CALIFORNIA CORRECTIONAL
HEALTH CARE SERVICES

MEMORANDUM

Date:	April 8, 2020	
To:	Chief Medical Executives Chief Nurse Executives Chief Physician and Surgeons	
From:	Renee Kanan, MD, MPH Chief Quality Officer Deputy Director, Medical Services	Barbara Barney-Knox Statewide Chief Nurse Executive Deputy Director, Nursing Services
Subject:	Aerosol-Generating Procedures {AGPs}	

The purpose of this memorandum is to provide guidance to medical providers and nursing staff regarding limiting the risk of transmission of virus related to Aerosol Generating Procedures {AGPs) during the COVID-19 pandemic. This guidance is in reference to medical related AGPs only and does not include guidance for dental related AGPs. Please ensure this memorandum is distributed to all institutional nursing and medical provider staff.

AGPs RELATED TO MEDICAL TREATMENTS TYPICALLY UTILIZED IN CDCR INCLUDE:

- Nebulizer Treatments
- Continuous Positive Airway Pressure {CPAP)/Bilevel Positive Airway Pressure (BiPAP)
- Oxygen Therapy (high flow)
- Pulmonary Function Tests (PFTs)
- Cardiopulmonary Resuscitation (CPR)

These procedures may increase the risk of aerosolizing the SARS-CoV-2 virus. COVID-19 transmission has been identified as taking place unknowingly from people infected with COVID-19 with mild or no symptoms. As such, high risk AGPs should be kept to a minimum during the COVID-19 pandemic. The use of AGPs in dormitory settings has the potential to expose a large number of people, including those at risk of serious complications and death from COVID-19.

GENERAL STRATEGIES TO REDUCE AGP RISK:

1. Examine whether the procedure is medically necessary, identify viable effective alternatives, and consider temporarily discontinuing non-essential use during the COVID-19 pandemic.
2. If AGPs are deemed medically necessary, minimize the risk by:
    a. Limiting staff involved in the procedure
    b. Ensuring staff involved in AGP use recommended PPE, including N95 mask or better, face shield, gloves and gown.
    c. Perform AGPs in airborne isolation room, if available, or single room with solid walls and doors. Thoroughly disinfect the room after use.

See table on the following page for additional detail.

Procedure Type	Recommendations

Nebulizer Treatments	Avoid nebulizer use by converting to MDI if at all possible
	• Use MDI with spacer if possible
	  ○ Consider increased numbers of puffs per sitting and more frequent use if clinically indicated
	  ○ Some medications available as dry powder inhaler (DPI)
	• National supply issues have been reported for some MDIs, consult with pharmacist as needed
	
	If must use nebulizer:
	• Use in single room with closed door
	• Limit staff and staff present to use N95, face shield, gown, gloves
	• Disinfect room and equipment after treatment

CPAP/BiPAP	Providers review patients on CPAP/BiPAP: • For most patients with sleep apnea on CPAP the short-term discontinuation of CPAP is less risky than potential for aerosolized virus spread with CPAP use during pandemic • For patients on BiPAP and/or with severe sleep apnea and comorbidities such as significant cardiomyopathy with history of arrhythmias and short-term discontinuation of BiPAP/CPAP not considered safe single cell housing (with solid door) should be sought. • COVID-19 can live on surfaces so frequent cleaning of CPAP equipment being used is encouraged during the pandemic.
Oxygen	Most oxygen use at institutions is low flow with nasal cannula (up to 10L/min) or non-rebreather, these are NOT considered AGPs. If High flow oxygen therapy comprises an air/oxygen blender, an active humidifier, a single heated circuit, and a nasal cannula which delivers O2 at up to 60 L/min. High flow oxygen therapy is considered an AGP and requires airborne precautions/PPE.
Peak flow meter/PFTs	Due to known induction of cough and respiratory efforts during PFT and peak flow measurements, it is not essential to perform these tests and should be postponed due to COVID-19 pandemic.
CPR	CPR is performed the same way per the American Heart Association guidelines. (See link below to AHA COVID-19 guidance) Guidance for first responders/EMS during COVID-19 pandemic: • NOTE: Limit number of people in room to essential (no more than 3) • EMS clinician practices should be based on the most up to date COVID-19 clinical recommendations and information from appropriate public health authorities and EMS medical direction. • Modifications may include:

	• If patient is suspected of having COVID-19, EMS clinicians should follow Airborne Precautions, and should put on appropriate PPE before entering the scene.
	  ○ Use of bag-mask ventilation over mouth-mask/face shield preferred
	  ○ Placing of OP or NP airway requires airborne PPE during CPR
	• Appropriate Airborne PPE includes:
	  ○ Respiratory protection: N95 or higher-level respirator or facemask (if a respirator is not available). **N95 respirators or respirators that offer a higher level of protection should be used instead of a facemask when performing or present for an aerosol-generating procedure.**
	  ○ Eye protection (i.e., goggles or disposable face shield that fully covers the front and sides of the face)
	  ○ Gloves
	  ○ Gown

Aerosol Generating Procedures not typically done at CDCR institutions	
Other	With COVID-19, airborne transmission may be possible with these AGPs: • Endotracheal intubation/extubation • Bronchoscopy • Open suctioning • Manual (bag-mask) ventilation before intubation with or without the use of airway adjuncts such as oral pharyngeal or nasopharyngeal airways • Turning the patient to the prone position • Tracheostomy/aerosol trach collars
Respiratory specimen collection is not generally considered AGP, but does require additional PPE due to close proximity of the health care staff to patient and risk or sneeze or cough.	
Respiratory Specimen Collection (e.g., NP swabs)	Guidance on respiratory specimen collection is in the COVID-19 Interim Guidance for Health Care and Public Health Providers. https://cchcs.ca.gov/covid-19-interim-guidance/ Do NOT induce sputum for COVID-19 testing; sputum induction can result in aerosolized particles.

Resources and References

- UW Medicine COVID-19 Resource Site: https://covid-19.uwmedicine.org/Pages/default.aspx

- UCSF Health AGP Table: https://infectioncontrol.ucsfmedicalcenter.org/sites/g/files/tkssra4681/f/Guidance_for_PPE_use_for_High_Risk_Aerosol_Generating_Procedures.pdf

- American Heart Association. (2020, March 19). *American Heart Association*. Retrieved April 2020, from Professional.Heart.org: https://professional.heart.org/idc/groups/ahamah-public/@wcm/@sop/@smd/documents/downloadable/ucm_505872.pdf

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