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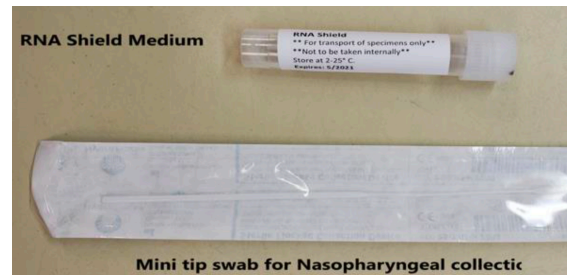
ZSFG: Guidance for on Rapid vs. Regular Testing for COVID-19

All admitted patients should be tested for COVID-19 on admission

All patients with or without symptoms who will be admitted and do not meet criteria for rapid tests based on criteria below

ER patients with symptoms who can be discharged to a location where they can self-isolate

Regular Abbott test (not rapid, but run 3x/day)



Abbott RT-PCR Test

Turnaround time: ~7 hours

Specimens must be **RECEIVED** by **6am, 2pm, or 7:30pm** to be included on the next run

Standard collection: NP swab in viral transport media

Patients going to Psych Emergency Services or 7L

Abbott IDNow rapid test



Abbott IDNow Test

Turnaround time: ~1 hour
(One test run at a time)

Specimen Collection:
NP swab in black top sterile tube without liquid (NOT in VTM tube)

ER patients who require testing before disposition

Patient with symptoms and can be discharged but cannot effectively self-isolate

Will discharge to another facility, jail, or congregate living facility

Trauma activations, cardiac arrests, stroke activations, emergent surgery

Cepheid Xpert rapid test

Urgent care patients who need testing for disposition (e.g., dispo to another facility/congregate setting or can't self isolate)

All Labor and Delivery patients

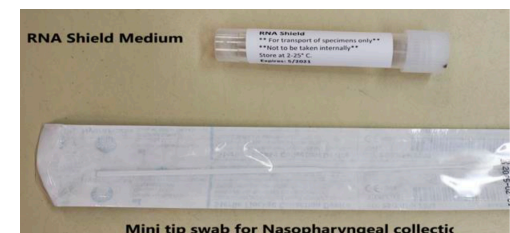
All samples coming from jail

***For any ER patient needing Xpert test, place sticker on tube**

Cepheid Xpert Test

Turnaround time: ~1.5 hours

Standard collection:
Place NP swab into tube with viral transport media



Patients who do NOT need universal COVID-19 testing:

- Newborns born to mothers who test negative, have pending results, or refuse testing
- Patients with a negative C19 test within last 7days, and who have no new symptoms or exposures

Can page COVID team at 443-3486 for questions, but approval is NOT required to obtain rapid testing for scenarios covered on this algorithm.

Version 13 : May 26, 2020

ZSFG: Guidance on Ordering Isolation for Patients being Tested for COVID-19

**Ensure that all admitted patients are tested for COVID-19 on admission.
For patients who develop new symptoms, can retest for COVID-19 as indicated.**

	All patients who have tested positive for COVID-19	Patients with symptoms, awaiting test result	Asymptomatic patients, awaiting screening test result (newly admitted patients)*	Asymptomatic patients who decline screening test
Isolation Order	Place patient in private room on low level respiratory isolation and contact isolation + eye protection (or place on high level respiratory + contact + eye protection, if patient needing aerosol generating procedure) OK to cohort confirmed positive patients.	Place patient in private room on low level respiratory isolation and contact isolation (or high level respiratory + contact, if patient needing aerosol generating procedure)	Place patient in private room on low level respiratory isolation + eye protection *If patient asymptomatic, and retesting after having a negative test earlier in the hospitalization, use standard precautions	Place patient in private room on low level respiratory isolation + eye protection [After 14 days, can shift to standard precautions]
Healthcare worker	Wear N95 + eye protection + gloves + gown at all times	Wear N95 + eye protection + gloves + gown at all times	Wear N95 + eye protection (gown not required)	Wear N95 + eye protection (gown not required)
Patient	Request that patient wears surgical mask if healthcare worker within 6 ft.			
Preferred location after admission	H32/H38 if ICU H66/H68 if floor	<u>Higher C19 suspicion:</u> H32/38 if ICU or H66/H68 if ward <u>Lower C19 suspicion:</u> non-COVID units	Usually to a non-COVID unit	Usually to a non-COVID unit

