COVID-19, HI and the vaccines

Update July 1, 2021

by hearring

Literature Updates

- COVID-19 and Inner Ear
- HI in the pandemic

COVID-19 and Inner Ear

- Tinnitus surge since the start of the pandemic was reported by British Tinnitus Association.
    - recognized as a common symptom of COVID and LongCOVID by NIH
- Professor Kevin Munro and PhD researcher Ibrahim Almufarrij found 56 studies that identified an association between COVID-19 and auditory and vestibular problems. The pooled estimate of prevalence based primarily on retrospective recall of symptoms, was 7.6%, 14.8%, and 7.2%, for hearing loss, tinnitus and rotatory vertigo, respectively.
    - these could be an over-estimate because the data primarily used self-reported questionnaires or medical records rather than hearing tests.
- Delta variant may cause hearing and balance issues especially in patients who already have tinnitus, according to a study led by Professor Colleen Le Prell from the University of Texas.

- Incidence of sudden SNHL occurring after COVID-19 vaccination does not exceed that of the general poluation

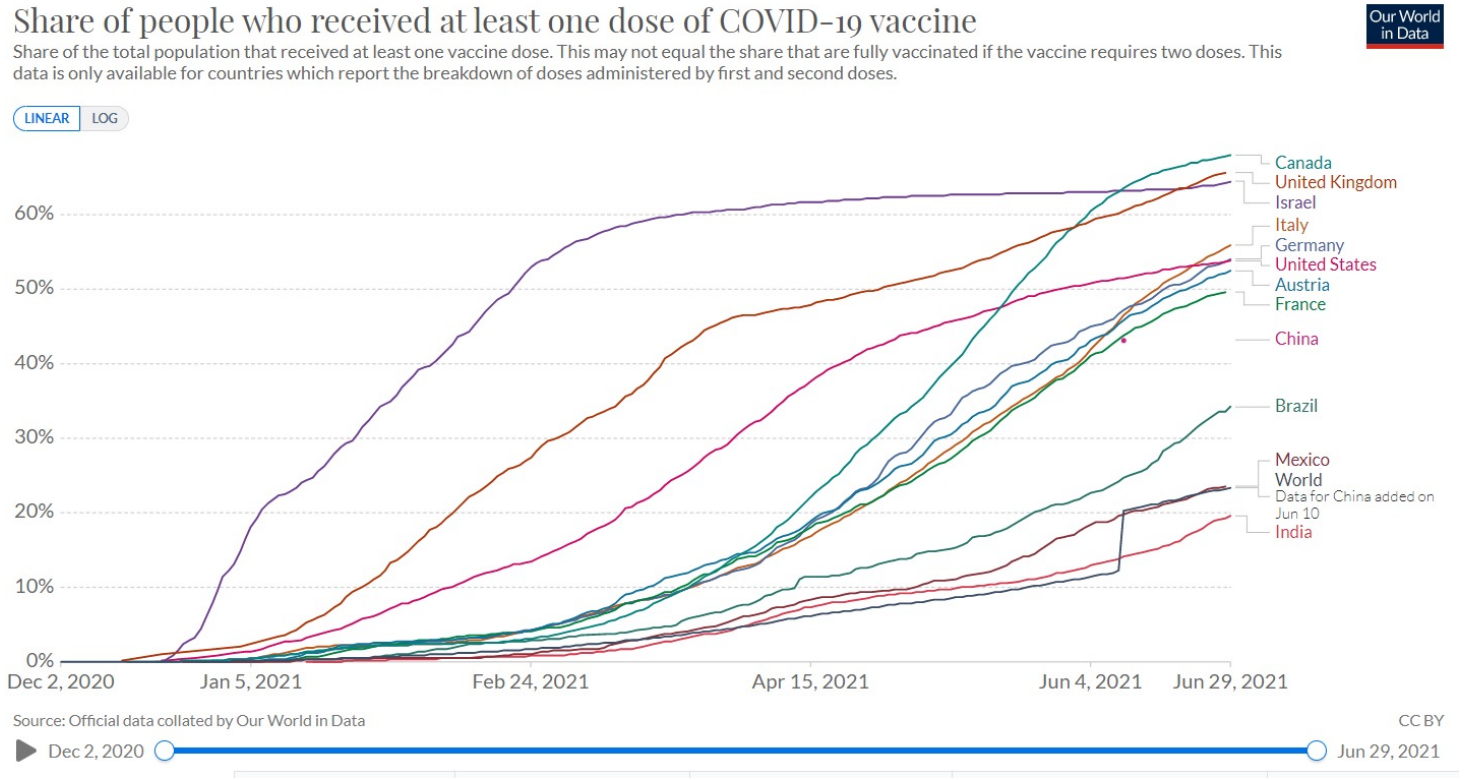
HI in pandemic

- Prof H Monhammed from UK reported reduced number of chldren who need AUD evaluation, with more delays on appointment. However,
    - The rate of failure to attend CI assessment was dropped (31.5% → 0)
    - Average time from CI decision to surgery reduced (6.25 → 3.9 weeks)
    - NONE of the 11 children undergone CI in pandemic developed COVID symptoms.

