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| Clinical Guideline**therapeutic issues for covid-19 patients** |
| **SETTING** | Pharmacy |
| **FOR STAFF** | Pharmacy staff |
| **PATIENTS** | Patients with suspected or confirmed Covid-19 patients |
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| **Guidance**This is to summarise the therapeutic issues around, mainly, the supportive management of patients with suspected or confirmed Covid-19 patients; and for patient information:Sections: A) Drug specific & B) Patient / Disease-specific information.This will be updated frequently as new information is produced, please use the online version.**A: Drug specific issues****Medicines Optimisation principles in Covid-positive patients*** Minimise the number of drug administrations per day, particularly to avoid night time dosing
	+ Can Three times a day be Morning - Lunch - Evening?
	+ Can we reduce the burden on the morning drug round by switching to lunchtime?
	+ Can night time medication eg simvastatin, be given at the 6pm drug round?
* What medication can be suspended when patients are severely ill?
* Please ensure that all medication changes & plans are communicated fully to Primary Care to allow for a reviewed return to normal management post discharge.

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| BNSSG guidance on medication reviews and reducing unnecessary polypharmacy | Clinical Medication review: [A practice guide](https://www.sps.nhs.uk/wp-content/uploads/2016/08/Brent-CCG-Medication-Review-Practice-Guide-2014.pdf)*(NB: Primary Care orientated)* |
| SPS: Drug monitoring – general [advice](https://www.sps.nhs.uk/articles/drug-monitoring-factors-to-consider-during-covid-19/) and for [specific medication](https://www.sps.nhs.uk/articles/drug-monitoring-in-primary-care-for-stable-patients-during-covid-19/) ([DMARDs](https://www.sps.nhs.uk/articles/dmard-drug-monitoring-in-primary-care-during-covid-19/), [Sulfasalazine](https://www.sps.nhs.uk/articles/sulfasalazine-used-as-dmard-drug-monitoring-in-primary-care-during-covid-19-for-stable-patients/), [Hydroxychloroquine](https://www.sps.nhs.uk/articles/hydroxychloroquine-used-as-a-dmard-drug-monitoring-during-covid-19-for-stable-patients/), [Ciclosporin](https://www.sps.nhs.uk/articles/ciclosporin-used-as-dmard-drug-monitoring-in-primary-care-during-covid-19-for-stable-patients/), Warfarin – see anticoagulant section). |

**ACE-Inhibitors and Angiotensin II receptor antagonists**There is no evidence to support the (media) speculation that ACE-Is or A2RBs can predispose to adverse outcomes in people with Covid-19 infection. This is the position of the British Cardiovascular Society & the British Society for Heart Failure - [statement](https://www.britishcardiovascularsociety.org/news/ACEi-or-ARB-and-COVID-19), [The Renal Association](https://renal.org/covid-19/ra-resources-renal-professionals/renal-association-uk-position-statement-covid-19-ace-inhibitorangiotensin-receptor-blocker-use/), the [European Society of Cardiology](https://www.escardio.org/Councils/Council-on-Hypertension-%28CHT%29/News/position-statement-of-the-esc-council-on-hypertension-on-ace-inhibitors-and-ang).Patients should have their medication optimised as normal, for example in [renal impairment](https://heart.bmj.com/content/105/12/904). Sick day guidance has been advocated, but is controversial. See the ‘Think Kidneys’ [position statement](https://www.thinkkidneys.nhs.uk/aki/wp-content/uploads/sites/2/2015/07/Think-Kidneys-Sick-Day-Guidance-v8-131115.pdf) as the underlying evidence for harm avoidance by dose adjustment is very weak.* The risk is that dose adjustment is made without a clinical assessment. Potential clinical risks include decompensated heart failure when ACEI/ARBs and diuretics are discontinued, reduced adherence to drug treatment incorrectly described as ‘nephrotoxic’. Discuss individual plans with the clinical team to ensure a correct approach for each patient and consistent messages to the patient. Any advice needs to also include when to re-starting their drug treatment on recovery and how to titrate back to the previous dosing.

**Ibuprofen**There are conflicting, and some demonstrably false information in social media, regarding the taking of ibuprofen when covid-19-positive. The MHRA issued an [alert](https://www.cas.mhra.gov.uk/ViewandAcknowledgment/ViewAlert.aspx?AlertID=103001) on 17th March with a [DH response](https://www.gov.uk/government/news/ibuprofen-use-and-covid19coronavirus) (20 March).* Paracetamol should be first line in patients with, or suspected of, Covid-19.
* Pragmatically if there is no alternative to ibuprofen do not take regularly, do take to aid sleep if that is required. This can still be taken as normal if symptom free.
* Rheumatology [advice](https://www.rheumatology.org.uk/News-Policy/Details/Covid19-Coronavirus-update-members) to their patients: Continue to take regular medication unless otherwise directed by GP or rheumatology team.

