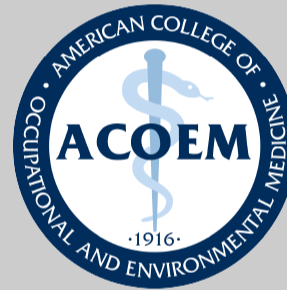


# COVID-19 Update: What to Expect from the New Norm for GOM Operations



AMERICAN COLLEGE OF  
OCCUPATIONAL AND  
ENVIRONMENTAL MEDICINE

Robert “Bob” Bourgeois, MD, MPH, FACOEM  
May 20, 2020

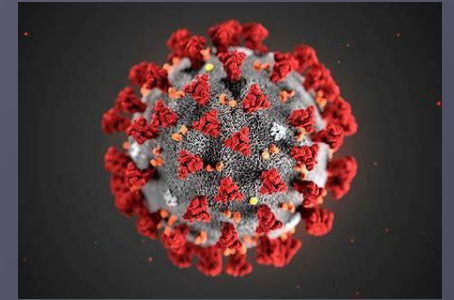
# American College of Occupational & Environmental Medicine (ACOEM)

**ACOEM** is a membership organization that provides leadership to promote optimal health and safety of workers, workplaces, and environments.



Bob Bourgeois, MD, MPH, FACOEM  
President-Elect 2020 - 2021

# COVID-19



- ▣ 12/2019 – Wuhan China –
  - Severe Acute Respiratory Syndrome Coronavirus 2 - SARS-CoV-2
- ▣ US cases – beginning in January 2020
- ▣ Novel Coronavirus – No prior exposure / No Antibody / No Vaccine
- ▣ Myriad of Viral Symptoms
- ▣ Affects Multiple Organ Systems
- ▣ Issues with Testing for Virus / Antibodies to Virus
- ▣ May be some residual dysfunction post disease
- ▣ No Vaccine available YET

# COVID-19 Case Progression

- ▣ COVID-19 – US (March 18, 2020)

- ▣ 6539 Cases
- ▣ 116 Deaths - 1.8%
- ▣ 106 Recovered

- ▣ COVID-19 – Global – 18 March

- ▣ 204,700 Cases
- ▣ 8270 Deaths - 4%
- ▣ 82,868 Recovered - 40.5%

- ▣ COVID-19 - US – (May 20, 2020)

- ▣ 1,528,568 Cases
- ▣ 91,921 Deaths – 6%
- ▣ 289,392 Recovered – 19%

- ▣ COVID-19 – Global – 20 May

- ▣ 4,897,492 Cases
- ▣ 314,215 Deaths – 6.4%
- ▣ 1,688,619 Recovered – 34%

# Symptoms

- ▣ Fever ( >100.4F )
- ▣ Cough (Usually Dry, May be Productive)
- ▣ May have Shortness of Breath / Difficulty Breathing
- ▣ May have Chest Pain
- ▣ May have GI Symptoms
- ▣ May have Loss of Smell / Change in Sense of Taste
- ▣ Onset 2-14 Days (Usually 4-5 Days Post Exposure)

# If You Suspect that You Have COVID-19

- MASK UP – FACE MASK – NOT N95
- Keep up Physical Distancing – At Least 6 Feet
- Keep AWAY from Healthy Persons
- Call PMD for referral to appropriate screening location for evaluation
- May Quarantine in place



# If You Suspect an Employee has COVID-19

- ▣ Fever, Cough, Chest Pain, Temp >100.4F, GI Symptom
- ▣ Patient – Wear Surgical Mask (NOT N-95 Respirator)
- ▣ ISOLATE from Other Well Employees
- ▣ PPE for Responder –
  - Face Mask – Protects from Splashes & Sprays
  - Respirator (i.e. N-95) – Filters the air (if worn properly)
  - Eye Protection - Protects from Splashes & Sprays
  - Gowns - Protects from Splashes & Sprays / High Patient Contact Tasks
- ▣ Transport via appropriate means with PPE for Transporters



# Testing Issues - Antigen

- ▣ Active Disease – Testing for the COVID-19 Virus
  - Most Common – PCR
  - Nasopharyngeal Swab – Depends on Technician to get Adequate Sample
  - Results in Hours to Days
  - Some Antigen Tests with Significant Number of FALSE Negatives
    - ▣ May retest as POSITIVE several days later
    - ▣ May still shed virus up to several weeks post disease
  - Unable to Culture Viable (Infectious) Virus 9 Days from Onset



