjugated/unconjugated bilirubin split. Isolated raised ALP: Optimise vitamin D levels, Consider Ultrasound scan (to check biliary tract) with Doppler (to check vascular supply); Check BNP as cardiac impairment may give this picture</td>
</tr>
</tbody>
</table>

### Reduction in kidney function following an episode of Acute kidney injury (reduced eGFR from pre-COVID baseline)

- Observed in small proportion of recovering patients
- Assess for improvement or worsening of eGFR over one year
- Consider referral if progressive fall in eGFR or increasing ACR

<table>
<thead>
<tr>
<th>Observation</th>
<th>Action</th>
</tr>
</thead>
</table>
| BP | Dip urine for blood and protein
Urinary Protein/Creatinine ratio
Monitor renal function 2 monthly
Review medication |
| Urinary Protein/Creatinine ratio > 50 | Haematuria
Sustained fall in eGFR > 5ml/min/month
eGFR<30ml/min (new for patient) |
Resources:

BMJ paper on managing long term Covid
https://dx.doi.org/10.1136/bmj.m3026

Post-discharge and Rehabilitation needs in Survivors of Covid-19 Infection – Stephen Halpin et al

Management of post-acute covid-19 in primary care
https://doi.org/10.1136/bmj.m3026

Anosmia and loss of smell in the era of covid-19
https://doi.org/10.1136/bmj.m2808

LTHT Guidance for Abnormal Liver Function for Covid-19

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