The NHS [website](https://www.nhs.uk/medicines/ibuprofen-for-adults/) has also been updated with information about ibuprofen and messages have also been posted on ACEs and ARBs pages. Please ensure you check recent information to see if the position has changed as this is under constant review. NICE are conducting an evidence search.**Covid-19 Clinical Trial**The ‘[Recovery](https://www.recoverytrial.net/for-site-staff/site-staff)’ trial has been set up. UHBW [summary sheet](http://workspaces/sites/Teams/Pharmacy/COVID19/Clinical%20Trials/Summary%20sheet%20RECOVERY.doc). Pharmacy [FAQs](http://workspaces/sites/Teams/Pharmacy/COVID19/Clinical%20Trials/RECOVERY_Pharmacy_FAQs_V2.1_20200327.pdf), Trial [protocol](http://workspaces/sites/Teams/Pharmacy/COVID19/Clinical%20Trials/RECOVERY%20Protocol%20V2.0%202020-03-23.pdf).**Use of other / ‘novel’ medication to treat Covid-19** eg Tocilizumab, quinine. These treatments will only be available through a clinical trial. Use outside of a trial is not supported by the Trust *(See Trust communications 26th March)*, or nationally.**General information on potential treatments**An [overview](http://workspaces/sites/Teams/Pharmacy/COVID19/COVID-19%20Treatments/Covid%2019%20treatment%20summaries.pdf) by the UKCPA Critical Care Group.Information on [drug interactions](http://www.covid19-druginteractions.org/) with the experimental Covid-19 treatments from the Liverpool Drug Interaction Group.**Immunoglobulin*** Immunoglobulin should not be used to treat Covid 19.
* All patients who require Ig for a new indication must have a form filled out on Medway.
* If the indication for IG use is not included in the latest [National Guidance](http://igd.mdsas.com/clinical-info/), or the patient doesn’t meet the criteria approval will be required by the Regional panel **before starting treatment**
* NHS England [clinical guide](https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/03/C0099-specialty-guide-immunoglobulin-coronavirus-v1-31-march.pdf) for the management of patients requiring Ig treatment during the pandemic.

**Other specific medication information*** Lithium – [AWP advice](http://workspaces/sites/Teams/Pharmacy/COVID19/High%20risk%20medication/AWP%20MI%20bulletin%20-%20Lithium%20during%20COVID-19.pdf) & College of Mental Health Pharmacy [advice](http://workspaces/sites/Teams/Pharmacy/COVID19/High%20risk%20medication/CMHP%20Monitoring%20Lithium%20during%20Covid-19%20Pandemic-RPSendorsed.pdf) on management
* Clozapine – College of Mental Health Pharmacy [advice](http://workspaces/sites/Teams/Pharmacy/COVID19/High%20risk%20medication/CMHP%20Monitoring%20and%20Supply%20of%20Clozapine%20during%20Covid-19%20Pandemic-RPSendorsed.pdf)

**Thrombosis risk**Data from Italy is suggesting that the risk of venous thromboembolism in COVID patients is higher than expected *(Communication: Charlotte Bradbury 26 Mar).* A full vte risk assessment must be made for positive & suspected patients. Please can we ensure medical staff are prompted if this has not been carried out.**B: Patient / condition specific issues****General management of patients with suspected or confirmed Covid-19**

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| NHS England [clinical guide](https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/03/clinical-management-of-persons-admitted-to-hospita-v1-19-march-2020.pdf). | Trust antibiotic guidance: [ICU](https://viewer.microguide.global/guide/1000000090#content,5b8c7ea6-fa8c-47c0-848a-67d602e202f9) & [General wards](https://viewer.microguide.global/guide/1000000090#content,3f0db770-723a-4e4a-b25c-30b304c83ebb). |
| [Discharge advice](https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/03/covid-19-discharge-guidance-hmg-format-v4-18.pdf) from HMG. |  |

**Critical Care Patients –** See Pharmacy [workspace](http://workspaces/sites/Teams/Pharmacy/COVID19/Forms/AllItems.aspx?RootFolder=%2fsites%2fTeams%2fPharmacy%2fCOVID19%2fCritical%20Care&FolderCTID=&View=%7b8BF5BE3E%2dA0A7%2d48CA%2d807F%2d26E30CBC6ADD%7d)

