

analýza všech 182 studií v reálném čase

c19ivermectin.com

Ivermectin for COVID-19

91 studies from **969** scientists
134,052 patients in **27** countries

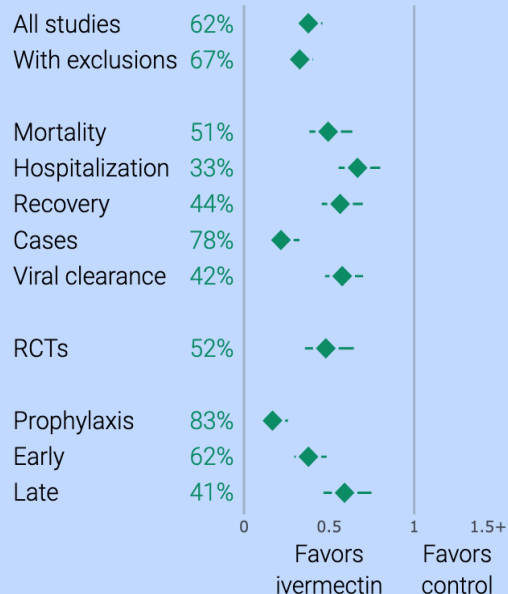
Statistically significant improvement for **mortality, ventilation, ICU, hospitalization, recovery, cases, and viral clearance.**

83%, 62%, 41% improvement for prophylaxis, early, and late treatment CI [74-89%], [51-70%], [25-53%]

52% improvement in **41 RCTs** CI [35-64%]

51% lower **mortality** from **47** studies CI [36-62%]

COVID-19 IVERMECTIN STUDIES. SEP 2022. IVMMETA.COM



182 studií s ivermektinem COVID-19, 131 recenzovaných, 91 porovnávacích léčebné a kontrolní skupiny. Nedávné: [Uematsu](#) [Qadeer](#) [Aktar](#) [Bramante](#) [Al-kuraishy](#) [Kory](#) [Chellasamy](#). Ivermectin byl přijat pro časnou léčbu ve všech nebo v části 22 zemí (39 včetně nevládních lékařských organizací). [Odeslat aktualizace/opravy.](#) [IvermectinVšechno](#)

15. září [Podrobnosti](#) [Zdroj](#) [PDF](#)

Studie na zvířatech



Profylaktický účinek ivermektinu na onemocnění vyvolané SARS-CoV-2 u modelu syrského křečka

Uematsu a kol., Research Square, [doi:10.21203/rs.3.rs-2012940/v1](https://doi.org/10.21203/rs.3.rs-2012940/v1) (předtisk)

Studie na křečcích prokazující, že profylaktický ivermektin inhiboval ztrátu hmotnosti COVID-19, snížil titer viru v plicích faktorem 10, inhiboval expresi plicních zánětlivých cytokinů a snížil závažnost patologických změn při jediné dávce 1 mg/kg. Autoři také testovali 250 a 500 ug/kg na inhibici úbytku hmotnosti, což ukazuje vztah mezi dávkou a odezvou. I když to není statisticky významné, dávka 500 ug/kg také vykazovala trend přínosu.

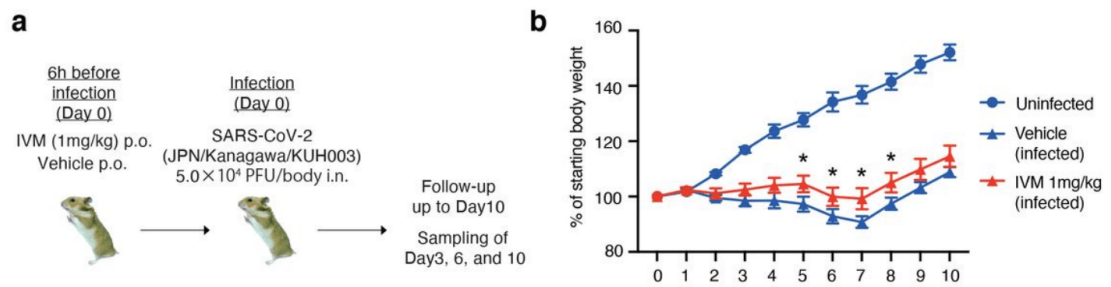


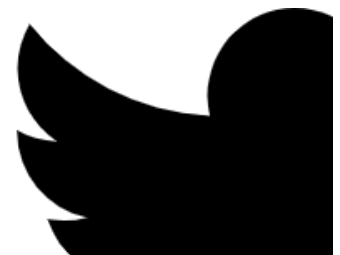
Figure 1

Figure 1

Prophylactic administration of ivermectin prevents weight loss in a hamster model of SARS-CoV-2 infection. (a) Schematic of the experimental design. (b) Bodyweight change in Syrian hamsters following SARS-CoV-2 infection. Both vehicle-treated and ivermectin (IVM)-treated hamsters (n = 6 per group) were infected by intranasal injection of 5×10^4 plaque-forming units (PFU) of SARS-CoV-2 followed by assessments for bodyweight change. Hamsters without viral infection, n = 3 per group. Data are presented as the means \pm SEM. *P < 0.05 by Student's t-test.

Uematsu et al., 15. září 2022, předtisk, 5 autorů.

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8. září	Brzy, Pozdě, PrEP, PEP	Analýza Covid (předtisk) (metaanalýza)	metaanalýza v198	Ivermectin pro COVID-19: metaanalýza 91 studií v reálném čase
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Podrobnosti • Statisticky významná zlepšení jsou pozorována u mortality, ventilace, přijetí na JIP, hospitalizace, zotavení, případů a vymizení viru. Všechny zůstávají po vyloučení významné. 57 studií z 52 nezávislých týmů ve 22 se liší.

1. září	Pozdě	Akhtar a kol., The Professional Medical Journal, doi:10.29309/TPMJ/2022.29.09.6634	smrt, ↓90,4 % , p<0,0001	Snižuje ivermektin úmrtnost na COVID-19 a progresi závažnosti onemocnění? – Retrospektivní studie.
<u>Podrobnosti</u> Retrospektivní 423 pacientů v Pákistánu, 216 podstupujících 6denní léčbu, vykazující nižší mortalitu, nižší příjem na JIP a rychlejší vymizení viru při léčbě. Pro každou skupinu jsou poskytovány omezené základní informace. Došlo k silnějším patám..				
31. srpna	Pozdě	Qadeer et al., Pakistan Journal of Medical and Health Sciences, doi:10.53350/pjmhs2216824	virové+, ↓58,3 % , p<0,0001	Ivermektin Potenciální léčba Covid-19 související s kritickým onemocněním
<u>Podrobnosti</u> Prospektivní odběrová studie s 210 hospitalizovanými pacienty s COVID-19 stejného věku, prokazující rychlejší virovou clearance s ivermektinem. Základní informace pro skupinu nejsou poskytovány.				
18. srpna	Brzy	Bramante a kol., NEJM, doi:10.1056/NEJMoa2201662	smrt, ↑197,1 % , p=1,00	Randomizovaná studie metforminu, ivermektinu a fluvoxaminu pro Covid-19
<u>Podrobnosti</u> COVID-OUT vzdálené RCT, nevykazující žádné významné rozdíly ve srovnání s kombinovanou „kontrolní“ skupinou metformin/placebo. Výsledky pro další léčbu jsou uvedeny samostatně – metformin, fluvoxamin. Existuje několik hlavních problémů, jak jsou podrobně popsány b..				
12. srpna	Posouzení	Kory , P., Pierre Kory's Medical Musings (recenze) (Předtisk)	Posouzení	Zázrak, který svět neslyšel: Úspěch Uttarpradéše
<u>Podrobnosti</u> Podrobný přehled používání ivermektinu v Uttar Pradesh, dramaticky lepších výsledků ve srovnání se státy, které ivermektin ubývají, a cenzury užívání ivermektinu. Pokud by byl Uttarpradéš zemí, byl by 6. největší na světě.				
10. srpna	V Silico	Chellasamy et al., Journal of King Saud University – Science, doi:10.1016/j.jksus.2022.102277	V Silico	Studie dokování a molekulární dynamiky lidského proteinu ezrin s modelovanou endodoménou SARS-CoV-2 a jejich interakce s potenciálními inhibitory invaze
<u>Podrobnosti</u> In Silico studie endodomény SARS-CoV-1&2 a dokování ezrinu, která identifikuje ivermektin, kvercetin, kalcifediol, kalcitriol, selamektin a minocyklin jako potenciální terapeutická léčiva se silnou vazbou na ezrin, která může omezit virové endod.				
10. srpna	Posouzení	Al-kuraishy et al., Current Drug Targets, doi:10.2174/1389450123666220810102406 (přehled)	Posouzení	Centrální účinky Ivermektinu při zmírnění dysautonomie vyvolané Covid-19
<u>Podrobnosti</u> Přehled potenciálních přínosů ivermektinu pro zmírnění dysautonomie vyvolané infekcí SARS-CoV-2.				
19. července	Brzy	Schilling a kol., medRxiv, doi:10.1101/2022.07.15.22277570 (předtisk)	hosp., ↓66,7 % , p=1,00	Farmakometrické hodnocení in vivo antivirové aktivity ivermektinu u časného symptomatického COVID-19

Podrobnosti RCT s velmi vysokým střetem zájmů s designem optimalizovaným pro nulový výsledek: pacienti s velmi nízkým rizikem, vysoká stávající imunita, post-hoc změna k vyloučení pacientů s větší pravděpodobností prospěchu. Nebyl žádný významný rozdíl ve virové clearance..

11. července	Teorie	Hazan , S., <i>Frontiers in Microbiology</i> , doi:10.3389/fmicb.2022.952321 (Teorie)	teorie	Microbiome-Based Hypothesis on Ivermectin's Mechanism in COVID-19: Ivermectin Feeds Bifidobacteria to Boost Immunity
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Details Hypothesis for an additional mechanism of action for ivermectin: inhibition of pro-inflammatory cytokines due to enhanced replication of Bifidobacterium.

Jun 29	Early	Nimitvilai et al., <i>Journal of Global Infectious Diseases</i> , doi:10.4103/jgid.jgid_281_21	progression, ↑96.5%, p=1.00	A randomized controlled trial of combined ivermectin and zinc sulfate versus combined hydroxychloroquine, darunavir/ritonavir, and zinc sulfate among adult patients with asymptomatic or mild coronavirus-19 infection
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Details RCT low-risk patients in Thailand comparing HCQ, darunavir/ritonavir, and zinc, with ivermectin and zinc, showing no significant differences. All patients recovered. 65% of patients were asymptomatic at baseline, 26% were PCR- at baseline..

Jun 23	Early	Mirahmadizadeh et al., <i>Respirology</i> , doi:10.1111/resp.14318	ventilation, ↓66.9%, p=0.37	Efficacy of single-dose and double-dose ivermectin early treatment in preventing progression to hospitalization in mild COVID -19: A multi-arm, parallel-group randomized, double-blind, placebo-controlled trial
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Details RCT with 131 24mg ivermectin, 130 12mg ivermectin, and 130 placebo patients, showing no significant differences in outcomes. Lower ventilation and hospitalization was seen with treatment, in a dose-dependent manner, but not reaching stati..

Jun 21	Meta	Popp et al., <i>Cochrane Database of Systematic Reviews</i> , doi:10.1002/14651858.CD015017.pub3 (Preprint)	meta-analysis	Ivermectin for preventing and treating COVID-19
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Details Highly biased meta analysis. Authors originally wrote a highly biased meta analysis that avoided statistical significance on individual outcomes with extreme exclusions , although efficacy was still seen when looking across all outcomes. ..

Jun 18	In Vitro	Jitobaom et al., <i>BMC Pharmacology and Toxicology</i> , doi:10.1186/s40360-022-00580-8 (preprint 11/30/2021) (In Vitro)	<i>In Vitro</i>	Synergistic anti-SARS-CoV-2 activity of repurposed anti-parasitic drug combinations
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Details *In Vitro* study showing a strong synergistic effect of combinations of ivermectin, niclosamide, and chloroquine, with >10x reduction in IC₅₀ compared to individual drugs.

Jun 16	Early	Rezai et al., <i>Frontiers in Medicine</i> , doi:10.3389/fmed.2022.919708	death, ↑4.9%, p=1.00	Non-effectiveness of Ivermectin on Inpatients and Outpatients With COVID-19; Results of Two Randomized, Double-Blinded, Placebo-Controlled Clinical Trials
<u>Details</u> RCT 549 low risk outpatients in Iran. Reported outcomes are very different from the pre-specified outcomes . The inpatient trial is listed separately. The pre-specified primary clinical outcome was not reported. The reported components of..				
Jun 16	Late	Rezai et al., <i>Frontiers in Medicine</i> , doi:10.3389/fmed.2022.919708	death, ↓30.8%, p=0.36	Non-effectiveness of Ivermectin on Inpatients and Outpatients With COVID-19; Results of Two Randomized, Double-Blinded, Placebo-Controlled Clinical Trials
<u>Details</u> RCT 609 inpatients in Iran. Reported outcomes are very different from the pre-specified outcomes . The outpatient trial is listed separately. From the pre-specified outcomes, all are either positive or not reported. Pre-specified outcomes..				
Jun 14	In Vitro	Williams, T., <i>Do Your Own Research</i> (Preprint) (In Vitro)	<i>In Vitro</i>	Not All Ivermectin Is Created Equal: Comparing The Quality of 11 Different Ivermectin Sources
<u>Details</u> <i>In Vitro</i> analysis of ivermectin from 11 different sources showing highly variable antiparasitic efficacy. Multiple sources and brands were more effective than the US mass produced Edenbridge brand.				
Jun 12	Late	Naggie, S., <i>medRxiv</i> , doi:10.1101/2022.06.10.22276252 (Preprint)	death, ↑194.7%, p=1.00	Ivermectin for Treatment of Mild-to-Moderate COVID-19 in the Outpatient Setting: A Decentralized, Placebo-controlled, Randomized, Platform Clinical Trial
<u>Details</u> RCT low-risk outpatients with very late treatment (median 6 days, 25% ≥8 days) in the USA, showing 98% probability of efficacy for clinical progression at day 14, a treatment delay-response relationship, and significant efficacy for patie..				
Jun 12	Early	Angkasekwinai et al., <i>Antibiotics</i> , doi:10.3390/antibiotics11060796		Safety and Efficacy of Ivermectin for the Prevention and Treatment of COVID-19: A Double-Blinded Randomized Placebo-Controlled Study
<u>Details</u> Low-risk RCT in Thailand with zero mortality, reporting no significant differences with the addition of ivermectin to favipiravir treatment, however the study as reported does not make sense as detailed below. All participants were suscep..				