Symptoms of COVID-19

- Fever: temp > 37.8C or 100F
- Cough
- Sore throat
- Shortness of breath
- Chills
- Headache
- Body aches
- Fatigues
- Loss of smell
- Runny nose
- Nasal congestion
- Nausea, vomiting, diarrhea

Suggestive Findings

- Hypoxia, tachypnea
- Leukopenia or lymphopenia
- CXR with bilateral abnormalities
- CT chest with peripheral opacities, ground glass pattern

Higher Suspicion for COVID-19

- Syndrome with predominant fever, cough, dyspnea, or fatigue; moderate-severe symptoms, suggestive radiologic findings
- Close contact with a person diagnosed with COVID-19

Can page MOD at 443-5166 for admission to medicine; they can help triage to appropriate team

ZSFG: Routing and Procedures for Admitted Patients

	Asymptomatic Patient having admission screening test for COVID-19	PUI or COVID-19 Positive Patient <u>NOT</u> needing aerosol generating procedure	PUI or COVID-19 Positive Patient needing aerosol generating procedure	Quarantine Patient (Tested negative or has not been tested, but requires quarantine due to an exposure)
Level of Isolation Needed	Low level resp isolation + eye protection	Low level resp isolation + contact precautions + eye protection	High level resp isolation + contact precautions + eye protection	Low level resp isolation + eye protection
OK for resident team?	Yes	Call MOD to discuss	Call MOD to discuss	Yes
Type of Room	Private (not negative pressure)	Private (not negative pressure)	Private, negative pressure	Private (not negative pressure)
PPE to wear	N95 Eye protection	N95 Eye protection Gown and gloves	N95 Eye protection Gown and gloves	N95 Eye protection
How to transport patient places	Patient → wear isolation mask, cover with clean sheet Transporter → wear N95 + eye protection			
After patient discharge, how long to hold room before next patient enters? *Note: No wait required for EVS to enter room to clean (EVS to wear proper PPE: N95 + gown/glove + eye protection)	<u>COVID-19 test pending or positive:</u> No AGP done: no hold (since asymptomatic/not coughing) AGP done: • Neg pressure room: 30 minutes • Standard room: 60 minutes <u>COVID-19 test negative:</u> No hold.	AGP NOT done: 15 minutes	If AGP done: • Neg pressure room: hold 30 minutes • Standard room: hold 60 minutes If no AGP done in last 60 minutes: hold 15 minutes	No hold.

ZSFG: Guidance on Discontinuing Isolation in Patients with COVID-19

General principles:

- All COVID-19 positive patients should be in a private room on low or high level respiratory isolation plus contact isolation
- Patients who require precautions should receive all appropriate health care in a timely manner using COVID-19 isolation and corresponding PPE. Only non-urgent health care should be deferred until criteria to discontinue isolation are met.
- Note that RT-PCR tests may remain positive for a prolonged period of time after COVID-19 infection. However, viable (live) virus is unlikely to be cultured by 10 days after symptom onset when patients have improved clinically.

Inpatient Scenarios	
Current inpatient	Continue isolation until: <ul style="list-style-type: none"> • At least 72 hours without fever without use of fever-reducing medications AND • Improving respiratory symptoms AND • Two consecutive negative RT-PCR tests collected at least 24 hours apart Since many patients have positive RT-PCR tests for a prolonged period, swabs are not typically collected until 10 days from symptom onset
Admission or readmission within 30 days of initial C19-positive test	Continue isolation until: <ul style="list-style-type: none"> • At least 72 hours without fever without use of fever-reducing medications AND • Improving respiratory symptoms AND • Two consecutive negative RT-PCR tests collected at least 24 hours apart
Admission or readmission 31-60 days of an initial C19-positive test	Continue isolation until: <ul style="list-style-type: none"> • One negative RT-PCR test
Admission or readmission >60 days after an initial C19-positive test	Follow usual protocol for universal testing on admission: <ul style="list-style-type: none"> • Collect one RT-PCR test • If asymptomatic, use standard precautions • If symptomatic, place on isolation

