# 346 Returning to SCUBA Diving After COVID-19

Beaubien E, Filozof A, Lindholm P, Saraiva C, Chimiak J,
Tillmans F/Divers Alert Network, Wayne State University School of Medicine, Durham, North Carolina

Study Objectives: After the COVID-19 pandemic was declared in 2020, initial evidence showed SCUBA divers would be unable to return to diving due to long term cardiopulmonary impact from the disease. In response, Divers Alert Network, a nonprofit dedicated to improving dive safety, created a 5-year longitudinal observational study called Diver Return after COVID-19 (DRACO) looking at the impact of COVID-19 on SCUBA diving. This abstract covers data learned from the first two years (2020-2022) of this project.

Methods: Using Momentive™ and RedCap™, participants enrolled in DRACO by completing an initial survey covering details of their medical history, infection, current return to diving status, and fitness to dive exam. Participants received 1-month, 3-month, 6-month, 1-year, 2-year, 3-year, 4-year, and 5-year follow-up (FU) surveys tracking updates on medical issues, return to diving, fitness to dive examinations, and vaccination results.

Results: Of the 1,283 divers initially enrolled in the study, 346 completed all surveys through the 2-year questionnaire. 973 divers (75.8%) reported a return to diving. Infection severity among participants who returned to diving varied, with 81 (8.3%) participants with an asymptomatic infection, 836 (85.9%) with a mild infection, 42 (3.3%) with a moderate infection, and 14 (1.1%) participants with a severe infection. 142 (14.6%) participants reported issues on returning to diving, the majority of which were pulmonary complications and fatigue. Out of the 776 reported Fitness to Dive examinations (FTDs) (60.5% of participants), 82 (10.6%) FTD exams were reported as failed. Of those who had not passed, 22 (26.8%) had pre-existing medical conditions and 65 (79.3%) had not returned to diving in the same questionnaire in which they reported not passing their FTD. Longitudinally, 11 participants reported a failed FTD on the initial survey and remained enrolled in the study through the 2 year questionnaire. 10 (90.9%) participants had returned to diving by the 2 year questionnaire, with the remaining participant reporting they did not plan on returning to diving again. Of those 10 participants who returned to diving, 4 (40.0%) participants reported issues while diving.

Conclusion: Multiple factors play a role in a successful return to diving after a COVID-19 infection. The impact of COVID-19, both as a disease and as a global shift impacting almost every community, will continue to be seen for years to come. Presently, divers should continue to take a cautious return to diving after a thorough evaluation by a physician trained in dive medicine and stay updated as guidelines and warnings shift domestically and internationally.

**Table 1: Issues on Return to Diving**

| Issues while diving | Number of complaints (initial through two years) | Percentage of participants who have returned to diving (n=973) |
|---|---|---|
| Shortness of breath, dyspnea | 55 | 5.6% |
| Coughing or wheezing | 17 | 1.7% |
| Increased gas consumption | 22 | 2.3% |
| Other pulmonary issues | 12 | 1.2% |
| Fatigue | 26 | 2.7% |
| Psychological issues | 11 | 1.1% |
| Ears, Nose, Throat issues | 23 | 2.4% |
| Decompression Sickness | 9 | 0.9% |
| Arterial Gas Embolism | 0 | 0.0% |
| Other, non-pulmonary issues | 9 | 0.9% |
| **Total divers reporting issues** | **142** | **14.6%** |

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# 347 Predictors of Echocardiography Findings in Older Adults With Syncope: Validating the ROMEO Score