May 27	Late	George et al., Indian Journal of Hematology and Blood Transfusion, doi:10.1007/s12288-022-01546-w	death, ↓30.4%, p=0.55	Single Dose of Ivermectin is not Useful in Patients with Hematological Disorders and COVID-19 Illness: A Phase II B Open Labelled Randomized Controlled Trial
<u>Details</u> RCT with 35 single dose 24mg, 38 single dose 12mg, and 39 SOC hospitalized patients with hematological illnesses in India, showing no significant differences. Results were better for 24mg vs. 12mg for all symptomatic outcomes. Viral clear..				
May 27	Review	Schwartz, E., New Microbes and New Infections, doi:10.1016/j.nmni.2022.100989 (Review)	review	Does ivermectin have a place in the treatment of mild Covid-19?
<u>Details</u> Discussion of ivermectin research compared to paxlovid and molnupiravir. Author includes a meta analysis of low-risk-of-bias studies showing significantly lower hospitalization for outpatient treatment with ivermectin. This efficacy is se..				
May 23	Early	Rocha et al., Research Square, doi:10.21203/rs.3.rs-1640339/v1 (Preprint)	misc., ↑186.7%, p=1.00	Ivermectin compared with placebo in the clinical evolution of Mexican patients with asymptomatic and mild COVID-19: a randomized clinical trial
<u>Details</u> Authors did not respond to a request for the data. Authors report 45.8% asymptomatic placebo patients on day 14, however there is no number of 26 patients that is 45.8%. Authors report 18% of ivermectin patients asymptomatic at day 5, ho..				
May 20	Early	Valerio Pascua et al., Epidemiology International Journal, doi:10.23880/eij-16000234		Repurposing Drugs for Covid-19 by a Developing Country
<u>Details</u> Review of a multiphasic multidrug early treatment protocol for COVID-19 in Honduras, showing one death from 415 patients, which was for a patient not receiving early treatment (presenting on the 5th day in need of hospitalization and supp..				
May 20	Late	Silva et al., Frontiers in Cellular and Infection Microbiology, doi:10.3389/fcimb.2022.899702	death, ↓32.3%, p=0.57	Clinical-Epidemiology Aspect of Inpatients With Moderate or Severe COVID-19 in a Brazilian Macroregion: Disease and Countermeasures
<u>Details</u> Retrospective 395 hospitalized patients in Brazil, showing mortality HR 0.59 for antiparasitic use, however there were only 8 patients treated and authors do not distinguish between albendazole and ivermectin.				
May 14	In Silico	Alvarado et al., Computational Biology and Chemistry, doi:10.1016/j.compbiochem.2022.107692	<i>In Silico</i>	Interaction of the New Inhibitor Paxlovid (PF-07321332) and Ivermectin With the Monomer of the Main Protease SARS-CoV-2: A Volumetric Study Based on Molecular Dynamics, Elastic Networks, Classical Thermodynamics and SPT

Details *In Silico* study comparing ivermectin and paxlovid M^{pro} interaction, showing similar interaction for paxlovid and the ivermectin B1a homologue, a different mechanism for ivermectin B1b, and interaction at different sites for paxlovid.

May 8	In Vitro	Croci et al., International Journal of Biomaterials, doi:10.1155/2016/8043983 (In Vitro)	<i>In Vitro</i>	Liposomal Systems as Nanocarriers for the Antiviral Agent Ivermectin
<u>Details</u> <i>In Vitro</i> study of liposomal formulations of ivermectin showing up to 5 times lower cytotoxicity and increased antiviral activity in Dengue strains.				
Apr 27	Late	Babalola et al., Research Square, doi:10.21203/rs.3.rs-1576399/v1 (Preprint)		Ivermectin is associated with increase in SPO2 in hypoxemic SARS-CoV-2 patients: pharmacodynamic profile and correlates
<u>Details</u> Extended analysis of , showing significantly faster and greater improvement in SpO ₂ with ivermectin treatment.				
Apr 13	Review	Marinos, A. (Review) (Preprint)	review	The Problem With The TOGETHER Trial
<u>Details</u> Analysis of serious problems with the Together Trial. Also see .				
May 31	Animal	Zheng et al., International Journal of Pharmaceutics, doi:10.1016/j.ijpharm.2022.121719	animal study	Red blood cell-hitchhiking mediated pulmonary delivery of ivermectin: Effects of nanoparticle properties
<u>Details</u> <i>In Vitro</i> and mouse study proposing a method for improving ivermectin pharmacokinetics and bioavailability using delivery via red blood cells.				
Apr 6	Late	Ravikirti et al., Research Square, doi:10.21203/rs.3.rs-1522422/v1 (Preprint)	death, ↓2.8%, p=0.82	Association between Ivermectin treatment and mortality in Covid-19: A hospital-based case-control study
<u>Details</u> Retrospective 965 late stage (44% severe, 27% ICU) hospitalized patients in India, showing no significant difference with ivermectin treatment. Overall mortality was very high, suggesting very late treatment. The low non-weight-adjusted d..				
Apr 2	In Vitro	Delandre et al., Pharmaceuticals, doi:10.3390/ph15040445 (In Vitro)	<i>In Vitro</i>	Antiviral Activity of Repurposing Ivermectin against a Panel of 30 Clinical SARS-CoV-2 Strains Belonging to 14 Variants
<u>Details</u> <i>In Vitro</i> study with 30 COVID-19 strains from 14 variants, showing stronger efficacy with ivermectin compared to CQ and remdesivir, and relatively homogeneous efficacy with ivermectin regardless of strain/variant, in contrast to results fo..				
Mar 25	In Silico	Aminpour et al., Computation, doi:10.3390/computation10040051	<i>In Silico</i>	In Silico Analysis of the Multi-Targeted Mode of Action of Ivermectin and Related Compounds
<u>Details</u> <i>In Silico</i> analysis identifying strong or moderate affinity bindings for ivermectin to multiple sites on the spike protein, CD147 and α7nAChr, which may provide effective competitive binding for all variants of SARS-CoV-2. Ivermectin had t..				

Mar 21	Meta	Bitterman et al., JAMA Network Open, doi:10.1001/jamanetworkopen.2022.3079		Comparison of Trials Using Ivermectin for COVID-19 Between Regions With High and Low Prevalence of Strongyloidiasis
		<u>Details</u> Analysis of a small subset of 12 ivermectin trials showing a relationship with efficacy and strongyloides prevalence. This analysis is confounded by treatment delay, dose, conflicts of interest, and other factors, and the effect disappear..		
Mar 18	Animal	Albariqi et al., International Journal of Pharmaceutics, doi:10.1016/j.ijpharm.2022.121688	animal study	Pharmacokinetics and Safety of Inhaled Ivermectin in Mice as a Potential COVID-19 Treatment
		<u>Details</u> Mouse study of an inhaled ivermectin formulation, showing high concentrations in the lung and bronchoalveolar lavage fluid, exceeding the required concentration for efficacy based on <i>in vitro</i> studies.		
Mar 11	Dosing	Albariqi et al., Journal of Aerosol Medicine and Pulmonary Drug Delivery, doi:10.1089/jamp.2021.0059 (Dosing)	dosing study	Preparation and Characterization of Inhalable Ivermectin Powders as a Potential COVID-19 Therapy
		<u>Details</u> Creation and analysis of an inhalable dry powder formulation of ivermectin for COVID-19.		
Mar 7	News	Harper, P. (News)	news	Professor tied to altered Andrew Hill paper also prepared 'Ivermectin Evidence' for World Health Organisation
		<u>Details</u> Forensic analysis of the Hill meta analysis discovering an unlisted author potentially connected to changes and also related to the WHO ivermectin analysis. Author notes that " <i>the person who allegedly edited the Andrew Hill paper ..</i>		
Mar 4	News	Lawrie, T. (News)	news	A Letter to Dr. Andrew Hill
		<u>Details</u> Documentary about the external forces changing the conclusions of the Hill et al. meta analysis, and the subsequent negative impact around the world.		
Mar 2	Late	Soto et al., PLOS ONE, doi:10.1371/journal.pone.0264789	death, ↑41.0%, p=0.001	Mortality and associated risk factors in patients hospitalized due to COVID-19 in a Peruvian reference hospital
		<u>Details</u> Retrospective 1,418 very late stage (46% mortality) patients in Peru, showing higher mortality with ivermectin. There is strong confounding by indication, for example 48% of patients with baseline SpO ₂ <70% were treated compared with 22% ..		
Feb 28	Late	Efimenko et al., International Journal of Infectious Diseases, doi:10.1016/j.ijid.2021.12.096	death, ↓69.2%, p<0.0001	Treatment with Ivermectin Is Associated with Decreased Mortality in COVID-19 Patients: Analysis of a National Federated Database
		<u>Details</u> PSM retrospective 41,608 patients in the USA, 1,072 treated with ivermectin and 40,536 treated with remdesivir, showing lower mortality with ivermectin treatment. This study was presented at a conference (IMED 2021). Submissions were peer..		

Feb 25	Late	Thairu et al., Research Square, doi:10.21203/rs.3.rs-1373673/v1 (Preprint)	death, ↓87.9%, p=0.12	A comparison of Ivermectin and Non Ivermectin based regimen for covid 19 in Abuja: effects on virus clearance, Days-to-Discharge and Mortality
<u>Details</u> PSM retrospective 87 patients in Nigeria, 61 treated with ivermectin, showing lower mortality, faster recovery, and faster viral clearance with ivermectin treatment. All patients received zinc and vitamin C. A synergistic effect was seen ..				
Feb 18	News	Lim et al., JAMA, doi:10.1001/jamainternmed.2022.0189 (data 11/3/21) (News)	news	Efficacy of Ivermectin Treatment on Disease Progression Among Adults With Mild to Moderate COVID-19 and Comorbidities: The I-TECH Randomized Clinical Trial
<u>Details</u> The I-TECH RCT can be found at . Studies are listed under the date they first became available (November 3, 2021 for this study).				
Feb 6	PrEPPEP	Kerr et al., Cureus, doi:10.7759/cureus.28624 (preprint 2/6/2022)	death, ↓92.0%, p=0.0008	Regular Use of Ivermectin as Prophylaxis for COVID-19 Led Up to a 92% Reduction in COVID-19 Mortality Rate in a Dose-Response Manner: Results of a Prospective Observational Study of a Strictly Controlled Population of 88,012 Subjects
<u>Details</u> PSM multivariable analysis of the Itajaí trial showing significantly lower mortality with regular use of ivermectin prophylaxis. Immortal time bias may significantly affect these results.				
Feb 2	Early	Manomaipiboon et al., Trials, doi:10.1186/s13063-022-06649-3 (preprint 2/2/2022)	no recov., ↓43.5%, p=0.26	Efficacy and safety of ivermectin in the treatment of mild-to-moderate COVID-19 infection: A randomized, double blind, placebo, controlled trial
<u>Details</u> Small RCT with 72 low-risk patients in Thailand, showing improved recovery with ivermectin, without statistical significance. All patients recovered and there was no escalation of care in either group. There were no adverse events.				
Jan 31	In Vitro	Kowa News Release (News) (In Vitro)	news	Antiviral effect of ivermectin confirmed for omicron
<u>Details</u> Kowa reports that ivermectin is effective for omicron in <i>In Vitro</i> research.				
Jan 24	Early	de Jesús Ascencio-Montiel et al., Archives of Medical Research, doi:10.1016/j.arcmed.2022.01.002	death/hosp., ↓59.0%, p<0.0001	A Multimodal Strategy to Reduce the Risk of Hospitalization/death in Ambulatory Patients with COVID-19

Details Retrospective 28,048 COVID+ patients in Mexico, 7,898 receiving a treatment kit including low dose ivermectin, AZ, aspirin, and acetaminophen, show lower mortality/hospitalization for those receiving the kit. Delivery of the treatment k..

Jan 23	In Vitro	Liu et al., bioRxiv, doi:10.1101/2022.01.20.477147 (Preprint) (In Vitro)	<i>In Vitro</i>	SARS-CoV-2 Viral Genes Compromise Survival and Functions of Human Pluripotent Stem Cell-derived Cardiomyocytes via Reducing Cellular ATP Level
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Details *In Vitro* study showing that ivermectin and meclizine may be protective for heart muscle damage due to SARS-CoV-2.

Jan 20	In Silico	Parvez et al., Immunity, Inflammation and Disease, doi:10.1002/iid3.639 (preprint 1/20/2022) (Preprint)	<i>In Silico</i>	Insights from a computational analysis of the SARS-CoV-2 Omicron variant: Host-pathogen interaction, pathogenicity, and possible drug therapeutics
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Details *In Silico* analysis of the omicron variant and 10 treatments reported effective for previous variants, predicting that all will be effective for omicron, with ivermectin showing the best results.

Jan 18	Late	Zubair et al., Monaldi Archives for Chest Disease, doi:10.4081/monaldi.2022.2062	death, ↑9.0%, p=1.00	The effect of ivermectin on non-severe and severe COVID-19 disease and gender-based difference of its effectiveness
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Details Retrospective 188 hospitalized patients in Pakistan, 90 treated with ivermectin, showing no significant differences with treatment. The ivermectin group had more severe disease (66% vs 58%, with 6x higher risk for severe disease patients)..

Jan 13	Early	Tyson et al., Preprint (Preprint)	death, ↓99.8%, p<0.0001	Low Rates of Hospitalization and Death in 4,376 COVID-19 Patients Given Early Ambulatory Medical and Supportive Care. A Case Series and Observational Study.
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Details Retrospective 4,376 patients with mild/moderate COVID-19 in the USA treated with multiple medications including HCQ/ivermectin, favipiravir, vitamin C, D, quercetin, zinc, mAbs, budesonide, dexamethasone, prednisone, and colchicine (exact..

Dec 31 2021	Early	Abbas et al., Indian Journal of Pharmaceutical Sciences, doi:10.36468/pharmaceutical-sciences.spl.416	death, ↑4.0%, p=1.00	The Effect of Ivermectin on Reducing Viral Symptoms in Patients with Mild COVID-19
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Details RCT 99 ivermectin and 103 control low risk patients in China, up to 7 days from symptom onset, showing statistically significant improvement in recovery with treatment, and non-statistically significant improvements in recovery time and..

Dec 31 2021	PrEPPEP	Kerr et al., Research Gate, doi:10.13140/RG.2.2.26793.52327 (Preprint)	death, ↓45.0%, p=0.046	COVID-19 In-Hospital Mortality Rate is Reduced by Prophylactic Use of Ivermectin: Findings From a City-Wide, Prospective Observational Study Using Propensity Score Matching (PSM)
<u>Details</u> PSM retrospective 378 hospitalized patients in Brazil, showing lower mortality for patients that were on ivermectin prophylaxis before admission (not taking into account the lower risk of being hospitalized shown in the related larger stu..				
Dec 31 2021	Late	Shimizu et al., Journal of Infection and Chemotherapy, doi:10.1016/j.jiac.2021.12.024	death, ↓99.9%, p<0.001	Ivermectin administration is associated with lower gastrointestinal complications and greater ventilator-free days in ventilated patients with COVID-19: A propensity score analysis
<u>Details</u> Retrospective 88 ventilated COVID-19 patients in Japan, 39 treated with ivermectin within 3 days of admission, showing significantly reduced incidence of GI complications and mortality, and increased ventilator-free days with treatment.				
Dec 30 2021	Review	Semiz, S., Biomolecular Concepts, doi:10.1515/bmc-2021-0017 (Review)	review	SIT1 transporter as a potential novel target in treatment of COVID-19
<u>Details</u> Review of the potential connections between SLC6A20/SIT1, ACE2, Type 2 Diabetes, and COVID-19 severity. This provides another potential mechanism of action for ivermectin as a partial agonist of glycine-gated chloride channels, interferin..				
Dec 29 2021	Late	Mustafa et al., Exploratory Research in Clinical and Social Pharmacy, doi:10.1016/j.rcsop.2021.100101	death, ↓63.7%, p=0.09	Pattern of medication utilization in hospitalized patients with COVID-19 in three District Headquarters Hospitals in the Punjab province of Pakistan
<u>Details</u> Retrospective 444 hospitalized patients in Pakistan, showing lower mortality with ivermectin treatment in unadjusted results, not reaching statistical significance. Ivermectin was mostly used with patients in severe condition. Dose ranged..				
Dec 28 2021	Late	Baguma et al., Research Square, doi:10.21203/rs.3.rs-1193578/v1 (Preprint)	death, ↓96.8%, p=0.31	Characteristics of the COVID-19 patients treated at Gulu Regional Referral Hospital, Northern Uganda: A cross-sectional study
<u>Details</u> Retrospective COVID+ hospitalized patients in Uganda, showing no statistically significant difference in mortality with ivermectin, however there were only 7 patients receiving ivermectin.				
Dec 21 2021	Review	Zaidi et al., The Journal of Antibiotics, doi:10.1038/s41429-021-00491-6 (Review)	review	The mechanisms of action of ivermectin against SARS-CoV-2— an extensive review
<u>Details</u> Extensive review of 20 mechanisms of action of ivermectin for SARS-CoV-2.				

