

SC COVID-19 CLINICAL MANAGEMENT RESOURCES

The Centers for Disease Control and Prevention is responding to a [pandemic](#) of respiratory disease [spreading](#) from person-to-person caused by a novel (new) [coronavirus](#). The disease has been named “coronavirus disease 2019” (abbreviated “COVID-19”). This situation poses a serious [public health risk](#). The federal government is working closely with state, local, tribal, and territorial partners, as well as public health partners, to [respond](#) to this situation.

This information included in this living document was gathered and developed by members of the South Carolina Hospital Association’s Clinical Leadership Council to provide clinicians with a concise resource for efficiently accessing relevant information related to COVID-19. Within this document, you will find valuable links and information on emerging best practices. As information evolves, this clinical management tool will be updated.

The physicians listed below have vetted this document and agreed to serve as a resource for providers as needed.

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The proposed strategies expressed in this document are solely the position of the SCHA CLC.

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Advanced Care Planning

- [Honoring Previously Determined Preferences for Medical Care - Pocket Card](#)
- [My Life My Choices: COVID-19 Coronavirus Resource Response Toolkit](#)

Airway Management

Minimizing aerosolization of virus is the overarching consideration in airway management of COVID 19 patients. Whenever possible avoid positive pressure ventilation (BVM, BiPAP) and intubate early. To limit exposure and PPE use, the most experienced provider should perform the procedure (video laryngoscopy preferred) wearing an N95 mask. All HCWs in the room at the time of intubation should also use contact precautions (eye shield, gown, gloves).

INTUBATION

- For suspected COVID-19 patient, intubate using airborne precautions in a negative pressure room, if possible.
- Limit the number of people involved in intubation in ALL cases: provider (attending physician and/or resident), RT, and bedside nurse only, use second RN as “runner” outside of room
- Closed loop communication
 - Physician to discuss airway plan prior to entering patient room with nurse and RT. Include first and second airway plans as well as an airway rescue plan.
 - Have all anticipated equipment available and easily accessible by runner outside room
 - Consider creating a visual aide for airway management to help offload cognitive burden during high-risk, high-stress procedure
- Preoxygenation
 - Some patients have demonstrated hypoxia without concordant dyspnea. Titrate all patients to oxygen sats to >88%
 - As a general principle, the higher the oxygen flow the higher the risk of aerosolization. Use the lowest rate of oxygen as possible.
 - Use a non-rebreather (NRB) for pre-oxygenation with rapid sequence intubation (RSI).
 - High flow nasal canula with an NRB over it is a potential alternative.
 - If BVM is required, use HEPA filter between endotracheal tube and BVM or ventilator.
 - Use albuterol MDI with spacer rather than nebs
 - Ventilate using ARDSNet Protocol if required.
- Re-oxygenation
 - If patient desaturates between intubation attempts, use BVM with 2 hand vice grip and minimal bagging with goal sats >88%
- Airway rescue
 - No more than 3 airway attempts by most experienced provider in airway management
 - Supraglottic airway (LMA)
 - Cricothyrotomy with scalpel, bougie, 6.0 ETT
- Resuscitation plans
 - Consider cardiovascular status prior to intubation
 - Keep code cart and procedure cart outside of room
 - Consider pre- or peri-intubation vasopressor support with push-dose pressor (80 mcg phenylephrine per 1 mL) or norepinephrine drip

- Proning
 - o Has been shown to increase lung recruitment and improve oxygenation
 - o Consider early trial of proning while patient not intubated
- Portable CXR whenever possible, notify x-ray tech this is COVID possible patient
- [European Society of Anaesthesiology - COVID-19 Airway Management](#)

