The COVID-19 global pandemic has presented our Navy and nation unprecedented challenges and stressed the entire force. With grit, resiliency, initiative, and rapid application of lessons learned we survived first contact with this insidious enemy, protected the health of our Sailors, civilians, and families, and remained agile while generating, deploying, and sustaining combat ready naval forces.

As the world is potentially months away from a COVID-19 vaccine and wide-spread immunity, we expect COVID-19 to impact all aspects of our Navy well into calendar year 2021.

The Fleet Commander’s recently issued guidance to Commanding Officers for operating in the COVID-19 environment. The following passages capture the essence of that guidance:

We have established a new normal of operating in a COVID-19 environment, we expect you and your teams to leverage all resources and guidance available to operate at sea and ashore completing your assigned missions. This will require you to establish and maintain COVID-free bubbles, adhere to the established prevention protocols, and be ready to fight through COVID outbreaks to defend our nation. We must continue to provide mission assurance to our nation and to our Combatant Commanders.

We know our Sailors are a young and resilient populace, and we know personal responsibility, proper use of personal protective equipment (PPE), screening and removal of high risk personnel, contact tracing and executing our COVID-19 Standard Operating Procedures are all effective in preventing the spread of COVID-19. The US Navy Standardized Operational Guidance and Fleet developed Standard Operating Procedures support mission command and provide significant flexibility as we prepare our forces for combat.

As a Navy team, we adapted rapidly and prevailed during the initial COVID-19 surge. We must now dig in and excel during extended operations within this new normal. Let’s get to work!
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Cover: U.S. Navy photo by MC2 Kelsey J. Hockenberger
COVID-19 is a newly identified viral respiratory disease caused by the Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) virus. It is highly contagious with multiple avenues of transmission that may include:

- Respiratory droplets produced when an infected person coughs or sneezes.
- Respiratory secretions contacted through shared utensils, kissing, or other similar contact.
- Close personal contact with others such as touching or shaking hands.
- Touching a contaminated surface or object that has the virus on it, then touching your face.

The COVID-19 virus primarily attacks the respiratory system. In severe disease this can lead to acute respiratory distress syndrome (ARDS), which occurs when fluid builds up in the tiny, elastic air sacs in the lungs. The fluid keeps the lungs from filling with enough air which means less oxygen reaches the bloodstream. This deprives the organs of the oxygen they need to function which may require mechanical ventilation. The elderly (65+ years old) and individuals with certain pre-existing conditions are at greatest risk. Known risk factors include:

- Chronic lung disease
- Serious heart conditions
- Immunocompromised
- Severe obesity
- Diabetes
- Chronic kidney or liver disease
- Smoking
- Sickle Cell

The Centers for Disease Control and Prevention (CDC) currently estimate that 35% of otherwise healthy COVID-19 cases are asymptomatic. For the age group 18-49 years that is typical for US Navy active and reserve personnel, roughly 80% of those infected are expected to exhibit only mild-to-moderate influenza like symptoms.

Analysis reveals COVID-19 cases that eventually become symptomatic, on average, begin to exhibit symptoms 5 days following the exposure that resulted in them becoming COVID-19 positive. Additionally, incubation period studies of COVID-19 demonstrate that 95% of symptomatic cases will develop symptoms within 10 days of exposure and about 99% of symptomatic cases will develop symptoms within 14 days of exposure. Typical symptoms include: loss of taste and smell, cough, shortness of breath or difficulty breathing, fever (temperature > 100.4F/38C), chills, muscle pain, and gastrointestinal distress. Certain individuals may also exhibit the following atypical symptoms: sore throat, runny nose, nasal congestion, nausea, diarrhea, headache, increased confusion, dizziness, and malaise.

★ Analysis of the COVID-19 outbreak aboard USS Theodore Roosevelt found that loss of taste or smell and heart palpitations were the most common symptoms.
The vast majority of symptomatic COVID-19 cases amongst the 18-49 year age group resolve in a few days with rest and minor medication to control fever and muscle ache. For those that do not, treatment for persistent COVID-19 illness is primarily supportive care that includes: close observation by medical teams, fever management, treatment for cough, and intravenous fluids. Numerous trials are ongoing for more definitive drug therapies but results are preliminary.

There is currently no vaccine for COVID-19. COVID-19 convalescent blood plasma may have the potential to improve outcomes when used to treat COVID-19. COVID-19 Convalescent Plasma (CCP) is blood plasma collected from those who have previously had the virus and is being collected by the Department of Defense and civilian organizations for use in FDA-approved treatment for severely ill individuals. CVNs and large deck amphibious ships will soon have the ability to store, and when necessary administer CCP.

