

February 26, 2021

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CLINICAL PEARL

COVID-19 and thrombosis: Although respiratory manifestations predominate in patients with COVID-19, other systems can also be affected. Early in the pandemic, international reports suggested a high rate of venous thromboembolism (VTE). These reports were confounded by a lack of uniform use of VTE prophylaxis, heterogeneous populations (ICU vs non-ICU patients), and lack of prospective evaluation for VTE. As the pandemic has progressed, additional data suggests the incidence of VTE in hospitalized patients with COVID-19 is high, with reported incidences of up to 16% in the U.S. Autopsy series performed in patients who had severe disease have found evidence of small vessel thrombosis and microangiopathy in the lungs, as well as VTE.

Procoagulant responses likely result from specific interactions between host defense mechanisms and the coagulation system. Multiple mechanisms may be implicated in COVID-19 patients who develop a procoagulative state. D-dimer is often elevated, and several case series/reports have noted increased factor VIII and von Willebrand factor, complement activation, platelet activation, increase in fibrinogen, and neutrophil extracellular traps. Some studies have found antiphospholipid antibodies in patients with COVID-19 as well as heparin resistance.

<u>The American Thoracic Society recommends</u> that all hospitalized patients with COVID-19 receive thromboprophylaxis therapy, unless otherwise contraindicated.

- **Low-molecular-weight heparin or fondaparinux** should be used for thromboprophylaxis over unfractionated heparin and direct oral anticoagulants.
- There is insufficient data to justify routine increased intensity anticoagulant dosing in hospitalized or critically ill COVID-19 patients.
- Thromboprophylaxis for COVID-19 patients is not indicated in the outpatient setting.
- Critically ill COVID-19 patients with proximal DVT or pulmonary embolism, should receive parenteral
 anticoagulation therapy with therapeutic weight adjusted low-molecular-weight heparin or fondaparinux
 over unfractionated heparin.

PUBLIC HEALTH UPDATES

- USDA and FDA: <u>USDA, FDA Underscore Current Epidemiologic and Scientific Information Indicating No</u>
 <u>Transmission of COVID-19 Through Food or Food Packaging</u>
- FDA Issues Policies to Guide Medical Product Developers Addressing Virus Variants
- FDA Authorizes Monoclonal Antibodies for Treatment of COVID-19
- UK: <u>Updated New and Emerging Respiratory Virus Threats Advisory Group (NERVTAG) Report on B.1.1.7</u>
 <u>Severity</u>

GUIDANCE/GUIDELINES

- IDSA Updated Guidelines on the Treatment and Management of Patients with COVID-19
- U.S. Department of Health and Human Services ASPR <u>Monoclonal Antibody Treatment for High Risk Covid-19</u>
 <u>Positive Patients</u> Factsheet and <u>COVID-19 Therapeutics for Patients</u> webpage





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RESOURCES

- CDC <u>Transitioning from CDC's Indicators for Dynamic School Decision-Making</u> (released September 15, 2020) to CDC's Operational Strategy for K-12 Schools through Phased Mitigation (released February 12, 2021) to Reduce COVID-19
- U.S. Department of Education <u>COVID-19 Handbook Volume 1: Strategies for Safely Reopening Elementary and Secondary Schools</u>
- CDC/IDSA COVID-19 Clinician Call
 - o Emerging SARS-CoV-2 Variants: Updates & Implications
 - o New Monoclonal Antibody EUA, New Data on Treatment Dispensing and More Vaccine Q&A
- CDC/IDSA COVID-19 Real-Time Learning Network updated Vaccines FAQ
- IDSA
 - Media Briefing: <u>COVID "Long Haulers"</u>
 - Apple Podcasts:
 - Long COVID and the Road to Recovery
 - Vaccinating Individuals with Prior COVID-19
- JAMA Network
 - Coronavirus Vaccination in Pregnant and Breastfeeding Individuals
 - o Vaccinating Nursing Home and Long-term Care Facility Residents for Coronavirus
 - o Coronavirus mRNA Vaccine Safety and Efficacy
 - o Mask Wearing for COVID-19 Prevention—Summary of CDC Data
- UCSF School of Medicine Grand Rounds <u>The New Vaccines</u>, <u>Attitudes Toward Vaccination</u>, <u>and the Biden</u>
 Covid-19 Task Force
- CIDRAP Osterholm COVID-19 Update: Hurricane Warning
- The Emotional PPE Project