| INTUBATION | | | | |
|---------------------|----------|--|--|---|
| | | Doctor | Nurse | RT |
| Outside Room | 1 | Brief team | Prepare RSI drugs+ drips | Check airway kit |
| | 2 | Don PPE with N95 + 2 gloves | Don PPE with N95 + 2 gloves | Don PPE with N95 + 2 gloves |
| Inside Room | 3 | Set up airway materials Calculate optimal ETT depth | Set up monitor Set up closed-circuit suction | Set up preoxygenation -6L NC -Max BVM attached to mask + viral filter |
| Preoxygenation | 4 | Monitor preoxygenation with RT -No bagging | Await instruction to administer RSI drugs | Monitor preoxygenation with MD -No bagging -2 hand vice grip to improve mask seal |
| RSI | 5 | Induction agent High dose paralytic (1.5 mg/kg rocuronium, 2 mg/kg succinylcholine) | Administer RSI drugs | Continue to preoxygenate |
| During Apnea | 6 | Prepare for intubation Optimally position patient | Assist MD or RT as needed | PEEP valve on pt mouth to prevent decruitment -No bagging |
| Intubation | 7 | Place mask on soiled equipment drape Video laryngoscopy with bougie Pull stylet and place on soiled equipment drape Secure ETT at pre-calculated length | Cricoid pressure Inflate cuff prior to ETT ventilation and place used syringe on soiled equipment | Turn off O2 flow Attach viral filter to ETT and attach ventilatory circuit to patient prior to ventilation Hold tube/circuit securely while being secured by MD |
| Post-Intubation | 8 | Confirm placement with ETCO2 Confirm stable vital signs | Assemble post-intubation sedation | Strict ARDSnet vent settings |
| | 9 | Carefully doff PPE | Carefully doff PPE | Carefully doff PPE |

| Door Runner | |
|---------------------------------------|---|
| Available immediately outside of room | Provide equipment to providers inside room if needed Ensure CXR on standby for post-procedure confirmation |

Sample Emergency Airway Algorithm, MUSC Health

VENTILATORS

- [APSF/ASA Guidance on Purposing Anesthesia Machines as ICU Ventilators](#)
- [FDA - Ventilators Emergency Use Authorization](#)
- [GE Healthcare - Requests for information regarding the off-label use of GE Healthcare anesthesia devices for ICU ventilation](#)
- [U.S. Public Health Service Commissioned Corps - Optimizing Ventilator Use during the COVID-19 Pandemic](#)
- [UW's Conservation - Respiratory Supplies Protocol](#)
- [Ventilator Sharing Protocol: Dual-Patient Ventilation with a Single Mechanical Ventilator for Use during Critical Ventilator Shortages](#)

Allocation of Scarce Resources

- [Allocation of Scarce Resources](#)
- [Conceptual Framework for Allocation of Federally Stockpile Ventilators During Large-Scale Public Health Emergencies](#)
- [Hastings Center: Ethical Framework for Health care Institutions Responding to COVID-19](#)
- [New York State Task Force on Life and Law](#)
- [Oregon Crisis Care Guidance: Providing a Framework for Crisis Healthcare](#)
- [SC Ethical Framework for Crisis Standards of Care and Allocation of Scarce Resources in a Public Health Emergency](#)
- [Strategies to Inform Allocation of Stockpiled Ventilators to Healthcare Facilities During a Pandemic](#)
- [Surge Capacity Mechanical Ventilation](#)
- [The Toughest Triage - Allocating Ventilators in a Pandemic](#)
- [Who Should Receive Life Support During a Public Health Emergency? Ethical Principles to Improve Allocation Decisions](#)

Behavioral Health and Resilience

- [Building personal resilience](#)
- [CDC - Managing Anxiety & Stress](#)
- [Managing anxiety related to COVID-19](#)
- [National Center for PTSD - Managing Healthcare Workers' Stress Associated with the COVID-19 Virus Outbreak](#)
- [Wellness Resources from St. Barnabas Hospital](#)

Centers for Medicare and Medicaid Services

- [Coronavirus Waivers & Flexibilities](#)
- [COVID-19 Emergency Declaration Blanket Waivers for Health Care Providers](#)
- [Medicare & Coronavirus](#)
- [Physicians and Other Clinicians: CMS Flexibilities to Fight COVID-19](#)
- [Section 1135 Waiver Flexibilities - South Carolina Coronavirus Disease 2019](#)
- [Sweeping Regulatory Changes to Help U.S. Healthcare System Address COVID-19 Patient Surge](#)

Dialysis

- [ESRD Provider Telehealth and Telemedicine Tool Kit](#)
- [Interim Additional Guidance for Infection Prevention and Control Recommendations for Patients with Suspected or Confirmed COVID-19 in Outpatient Hemodialysis Facilities](#)

Elective Surgery

- On March 17, 2020, Governor McMaster's recommended that healthcare providers "halt all elective and non-threatening surgical and medical procedures".
- American College of Surgeons COVID-19 Guidelines for Triage of:
 - [Breast Cancer Patients](#)
 - [Cancer Surgery Patients](#)
 - [Colorectal Cancer Patients](#)
 - [Emergency General Surgery Patients](#)
 - [Gynecology Patients](#)
 - [Metabolic and Bariatric Surgery Patients](#)
 - [Neurosurgery Patients](#)
 - [Ophthalmology Patients](#)
 - [Orthopaedic Patients](#)
 - [Otolaryngology Patients](#)
 - [Pediatric Patients](#)
 - [Triage of Thoracic Patients](#)
 - [Urology Patients](#)
 - [Vascular Surgery Patients](#)
- [CMS Adult Elective Surgery and Procedures Recommendations](#)
- [COVID-19: Guidance for Triage of Non-Emergent Surgical Procedures](#)