🔥 If you’ve had COVID-19, please donate blood – you might save a Shipmate’s life.

U.S. Navy photo by MC2 Robyn B. Melvin
PREVENTION & CONTAINMENT

The best tools in the fight against COVID-19 are well understood Public Health Mitigation Measures such as self-monitoring and reporting, physical distancing, washing hands frequently, wearing masks to prevent the spread of droplets/secretions, and staying home when ill. Complacency must be identified and stamped out, especially as the pandemic wears on. Physical distancing can be difficult or simply not possible in many commands and especially aboard naval vessels. In these instances, leaders must be tenacious and creative to fight through the threat and protect their unit.

The most effective method of COVID-19 prevention is physical distancing to prevent close contact and dramatically reduce the risk of transmission. Close contact is currently defined as: being within 6 feet of a COVID-19 positive individual for more than 15 minutes; or, being coughed or sneezed upon by a COVID-19 positive individual. Additional prevention tools include:

Cloth face coverings.  
Enhanced personal hygiene and space cleanliness practices.  
Restricted travel routes.  
Sequenced watch turnover.  
Restriction of Movement (ROM).

The most effective methods of containment once a unit has a COVID-19 case are strict isolation and quarantine. Each units’ circumstances will be unique, but all share the imperative to minimize instances of close contact or interaction to maximize the probability of prevention and containment. Prevention and containment tools are only effective if followed earnestly by every single member of the unit.

★ The requirements to wear proper PPE, rigorously follow ROM sequester protocol, limit interaction with others to the absolute minimum, to quickly disclose any COVID-19 symptoms cannot be overstated. An entire unit can be temporarily disabled by a single contagious individual if not quickly identified and contained.
Contact tracing is the process of methodically assessing all individuals that may have been in close contact (i.e., within 6 feet for more than 15 minutes) with COVID-19 positive individuals going back 48 hours before the initial onset of COVID-19 symptoms. Timely and accurate contact tracing is critical to the containment of COVID-19 once it has impacted a unit. Individuals deemed ‘close contact’ through a contact trace are in most cases immediately placed into quarantine for a period of 14 days from the time of exposure. This time period allows symptoms to appear if they become positive. It also prevents close contacts from becoming spreaders of COVID-19.

Contact tracing is currently a manual endeavor. As such, it is time consuming, relies on human recollection and transparency, and therefore lacks desired accuracy and expediency. Most units are compelled to err conservatively when conducting the contact trace which may lead to the quarantine of unnecessary individuals.

⭐ All hands are encouraged to maintain a log of daily interaction that would meet close contact criteria to increase speed and accuracy of manual contact tracing.
Testing is a key resource for unit commanders to assess the COVID-19 status of their personnel and units. It is also the only way to potentially uncover asymptomatic COVID-19 positive individuals. However, it is important to understand that tests are not predictive and are merely a snapshot at the time the test was administered. To be truly useful, testing protocol must be combined with ROM-Sequester and other prevention measures.

Current testing assets and capabilities can be broken down into two broad categories:

- **Large, stationary, high sensitivity units:**
  - Panther Fusion ~1,5K tests/day
  - Roche Cobas 3K tests/day
  - Cepheid Express ~130 tests/day
  - ABI 7500 ~100 tests/day

- **Small, mobile, low capacity units:**
  - Abbott ID Now ~100 tests/day
  - Bio Fire ~24 tests/day

Generally speaking, larger units are found at major military medical facilities such as Portsmouth NMC, Balboa NMC, and Walter Reed NMMC. They have the greatest accuracy and the most capable units have the highest daily batch capacity. A drawback to larger stationary units is longer turn-around-time for results given transit time from the collection area to major medical facilities and the deeper analysis conducted. ROM-Sequester related tests are performed on the higher sensitivity units.

The smaller mobile units are positioned in targeted Fleet operating areas. Large deck ships (CVNs/LHAs/LHDs), Naval Special Warfare Groups, and Strategic Submarine forces are all equipped with Bio Fire. Naval Component Commanders also have Abbott ID Now machines available to dispatch to ‘hot spots’ within their area of responsibility. These smaller units have faster turn-around-time per individual test, but lower overall daily batch capacity due to their size. They also have slightly reduced accuracy due to higher false negative rates given their lower sensitivity. The greatest utility of the smaller, mobile units is to assist commanders in timely and accurate contact tracing by identifying symptomatic individuals that are indeed COVID-19 carriers.
The Department of Defense recently mandated Sentinel Surveillance Testing (SST) across the Department. Previously, testing had been restricted to strategic forces, operational forces as part of pre-deployment ROM-sequester, or those with symptoms. SST will expand DoD testing to a broader cross-section of the Department to increase the probability of detecting COVID-19 within a region, installation, or unit. SST will test up to 10% of select populations with high contact rates such as health care providers or those that must work in confined quarters (e.g., ships, submarines and brigs) and smaller percentages in Fleet chosen units to ensure an optimum balance of COVID-19 detection and reduction of risk to mission and force. The goal of SST is to identify asymptomatic personnel to help prevent the spread of the virus. SST is mandatory and those chosen for testing must comply with local SST procedures.