Outpatient Scenarios (Also see outpatient algorithm for more detail)	
Outpatient visit	<u>with NO aerosol generating procedures or moderate sedation/anesthesia</u> Continue isolation until: <ul style="list-style-type: none"> • At least 10 days from symptom onset (or 10 days from first positive RT-PCR if date of symptom onset cannot be determined) AND • At least 72 hours without fever without use of fever-reducing medications AND • Improving respiratory symptoms
Outpatient visit	<u>WITH Aerosol generating procedures or moderate sedation/anesthesia, and within 30 days of an initial positive test</u> Continue isolation until: <ul style="list-style-type: none"> • At least 72 hours without fever without use of fever-reducing medications AND • Improving respiratory symptoms AND • Two consecutive negative RT-PCR tests collected at least 24 hours apart; tests may be obtained at an alternate testing site (ATS), including the site at ZSFG, or in accordance with local workflow
At home / in the community	Continue isolation until: <ul style="list-style-type: none"> • At least 10 days from symptom onset (or 10 days from first positive RT-PCR if date of symptom onset cannot be determined) AND • At least 72 hours without fever without use of fever-reducing medications AND • Improving respiratory symptoms

ZSFG: Guidance on Patients Needing Aerosol Generating Procedures

General Principles

- Both N95s and PAPRs are appropriate for caring for COVID-19 patients.
- PAPRs have specific uses—discussed here
- PAPRs should not be worn on top of other respirators like N95s or face masks.
- If a healthcare worker has a respiratory illness and wears a PAPR—it circulates their exhaled air into the surroundings, posing risks to others.
- Healthcare worker wearing an N95 does not have to wait any amount of time before entering a room in which an aerosol generating procedure has been performed or is being currently performed.

1. High Flow Nasal Canula Oxygen:

- Not considered an AGP
- Try oxygen by nonrebreather face mask first
- PAPR not needed—N95 is sufficient
- Try to have patient wear isolation mask

2. Bronchodilators:

- Try MDI with spacer before using nebs
- Can wear PAPR to give neb treatments
- RT group can give neb treatments, and can wear PAPR
- Can prioritize patients for neg-pressure rooms
- When neb is done, do not need to wait before staff come in wearing N95's

3. Non-invasive ventilation (NIV:BiPAP, CPAP):

- NIV: BiPAP/CPAP: not indicated for hypoxemic respiratory failure due to pneumonia/other respiratory infections. Can use HFNC & consider early intubation if appropriate. But situations for NIV where appropriate/needed, e.g. COPD, heart failure, will exist.
- Healthcare workers: can wear PAPR
- If patient uses NIV at home, consult pulmonary to assess whether it is needed in hospital or not

4. Tracheal Suctioning:

- can wear N95 or PAPR

5. Intubation and extubation:

- If concerns about respiratory decompensation, be in touch with ICU team early, and consider early intubation
- Healthcare workers in room during intubation or extubation: can wear PAPR
- Minimize number of people in room to those essential

6. Code Blue:

- Healthcare worker managing airway: can wear PAPR
- When bag used for ventilation, fit with a filter
- Obtain transport ventilator as soon as possible
- Minimize number of people in room to those essential

• NOTE: Negative air pressure rooms are for protecting staff outside the room when door opens/closes (not for protecting healthcare worker while they are in the room).

Evaluating patients with housing/social instability for temporary housing program:

- **Overview:** Hotel rooms are available to temporarily house COVID-19 positive patients, and persons under investigation (PUI) who have pending test results.
- **Eligibility:** (1) patient unhoused or living in congregate or outdoor setting or can't safely isolate at home (e.g., SROs with shared bathroom); (2) able to climb 3 stairs; independent in ADLs and with medical needs; intact cognition for isolation procedures; (3) have ability to text/call, (4) weight<350lbs; (5) lacking active mental health issues.
* Criteria are rapidly evolving → check with Social Work for latest updates/options.
- **HOW TO REFER:** work with you social work team to complete the Isolation Request form and email to COVID19isorequest@sfdph.org.
* No phone contact yet available for hotel discharge program→contact social work for discussions.