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| UK Clinical Pharmacy Association Critical Care Group: [Introduction to Critical Care](https://www.rpharms.com/Portals/0/RPS%20document%20library/Open%20access/Coronavirus/Introduction%20to%20Critical%20Care%20240320.pdf) | NICE: [rapid guideline](https://www.nice.org.uk/guidance/ng159). |
| [UKCPA webinars](https://www.rpharms.com/development/coronavirus-cpd-resources#critcarebasics): | Pulmonary careSedation, medicines reconciliation & renal impairment ARDS, fluid management & renal replacement therapy | NHS England: [Clinical Guide](https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/03/specialty-guide-itu-and-coronavirus-v2-30-march-2020.pdf) |
| [Guidance](https://icmanaesthesiacovid-19.org/drug-demand-supply-adaptations-to-uk-critical-care-medication-prescribing) on adaptations to standard UK critical care medication prescribing and administration practices during pandemic emergency pressures | [Guidance](https://icmanaesthesiacovid-19.org/drug-demand-supply-anaesthetic-drug-usage-and-administration) on potential changes to anaesthetic drug usage and administration during pandemic emergency pressures |

**Patients with kidney disease**

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| [Patient advice](https://www.kidneycareuk.org/news-and-campaigns/coronavirus-advice/) from the Kidney Care UK, including advice on shielding and stringent social isolating. | [Professional advice](https://renal.org/covid-19/) from the Renal Association. |
| **Renal dialysis patients**Advice from NBT renal unit is that they may delay dialysis for some patients and hold them using oral hyperkalamemia maagement. * 1st line
	+ Sodium zirconium cyclosilicate – acute treatment of hyperkalaemia is 10g po tds for up to 72 hours, then if needed can go onto maintenance dose of 5-10g od
	+ Faster onset of action
	+ NB. Off label for dialysis patients; published [evidence](https://jasn.asnjournals.org/content/30/9/1723)
	+ *We will be including this in our internal hyperkalaemia guidance within the next week or so.*
* 2nd line / if Sodium zirconium cyclosilicate stock issues
	+ Patiromer starting dose is 8.4 g once daily, adjusted by 8.4 g as necessary up to a maximum dose of 25.2 g daily.

 *(Christine Sluman, NBT Pharmacist, @ 20th March)* |

**Respiratory disease**

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| * Ensure patients have an appropriate rescue pack at home
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| NICE covid-19 [rapid guidance](https://www.nice.org.uk/guidance/ng166): Severe asthma | British Thoracic Society respiratory-related [information & guidance](https://www.brit-thoracic.org.uk/about-us/covid-19-information-for-the-respiraatory-community/). |
| UHBW [guidance](http://workspaces/sites/Teams/Pharmacy/COVID19/Respiratory%20support/Guidance%20for%20managing%20terminal%20breathlessness%20in%20the%20last%20hours.pdf) on managing terminal breathlessness |  |
| [Patient advice](https://www.asthma.org.uk/advice/triggers/coronavirus-covid-19/#Shielding) from Asthma UK, including advice on shielding and stringent social isolating. | BTS [guidance](https://www.brit-thoracic.org.uk/quality-improvement/guidelines/emergency-oxygen/) on oxygen use |
| [Patient advice](https://www.blf.org.uk/support-for-you/coronavirus) from the British Lung Foundation | BTS [guidance](https://www.brit-thoracic.org.uk/quality-improvement/guidelines/acute-respiratory-distress-syndrome-ards/) on acute respiratory distress syndrome |
| BNSSG asthma [guidelines](https://remedy.bnssgccg.nhs.uk/media/3192/asthma-adult-guidelines-updated-2018.pdf). | BNSSG COPD [guidance](https://remedy.bnssgccg.nhs.uk/media/3183/bnssg-copd-guidelines-update-august-18.pdf), including rescue packs. |

**Palliative care**

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| BNSSG guidance | BNSSG ‘just in case’ medication |
| NICE Covid-019 [rapid guidance](https://www.nice.org.uk/guidance/ng163): Managing symptoms (including at the end of life) in the community |

**Heart disease**

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| [Patient advice](https://www.bhf.org.uk/informationsupport/heart-matters-magazine/news/coronavirus-and-your-health) from the British Heart Foundation. | A [clinical guide](https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/03/specialty-guide-cardiolgy-coronavirus-v1-20-march.pdf) for managing patients from NHS England. |
| National [guidance](https://heart.bmj.com/content/105/12/904) on change in renal function associated with drug treatment in heart failure |