- Reduced performance on speech test in school-aged CI users was reported by Karen A etc from Ontario.

- Reduced speech recognition (CI) with "N95+face shield" reported by Teresa G.
    - No difference detected between uncovered and N95 mask

Vaccine



23.4% of the world population has received at least one dose of a COVID-19 vaccine.

3.04 billion doses have been administered globally, and **41.06 million** are now administered each day.

Long term efficacy data

- A study in more than 25,000 health-care workers in the UK found that a nature infection reduced the risk of catching the virus again by 84% for at least 7 months
    - vaccine-induced immunity will not be as durable as immunity from natural infection
    - a booster to be needed in about 8–12 months after the second dose of the Pfizer–BioNTech vaccine.
- Long term data source:
    - Safety reports per regulatory requirement
    - Ongoing studies
    - New studies (survey etc..)
    - Real world data
    - Modelling

https://www.medrxiv.org/content/10.1101/2021.01.13.21249779v3.full-text
https://ourworldindata.org/covid-vaccinations

Pfizer-BioNTech (BNT162b2)

Real world data

Data background

- Israel data collected between January 17 and March 6, 2021 (B.1.1.7 is in place)
- Danish data 39040 residents vaccinated between Dec 27 – Feb 18

Effectiveness at a week after the second dose.

- (Israel) between **66%-85%** effective at preventing infection and **87%-96%** effective for preventing severe disease
- (Denmark) **64%** effective in long-term-care residents with a median age of 84, and **90%** effective in health-care workers

Pfizer news

97% effectiveness against symptomatic COVID-19 cases, hospitalizations, severe and critical hospitalizations

94% effectiveness against asymptomatic SARS-CoV-2 infections

Reference

- https://www.pfizer.com/news/press-release/press-release-detail/real-world-evidence-confirms-high-effectiveness-pfizer
- https://www.medrxiv.org/content/10.1101/2021.03.08.21252200v1

https://github.com/dviraran/covid_analyses/blob/master/Aran_letter.pdf

Pfizer and Moderna

Real world data from CDC study (Jun 7, 2021)

Study design

- 3,975 participants completed weekly SARS-CoV-2 testing for 17 consecutive weeks (from December 13, 2020 to April 10, 2021) in eight U.S. locations.

Pfizer and Moderna vaccines were 91% effective

- After partial vaccination, participants' risk of infection was reduced by **81 %**.
- **60%** lower risk of developing symptoms
- more likely to have a milder and shorter illness
- fully or partially vaccinated study participants had 40 percent **less detectable virus** in their nose (i.e., a lower viral load), and
- the virus was detected for six **fewer days** (i.e., viral shedding)

Reference

- https://www.cdc.gov/media/releases/2021/p0607-mrna-reduce-risks.html

AstraZeneca ChAdOx1

First real world data

Real world data from Scottland

- 5.4 million people vaccinated with Pfizer and AstraZeneca
- The first dose of the BNT162b2 vaccine was associated with a vaccine effect of **85%** (95% confidence interval [CI] 76 to 91) for COVID-19 related hospitalisation at 28-34 days post-vaccination
- Vaccine effect at the same time interval for the ChAdOx1 vaccine was **94%** (95% CI 73 to 99).

Safety

- ANSM (France) confirms a risk of rare thrombosis associated with AstraZeneca

Reference

- https://www.astrazeneca.com/media-centre/articles/2021/first-real-world-study-of-covid-19-vaccine-astrazeneca-demonstrates-94-reduction-in-hospitalisations.html
- https://www.ed.ac.uk/files/atoms/files/scotland_firstvaccinedata_preprint.pdf

Other vaccines

Clinical trial data

Novavax

- estimated efficacy of **89.3%** in phase 3 trial **UK** and
- **60%** efficacy for the prevention of mild, moderate and severe COVID-19 disease in **South Africa**.

