COVID-19 Evidence Bulletin No. 86 (20/09/2021)

The majority of the evidence below has been taken from the PHE International Epidemiology Evidence Digest, which can be found at https://phelibrary.koha-ptfs.co.uk/coronavirusinformation/#Keeping with kind permission, and has been adapted by UHNM Librarians for Trust use.

Contents

Please note that preprints (highlighted in red), are preliminary reports of work that have NOT been peer-reviewed. They should not be relied on to guide clinical practice or health-related behaviour and should NOT be regarded as established information.

Infection Control

Publication Date	Title/URL	Journal/Article Type	Digest
14.09.2021	PHE: Duration of protection of COVID-19 vaccines against clinical disease, 9 September 2021	Gov.uk (non peer reviewed) / Research and analysis	• Results indicate waning VE against symptomatic disease with both the Pfizer and AstraZeneca vaccines from approximately 10 weeks after the second dose. This is most evident in older adults. • Some indication of waning VE against hospitalisation from 15 weeks after the second dose, in particular among recipients of the AstraZeneca vaccine, though largely in clinical risk groups, including those who are immunosuppressed, where faster waning may be predicted. • VE against hospitalisation, even within clinical risk groups, at 15-20 weeks is 75-90% with the AstraZeneca vaccine and over 90% with the Pfizer vaccine.
13.09.2021	Efficacy of two doses of COVID-19 vaccine against severe COVID-19 in those with risk conditions and residual risk to the clinically extremely vulnerable: the REACT-SCOT case-control study	medRxiv (non peer reviewed) / Article	• Scottish national study: does COVID-19 efficacy vary with clinical risk category / severe COVID-19 (critical care or fatal outcome) risk factors in double vaccinated. • Efficacy against severe COVID-19 of two doses: 93% without designated risk conditions; 89% with moderate risk conditions; 66% in those designated as clinically extremely vulnerable (CEV) and eligible for shielding. • 330 severe COVID-19 cases in double-vaccinated: 47% had moderate risk conditions; 41% were CEV. • Among CEV, highest in solid organ transplants at 98 but absolute risk of severe COVID-19 still low (14 cases in 16079 person-months of follow-up). • Two doses protect against severe COVID-19 in CEV individuals but residual risk remains far higher in those who are CEV than in those who are not.

12.09.2021	Efficacy of vaccination against severe COVID-19 in relation to Delta variant and time since second dose: the REACT-SCOT case-control study	medRxiv (non-peer reviewed) / Article	• Scottish matched case-control study, 1.12.2020 - 19.08.2021: (i) has vaccine efficacy (VE) against severe COVID-19 (critical care or fatal outcome) decreased since Delta; (ii) has efficacy waned since 2nd dose. • May 2021 decrease in VE against severe COVID-19, coinciding with B.1.1.7 (Alpha) replacement by B.1.617.2 (Delta). Reversed over next month. • In most recent time window, efficacy of two doses against severe COVID-19 was 91% for AstraZeneca / 92% for mRNA (Pfizer or Moderna). • Efficacy against COVID-19 declined rapidly in first two months since second dose but more slowly thereafter.
14.09.2021	VEEP: Vaccine effectiveness table, 7 September 2021	Gov.uk (non peer reviewed) / Expert Panel	• Graphic summary of current data regarding vaccine effectiveness against infection, symptomatic infection and severe disease with Alpha and Delta variants with one or two doses of AstraZeneca, Pfizer and Moderna vaccines • Highlights gaps in current knowledge and provides sources of the data.
15.09.2021	Protection of BNT162b2 Vaccine Booster against Covid-19 in Israel	N Engl J Med / Article	• Israel approved 3rd (booster) BNT162b2 [Pfizer] dose approved on 30.07.2021 for persons ≥ 60 years old who had received 2nd dose at least 5 months earlier. • Compared rate of confirmed Covid-19 / severe illness between those who had received a booster injection (booster group) and the non-booster group. • ≥ 12 days after booster, rate of confirmed infection lower in booster group by a factor of 11.3; rate of severe illness lower by a factor of 19.5. • Rate of confirmed infection at least 12 days after vaccination lower than rate after 4-6 days by a factor of 5.4.