**Inflammatory Bowel disease (IBD)**

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| [General advice](https://www.bsg.org.uk/covid-19-advice/) from British Society of Gastroenterology, including for healthcare workers taking immunosuppressive treatment. |
| [Consensus advice](https://www.bsg.org.uk/covid-19-advice/bsg-advice-for-management-of-inflammatory-bowel-diseases-during-the-covid-19-pandemic/) on managing patients with IBD from the British Society for Gastroenterology. Includes information on identifying patients for shielding and stringent social isolating; as well as direct patient management an drug specific advice. |

**Rheumatoid disease**

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| Advice from the [British Society for Rheumatology](https://www.rheumatology.org.uk/News-Policy/Details/Action-needed-coronavirus-identifying-high-risk-patients) on high risk patients, with a [stratification guide](https://www.rheumatology.org.uk/Portals/0/Documents/Rheumatology_advice_coronavirus_immunosuppressed_patients_220320.pdf?ver=2020-03-22-155745-717) for self-isolation. | A [clinical guide](https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/03/clinical-guide-rheumatology-patients-v1-19-march-2020.pdf) for managing patients from NHS England. |
| NICE [rapid guidance](https://www.nice.org.uk/guidance/ng167): Rheumatological autoimmune, inflammatory and metabolic bone disorders |
| A [paper](https://academic.oup.com/rheumatology/article/48/8/867/1785172?searchresult=1) on methotrexate, rheumatoid arthritis and infection risk. Conclusion is that there is a minimal increased infection risk with methotrexate. Anti-TNF treatments do, however, [increase the risk of infection](https://academic.oup.com/rheumatology/article/50/1/124/1789740?searchresult=1), particularly in the first 6 months of treatment; but the risk needs to be balanced against improved disease control and alternate treatments. |

**Diabetes**

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| [Patient information](https://www.diabetes.co.uk/news/2020/mar/update-for-those-vulnerable-to-coronavirus.html) from Diabetes.co.uk. | NHS England: [Clinical guide](https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/03/speciality-guide-diabetes-19-march-v2.pdf).*(NB: Little medication specific advice).* |  |

**Oncology and Haematology**

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| NICE [rapid guidance](https://www.nice.org.uk/guidance/ng161) on SACT. | Estimating [infection risks](http://workspaces/sites/Teams/Pharmacy/COVID19/Cancer/CovidCancer2.pdf) in chemotherapy patients |

**Patients with co-existing infections**

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| EACS [advice](https://www.eacsociety.org/home/covid-19-and-hiv.html) on patients with HIV. |  |

**Paediatric patients**

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| A MedScape [overview](https://www.medscape.com/viewarticle/926805?src=mkm_ret_200326_mscpmrk_eumonthly_int&uac=118946BN&impID=2324118&faf=1) of the findings from Wuhan. |  |

**Anticoagulation & Thrombosis**

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| Please see BNSSHG guidance first and take advice from our anticoagulation team ext 23874 |
| BNSSG guidance on switching warfarin to NOACs | BNSSG advice on choice of NOACS |
| RPS [advice](https://www.rpharms.com/Portals/0/RPS%20document%20library/Open%20access/Coronavirus/FINAL%20Guidance%20on%20safe%20switching%20of%20warfarin%20to%20DOAC%20COVID-19%20Mar%202020.pdf?ver=2020-03-26-180945-627) on switching | NHS England: Anticoagulant services [clinical guide](https://remedy.bnssgccg.nhs.uk/media/4054/c0077-specialty-guide_anticoagulant-services-and-coronavirus-v1-31-march.pdf). |

**Dermatology**

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| British Association of Dermatologists [advice](https://www.skinhealthinfo.org.uk/covid-19-coronavirus-immunosuppressive-treatments/) on immunosuppressive treatments in dermatology |

**General information**

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| Covid-19 [clinical summary](http://workspaces/sites/Teams/Pharmacy/COVID19/COVID%20teaching%2023.3.pdf.pdf) from Kings College |  |
| Virus stability on surfaces. NEJM [article](https://www.nejm.org/doi/10.1056/NEJMc2004973), Regional QC *(Tim Sizer email 26 March):** “Plastic and stainless steel surfaces showed viable viral particles up to 72 hours (3 days) after application but levels were greatly reduced from the starting point
* Copper was markedly better, with no viable levels detected after 4 hours
* Cardboard virus survival was shown to be around 48 hours (2 days)