# Testing Issues - Antibodies

- ▣ Testing for IgM / IgG Antibodies to COVID-19 – (Prior Exposure to COVID-19)
  - Immunoassay – Many Knockoffs (NOT FDA APPROVED)
    - ▣ Some < 50% Accuracy; Lots of False Negatives / Some False Positives
  - Blood Test – All FDA Approved Tests require VENIPUNCTURE (Not Fingerstick)
  - IgM usually appears end of 1<sup>st</sup> week of illness, may be gone by 4<sup>th</sup> week
    - ▣ May still be Infectious when IgM is present
  - IgG usually appears in 4<sup>th</sup> week, may persist for months to years
  - Positive denotes prior exposure, Unsure if IMMUNITY to COVID-19 yet
  - In areas with LOW Prevalence Rates, May have increased False Positives
  - <https://www.fda.gov/medical-devices/emergency-situations-medical-devices/emergency-use-authorizations#covid19ivd>

# Testing Issues - Decisions

- ▣ If ANY POSITIVE Result - Important to get a good History
  - Current / Recent Symptoms
  - Close Contacts
  - Chronology of Symptoms
  - Prior / Current Test Results
- ▣ Possible Result:
  - Current Disease / Infectious
  - Recent Disease / Possibly Infectious
  - Prior Disease / Not Infectious

# Return to Work Options – Time Based

- ▣ Isolation - for at least 10 days *after illness onset* and at least 3 days (72 hours) *after recovery*.
  - Illness onset is defined as the date symptoms begin.
  - Recovery is defined as resolution of fever without the use of fever-reducing medications with progressive improvement or resolution of other symptoms.
  - Ideally, isolation should be maintained for this full period to the extent that it is practicable under rapidly changing circumstances.

# Return to Work Options – Test Based

- ▣ Maintain home isolation until:
  - Resolution of fever without the use of fever-reducing medications AND
  - Improvement in respiratory symptoms (e.g., cough, shortness of breath) AND
  - Negative results of an FDA Emergency Use Authorized molecular assay for COVID-19 from at least two consecutive upper respiratory swab specimens collected  $\geq 24$  hours apart (total of two negative specimens)[1]. See Interim Guidelines for Collecting, Handling, and Testing Clinical Specimens for 2019 Novel Coronavirus (2019-nCoV).

# Return to Work Testing Options

- ▣ PCR Testing
  - Two Negatives Separated by >24 Hours
  - May Still be Positive for Several Weeks
- ▣ Antibody Testing
  - IgM Early - 7 days – 21 days
    - ▣ May Still be Contagious
  - IgG Later – 14 days on for months?
  - Immunity????
- ▣ Combination of the Two Tests???
- Not Perfect Tests but May Help with Decision

# Return to Work Options - Combination

- ▣ Use Time / Test Combination
  - Minimum 10 Days from Onset
  - Minimum 3 Days Post Symptoms
  - Repeat FDA Approved PCR
  - FDA Approved Antibody Testing?
  - Medical Review / Clearance
- ▣ May be Better Option for Offshore / Maritime / Diving to DECREASE Risk