12.09.2021	Safety and efficacy of the mRNA BNT162b2 vaccine against SARS-CoV-2 in five groups of immunocompromised patients and healthy controls in a prospective open-label clinical trial	medRxiv (non-peer reviewed) / Article	• Clinical trial with 449 adult patients in five groups: Primary (n=90) or secondary immunodeficiency disorders due to HIV (n=90), allogeneic hematopoietic stem cell transplantation/chimeric antigen receptor T cell therapy (n=90), solid organ transplantation (SOT) (n=89), or chronic lymphocytic leukaemia (CLL) (n=90) • Severe adverse events (SAEs) were more common in the SOT group and lowest in the HIV group. • 5 of 28 SAEs were assessed as being possibly linked to the vaccination, including vasovagal reaction in a HIV patient, febrile neutropenia in a HSCT patient, rejection in a liver transplant patient, and syncope in another liver transplant patient. One patient died of lung failure two months after the first vaccination. No SAE was observed in the healthy control group • The highest seroconversion-failure rate was found in the SOT group, with only 43.4% responding, followed by the CLL group, PID group, HSCT group and the HIV group.
14.09.2021	Reports of myocarditis and pericarditis following mRNA COVID-19 vaccines: A review of spontaneously reported data from the UK, Europe, and the US	medRxiv (non peer reviewed) / Article	• Using reporting data from the United Kingdom, United States, and European Economic Area this study provides evidence that younger people, and particularly males, more frequently report myocarditis and pericarditis than older people, following vaccination with mRNA COVID-19 vaccines. • While more frequent following the second dose, these are rare events with mild clinical course followed, in most cases, by full recovery. Reporting rates of myocarditis and pericarditis were consistent between the data sources. • As vaccine programmes progress with the focus shifting to younger people, it is possible that more cases of myocarditis and pericarditis will be reported.

17.09.2021	Interim Estimates of COVID-19 Vaccine Effectiveness Against COVID-19–Associated Emergency Department or Urgent Care Clinic Encounters and Hospitalizations Among Adults During SARS-CoV-2 B.1.617.2 (Delta) Variant Predominance — Nine States, June–August 2021	MMWR Morb Mortal Wkly Rep / Article	• Data on vaccine effectiveness (VE) since B.1.617.2 (Delta) predominant. Medical encounters (32,867) from 187 hospitals / 221 emergency departments (EDs) and urgent care (UC) clinics across 9 US states. • Among fully vaccinated patients, proportion vaccinated among hospitalizations and ED/UC encounters, respectively: Pfizer, 55.3% and 53.6%; Moderna, 38.8% and 36.1%; Janssen, 6.0% and 10.3%. • Median interval from fully vaccinated to hospital admission or ED/UC encounter, respectively: 110 and 93 days (Pfizer-BioNTech); 106 and 96 days (Moderna); 94 and 94 days (Janssen).
15.09.2021	Safety, Immunogenicity, and Efficacy of COVID-19 Vaccine in Children and Adolescents: A Systematic Review	medRxiv (non peer reviewed) / Systematic Review	• Systematic review including 8 published (2851 children or adolescents) and 28 ongoing clinical trials. • Results showed that selected COVID-19 vaccines had a good safety profile in children and adolescents, with mostly mild and moderate adverse effects, including injection site pain, fatigue, headache, and chest pain. A few cases of myocarditis and pericarditis were also reported. • Authors conclude that some COVID-19 vaccines have potential protective effects in children and adolescents, but awareness is needed to monitor their possible adverse effects after injection, especially myocarditis and pericarditis.
15.09.2021	Non-pharmacological measures implemented in the setting of long-term care facilities to prevent SARS-CoV-2 infections and their consequences: a rapid review	Cochrane Database Syst Rev / Review	• Search conducted 22 January 2021; 11 observational studies and 11 modelling studies included. • Intervention domains identified: (i) Entry regulation measures; (ii) Contact-regulating and transmission-reducing measures; (iii) Surveillance measures; (iv) Outbreak control measures; (v) Multicomponent measures • Comprehensive framework of non-pharmacological measures implemented in long-term care facilities, but certainty of evidence predominantly low to very low.

24.07.2021	Surface contamination with SARS-CoV-2: A systematic review	Sci Total Environ / Systematic Review	• Systematic review of 37 provides evidence that SARS-CoV-2 RNA has been detected in a wide range of facilities and surfaces; • 6 studies have evaluated the viability/infectivity of SARS-CoV-2 from 242 positive surface samples; no viable virus could be isolated from the 242 samples with SARS-CoV-2 RNA detected by RT-qPCR • 17.7% of samples in hospital settings and 10.1% in non-hospital settings were positive for SARS-CoV-2 RNA, using various molecular methods. • As there is no evidence of viable and infectious SARS-CoV-2 on surfaces, authors warn against extrapolating SARS-CoV-2 RNA detection data into decision-making, as this may exaggerate the risk of fomite transmission.