Johnson & Johnson

- phase 3 trial shows **66%** effective overall in **preventing moderate to severe** COVID-19, 28 days after vaccination.
- **72% in the United States, 66% in Latin America and 57% in South Africa**.

Russia's Sputnik V

- estimated **92%** efficacy
- On Feb. 12, the director of the Gameleya center said that it would likely provide only **four to five months** of protection.

Developers	Vaccine / Vaccine type	Clinical Efficacy against Alpha (B.1.1.7.) (UK) / Neutralisation	Clinical Efficacy against Beta (B.1.351) (South Africa) / Neutralisation	Clinical Efficacy against Gamma (P.1) (Brazil) / Neutralisation	Clinical Efficacy against Delta (B.1.617.2) (India) / Neutralisation
Vaccines contracted or exploratory talks have concluded for EU					
Moderna + National Institute of Allergy and Infectious Diseases (NIAID)	COVID-19 Vaccine Moderna (mRNA -1273) / m RNA	Not yet available Decrease by 1.8x	Not yet available Decrease by ≤8.6x	Not yet available Decrease by 4.5x	Not yet available
AstraZeneca + University of Oxford	COVID-19 Vaccine AstraZeneca (ChAdOx1-S - (AZD1222) / Viral vector (Non-replicating)	70.4% against symptomatic COVID-19 Decrease by 9x	10.4% against symptomatic COVID-19 Decrease by ≤86× to complete immune escape	Not yet available Decrease by 2.9x	Real word data: 60% effective at two weeks after the second dose; 33% effective against symptomatic disease three weeks after the first dose
BioNTech + Pfizer	Comirnaty (BNT162b2) / mRNA	Real-word data: 72% (95% CI 58-86) 21 days after first dose and 86% (95% CI 76-97) seven days after two doses Decrease by 2x	100% in South Africa Decrease by ≤6.5x to 10.3x	Not yet available Decrease by 2.6X, 6.7x to 14x	Real word data: 88% effective, two weeks after the second dose; 33% effective against symptomatic disease three weeks after the first dose
Janssen Pharmaceutical/Johnson&Johnson	COVID-19 Vaccine Janssen (Ad26.COV2.S) / Viral vector (Non-replicating)	Not yet available	57% against moderate to severe COVID-19; 85% against severe COVID-19 and hospitalisation Not yet available	68.1% against moderate to severe disease Not yet available	Not yet available
CureVac AG	CVnCoV / mRNA	Not yet available	Not yet available (Strong results variant when tested on mice; CureVac would expand a trial in Europe and Latin America to analyse the vaccine's efficacy against select variants)	Not yet available	Not yet available
Sanofi Pasteur + GSK	VAT00002; SARS-CoV-2 vaccine formulation 1 with adjuvant 1 (S protein (baculovirus production) / Protein subunit	Not yet available	Not yet available	Not yet available	Not yet available

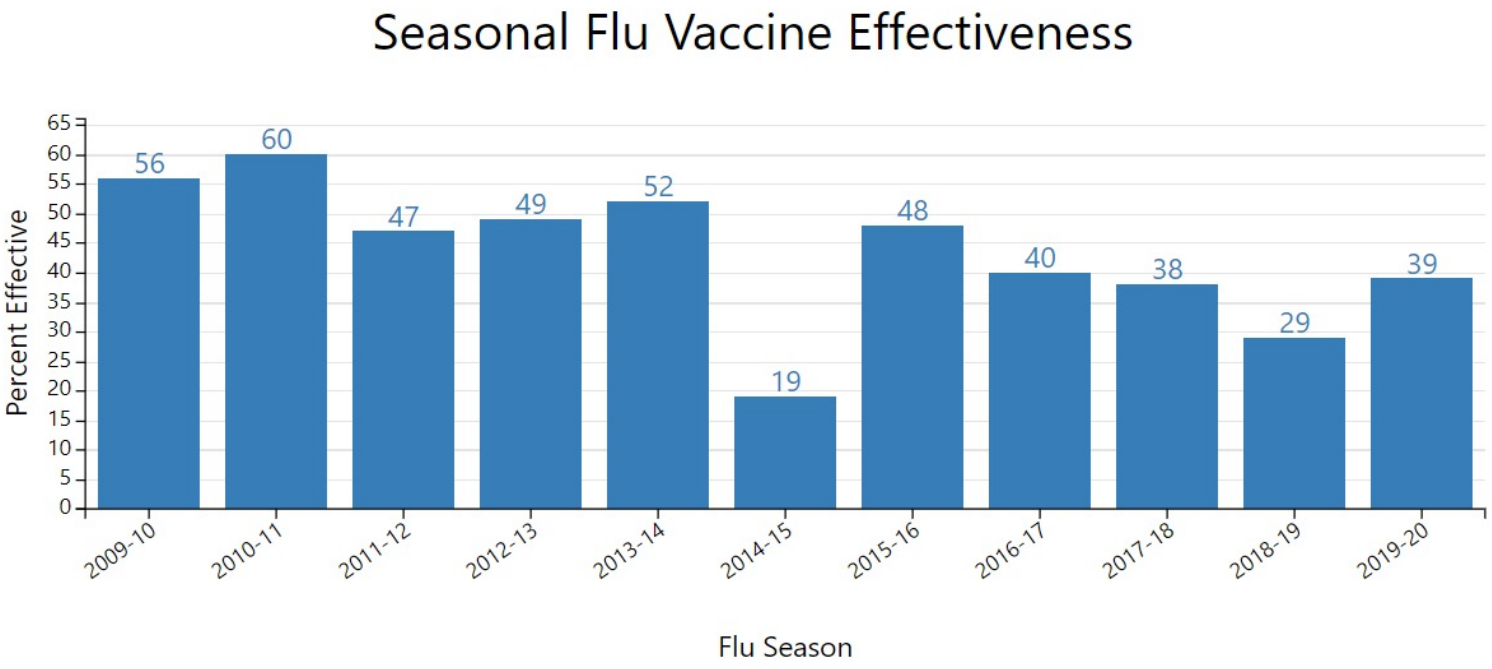
https://eprints.aihta.at/1234/128/Policy_Brief_002_Update_06.2021.pdf