Messages for patients who have had COVID-19 swabs collected and are being discharged:

- stay at home; maintain physical distancing from housemates
- if must leave home, wear a mask
- wash hands frequently
- return for worsening respiratory or other symptoms
- continue above pending test results
- your COVID-19 test results will be communicated to you*
- * *Healthcare team: do this through usual workflow*

- Call DPH (415.554.2830) if you have any questions about a patient discharge including to incarceration, shelter, or congregate living settings.

Background and Purpose:

Routine COVID-19 testing of asymptomatic preprocedure patients will be implemented to ensure the safety of patients and healthcare workers in the perioperative and procedural setting. Based on updated recommendations from the American Hospital Association, the guidance below has been codified by the Perioperative Executive Management Team and Infection Control regarding COVID-19 testing and related workflows for perioperative patients at Zuckerberg San Francisco General Hospital and Trauma Center. Preprocedure testing is not a mandatory requirement.

Additional information:

- Effective May 6, 2020, asymptomatic patients scheduled for procedures requiring either moderate sedation or anesthesia will be referred for preprocedure COVID-19 testing within 7 days prior to the planned procedure date. These procedures include surgical specialties, endoscopy, interventional radiology, and interventional cardiology. While all reasonable efforts will be made to coordinate preprocedure testing, testing will not be a requisite for proceeding with the planned procedure. For patients presenting for a procedure without a recent test and rapid testing is not feasible, the procedure may proceed at the discretion of the surgical/procedural attending after conferring with the anesthesiology attending.
- The type of COVID-19 test will include either routine RT-PCR (average turnaround time < 24 hours) or rapid test assays depending on the timing of presentation and planned procedure. Currently, based on the low prevalence of COVID-19 in the San Francisco area, the negative predictive value of a single negative test is estimated to be greater than 99%.
- For medically necessary elective outpatient procedures (C&G and C&S), patient COVID-19 testing will be coordinated by the Anesthesia Preoperative Clinic. Timing of testing will be aimed at 4 days prior to the procedure date, but will be acceptable up to 7 days prior to the procedure date. Repeat testing should occur for tests performed > 7 days or for new signs or symptoms of COVID-19.
- For medically necessary ambulatory procedures involving respiratory aerosol-generating procedures, preprocedure COVID-19 testing should be obtained within 7 days prior to the planned procedure. Testing will be coordinated by the procedural service.
- For inpatient emergent or urgent procedures, admission COVID-19 test results should be reviewed and repeated if > 7 days have elapsed or if new signs or symptoms consistent with COVID-19 have developed. Testing will be coordinated by the procedural and primary services. COVID-19 status and testing should not lead to delays in procedural or surgical care. For unknown COVID-19 status due to lack of testing or pending test results, proper PPE guidance and workflows should be followed (see "ZSFG Perioperative Guidance for PPE").
- For COVID-19 positive patients or patients with recent COVID-19 positive status:
 - Procedures that are not urgent should be reasonably delayed until resolution of COVID-19 and lifting of isolation status per guidelines
 - For urgent procedures, patients' clinical status should be evaluated, and careful planning should occur per guidelines for care of COVID-19 positive patients including safe workflow and proper PPE
- Rapid COVID-19 testing will be available in the Preop Unit and Preop Clinic areas for patients meeting the following criteria:
 - Undergoing a procedure for which pre-procedure testing is recommended at ZSFG
 - No test has been performed in the prior 7 days
 - Insufficient time to obtain results from a standard test, and procedure time cannot be readily moved to accommodate standard testing; the procedure will occur shortly after test result is available, assuming result is negative
 - Safe to delay procedure until test result is available (1 – 2 hours)
 - *Rapid testing is not mandatory for a procedure to proceed in the absence of recent test results