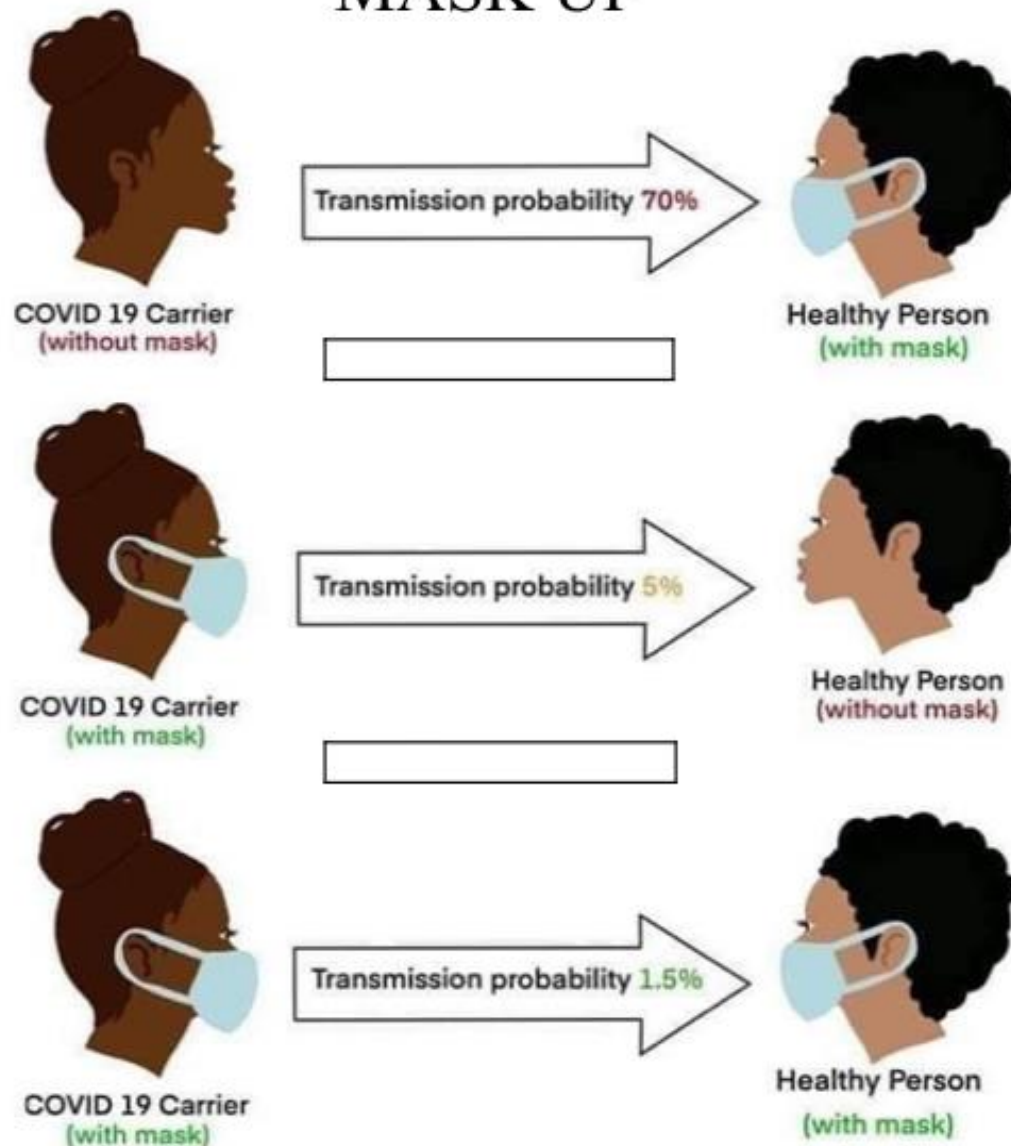
# Residual Issues Post COVID

- ▣ Respiratory –
  - If Moderate / Severe Disease –
    - ▣ PFT for Return to Offshore / Diving Positions
    - ▣ May need to Evaluate Aerobic Capacity
  - Minimal Symptoms / Asymptomatic
    - ▣ Many have still had Decreased Pulmonary Function Compared to Baseline
- ▣ Cardiomyopathy
  - Echocardiogram
  - Functional Exercise Stress Test

# Current Research

- ▣ Average Person is Infectious for 10 Days and Infects 1 Person every 4 Days
- ▣ GOAL is to Decrease Spread to  $<1$  person per case ( $R<1$ )
- ▣ Masking Decreases Non-Contact Transmission up to 80%
  - Only Need N95 / Respirator for YOUR Protection if Dealing with Infected Patients
  - Respirators with EXHAUST Valves Allow Infected Wearers to SPREAD Virus
  - “Wearing a Mask With Your Nose Out Over the Top is NOT PROTECTIVE”
  - “You Do Not Need to Wear a Mask When Driving Alone Down the Highway”

# MASK UP



When you wear a mask, you protect others and when others wear a mask they protect you. You can buy or make masks. Remember, unless you are a healthcare worker you do not need to wear or purchase N95 or surgical masks.

# Current Research

- ▣ Medications – Many studies ongoing
  - Hydroxychloroquine – May have more benefit EARLY in disease
  - Antivirals
  - Prevention
    - ▣ Vitamin C
    - ▣ Zinc
    - ▣ Vitamin D3
- ▣ Vaccine – Multiple companies; Possible Late this year, more likely next year

# Prevention

- ▣ Strict Compliance with Health Screening Questionnaire
- ▣ Add COVID-19 Update to DAILY Messaging
- ▣ Encourage:
  - Social Distancing – Greater than 6 Feet
  - Hand washing at least hourly and after touching any contaminated surface
  - Face Mask Whenever Around Others