EMTALA/Off site screening resource

- [Emergency Medical Treatment and Labor Act \(EMTALA\) Requirements and Implications Related to Coronavirus Disease 2019 \(COVID-19\)](#)

Exposed Healthcare Workers

- Review your infection prevention and control policies and CDC [infection control recommendations for COVID-19](#) for:
 - Assessment and triage of patients with acute respiratory symptoms
 - Patient placement
 - Implementation of Standard, Contact, and Airborne Precautions, including the use of eye protection
 - Visitor management and exclusion
 - Source control measures for patients (e.g., put facemask on suspect patients)
 - Requirements for performing aerosol generating procedures
- Be alert for patients who meet the [persons under investigation \(PUI\)](#) definition
- Know how to report a potential COVID-19 case or exposure to facility infection control leads and public health officials. DHEC: 1-888-847-0902
- [DHEC Guidance on the Discontinuation of Isolation and Quarantine & DHEC Guidance on the Management of Healthcare Personnel \(HCPs\) who are positive for COVID-19 or exposed to COVID-19 patients](#)
- [HCP return to work with suspected or confirmed COVID-19](#)
- [Home temperature monitoring form](#)
- [What Healthcare Personnel Should Know about Caring for Patients with Confirmed or Possible COVID-19 Infection](#)

First responder/EMS Transfers

- [COVID-19 Guidance for EMS](#)
- [SC DHEC EMS Non-Transport COVID-19 Guidance](#)
- [SC DHEC EMS Emerging Disease Protocol](#)

Inpatient

- [CDC Comprehensive Hospital Preparedness Checklist for Coronavirus Disease 2019 \(COVID-19\)](#)
- [CDC- Section "10. Implement Environmental Infection Control"](#)
- [Clinical Guidance for Management of Patient with Confirmed COVID-19](#)
- [COVID-19 Clinical Guidance for the Cardiovascular Care Team](#)
- [COVID-19 Critical Care for the Non-ICU Physician\](#)
- [North Texas Mass Critical Care Guidelines Document Hospital and ICU Triage Guidelines for Adults](#)
- [University of Chicago Medicine: COVID-19 Adult Inpatient Care Pathway](#)
- [University of Chicago Medicine: COVID-19 Adult Respiratory and Cardiac Arrest Care Pathway](#)

Long Term Care Facilities

- Nursing homes and other long-term care facilities can take steps to assess and improve their preparedness for responding to COVID-19. This checklist does not describe mandatory requirements or standards; rather, it highlights important areas to review to prepare for the possibility of residents with COVID-19.
 - Cancel all group activities and communal dining
 - Education and training
 - Implement active screening of residents and HCP for fever and respiratory symptoms
 - Rapid identification and management of ill residents
 - Restrict all visitation except for certain compassionate care situations, such as end of life
 - Restrict all volunteers and non-essential HCWs, including non-essential healthcare personnel (e.g., barbers)
 - Sick leave policies and other occupational health considerations
 - Supplies and resources
 - Surge capacity for staffing, equipment and supplies, and postmortem care
- [Hospital to Post-Acute Care Facility Transfer - COVID-19 Assessment](#)
 - SCHA and SCHCA created this new assessment form to assist in the process of transfers for post-acute care during the pandemic. Adapted from Florida with permission.
 - Use of the form will free up timing for the transfer process as a one source document related to COVID-19, relaxing the spread-dread for the LTCs and assisting hospitals with movement of non-acute patients for capacity purposes. Please contact [Diane Paschal](#) for further information.
- [COVID-19 Preparedness Checklist for Nursing Homes and other Long-Term Care Settings](#)
- [New Jersey Hospital Association - COVIS-19 Toolkit of Resources for Long Term Care Facilities](#)

Mitigation Strategies

- [A Physician's Guide to COVID-19](#)
- [Columbia VA Health Care System COVID-19 Mitigation Actions](#)
- [Implementation of Mitigation Strategies for Communities and Local COVID-19 Transmission](#)
- [Kaiser Permanente Northern California Mitigation Phase Playbook - Coronavirus Disease 2019 \(COVID-19\)](#)

