166FM.1.1 TREATMENT FOR COVID-19 RESPIRATORY INFECTION JULY 2021 UPDATE – REMDESIVIR, STEROIDS

Dexamethasone and remdesivir can be used together in **severe or critical** COVID-19.

Remdesivir ALONE can be used in any hospitalised patient with COVID-19 requiring supplemental oxygen, where there are no signs of severe disease (see Addendum 1 for definitions).
Corticosteroids are not indicated in **non-severe** disease.

Remdesivir Protocol for COVID Positive Patient in Respiratory Failure in Buckinghamshire

To commence treatment *during working hours 9 - 5pm daily* using Respiratory or Intensive Care Unit (ICU) multidisciplinary team (MDT). Pharmacy should be contacted as soon as possible after approval **within working hours** to arrange supply. Supplies will not be made out-of-hours.

1. COVID swab positive patient* aged over 12 years and weight >40 kg.
2. Remdesivir should not be initiated in patients who present to hospital more than 10 days after symptom onset, unless they are immunocompromised, where this does not apply.
3. Patients re-admitted with COVID-19 can have a second course of up to 5 days upon readmission.
4. To be eligible, patients should have pneumonia requiring low-flow supplemental oxygen. (See bullet point 9 below in relation to immunocompromised patients.)
5. Patient does not have contraindications of estimated glomerular filtration rate (eGFR) <30, or alanine aminotransferase (ALT) >x5 normal. NB: Patients with end-stage renal disease on haemodialysis are exempt from this eGFR treatment threshold.
6. Patient is for active medical treatment and is not end of life.
7. Patient able to consent to treatment.
8. Respiratory MDT (respiratory COVID consultant, microbiologist and senior pharmacist) or ICU MDT (1 x ICU consultant, microbiologist and pharmacist) agree patient fulfils above criteria.
   A. Consultant respiratory/ICU physician and pharmacist to fill in Blueteq form:
   B. Prescribe according to Bucks formulary on antibiotic page of drug chart:
      i. DAY 1 - prescribe on stat side of drug chart: 200 mg remdesivir IV in 250 ml of sodium chloride 0.9% over 60 minutes.
      ii. DAY 2 - 5:
      patients should be prescribed 100 mg remdesivir IV in 250 ml of sodium chloride 0.9% over 60 minutes DAY 2 - 5. Include a hard stop on the drug chart.
      iii. Ensure a sodium chloride 0.9% 50 ml flush is prescribed using the pre-printed prescription on the prn section of the drug chart. This should be used after each dose of remdesivir.
9. For significantly immunocompromised patients, the course of remdesivir can be extended to 10 days, and the criterion on the need for supplemental oxygen requirement does not apply.

Monitor:
Daily urea and electrolytes (U&Es), liver function tests (LFTs). Monitor for common side effects of rash, abnormal LFTs.
Further information available on Bucks formulary.

In times of limited stock:
2 x respiratory or ICU consultant to rationalise to the patient with more risk factors for severe disease and mortality (age >50, male, BAME (black, Asian and minority ethnic), cardiac or severe pulmonary past medical history (PMH)).

*Highly suspected COVID clinically but negative swab x 1 should be discussed by 2 x respiratory/ICU consultants as to whether to treat as COVID, acknowledging the possibility of false negative results.

** If patient is unable to consent, MDT to decide if appropriate to prescribe in best interests.

Protocol for Corticosteroid Treatment for COVID Positive Patient with Respiratory Failure (critical or severe COVID 19 - see addendum 1)

Offer dexamethasone or hydrocortisone to people with severe or critical COVID-19; that is, people with any of the following:

- acute respiratory distress syndrome (ARDS)
- sepsis or septic shock
- other conditions that would normally need life-sustaining
- therapies such as ventilation or vasopressor therapy
- signs of severe respiratory distress
- oxygen saturation <90% (or deteriorating) on room air
- increased respiratory rate (>30 breaths per minute in adults and children over 5 years).

Can be commenced anytime by senior decision maker - see below

1. COVID swab positive patient* aged over 12 years
2. Patient requiring any oxygen to maintain sats >90%/CPAP/NIV/mechanical ventilation, or in respiratory distress - see addendum
3. Patient's risk is assessed for steroid use e.g. worsening diabetic control; psychosis; HbA1c
4. Patient is for active medical treatment and is not end of life
5. GIM registrar, ICU registrar out of hours, or Respiratory Ward 7 COVID consultant during 9 - 5 pm commences dexamethasone 6 mg od for 10 days with antacid cover
6. Patient is able to consent to treatment **

*Highly suspected COVID clinically but negative swab x 1 should be discussed by 2 x respiratory/ICU consultants as to whether to treat as COVID, acknowledging the possibility of false-negative results.
** If patient is unable to consent to treatment, MDT to decide if appropriate to prescribe in best interests.

Adult Dosages and Duration

For **dexamethasone**:
6 mg once a day orally for 7 to 10 days (three 2 mg tablets or 15 ml of 2 mg/5 ml oral solution)
or
6 mg once a day intravenously for 7 to 10 days (1.8 ml of 3.3 mg/ml ampoules [5.94 mg]).

For **hydrocortisone**:
50 mg every 8 hours intravenously (0.5 ml of 100 mg/ml solution, powder for solution for injection/infusion is also available). This may be continued for up to 28 days for patients with septic shock.
Treatment should stop if the person is discharged from hospital before the 10-day course is completed.

References

DHSC & NHS England and Improvement: Supply disruption alert, issued 29th September 2020 see https://www.cas.mhra.gov.uk/ViewandAcknowledgment/ViewAlert.aspx?AlertID=103100

https://www.cas.mhra.gov.uk/ViewandAcknowledgment/ViewAlert.aspx?AlertID=103091

https://www.nice.org.uk/guidance/ng159/resources/covid19-prescribing-briefing-corticosteroids-pdf-8839913581

COVID 19 Therapeutic Alert CEM/CMO/2020/013 14 June 2021

Addendum 1: WHO 2/9/20 Living guideline Corticosteroids for COVID-19

Table 1. Mutually exclusive categories of illness severity

Critical COVID-19	Defined by the criteria for acute respiratory distress syndrome (ARDS), sepsis, septic shock or other conditions that would normally require the provision of life-sustaining therapies, such as mechanical ventilation (invasive or non-invasive) or vasopressor therapy.
Severe COVID-19	Defined by any of: • oxygen saturation <90% on room air. • respiratory rate >30 breaths per minute in adults and children >5 years old; ≥60 in children less than 2 months; ≥50 in children 2 – 11 months; and ≥40 in children 1 – 5 years old. • signs of severe respiratory distress (i.e. accessory muscle use, inability to complete full sentences; and in children, very severe chest wall indrawing, grunting, central cyanosis, or presence of any other general danger signs).
Non-severe COVID-19	Defined as absence of any signs of severe or critical COVID-19.
Caution: The panel noted that the oxygen saturation threshold of 90% to define severe COVID-19 was arbitrary and should be interpreted cautiously when used for determining which patients should be offered systemic corticosteroids. For example, clinicians must use their judgement to determine whether a low oxygen saturation is a sign of severity or is normal for a given patient suffering from chronic lung disease. Similarly, a saturation above 90 – 94% on room air may be abnormal if the clinician suspects that this number is on a downward trend. Generally, if there is any doubt, the panel suggested erring on the side of considering the illness as severe.	

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