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CLINICAL PEARLS

- New onset of diabetes in children and teens recently diagnosed with COVID 19:
  - Recent data suggest an increased risk for diabetes among persons aged <18 years with COVID-19, which is supported by independent studies in adults. These findings underscore the importance of COVID-19 prevention among all age groups, including vaccination for all eligible children and adolescents, and chronic disease prevention and treatment. SARS-CoV-2 infection might lead to type 1 or type 2 diabetes through complex and differing mechanisms. Clinicians should be aware of long-term consequences and monitor persons aged <18 years in the months following a SARS-CoV-2 infection for new diabetes onset.

- A 10-country recently published study of more than 3,000 children who tested positive for COVID-19 in emergency departments (EDs) found that 3% went on to develop severe disease within 2 weeks, with risk factors being older age, having chronic conditions, and experiencing symptoms longer.
  - Among the 3,221 children 17 years and younger, 107 (3.3%) experienced severe outcomes within 2 weeks, and 4 (0.12%) died. Among children discharged home from the ED, the risk was much lower. Of note, the children had visited an ED from Mar 7, 2020, to Jun 15, 2021, a span that mostly predated the Delta variant (B1617.2) and well before the current Omicron (B.1.1.529) variant was detected.
  - Of the 3,221 children treated at one of 41 EDs, 2007 (62.3%) were from the United States, 1,694 (52.6%) were male, and 484 (15.0%) had a self-reported chronic illness. They tended to be young, with a median age of 3 years. After 14 days of follow-up, 735 children (22.8%) were hospitalized, 107 (3.3%) had severe outcomes, and 4 (0.12%) died. The researchers used a composite measure to define severe outcomes that included intensive interventions during hospitalization, such as positive-pressure ventilation, diagnoses that indicated severe organ impairment and death.
  - Characteristics associated with severe outcomes included being aged 5 to 9 years (odds ratio [OR], 1.60 compared with kids younger than 1 year), being aged 10 to 17 (OR, 2.39), having a self-reported chronic illness (OR, 2.34), a prior episode of pneumonia (OR, 3.15), symptoms starting 4 to 7 days prior to seeking ED care (vs starting 0-3 days before seeking care: OR, 2.22), and country of residence (Canada vs US: OR, 0.11; Costa Rica vs US: OR, 1.76; Spain vs US: OR, 0.51). Interestingly, asthma was not found to be a risk factor for severe illness.
  - Among the 2,510 children discharged home from the ED after initial testing and who had complete follow-up, 50 (2.0%) were eventually hospitalized and 12 (0.5%) had severe outcomes. When compared with hospitalized children who tested negative for COVID-19, the risk of severe outcomes was higher among hospitalized COVID-positive patients, with a risk difference of 3.9% (95% confidence interval, 1.1% to 6.9%).

- COVID-19 Booster Shots: Citing a need to protect children aged 12 to 15 years from the omicron variant, the FDA recently amended an emergency use authorization for the Pfizer-BioNTech COVID-19 vaccine to add a booster dose for children aged 12 to 15 years. The FDA has also shortened the suggested time between a primary two-dose series and a booster shot of both the Pfizer and the Moderna COVID-19 vaccines from 6 to 5 months. The interval for a booster shot of the Johnson & Johnson vaccine remains 2 months.
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PUBLIC HEALTH UPDATES

- The White House FACT SHEET: Biden-Harris Administration Increases COVID-19 Testing in Schools to Keep Students Safe and Schools Open
- Centers for Medicare and Medicaid Services How to get your At-Home Over-The-Counter COVID-19 Test for Free
- FDA
  - FDA Shortens Interval for Booster Dose of Moderna COVID-19 Vaccine to Five Months
  - FDA Takes Multiple Actions to Expand Use of Pfizer-BioNTech COVID-19 Vaccine
  - Why You Should Not Use Ivermectin to Treat or Prevent COVID-19
- Department of Defense DoD Awards $136.7 Million Contract to MilliporeSigma to Establish Domestic Production Capacity of Critical Material Used in COVID-19 Point-of-Care Tests
- NIH FDA Authorizes Roche and Siemens At-Home Tests, Which Went Through New Biden Administration Accelerated Review Program; Will Bring Tens of Millions of New Tests Per Month to the U.S.
- South Africa Medical Research Council Media Preliminary findings from studies in South Africa indicate that omicron has a much higher rate of asymptomatic ‘carriage’ than other variants of concern
- European Centre for Disease Prevention and Control Weekly epidemiological update: Omicron variant of concern (VOC) – week 2 (data as of 13 January 2022) EU/EEA

