Update to UNOLS Considerations for Conducting Seagoing Science

The following information and guidance is provided as an update and adjustment to previous UNOLS Guidance related to conducting science onboard U.S. Academic Research Fleet vessels (see: 1June2020 UNOLS COVID-19 Considerations For Conducting Seagoing Science, 11May2021 Update to UNOLS COVID-19 Guidance, 4June2021 Update to UNOLS Considerations for Conducting Seagoing Science, 25August2021 UNOLS COVID-19 Guidance Update, and 10Dec2021 Update to UNOLS COVID-19 Guidance). Those elements of the previous UNOLS Guidance not addressed in the following paragraphs remain in effect.

This update has been developed with advice and guidance provided by George Washington Medical Faculty Associates.

Omicron and its subvariants are more easily transmitted between persons. Coupled with increasing evidence that vaccine-induced immunity wanes, the CDC has recommended booster shots for persons over 18 who were previously considered fully vaccinated. Please see the CDC's definition of fully vaccinated. Based on these recommendations and the understanding of the increased risk of transmission inherent to congregate settings (such as ships), it continues to be prudent to mandate boosters for persons boarding Academic Research Fleet vessels.

The following changes are made to previously issued UNOLS guidelines for consideration in conducting oceanographic research on U.S. Academic Research Fleet vessels. In all cases, the vessel operators and chief scientists can choose to use stricter protocols if deemed appropriate for any reason.

UPDATED GUIDANCE

Our goal continues to be that all persons aboard Academic Research Fleet vessels are fully vaccinated, including boosters, against COVID-19. Due to the close quarters of vessel operations, we recommend that operating institutions mandate vaccinations and boosters for all cruise participants. UNOLS expects that all involved parties will maximize efforts to ensure that all persons (crew and science party) are fully vaccinated and boosted, as may be applicable by CDC guidelines, by a ship's sail date. In addition to ensuring that all persons are fully vaccinated, the pre-travel safety, symptom-checking and testing protocols addressed in Table 1 should be implemented.

Any requests to proceed without a fully vaccinated vessel (including boosters as appropriate per CDC guidelines) require notification to the funding agency, institution and UNOLS prior to proceeding. Risk level shall be determined through the vessel operator's established Risk Assessment Process. Any unvaccinated participant is expected to complete the pre-cruise requirements as indicated in Table 2 below. For ships that have voyages that are longer than 7 days and/or anticipate being more than 24-hour sail from medical facilities, consideration should be given to having on-board NAAT or Ag testing capability.

If a vessel must proceed with one or more unvaccinated persons, additional testing and safety measures should be implemented for those persons as addressed in Table 2. In addition, the Operator and Chief Scientist should consider the following precautions:

1. Operating the ship within 2 days of adequate medical facilities
2. Obtaining the informed consent of other crew/science party
3. Outfitting the vessel with the ability to conduct on-board NAAT or Ag testing
4. The cost associated with pre-cruise quarantining requirements for those who voluntarily do not get vaccinated, aside from medical or religious accommodations, must be supported by the individual or the institution

UNOLS encourages vessel operators and science parties to use the following basic process outline to manage COVID-19 related risks:

1. All personnel should be fully vaccinated and boosted per CDC guidance.
2. Ship operators and the chief scientists shall conduct risk assessments to assess the degree of risk for each cruise. The joint risk determination will serve to inform the degree of travel and pre-cruise protocols that will be implemented by the vessel operator and science party to mitigate risks related to each cruise.
    a. The risk assessment should consider:
        i. Port of embarkation / mobilization
            1. Including COVID-19 case rates & trends
        ii. Distance from shore & appropriate medical care
        iii. Cruise duration
        iv. Cost of cruise execution
        v. Science party size
        vi. Whether public transport travel to the embarkation port is required
        vii. The number of high-risk participants

3. Using the Risk Assessment as a guide, ship operators, in concert with the chief scientist, shall determine and communicate travel and pre-cruise protocols to be implemented for each cruise. Depending on the level of risk, pre-cruise protocols should include:
    a. Pre-cruise symptom checks
    b. Pre-cruise quarantine/shelter in place per Tables 1 & 2 below
    c. Pre-cruise testing – in order of recommended precedence for risk mitigation
        i. PCR
        ii. Observed Antigen
        iii. Self-Administered Antigen – only for Low Risk Cruises
    d. Travel precautions
    e. Masking requirements
        i. Masking using N-95 / KN-95 masks is strongly encouraged for any persons using commercial transportation
    f. Embarkation requirements
    g. COVID-19 Health and Safety Plan that includes the following if a case arises

i. Onboard testing with ability to cover all personnel
ii. Underway isolation plan
iii. Underway sanitizing and cleaning material supply

4. Ship operators shall forward cruise risk assessments determined to be High or Medium Risk to the funding agency(s) and the UNOLS Office for review well in advance of the start of cruises.

5. Ship operators must continue to maintain robust COVID-19 Health and Safety Plans that outline protocols for addressing when crew/science party members develop symptoms while onboard during cruises. Isolation is the key to success. The ability to isolate the air supply to "Isolation Rooms" is a significant risk mitigator.