Dec 13 2021	Late	Jamir et al., Cureus, doi:10.7759/cureus.20394	death, ↑53.0%, p=0.13	Determinants of Outcome Among Critically Ill Police Personnel With COVID- 19: A Retrospective Observational Study From Andhra Pradesh, India
<u>Details</u> Retrospective 266 COVID-19 ICU patients in India, showing significantly lower mortality with PVP-I oral gargling and topical nasal use, and non-statistically significant higher mortality with ivermectin and lower mortality with remdesivir.				
Dec 11 2021	PrEPPEP	Kerr et al., Cureus, doi:10.7759/cureus.21272 (preprint 12/11/2021)	death, ↓70.0%, p<0.0001	Ivermectin Prophylaxis Used for COVID-19: A Citywide, Prospective, Observational Study of 223,128 Subjects Using Propensity Score Matching
<u>Details</u> PSM retrospective 220,517 patients in Brazil, 133,051 taking ivermectin as part of a citywide prophylaxis program, showing significantly lower hospitalization and mortality with treatment. CAAE:47124221.2.0000.5485. Additional results are ..				
Dec 4 2021	Safety	Wentzel et al., Open Forum Infectious Diseases, doi:10.1093/ofid/ofab466 .728	safety analysis	Systematic Review and Meta-Analysis of Ivermectin Safety Profile in COVID-19 Trials
<u>Details</u> Systematic review and meta-analysis of safety in ivermectin COVID-19 trials, showing no significant difference in adverse events between treatment and control arms. Authors conclude that ivermectin is safe and well-tolerated.				
Dec 1 2021	Review	Behl et al., Science of The Total Environment, doi:10.1016/j.scitotenv.2021.152072 (Review)	review	CD147-spike protein interaction in COVID-19: Get the ball rolling with a novel receptor and therapeutic target
<u>Details</u> Review of the cluster of differentiation 147 (CD147) transmembrane protein as an entry route for SARS-CoV-2, correlation with observed characteristics of COVID-19, and relevant potential therapeutics including azithromycin, melatonin, sta..				
Nov 26 2021	Late	Ferreira et al., Revista da Associação Médica Brasileira, doi:10.1590/1806-9282.20210661	death, ↑5.0%, p=1.00	Outcomes associated with Hydroxychloroquine and Ivermectin in hospitalized patients with COVID-19: a single-center experience
<u>Details</u> Retrospective 230 hospitalized patients in Brazil showing no significant difference with ivermectin treatment. Authors note that the treatments were more likely to be offered to sicker patients. Authors indicate that they do not know when..				
Nov 23 2021	Late	Ozer et al., Journal of Medical Virology, doi:10.1002/jmv.27469	death, ↓75.0%, p=0.09	Effectiveness and Safety of Ivermectin in COVID-19 Patients: A Prospective Study at A Safety-Net Hospital
<u>Details</u> Small prospective PSM study in the USA, showing 75% lower mortality with ivermectin treatment, without reaching statistical significance, significantly shorter ventilation and ICU time, and longer hospitalization time. Authors leave the s..				

Nov 17 2021	PrEPPEP	Samajdar et al., Journal of the Association of Physicians India, 69:11	cases, ↓79.8%, p<0.0001	Ivermectin and Hydroxychloroquine for Chemo-Prophylaxis of COVID-19: A Questionnaire Survey of Perception and Prescribing Practice of Physicians vis-a-vis Outcomes
<u>Details</u> Physician survey in India with 164 ivermectin prophylaxis, 129 HCQ prophylaxis, and 81 control patients, showing significantly lower COVID-19 cases with treatment. Details of the treatment and control groups and the definition of cases ar..				
Nov 9 2021	Late	Stone et al., Biologics, doi:10.3390/biologics2030015 (preprint 11/9/2021)		Changes in SpO2 on Room Air for 34 Severe COVID-19 Patients after Ivermectin-Based Combination Treatment: 62% Normalization within 24 Hours
<u>Details</u> Retrospective severe COVID-19 patients in Zimbabwe treated with ivermectin, doxycycline, and zinc. For 34 with SpO ₂ tracking, there was rapid improvement in SpO ₂ , with 55% recovery towards SpO ₂ =97 within 12 hours. The preprint shows furth..				
Nov 3 2021	Late	Lim et al., JAMA, doi:10.1001/jamainternmed.2022.0189 (data 11/3/21)	death, ↓69.0%, p=0.09	Efficacy of Ivermectin Treatment on Disease Progression Among Adults With Mild to Moderate COVID-19 and Comorbidities: The I-TECH Randomized Clinical Trial
<u>Details</u> RCT 490 late stage (>65% lung change chest radiography at baseline) hospitalized patients in Malaysia, showing no significant differences. Mortality was 1.2% for ivermectin vs. 4% for control. If the same event rates continue, the trial w..				
Oct 30 2021	Late	Rezk et al., Zagazig University Medical Journal, doi:10.21608/zumj.2021.92746.2329	death, ↓80.0%, p=0.50	miRNA-223-3p, miRNA-2909 and Cytokines Expression in COVID-19 Patients Treated with Ivermectin
<u>Details</u> Prospective 320 hospitalized moderate COVID-19+ patients in Egypt, 160 treated with ivermectin, showing lower mortality, improved recovery, and decreased cytokine expression with treatment. All patients were treated with HCQ. 7890/26-8-20..				
Oct 28 2021	PrEPPEP	Verma et al., Indian Journal of Community Health, 33:3		Assessing Knowledge, Attitude, and Practices towards Ivermectin Pre-exposure Prophylaxis for COVID-19 among Health Care Workers
<u>Details</u> Survey of 306 healthcare workers involved in the medication of COVID-19 patients in India. 71% indicated that ivermectin had a protective effect for COVID-19.				
Oct 20 2021	Review	Low et al., Biochimica et Biophysica Acta (BBA) - Molecular Basis of Disease, doi:10.1016/j.bbadis.2021.166294 (Review)	review	Repositioning Ivermectin for Covid-19 treatment: Molecular mechanisms of action against SARS-CoV-2 replication

Details Review of the antiviral characteristics of ivermectin and mechanisms of action. Authors note that ivermectin has proven effective for HIV-1, Adenovirus, flu, SARS-CoV, and more; due to genomic similarity between SARS-CoV-2 and SARS-CoV, t..

Oct 19 2021	Early	Borody et al., TrialSite News (Preprint)	death, ↓92.3%, p=0.03	Combination Therapy For COVID-19 Based on Ivermectin in an Australian Population
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Details Retrospective 600 PCR+ outpatients in Australia treated with ivermectin, zinc, and doxycycline, showing significantly lower mortality and hospitalization with treatment. This trial uses a synthetic control group, and the preliminary repor..

Oct 15 2021	In Vitro	Segatori et al., Viruses, doi:10.3390/v13102084 (In Vitro)	<i>In Vitro</i>	Effect of Ivermectin and Atorvastatin on Nuclear Localization of Importin Alpha and Drug Target Expression Profiling in Host Cells from Nasopharyngeal Swabs of SARS-CoV-2-Positive Patients
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Details Gene expression analysis of nasopharyngeal swabs of COVID-19 positive and negative patients, and *in vitro* study supporting the use of ivermectin and atorvastatin for COVID-19, and the efficacy of ivermectin at clinically relevant dosages...

Oct 14 2021	In Vitro	Jitobaom et al., Research Square, doi:10.21203/rs.3.rs-941811/v1 (Preprint) (In Vitro)	<i>In Vitro</i>	Favipiravir and Ivermectin Showed in Vitro Synergistic Antiviral Activity against SARS-CoV-2
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Details *In Vitro* study showing a strong synergistic effect of ivermectin and favipiravir. Combining multiple antiviral drugs with different mechanisms of action helps to minimize drug resistance and toxicity. For ivermectin alone, IC₅₀ for Calu-3..

Oct 14 2021	News	Goodkin, M. (News)	news	Are Major Ivermectin Studies Designed for Failure?
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Details Discussion of flaws in ivermectin trials creating a bias towards not finding an effect.

Oct 7 2021	Review	Fordham et al., OSF Preprints, doi:10.31219/osf.io/mp4f2 (Review) (Preprint)	review	The uses and abuses of systematic reviews
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Details Analysis of defects in the Popp et al. meta analysis.

Oct 5 2021	In Silico	Francés-Monerris et al., Physical Chemistry Chemical Physics, doi:10.1039/D1CP02967C	<i>In Silico</i>	Microscopic interactions between ivermectin and key human and viral proteins involved in SARS-CoV-2 infection
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Details *In Silico* molecular dynamics study showing that ACE2 and ACE2/RBD aggregates form persistent interactions with ivermectin.

Oct 2 2021	N/A	TrialSite News (News)	news	Committed to Medical Evidence, a Prominent Ivermectin Group is Eradicated from the Memories of Cyberspace
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Details Report on Twitter's censorship of the British Ivermectin Recommendation Development group.

Oct 1 2021	Late	Babalola et al., Research Square, doi:10.21203/rs.3.rs-950352/v1 (Preprint)		A Randomized Controlled Trial of Ivermectin Monotherapy Versus Hydroxychloroquine, Ivermectin, and Azithromycin Combination Therapy in Covid-19 Patients in Nigeria
<u>Details</u> Small RCT with 61 patients in Nigeria, all patients treated with ivermectin, zinc, and vitamin C, showing no significant improvements in recovery with the addition of HCQ+AZ. PACTR202108891693522.				
Sep 23 2021	Early	Mayer et al., Frontiers in Public Health, doi:10.3389/fpubh.2022.813378 (preprint 9/23/2021)	death, ↓55.1%, p<0.0001	Safety and Efficacy of a MEURI Program for the Use of High Dose Ivermectin in COVID-19 Patients
<u>Details</u> Retrospective 21,232 patients in Argentina, 3,266 assigned to ivermectin treatment, showing lower mortality with treatment. Greater benefits were seen for patients >40, and a dose dependent response was found. For more discussion see . Se..				
Sep 7 2021	News	Schein, D., TrialsSite News (News)	news	Merck's deadly Vioxx playbook, redux: a debunked smear campaign against its competing drug—the FDA-approved, Nobel prize-honored ivermectin
<u>Details</u> Discussion of Merck's ivermectin statements and past actions related to Vioxx raising significant concerns.				
Sep 6 2021	Early	Buonfrate et al., International Journal of Antimicrobial Agents, doi:10.1016/j.ijantimicag.2021.106516 (preprint 9/6/2021)	hosp., ↑210.7%, p=0.47	High dose ivermectin for the early treatment of COVID-19 (COVER study): a randomised, double-blind, multicentre, phase II, dose-finding, proof of concept trial
<u>Details</u> Early terminated 89 patient RCT with 29 high dose and 32 very high dose ivermectin patients, showing dose dependent viral load reduction, although not reaching statistical significance due to early termination. Since most patients have lo..				
Sep 3 2021	Early	Okogbenin et al., Nigerian Postgraduate Medical Journal, doi:10.4103/npmj.npmj_532_21		Clinical characteristics, treatment modalities and outcome of coronavirus disease 2019 patients treated at thisday dome isolation and treatment centre, federal capital territory Abuja, Nigeria
<u>Details</u> Retrospective 300 COVID-19 patients in Nigeria treated with ivermectin, zinc, vitamin C, and azithromycin, reporting no deaths. Authors conclude that early treatment is critical.				
Sep 2 2021	Meta	Marik et al., American Journal of Therapeutics, doi:10.1097/MJT.0000000000001443 (meta analysis)	meta-analysis	Ivermectin, A Reanalysis of the Data

<u>Details</u> Updated meta analysis showing no significant change if Elgazzar et al. is excluded.				
Sep 2 2021	Meta	Neil et al., American Journal of Therapeutics, doi:10.1097/MJT.0000000000001450 (meta analysis)	meta-analysis	Bayesian Hypothesis Testing and Hierarchical Modeling of Ivermectin Effectiveness
<u>Details</u> Updated Bayesian analysis of a subset of ivermectin trials showing that there is strong evidence to support a causal link between ivermectin and COVID-19 severity and mortality, and that the result is robust in sensitivity analysis, inclu..				
Aug 19 2021	In Silico	González-Paz et al., Biophysical Chemistry, doi:10.1016/j.bpc.2021.106677	<i>In Silico</i>	Comparative study of the interaction of ivermectin with proteins of interest associated with SARS-CoV-2: A computational and biophysical approach
<u>Details</u> <i>In Silico</i> analysis of the components of ivermectin (avermectin-B1a and avermectin-B1b), suggesting different and complementary inhibitory activity of each component, with an affinity of avermectin-B1b for viral structures, and of avermect..				
Aug 17 2021	In Silico	González-Paz et al., Journal of Molecular Liquids, doi:10.1016/j.molliq.2021.117284	<i>In Silico</i>	Structural Deformability Induced in Proteins of Potential Interest Associated with COVID-19 by binding of Homologues present in Ivermectin: Comparative Study Based in Elastic Networks Models
<u>Details</u> <i>In Silico</i> elastic network model analysis of ivermectin components (avermectin-B1a and avermectin-B1b) providing a biophysical and computational perspective of proposed multi-target activity of ivermectin for COVID-19.				
Aug 16 2021	Review	Kory, P., Substack (Review) (Preprint)	review	Summary of the Evidence for Ivermectin in COVID-19
<u>Details</u> Summary of the evidence base for ivermectin and COVID-19 including <i>in vitro</i> and <i>in silico</i> studies, animal studies, pharmacologic studies, clinical observation and experience, observational controlled trials, randomized controlled trials, ..				
Aug 12 2021	Late	Elavarasi et al., medRxiv, doi:10.1101/2021.08.10.21261855 (Preprint)	death, ↓19.6%, p=0.12	Clinical features, demography and predictors of outcomes of SARS-CoV-2 infection in a tertiary care hospital in India - a cohort study
<u>Details</u> Retrospective 2017 hospitalized patients in India, showing lower mortality with ivermectin treatment in unadjusted results. No group details are provided and this result is subject to confounding by indication.				
Aug 12 2021	N/A	Pedroso et al., The Brazilian Journal of Infectious Diseases, doi:10.1016/j.bjid.2021.101603		Self-prescribed Ivermectin use is associated with a lower rate of seroconversion in health care workers diagnosed with COVID, in a dose-dependent response

Details Retrospective 45 healthcare workers in Brazil, showing lower creation of antibodies with multiple doses of ivermectin, which may be expected due to the antiviral activity as demonstrated in multiple studies. Authors appear unaware of these..

Aug 10 2021	Early	La Pampa, Argentina (News)	death, ↓27.4%	La Pampa expondrá a la comunidad científica los resultados del Programa de Intervención Monitoreado de Ivermectina
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Details News report on the use of ivermectin in La Pampa, Argentina, showing lower mortality with treatment.