GUIDANCE

- CDPH Guidance for the Use of Face Masks

RESOURCES

- CDC Clinician Outreach and Communication Activity (COCA) Webinars
  - What Clinicians Need to Know About the New Oral Antiviral Medications for COVID-19
  - Updates to CDC’s COVID-19 Quarantine and Isolation Guidelines in Healthcare and Non-healthcare Settings
- CDC/IDSA COVID-19 Clinician Call COVID-19 Treatment Updates Plus the Latest on Omicron
- IDSA
  - Vaccine Education Roundtable Series:
    - Pediatric COVID Vaccine Disparities and Updates
    - Pediatric Vaccinations and a Case Discussion
  - Podcasts:
    - COVID-19 Rapid Testing
    - Combatting COVID-19 Misinformation + Omicron Update
  - Media Briefing: COVID-19 & Omicron - Practical Advice
- HHS Protect Public Data Hub: Hospital Utilization
- Center for Infectious Disease Research and Policy (CIDRAP) Osterholm Update:
  - Episode 85: Smart Testing in the Omicron Surge
  - Episode 86: The Omicron Crisis
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ACADEMIC/RESEARCH PAPERS

- **New England Journal of Medicine**
  - Effectiveness of BNT162b2 Vaccine against Critical Covid-19 in Adolescents
  - Sparing of Severe Covid-19 in Vaccinated Adolescents
  - Duration of Protection against Mild and Severe Disease by Covid-19 Vaccines
  - Effectiveness of Covid-19 Vaccines over a 9-Month Period in North Carolina
  - SARS-CoV-2 Omicron Variant Neutralization in Serum from Vaccinated and Convalescent Persons
  - Effectiveness of BNT162b2 Vaccine against Omicron Variant in South Africa

- **medRxiv**
  - High Rate of Asymptomatic Carriage Associated with Variant Strain Omicron
  - Clinical outcomes among patients infected with Omicron (B.1.1.529) SARS-CoV-2 variant in southern California
  - Waning Effectiveness of the BNT162b2 Vaccine Against Infection in Adolescents
  - Omicron infection enhances neutralizing immunity against the Delta variant

- **JAMA**
  - Association of Birth During the COVID-19 Pandemic With Neurodevelopmental Status at 6 Months in Infants With and Without In Utero Exposure to Maternal SARS-CoV-2 Infection
  - Assessment of Functional Mobility After COVID-19 in Adults Aged 50 Years or Older in the Canadian Longitudinal Study on Aging
  - Association of a Third Dose of BNT162b2 Vaccine With Incidence of SARS-CoV-2 Infection Among Health Care Workers in Israel
  - Booster Vaccination to Reduce SARS-CoV-2 Transmission and Infection
  - Assessment of Administration and Receipt of COVID-19 Vaccines by Race and Ethnicity in US Federally Qualified Health Centers
  - Outcomes of SARS-CoV-2–Positive Youths Tested in Emergency Departments - The Global PERN–COVID-19 Study
  - Estimating COVID-19 Infections, Hospitalizations, and Deaths Following the US Vaccination Campaigns During the Pandemic
  - SARS-CoV-2 Antibody Response to 2 or 3 Doses of the BNT162b2 Vaccine in Patients Treated With Anticancer Agents
  - A National Strategy for the “New Normal” of Life With COVID
  - A National Strategy for COVID-19 Medical Countermeasures
  - Comprehensive Chemosensory Psychophysical Evaluation of Self-reported Gustatory Dysfunction in Patients With Long-term COVID-19 - A Cross-sectional Study
  - Lottery-Based Incentives and COVID-19 Vaccination Rates in the US
  - Association of Birth During the COVID-19 Pandemic With Neurodevelopmental Status at 6 Months in Infants With and Without In Utero Exposure to Maternal SARS-CoV-2 Infection
  - Association of Weight Loss Achieved Through Metabolic Surgery With Risk and Severity of COVID-19 Infection
  - Association Between Immune Dysfunction and COVID-19 Breakthrough Infection After SARS-CoV-2 Vaccination in the US
  - US Insurer Spending on Ivermectin Prescriptions for COVID-19
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- **Effect of Subcutaneous Casirivimab and Imdevimab Antibody Combination vs Placebo on Development of Symptomatic COVID-19 in Early Asymptomatic SARS-CoV-2 Infection - A Randomized Clinical Trial**
- **Realizing the Potential of Anti–SARS-CoV-2 Monoclonal Antibodies for COVID-19 Management**

  - **The Journal of Infectious Diseases**
    - Effect of influenza vaccination on risk of COVID-19 – A prospective cohort study of 46,000 health care workers
    - Lung function decline in relation to COVID-19 in the general population: a matched cohort study with pre-pandemic assessment of lung function
    - Intrauterine fetal demise in the third trimester of pregnancy associated with mild infection with the SARS-CoV-2 Delta variant without protection from vaccination
    - SARS-CoV-2 placentitis associated with B.1.617.2 (Delta) variant and fetal distress or demise
    - SARS-CoV-2 infection during pregnancy and associated perinatal health outcomes: a national US cohort study

