COVID-19 Inpatient management

Quick reference guide

NHS
County Durham and Darlington
NHS Foundation Trust

Diagnosis and investigations on admission:

- Presentation with symptoms of fever, persistent cough, shortness of breath, anosmia.
- RT-PCR Swab x 1 in Respiratory ED
- For **ALL** patients: **Bloods -** FBC, U/Es, LFT, CRP, CK, D-dimer, lactate, glucose, **CXR, ECG, ABG if low Sats &** Procalcitonin
- If high suspicion of COVID-19, and first swab is negative, consider second RT-PCR swab. No more than 2 swabs.
- Check Procalcitonin on **day 2.**

Severity assessment & prognostication:

WHO criteria for COVID-19 severity:

1. **Mild** COVID-19: no evidence of pneumonia or hypoxia.
2. **Moderate** COVID-19: clinical signs of pneumonia (fever, cough, dyspnoea, fast breathing) but no signs of severe pneumonia, including SpO2 ≥ 90% on room air.
3. **Severe** COVID-19: clinical signs of pneumonia (fever, cough, dyspnoea, fast breathing) plus one of the following: respiratory rate > 30 breaths/min; severe respiratory distress or SpO2 < 90% on room air.

Ceiling of care and Resuscitation

- **Refer to ITU early if appropriate.** Proactive decisions in ALL patients at point of admission are essential – complete TEP +/- DNACPR form if appropriate.
- Consider mortality risk ISARIC 4C Mortality Risk calculator
- Consider patient wishes and likely benefits/ harms with attention to capacity assessment and family involvement
- Assess **& document** Rockwood clinical frailty score

Prognosticators of poor outcome:

a. CRP > 100mg/L
b. D-Dimer > 1000
c. Neutrophil:lymphocyte ratio >3.5
d. ALT >150 IU/L
e. Platelets < 100
f. Lactate >2
g. High ISARIC 4C score

Antibiotics therapy:

Clinical judgement is advised. **Send Procalcitonin level within 24h of admission**. Consider antibiotics treatment if suspicion of bacterial infection (e.g. raised neutrophils, lobar pneumonia on CXR, high procalcitonin etc.) or features of sepsis inline with trust antimicrobial guidance.
Review antibiotics prescription daily and implement antibiotic stewardship.

Palliative Care:

- It is important to anticipate that patients may die and that symptoms may progress rapidly
- Involve palliative care team early
- Be proactive in prescribing anticipatory medications
- Opioids/ benzodiazepines may be more helpful than oxygen for breathlessness

Discharge planning:

- **Mild/moderate COVID pneumonia:** Discharge with CXR at 12 weeks: CXR to be requested by discharging ward team. CXR request **MUST SAY** *COVID FOLLOW-UP* to ensure radiology is sending out appointments and add FAO Dr Cowie (DMH) & Dr. Robinson (UHND) (respiratory team)
- **Severe cases**: Phone/F2F consult at 4-6 weeks then F2F follow up and CXR at 12 weeks
- Refer all patient to virtual ward for home O2 monitoring *

Oxygen therapy

Target SpO2:
- 92-94% **AND** RR < 24/min
- 88-92% if hypercapnia risk

Lower risk group	Intermediate risk	High risk group
SpO2 maintained on **FiO2 <35% and RR <24rpm**	SpO2 requiring **FiO2 ≥35% or RR ≥24rpm**	SpO2 requiring **FiO2 ≥60% or RR ≥30rpm**
WARD LEVEL CARE Continue O2 via nasal cannulae /face mask and titrate as needed Patient self-proning / modified proning (alternate side lying)	**HIGHER LEVEL CARE** Consider monitoring & respiratory support on **ARU (**CPAP or HFNO**) where appropriate Patient self-proning / modified proning	**HIGHER LEVEL CARE** Consider monitoring & respiratory support on **ARU** (CPAP or HFNO**) **or HDU/ITU** where appropriate Patient self-proning / modified proning

Specific COVID treatment

1. **Dexamethasone:** Indicated for all patients requiring supplemental oxygen or ventilation. Dose: 6mg once daily, PO or IV for 10 days (**For glycemia management with Dexamethasone click here** COVID:Diabetes Guidance)
2. Remdesivir for patients with pneumonia, requiring oxygen therapy and not responding to dexamethasone. Not indicated for mechanically ventilated patients. eGFR >30 and ALT < 5 times upper limit of normal. Only to be started after COVID-19 **MDT discussion**, 200mg on Day 1 and then 100mg daily **for 5 days ONLY.** Monitor U&E and LFT daily during therapy.
3. Recovery trial arms: Azithromycin, Toclizumab and others (convalescent plasma or mononclonal antibody, not yet available). ***

Fluid management

Aim for Euvolemia - If evident hypovolaemia and fluid needs cannot be met orally or enterally, give patients gentle intravenous fluids - For most, aim for maximum total input of 2000 ml/day unless AKI (click link) or evident shock.
Prevent avoidable AKI through effective risk recognition, investigation, management and referral (**AKI is multifactorial in COVID and increases risk of dying**)
Review fluid charts daily and adjust fluids accordingly (available on trust intranet - Intravenous Fluid Therapy in Adults Policy)
Do not routinely offer loop diuretics to treat acute kidney injury (AKI), but consider them for treating fluid overload.

VTE prophylaxis

All hospitalised patients with suspected or confirmed COVID:
Standard dose VTE prophylaxis regardless of VTE risk assessment, unless contraindicated
Consider enhanced dose LMWH if patient considered high risk of VTE, assess bleeding risk.
Dose adjust as per actual body weight & renal function, as per (attached) CDDFT guidelines
Critically unwell patients on higher levels of respiratory support e.g. on ITU/HDU, ARU:
Standard dose LMWH but; Low threshold to consider enhanced dose LMWH if patient considered high risk of VTE, assess bleeding risk
Prophylaxis on discharge:
Standard care is no prophylaxis
Consider only in those at the highest risk, with low bleeding risk
Total duration should be as per clinical trials e.g. enoxaparin 6-14 days, rivaroxaban 31-39 days
Click the link to see See full guidance

Referral forms & criteria available with ward clerks and secretaries — HFNO **ONLY** to be started following discussion with Respiratory Consultant/On-call Medical Consultant or ITU team. HFNO is a supportive measure for patients not for **HDU/ITU** escalation and failed ARU CPAP, or as a bridge to HDU/ITU transfer, or trial modality with transfer to HDU/ITU if failing. HFNO is not for palliative patients.
***** Contact Amanda Cowton, RECOVERY Trial Research Nurse.**

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