ACADEMIC/RESEARCH PAPERS

- medRxiv
 - o <u>Antibodies elicited by SARS-CoV-2 infection and boosted by vaccination neutralize an emerging variant</u> and SARS-CoV-1
 - o <u>Poor antigen-specific responses to the second BNT162b2 mRNA vaccine dose in SARS-CoV-2-</u> experienced individuals
 - Single Dose Vaccination in Healthcare Workers Previously Infected with SARS-CoV-2
 - o Inhaled budesonide in the treatment of early COVID-19 illness: a randomised controlled trial
 - o <u>Tocilizumab in patients admitted to hospital with COVID-19 (RECOVERY): preliminary results of a randomised, controlled, open-label, platform trial</u>
- SSRN Preprints with The Lancet
 - o <u>Effectiveness of BNT162b2 mRNA Vaccine Against Infection and COVID-19 Vaccine Coverage in</u> Healthcare Workers in England, Multicentre Prospective Cohort Study (the SIREN Study)
- New England Journal of Medicine
 - o Safety and Efficacy of the BNT162b2 mRNA Covid-19 Vaccine
- Transplantation
 - o Safety of the First Dose of SARS-CoV-2 Vaccination in Solid Organ Transplant Recipients





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- Science
 - o <u>Prospective mapping of viral mutations that escape antibodies used to</u> treat COVID-19
 - o Intranasal fusion inhibitory lipopeptide prevents direct-contact SARS-CoV-2 transmission in ferrets
- Emerging Infectious Diseases
 - o Genomic Evidence of SARS-CoV-2 Reinfection Involving E484K Spike Mutation, Brazil
- JAMA
 - o Emergence of a Novel SARS-CoV-2 Variant in Southern California
 - o SARS-CoV-2 Positivity on or After 9 Days Among Quarantined Student Contacts of Confirmed Cases
 - o Sequelae in Adults at 6 Months After COVID-19 Infection
 - o <u>Effect of High-Dose Zinc and Ascorbic Acid Supplementation vs Usual Care on Symptom Length and</u>
 Reduction Among Ambulatory Patients With SARS-CoV-2 Infection The COVID A to Z Randomized
 Clinical Trial
 - o <u>Factors Associated With Racial Differences in Deaths Among Nursing Home Residents With COVID-19</u> Infection in the US
 - o <u>Association of SARS-CoV-2 Seropositive Antibody Test With Risk of Future Infection</u>
 - o <u>Characteristics and Outcomes of US Children and Adolescents With Multisystem Inflammatory</u> <u>Syndrome in Children (MIS-C) Compared With Severe Acute COVID-19</u>
- Clinical Infectious Diseases
 - o Severe reinfection with South African SARS-CoV-2 variant 501Y.V2: A case report
 - o Clinical and Laboratory Findings in Patients with Potential SARS-CoV-2 Reinfection, May–July 2020
 - o <u>Association Between Chronic Use of Immunosuppressive Drugs and Clinical Outcomes From Coronavirus Disease 2019 (COVID-19) Hospitalization: A Retrospective Cohort Study in a Large US Health System</u>
 - o <u>The Impact of State Mask-Wearing Requirements on the Growth of COVID-19 Cases, Hospitalizations, and Deaths in the United States</u>
- The Journal of Infectious Diseases
 - o <u>Association Between Upper Respiratory Tract Viral Load, Comorbidities, Disease Severity, and</u> Outcome of Patients With SARS-CoV-2 Infection
 - o <u>Viral load of SARS-CoV-2 in adults during the first and second wave of COVID-19 pandemic in Houston, TX: the potential of the super-spreader</u>
 - o <u>Long term SARS-CoV-2 infectiousness among three immunocompromised patients: from prolonged</u> viral shedding to SARS-CoV-2 superinfection
- Cell
 - o <u>Seasonal human coronavirus antibodies are boosted upon SARS-CoV-2 infection but not associated with protection</u>
- Annals of Internal Medicine
 - o Inclusion of Pregnant and Lactating Persons in COVID-19 Vaccination Efforts
 - o Annals On Call Pregnancy, Lactation, and the COVID-19 Vaccines
 - o <u>Should Remdesivir Be Used for the Treatment of Patients With COVID-19? Rapid, Living Practice Points</u> From the American College of Physicians (Version 2)
- Open Forum Infectious Diseases
 - Bacterial superinfections among persons with coronavirus disease 2019: A comprehensive review of data from postmortem studies
 - o <u>Cutaneous findings in SARS-CoV-2-associated Multisystem Inflammatory Disease</u> <u>in Children (MIS-C)</u>