Diagnosis / Prognosis

Publication Date	Title/URL	Journal/Article Type	Digest
10.09.2021	Post-COVID syndrome. A case series and comprehensive review	Autoimmunity Reviews	• Findings from a series of 100 consecutive patients, (53 women, median age 49) found post-COVID syndrome (PCS) is mainly characterized by musculoskeletal, pulmonary, digestive and neurological involvement including depression. • PCS is independent of severity of acute illness and humoral response. Long-term antibody responses to SARS-CoV-2 infection and a high inter-individual variability were confirmed. Future studies should evaluate the mechanisms by which SARS-CoV-2 may cause PCS and the best therapeutic options
10.09.2021	Evaluation of antithrombotic use and COVID-19 outcomes in a nationwide atrial fibrillation cohort	medRxiv (non-peer reviewed) / Article	• From 972,971 individuals with atrial fibrillation (AF) and a CHA2DS2-VASc score>=2, 88.0% (n=856,336) had pre-existing antithrombotic (AT) use, 3.8% (n=37,418) had a COVID-19 related hospitalisation and 2.2% (n=21,116) died. • Factors associated with no AT use included comorbidities that may contraindicate AT use (liver disease and history of falls) and demographics (socioeconomic status and ethnicity). • Pre-existing AT use was associated with lower odds of death but higher odds of hospitalisation. The same pattern was observed for anticoagulants (AC) vs antiplatelets (AP) but not for direct oral anticoagulants (DOACs) vs warfarin. • Pre-existing AT use may offer marginal protection against COVID-19 death, with AC offering more protection than AP. Although this association may not be causal, it provides further incentive to improve AT coverage for eligible individuals with AF.

16.09.2021	Technical article: Updated estimates of the prevalence of post-acute symptoms among people with coronavirus (COVID-19) in the UK, 26 April 2020 to 1 August 2021	Gov.uk / Official statistics	• Experimental estimates of the prevalence of symptoms that remain 12-weeks post-infection, or “long COVID" range from 3.0% based on tracking specific symptoms, to 11.7% based on self-classification of long COVID, using data to 01.08.2021. • This analysis focusses on the number of Coronavirus Infection Survey (CIS) participants with post-acute symptoms out of those with laboratory-confirmed COVID-19 • Irrespective of the approach to measurement, post-acute symptom prevalence was highest in females, adults aged 50 to 69 years, people with a pre-existing health condition, and those with signs of high viral load at the time of infection.
10.09.2021	Estrogen and COVID-19 symptoms: Associations in women from the COVID Symptom Study	PLoS One / Article	• COVID Symptom Study app data May - June 2020 analysed for links between COVID-19 rates and: 1) menopausal status; 2) combined oral contraceptive pill (COCP) use; 3) HRT use. • Post-menopausal women aged 40-60 years (n=44,268): higher rates of predicted COVID-19 (P=0.003) and a corresponding range of symptoms, with consistent, but not significant trends observed for tested COVID-19 and disease severity. • Women aged 18-45 years taking COCP (n =295,689): significantly lower predicted COVID-19 (P=8.03E-05) / reduction in hospital attendance (P=0.023). • Post-menopausal women using HRT or hormonal therapies (n=151,193) didn't exhibit consistent associations, including increased rates of predicted COVID-19 (P=2.22E-05) for HRT users alone. • Being pre-menopausal appears to have a protective effect against COVID-19 in a large community survey. • HRT findings should be treated with caution due to lack of data on HRT type, route of administration, duration of treatment, and potential comorbidities. • Preprint previously included.