Approved 5/6/20, Revised 5/10/20 V.2; Perioperative Executive Management Team

ZSFG Perioperative and Ambulatory Guidance for COVID-19 Preprocedure Testing

Approved: 5/10/2020, V.2

SCENARIO	PREPROCEDURE TEST TYPE AND TEST LOCATION	TEST TIMING	NOTES
EMERGENT PROCEDURE (Examples: trauma surgery, STEMI, acute stroke care, U6 and U12 surgeries)	<u>RAPID</u> test ED, ICU, INPT WARDS	WITHIN PAST 7 DAYS REPEAT IF > 7 DAYS or new signs or symptoms of COVID-19	Testing should not delay surgical or procedural care. Testing will be coordinated by the procedural or primary service.
INPATIENT PROCEDURE (Examples: trauma surgery, endoscopy, IR procedures, U24 surgeries)	<u>ROUTINE</u> test or <u>RAPID</u> test ED, ICU, INPT WARDS	WITHIN PAST 7 DAYS REPEAT IF > 7 DAYS or new signs or symptoms of COVID-19	Testing should not delay surgical or procedural care. Testing will be coordinated by the procedural or primary service.
ELECTIVE OUTPATIENT PROCEDURE with ANESTHESIA (C&G and C&S)	<u>ROUTINE</u> test Alternate Test Site at ZSFG <i>or</i> Community-based test site <i>or</i> Anesthesia Preop Clinic*	WITHIN PAST 7 DAYS REPEAT IF > 7 DAYS or new signs or symptoms of COVID-19	Asymptomatic patients without testing can proceed with procedure at the attendings' discretion. Testing will be coordinated by the Anesthesia Preop Clinic. *Rapid test available if indicated.
ELECTIVE OUTPATIENT PROCEDURE with MODERATE SEDATION or AGP performed in the Ambulatory setting**	<u>ROUTINE</u> test Alternate Test Site at ZSFG <i>or</i> Community-based test site <i>or</i> Anesthesia Preop Clinic*	WITHIN PAST 7 DAYS REPEAT IF > 7 DAYS or new signs or symptoms of COVID-19	Testing will be coordinated by the procedural or primary service. **Includes only procedures involving respiratory aerosol-generating procedures (AGP)

ZSFG: Perioperative PPE Guidance

ZSFG Perioperative Guidance for Personal Protective Equipment (PPE)

Approved: 5/10/20; Version 3

Scenario	Anesthesia PPE	Surgery/Nursing/Scrub PPE	Notes
COVID-19 A COVID-19 PUI/Confirmed+ or Unscreened Status* for ANY surgery/procedure <small>*due to medical condition (i.e. trauma, stroke, STEMI)</small>	<u>Single-use N95**</u> + Eye protection Gown Double gloves	<u>Single-use N95 **</u> + Eye protection Gown Double gloves	Minimize number of providers present **PAPR use for anesthesia personnel during AGP. **PAPR permitted for surgeon(s) while performing non-sterile AGP
COVID-19 B Asymptomatic patient, without COVID19 test within 7 days, HIGH RISK surgery/procedure	<u>Single-use N95</u> + Eye Protection Gown Double gloves	<u>Reusable***</u> N95 + Eye Protection Gown Double gloves	Minimize number of providers present PPE to be worn by all personnel throughout procedure ***Not reusable if worn within 6 feet of AGP
COVID-19 C Asymptomatic patient, without COVID19 test within 7 days, LOW RISK surgery/procedure, WITH general anesthesia	<u>Reusable N95</u> + Eye Protection Gown Double gloves	Standard PPE (surgical mask, eye protection, gloves, possible gown) If NOT present in OR for airway procedure, otherwise same as anesthesia provider PPE	Personnel wearing standard PPE should leave the room during AGPs and enter 15 min after AGP is complete. If wearing N95/eye protection, then may remain in the room for AGP. Or if 15 min wait is not possible, follow scenario B
COVID-19 D Asymptomatic patient, without COVID19 test within 7 days, LOW RISK surgery/procedure, WITHOUT general anesthesia	Standard PPE (surgical mask, eye protection, gloves, possible gown)****	Standard PPE (surgical mask, eye protection, gloves, possible gown)****	If risk of conversion to GA is likely, follow scenario C from the start ****Reusable N95 may be donned for concern regarding prolonged exposure to respiratory secretions
COVID-19 E Asymptomatic patient, with COVID19 negative test within 7 days for ANY surgery/procedure	Standard PPE (surgical mask, eye protection, gloves, possible gown)	Standard PPE (surgical mask, eye protection, gloves, possible gown)	

ZSFG: Guidance on ER/Inpatients who Wish to Leave the Hospital Sooner than Advised