Vaccine Effectiveness

Against mutated variants

Vaccine effectiveness of Flu vaccines

CDC data



https://www.cdc.gov/flu/vaccines-work/index.html

Effectiveness of COVID-19 vaccines

What does it mean

For community:

- 70-85% of the population would need to be vaccinated or immune to reach herd immunity
- Medical resource, finance loss, mental health, quality of life etc.. Need to be considered

For individuals:

- Effective to prevent from hospitalization, severe diease or death
- Medical history, lifestyle, possible side effects need to be considered

Mutation and future?

- Possible booster shot in the future

Effectiveness of a booster shot

- Moderna has released preliminary results showing that a booster vaccine using a spike-protein sequence from the B.1.351 variant **increased the concentration of antibodies** that neutralize SARS-CoV-2, and particularly the B.1.351 variant
- On 19 May, the UK government announced that it had funded a study
  - 7 different COVID-19 vaccines given as boosters at least 10–12 weeks after the second dose of an initial vaccine.
  - Early findings are expected in September
- NIH launched a small trial (May 28)
  - 150 adults, who have received one of the three vaccines. All will be given one dose of the Moderna vaccine 12 to 20 weeks after fully vaccinated.

https://www.nih.gov/news-events/news-releases/nih-clinical-trial-evaluating-mixed-covid-19-vaccine-schedules-begins

https://www.nature.com/articles/d41586-021-01505-x

Vaccines in children

- EMA granted Pfizer vaccine for 12-15 y on May 28
- No real world data yet
- Clinical trials are currently under way to test the Pfizer, Moderna, Oxfor dAstraZeneca, Jansenn/Johnson&Johns on and Sinovac vaccines in children.
- Pfizer-BioNTech (BNT162b2) study:
  - 100% effective on 12-15ys of age
  - 93% effective for 12-17ys of age
  - Study on ≥5 to <12 ys of age just started