Aug 6 2021	Review	Kow et al., American Journal of Therapeutics, doi:10.1097/MJT.0000000000001441 (Review)	review	Pitfalls in Reporting Sample Size Calculation Across Randomized Controlled Trials Involving Ivermectin for the treatment of COVID-19
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Details Review of sample size calculations in ivermectin RCTs, showing that existing RCTs are very underpowered.

Aug 6 2021	Early	Reis et al., New England Journal of Medicine, doi:10.1056/NEJMoa2115869 (results released 8/6/2021)	death, ↓12.0%, p=0.68	Effect of Early Treatment with Ivermectin among Patients with Covid-19
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Details Many major issues including multiple impossible numbers, blinding failure, randomization failure, and many protocol violations, as detailed below. Submit Updates or Corrections See also Fraudulent Trial On Ivermectin Published By The Wor..

Aug 5 2021	In Silico	Rana et al., Research Square, doi:10.21203/rs.3.rs-755838/v1 (Preprint)	<i>In Silico</i>	A Computational Study of Ivermectin and Doxycycline Combination Drug Against SARS-CoV-2 Infection
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Details *In silico* study showing strong binding affinity of ivermectin and doxycycline for SARS-CoV-2 main protease 3CL^{pro}, and increased binding affinity for the combination of both.

Aug 3 2021	Review	Santin et al., New Microbes and New Infections, doi:10.1016/j.nmni.2021.100924 (Review)	review	Ivermectin: a multifaceted drug of Nobel prize-honored distinction with indicated efficacy against a new global scourge, COVID-19
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Details Review concluding that the evidence supports worldwide use of ivermectin for COVID-19, complementary to immunization. Authors note that it is likely non-epitope specific, possibly retaining efficacy with new viral strains. They note that ..

Jul 31 2021	Early, Late	Sathi et al., Journal of Cardiovascular Disease Research, doi:10.31838/jcdr.2021.12.05.11		Clinical Effect of the Combination Therapy of Hydroxychloroquine, Azithromycin and Ivermectin in Patients with COVID-19
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Details Prospective study of 85 COVID-19 patients including 8 ICU patients treated with ivermectin, HCQ, and AZ, showing all patients improving except for one patient that died 3 days after admission. Authors recommend early treatment. There was ..

Jul 28 2021	Meta	Popp et al., Cochrane Database of Systematic Reviews, doi:10.1002/14651858.CD015017.pub2 (Preprint) (meta analysis)	meta-analysis	Ivermectin for preventing and treating COVID-19
<u>Details</u> This meta analysis is designed to exclude most studies. Authors select a small subset of studies, with a majority of results based on only 1 or 2 studies. Authors split up studies which dilutes the effects and results in a lack of statist..				
Jul 25 2021	Early	Ontai et al., Epidemiology International Journal, doi:10.23880/ej-16000217		Early multidrug treatment of SARS-CoV-2 (COVID-19) and decreased case fatality rates in Honduras
<u>Details</u> Report on the nationwide implementation of multi-drug COVID-19 inpatient and outpatient treatment protocols in Honduras, showing a case fatality rate decrease from 9.33% to 2.97%. No decrease was seen in Mexico, a similar Latin American c..				
Jul 24 2021	News	World Ivermectin Day (News)	news	World Ivermectin Day
<u>Details</u> Joint event by 22 worldwide organizations.				
Jul 23 2021	Safety	Mansour et al., International Immunopharmacology, doi:10.1016/j.intimp.2021.108004	safety analysis	Safety of inhaled ivermectin as a repurposed direct drug for treatment of COVID-19: A preclinical tolerance study
<u>Details</u> Safety analysis of an inhaled lyophilized ivermectin formulation, showing 127-fold increase in drug solubility, and identifying safe dosage levels in rats.				
Jul 16 2021	News	FLCCC Alliance and British Ivermectin Recommendation Development Group (News)	news	Joint Statement of the FLCCC Alliance and British Ivermectin Recommendation Development Group on Retraction of Early Research on Ivermectin
<u>Details</u> News release noting that ivermectin remains effective after excluding Elgazzar et al. Given the large magnitude effects and 61 studies, excluding one study with ~3% of patients does not significantly change the evidence base.				
Jul 12 2021	Meta	Neil et al., ResearchGate, doi:0.13140/RG.2.2.31800.88323 (Preprint) (meta analysis)	meta-analysis	Bayesian Meta Analysis of Ivermectin Effectiveness in Treating Covid-19 Disease
<u>Details</u> Bayesian analysis of a subset of ivermectin trial data concluding that there is overwhelming evidence to support a causal link between ivermectin, COVID-19 severity, and mortality.				
Jul 8 2021	In Silico	Muthusamy et al., Journal of Virology & Antiviral Research	<i>In Silico</i>	Virtual Screening Reveals Potential Anti-Parasitic Drugs Inhibiting the Receptor Binding Domain of SARS-CoV-2 Spike protein
<u>Details</u> <i>In Silico</i> study identifying 32 anti-parasitic compounds effectively inhibiting the RBD of the SARS-CoV-2 spike protein, with ivermectin being one of the top compounds.				

Jul 7 2021	Late	Hazan et al., Future Microbiology, doi:10.2217/fmb-2022-0014 (preprint 7/7/2021)	death, ↓86.2%, p=0.04	Effectiveness of ivermectin-based multidrug therapy in severely hypoxic, ambulatory COVID-19 patients
<u>Details</u> Small study of 24 consecutive patients in serious condition (9 days post symptoms, mean SpO ₂ 87.4) using combined treatment with ivermectin, doxycycline, zinc, vitamin D, and vitamin C, showing no mortality or hospitalization with treatme..				
Jul 3 2021	News	Open Letter, Statement of Concern and Request for Retraction, re: Roman et al. (News)	news	Open Letter, Statement of Concern and Request for Retraction
<u>Details</u> Open letter signed by 40 physicians detailing errors and flaws in the Roman et al. meta analysis, and requesting retraction.				
Jul 2 2021	Review	Adegboro et al., African Journal of Clinical and Experimental Microbiology, doi:10.4314/ajcem.v22i3.2 (Review)	review	A review of the anti-viral effects of ivermectin
<u>Details</u> Review of the antiviral effects of ivermectin.				
Jul 2 2021	Early	Vallejos et al., BMC Infectious Diseases, doi:10.1186/s12879-021-06348-5	death, ↑33.5%, p=0.70	Ivermectin to prevent hospitalizations in patients with COVID-19 (IVERCOR-COVID19) a randomized, double-blind, placebo-controlled trial
<u>Details</u> RCT with 501 relatively low-risk outpatients in Argentina showing hospitalization OR 0.65 [0.32-1.31]. With only 7% hospitalization, this trial is underpowered. The trial primarily includes low-risk patients that recover quickly without t..				
Jun 30 2021	Review	Turkia, M., ResearchGate, doi:10.13140/RG.2.2.16973.36326 (Review) (Preprint)	review	A Continuation of a Timeline of Ivermectin-Related Events in the COVID-19 Pandemic [June 30, 2021]
<u>Details</u> An extension of the ivermectin timeline covering April - June 2021, including WHO's role and funding, Gavi, COVAX, Trusted News Initiative, International Fact-Checking Network, the role of private philanthropy, Frontiers, comparison to th..				
Jun 28 2021	N/A	Roman et al., Clinical Infectious Diseases, doi:10.1093/cid/ciab591 (preprint 5/25/21) (meta analysis)	meta-analysis	Ivermectin for the treatment of COVID-19: A systematic review and meta-analysis of randomized controlled trials
<u>Details</u> This is a severely flawed meta analysis. An open letter signed by 40 physicians detailing errors and flaws, and requesting retraction, can be found at [trialsitenews.com] . See also [bird-group.org] . Authors cherry-pick to include on..				
Jun 25 2021	Review	Jagiasi et al., The International Journal of Clinical Practice, doi:10.1111/ijcp.14574 (Review)	review	Variation in therapeutic strategies for the management of severe COVID-19 in India- A nationwide cross-sectional survey
<u>Details</u> Survey of medication use for severe COVID-19 in India, showing 33% adoption of ivermectin as of January 2021.				

Jun 22 2021	News	Misiones Ministry of Public Health (News)	news	Results from ivermectin use from the Misiones Ministry of Public Health
<u>Details</u> News report on ivermectin use in Misiones, Argentina, showing significantly lower hospitalization and mortality, and a dose-dependent effect with improved results for those taking 0.6mg/kg.				
Jun 18 2021	Review	Lind et al., Journal of General Internal Medicine, doi:10.1007/s11606-021-06948-6 (Review)	review	Increase in Outpatient Ivermectin Dispensing in the US During the COVID-19 Pandemic: A Cross-Sectional Analysis
<u>Details</u> CDC analysis of ivermectin prescriptions in the US suggesting that, while national health authority recognition is delayed in that country, many physicians are aware of the efficacy demonstrated in clinical trials.				
Jun 18 2021	Early	Krolewiecki et al., EClinicalMedicine, doi:10.1016/j.eclinm.2021.100959	ventilation, ↑151.9%, p=1.00	Antiviral effect of high-dose ivermectin in adults with COVID-19: A proof-of-concept randomized trial
<u>Details</u> Proof of concept RCT with 30 ivermectin patients and 15 control patients, showing a concentration dependent antiviral activity, but no significant difference in clinical outcomes. There was no significant difference in viral load reductio..				
Jun 17 2021	Meta	Bryant et al., American Journal of Therapeutics, doi:10.1097/MJT.0000000000001402 (preprint 3/11/21) (meta analysis)	death, ↓62.0%, p=0.005	Ivermectin for Prevention and Treatment of COVID-19 Infection: A Systematic Review, Meta-analysis, and Trial Sequential Analysis to Inform Clinical Guidelines
<u>Details</u> Systematic review, meta analysis, and trial sequential analysis of 24 RCTs finding mortality RR 0.38 [0.19-0.73]. An update notes potentially inaccurate data collection and/or reporting in some sources .				
Jun 15 2021	Early	Aref et al., International Journal of Nanomedicine, doi:10.2147/IJN.S313093	recov. time, ↓63.2%, p=0.0001	Clinical, Biochemical and Molecular Evaluations of Ivermectin Mucoadhesive Nanosuspension Nasal Spray in Reducing Upper Respiratory Symptoms of Mild COVID-19
<u>Details</u> RCT 114 patients in Egypt, 57 treated with ivermectin mucoadhesive nanosuspension intranasal spray, showing faster recovery and viral clearance with treatment. NCT04716569.				
Jun 6 2021	N/A	Hariyanto et al., Reviews In Medical Virology, doi:10.1002/rmv.2265 (meta analysis)	death, ↓69.0%, p=0.001	Ivermectin and outcomes from Covid-19 pneumonia: A systematic review and meta-analysis of randomized clinical trial studies
<u>Details</u> Systematic review and meta analysis of 19 RCTs showing mortality RR 0.31 [0.15-0.62].				

Jun 3 2021	Review	Wang et al., medRxiv, doi:10.1101/2021.06.01.21258147 (Review) (Preprint)	review	Minimum manufacturing costs, national prices and estimated global availability of new repurposed therapies for COVID-19
<u>Details</u> Analysis of the manufacturing cost of several COVID-19 medications, showing a cost of \$0.55 per course of ivermectin, including excipients, formulation, tax, and profit.				
Jun 2 2021	Late	Abd-Elsalam et al., Journal of Medical Virology, doi:10.1002/jmv.27122	death, ↓25.0%, p=0.70	Clinical Study Evaluating the Efficacy of Ivermectin in COVID-19 Treatment: A Randomized Controlled Study
<u>Details</u> RCT 164 hospitalized patients in Egypt showing lower mortality and shorter hospitalization, but without statistical significance. There were no serious adverse effects. Authors suggest the low dosage may have resulted in lower efficacy th..				
May 31 2021	PrEPPEP	Mondal et al., Journal of the Indian Medical Association, 119:5	symp. case, ↓87.9%, p=0.006	Prevalence of COVID-19 Infection and Identification of Risk Factors among Asymptomatic Healthcare Workers: A Serosurvey Involving Multiple Hospitals in West Bengal
<u>Details</u> Retrospective 1,470 healthcare workers in India, showing significantly lower risk of symptomatic COVID-19 with ivermectin prophylaxis.				
May 18 2021	In Vitro	Mountain Valley MD (Preprint) (In Vitro)	<i>In Vitro</i>	Mountain Valley MD Receives Successful Results From BSL-4 COVID-19 Clearance Trial on Three Variants Tested With Ivectosol™
<u>Details</u> <i>In Vitro</i> and mouse study with human ACE2 cells, using solubilized ivermectin with Ivectosol™, showing antiviral effect with B.1.1.7, B.1.351, and P.1 variants of SARS-CoV-2. The ability to inject ivermectin potentially reduces the onset o..				
May 12 2021	News	FLCCC Public Statement (News)	news	FLCCC Alliance Statement on the Irregular Actions of Public Health Agencies and the Widespread Disinformation Campaign Against Ivermectin
<u>Details</u> Analysis of the ivermectin recommendations from WHO and others, and a call to action for all citizens, scientists, and media to counter false information. Whistleblowers can submit anonymous reports and images at the bottom of this page.				
May 10 2021	Early	Faisal et al., The Professional Medical Journal, doi:10.29309/TPMJ/2021.28.05.5867	no recov., ↓68.4%, p=0.005	Potential use of azithromycin alone and in combination with ivermectin in fighting against the symptoms of COVID-19

Details RCT 100 outpatients in Pakistan, 50 treated with ivermectin, showing faster recovery with ivermectin. All patients received AZ, zinc, vitamin C, vitamin D, and paracetamol. Details of randomization were not provided. No mortality or hospi..

May 5 2021	In Vitro	Zatloukal et al. (News) (In Vitro)	news	News report on In Vitro results from the research institute of Prof. Zatloukal
<u>Details</u> News report on <i>In Vitro</i> results from the research institute of Prof. Zatloukal, showing that "ivermectin was able to reduce virus replication by a factor of 1,000 even at low concentrations".				
May 5 2021	In Silico	Qureshi et al., Journal of Biomolecular Structure and Dynamics, doi:10.1080/07391102.2021.1906750	<i>In Silico</i>	Mechanistic insights into the inhibitory activity of FDA approved ivermectin against SARS-CoV-2: old drug with new implications
<u>Details</u> <i>In Silico</i> study showing inhibition of importin- α 1 by ivermectin, which disrupts SARS-CoV-2 replication.				
May 4 2021	Meta	Karale et al., medRxiv, doi:10.1101/2021.04.30.21256415 (Preprint) (meta analysis)	meta-analysis	A Meta-analysis of Mortality, Need for ICU admission, Use of Mechanical Ventilation and Adverse Effects with Ivermectin Use in COVID-19 Patients
<u>Details</u> Systematic review and meta analysis with 30 studies included in quantitative analysis, showing mortality OR 0.39 [0.22-0.70]. Subgroup analysis of trials with severity data showed mortality OR 0.10 [0.03-0.33] for mild/moderate cases.				
May 3 2021	Early	Merino et al., Preprint (Preprint)	hosp., ↓74.4%, p<0.001	Ivermectin and the odds of hospitalization due to COVID-19: evidence from a quasi-experimental analysis based on a public intervention in Mexico City
<u>Details</u> Analysis of Mexico City's use of an ivermectin-based medical kit, showing significantly lower hospitalization with use. Authors use logistic-regression models with matched observations, including adjustments for age, sex, COVID severity, ..				
Apr 30 2021	Review	Kory et al., American Journal of Therapeutics, doi:10.1097/MJT.0000000000001377 (Review)	review	Review of the Emerging Evidence Demonstrating the Efficacy of Ivermectin in the Prophylaxis and Treatment of COVID-19
<u>Details</u> Review of ivermectin trials and epidemiological data, concluding that ivermectin is effective for prophylaxis and treatment, and should be globally and systematically deployed in the prevention and treatment of COVID-19. An update notes p..				
Apr 29 2021	Late	Ahsan et al., Cureus, doi:10.7759/cureus.14761	death, ↓50.0%, p=0.03	Clinical Variants, Characteristics, and Outcomes Among COVID-19 Patients: A Case Series Analysis at a Tertiary Care Hospital in Karachi, Pakistan

Details Retrospective 165 hospitalized patients in Pakistan showing unadjusted lower mortality with combined ivermectin and doxycycline treatment. Details of the ivermectin group compared to other patients are not provided, however ivermectin was..