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- The Lancet
 - o <u>SARS-CoV-2 transmission among children and staff in daycare centres</u> during a nationwide lockdown in France: a cross-sectional, multicentre, seroprevalence study
 - o <u>Peginterferon lambda for the treatment of outpatients with COVID-19: a phase 2, placebo-controlled</u> randomised trial
- Environmental Research
 - o Estimating aerosol transmission risk of SARS-CoV-2 in New York City public schools during reopening
- The Journal of the Alzheimer's Association
 - o <u>COVID-19</u> and dementia: Analyses of risk, disparity, and outcomes from electronic health records in the <u>US</u>
- Age and Ageing
 - o Age and frailty are independently associated with increased COVID-19 mortality and increased care needs in survivors: results of an international multi-centre study
- European Journal of Radiology
 - o <u>A Multi-Center Study of COVID-19 Patient Prognosis Using Deep Learning-based CT Image Analysis and Electronic Health Records</u>
- BMJ Journals
 - o Covid-19 deaths in Africa: prospective systematic postmortem surveillance study
- CMAJ
 - o Characteristics and outcomes of hospital admissions for COVID-19 and influenza in the Toronto area
- UCLA Report
 - o The Impact of the Fall 2020 COVID-19 Surge on LGBT Adults in the US

MMWR

- First Month of COVID-19 Vaccine Safety Monitoring United States, December 14, 2020–January 13, 2021
- <u>Clusters of SARS-CoV-2 Infection Among Elementary School Educators and Students in One School District</u>
 —
 Georgia, <u>December 2020</u>—January 2021
- COVID-19 Outbreak Among Attendees of an Exercise Facility Chicago, Illinois, August–September 2020
- Community Transmission of SARS-CoV-2 at Three Fitness Facilities Hawaii, June–July 2020
- Suspected Recurrent SARS-CoV-2 Infections Among Residents of a Skilled Nursing Facility During a Second COVID-19 Outbreak — Kentucky, July—November 2020

HOT OFF THE (LAY) PRESS

- Bloomberg
 - Pfizer-BioNTech Shot Stops Covid Spread, Israeli Study Shows
- AP News
 - o France recommends 1-shot vaccine for people who had virus
- New York Times
 - People Who Have Had Covid Should Get Single Vaccine Dose, Studies Suggest
 - o <u>Johnson & Johnson's vaccine strongly protects against severe Covid-19 and may reduce the spread of the virus by vaccinated people, new analyses found.</u>
 - o <u>It's 'double time' for U.S. vaccinators after a week of winter storm delays</u>
 - o <u>U.K. Approves Study That Will Deliberately Infect Volunteers With Coronavirus</u>
 - o <u>Vaccine alarmism A vaccine shot? No thank you</u>
 - o Could a Single Vaccine Work Against All Coronaviruses?



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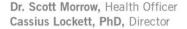
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COVID-19 Digest Issue 44

- When Could the United States Reach Herd Immunity? It's Complicated
- No 'Covid Zero,' but Normalcy
- o Studies Examine Variant Surging in California, and the News Isn't Good
- o California's legislature pushes \$12.6 billion plan to open schools
- o How to get students back in school
- o Scientists Call on C.D.C. to Set Air Standards for Workplaces, Now
- o Covid-Linked Syndrome in Children Is Growing, and Cases Are More Severe
- o New Findings on 2 Ways Children Become Seriously III From the Coronavirus
- o <u>U.K. Virus Variant Is Probably Deadlier, Scientists Say</u>
- o The Pandemic Is Receding in the Worst Hotspots. Will It Last?
- o Nursing Homes, Once Hotspots, Far Outpace U.S. in Covid Declines
- Entering uncharted territory, the U.S. counts 500,000 Covid-related deaths
- National Geographic
 - o <u>Visualizing 500,000 deaths from COVID-19 in the U.S.</u>
- The New Yorker
 - o Why Is the Pandemic Hitting Some Countries Harder Than Others?
 - o How Restaurants Survive the Long Pandemic Winter
- Mayo Clinic News
 - Screening mammograms and COVID-19 vaccine
- Cure News
 - National Organization Recommends Women Delay Mammogram Screening Following COVID-19
 Vaccine
- Reuters
 - o CanSinoBIO's COVID-19 vaccine 65.7% effective in global trials, Pakistan official says
 - o Sinovac vaccine works on UK, South African variants Brazil institute
 - o Becton Dickinson's combination test for COVID-19 gets FDA authorization
 - o Pulse oximeters should not be used to diagnose COVID-19, U.S. FDA says
 - o Roche arthritis drug reduces COVID-19 deaths in trial in hospitalised patients
- Infectious Disease Advisor
 - o FDA Fast Tracks Brilacidin for COVID-19 Treatment
- Veru Press Release
 - o <u>Veru Reports Positive Phase 2 Clinical Results of VERU-111 in Hospitalized COVID-19 Patients at High</u>
 <u>Risk for Acute Respiratory Distress Syndrome</u>
- The Hill
 - o <u>Cancer drug could reduce COVID-19 deaths, study finds</u>
- NPR
 - o Why The Johnson & Johnson Vaccine Has Gotten A Bad Rap And Why That's Not Fair
 - o Why Native Americans Are Getting COVID-19 Vaccines Faster
 - Race Versus Time: Targeting Vaccine To The Most Vulnerable Is No Speedy Task
 - o <u>Instagram Bars Robert F. Kennedy Jr. For Spreading Vaccine Misinformation</u>
 - CDC Launches Web Tool To Help Americans Find COVID-19 Vaccines
- Lookout
 - o Besides preventing symptoms, do vaccines combat COVID-19's spread? A UCSC expert thinks so