https://pubmed.ncbi.nlm.nih.gov/34043894/

Vaccines in children

Developers	Vaccine / Vaccine type	
Moderna + National Institute of Allergy and Infectious Diseases (NIAID)	COVID-19 Vaccine Moderna (mRNA-1273) / m RNA	**NCT04796896 (KidCOVE)** Phase 2/3 RCT in 6,750 children ages 6 months through 11 years in U.S. and Canada Two parts: 1. **Part 1:** open label, dose-escalation, age de-escalation study. 2 yo – up to 12 yo: each participant may receive either 50 µg or 100 µg dose of the vaccine. 6 mo – up to 2 yo: each participant may receive either 25 µg, 50 µg, or 100 µg dose. 2. **Part 2:** randomised, observer-blind, placebo-controlled expansion study based on the preliminary evaluation of the Part 1 results. The participants will receive two doses of the vaccine 28 days apart. To evaluate the medicine's safety, tolerability, reactogenicity and effectiveness, the company will observe the participants for 12 months after the second jab. **NCT 04649151 (TeenCOVE)** Phase 2/3 RCT, to evaluate the safety, reactogenicity, and effectiveness of mRNA-1273 SARS CoV 2 vaccine in 3000 healthy adolescents 12 to <18 years of age in US. See Press Release from 15 May 2021, on results related to primary endpoint below. On June 08, 2021 **EMA** has started evaluating an **application** to **extend the use** of the COVID-19 Vaccine **Moderna** to include young people **aged 12 to 17.**
AstraZeneca + University of Oxford	COVID-19 Vaccine AstraZeneca (ChAdOx1-S - (AZD1222) /Viral vector	**Phase 2 RCT** in 300 **children aged 6-17**, in UK Currently has been **paused** while the **EMA** investigates the link between the shot and rare blood clots
BioNTech + Pfizer	Comirnaty (BNT162b2) / mRNA	**NCT 04368728 Phase 2/3 RCT in 2200 volunteers ages 12 to 15** On March 31, 2021 announced adolescent trials have shown efficacy of 100% in protecting adolescents ages 12-15, with no significant safety concerns. About 2,260 adolescents ages 12-15 years participated in the trial, with roughly half receiving the vaccine and half receiving a placebo. There were 18 cases of COVID-19 reported, all within the placebo group. One month after a second dose, the vaccine elicited SARS-CoV-2-neutralizing antibody geometric mean titers of 1,239.5 in a

Vaccines in children

		subset of adolescents, compared to 705.1 in an earlier group of 16- to 25-year-olds, according to the news release. Scientific publication in NEJM [28], see details below. On May 10, 2021 **FDA** authorised **Pfizer/BionTech COVID-19 vaccine** for **emergency use** in **adolescents 12-15 years old.** On May 28, 2021 **EMA**'s CHMP recommended **granting** an **extension of indication** for the COVID-19 vaccine **Comirnaty** to include **children aged 12 to 15.** **NCT 04816643, Phase 1/2/3 Study in 4644 children 6 months to 11 years old in US** Evaluating the safety, tolerability, and immunogenicity of the Pfizer-BioNTech COVID-19 vaccine on a two-dose schedule (approximately 21 days apart) in three age groups: children aged 5 to 11 years, 2 to 5 years, and 6 months to 2 years. The 5 to 11 year-old cohort started dosing last week and the companies plan to initiate the 2 to 5 year-old cohort next week. https://www.pfizer.com/news/press-release/press-release-detail/pfizer-biontech-announce-positive-topline-results-pivotal?linkId=114996658
Janssen Pharmaceutical/Johnson&Johnson	COVID-19 Vaccine Janssen (Ad26.COV2.S) / Viral vector	**RCT, phase 2a** Has begun in April 2021 testing its Covid-19 vaccine in 1700 adolescents aged 12; Initially will be tested in a small number of adolescents aged 16-17 years (following the review of initial data in this phase 2a trial, the study will be expanded to a larger group of younger adolescents in a stepwise approach). Currently enrolling participants in Spain and the United Kingdom; enrollment will commence shortly in the United States, the Netherlands and Canada, with Brazil and Argentina to follow https://www.wsj.com/articles/j-j-starts-testing-covid-19-vaccine-in-adolescents-11617379165
CureVac AG	CVnCoV / mRNA	Not available
Sanofi Pasteur + GSK	VAT00002; SARS-CoV-2 vaccine formulation 1 with adjuvant 1 (S protein (baculovirus production) / Protein subunit	Not available
Novavax	NVX-CoV2373 / Protein subunit	Pediatric and adolescent arms of the trials expected to initiate later in the second quarter 2021 https://www.marketwatch.com/story/novavax-to-expand-covid-19-vaccine-trials-to-children-teens-2021-04-05
Valneva	VLA2001 / Inactivated virus	Not available
Sinovac Biotech	CoronaVac; SARS-CoV-2 vaccine (inactivated) / Inactivated virus	**RCT on 500 children in China ages 3 to 17; preliminary results from phase ½ trials announced** safe and could induce immune responses among children and adolescents; The lower dose of the vaccine could induce favourable antibody responses in children aged three to 11 years while the medium dose worked well for those aged 12 to 17 years. https://www.clinicaltrialsarena.com/news/sinovac-vaccine-immune-responses-children/