Apr 19 2021	Review	DiNicolantonio et al., Open Heart, doi:10.1136/openhrt-2021-001655 (Review)	review	Anti-inflammatory activity of ivermectin in late-stage COVID-19 may reflect activation of systemic glycine receptors
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Details Review suggesting that the effectiveness of ivermectin in the cytokine storm phase of COVID-19 may be, at least in part, an anti-inflammatory effect mediated by increased activation of glycine receptors on leukocytes and possibly vascular..

Apr 17 2021	Early	Loue et al., J. Infectious Diseases and Epidemiology, doi:10.23937/2474-3658/1510202	death, ↓70.0%, p=0.34	Ivermectin and COVID-19 in Care Home: Case Report
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Details Small quasi-randomized (patient choice) study with 25 PCR+ patients in a nursing home offered ivermectin, of which 10 chose to be treated. The mean age was 83.5 in the treatment group and 81.8 in the control group. There was lower mortality..

Apr 16 2021	PrEPPEP	Morgenstern et al., Cureus, doi:10.7759/cureus.17455 (preprint 4/16/2021)	hosp., ↓80.0%, p=0.50	Ivermectin as a SARS-CoV-2 Pre-Exposure Prophylaxis Method in Healthcare Workers: A Propensity Score-Matched Retrospective Cohort Study
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Details Propensity matched retrospective prophylaxis study of healthcare workers in the Dominican Republic showing significantly lower cases with treatment, and no hospitalization with treatment (versus 2 in the PSM matched control group). The ca..

Apr 15 2021	In Silico	Schöning et al., Research Square, doi:10.21203/rs.3.rs-379291/v1 (Preprint)	<i>In Silico</i>	Highly-transmissible Variants of SARS-CoV-2 May Be More Susceptible to Drug Therapy Than Wild Type Strains
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Details *In Silico* study of ivermectin treatment predicting greater efficacy for variants with higher R_0 .

Apr 14 2021	PrEPPEP	Seet et al., International Journal of Infectious Diseases, doi:10.1016/j.ijid.2021.04.035	symp. case, ↓49.8%, p=0.0009	Positive impact of oral hydroxychloroquine and povidone-iodine throat spray for COVID-19 prophylaxis: an open-label randomized trial
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Details Prophylaxis RCT in Singapore with 3,037 low risk patients, showing lower serious cases, lower symptomatic cases, and lower confirmed cases of COVID-19 with all treatments (ivermectin, HCQ, PVP-I, and Zinc + vitamin C) compared to vitamin ..

Apr 10 2021	In Silico	Bello et al., Journal of Biomolecular Structure and Dynamics, doi:10.1080/07391102.2021.1911857	<i>In Silico</i>	Elucidation of the inhibitory activity of ivermectin with host nuclear importin α and several SARS-CoV-2 targets
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Details *In Silico* analysis finding that the *in vitro* activity of ivermectin may explained by acting as an inhibitor of importin- α , dimeric 3CL^{pro}, and Nsp9.

Apr 3 2021	Review	Turkia, M., Research Gate (Review) (Preprint)	review	A timeline of ivermectin-related events in the COVID-19 pandemic
<u>Details</u> An extensive timeline of ivermectin-related events from April 2020 to March 2021 including studies, news, health authority decisions, biased news coverage, and censorship. The author concludes that in a broader historical perspective, the..				
Apr 1 2021	Early	Mourya et al., Int. J. Health and Clinical Research	viral+, ↓89.4%, p<0.0001	Comparative Analytical Study of Two Different Drug Regimens in Treatment of Covid 19 Positive Patients in Index Medical College Hospital and Research Center, Indore, India
<u>Details</u> Retrospective 100 patients in India with 50 treated with ivermectin, and SOC for all patients including HCQ+AZ, showing much higher viral clearance with ivermectin. Baseline clinical status was worse in the control group. Time of testing ..				
Mar 30 2021	Review	Wehbe et al., Front. Immunol., doi:10.3389/fimmu.2021.663586 (Review)	review	Repurposing Ivermectin for COVID-19: Molecular Aspects and Therapeutic Possibilities
<u>Details</u> Review of how ivermectin was identified for use in COVID-19, mechanisms of action, and selected clinical trials.				
Mar 30 2021	Early	Chahla et al., Research Square, doi:10.21203/rs.3.rs-495945/v1 (original preprint 3/30) (Preprint)	no disch., ↓86.9%, p=0.004	Cluster Randomised Trials - Ivermectin Repurposing For COVID-19 Treatment Of Outpatients With Mild Disease In Primary Health Care Centers
<u>Details</u> Cluster RCT outpatients in Argentina showing significantly faster recovery with ivermectin. There were no deaths. Cluster RCT where outpatients in Tucumán were assigned to the ivermectin group and outpatients from San Miguel de Tucumán an..				
Mar 29 2021	Meta	Kow et al., Pharmacological Reports, doi:10.1007/s43440-021-00245-z (meta analysis)	meta-analysis	The association between the use of ivermectin and mortality in patients with COVID-19: a meta-analysis
<u>Details</u> Small meta analysis of 6 RCTs showing mortality OR 0.21 [0.11-0.42]. Authors do not include two more recent RCTs with mortality results, 10 other studies with mortality results, and a total of 42 other studies including other outcomes. Au..				
Mar 26 2021	PrEPPEP	Tanioka et al., medRxiv, doi:10.1101/2021.03.26.21254377 (Preprint)	death, ↓88.2%, p=0.002	Why COVID-19 is not so spread in Africa: How does Ivermectin affect it?
<u>Details</u> Retrospective study of the 31 onchocerciasis-endemic countries using the community-directed treatment with ivermectin (CDTI) and the 22 non-endemic countries in Africa, showing significantly lower mortality per capita in the countries us..				

Mar 25 2021	In Silico	Udofia et al., Network Modeling Analysis in Health Informatics and Bioinformatics, doi:10.1007/s13721-021-00299-2	<i>In Silico</i>	In silico studies of selected multi-drug targeting against 3CL ^{pro} and nsp12 RNA-dependent RNA-polymerase proteins of SARS-CoV-2 and SARS-CoV
<u>Details</u> <i>In Silico</i> analysis finding that ivermectin had the highest binding energy against the 3CL ^{pro} of SARS-CoV-2 and RdRps of both SARS-CoV and SARS-CoV-2.				
Mar 25 2021	In Silico	Choudhury et al., Future Medicine, doi:10.2217/fvl-2020-0342	<i>In Silico</i>	Exploring the binding efficacy of ivermectin against the key proteins of SARS-CoV-2 pathogenesis: an in silico approach
<u>Details</u> <i>In Silico</i> analysis finding that ivermectin has high binding affinity for the SARS-CoV-2 viral spike protein, main protease, replicase, and human TMPRSS2 receptors.				
Mar 25 2021	Late	Huvmek Press Release (Preprint)	no improv., ↓31.6%, p=0.28	Kovid-19 - Huvmek® Phase 2 clinical trial
<u>Details</u> Phase 2 results from a multicenter RCT of hospitalized patients in Bulgaria showing faster viral clearance, greater clinical improvement, and improved biomarkers with treatment. Ivermectin was taken on an empty stomach, potentially reduci..				
Mar 24 2021	Review	Yagisawa et al., The Japanese Journal of Antibiotics, 74-1, Mar 2021 (Review)	review	Global trends in clinical studies of ivermectin in COVID-19
<u>Details</u> Review of ivermectin for COVID-19. Authors note that Kitasato University's project was expanded in response to the results of Caly et al. which had left questions regarding <i>in vivo</i> therapeutic levels, and the results of those studies were..				
Mar 21 2021	Early	Emmerich et al., Int. J. Environ. Res. Public Health, doi:10.3390/ijerph18073371 (Preprint)		Comparisons between the Neighboring States of Amazonas and Pará in Brazil in the Second Wave of COVID-19 Outbreak and a Possible Role of Early Ambulatory Treatment
<u>Details</u> Comparison between the two largest neighboring states in Brazil, Amazonas and Pará, showing more than 5 times lower mortality in Pará during the second wave when the Pará government supported early treatment and Amazonas did not, compared..				
Mar 18 2021	Late	Del Franco et al., Journal of Biomedical Research and Clinical Investigation, doi:10.31546/2633-8653.1008		Ivermectin in Long-Covid Patients: A Retrospective Study
<u>Details</u> Retrospective 856 patients previously admitted to hospital for COVID-19 in Argentina, finding that ivermectin improved recovery from "long covid" symptoms.				
Mar 17 2021	In Vitro	Dinesh Kumar et al., Antimicrobial Agents and Chemotherapy, doi:10.1128/AAC.01543-21 (preprint 3/17/2021) (In Vitro)	<i>In Vitro</i>	Moxidectin and ivermectin inhibit SARS-CoV-2 replication in Vero E6 cells but not in human primary airway epithelium cells

Details *In Vitro* study showing moxidectin and ivermectin exhibited antiviral activity in Vero E6 cells. Authors indicate that no statistically significant effect was seen in Calu-3/PBEC cells, however Figure 3 shows a dose dependent reduction wit..

Mar 12 2021	Early	Roy et al., medRxiv, doi:10.1101/2021.03.08.21252883 (Preprint)	recov. time, ↓5.6%, p=0.87	Outcome of Different Therapeutic Interventions in Mild COVID-19 Patients in a Single OPD Clinic of West Bengal: A Retrospective study
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Details Retrospective database analysis of 56 mild COVID-19 patients, all treated with vitamin C, vitamin D, and zinc, comparing ivermectin + doxycycline (n=14), AZ (n=13), HCQ (n=14), and SOC (n=15), finding that all groups recover quickly, and ..

Mar 11 2021	Meta	Nardelli et al., Signa Vitae, doi:10.22514/sv.2021.043 (meta analysis)	death, ↓79.5%, p<0.0001	Crying wolf in time of Corona: the strange case of ivermectin and hydroxychloroquine. Is the fear of failure withholding potential life-saving treatment from clinical use?
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Details Meta analysis of RCT mortality results showing RR 0.19, $p < 0.00001$.

Mar 11 2021	Meta	Schein et al., OSF Preprints (Preprint) (meta analysis)	meta- analysis	Ivermectin sales in Valle del Cauca, Colombia, patterns of AEs, and other background re López-Medina et al. 2021
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Details Analysis of several issues with López-Medina et al. including the atypical adverse effects in the control arm and population use of ivermectin.

Mar 11 2021	Meta	Schein et al., OSF Preprints (Preprint) (meta analysis)	meta- analysis	Protocol violations in López-Medina et al.: 38 switched ivermectin (IVM) and placebo doses, failure of blinding, widespread IVM sales OTC in Cali, and nearly identical AEs for the IVM and control groups
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Details Report on protocol violations in López-Medina et al.

Mar 10 2021	In Silico	Kern et al., Frontiers in Pharmacology, doi:10.3389/fphar.2021.625678	<i>In Silico</i>	Modeling of SARS-CoV- 2 Treatment Effects for Informed Drug Repurposing
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Details Modeling study analyzing timing and dosing regimens of hydroxychloroquine, lopinavir/ritonavir, ivermectin, artemisinin, and nitazoxanide. The greatest benefits were seen when treatments were given immediately at the time of diagnosis. Au..

Mar 10 2021	In Vitro	Yesilbag et al., Virus Research, doi:10.1016/j.virusres.2021.198384 (In Vitro)	<i>In Vitro</i>	Ivermectin also inhibits the replication of bovine respiratory viruses (BRSV, BPIV-3, BoHV-1, BCoV and BVDV) in vitro
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Details *In Vitro* study showing that ivermectin can inhibit infection of bovine respiratory disease viral agents BCoV, BPIV-3, BVDV, BRSV and BoHV-1 at the concentrations of 2.5 and 5 µM and in a dose-dependent manner.

Mar 9 2021	Late	Pott-Junior et al., Toxicology Reports, doi:10.1016/j.toxrep.2021.03.003	ventilation, ↓85.2%, p=0.25	Use of ivermectin in the treatment of Covid-19: a pilot trial
<u>Details</u> Very small RCT with 4 control patients and 28 ivermectin patients split across 3 different dosage levels, showing lower (non-statistically significant) ICU admission with treatment. Authors suggest that ivermectin for SARS-CoV-2 is safe a..				
Mar 8 2021	Early	Chamie-Quintero et al., OSF Preprints (Preprint)		Ivermectin for COVID-19 in Peru: 14-fold reduction in nationwide excess deaths, p=.002 for effect by state, then 13-fold increase after ivermectin use restricted
<u>Details</u> Analysis of ivermectin use in Peru concluding that ivermectin most likely caused a 14 times reduction in excess deaths in Peru, prior to a 13 times increase after reversal of ivermectin use. Authors conclude that the results strongly sugg..				
Mar 8 2021	Late	Guzman et al., medRxiv, doi:10.1101/2021.03.04.21252084 (Preprint)	death, ↓19.0%, p=0.35	Factors associated with increased mortality in critically ill COVID-19 patients in a Mexican public hospital: the other faces of health system oversaturation
<u>Details</u> Retrospective 196 critically ill patients in Mexico. Patients overlap with the existing RCT by Beltran-Gonzalez (NCT04391127). This preprint shows a larger treated population and greater (non-statistically significant) improvement with iv..				
Mar 8 2021	Late	Galan et al., Pathogens and Global Health, doi:10.1080/20477724.2021.1890887		Phase 2 randomized study on chloroquine, hydroxychloroquine or ivermectin in hospitalized patients with severe manifestations of SARS-CoV-2 infection
<u>Details</u> RCT 168 very late stage severe condition hospitalized patients comparing CQ, HCQ, and ivermectin not showing significant differences. Authors were unable to add a control arm due to ethical issues. Authors claim that "the mortality r..				
Mar 5 2021	Safety	Descotes, J., ImmunoSafe Consultance (Preprint)	safety analysis	Medical Safety of Ivermectin
<u>Details</u> Safety analysis of >350 articles showing that ivermectin has an excellent safety profile. The author notes that "no severe adverse event has been reported in dozens of completed or ongoing studies involving thousands of participants..				
Mar 4 2021	Early	López-Medina et al., JAMA, doi:10.1001/jama.2021.3071	death, ↓66.8%, p=0.50	Effect of Ivermectin on Time to Resolution of Symptoms Among Adults With Mild COVID-19: A Randomized Clinical Trial

Details See also The Potemkin Argument, Part VI: The Ballad of Lopez-Medina Phone survey based RCT with low risk patients, 200 ivermectin and 198 control, showing lower mortality, lower disease progression, lower treatment escalation, and faster ..