An issue worth stressing is that no current testing protocol is 100% accurate. As such, units must guard against complacency following any 100% negative test results and continue to rigorously follow sound COVID-19 prevention and containment procedures.

Key point: Testing only clears a person at a specific point in time and the fight to stay COVID-free must be continuous.
The Chief of Naval Operations recently signed out COVID-19 STANDARDIZED OPERATIONAL GUIDANCE Version 2.0 - NAVADMIN 173/20. This document is Navy’s capstone guidance to increase the probability of meeting required tasking with COVID-Free mission ready crews while protecting the health of our Sailors, civilians, and families. It is informed by current scientific knowledge and reviewed often for necessary adjustment. Naval leaders must be familiar with its content.

The minimum action required prior to deployed operations is addressed in Section 3 of the NAVADMIN. Detailed guidance is provided to ensure units are performing thorough and meticulous checks for COVID threat vectors while identifying crew members with pre-existing conditions that would place them at greater risk from COVID-19 complications. It also mandates a 14-day pre-deployment ROM-Sequester that includes a high sensitivity test near the end of the ROM period per Fleet approved community CONOPS (i.e., specific to unit types). The basis of the 14 day requirement is that about 99% of those individuals exposed to COVID-19 who are predisposed to become symptomatic will display symptoms within 14 days of exposure. The requirement to test individuals at the end of ROM-Sequester is an additional hedge to screen for asymptomatic COVID-19 carriers to prevent asymptomatic transmission to more susceptible members of the crew. Disciplined adherence to the Standardized Operational Guidance will maximize a unit’s potential to develop a COVID-Free bubble around their command.

Section 4 of the NAVADMIN walks through escalating requirements for COVID-19 risk mitigation as a unit progresses through the Optimized Fleet Response Plan cycle. As you would expect, requirements and restrictions increase as a unit approaches deployment.

It is critical to understand the most effective means of preventing the spread of COVID-19 is to practice simple public health mitigation measures in all phases: limiting close contact through physical distancing; daily self-monitoring and screening; taking oneself “off the team” temporarily and stepping forward if exhibiting symptoms; thorough cleaning and sanitization of heavily used areas; frequent hand washing; smart use of PPE; and, reliance of individuals to adhere to these standards at all times.
Two separate critical concepts are addressed in Section 7 of the Standardized Operational Guidance: (1) action required once a member exhibits signs or symptoms of COVID-19; and, (2) required conditions to permit a previously COVID-19 positive individual to return to their unit.

Upon exhibiting signs or symptoms, an individual is deemed a Patient Under Investigation (PUI) and immediately isolated or quarantined from the remainder of the crew pending further investigation, testing and observation. Those individuals who have had close contact with known COVID-19 cases or symptomatic PUIs are quickly identified through contact tracing, screened, and quarantined. The quarantine period is 14 days for the same reason as the ROM-Sequester period – to ensure there is about a 99% chance they will have displayed symptoms if they themselves become COVID-19 positive. The 14 day quarantine also allows personnel infected but asymptomatic to recover or become non-contagious.

Return to work criteria was developed using CDC guidelines for recovery from COVID-19. The guidance for operational units in Section 7.D.1 is slightly more restrictive than the CDC in that an individual must be “free” of respiratory symptoms for 72 hours vice merely “improving”, and 14 days vice 10 days must have elapsed since the first symptoms appeared or the first positive test result was received. This provides a higher measure of assurance for operational units where containment presents greater challenges.

Finally, the potential for previously recovered individuals to test positive on subsequent tests is addressed in Section 7E. Research indicates that previously infected individuals may continue to test positive for 8 weeks or more following full recovery due to the presence of non-infectious viral fragments (i.e., ‘dead virus’ that is no longer contagious). Therefore, those individuals who have previously met Return to Work criteria may remain at work. As a practical fleet example, if a member became infected with COVID-19 during the Advanced Phase training, recovered fully and returned to work per the criteria in the Standardized Operational Guidance, he or she may test positive during the post ROM-Sequester test if the test is administered within eight weeks of their recovery. That member would be deemed cleared to remain at work per the ‘dead virus’ discussion above.