  - **The Lancet**
    - The effect of maternal SARS-CoV-2 infection timing on birth outcomes: a retrospective multicentre cohort study

  - **Pediatrics**
    - Human Milk SARS-CoV-2 Antibodies up to 6 Months After Vaccination

  - **International Journal of Infectious Diseases**
    - Persistence of clinically relevant levels of SARS-CoV2 envelope gene subgenomic RNAs in non-immunocompromised individuals
    - Seroprevalence of IgG antibodies against SARS-CoV-2 in India, March 2020 to August 2021: a systematic review and meta-analysis

  - **American Journal of Infection Control**
    - Factors and Reasons Associated with Low COVID-19 Vaccine Uptake among Highly Hesitant Communities in the US

  - **Journal of Infection**
    - Increased mortality in COVID-19 patients with fungal co- and secondary infections admitted to intensive care or high dependency units in NHS hospitals in England

  - **Nature**
    - Multi-ancestry fine mapping implicates OAS1 splicing in risk of severe COVID-19
    - SARS-CoV-2 infection and COVID-19 vaccination rates in pregnant women in Scotland
    - Cross-reactive memory T cells associate with protection against SARS-CoV-2 infection in COVID-19 contacts
    - Broadly neutralizing antibodies overcome SARS-CoV-2 Omicron antigenic shift
    - SARS-CoV-2 infection in free-ranging white-tailed deer

  - **Imperial College London**
    - The SARS-CoV-2 variant, Omicron, shows rapid replication in human primary nasal epithelial cultures and efficiently uses the endosomal route of entry

  - **UK Health Security Agency**
    - SARS-CoV-2 variants of concern and variants under investigation in England – Technical Briefing 34

  - **Annals of Internal Medicine**
    - Antibody Response to a Fourth Messenger RNA COVID-19 Vaccine Dose in Kidney Transplant Recipients: A Case Series
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- Obstetrics and Gynecology
  - Neutralizing Antibodies and Cytokines in Breast Milk After Coronavirus Disease 2019 (COVID-19) mRNA Vaccination
  - Association Between Menstrual Cycle Length and Coronavirus Disease 2019 (COVID-19) Vaccination - A U.S. Cohort

- Annals of Oncology
  - COVID-19 vaccination and breakthrough infections in patients with cancer

- American Chemical Society
  - Development and Application of a Polydimethylsiloxane-Based Passive Air Sampler to Assess Personal Exposure to SARS-CoV-2

- Journal of Translational Medicine
  - Paradoxical sex-specific patterns of autoantibody response to SARS-CoV-2 infection

- Global Challenges
  - T-Cup: A Cheap, Rapid, and Simple Home Device for Isothermal Nucleic Acid Amplification

MMWR

- Risk for Newly Diagnosed Diabetes >30 Days After SARS-CoV-2 Infection Among Persons Aged <18 Years — United States, March 1, 2020–June 28, 2021
- Effectiveness of BNT162b2 (Pfizer-BioNTech) mRNA Vaccination Against Multisystem Inflammatory Syndrome in Children Among Persons Aged 12–18 Years — United States, July–December 2021

HOT OFF THE (LAY) PRESS

- New York Times
  - Americans can now order four free at-home coronavirus tests after the Biden administration launched its website a day early.
  - Omicron and the Need for Speed
  - New Virus Cases Begin to Slow in U.S. Cities Where Omicron Hit First
  - For the first time, the C.D.C. said cloth masks weren’t as effective as other options. “Wear the most protective mask you can,” the agency urged.
  - Some experts call for a switch from nasal swabs to saliva-based tests, to better detect Omicron.
  - Americans will be able to order free coronavirus tests online beginning Wednesday, U.S. officials said. They should ship within 7 to 12 days.
  - The U.S. will buy 500 million more home tests for Americans, and President Biden said he’d announce a plan to provide high-quality masks.
  - A new Biden administration plan will require private insurers to cover the cost for eight at-home coronavirus tests per person per month.

The Supreme Court’s conservative majority seemed skeptical of the federal mandate that large employers require vaccinations or testing.

Early Data Hints at Omicron’s Potential Toll Across America

Six advisers to President Biden’s transition team urged him to change his Covid strategy to address the “new normal” of living with the virus.

The C.D.C. endorses Pfizer-BioNTech boosters for children 12 years of age and older

In omicron hot spots, hospitals fill up, but I.C.U.s may not

‘It’s Chaos’ as Schools Confront Omicron

The F.D.A. cleared boosters of the Pfizer-BioNTech vaccine for 12- to 15-year-olds. The C.D.C. is expected to sign off before shots are given out.

