

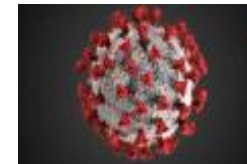
COVID-19 UPDATES

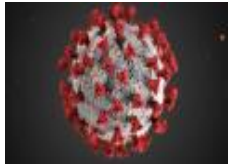
April 8, 2020

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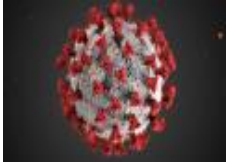


Infection Control: UV light germicidal irradiation

- Researchers from Nebraska Medicine have developed a procedure for decontaminating N95 respirators using ultraviolet germicidal irradiation
- <https://www.nebraskamed.com/sites/default/files/documents/covid-19/n-95-decon-process.pdf>



Infection Control: Barrier Enclosure during Endotracheal Intubation



Aerosol Box

Protection without access to standard personal protective equipment during endotracheal intubation

Without the box, contamination as far as 2 meters from the patient

Video

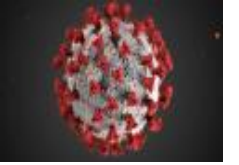


Barrier Enclosure during Endotracheal Intubation (04:18)

NEJM April 3, 2020

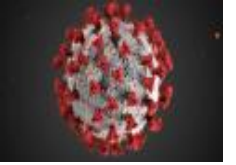
DOI: 10.1056/NEJMc2007589

Treatment: Hydroxychloroquine side effects



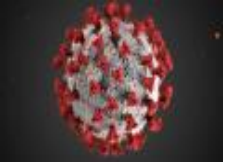
- We report the change in the QT interval in 84 adult patients with SARS-CoV-2 infection treated with Hydroxychloroquine/Azithromycin combination.
- QTc prolonged maximally from baseline between days 3 and 4. in 30% of patients QTc
- Increased by greater than 40ms. In 11% of patients QTc increased to >500 ms, representing high risk group for arrhythmia.
- The development of acute renal failure but not baseline QTc was a strong predictor of extreme QTc prolongation

Effectiveness of convalescent plasma therapy in severe COVID-19 patients: Profile Kai Duan, et al.



- Ten COVID + patients with severe disease
- One dose of 200 mL of convalescent plasma (CP) derived from recently recovered donors with the neutralizing antibody titers above 1:640 was transfused to the patients as an addition to maximal supportive care and antiviral agents.
- The primary endpoint was the safety of CP transfusion. The second endpoints were the improvement of clinical symptoms and laboratory parameters within 3 d after CP transfusion.
- Results:
 - The median time from onset of illness to CP transfusion was 16.5 d. After CP transfusion,
 - The clinical symptoms significantly improved along with increase of oxyhemoglobin saturation within 3 d.
 - Several parameters tended to improve as compared to pretransfusion
 - Increased lymphocyte counts ($0.65 \times 10^9/L$ vs. $0.76 \times 10^9/L$) and decreased C-reactive protein (55.98 mg/L vs. 18.13 mg/L).
 - Radiological improvement within 7 d.
 - The viral load was undetectable after transfusion in seven patients who had previous viremia.
 - No severe adverse effects were observed.
- This study showed CP therapy was well tolerated and could potentially improve the clinical outcomes through neutralizing viremia in severe COVID-19 cases.
- The optimal dose and time point, as well as the clinical benefit of CP therapy, needs further investigation in larger well-controlled trials.

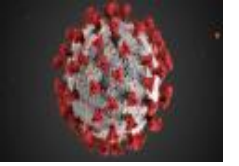
Management of Infants Born to Mothers with COVID-19



- Guidance on newborns by the American Academy of Pediatrics
- Newborns of women with positive or pending COVID-19 test results should be considered persons under investigation
- Clinicians should use gowns, gloves, and standard mask and eye protection during clinical encounters
- Newborns should be bathed as soon as possible and temporary separation from the mother should be considered

Coagulopathy Associated with COVID-19

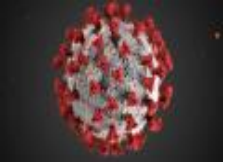
International Society on Thrombosis and Haemostasis



- Guidance on prognostic variables and management strategies for COVID-19–associated coagulopathy
- Lymphopenia is a common hematological abnormality
- Patients with severe illness are also likely to have coagulopathy
- Increased d-dimers associated with severe illness and may predict mortality
 - Monitor fibrinogen: nonsurvivors with severe illness developed disseminated intravascular coagulation around day 4
- Prophylactic dose low-molecular-weight heparin

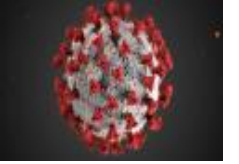
Thachil J et al. ISTH interim guidance on recognition and management of coagulopathy in COVID-19. *J Thromb Haemost* 2020 Mar 25

Coronavirus Disease 2019 in Children — United States



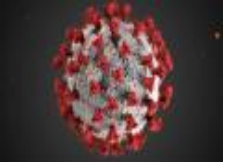
- Milder course than adults
- 1.7% of all confirmed U.S. cases
- Three pediatric deaths
- 73% of pediatric patients reported fever, cough, or shortness of breath
- 5.7% of all pediatric patients hospitalized

Surgeries during the incubation period of COVID-19 infection



- Chinese study of 34 asymptomatic patients who had elective surgeries during the virus's incubation period
- Rapid onset of symptoms after surgery
- 44% of patients required intensive care for COVID-19
- Seven patients died — all had undergone level-3 surgeries (with level 4 being the most difficult)
- Surgery may accelerate and exacerbate disease progression of COVID-19

Clinical Manifestations: First Presumptive Case of Encephalitis Linked to COVID-19 Reported



- 58 YO F, 3 days of fever, cough, altered mental status
- COVID-19 +
- CSF analysis was limited due to a traumatic lumbar puncture; SARS-CoV-2 testing in the CSF unable to be performed
- CT and MRI scans s/o Acute necrotizing encephalopathy (ANE)
- Started on IVIG but not high-dose steroids, due to concern for respiratory compromise
- Hospitalized in serious condition

Thank you

Questions?