Outpatient

- Consider telehealth (video or telephonic) visits for all encounters that can be safely transitioned to a virtual visit.
- Reach out to patients who may be a higher risk of COVID-19-related complications (e.g., elderly, those with medical co-morbidities, and potentially other persons who are at higher risk for complications from respiratory diseases, such as pregnant women) to ensure adherence to current medications and therapeutic regimens, confirm they have sufficient medication refills, and provide instructions to notify their provider by phone if they become ill.
- Consider accelerating the timing of high priority screening and intervention needs for the short-term, in anticipation of the possible need to manage an influx of COVID-19 patients in the weeks to come.
- Symptomatic patients who need to be seen in a clinical setting should be asked to call before they leave home, so staff are ready to receive them using appropriate infection control practices and personal protective equipment.
- Eliminate patient penalties for cancellations and missed appointments related to respiratory illness.
- [Interim Guidance for Responding to Coronavirus Disease 2019 \(COVID-19\) among People Experiencing Unsheltered Homelessness](#)
- SC Regional Homeless Coalition contacts:
 - Upstate Continuum of Care/United Housing Connections - [Lorain Crowl](#)
 - Midlands Area Consortium for the Homeless/United Way of the Midlands - [Jennifer Moore](#), [Andy Pope](#)
 - Total Care for the Homeless Coalition/Eastern Carolina Housing Organization (ECHO) - [Joey Smoak](#), [Kyle Jenkins](#)
 - Lowcountry Continuum of Care/One80 Place - [Heather Carver](#)
- [CDC - Get Your Clinic Ready for Coronavirus Disease 2019](#)
- [University of Chicago Medicine: COVID-19 Adult Ambulatory Clinics Care Pathway](#)
- [The American College of Obstetricians and Gynecologists - Outpatient Assessment and Management for Pregnant Women Suspected or Confirmed Novel Coronavirus \(COVID-19\)](#)

Pediatrics

- Consider cohorting well vs. sick patients, utilize telehealth visits where available.
- [American Academy of Pediatrics COVID FAQ](#)
- [American Academy of Pediatrics Letter](#)
- [North Texas Mass Critical Care Guidelines Document Hospital and ICU Triage Guidelines for Pediatrics](#)
- [University of Chicago Medicine: COVID-19 Pediatric Care Pathways](#)

Personal Protective Equipment (PPE)

- Know your [PPE burn rate](#). COVID-19 patients will significantly increase your normal rate.
- Vet suppliers on the gray market claiming to have N95 masks or other PPE by requesting they show the Establishment Registration # or Firm Registration # and a copy of the device listing along with the Regulation # of the specific device.

- Limit the individuals and the number of times you enter and exit patient rooms to limit PPE usage.
- Remote interaction should be utilized whenever possible to conserve PPE.
- Document a patient's cell phone number so you can call them in the room with updates (avoiding PPE use). Consider having iPads or in the patient's room to converse using FaceTime.
- Consider moving IV pumps into hallway with extension tubing, telemonitoring equipment if available.
- Don & Doff of PPE Instructions
 - [CDC Sequence for putting on and removing PPE](#)
 - [Demonstration of donning and removing of the appropriate PPE when caring for a person who has COVID-19](#)
 - [Donning and Doffing PPE: HCID Level One Full Barrier Isolation](#)
 - [How to Don and Doff PPE \(Fight COVID-19 Coronavirus\)](#)
- [Emory University School of Medicine COVID-19: Conserving PPE](#)
- [New Jersey Hospital Association - Strategies for Optimizing the Supply of PPE based on CDC Guidance](#)
- [PPE Conservation example from UW Medicine](#)
- [WHO: Rational Use of Personal Protective Equipment for Coronavirus](#)

MASKS

Use a surgical mask for all patients with respiratory complaints. RE-USE this mask on patients you deem to be non-infectious for your entire shift.