Fauci says he’s more concerned about the strain to hospitals than the record number of cases

With Omicron’s Rise, Americans Brace for Returning to School and Work

New studies on animals suggest why Omicron is less severe than earlier variants: It seems to cause much less damage to the lungs.

Omicron Is Not More Severe for Children, Despite Rising Hospitalizations

CNN

19 states have fewer than 15% of ICU beds left as health care staffing shortages complicate care

Nearly a quarter of hospitals are reporting a critical staff shortage as Omicron drives a rise in Covid-19 cases

NBC News

Wastewater samples reveal record levels of coronavirus across U.S.

The Wall Street Journal

Hospitals Cut Beds as Nurses Call In Sick With Covid-19

Schools See Big Drop in Attendance as Students Stay Away, Citing Covid-19

Omicron Surge Stymies Public-Transit Systems

The Washington Post

CDC weighs recommending better masks against omicron variant

Israeli study reports fivefold jump in antibodies with 4th Pfizer vaccine shot

U.S. approaches new records as experts debate which numbers are most important

Reuters

Italy extends COVID vaccine mandate to everyone over 50

Ecuador makes COVID-19 vaccination obligatory

Haaretz News

Fourth COVID Shot Boosts Protection Fivefold, Israeli Study Suggests

Israel’s Prime Minister’s Office

PM Bennett Announces Israelis 60+ and Medical Workers to receive 4th Vaccine

The Telegraph

Fourth Covid jab: We can’t vaccinate the planet every six months, says JCVI chief

The New Yorker

Do the Omicron Numbers Mean What We Think They Mean?

How Soon Will COVID Be “Normal”?

AP News

Kids’ low COVID-19 vaccination rates called a ‘gut punch’

Home COVID tests to be covered by insurers starting Saturday
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- **NPR**
  - The Postal Service is seeking a temporary delay from the vaccine mandate
  - The COVID antiviral drugs are here but they're scarce. Here's what to know
- **The Atlantic**
  - Should Teen Boys Get Boosted?
  - Omicron Is Forcing Us to Rethink Mild COVID
  - Stop Wasting COVID Tests, People
- **Time**
  - 5 Ways to Feel Happier During the Pandemic, According to Science
- **Wired**
  - This AI Software Nearly Predicted Omicron’s Tricky Structure
- **American Red Cross Press Releases**
  - Red Cross Declares First-ever Blood Crisis amid Omicron Surge
- **Pharmaceutical Business Review**
  - Ascleolis expands ritonavir oral tablets production amid Covid-19 surge
- **AstraZeneca Press Releases**
  - New Vaxzevria data further support its use as third dose booster
- **Novavax Press Releases**
  - Novavax Submits Final Data Packages to U.S. FDA as Prerequisite to Emergency Use Authorization Application Request for COVID-19 Vaccine
- **Los Angeles Times**
  - California surpasses astonishing 6 million COVID infections as Omicron wave expands
- **Mercury News**
  - Coveted COVID tests causing 4-hour traffic jams as omicron explodes in Bay Area
- **San Francisco Chronicle**
  - Has omicron crested in the Bay Area? Sewage samples seem to suggest so
  - California hospitals brace for tsunami of omicron patients. Will health system be ready?
  - Sonoma County bans large gatherings, advises residents to shelter in place for next 30 days
  - Forming a picture of what life could be like after the omicron surge
  - After 700 people test positive for COVID, Stanford puts off in-person classes
  - When should you go to the E.R. with COVID symptoms as California hospitalizations rise?
  - Bay Area hospitals struggle with omicron surge and nursing shortage as California extends mask mandate
  - Bay Area, California mark record-high spike in coronavirus cases
  - Why some Bay Area medical experts see a coronavirus endgame within months
  - San Francisco now has 3rd highest COVID transmission rate in California

**Epidemiology Updates**

- **CDC COVID Data Tracker**
  - COVID-19 Vaccinations in the United States – new data!
- **Johns Hopkins COVID-19 in the USA** – daily summary of key data on COVID-19 in the U.S.
- **American Academy of Pediatrics** Children and COVID-19: State Level Data Report
- **California COVID-19 by the numbers** are available on the CDPH Website and the NYT Map and Table (includes data by county)
  - California COVID-19 Statewide Update as of January 19, 2022
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- San Mateo County COVID-19 Dashboard
- Santa Clara County COVID-19 Dashboard

ADDITIONAL COVID-19 RESOURCES

- San Mateo County COVID-19 Guidance and Resources for Clinicians and Facilities – COVID-19 Digests
- Covid-WEB (Wastewater Epidemiology for the Bay Area)
- 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