6. It is recognized that situations may arise where a ship operator encounters challenges in fully crewing a vessel given the current ongoing crewing crisis. In those cases where a vessel operator has to complete a "last minute" fill of the crew complement to ensure departure as close to that which is scheduled, the ship operator shall:
    a. update the risk assessment for that cruise,
    b. adjust risk mitigation protocols as may be appropriate
    c. communicate the situation with the chief scientist
    d. notify the funding agency and UNOLS Office of any such actions taken

Fully Vaccinated Persons

Based on the CDC's recommendations for persons over 18 who were previously fully vaccinated and the understanding of the increased risk of transmission inherent to congregate settings (such as ships), the ARF defines "fully vaccinated" as a person who has:

1. Completed the initial 2-dose series of Pfizer or Moderna more than 14 days before embarkation AND less than 6 months have passed since last dose was administered
2. Received 1 dose of Johnson & Johnson (Janssen) more than 14 days before embarkation AND less than 2 months have passed since the dose was administered
3. If > 6 months have lapsed since completing 2-dose series of Pfizer or Moderna, OR > 2 months since 1 dose of Janssen, must have also received a single (booster) dose with any of the COVID-19 vaccines authorized for use in the U.S.
4. For those over 50 years of age or those with immuno-compromised conditions it is highly recommended that they receive a second (booster) dose in accordance with CDC guidelines.

Table 1 – Fully Vaccinated Persons

	Action Required
At least 14 days prior to embarkation	Submit COVID-19 Vaccination & Booster Documentation
At least 7 days prior to embarkation	RT-PCR or Observed Rapid Antigen test Begin Pre-travel safety measures: • Avoid all crowded public[2] spaces • Mask in all crowded outdoor spaces • Mask in all indoor public spaces • Mask in indoor private[3] spaces (e.g. home) **if** there are unvaccinated (e.g. young children) and/or immunocompromised persons in the same household Begin daily symptom tracking[4] • If develop symptoms of possible COVID-19, initiate quarantine and obtain RT-PCR test.
1-3 days prior to embarkation	Pre-Travel Testing – RT-PCR[5] or observed Ag[6] Tests should be as close as possible to travel date.
During Commercial Travel	Wear an N-95 or KN-95 mask
Upon embarkation	RT-PCR[5] or observed Ag[6] test on embarkation[9] Tests should be as close as possible to embarkation.

Table 2 – Persons Not Fully Vaccinated

	Action Required
15-17 days prior to embarkation	Complete RT-PCR[5]
14 days prior to embarkation	Submit any COVID-19 vaccination documentation[7]
14 days prior to embarkation	1. Begin pre-quarantine safety measures: • Avoid crowded indoor public spaces • Mask in all indoor public spaces • Mask in all indoor private spaces (e.g. home) if there are unvaccinated (e.g. young children) and/or immunocompromised persons in the same household 2. Begin daily symptom tracking. • If develop symptoms of possible COVID-19, initiate quarantine and obtain RT-PCR test. There should be at least 48 hours between this test and the pre-travel test
7 days before embarkation	Begin Pre-embarkation quarantine[8]
~2 days prior to embarkation	RT-PCR[5] or observed Ag[6] test[9] Tests should be as close as possible to embarkation date.

Key:

1. Travel begins when a person leaves their last place of residence to join the vessel.
2. Public is defined as an event or space with more than one household
3. Private is defined as occurring in and including only persons from one's own household
4. CDC COVID-19 symptoms
5. PCR: any CDC recognized Nucleic Acid Amplification Test (NAAT) test. CDC recognized NAAT - Nucleic Acid Amplification Test – see: https://www.cdc.gov/coronavirus/2019-ncov/lab/naats.html
6. Ag: any CDC recognized Antigen test.
7. This includes incomplete series (e.g. one vaccine of a 2-shot series, no booster) or vaccination with a vaccine that has not had FDA or WHO approval (EUA/EUL)
8. Quarantine: For purposes of this document, only persons not fully vaccinated against COVID-19 are expected to complete pre-embarkation quarantine (unless quarantine is instituted by another health authority- for e.g. as a result of contact tracing efforts OR the ship operator and chief scientist deem it required for a high-risk cruise). During the quarantine period, persons are expected to establish single-occupancy residence and to take their meals in their residence.
9. If a person has a positive PCR (or any NAAT) or Ag test they will not be allowed to sail or board a vessel. Before being allowed to board, they must be cleared by a physician. Unless they are recently recovered from COVID-19, they will need to complete a period of ISOLATION before they are allowed to sail. The necessity of repeating the testing (for e.g. documenting a negative Ag test) will be left to physician discretion. Currently, documenting a negative PCR test is not considered an alternative to isolation and is not needed to provide clearance once isolation is completed.

Risk levels shall be determined through the vessel operator's established Risk Mitigation Process. Any requests to proceed without quarantine for high risk cruises require concurrence from the funding agency, institution and UNOLS prior to proceeding. **In all cases, current or more strict protocols can be utilized in cases where risk levels are determined to be significant.**

Travel Recommendations – for crew and science party who travel to meet the ship

- Travel to port should be conducted in private vehicle when possible.
- Travelers should always wear an N-95 or KN-95 mask and minimize interaction during travel.