Treatment Update

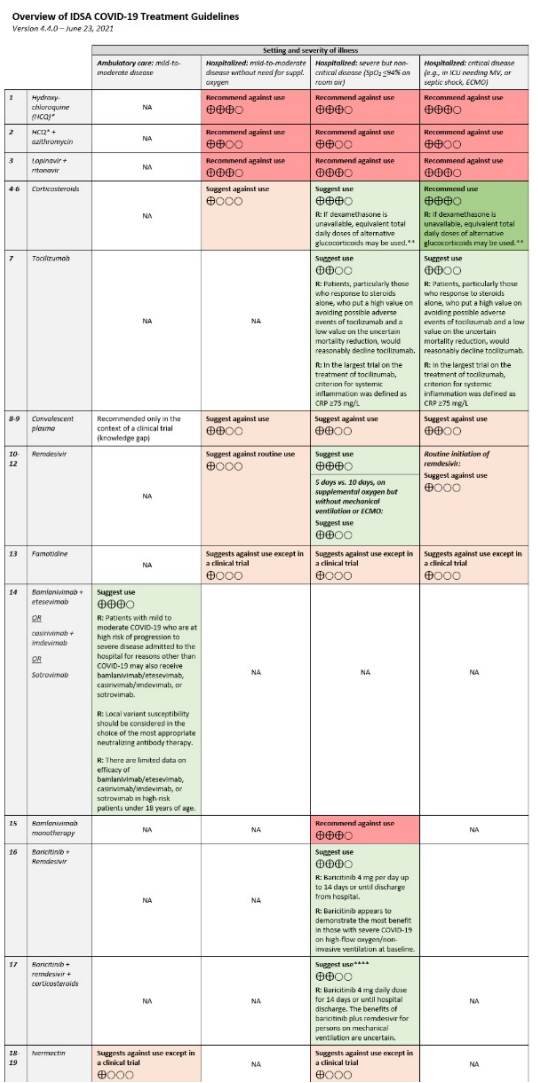
Treatment Guideline

IDSA Guidelines

As of June 23, there are 19 recommendations from IDSA:

- Dexamethosone
- Neutralizing antibodies
- Convalescent plasma
- Remdesivir (anti virus)
- Ivermectin (anti parasite)
- Bamlanivimab with etesevimab (monoclonal antibody)
- Tocilizumab (immunosuppressive)

https://www.idsociety.org/practice-guideline/covid-19-guideline-treatment-and-management/#toc-9