- Avoid touching mask
- Remove & replace the contaminated mask if you see an infectious patient.
- For any patient who is a COVID PUI, use Respiratory droplet and contact precautions: gown, gloves, surgical mask, eye protection (eye protection may take form of shield, goggles, trauma glasses).
 - Don prior to entry and doff immediately upon exit using appropriate technique.
- Use N95 in negative pressure rooms [for aerosolizing procedures](#) which include NP specimen collection, positive pressure ventilation and intubation
- SC OSHA has [suspended fit testing requirements](#) for those healthcare workers that have no facial hair, no major changes in weight or facial structure in the last 12 months and no changes in medical health within the last 12 months.
- [Checklist for Healthcare Facilities: Strategies for Optimizing the Supply of N95 Respirators during the COVID-19 Response \(CDC\)](#)
- [JAMA: N95 Respirators vs Medical Masks for Preventing Influenza Among Health Care Personnel](#)
- [Joint Commission Statement on Use of Face Masks Brought from Home](#)
- [OSF Healthcare is conserving masks in preparation for COVID-19](#)

N95 MASK REUSE/DECONTAMINATION

- The extended and/or limited reuse of N95 masks is permitted in the following situations:
 - Immediately following a fit test
 - Extended use - when multiple patients are infected with the same respiratory pathogen and are placed together in dedicated waiting rooms and/or hospital wards.
 - Limited Reuse - by the same wearer as long as the respirator remains functional (i.e. respirator maintains its physical integrity and provides the same level of protection).

- [Authorized NIOSH Approved Respirators](#)
- [CDC: Recommended Guidance for Extended Use and Limited Reuse of N95 Filtering](#)
- [CDC: Decontamination and Reuse of Filtering Facepiece Respirators](#)
- [Evaluation of Multiple \(3-Cycle\) Decontamination Processing for Filtering Facepiece Respirators](#)
- [N95 Filtering Facepiece Respirator Ultraviolet Germicidal Irradiation \(UVGI\) Process for Decontamination and Reuse](#)
- [Final Report for the Bioquell Hydrogen Peroxide Vapor \(HPV\) Decontamination for Reuse of N95 Respirators](#)
- [STERRAD - Advanced Sterilization Products Announces Protocol for Reprocessing of N95 Masks to Protect Healthcare Workers in the Battle Against COVID-19](#)

EYE PROTECTION

- Eye protection is only needed in the room of a COVID PUI.
- If you use the eye frame with shield, remove and throw away the shield, keep and sanitize the frame with sani-wipes.

HAND SANITIZER

- The hand sanitizer is compounded using only the following United States Pharmacopoeia (USP) grade ingredients in the preparation of the product (percentage in final product formulation) consistent with World Health Organization (WHO) recommendations:
 - Alcohol (ethanol) (80%, volume/volume (v/v)) in an aqueous solution denatured according to Alcohol and Tobacco Tax and Trade Bureau regulations in 27 CFR part 20; or Isopropyl Alcohol (75%, v/v) in an aqueous solution
 - Glycerol (1.45% v/v)
 - Hydrogen peroxide (0.125% v/v)
 - Sterile distilled water or boiled cold water
- [FDA - Policy for Temporary Compounding of Certain Alcohol-Based Hand Sanitizer Products During the Public Health Emergency](#)
- [USP Compounding Alcohol-Based Hand Sanitizer During COVID-19 Pandemic](#)

TRAUMA RESUSCITATIONS

Minimize PPE for trauma resuscitation (eye/mask) if EMS encode does not suggest significant injury. Entire trauma team should not don PPE.

NATIONAL EMERGENCY STOCKPILE

To obtain product not available through your distributor or contracted supplier, make a request through your state and be sure to develop a “case for need” of those supplies once they arrive at the state level. Include how many cases you currently have, how many you anticipate, and how many are currently under investigation, and use rate.

- [ASTHO Use Authorization Toolkit](#)
- [Public Health Emergency - Strategic National Stockpile](#)

Physician/Provider Credentialing

- The South Carolina Medical Board issued an [Order Waiving Licensing Requirements](#) for physicians, physician assistants, and respiratory care practitioners licensed in good standing in another state and whose services are determined to be necessary by DHEC.

- [Credentialing and Privileging During the COVID-19 Pandemic](#)
- [National Association Medical Staff Services - COVID-19 Resources for the NAMSS Community](#)

Room Cleaning

- Room cleaning in a PUI that had an aerosolizing procedure:
 - o Once the patient is discharged, close the door to the room, hang a stop sign on the door, and use a dry erase marker to fill in the time
 - o If it is a negative pressure room, the room needs to sit for 35 minutes without entry (time may vary institutionally based in internal IP recommendations)
 - o If it is not negative pressure, the room needs to sit for approx. 70 minutes without entry
 - o Alert EVS when time has elapsed for a terminal clean of the room. Be sure EVS is aware this is a COVID room.
 - o Please ensure EVS is wearing proper PPE
 - o SARS-CoV-2 was detectable in aerosols for up to three hours, up to four hours on copper, up to 24 hours on cardboard and up to two to three days on plastic and stainless steel. [The New England Journal of Medicine.](#)
 - o Consider not using ultrasound in a PUI room unless cleared with the provider. They need to be thoroughly cleaned if used, consider using a portable machine.

