

Title of Paper	Journal	Pub. Date	Category	Article highlights	Problem/Background	Design	Groups, for clinical studies	Results
<u>Analysis proposals for test-negative design and matched case-control studies during widespread testing of symptomatic persons for SARS-CoV-2</u>	arXiv	4/13/20	Epidemiology	Propose adding TND and CC in large scale testing to learn the risk factors for patients with COVID-19	How to find risk factors for symptomatic SARS-CoV-2 infection in the COVID-19 pandemic	Basic science		TND and CC study designs are proposed to be included in the case testings. Test-negative case-control design (TND) perform the study on all symptomatic persons (include both positive and negative cases). TND can be used to shows differences in risk factors between symptomatic persons with COVID-19 and persons with other respiratory infections. Standard matched case-control studies (CC) further include the person who accompanies the symptomatic persons to the test facility. CC distinguish between exposures that are risk factors for both COVID-19 and other respiratory infections, and exposures that are risk factors for just COVID-19 or just for other respiratory infections.
<u>Prevention of COVID-19 in patients with inflammatory bowel disease in Wuhan, China</u>	The Lancet Gastroenterology & Hepatology	4/17/20	Epidemiology	Patients with IBD were responsive to doctor directives regarding infection prevention and the implementation of less intensive and more distanced care regimens.	Inflammatory bowel disease (IBD) patients are at increased risk of opportunistic infection. How does management of patients change in response to the COVID-19 pandemic?	Cross-sectional study	318 IBD patients registered at Renmin Hospital of Wuhan University. 204 ulcerative colitis patients and 114 Crohn's disease patients.	Infusion of infliximab were stopped and replaced with 5-ASA or thalidomide. After COVID-19 was detected at the hospital, efforts were made to isolate IBD patients at the hospital and discharge those patients. Electronic communications were sent to patients regarding infection prevention and distance care was instituted. These were broadly followed by patients and acceptable. No COVID-19 cases were reported in this cohort.
<u>Endoscopy in inflammatory bowel diseases during the COVID-19 pandemic and post-pandemic period</u>	The Lancet Gastroenterology & Hepatology	4/16/20	Diagnosis & Prevention	Rule out COVID-19, then determine the urgency of performing endoscopy and which type.	Endoscopy are suspended yet still required by IBD patients	Systematic review		For new diagnosis of IBD, severe acute flare-up of ulcerative colitis, and colonic obstruction in patients with IBD, ruling out COVID-19 first is recommended. Decision for endoscopy would then be made based on the results from blood and stool tests. When endoscopy is warranted, use a dedicated room with negative pressure if possible, or allow 1h open air in the room between patients. Patients should also wear masks and gloves during the procedure.
<u>Impact assessment of non-pharmaceutical interventions against coronavirus disease 2019 and influenza in Hong Kong: an observational study</u>	The Lancet Public Health	4/17/20	Epidemiology	Hong Kong's use of social distancing, quarantine of contacts of those known to be infected, and increased hygiene behaviors has likely held the transmissibility of the novel coronavirus relatively constant since late January. There has also been a decreased incidence of influenza A H1N1 since these public health measures have been in place.	Not all cities around the world have implemented the same public health measures to stop the spread of the novel coronavirus. Questions remain in regard to which measures may be effective at reducing local spread.	Cross-sectional study	The Hong Kong Center for Health Protection identified cases of COVID-19, and cases of influenza-like illnesses were pulled from 60% of the center's clinics. The individuals who answered the phone surveys were adults in Hong Kong who were chosen through random-digit dialing.	Over the 8 weeks that were observed, the transmission of coronavirus remained stable while that of influenza A H1N1 decreased by 44 percent, as measured through the effective reproduction number. Cross-sectional surveys revealed an increased use of masks when in public spaces and an initial increased but then decreased avoidance of crowded places over time.
<u>Blood transfusion strategies and ECMO during the COVID-19 pandemic</u>	The Lancet Respiratory Medicine	4/16/20	Legal, Ethics & Management	Restrictive transfusion strategies should be considered to meet transfusion required for ECMO		Ideas, editorials, reviews or opinions		ECMO has high transfusion requirement. Restrictive transfusion strategies reduces the number of packed red blood cells and the inpatient mortality in patients needing critical care and patients receiving ECMO, thus should be considered especially when blood shortage is seen
<u>Prediction models for diagnosis and prognosis of covid-19 infection: systematic review and critical appraisal</u>	BMJ	4/7/20	Prognosis	All identified studies were at a high-risk of bias and lacked external validation. Future models need to address problems in the selection of representative control patients, setting relevant event horizons, and model overfitting.	How do different diagnostic and prognostic algorithms compare?	Systematic review	2696 titles were screened and 27 studies were identified. 3 models for predicting adverse COVID-19 events. 18 COVID-19 diagnostic models. 10 prognostic models.	Predictors of COVID-19 in patients from multiple models were age, body temperature, and signs and symptoms. Predictors of severe prognosis in multiple models were age, sex, CT scan features, CRP, LDH, and lymphocyte count.
<u>Physical interventions to interrupt or reduce the spread of respiratory viruses: systematic review</u>	BMJ	9/22/09	Legal, Ethics & Management	simple and low cost physical interventions reduce the transmission of epidemic respiratory viruses		Meta-analysis	59 studies focusing on the role of physical interventions in interrupting or reducing viral spread	From six case-control studies: physical measures that are highly effective in preventing the spread of severe acute respiratory syndrome include handwashing more than 10 times daily (odds ratio 0.45), wearing masks (0.32), wearing N95 masks (0.09), wearing gloves (0.43), wearing gowns (0.23), and handwashing, masks, gloves, and gowns combined (0.09). From high quality randomised trials: spread of respiratory viruses can be prevented by hygienic measures in younger children and within households.