Mar 1 2021	In Silico	Saha et al., Structural Chemistry, doi:10.1007/s11224-021-01776-0 (preprint 3/1) (Preprint)	<i>In Silico</i>	The Binding mechanism of ivermectin and levosalbutamol with spike protein of SARS-CoV-2
<u>Details</u> <i>In Silico</i> analysis predicting that ivermectin has a large binding affinity for the SARS-CoV-2 spike protein. Three different computer modeling techniques show that ivermectin can inhibit SARS-CoV-2 entrance via hACE2.				
Feb 23 2021	Late	Beltran Gonzalez et al., Infectious Disease Reports, doi:10.3390/idr14020020 (preprint 2/23/2021)	death, ↓14.4%, p=1.00	Efficacy and Safety of Ivermectin and Hydroxychloroquine in Patients with Severe COVID-19: A Randomized Controlled Trial
<u>Details</u> RCT late stage severe condition (93% SOFA ≥ 2, 96% APACHE ≥ 8) high comorbidity hospitalized patients in Mexico with 36 low dose ivermectin and 37 control patients not finding significant differences. NCT04391127. Another study reports re..				
Feb 20 2021	News	BIRD Meeting 20th February 2021 (News)	news	BIRD Meeting 20th February 2021
<u>Details</u> The British Ivermectin Recommendation Development (BIRD) panel, with dozens of multi-national scientists & doctors, issued sweeping recommendations for the immediate global use of ivermectin.				
Feb 16 2021	Early	Elalfy et al., J. Med. Virol., doi:10.1002/jmv.26880	viral+, ↓86.9%, p<0.0001	Effect of a combination of Nitazoxanide, Ribavirin and Ivermectin plus zinc supplement (MANS.NRIZ study) on the clearance of mild COVID-1
<u>Details</u> Non-randomized controlled trial with 62 mild and early moderate patients with home treatment with ivermectin + nitazoxanide + ribavirin + zinc, showing significantly faster viral clearance.				
Feb 15 2021	PrEPPEP	Behera et al., Cureus 13:8, doi:10.7759/cureus.16897 (preprint 2/15/21)	cases, ↓83.0%, p<0.001	Prophylactic Role of Ivermectin in Severe Acute Respiratory Syndrome Coronavirus 2 Infection Among Healthcare Workers
<u>Details</u> Prospective prophylaxis study with 3,532 healthcare workers, 2,199 receiving two-dose ivermectin prophylaxis, showing adjusted relative risk of confirmed COVID-19 with treatment 0.17 [0.12-0.23] p<0.001. 186 patients took only the first d..				
Feb 12 2021	Early	Biber et al., International Journal of Infectious Diseases, doi:10.1016/j.ijid.2022.07.003 (results 2/12/21)	hosp., ↓70.2%, p=0.34	The effect of ivermectin on the viral load and culture viability in early treatment of non-hospitalized patients with mild COVID-19 – A double-blind, randomized placebo-controlled trial

Details Double blind RCT for mild-moderate COVID-19 outpatients in Israel showing significantly faster reduction in viral load with treatment, and lower hospitalization with treatment. The one treatment hospitalization was a few hours after treat..

Feb 10 2021	Late	Lima-Morales	death, ↓77.7%, p<0.001	Effectiveness of a multidrug therapy consisting of ivermectin, azithromycin, montelukast and acetylsalicylic acid to prevent hospitalization and death among ambulatory COVID-19 cases in Tlaxcala, Mexico
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Details Prospective trial of 768 COVID-19 outpatients in Mexico, 481 treated with ivermectin, AZ, montelukast, and aspirin, and 287 control patients with various treatments, showing significantly lower mortality and hospitalization, and significa..

Feb 2 2021	Early	Mohan et al., Journal of Infection and Chemotherapy, doi:10.1016/j.jiac.2021.08.021 (preprint 2/2/2021)	no recov., ↓62.5%, p=0.27	Single-dose oral ivermectin in mild and moderate COVID-19 (RIVET-COV): a single-centre randomized, placebo-controlled trial
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Details RCT in India with low risk patients, comparing 24mg ivermectin, 12mg ivermectin, and placebo showing non-statistically significant improvements in recovery and PCR+ status (day 5 both arms, day 7 24mg only) with treatment, and showing gre..

Jan 29 2021	Meta	Cobos-Campos et al., Clin. Res. Trials, 2021, doi:10.15761/CRT.1000333 (meta analysis)	meta-analysis	Potential use of ivermectin for the treatment and profilaxis of SARS-CoV-2 infection: Efficacy of ivermectin for SARS-CoV-2
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Details Review finding that there appears to be sufficient evidence to recommend ivermectin for the treatment of COVID-19, especially in the early stages of the disease.

Jan 27 2021	Meta	Castaneda-Sabogal et al., medRxiv, doi:10.1101/2021.01.26.21250420 (Preprint) (meta analysis)	meta-analysis	Outcomes of Ivermectin in the treatment of COVID-19: a systematic review and meta-analysis
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Details Meta analysis of a very small subset of studies exhibiting very high bias and significant flaws. Some of the problems: - As of the publication date, there are 35 studies, authors include only 4. (They list 5, but two are the same study, p..

Jan 25 2021	In Silico	Eweas et al., Frontiers in Microbiology, doi:10.3389/fmicb.2020.592908	<i>In Silico</i>	Molecular Docking Reveals Ivermectin and Remdesivir as Potential Repurposed Drugs Against SARS-CoV-2
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Details Molecular docking analysis showing that ivermectin efficiently binds to the viral S protein as well as the human cell surface receptors ACE-2 and TMPRSS2; therefore, it might be involved in inhibiting the entry of the virus into the host ..

Jan 23 2021	Animal	Errecalde et al., Journal of Pharmaceutical Sciences, doi:10.1016/j.xphs.2021.01.017	animal study	Safety and Pharmacokinetic Assessments of a Novel Ivermectin Nasal Spray Formulation in a Pig Model
<u>Details</u> Animal study of a novel spray formulation of ivermectin, showing an advantage of the spray formulation in terms of fast attainment of high and persistent ivermectin concentrations in nasopharyngeal tissue.				
Jan 21 2021	Early	Chamie-Quintero et al., Preprint, doi:10.2139/ssrn.3765018 (Preprint)		Sharp Reductions in COVID-19 Case Fatalities and Excess Deaths in Peru in Close Time Conjunction, State-By-State, with Ivermectin Treatments
<u>Details</u> Analysis of ivermectin usage within states in Peru showing sharp reductions in COVID-19 deaths corresponding to the usage of ivermectin treatment.				
Jan 20 2021	In Vitro	Mody et al., Communications Biology, doi:10.1038/s42003-020-01577-x (In Vitro)	<i>In Vitro</i>	Identification of 3-chymotrypsin like protease (3CL ^{pro}) inhibitors as potential anti-SARS-CoV-2 agents
<u>Details</u> Computational molecular modeling screening and <i>in vitro</i> analysis for inhibitory effects on SARS-CoV-2 specific 3CL ^{pro} enzyme, showing that ivermectin blocked more than 85% of 3CL ^{pro} activity of SARS-CoV-2. Antiviral activity of ivermectin..				
Jan 19 2021	Late	Shahbaznejad et al., Clinical Therapeutics, doi:10.1016/j.clinthera.2021.04.007 (partial results available 1/19)	death, ↑197.1%, p=1.00	Effect of ivermectin on COVID-19: A multicenter double-blind randomized controlled clinical trial
<u>Details</u> RCT in Iran showing shorter time to recovery and shorter hospitalization time with ivermectin. There were no adverse effects. There was one death in the treatment group, the patient was in critical condition at baseline and died within 24..				
Jan 19 2021	Meta	Hill et al., Research Square, doi:10.21203/rs.3.rs-148845/v1 (Preprint) (meta analysis)	death, ↓75.0%, p=0.0002	Meta-analysis of randomized trials of ivermectin to treat SARS-CoV-2 infection
<u>Details</u> Meta analysis of 18 ivermectin RCTs with 2,282 patients showing faster viral clearance (dose and duration dependent), improved clinical recovery, and lower hospitalization and mortality. In six RCTs of moderate or severe infection, there ..				
Jan 16 2021	Early	Samaha et al., Viruses, doi:10.3390/v13060989 (results 1/16)		Effects of a Single Dose of Ivermectin on Viral and Clinical Outcomes in Asymptomatic SARS-CoV-2 Infected Subjects: A Pilot Clinical Trial in Lebanon
<u>Details</u> This study was retracted.				
Jan 16 2021	Early	Bukhari et al., medRxiv, doi:10.1101/2021.02.02.21250840 (results 1/16) (Preprint)	viral+, ↓82.4%, p<0.0001	Efficacy of Ivermectin in COVID-19 Patients with Mild to Moderate Disease

Details RCT of relatively low risk hospitalized patients with 50 ivermectin and 50 control patients showing significantly faster viral clearance with treatment. 9 patients in the treatment arm were lost to followup compared with 5 in the control ..

Jan 13 2021	Review	Kory et al., <i>Frontiers in Pharmacology</i> , doi:10.3389/fphar.2021.643369 (Review)	review	Review of the Emerging Evidence Demonstrating the Efficacy of Ivermectin in the Prophylaxis and Treatment of COVID-19
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Details Meta analysis of ivermectin clinical studies and natural experiments where ivermectin has been widely used, showing efficacy of ivermectin in prophylaxis and treatment of COVID-19. This paper was censored by the journal after acceptance .

Jan 12 2021	Late	Okumuş et al., <i>BMC Infectious Diseases</i> , doi:10.1186/s12879-021-06104-9 (preprint 1/12)	death, ↓33.3%, p=0.55	Evaluation of the Effectiveness and Safety of Adding Ivermectin to Treatment in Severe COVID-19 Patients
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Details Small RCT for severe COVID-19 comparing the addition of ivermectin to SOC (low dose HCQ+AZ+favipiravir), with 30 treatment and 30 control patients in Turkey, showing lower mortality and faster clinical recovery. Authors also investigate t..

Jan 11 2021	PrEPPEP	Chahla et al., <i>American Journal of Therapeutics</i> , doi:10.1097/MJT.0000000000001433	m/s case, ↓95.2%, p=0.002	A randomized trial - intensive treatment based in ivermectin and iota-carrageenan as pre-exposure prophylaxis for COVID-19 in healthcare agents
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Details Prophylaxis RCT for ivermectin and iota-carrageenan in Argentina, 117 healthcare workers treated with ivermectin and iota-carrageenan, and 117 controls, showing significantly lower cases with treatment. There were no moderate/severe cases..

Jan 11 2021	N/A	Bousquet-Melou et al., Preprint, doi:10.22541/au.161047848.80388481/v1 (Preprint)	dosing study	Large Impact of obesity on the disposition of ivermectin, moxidectin and eprinomectin in a canine model: relevance for COVID-19 patients
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Details Animal dosing study with an obese dog model concluding that ivermectin maintenance doses should be based on lean body weight and not the total body weight in obese subjects, while the loading dose should be based on the total body weight.

Jan 10 2021	Review	Formiga et al., <i>J. Control Release</i> , doi:10.1016/j.jconrel.2020.10.009 (Review)	review	Ivermectin: an award-winning drug with expected antiviral activity against COVID-19
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Details Review hypothesizing that micro- and nanotechnology-based formulations of ivermectin for the pulmonary delivery of ivermectin may be beneficial for use with COVID-19.

Jan 9 2021	Early	Ravikirti et al., <i>Journal of Pharmacy & Pharmaceutical Sciences</i> , doi:10.18433/jpps32105	death, ↓88.7%, p=0.12	Ivermectin as a potential treatment for mild to moderate COVID-19: A double blind randomized placebo-controlled trial
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Details RCT with 112 mild and moderate COVID-19 patients in India, showing lower mortality, ventilation, and ICU admission, although not statistically significant due to the small number of events. There was no mortality in the treatment arm (55 ..

Jan 8 2021	Early	Chamie, J. (News)	news	COVID-19 in Mexico
<u>Details</u> Comparison of COVID-19 death rates in Mexico showing that the only state using ivermectin has a dramatically lower rate.				
Jan 6 2021	Early	Babalola et al., QJM: An International Journal of Medicine, doi:10.1093/qjmed/hcab035 (preprint 1/6)	viral+, ↓63.9%, p=0.11	Ivermectin shows clinical benefits in mild to moderate COVID19: A randomised controlled double-blind, dose-response study in Lagos
<u>Details</u> Small RCT comparing ivermectin 6mg & 12mg q84hr with lopinavir/ritonavir, showing a statistically significant and dose dependent effect of ivermectin on reducing the time to PCR-. The study does not report mortality, hospitalization, prog..				
Jan 6 2021	PrEP/PEP	Hirsch et al., Microbiology & Infectious Diseases		Ivermectin as Prophylaxis Against COVID-19 Retrospective Cases Evaluation
<u>Details</u> Report on ivermectin prophylaxis for healthcare workers in a hospital in Argentina, showing 0 cases in the 162 participants. Dosage was 0.2mg/kg weekly for eight weeks, followed by 4 months rest.				
Jan 3 2021	Early, Late, PrEP, PEP	Lawrie et al., Preprint (Preprint) (meta analysis)	death, ↓83.0%, p<0.0001	Ivermectin reduces the risk of death from COVID-19 – a rapid review and meta-analysis in support of the recommendation of the Front Line COVID-19 Critical Care Alliance
<u>Details</u> Meta analysis confirming the effectiveness of ivermectin for COVID-19, showing ivermectin treatment mortality relative risk RR 0.17 [0.18-0.35] and prophylaxis cases RR 0.12 [0.08-0.18].				
Dec 31 2020	Late	Wijaya et al., Cermin Dunia Kedokteran, 47:7		Ivermectin as a Potential Therapeutic Agent for COVID-19 – case studies
<u>Details</u> Case report on 3 confirmed cases of COVID-19 with significant clinical and radiological improvement after a single dose of ivermectin.				
Dec 31 2020	Animal	Madrid et al., Heliyon, doi:10.1016/j.heliyon.2020.e05820	animal study	Safety of oral administration of high doses of ivermectin by means of biocompatible polyelectrolytes formulation
<u>Details</u> <i>In vivo</i> analysis of the safety of high dose ivermectin with a Corydoras fish animal model.				
Dec 30 2020	Review	McCullough et al., Reviews in Cardiovascular Medicine, doi:10.31083/j.rcm.2020.04.264 (Review)	review	Multifaceted highly targeted sequential multidrug treatment of early ambulatory high-risk SARS-CoV-2 infection (COVID-19)
<u>Details</u> Review urging early treatment of COVID-19 with sequential multidrug treatment that has been shown to be safe and effective. Proposed treatment includes zinc, vitamin D & C, quercetin, and depending on age, comorbidities, and symptoms may ..				