# Prevention

- ▣ Clean / Disinfect at least twice daily – Work Areas, Living Areas, Door Knobs, Handrails, Tables, Desks, Phones, Keyboards, Faucets, Toilets, Light Switches
- ▣ Disinfect Chamber – Inside, Controls, Hatch, Coms
- ▣ Disinfect - Bibs, Hat – After each use
- ▣ EPA Disinfectants for COVID-19 – Updated May 14, 2020
  - <https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2>



# Transmission

- ▣ NEJM - “Aerosol and Surface Stability of SARS-CoV-2...”
  - Aerosol – Up to Three Hours
  - Copper Surfaces – Up to Four Hours
  - Cardboard – Up to 24 Hours
  - Stainless Steel – Up to 2 to 3 DAYS
  - Plastic – Up to 2 to 3 DAYS
- ▣ Cleaning – Removal of dirt and impurities from surface (Soap / Water)
- ▣ Disinfecting – Using Chemical to kill germs on surface (70% Alcohol Solutions / EPA Listed Disinfectants / Bleach – 5 Tbsp / Gallon H2O)

# COVID-19 Prevention Offshore

- ▣ Screening Questionnaires Prior to and During Hitch
- ▣ Pre-Mobilization Self-Quarantine
- ▣ Some Company Pre-Mobilization Physical Quarantine
- ▣ Pre-Mob Testing – PCR and or Antibody Screening
- ▣ Second Wave should be coming soon with most States Reopening
- ▣ Not Much Herd Immunity Benefit YET
- ▣ Be Prepared

# COVID-19 Impact on Diving Operations

- ▣ Surface Dives with minimal Decompression – Not much of an Issue if NOT ILL same day
- ▣ Saturation Work – If ILL during Sat, could become a significant medical management issue.
  - Screening Questionnaire
  - Enhanced Personal Hygiene – Add Scheduled Hygiene Breaks
  - Enhanced Cleaning Schedule
  - NO ONE TOPSIDE SICK that could contaminate Chamber

# Returning to “Normal” Activity

- ▣ **The New COVID Norm:**
  - **Physical Distancing - 6 Feet Away**
  - **Better Hand / Face Hygiene**
  - **Face Coverings**
  - **Increased Testing Rates**
  - **Possible Supplements / Medications to Reduce Morbidity of COVID-19**
  - **Vaccine “On the Horizon”**

# Resources

- ▣ American College of Occupational & Environmental Medicine (ACOEM)
  - [www.acoem.org](http://www.acoem.org)
  - <https://acoem.org/COVID-19-Resource-Center>
- ▣ EPA COVID-19 Disinfectants
  - <https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2>
- ▣ Prevention for those confined at home
  - <https://files.constantcontact.com/dd5f31ef601/017414b5-669a-4861-8dcb-5b59466ac1a9.pdf>
- ▣ Infection Control for Healthcare Facilities
  - [https://www.cdc.gov/coronavirus/2019-ncov/infection-control/control-recommendations.html?CDC\\_AA\\_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronaviruss%2F2019-ncov%2Fhcp%2Finfection-control.html](https://www.cdc.gov/coronavirus/2019-ncov/infection-control/control-recommendations.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronaviruss%2F2019-ncov%2Fhcp%2Finfection-control.html)

# Resources

- ▣ Louisiana Dept of Health – COVID-19 Update
  - <http://ldh.la.gov/coronavirus/>
- ▣ Johns Hopkins Interactive COVID-19 Map
  - <https://coronavirus.jhu.edu/map.html>
- ▣ CDC Maritime Guidance
  - <https://www.cdc.gov/quarantine/maritime/recommendations-for-ships.html#>
- ▣ [Traveler Health](#)
  - <https://www.cdc.gov/coronavirus/2019-ncov/travelers/index.html>
- ▣ NEJM – Aerosol and Surface Stability of SARS-CoV-2
  - <https://www.nejm.org/doi/full/10.1056/NEJMc2004973>



# Safely Returning to Work: Virtual Symposium

## Full Event and 1-Day Symposium Registration Rates Available

June 9-11, 2020

*Up to 9.0 AMA PRA Category 1 Credits™*



## Preliminary Program Agenda

*Subject to Change*

- ▣ DAY 1: A comprehensive approach to wholesale Return to Work (RTW) during COVID-19
- ▣ DAY 2: Biological Science: Role of medical, safety and industrial hygiene professionals
- ▣ DAY 3: Industry-specific Return to Work guidance

Visit [www.acoem.org/covid19](http://www.acoem.org/covid19) for additional information.

# Questions

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