Signage

- Consider four signs to be placed in a COVID patient's room: A log sheet, the cleaning stop sign, PPE process, and the room setup and PPE check list.
- Place a patient sticker on the log sheet, all persons sign as they enter the room- once completed store in retrievable binder or location.



Sample patient door signage, MUSC Health

Situation in the US/COVID 19 Statistics

Different parts of the country are seeing different levels of COVID-19 activity. The United States nationally is currently in the initiation phases, but states where community spread is occurring are in the acceleration phase. The duration and severity of each phase can vary depending on the characteristics of the virus and the public health response.

- CDC and state and local public health laboratories are testing for the virus that causes COVID-19. View [CDC's Public Health Laboratory Testing map](#).
- All 50 states have reported cases of COVID-19 to CDC.
- View [latest case counts, deaths](#), and a [map of states with reported cases](#).
- Coronavirus Cases in SC: [SC DHEC](#)
- [Coronavirus: The Hammer and the Dance - What the Next 18 Months Could Look Like, if Leaders Buy Us Time](#)
- [Health Data - COVID-19 US state-by-state projections](#)

Specimen Collection/Testing

- DHEC prior approval for COVID-19 testing is [no longer required](#).
- e-Visit screen followed by drive through sample collection centers emerging as best practice. If patient screens + on e-visit, an appointment time is assigned for drive through outpatient sample collection. Testing kits, reagents for machines in short supply, only sick, hospitalized patients and patients in special circumstances (nursing homes, healthcare workers, immunocompromised symptomatic patients etc.) should be tested until supplies become more readily available.
- [MUSC Health - Operational Plan for an Emergency off Site Respiratory Specimen Collection Site \(RSCS\)](#)
- Ideal sample collection includes viral RVP swab in viral transport medium. The medium and swabs are in short supply across the state. NP (not OP) swab only is needed.
- Alternative specimen collection from patient when viral RVP swab/media is limited:
 - Foam nasal swabs approved 3/23/20 for specimen collection, don't require significant PPE, non-aerosolizing.
 - If viral swab but no media, NP swab in sterile container/tube, add 3cc saline as transport medium. SC DHEC, most hospital labs, and LabCorp will accept this collection system. Quest still determining if they will accept.
 - Nasal washing with saline only, in sterile specimen collection. SC DHEC, some private labs, and hospitals developing in house PCR COVID testing will accept the saline-only medium for specimen collection.
 - Both wood and cotton can inhibit PCR, not a good choice for COVID-19 testing. Synthetic fiber with plastic shaft. Also, calcium alginate tipped swabs don't work well for PCR.
- [Inside the South Korean Labs Churning Out Coronavirus Tests](#)

Telemedicine

- [National Consortium of Telehealth Resource Centers - COVID-19 Telehealth Toolkit](#)
- [New Telemedicine Strategies help hospitals address COVID 19 article](#)

- [SC Telehealth Alliance - COVID-19: Resources for patients and providers in SC](#)
- [Telehealth Virtual Care Providers COVID-19](#)
- [The Chinese Telemedicine Team Is Here to Fight against COVID-19 Medicare Telehealth Frequently Asked Questions](#)

If you have fever, cough or shortness of breath, please call your healthcare provider or one of the virtual care providers featured.

MUSC Health Virtual Urgent Care

McLeod Telehealth

Sandhills Medical Foundation

Beaufort Memorial Hospital

Prisma Health Virtual Visit

AnMed Health E-Visits

Augusta University Health System

Roper St. Francis Healthcare Virtual Care

Self Regional Healthcare

COVID-19 VIRTUAL CARE PROVIDERS IN SOUTH CAROLINA

Several South Carolina health systems are offering telehealth options to the public. These options are available to anyone experiencing COVID-19 symptoms in South Carolina. In order to access the free consult, use the **promo code COVID19**.

Visit scdhec.gov for more information.

Source: SCDHEC, Mar 30

Treatment

- Isolate the patient, provide supportive care.
- Contact local and state health departments. DHEC: 1-888-847-0902

CHLOROQUINE

In early in vitro studies, chloroquine was found to block the COVID-19 infection at low micromolar concentrations. Recent evidence indicates a positive result with the use of chloroquine phosphate compared with control for the treatment in inhibition of the exacerbation of pneumonia, improving lung imaging, promoting virus negative conversion, and shortening the disease course. The anti-viral and anti-inflammatory activities of chloroquine may account for its potent efficacy in treating patients with COVID-19 pneumonia. According to a consensus statement from a multicenter collaboration group in China, chloroquine phosphate 500 mg twice daily in tablet form for 10 days (also cited anywhere from 7-10 days depending on clinical progress) may be considered in patients with COVID-19 pneumonia.