Dec 30 2020	Early	Procter et al., Reviews in Cardiovascular Medicine, doi:10.31083/j.rcm.2020.04.260		Clinical outcomes after early ambulatory multidrug therapy for high-risk SARS-CoV-2 (COVID-19) infection
<u>Details</u> Retrospective 922 outpatients, with 320 treated early due to age>50 or comorbidities, showing 2.2% hospitalization and 0.3% death, which authors note is considerably lower than reported in other studies in their region. At least two of zi..				
Dec 27 2020	Meta	Hill, A., Preprint (Preprint) (meta analysis)	meta-analysis	Meta-analysis of clinical trials of ivermectin to treat COVID-19 infection
<u>Details</u> WHO-funded meta analysis showing ivermectin treatment mortality relative risk RR 0.17 [0.08-0.35] for RCTs and RR 0.28 [0.13-0.62] for RCTs and observational studies, and confirming a dose-response effect.				
Dec 24 2020	In Vitro	Jeffreys et al., International Journal of Antimicrobial Agents, doi:10.1016/j.ijantimicag.2022.106542 (preprint 12/24/2020) (In Vitro)	<i>In Vitro</i>	Remdesivir-ivermectin combination displays synergistic interaction with improved in vitro activity against SARS-CoV-2
<u>Details</u> <i>In Vitro</i> study showing enhanced antiviral activity of ivermectin and remdesivir in combination.				
Dec 20 2020	PrEPPEP	IVERCOR PREP, Preliminary Results (Preprint)	cases, ↓73.4%, p<0.0001	Ivermectina en agentes de salud e IVERCOR COVID19
<u>Details</u> Report on ivermectin prophylaxis in a hospital in Argentina showing lower cases for healthcare workers taking ivermectin. Results have been published in the press (interim results), and a presentation posted online: , however there is no ..				
Dec 18 2020	Early, Late, PrEP, PEP	Kory et al., FLCCC Alliance (Preprint) (meta analysis)	death, ↓69.0%, p<0.0001	Review of the Emerging Evidence Demonstrating the Efficacy of Ivermectin in the Prophylaxis and Treatment of COVID-19
<u>Details</u> Meta analysis of ivermectin clinical studies and natural experiments where ivermectin has been widely used, showing efficacy of ivermectin in prophylaxis and treatment of COVID-19. There is potentially inaccurate data collection and/or re..				
Dec 15 2020	PrEPPEP	Alam et al., European Journal of Medical and Health Sciences, doi:10.24018/ejmed.2020.2.6.599	cases, ↓90.6%, p<0.0001	Ivermectin as Pre-exposure Prophylaxis for COVID-19 among Healthcare Providers in a Selected Tertiary Hospital in Dhaka – An Observational Study
<u>Details</u> 91% reduction in COVID-19 cases with ivermectin prophylaxis. 118 healthcare workers in Bangladesh, 58 receiving ivermectin 12mg monthly, showing RR 0.094, $p < 0.0001$.				
Dec 15 2020	Early	Ghuri et al., International Journal of Clinical Studies & Medical Case Reports, doi:10.46998/IJCMCR.2021.13.000320 (preprint 12/15/2020)	no recov., ↓92.2%, p=0.04	Ivermectin Use Associated with Reduced Duration of Covid-19 Febrile Illness in a Community Setting

Details Retrospective 95 outpatients in Pakistan with strong clinical suspicion of COVID-19 (testing was not widely available), with 40 patients treated with ivermectin, showing significantly shorter duration of febrile illness with treatment. Mo..

Dec 11 2020	Early	Hussain et al., International Journal of Molecular and Immuno Oncology, doi:10.25259/IJMIO_30_2020 (Preprint)		Outcome of ivermectin and doxycycline in cancer patients with COVID-19: A positive experience in Bangladesh
<u>Details</u> Small case study of ivermectin + doxycycline with 8 cancer patients, with all patients becoming PCR- by day 6 when tested again.				
Dec 7 2020	Early	Chaccour et al., EClinicalMedicine, doi:10.1016/j.eclinm.2020.100720 (preprint 12/7)	symptoms, ↓96.0%, p<0.05	The effect of early treatment with ivermectin on viral load, symptoms and humoral response in patients with non-severe COVID-19: A pilot, double-blind, placebo-controlled, randomized clinical trial
<u>Details</u> Tiny RCT for early treatment of mild COVID-19 in low risk patients, with 12 400mcg/kg single dose ivermectin patients and 12 control patients, showing significantly faster viral load reduction and symptom improvement with ivermectin. Aver..				
Dec 4 2020	Meta	Kalfas et al., medRxiv, doi:10.1101/2020.11.30.20236570 (Preprint) (meta analysis)	meta-analysis	The therapeutic potential of ivermectin for COVID-19: a systematic review of mechanisms and evidence
<u>Details</u> Review of ivermectin mechanisms and 8 trials, showing positive mortality benefit, reduced time to clinical recovery, reduced incidence of disease progression, and decreased duration of hospital admission in patients across all stages of c..				
Dec 4 2020	In Vitro	Surnar et al., ACS Pharmacol. Transl. Sci., doi:10.1021/acspsci.0c00179 (In Vitro)	<i>In Vitro</i>	Clinically Approved Antiviral Drug in an Orally Administrable Nanoparticle for COVID-19
<u>Details</u> <i>In Vitro</i> analysis of ivermectin with orally administrable nanoparticles showing efficacy for decreasing expression of the viral spike protein and ACE2. Inhibition of nuclear transport activities mediated through proteins such as importin ..				
Dec 2 2020	Early	Ahmed et al., International Journal of Infectious Diseases, doi:10.1016/j.ijid.2020.11.191	symptoms, ↓85.0%, p=0.09	A five day course of ivermectin for the treatment of COVID-19 may reduce the duration of illness
<u>Details</u> Small 72 patient RCT of ivermectin and ivermectin + doxycycline showing faster recovery with ivermectin. The ivermectin + doxycycline group uses only a single dose of ivermectin vs. 5 daily doses for the ivermectin group. PCR testing was ..				
Dec 2 2020	Early	Chamie, J. (News)	news	The effect of using ivermectin to control COVID-19 in Chiapas
<u>Details</u> Report showing that after starting to distribute ivermectin in drug kits in July, the Mexican state of Chiapas has seen a dramatic divergence from other states with much lower mortality .				

Dec 1 2020	Early	Alonso et al., (Preprint)	death, ↓91.8%, p=0.009	COVID-19: Uso de ivermectina
<u>Details</u> Observational study in Argentina showing significantly lower mortality in the 60 days after adopting ivermectin compared to the 60 days before, relative risk RR 0.082, $p=0.003$.				
Nov 28 2020	PrEPPEP	Bernigaud et al., Annals of Dermatology and Venereology, doi:10.1016/j.annder.2020.09.231	death, ↓99.4%, p=0.08	Ivermectin benefit: from scabies to COVID-19, an example of serendipity
<u>Details</u> 69 residents of a French care home, median age 90, were treated with ivermectin for a scabies outbreak. 3,062 residents in 45 nearby comparable homes were used as controls. 7 of 69 treated patients had probable or certain COVID-19, with n..				
Nov 28 2020	PrEPPEP	Hellwig et al., International Journal of Antimicrobial Agents, doi:10.1016/j.ijantimicag.2020.106248	cases, ↓78.0%, p<0.02	A COVID-19 Prophylaxis? Lower incidence associated with prophylactic administration of Ivermectin
<u>Details</u> Analysis of COVID-19 cases vs. widespread prophylactic use of ivermectin for parasitic infections showing significantly lower incidence of COVID-19 cases.				
Nov 24 2020	Late	Niaee et al., Asian Pacific Journal of Tropical Medicine, doi:10.4103/1995-7645.318304 (preprint 11/24/20)	death, ↓81.8%, p=0.001	Ivermectin as an adjunct treatment for hospitalized adult COVID-19 patients: A randomized multi-center clinical trial
<u>Details</u> 82% lower mortality with ivermectin. RCT with 180 hospitalized patients showing reduced mortality and hospital stay with ivermectin, with a wide margin of safety. All patients received SOC including low dose HCQ. Analysis suggests randomi..				
Nov 22 2020	Animal	de Melo et al., EMBO Mol. Med., doi:10.15252/emmm.202114122 (preprint 11/22/20)	animal study	Attenuation of clinical and immunological outcomes during SARS-CoV-2 infection by ivermectin
<u>Details</u> Animal study showing that standard doses of ivermectin prevented clinical deterioration, reduced olfactory deficit, and limited the inflammation of the upper and lower respiratory tracts in SARS-CoV-2-infected hamsters.				
Nov 18 2020	Late	Budhiraja et al., medRxiv, doi:10.1101/2020.11.16.20232223 (Preprint)	death, ↓99.1%, p=0.04	Clinical Profile of First 1000 COVID-19 Cases Admitted at Tertiary Care Hospitals and the Correlates of their Mortality: An Indian Experience
<u>Details</u> Retrospective 976 hospitalized patients with 34 treated with ivermectin showing ivermectin mortality relative risk RR 0.13, $p = 0.04$ in unadjusted results.				
Nov 17 2020	PrEPPEP	Carvalho et al., Journal of Biomedical Research and Clinical Investigation, doi:10.31546/2633-8653.1007	cases, ↓99.9%, p<0.0001	Study of the Efficacy and Safety of Topical Ivermectin + Iota-Carrageenan in the Prophylaxis against COVID-19 in Health Personnel

Details Prophylaxis study using ivermectin and iota-carrageenan showing 0 of 788 cases from treated healthcare workers, compared to 237 of 407 control. The authors later reported that carrageenan is not necessary in this protocol . See for discu..

Nov 14 2020	Late	Spoorthi et al., IAIM, 2020, 7:10, 177-182	recov. time, ↓21.1%, p=0.03	Utility of Ivermectin and Doxycycline combination for the treatment of SARSCoV-2
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Details 100 patient prospective trial of ivermectin + doxycycline showing reduced time to symptom resolution and shorter hospital stay with treatment.

Nov 13 2020	Late	Elgazzar et al., Research Square, doi:10.21203/rs.3.rs-100956/v2 (Preprint)		Efficacy and Safety of Ivermectin for Treatment and prophylaxis of COVID-19 Pandemic
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Details This study was withdrawn.

Nov 11 2020	Late	Camprubí et al., PLoS ONE, 15:11, doi:10.1371/journal.pone.0242184	ventilation, ↓40.0%, p=0.67	Lack of efficacy of standard doses of ivermectin in severe COVID-19 patients
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Details Tiny 26 patient retrospective study of very late treatment with ivermectin 200 µg/kg, median 12 days after symptoms, not showing significant differences. Authors suggest the dose is too low and recommend evaluation of higher doses. All pa..

Nov 10 2020	Review	Turkia, M., ResearchGate (Review) (Preprint)	review	FLCCC Alliance MATH+ ascorbic acid and I-MASK+ ivermectin protocols for COVID-19 — a brief review
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Details Review suggesting that ivermectin should be used based on existing data suggesting significant benefits, and that waiting for additional data may result in significant harm.

Nov 4 2020	Early	Cadegiani et al., New Microbes and New Infections, doi:10.1016/j.nmni.2021.100915 (preprint 11/4/2020)	death, ↓78.3%, p=0.50	Early COVID-19 Therapy with azithromycin plus nitazoxanide, ivermectin or hydroxychloroquine in Outpatient Settings Significantly Improved COVID-19 outcomes compared to Known outcomes in untreated patients
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Details Comparison of HCQ, nitazoxanide, and ivermectin showing similar effectiveness for overall clinical outcomes in COVID-19 when used before seven days of symptoms, and overwhelmingly superior compared to the untreated COVID-19 population, ev..

Nov 3 2020	Early, Late	Morgenstern et al., J. Clinical Trials (preprint 11/3)		The Use of Compassionate Ivermectin in the Management of Symptomatic Outpatients and Hospitalized Patients with Clinical Diagnosis of Covid-19 at the Centro Medico Bournigal and at the Centro Medico Punta Cana, Grupo Rescue, Dominican Republic, from May 1 to August 10, 2020
<u>Details</u> Retrospective 3,099 outpatients treated with ivermectin in an ER. Of 2,706 treated on an outpatient basis, 18 were subsequently hospitalized, 2 in the ICU, and there was one death (0.04%). The average treatment delay for patients treated ..				
Nov 3 2020	PrEPPEP	Behera et al., PLoS ONE, doi:10.1371/journal.pone.0247163 (preprint 11/3)	cases, ↓53.8%, p=0.0007	Role of ivermectin in the prevention of SARS-CoV-2 infection among healthcare workers in India: A matched case-control study
<u>Details</u> Retrospective matched case-control prophylaxis study for HCQ, ivermectin, and vitamin C with 372 healthcare workers, showing lower COVID-19 incidence for all treatments, with statistical significance reached for ivermectin. HCQ OR 0.56, p..				
Nov 2 2020	Animal	Arévalo et al., Scientific Reports, doi:10.1038/s41598-021-86679-0 (preprint 11/2/20)	animal study	Ivermectin reduces in vivo coronavirus infection in a mouse experimental model
<u>Details</u> Mouse study showing ivermectin reducing MHV viral load and disease. MHV is a type 2 family RNA coronavirus similar to SARS-CoV2.				
Oct 31 2020	PrEPPEP	Chang et al., ResearchGate (Preprint)		COVID-19: Effectiveness of pre-exposure prophylaxis with ivermectin in exposed persons
<u>Details</u> Pre-exposure prophylaxis study with 129 people split into high/low exposure groups, with each group split into different dosing regimens, showing higher effectiveness with more frequent doses. High-exposure group: every 7 days dosing: 0 of ..				
Oct 31 2020	Early	Szente Fonseca et al., Travel Medicine and Infectious Disease, doi:10.1016/j.tmaid.2020.101906	hosp., ↑13.9%, p=0.53	Risk of Hospitalization for Covid-19 Outpatients Treated with Various Drug Regimens in Brazil: Comparative Analysis
<u>Details</u> Retrospective 717 patients in Brazil showing OR 1.17 [0.72-1.90] for ivermectin. This paper focuses on HCQ, event counts for ivermectin are not provided. With significant correlation between the variables used, including overlap in the pr..				
Oct 26 2020	Late	Hashim et al., Iraqi Journal of Medical Science, 19:1	death, ↓91.7%, p=0.03	Controlled randomized clinical trial on using Ivermectin with doxycycline for treating COVID-19 patients in Baghdad, Iraq

Details RCT 70 ivermectin+doxycycline patients and 70 control patients showing reduced time to recovery and reduced mortality with treatment. Earlier treatment was more successful. For ethical reasons, critical patients were all in the treatment ..

Oct 22 2020	PrEPPEP	Guerrero et al., Colombia Médica, doi:10.25100/cm.v51i4.4613		COVID-19: The Ivermectin African Enigma
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Details Study of African Programme for Onchocerciasis Control (APOC) countries, which used ivermectin, with non-APOC countries in Africa, showing 28% lower mortality for APOC countries, relative risk RR = 0.72 [0.67-0.78]. See also and the autho..

Oct 19 2020	PrEPPEP	Carvalho et al., NCT04425850 (Preprint)	cases, ↓96.3%, p<0.0001	Usefulness of Topic Ivermectin and Carrageenan to Prevent Contagion of Covid 19 (IVERCAR)
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Details Prophylaxis study using ivermectin and carrageenan showing 0 of 131 cases from treated healthcare workers, compared to 11 of 98 control. The effect is likely to be primarily due to ivermectin - the author has later reported that carrageen..

Oct 13 2020	Animal	Chaccour et al., Scientific Reports, doi:10.1038/s41598-020-74084-y	animal study	Nebulized ivermectin for COVID-19 and other respiratory diseases, a proof of concept, dose-ranging study in rats
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Details Study showing that nebulized ivermectin can reach pharmacodynamic concentrations in the lung tissue of rats. Authors note that additional experiments are required to assess the safety of this formulation in larger animals.