Key concepts from the COVID-19 Threat and Risk discussion are:

- Navy operational guidance is informed by the latest scientific data and frequently updated;
- Operational restrictions increase with proximity to deployment but the most effective prevention and containment measures are in place at all times;
- Prevention and containment measures are only effective if executed correctly and rigorously at both the individual and unit level;
- Personal accountability is vital to prevent and limit spread of the virus;
- Standardized risk mitigation measures, the age and fitness of our deploying forces, and rapidly expanding testing capability position Navy to safely and smartly accept and manage additional risk when necessary to meet mission tasking.
COVID-19 will likely impact our Navy deep into CY 2021. The requirements to recruit and train Sailors, maintain ships and aircraft, and generate, sustain, and employ combat ready crews will not abate during that time. We have learned a great deal and changed our culture with simple public health mitigation measures. We must continue to proactively fight through this challenge and not become complacent. All Leaders must stay abreast of the latest guidance issued through official Navy channels and create a culture that values close scrutiny of personal health for COVID-19 symptoms and immediate action. Strict adherence to published guidance and creative, data driven approaches to risk mitigation are crucial to success in the COVID environment.

Our “return to normal” will be phased by Navy Installation Commanders based on local conditions and vary by region. As a result, the situation and circumstances Sailors experience will be different across the entire Navy. As facilities and operations expand, leaders must ensure their teams understand the following key points and use them in individual and unit risk decisions:

- While expanding operation or taking advantage of restored services such as fitness facilities, child daycare centers, etc., the primary consideration must remain mitigating risk to force and risk to mission to minimize COVID-19 infection and spread.

- Return to normal criteria and procedures assume local conditions present acceptable and manageable risk to COVID-19 exposure in exchange for increased productivity, training, quality of service, etc. However, it is still the duty of all Navy personnel to avoid situations that involve unnecessary risk to COVID-19 exposure.

- Consideration of risk must include not only the activity or destination in question, but also the risk associated with public transportation, intermediate/overnight stops, and contact with anyone whose health condition is not known.

In cases where approved travel (e.g., TDY, PCS, leave) results in transit from or through areas with unknown or higher risk for COVID-19 exposure, adherence to CDC guidelines is important and ROM-sequester may be advisable at the completion of travel prior to resuming routine duty.

We must bias toward staying at sea, remaining on mission, and fighting through manageable COVID cases. The leading doctors in the White House COVID Task Force recently confirmed that the risk mitigation Navy has in place, including the screening of high risk individuals, plus the demonstrated resiliency of our principle age group places us in a position to responsibly accept – and manage – greater risk while leaders balance force health protection against mission tasking.

Much has transpired in the initial months of the COVID-19 challenge. Our Navy has learned rapidly and adapted quickly. To those attributes, we must now add discipline, endurance, and resolve. We will overcome this challenge and continue to protect the health of our Sailors, civilians, and families while delivering decisive sea power on, above, and under the sea.
The following sources for Navy guidance and information are current as of 29 June 2020. For a comprehensive list of COVID resources, please visit the official Navy Live Blog, COVID-19 Response page: https://www.navy.mil/covid19

1. **USN COVID-19 Standardized Operational Guidance Version 2.0 – NAVADMIN 173/20.** The capstone document for commanders of operational units and key enabling commands. Contains key COVID-19 definitions and concepts, required action for units in all phases of OFRP training, prevention and mitigation measures, protocol for treating COVID-19 positive individuals, and return to work criteria. It is informed by the latest guidance from the Center for Disease Control and Prevention and provides commanders the tools required to make data informed risk decisions. https://www.public.navy.mil/bupers-npc/reference/messages/Documents/NAVADMINS/NAV2020/NAV20173.txt


4. **CNIC C4I Website.** CNIC maintains a COVID-dedicated collaboration site at: https://c4isuite.atfp.cnic.navy.mil/collaboration/Coronavirus/default.aspx which collates references, status reports, and other up-to-date information. Of note, the HPCON status tracker is a helpful dashboard of current HPCON status for installations worldwide.

**GLOSSARY**

**Bubble.** Individuals, units or installations that have established low probability of COVID-19 infection. A crew that has been underway, or ROM-Sequestered at the pier, for greater than 14 days without COVID-19 positive personnel and no COVID-19 symptoms is within a bubble.

**Bubble to Bubble Transfer (B2BT).** Movement of units or personnel from one bubble to another via controlled means. A wide variety of modes/means of transportation can be used for B2BT. The key factor is that the evolution is closely controlled to minimize risk of COVID-19 exposure.