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- Los Angeles Times
 - o <u>Johnson & Johnson one-dose vaccine offers safe, effective COVID-19</u> protection, FDA says
 - o Governor admits problems with vaccine rollout in Latino and Black communities.
 - o California tops 50,000 COVID-19 deaths amid fears of new variants.
- Mercury News
 - o <u>Kaiser is expanding who it's vaccinating, finally offering vaccine appointments to members who are 65</u> or older.
- KQED
 - o Youth Sports Will Be Able to Resume in Two Dozen California Counties
 - o Trusted Leaders Are Fighting COVID-19 Vaccine Fears in Black and Latino Communities
 - o Many Homebound People Still Waiting for Vaccine
 - o <u>'Not Enough': Newsom Says More Vaccine Doses Needed, As State Transitions to New Centralized System</u>
 - o Gov. Newsom Signs \$7.6 Billion COVID-19 Relief Package
- San Francisco Chronicle
 - o 3 Bay Area counties halt COVID vaccine supply to One Medical, saying it let people cut the line
 - o Costco begins offering coronavirus vaccines at Bay Area store (In Marin)
 - In Bay Area nursing homes, 'the vaccine is already saving lives'
 - o California sets aside 10% of vaccines for teachers, child care workers starting in March
 - Vaccine access codes meant for underserved communities used by privileged, healthy Californians
 - o <u>California may not reach herd immunity for years. But vaccines will make the coronavirus more manageable</u>
 - o As nation marks half a million deaths, concerns rise over new California coronavirus variant
 - o More children suffer ailment linked to virus after Bay Area's winter surge in infections
 - California's positivity rate drops sharply, a promising indicator for reopening
 - o Here's how close each Bay Area county is to reaching the red reopening tier
 - o San Mateo, Marin counties advancing into red reopening tier; S.F. stays purple for now
- CBS
 - o Restaurants, Gyms Getting Ready For Red Tier Status In San Mateo County

FPIDEMIOLOGY UPDATES

- CDC COVID Data Tracker
 - o CDC COVID-19 Forecasts: Deaths
 - o United States COVID-19 Cases and Deaths by State
 - o CDC COVID Data Tracker: Vaccinations
 - o **NEW** CDC US COVID-19 Cases Caused by Variants
- US Leads the World in Confirmed COVID-19 Cases per Johns Hopkins University Center for Systems Science and Engineering Dashboard Website
- Johns Hopkins COVID-19 in the USA daily summary of key data on COVID-19 in the U.S.
- California COVID-19 by the numbers are available on the <u>CDPH Website</u> and the <u>NYT Map and Table</u> (includes data by county)
 - o California COVID-19 Statewide Update as of February 26, 2021
- San Mateo County COVID-19 Dashboard
- Santa Clara County COVID-19 Dashboard





COVID-19 Digest issue 4-

ADDITIONAL COVID-19 RESOURCES

San Mateo County COVID-19 Guidance and Resources for Clinicians and Facilities
 COVID-19 Digests

- Palo Alto Online tracking the coronavirus in San Mateo and Santa Clara counties
- California COVID-19 Data and Tools
- CDPH COVID-19 Assessment and Modeling Tool
- California Department of Corrections and Rehabilitations Population COVID-19 Tracking Dashboards
- CDC Interactive Serology Dashboard for Commercial Laboratory Surveys
- HHS Coronavirus Data Hub
- COVID-19 Nursing Home Data
- CDC COVID-19 Forecasts: Deaths
- Children and COVID-19: State-Level Data Report

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