In an aerosol form the virus had half-lives of just over an hour” |

**National / International guidance**

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| NICE (Rapid) [guidelines and evidence reviews](https://www.nice.org.uk/covid-19) for covid-19 | NICE collection: Other relevant [guidance](https://www.nice.org.uk/guidance/published?type=cov,coa). |  |
| NHS England: [Collated specialty guide resources](https://www.england.nhs.uk/coronavirus/publication/specialty-guides/). | British Cardiovascular Society [resource hub](https://www.britishcardiovascularsociety.org/resources/covid-19-clinicians-hub). |  |
| Public Health England guidance – High risk patients: [Shielding and high risk patient groups](https://www.gov.uk/government/publications/guidance-on-shielding-and-protecting-extremely-vulnerable-persons-from-covid-19/guidance-on-shielding-and-protecting-extremely-vulnerable-persons-from-covid-19) |  |  |
| Specialist Pharmacy Services: [resources](https://www.sps.nhs.uk/category/covid-19-coronavirus/). | Specialist Pharmacy Services: [General recommendations](https://www.sps.nhs.uk/articles/summary-of-covid-19-medicines-recommendations-from-professional-bodies/) from professional bodies. | PSNC [advice](https://psnc.org.uk/the-healthcare-landscape/covid19/) to community pharmacists |
| UK Government: Information for [Healthcare professionals](https://www.gov.uk/government/collections/wuhan-novel-coronavirus). | [Infection prevention and control](https://www.gov.uk/government/publications/wuhan-novel-coronavirus-infection-prevention-and-control) | [Early supported discharge](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/874213/COVID-19_hospital_discharge_service_requirements.pdf) |
| RPS: General resources: [Clinical practice and medicines-related information](https://www.rpharms.com/development/coronavirus-cpd-resources#critcarebasics) | RPS: Pharmacist [updates and information](https://www.rpharms.com/coronavirus/) |  |
| Centre for Disease Control: [General information](https://www.cdc.gov/coronavirus/2019-ncov/index.html). | CDC: Information for [Healthcare professionals](https://www.cdc.gov/coronavirus/2019-ncov/hcp/index.html). |  |
| World Health Organisation: [General information](https://www.who.int/emergencies/diseases/novel-coronavirus-2019). |  |  |

**General references & publications**

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| BMJ [Best Practice](https://bestpractice.bmj.com/topics/en-gb/3000168) - Covid-19 | JAMA [resource centre](https://jamanetwork.com/journals/jama/pages/coronavirus-alert) | The Lancet [resource centre](https://www.thelancet.com/coronavirus) |
| Medscape [resources and publications](https://www.medscape.com/resource/coronavirus) | Academia.edu [resources](https://www.academia.edu/coronavirus-covid-19/papers) |
| New England Journal of Medicine [collection](https://www.nejm.org/coronavirus) of resources and articles and [Journal watch](https://www.jwatch.org/na51020/2020/03/20/covid-19-nejm-journal-watch-coverage) |

**e-Learning resources**

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| [e-Learning for health](https://portal.e-lfh.org.uk/Catalogue/Index?HierarchyId=0_45016&programmeId=45016) | [WHO](https://www.who.int/emergencies/diseases/novel-coronavirus-2019/training/online-training) | [Future Learn](https://www.futurelearn.com/courses/covid19-novel-coronavirus) |

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| **Trust information** | Trust [guidance](http://connect/ClinicalCare/infectioncontrol/Pages/Coronavirus%28COVID-19%29.aspx) and links to other national guidance.Pharmacy Covid-19 [workspace](http://workspaces/sites/Teams/Pharmacy/COVID19/Forms/AllItems.aspx?View=%7b8BF5BE3E%2dA0A7%2d48CA%2d807F%2d26E30CBC6ADD%7d). Wellbeing [resources](http://workspaces/sites/Teams/Pharmacy/COVID19/Forms/AllItems.aspx?RootFolder=%2fsites%2fTeams%2fPharmacy%2fCOVID19%2fWellbeing%20resources&FolderCTID=&View=%7b8BF5BE3E%2dA0A7%2d48CA%2d807F%2d26E30CBC6ADD%7d).Trust capacity [escalation plan](http://workspaces/sites/Teams/Pharmacy/COVID19/Trust%20Phase%202%20COVID%20capacity%20escalation%20plan%20V1.0.pptx) 27 March and BHOC [escalation plan](http://workspaces/sites/Teams/Pharmacy/COVID19/Cancer/COVID-19%20Capacity%20escalation%20plan%20SOP%20for%20BHOC%20200320%20v1.0%20%283%29.pdf). |
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