**Close Contact.** Individuals that have been within 6 feet (2 meters) of a COVID-19 case for greater than 15 minutes. Close contact can occur while caring for, living with, visiting, working with, or sharing a densely populated space with a COVID-19 case. Close contact can also be established via direct contact (e.g., being coughed or sneezed upon by a COVID-19 case). Determination of close contact presumes the interaction transpired during the COVID-19 case’s potentially infectious period currently defined as 48 hours prior to symptom onset (or positive test if asymptomatic) to the time the COVID-19 case is placed in isolation.

**Contact Tracing.** The process of methodically assessing all individuals who may have been in close contact with COVID-19 positive individuals or symptomatic PUIs. Contact tracing is typically performed following identification of new COVID-19 cases or PUIs.

**Corrective PPE.** Products used by medical personnel to treat suspected or confirmed COVID-19 cases. Corrective PPE includes respirators, goggles, gowns, and VTM Kits. Burn rates are anticipated to be low until a unit has confirmed or suspected covid-19 case(s).

**COVID-19 Case.** A member, designated by a medical provider, by one of two methods: 1) a positive COVID-19 laboratory test, or 2) assessed as ‘presumed positive’ per the Council of State and Territorial Epidemiologist (CSTE) criteria for a probable case.

**High-Risk Personnel.** Those individuals, designated by a medical provider, that meet the Center for Disease Control and Prevention (CDC) high-risk criteria available at: https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-at-higher-risk.html This list evolves as knowledge of COVID-19 grows and should be checked frequently.

**Isolation.** The strict separation of personnel from others due to the development of potential COVID-19 symptoms or a positive COVID-19 test. Isolation is a form of ROM.

**Medical Screening.** COVID-19 medical screening should include evaluation for both typical and atypical symptoms. Typical symptoms of COVID-19 include: cough, shortness of breath or difficulty breathing, fever, chills, muscle pain, gastrointestinal distress, and recent loss of taste or smell. Atypical symptoms of COVID-19 include, but are not limited to: sore throat, rhinorrhea (runny nose), nasal congestion, nausea, diarrhea, headache, increased confusion, dizziness, and malaise. A complete list of COVID-19 symptoms can be found at: https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html
**Patient (or Person) Under Investigation (PUI).** An individual with signs or symptoms of COVID-19 who has a test result pending or would have been tested had a test been available. Members are no longer a PUI when: a) receive a negative COVID-19 lab test result; or, b) have met all Standardized Operational Guidance criteria to Return to Work. Asymptomatic individuals quarantined due to close contact with a COVID positive member are not classified PUI. Asymptomatic individuals being tested for COVID-19 are not considered PUIs while awaiting test results.

**Preventative PPE.** Products required to clean and disinfect spaces to maintain a clean bubble. These products include cleaning supplies, hand sanitizer, gloves and cloth and/or surgical masks. Daily burn rates are anticipated to be high due to continuous use.

**Quarantine.** Separating asymptomatic personnel from those people reasonably believed to have been exposed to a communicable disease, to prevent the possible spread of the communicable disease. For the COVID-19 pandemic, personnel with no COVID-19 symptoms who have recently returned from a higher risk location or had close contact with a known COVID-19 positive patient should be quarantined. The quarantine period is 14 days. Quarantine is a form of ROM.

**Restriction of Movement (ROM).** General DoD term for limiting personal interaction to reduce risk to the health, safety and welfare of a broader cohort. ROM is used to minimize risk of individuals encountering COVID-19 contagious individuals and to prevent personnel who have been in a higher risk area from potentially infecting others. ROM includes Isolation, Quarantine and ROM-Sequester.

**ROM-Sequester.** Pre-emptive separation of forces to reduce risk of infection while establishing a COVID-free bubble. ROM-Sequester can be conducted onboard ship, in contracted facilities, or in personal residence dependent on unit-specific scenarios. During ROM-Sequester, interaction with individuals outside the ROM location is prohibited.

**Self-Monitoring.** Per the Center for Disease Control and Prevention (CDC), self-monitoring includes assessing onset of fever by taking one's temperature twice a day and remaining alert for the onset of cough or breathing difficulty. CDC defines fever as temperature greater than or equal to 100.4F/38C degrees. Individuals that develop COVID-19 symptoms should immediately self-isolate, limit contact with others, and seek advice by telephone from a healthcare provider to determine if further medical evaluation is required.

**Sentinel Surveillance Testing.** One of DoD’s multi-pronged surveillance strategies to detect disease early and direct public health action to break the disease transmission chain. Tests asymptomatic populations with the highest likelihood of infection to detect the virus early and prevent widespread transmission.