Overview of IDSA COVID-19 Treatment Guidelines

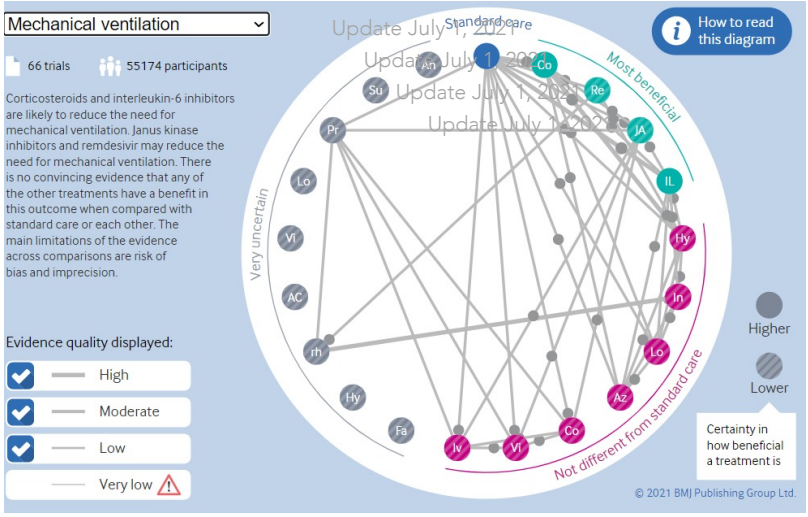
Version 4.4.0 – June 23, 2021

		Setting and severity of illness			
		Ambulatory care: *mild-to-moderate disease*	***Hospitalized:*** *mild-to-moderate disease without need for suppl. oxygen*	***Hospitalized:*** *severe but non-critical disease (SpO_2 ≤94% on room air)*	***Hospitalized:*** *critical disease (e.g., in ICU needing MV, or septic shock, ECMO)*
1	*Hydroxy-chloroquine (HCQ)**	NA	**Recommend against use** ⊕⊕⊕◯	**Recommend against use** ⊕⊕⊕◯	**Recommend against use** ⊕⊕⊕◯
2	*HCQ* + azithromycin*	NA	**Recommend against use** ⊕⊕◯◯	**Recommend against use** ⊕⊕◯◯	**Recommend against use** ⊕⊕◯◯
3	*Lopinavir + ritonavir*	NA	**Recommend against use** ⊕⊕⊕◯	**Recommend against use** ⊕⊕⊕◯	**Recommend against use** ⊕⊕⊕◯
4-6	*Corticosteroids*	NA	**Suggest against use** ⊕◯◯◯	**Suggest use** ⊕⊕⊕◯ R: If dexamethasone is unavailable, equivalent total daily doses of alternative glucocorticoids may be used.**	**Recommend use** ⊕⊕⊕◯ R: If dexamethasone is unavailable, equivalent total daily doses of alternative glucocorticoids may be used.**
7	*Tocilizumab*	NA	NA	**Suggest use** ⊕⊕◯◯ R: Patients, particularly those who response to steroids alone, who put a high value on avoiding possible adverse events of tocilizumab and a low value on the uncertain mortality reduction, would reasonably decline tocilizumab. R: In the largest trial on the treatment of tocilizumab, criterion for systemic inflammation was defined as CRP ≥75 mg/L	**Suggest use** ⊕⊕◯◯ R: Patients, particularly those who response to steroids alone, who put a high value on avoiding possible adverse events of tocilizumab and a low value on the uncertain mortality reduction, would reasonably decline tocilizumab. R: In the largest trial on the treatment of tocilizumab, criterion for systemic inflammation was defined as CRP ≥75 mg/L
8-9	*Convalescent plasma*	Recommended only in the context of a clinical trial (knowledge gap)	**Suggest against use** ⊕⊕◯◯	**Suggest against use** ⊕⊕◯◯	**Suggest against use** ⊕⊕◯◯
10-12	*Remdesivir*	NA	**Suggest against routine use** ⊕◯◯◯	**Suggest use** ⊕⊕⊕◯ ***5 days vs. 10 days, on supplemental oxygen but without mechanical ventilation or ECMO:*** **Suggest use** ⊕⊕◯◯	***Routine initiation of remdesivir:*** **Suggest against use** ⊕◯◯◯
13	*Famotidine*	NA	**Suggests against use except in a clinical trial** ⊕◯◯◯	**Suggests against use except in a clinical trial** ⊕◯◯◯	**Suggests against use except in a clinical trial** ⊕◯◯◯
14	*Bamlanivimab + etesevimab* ***OR*** *casirivimab + imdevimab* ***OR*** *Sotrovimab*	**Suggest use** ⊕⊕⊕◯ R: Patients with mild to moderate COVID-19 who are at high risk of progression to severe disease admitted to the hospital for reasons other than COVID-19 may also receive bamlanivimab/etesevimab, casirivimab/imdevimab, or sotrovimab. R: Local variant susceptibility should be considered in the choice of the most appropriate neutralizing antibody therapy. R: There are limited data on efficacy of bamlanivimab/etesevimab, casirivimab/imdevimab, or sotrovimab in high-risk patients under 18 years of age.	NA	NA	NA
15	*Bamlanivimab monotherapy*	NA	NA	**Recommend against use** ⊕⊕⊕◯	NA
16	*Baricitinib + Remdesivir*	NA	NA	**Suggest use** ⊕⊕⊕◯ R: Baricitinib 4 mg per day up to 14 days or until discharge from hospital. R: Baricitinib appears to demonstrate the most benefit in those with severe COVID-19 on high-flow oxygen/non-invasive ventilation at baseline.	
17	*Baricitinib + remdesivir + corticosteroids*	NA	NA	**Suggest use****** ⊕⊕◯◯ R: Baricitinib 4 mg daily dose for 14 days or until hospital discharge. The benefits of baricitinib plus remdesivir for persons on mechanical ventilation are uncertain.	NA
18-19	*Ivermectin*	**Suggests against use except in a clinical trial** ⊕◯◯◯	NA	**Suggests against use except in a clinical trial** ⊕◯◯◯	NA