13.09.2021	Association between COVID-19 vaccination, infection, and risk of Guillain-Barre syndrome, Bell's palsy, encephalomyelitis and transverse myelitis: a population-based cohort and self-controlled case series analysis	medRxiv (non-peer reviewed) / Article	• UK study included 1,868,767 ChAdOx1 and 1,661,139 BNT162b2 vaccinees; 299,311 people infected with COVID-19; and 2,290,537 from the general population. • No consistent association was found between either vaccine and any of the studied neuro-immune adverse events. • A 5-fold increase was observed in the risk of Guillain-Barre syndrome and an 11-fold of encephalomyelitis following COVID-19 infection
10.09.2021	Risk of severe COVID-19 outcomes associated with immune-mediated inflammatory diseases and immune modifying therapies: a nationwide cohort study in the OpenSAFELY platform	medRxiv (non-peer reviewed) / Article	• In a cohort of 17,672,065 adults 1,163,438 (7%) had immune-mediated inflammatory diseases (IMIDs). 19,119 people received targeted immune modifying drugs, and 200,813 received standard systemics. • Analysis provides evidence of increased COVID-19-death and hospitalisation in individuals with IMIDs overall compared to individuals without IMIDs of the same age, sex, deprivation and smoking status. • No evidence was found of increased COVID-19 deaths with targeted compared to standard systemic treatments, or in those prescribed TNF inhibitors, IL-12/23, IL7, IL-6 or JAK inhibitors compared to standard systemics.
14.09.2021	Oral Manifestations of COVID-19: Updated Systematic Review With Meta-Analysis	Front Med (Lausanne) / Systematic Review	• Systematic review including 74 studies on oral manifestations in patients with COVID-19. Of these 74 records, 10 were prevalence studies and the remaining 64 were case reports and case series on oral manifestations • The literature describes a relatively high frequency of xerostomia and aphthous lesions in patients with COVID-19 but the authors highlight the paucity of available evidence.

Treatment

Publication Date	Title/URL	Journal/Article Type	Digest
04.09.2021	Drug repurposing against coronavirus disease 2019 (COVID-19): A review	J Pharm Anal / Review	• Because of the absence of approved anti-coronavirus drugs, the treatment and management of COVID-19 has become a global challenge. Under these circumstances, drug repurposing is an effective method to identify candidate drugs with a shorter cycle of clinical trials. Here, we summarize the current status of the application of drug repurposing in COVID-19, including drug repurposing based on virtual computer screening, network pharmacology, and bioactivity, which may be beneficial COVID-19 treatment.
14.09.2021	Remdesivir plus standard of care versus standard of care alone for the treatment of patients admitted to hospital with COVID-19 (DisCoVeRy): a phase 3, randomised, controlled, open-label trial	Lancet Infect Dis / Article	• Results from DisCoVeRy phase 3, randomised, controlled trial conducted in 48 sites in Europe. • Patients randomly assigned to standard of care alone (n=428) / in combination with remdesivir (n=429). • No clinical benefit observed from use of remdesivir in adult patients who were admitted to hospital for COVID-19, were symptomatic for more than 7 days, and required oxygen support.

Further resources:

Topic	Title/URL	Source	Digest
Covid-19 related e-learning	e-learning for healthcare: COVID-19 course catalogue	Health Education England	A collection of free to access resources aimed at staff in various clinical settings, including those needing to upskill or refresh their knowledge to deal with current challenges.
Covid-19 podcasts	The BMJ Podcast	BMJ	The BMJ series of podcasts BMJ Talk Medicine is currently focusing on the corona virus pandemic promising to discuss the issues and facts clinicians need to know away from the headlines.
Leadership	Leading through Covid-19: supporting health and care leaders in unprecedented times	The King's Fund	A selection of short articles, video clips and longer blog posts on leadership topics relating to the current situation. (NB Scroll to bottom of webpage to find them).
Evidence Sources Covid-19	https://kfh.libraryservices.nhs.uk/covid-19-coronavirus/evidence-sources/	Collated by NHS Library & Knowledge Services/HEE	A list of reputable evidence sources for all things Covid-19.
	A number of publishers have made parts of their collections relating to coronavirus / COVID-19 freely available	Collated by UHNM Health Libraries Staff	Links to authoritative evidence sources and publishers who have made parts of their collections freely available during the crisis, listed on the health libraries' webpages.
Patient resources	Information and resources about the Coronavirus	NHS Library & Knowledge Services/HEE	Information and resources for patients and the public from trusted sources, including information in Easy Read and accessible formats

Request a Literature Search:

Literature searches on clinical topics may be requested at any time via our online form available here

Feedback:

We would very much like to hear about how useful you find this current awareness bulletin. If you have would like to send any feedback or suggestions on how we could improve this service please email the Clinical Effectiveness Librarian at mathew.stone@uhnm.nhs.uk.

For other queries please contact the Health Libraries:

Health.library@keele.ac.uk (Royal Stoke) or library@uhnm.nhs.uk (County)