Oct 13 2020	Late	Rajter et al., Chest, doi:10.1016/j.chest.2020.10.009	death, ↓46.0%, p=0.045	Use of Ivermectin is Associated with Lower Mortality in Hospitalized Patients with COVID-19 (ICON study)
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Details Retrospective 280 hospitalized patients showing lower mortality with ivermectin (13.3% vs 24.5%), propensity matched odds ratio OR 0.47 [0.22-0.99], p=0.045.

Oct 9 2020	Early	Mahmud et al., Journal of International Medical Research, doi:10.5061/dryad.qjq2bvqf6 (preprint 10/9/20)	death, ↓85.7%, p=0.25	Ivermectin in combination with doxycycline for treating COVID-19 symptoms: a randomized trial
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Details RCT for ivermectin+doxycycline showing improvements in mortality, recovery, progression, and virological cure. 183 treatment and 183 control patients with no deaths in the treatment arm vs. 3 in the control arm (the 3 control deaths are n..

Oct 8 2020	In Silico	Francés-Monerris et al., ChemRxiv, doi:10.26434/chemrxiv.12782258.v1 (Preprint)	<i>In Silico</i>	Has Ivermectin Virus-Directed Effects against SARS-CoV-2? Rationalizing the Action of a Potential Multitarget Antiviral Agent
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Details *In silico* study showing that ivermectin is capable of interfering in different key steps of the SARS-CoV-2 replication cycle.

Oct 8 2020	Late	Soto-Becerra et al., medRxiv, doi:10.1101/2020.10.06.20208066 (Preprint)	death, ↓17.1%, p=0.01	Real-World Effectiveness of hydroxychloroquine, azithromycin, and ivermectin among hospitalized COVID-19 patients: Results of a target trial emulation using observational data from a nationwide Healthcare System in Peru
<u>Details</u> Retrospective database study of 5683 patients, 692 received HCQ/CQ+AZ, 200 received HCQ/CQ, 203 received ivermectin, 1600 received AZ, 358 received ivermectin+AZ, and 2630 received standard of care. This study includes anyone with ICD-10 ..				
Sep 30 2020	Late	Chachar et al., International Journal of Sciences, 9:31-35, doi:10.18483/ijSci.2378	no recov., ↓10.0%, p=0.50	Effectiveness of Ivermectin in SARS- CoV-2/COVID-19 Patients
<u>Details</u> Small RCT with 25 ivermectin and 25 control patients, not finding a significant difference in recovery at day 7.				
Sep 24 2020	Late	Khan et al., Archivos de Bronconeumología, doi:10.1016/j.arbres.2020.08.007 (Letter)	death, ↓87.1%, p=0.02	Ivermectin treatment may improve the prognosis of patients with COVID-19
<u>Details</u> Retrospective 115 ivermectin patients and 133 control patients showing significantly lower death and faster viral clearance. Some potential issues and the authors' response can be found in .				
Sep 22 2020	In Vitro	Li et al., J. Cellular Physiology, doi:10.1002/jcp.30055 (In Vitro)	<i>In Vitro</i>	Quantitative proteomics reveals a broad- spectrum antiviral property of ivermectin, benefiting for COVID-19 treatment
<u>Details</u> <i>In Vitro</i> study showing Ivermectin is a safe wide-spectrum antiviral against SARS-CoV-2, human papillomavirus (HPV), Epstein-Barr virus (EBV), and HIV. Authors note that the combination of ivermectin and other drugs might result in more fa..				
Sep 15 2020	Early	Carvalho et al., Journal of Clinical Trials, 11:459 (preprint 9/15/20)	death, ↓85.4%, p=0.08	Safety and Efficacy of the Combined Use of Ivermectin, Dexamethasone, Enoxaparin and Aspirina against COVID-19 the I.D.E.A. Protocol
<u>Details</u> Prospective trial of ivermectin, dexamethasone, enoxaparin, and aspirin, showing no hospitalization for mild cases, and lower mortality for moderate/severe patients.				
Sep 15 2020	Review	Jans et al., Cells 2020, 9:9, 2100, doi:10.3390/cells9092100 (Review) (Letter)	review	Ivermectin as a Broad- Spectrum Host-Directed Antiviral: The Real Deal?
<u>Details</u> Review of ivermectin as a host-directed broad-spectrum antiviral agent for a range of viruses, including SARS-CoV-2. Cell culture experiments show robust antiviral action towards HIV-1, dengue virus (DENV), Zika virus, West Nile virus, Ve..				

Sep 9 2020	In Silico	Swargiary, A., Research Square, doi:10.21203/rs.3.rs-73308/v1 (Preprint)	<i>In Silico</i>	Ivermectin as a promising RNA-dependent RNA polymerase inhibitor and a therapeutic drug against SARS-CoV2: Evidence from in silico studies
<u>Details</u> <i>In Silico</i> study showing high binding affinity of ivermectin with SARS-CoV-2 RNA-dependent RNA polymerase, suggesting ivermectin as an inhibitor of RdRp.				
Sep 6 2020	Review	DiNicolantonio et al., Open Heart, doi:10.1136/openhrt-2020-001350 (Review)	review	Ivermectin may be a clinically useful anti-inflammatory agent for late-stage COVID-19
<u>Details</u> Review suggesting that ivermectin may be useful for late stage COVID-19. Authors note that ivermectin, in doses at or modestly above the standard clinical dose, may have important clinical potential for managing disorders associated with..				
Sep 3 2020	Late	Podder et al., IMC J. Med. Science, 14:2, July 2020	recov. time, ↓16.1%, p=0.34	Outcome of ivermectin treated mild to moderate COVID-19 cases: a single-centre, open-label, randomised controlled study
<u>Details</u> Small RCT with 32 ivermectin patients and 30 control patients. The mean recovery time after enrolment in the intervention arm was 5.31 ± 2.48 days vs. 6.33 ± 4.23 days in the control arm, p > 0.05. Negative PCR results were not significant..				
Aug 31 2020	Late	Kishoria et al., Paripex - Indian Journal of Research, doi:10.36106/paripex/4801859	no disch., ↑7.5%, p=1.00	Ivermectin as adjuvant to hydroxychloroquine in patients resistant to standard treatment for SARS-CoV-2: results of an open-label randomized clinical study
<u>Details</u> Small RCT of hospitalized patients in India with 19 ivermectin patients and 13 control patients, with all receiving SOC including HCQ, showing no significant differences. The patient population is biased because the study recruited patient..				
Aug 28 2020	PrEPPEP	Shouman et al., Journal of Clinical and Diagnostic Research, doi:10.7860/JCDR/2020/46795.0000	symp. case, ↓91.3%, p<0.001	Use of Ivermectin as a Potential Chemoprophylaxis for COVID-19 in Egypt: A Randomised Clinical Trial
<u>Details</u> PEP trial for asymptomatic close contacts of COVID-19 patients, 203 ivermectin patients and 101 control patients. 7.4% of contacts developed COVID-19 in the ivermectin group vs. 58.4% in the control group, adjusted odds ratio OR 0.087, p ..				
Aug 15 2020	Early	Espitia-Hernandez et al., Biomedical Research, 31:5	recov. time, ↓70.0%, p<0.0001	Effects of Ivermectin-azithromycin-cholecalciferol combined therapy on COVID-19 infected patients: A proof of concept study
<u>Details</u> Small study with 28 patients treated with ivermectin + AZ + cholecalciferol and 7 control patients. All treated patients were PCR- at day 10 while all control patients remained PCR+. The mean duration of symptoms was 3 days in the treatment..				

Aug 14 2020	Late	Bhattacharya et al., Int. J. Scientific Research, doi:10.36106/ijsr/7232245		Observational Study on Clinical Features, Treatment and Outcome of COVID 19 in a tertiary care Centre in India- a retrospective case series
<u>Details</u> Retrospective 148 hospitalized patients showing triple therapy with ivermectin + atorvastatin + N-acetylcysteine resulted in a 1.35% case fatality rate which was well below the national average.				
Jul 31 2020	Review	Vora et al., Indian Journal of Tuberculosis, doi:10.1016/j.ijtb.2020.07.031 (Review)	review	White paper on Ivermectin as a potential therapy for COVID-19
<u>Details</u> Panel review of ivermectin reporting that "ivermectin in the dose of 12mg BD alone or in combination with other therapy for 5–7 days may be considered as safe therapeutic option for mild moderate or severe cases of Covid-19 infection..				
Jul 31 2020	Late	Chang et al., ResearchGate (Preprint)		Post-acute or prolonged COVID-19: ivermectin treatment for patients with persistent symptoms or post-acute symptoms
<u>Details</u> Report on 33 patients with persistent or post-acute symptoms treated with ivermectin, showing a high rate of clinical improvement.				
Jul 31 2020	Theory	Chang et al., ResearchGate, doi:10.13140/RG.2.2.34561.48483/2 (Preprint) (Theory)	theory	COVID-19: Post-exposure prophylaxis with ivermectin in contacts. At Homes, Places of Work, Nursing Homes, Prisons, and Others
<u>Details</u> Proposed PEP protocol based on ivermectin.				
Jul 31 2020	Late	Alam et al., Journal of Bangladesh College of Physicians and Surgeons, doi:10.3329/jbcps.v38i0.47512 (Preprint)		A Case Series of 100 COVID-19 Positive Patients Treated with Combination of Ivermectin and Doxycycline
<u>Details</u> Case study of 100 patients treated with ivermectin and doxycycline, with no ICU admission, deaths, or serious side effects reported.				
Jul 31 2020	Late	Rahman et al., J. Bangladesh Coll. Phys. Surg. 38, 5-9, doi:10.3329/jbcps.v38i0		Comparison of Viral Clearance between Ivermectin with Doxycycline and Hydroxychloroquine with Azithromycin in COVID-19 Patients
<u>Details</u> Comparison of 200 patients treated with ivermectin + doxycycline and 200 treated with HCQ + AZ. The HCQ + AZ group had more severe cases at baseline. Viral clearance was faster with ivermectin + doxycycline, however ivermectin clearance r..				

Jul 14 2020	Early	Chowdhury et al., Eurasian Journal of Medicine and Oncology, doi:10.14744/ejmo.2021.16263	hosp., ↓80.6%, p=0.23	A Comparative Study on Ivermectin-Doxycycline and Hydroxychloroquine-Azithromycin Therapy on COVID-19 Patients
<u>Details</u> Small 116 patient RCT with low-risk patients comparing ivermectin+doxycycline and HCQ+AZ, showing lower hospitalization, higher viral clearance, and faster symptom resolution and viral clearance with ivermectin+doxycycline. Mid-recovery r..				
Jul 8 2020	Late	Gorial et al., medRxiv, doi:10.1101/2020.07.07.20145979 (Preprint)	death, ↓71.0%, p=1.00	Effectiveness of Ivermectin as add-on Therapy in COVID-19 Management (Pilot Trial)
<u>Details</u> Small trial of hospitalized patients with 16 of 87 patients being treated with ivermectin, showing a significantly lower mean hospital stay with ivermectin: 7.62 vs. 13.22 days, $p=0.00005$. 0 of 16 ivermectin patients died vs. 2 of 71 cont..				
Jun 19 2020	In Silico	Lehrer et al., In Vivo, 34:5, 3023-3026, doi:10.21873/invivo.12134	<i>In Silico</i>	Ivermectin Docks to the SARS-CoV-2 Spike Receptor-binding Domain Attached to ACE2
<u>Details</u> <i>In silico</i> analysis showing ivermectin docking which may interfere with the attachment of the spike to the human cell membrane.				
Jun 16 2020	Early	Ramos et al., Preprint (Preprint)		Intervención de la Ivermectina Pre-Hospitalaria para la Modificación de la Evolución del Covid19. Estudio realizado en Perú
<u>Details</u> Prospective study of 63 outpatients in Peru treated with ivermectin, reporting significant improvement within 24 hours.				
Jun 12 2020	Review	Heidary et al., The Journal of Antibiotics, 73, 593–602, doi:10.1038/s41429-020-0336-z (Review)	review	Ivermectin: a systematic review from antiviral effects to COVID-19 complementary regimen
<u>Details</u> Review of the antimicrobial, antiviral, and anti-cancer properties of ivermectin. Antiviral effects have been reported for Zika, dengue, yellow fever, West Nile, Hendra, Newcastle, Venezuelan equine encephalitis, chikungunya, Semliki Fore..				
May 20 2020	Dosing	Arshad et al., Clinical Pharmacology & Therapeutics, doi:10.1002/cpt.1909 (Dosing)	dosing study	Prioritization of Anti-SARS-Cov-2 Drug Repurposing Opportunities Based on Plasma and Target Site Concentrations Derived from their Established Human Pharmacokinetics
<u>Details</u> Pharmacokinetic analysis predicting that ivermectin will achieve lung concentration over 10 times higher than the reported EC ₅₀ .				
May 2 2020	Early	Chang, G., Research Gate, doi:10.13140/RG.2.2.34689.48482/7 (Preprint)		Inclusión de la ivermectina en la primera línea de acción terapéutica para COVID-19

Details Peru observational case study of 7 patients treated with ivermectin, showing improvement and resolution of fever within 48 hours, and 100% recovery.

Apr 21 2020	Review	Bray et al., Antiviral Res., doi:10.1016/j.antiviral.2020.104805 (Review) (Preprint)	review	Ivermectin and COVID-19: A report in Antiviral Research, widespread interest, an FDA warning, two letters to the editor and the authors' responses
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Details Responses to Caly et al., and the author's reply. The original authors note that "ivermectin's key direct target in mammalian cells is a not a viral component, but a host protein important in intracellular transport; the fact that it..

Apr 3 2020	In Vitro	Caly et al., Antiviral Research, doi:10.1016/j.antiviral.2020.104787 (In Vitro)	<i>In Vitro</i>	The FDA-approved drug ivermectin inhibits the replication of SARS-CoV-2 in vitro
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Details *In Vitro* study showing that ivermectin is an inhibitor of SARS-CoV-2, with a single addition to Vero-hSLAM cells 2h post infection with SARS-CoV-2 able to effect ~5000-fold reduction in viral RNA at 48h. Some people claim this study shows..

2013	N/A	Guzzo et al., J. Clinical Pharmacology, doi:10.1177/009127002237994	safety analysis	Safety, Tolerability, and Pharmacokinetics of Escalating High Doses of Ivermectin in Healthy Adult Subjects
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Details Safety study concluding that ivermectin was generally well tolerated, with no indication of associated CNS toxicity for doses up to 10 times the highest FDA-approved dose. Adverse effects were similar between ivermectin and placebo and di..

1990	Animal	Chiu et al., J. Agric. Food Chem., doi:10.1021/jf00101a015	animal study	Absorption, tissue distribution, and excretion of tritium-labeled ivermectin in cattle, sheep, and rat
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Details Animal study showing that lung tissue concentration of ivermectin may be ~20 times higher than plasma concentration.

For search methods, inclusion criteria, effect extraction criteria (more serious outcomes have priority), PRISMA answers, and statistical methods see ivmmeta.com. Meta, Theory, Safety, Review, and News items are not included in the study count. There is a total of 253 items. Studies with preprints and journal versions are listed under the earlier preprint date.

Please send us corrections, updates, or comments. Vaccines and treatments are both valuable and complementary. All practical, effective, and safe means should be used. No treatment, vaccine, or intervention is 100% available and effective for all current and future variants. Denying the efficacy of any method increases mortality, morbidity, collateral damage, and the risk of endemic status. We do not provide medical advice. Before taking any medication, consult a qualified physician who can provide personalized advice and details of risks and benefits based on your medical history and situation. [FLCCC](#) and [WCH](#) provide treatment protocols.

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