HYDROXYCHLOROQUINE

A recent study compared chloroquine to hydroxychloroquine in vitro for the treatment of SARS-CoV-2. Hydroxychloroquine was found to be more potent than chloroquine in vitro. Hydroxychloroquine exhibits superior antiviral and prophylactic activity and a more tolerable safety profile in comparison to chloroquine, which may provide promising results in treatment. Based on PBPK (physiologically based pharmacokinetic) model results, hydroxychloroquine sulfate 400 mg PO twice daily x 1 day followed by 200 mg twice daily x 4 days is recommended for SARS-CoV-2 infection, as it reached three times the potency of chloroquine phosphate 500 mg twice daily 5 days in advance (prophylactically). When to initiate prophylaxis has not been determined as this regimen was studied in a PBPK model.

- However, the Marseille Study is current underway through the European Union Clinical Trials Register, which included COVID-19 patients comprising of five patients aged 12-17, 10 aged 18-64, and 10 patients over 65. The data has not been published yet, therefore;

results should be interpreted with caution. But a strong reduction in viral load with hydroxychloroquine and after 6 days, the percent of patients positive for COVID-19 who received hydroxychloroquine fell to 25% vs 90% for those who did not receive the treatment. They also observed an increase in treatment effect with combination therapy consisting of hydroxychloroquine and azithromycin. Patients were given 600 mg of hydroxychloroquine daily for 10 days in this study.

- It is unclear whether intravenous immunoglobulin or convalescent plasma provides any benefit.

ANTIVIRALS

- [A Trial of Lopinavir-Ritonavir in Adults Hospitalized with Severe Covid-19](#)

STERIODS

- Concern: Previous studies indicate cytokine storm and inflammation induced by a dysregulated immunologic response to a viral infection contributes to the development fatal pneumonia.
- Evidence: Available evidence in those infected with COVID-19 is conflicting but overall, it appears to demonstrate no difference in clinical outcomes and may have the potential to worsen outcomes.
- Current Recommendation: The empiric use of corticosteroids in patients with COVID-19 is not recommended in the absence of compelling indications such as:
 - Persistent hemodynamic instability refractory to fluid resuscitation and vasopressor utilization
 - Baseline adrenal insufficiency
 - Steroid dependent lung disease

NSAIDS

- Concern: The French Ministry issued a recommendation that NSAIDs should be avoided in COVID-19 due to the high risk of acute kidney injury in this population.
- Evidence: There is no published scientific evidence evaluating the use of NSAIDs in a COVID-19 infection. The French data is observational, not peer reviewed.
- Current Recommendation: Although there is no evidence to support not using NSAIDs in this setting, based on the current evidence demonstrating a high incidence of renal dysfunction in those with severe COVID-19 infections, acetaminophen should be used as first line therapy when possible.
 - If NSAIDs are necessary, they should be utilized for the shortest duration of therapy possible.

ACE INHIBITORS AND ARBS

- Concern: People with cardiovascular disease are at a much higher risk of serious complications including death from COVID-19. This has led to concerns regarding using RAAS antagonists in COVID-19
- Evidence: The evidence does not confirm the need to discontinue ACE Inhibitors or ARBs
- Current Recommendation: The American Heart Association, Heart Failure Society of America, and the American College of Cardiology recommend continuation of ACE Inhibitors and ARBs for all patients already prescribed for indications such as heart failure, hypertension or ischemic heart disease in the setting of COVID-19.

- Recommend to strongly consider the individual needs of each patient before making changes to their regimens

RESOURCES

- [American Medical Association - COVID-19 \(2019 novel coronavirus\) resource center for physicians](#)
- [American Society of Health-System Pharmacists - Assessment of Evidence for COVID-19-Related Treatments](#)
- [CDC - Healthcare Professionals: Frequently Asked Questions and Answers](#)
- [COVID-19 Drug Therapy](#)
- [The Journal of the American Medical Association - Coronavirus Disease 2019 \(COVID-19\)](#)