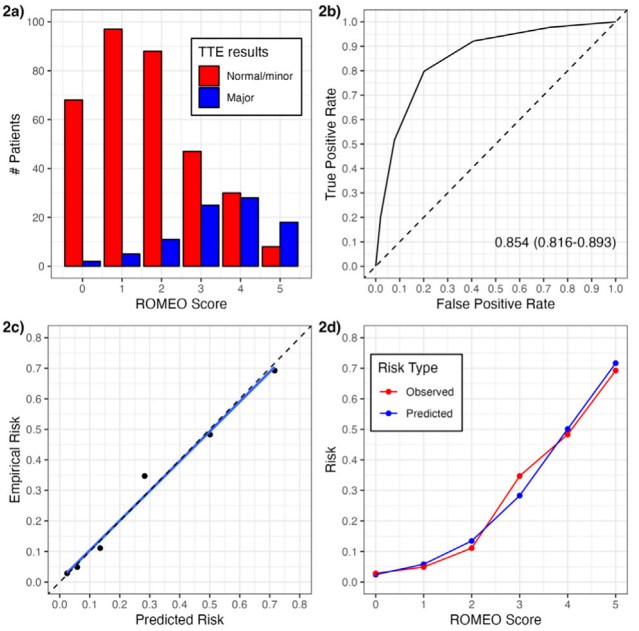
Vargas G, DeAngelis J, Winskill C, Weiss R, Sacco D, Probst M/University of Rochester, Rochester, New York

Study Objective: Syncope is a frequent cause of emergency department (ED) visits and may signal underlying structural heart disease (SHD), such as valvular pathology or ventricular dysfunction. Transthoracic echocardiography (TTE) is commonly used to assess these conditions, but routine ordering of TTE in all patients with syncope is infeasible. The ROMEO (Risk of Major Echocardiography Findings in Older Adults with Syncope) score was developed to identify patients with syncope or presyncope at very low risk of significant TTE findings. Our objective was to externally validate the ROMEO score.

Methods: This study is a secondary analysis of the PACES (Practical Approaches to Care in Emergency Syncope) prospective cohort [CW1] [MP2]. The study was conducted in six urban U.S. EDs between 2020 and 2024. Adults aged ≥40 years presenting with syncope or presyncope who had a TTE within 30 days were included. Patients with a serious diagnoses found in the ED, or clear alternative causes were excluded. ROMEO predictors include a history of heart failure, coronary artery disease, abnormal ECG, elevated high-sensitivity troponin T (>19 pg/mL), [CW3] [MP4] and elevated NT-proBNP (>125 pg/mL). We collected TTE results, calculated performance characteristics, and validated the previously derived ROMEO score. Bayesian logistic regression was used to calculate unadjusted and adjusted odds ratios (aOR) with 95% confidence intervals (CI).

Results: Among 6,338 screened patients, 427 were included in the analysis. Of these, 20.8% (n=89) had significant echocardiographic findings. The most common findings were ejection fraction <45% (12%) and regional wall motion abnormalities (5.9%). The ROMEO score demonstrated excellent discrimination with an Area Under the Curve (AUC) of 0.85, a sensitivity of 97.8% (95% CI 94.7-100%), and a negative predictive value of 97.1% for significant findings on TTE [CW5] [MP6]. Heart failure (aOR 3.84, 95% CI 2.10-6.52), CAD (aOR 2.13, 95% CI 1.20-3.53), and abnormal ECG (aOR 3.04, 95% CI 1.33-6.25) were significantly associated with major TTE findings [CW7] [MP8]. Patients with a ROMEO score of zero had a 2.9% rate of major findings.

Conclusions: The ROMEO score, which incorporates five simple clinical variables, demonstrates excellent predictive performance, and can help clinicians identify patients who are unlikely to benefit from TTE evaluation. Integrating the ROMEO score into the ED clinical workflow could optimize resource use and improve care for patients with syncope or presyncope.

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# 348 Ultrasound Evaluation in Pulmonary Embolism: Point-of-Care Versus Consultative Echocardiography

Thomas A, Rupp J, Suszanski J, Storrow A, Kline J, Birrenkott D, Kabrhel C, Wrenn J, Stubblefield W/Vanderbilt University Medical Center, Nashville, Tennessee

Study Objectives: Assessment of right ventricular dysfunction (RVD) is crucial for the risk-stratification of emergency department (ED) patients with acute pulmonary embolism (PE). This study evaluated the inter-rater reliability of emergency physician-interpreted point-of-care ultrasound (POCUS) compared to cardiologist-interpreted