Drug Update
(April 6, 2021)

https://www.bmj.com/content/370/bmj.m2980

- Corticosteroids
- Cochicine
- IL-6
- JAKi



	Mortality	Mechanical ventilation	Adverse events	Admission to hospital	Viral clearance at 7 days‡	Duration of hospital stay	ICU length of stay	Duration of mechanical ventilation	Time to symptom resolution	Time to viral clearance	Ventilat free days‡
Standard care*	130 per 1000	116 per 1000	9 per 1000	51 per 1000	500 per 1000	13 days	13 days	15 days	11 days	7 days	12 day
ACEi/ARB	-4 (-59 to 83)	-16 (-55 to 44)	8 (-5 to 58)†			-1.9 (-5.7 to 1.8)					
Anakinra		21 (-52 to 155)									
Anticoagulants	-2 (-33 to 34)										
Azithromycin	-4 (-25 to 21)	-6 (-33 to 28)				-0.9 (-1.7 to 0.3)†					-1.2 (-4 to 2.0
Colchicine	-78 (-110 to -9)	-57 (-90 to 3)		-11 (-34 to 42)		-1.7 (-2.8 to -0.7)†					
Corticosteroids	-20 (-36 to -3)	-25 (-44 to -1)			-82 (-269 to 111)	-0.3 (-1.7 to 1.3)		-1.4 (-3.4 to 0.7)			2.6 (0. to 5.0
Doxycycline + ivermectin	-130 (-130 to -123)		34 (-7 to 547)†								
Favipiravir	-41 (-113 to 207)	-14 (-74 to 120)	2 (-7 to 47)†		50 (-96 to 193)	-1.3 (-2.4 to -0.1)†			-4.3 (-5.9 to -2.14)	-0.6 (-3.2 to 4.2)	
Hydroxy-chloroquine	10 (-8 to 30)	15 (-9 to 45)	8 (-1 to 27)†	-10 (-31 to 26)	2 (-93 to 109)	0.1 (-1.8 to 2.0)			-1.5 (-3.0 to 0.2)	-0.9 (-2.9 to 2.1)	-1.4 (-4 to 2.2
Hydroxy-chloroquine + azithromycin	-42 (-96 to 53)	54 (-22 to 174)	9 (-5 to 60)	-1 (-35 to 83)	-35 (-211 to 154)	0.4 (-1.4 to 2.1)†					
IL-6i	-15 (-30 to 6)	-30 (-46 to -10)	-4 (-9 to 67)†			-4.3 (-8.1 to -0.5)†			-0.7 (-2.7 to 1.7)		1.6 (-0. to 3.3
Interferon beta	2 (-34 to 28)	-7 (-40 to 32)				-0.4 (-1.9 to 1.0)†			-1.8 (-4.0 to 1.0)		
Interferon gamma					419 (41 to 497)						
Interferon kappa + treefoil factor 2					284 (-54 to 451)						
Ivermectin	-103 (-117 to -78)	-54 (-100 to 80)	26 (-2 to 187)	-32 (-47 to 23)	118 (-13 to 241)	-0.5 (-1.7 to 1.1)†			-0.4 (-3.7 to 3.5)	-2.0 (-4.4 to 2.4)	
JAKi	-50 (-84 to 0)	-46 (-74 to -5)				-1.5 (-3.0 to 0.1)†		-3.8 (-7.5 to -0.1)†	-1.0 (-3.8 to 2.8)		
Lopinavir-ritonavir	3 (-17 to 25)	10 (-16 to 41)	46 (9 to 197)	-17 (-39 to 37)	-20 (-165 to 98)	0.7 (-1.1 to 2.7)†			0.1 (-2.5 to 3.5)		
Lopinavir-ritonavir + interferon b1a	62 (-20 to 176)	41 (-17 to 125)	136 (31 to 506)		-93 (-296 to 143)	5.0 (3.7 to 6.3)†			1.2 (-2.8 to 6.9)		
Nitazoxanide			63 (-3 to 725)	0 (-39 to 151)	159 (-97 to 350)						
Peginterferon lambda					206 (-142 to 418)						
Proxalutimide	-130 (-130 to -118)	-116 (-116 to -111)		-50 (-51 to -38)†							
rhG-CSF	-102 (-124 to -43)	-96 (-107 to -76)				-0.7 (-1.8 to 0.5)†			-0.8 (-4.6 to 5.2)		
Remdesivir	-11 (-33 to 12)	-26 (-51 to -2)	1 (-6 to 26)		13 (-242 to 262)	0.4 (-0.1 to 1.4)†		-1.3 (-4.3 to 1.5)	-2.0 (-4.1 to 0.7)		
Sulodexide	-78 (-119 to 50)	-62 (-105 to 81)	3 (-7 to 65)	-24 (-41 to 20)							
Umifenovir	794 (-130 to 870)										
Vitamin C	-50 (-89 to 22)	17 (-41 to 110)				-1.6 (-3.3 to 1.3)†					
Vitamin D	-11 (-86 to 150)	-63 (-96 to 7)				0 (-1.2 to 1.2)†					

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This report is based on facts and data

Source

Topic


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