Triage Protocols

- Develop alternate sites to conduct triage to reduce exposure to patients and staff
 - RN-based telephone triage protocols
 - Unused hospital space, dedicated repurposed space (one hospital within a system)
 - Drive through triage template
 - Enhance telemedicine/virtual capabilities
 - Repurpose urgent care/ambulatory facilities into screening and testing locations
 - Limit points of entry to the facility
- Screen for symptoms of URI or flu-like illness including
 - Cough
 - Fever
 - Laryngitis or pharyngitis
 - Rhinorrhea, congestion
- Shortness of breath (unless there is an obvious non-infectious cause, i.e., patient in arrhythmia, CHF exacerbation w/o infectious symptoms)
 - If uncertain, err on the side of COVID positive screen and send to designated treatment location
 - Do not put COVID + screened patients in common areas
 - Consider separate entrance/exit for COVID + screened patients (PUI)
- [Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China](#)
 - Fever (40/41 patients; 98%)
 - Cough (31/41 patients; 76%)
 - Myalgia or Fatigue (18/41 patients; 44%)
 - These three symptoms were the major ones. There were patients who had sputum production, headache, hemoptysis, and diarrhea; however, these symptoms were less common.
 - Dyspnea occurred in 55% later in the course, with mean time to onset of dyspnea at 8 days.
 - Sicker patients who were admitted to the ICU were more likely to have lymphopenia; AST elevation; elevated D-dimer; elevated AST; elevated cardiac biomarkers; and elevated plasma levels of cytokines
 - Imaging:
 - Abnormalities in chest CT images in ALL patients
 - Bilateral involvement on chest CT (40/41 patients; 98%)

- The sicker patients who were admitted to the ICU were more likely to have bilateral multilobular and subsegmental areas of consolidation (compared to non-ICU patients who tended to have bilateral ground glass opacities and subsegmental areas of consolidation).
- Divide ED into ILLI and non-ILLI IP care pathway
 - If patients need to be admitted, limit non-invasive ventilation given the risk of aerosolization. Intubate using PAPR/CAPR and ideally in a negative pressure room.
 - Create physician back-up system; develop standard operating procedures for training non- MDs to assist in low-acuity and/or designated areas
 - Create separate waiting rooms for potential respiratory isolation (staff address patients in PPE based on presence of respiratory complaints)
 - Set up a tent in ED for RTI surge capacity
 - Encourage RN to forward triage in the ED
 - Creatively isolate using lobby space or evaluate stable patients in cars (get their phone # and put in EMR)
 - Investigate implementing a 100% telemedicine process for MSE screening (CMS guidance pending) versus a focused inpatient assessment as part of EMTALA medical screening exam
- For PUI, take the patient's cell phone number and use to communicate to reduce the need to go in the room.
- Consider repurposing a workstation on wheels (WOW) as another way to do tele-visits for patients.
- ED MD should place order to "initiate PPE for suspected PUI" to avoid miscommunication among staff members, they will then place an order to discontinue PPE. Limits non-evidence-based use of PPE.
- For suspected PUI with FEVER and RESPIRATORY symptoms the full PPE is required until the MD discontinues.
- For radiographic studies on PUI patients, include COVID PUI on the comments so radiology techs know to PPE and decontaminate.
- [CDC - Phone Advice Line Tool for Possible COVID-19 Patients](#)
- [University of Chicago Medicine: COVID-19 Adult ED Care Pathway](#)

Visitor Policies

To reduce facility-based transmission. Many hospitals are moving to a strict NO VISITOR policy except in extreme circumstances. No visitors should be allowed in rooms of Persons Under Investigation (PUIs) or COVID-19 positive patients.

- If a modified visitation strategy is in place, the following visitors should not be allowed:
 - Persons with a fever or other cold or flu-like symptoms
 - Minors under the age of 16
 - People over the age of 70 who have chronic conditions and may meet one of the exceptions below are strongly encouraged not to visit
- Visitor Exceptions include (when appropriate):
 - Emergency department patients- one visitor (at least until stable)
 - Surgery patients-one visitor (at least until stable)
 - Obstetric patients-one partner and one birth support person

- o Nursery and Neonatal Intensive Care Unit (NICU) patients-birth parent(s) or support person
- o Patients who are at the end-of-life (up to two visitors), infected COVID patient at end of life has different considerations and remote-visitation may be considered in those patients
- o Patients with disruptive behavior, altered mental status or developmental delays-one family member or support person who is key to their care and safety
- o Minors under the age of 18-one parent or support
- Ambulatory facilities and clinics should follow the same visitation precautions as inpatient facilities
- [CDC- Manage Visitor Access and Movement Within the Facility](#)