<u>Impact of anti-tnfq antibodies on the risk of Covid-19 and its severity in patients with inflammatory Bowel Diseases</u>	Journal of Crohn's and Colitis	4/18/20	Prognosis	In a single case report of ileal Crohn's disease (CD) treated with anti-TNF and co-morbid COVID-19, the patient did not have serious COVID-19 and did not have a recurrence of CD while hospitalized.	Anti-TNF therapy is a common biologic approach to treating inflammatory bowel diseases. However, it is associated with increased risk of some infections. How do IBD patients receiving anti-TNF respond to COVID-19?	Case reports/series	30yo M with ileal Crohn's disease in remission with treatment from adalimumab	Patient had mild pneumonia with fast resolution and discharge from hospital within 5 days. Crohn's disease recurrence was not observed through diarrhea or increased fecal calprotectin.
<u>Modeling Exit Strategies from COVID-19 Lockdown with a Focus on Antibody Tests</u>	medRxiv	4/14/20	Epidemiology	Two epidemiological models suggest that intermittent short-term contact reductions for two to three years are likely necessary in Germany and similar countries in order to prevent the healthcare system from being overloaded. The models support the use of antibody tests to guide the contact reductions, as they will be needed to identify herd immunity until effective immunization is possible.	In order to slow the spread of SARS-CoV-2 and lower the burden on the healthcare system, lockdown orders have been put in place around the world. There are negative consequences of such a restriction, however, making it critical to understand when and how to strategically end a lockdown.	Ideas, editorials, reviews or opinions		Hygienic measures, potential seasonality of the disease, and immunizations each have varying mitigating effects, but each alone would not be fully effective without also implementing short-term contact reductions. Antibody testing would provide an additional benefit, allowing those with immunity to continue regular public lives and providing needed information should immunity eventually be lost.
<u>Comparative dynamic aerosol efficiencies of three emergent coronaviruses and the unusual persistence of SARS-CoV-2 in aerosol suspensions</u>	medRxiv	4/13/20	Biology	SARS-CoV-2 remains replication-competent and virion integrity up to 16hrs in aerosol suspensions	Dynamics and long-term persistence of SARS-CoV-2 viral particles in aerosols is unknown	Basic science		In Collison 3-jet generated aerosols, SARS-CoV-2 showed improved short-term aerosol efficiency than SARS-CoV and MERS-CoV. In static aerosol suspensions, SARS-CoV-2 can be detected by RT-PCR up to 16 hrs without much decay, with its morphologies, size and aspect ratios remain stable.
<u>A Rapidly Deployable Negative Pressure Enclosure for Aerosol-Generating Medical Procedures</u>	medRxiv	4/21/20	Diagnosis & Prevention	ACE is capable of maintaining negative pressures generated by wall suction to contain aerosols from AGMPs	Improved methods for mitigating risk during AGMPs are needed	Basic science		Aerosol Containment Enclosure (ACE) was constructed from acrylic with silicone gaskets for arm port seals and completed with a thin plastic sheet that can fully enclose a patient (total cost ~\$20). Negative pressure within ACE can be generated by hospital suction (combine two for 70L/min outflow). The ACE maintained negative pressure during simulated manual ventilation within the ACE with BVM, and intubation using video laryngoscopy.
<u>Phenotype of SARS-CoV-2-specific T-cells in COVID-19 patients with acute respiratory distress syndrome</u>	medRxiv	4/11/20	Biology	The virus induces a strong and specific T cell response of both CD4s and CD8s. CD4s primarily have a Th1 cytokine profile, but also produce Th2 cytokines as well. It doesn't appear that T cells are responsible for the increased levels of IL-6 induced cytokine storm. They can be an important component of immunity in addition to neutralizing antibodies.	What is the T cell response like in patients with ARDS?	Basic science		See highlights
<u>Multicenter analysis of clinical characteristics and outcome of COVID-19 patients with liver injury</u>	Journal of Hepatology	4/20/20	Diagnosis & Prevention	The only significant differences identified between COVID-19 patients with liver injury on admission and those without were elevated proportions of males and longer time between symptom onset and admission in the liver injury group.	Does the hospital course of COVID-19 patients with evidence of liver injury on admission differ from other COVID-19 patients?	Prospective cohort study	70 SARS-CoV-2 qPCR confirmed COVID-19 patients from 9 hospitals across China.	See Highlights
<u>Meningoencephalitis without respiratory failure in a young female patient with COVID-19 infection in Downtown Los Angeles, early April 2020</u>	Brain, Behaviour, and Immunity	4/17/20	Diagnosis & Prevention	Meningoencephalitis without respiratory involvement may be a presentation in COVID-19. However, the authors are unable at this time to confirm SARS-CoV-2 in the CSF.	What is the diversity of patient presentations possible in COVID-19?	Case reports/series	41yo F with a history of diabetes presents with headache, fever and new onset seizure.	Patient had an initial temperature of 100.5F, RR of 12-24, O2 sat of 99% on 2 LPM nasal canula. Patient had a stiff neck and photophobia. Normal head CT w/o contrast and chest CT. CSF white cells were 70 with 100% lymphocytes, red cells were 65, protein was 100, and glucose was 120 with a serum glucose of 200. Negative PCR for HSV. Patient improved after hydroxychloroquine.

These summaries were prepared by medical and graduate students at Washington University in St. Louis

Please note that medRxiv and arXiv articles have not yet been peer-reviewed.

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