Welcome to the weekly Infection Current Awareness Update (ICAU), produced by PHE Knowledge and Library Services. The purpose of this update is to provide you with the latest, best evidence about infection, to help you make informed decisions.

Please note: PHE KLS has set up a separate COVID-19 Daily Alert of latest research. If you would like to receive this, please email libraries@phe.gov.uk. In addition to this, a page of resources about the coronavirus is available here.

If you have any queries, please contact us at libraries@phe.gov.uk, and if you would like to request a literature search, please use the Knowledge and Library Services Enquiries Portal (PHE staff only).

Please note that not all the articles and resources referred to in this alert are freely available. Some articles may require an Athens username and password, and for PHE and NHS staff, these can be obtained here. If you do not work for PHE or the NHS, you may want to approach your local health library service to discuss how you may have access to library services.

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- Journal of Infection Prevention - 3
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- Nature Reviews Microbiology - Current Issue - 4
- New England Journal of Medicine - Current Issue - 3
- Scandinavian Journal of Infectious Diseases: Table of Contents - 3
- Sexually Transmitted Infection Online First - 15
- Sexually Transmitted Infections current issue - 17

NIS Affiliation
- PubMed: NIS affiliation - 5
Infection-related guidance

British Medical Association

Call for enhanced PPE
12 Jan 2021
The BMA has called for enhanced and more appropriate PPE (personal protective equipment) to be made available to staff in all healthcare settings, if the NHS is to contend with the latest wave of COVID-19.

British Society for Antimicrobial Chemotherapy

BSAC launches ‘Vanguard Report’ to mark 50 years of fighting infection
11 Jan 2021
The post BSAC launches ‘Vanguard Report’ to mark 50 years of fighting infection appeared first on British Society for Antimicrobial Chemotherapy.

European Centre for Disease Prevention and Control

Communicable disease threats report, 10-16 January 2021, week 2
15 Jan 2021
This issue of the ECDC Communicable Disease Threats Report (CDTR) covers the period 10-16 January 2021 and includes updates on Lyssavirus infection, measles, COVID-19 and MERS-CoV.

Rabies - Annual Epidemiological Report for 2019
14 Jan 2021
For 2019, EU/EEA countries reported five human Lyssavirus infections. Four human cases of travel-related rabies were reported by Italy, Latvia, Spain and Norway with exposure in Tanzania, India, Morocco and the Philippines, respectively. One locally-acquired fatal case of European bat lyssavirus (EBLV-1) infection was reported by France.

Infection-related journals

American Journal of Infection Control

Human difficulties influence adherence of healthcare workers to infection control practices: psychology matters in the ICU
16 Jan 2021
Most bloodstream infections related to vascular catheters can be avoided if evidence-based practices are applied during insertion and maintenance. In practice, adherence by healthcare workers (HCW) is unsatisfactory and is the main current challenge. The objective of this study is to investigate associations between adherence to infection control practices and performance in psychological tests.

Non-detection of SARS-CoV-2 on high-touch surfaces of public areas next to COVID-19 hospitalization units
12 Jan 2021
Most studies analyzing the contamination of surfaces with SARS-CoV-2 have been conducted in the rooms of infected patients and the common areas of isolation wards and have identified high percentages of positive samples1-4. However, environmental contamination of other hospital areas during the COVID-19 pandemic has not received much attention.
Assessing the clinical accuracy of a hand hygiene system: Learnings from a validation study
12 Jan 2021
Healthcare systems are facing an increasing pressure from accreditation bodies to measure and document hand hygiene compliance as part of quality assurance, but it is a manual and time consuming process. Automation of the measurements can reduce some of the increased workload that infection prevention teams experience as a result of the coronavirus pandemic.

Clinical Infectious Diseases - Advance Access

Pneumocystis jirovecii pneumonia and use of mTOR inhibitors in kidney transplantation
15 Jan 2021
Reply to Martin-Loeches et al
15 Jan 2021
Development of a treatment-decision algorithm for HIV-uninfected children evaluated for pulmonary tuberculosis
15 Jan 2021
Abstract
Background Limitations in the sensitivity and accessibility of diagnostic tools for childhood tuberculosis contribute to the substantial gap between estimated cases and cases notified to national tuberculosis programs. Thus, tools to make accurate and rapid clinical diagnoses are necessary to initiate more children on antituberculosis treatment.

Reply to Coussement et al
15 Jan 2021
Reply to Meyerowitz and Richterman
13 Jan 2021
Half life defined as the time until half of the log titer is not informative and should be replaced with segments – comment on Hirose et al. (2020)
13 Jan 2021
Reply to Gracely
13 Jan 2021
A defense of the classical model of transmission of respiratory pathogens
12 Jan 2021

Clinical Microbiology and Infection

SARS-CoV-2 nucleocapsid-protein and ultrastructural modifications in small bowel of a four week negative COVID-19 patient
17 Jan 2021
Publication date: Available online 16 January 2021Source: Clinical Microbiology and Infection
Author(s): Roberta Rizzo, Luca Maria Neri, Carolina Simioni, Daria Bortolotti, Savino Occhionorelli, Giorgio Zauli, Paola Secchiero, Chiara Marina Semprini, Ilaria Laface, Juana Maria Sanz, Giovanni Lanza, Roberta Gafà, Angelina Passaro

Demonstration of visceral linguatulosis in wood mouse (Apodemus witherbyi): a neglected potential intermediate host?
17 Jan 2021
Publication date: Available online 16 January 2021Source: Clinical Microbiology and Infection
Author(s): Sina Mohtasebi, Aref Teimouri, Mohammad Javad Abbaszadeh Afshar

High prevalence of heterotopic ossification in critically ill patients with severe COVID-19
17 Jan 2021
Re: ‘High prevalence of heterotopic ossification in critically ill patients with severe COVID-19’ by Stoira et al
17 Jan 2021

Proton pump inhibitor use and risk for recurrent Clostridioides difficile infection: A systematic review & meta-analysis
17 Jan 2021

Association between prophylactic antibiotic use for transarterial chemoembolization and occurrence of liver abscess: A retrospective cohort study
17 Jan 2021

Six-month antibody response to SARS-CoV-2 in healthcare workers assessed by virus neutralisation and commercial assays
13 Jan 2021

Methodological quality of studies evaluating the burden of drug-resistant infections in humans due to the WHO Global Antimicrobial Resistance Surveillance system target bacteria
13 Jan 2021

External validation of INCREMENT-CPE score in a retrospective cohort of carbapenemase-producing Klebsiella pneumoniae bloodstream infections in critically ill patients
12 Jan 2021

Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2): a Systemic Infection [Reviews]
13 Jan 2021

To date, seven identified coronaviruses (CoVs) have been found to infect humans; of these, three highly pathogenic variants have emerged in the 21st century. The newest member of this group,
severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), was first detected at the end of 2019 in Hubei province, China.

Current Opinion in Virology

Current view and perspectives in viroid replication
17 Jan 2021
Publication date: April 2021Source: Current Opinion in Virology, Volume 47Author(s): Ying Wang

Diagnostic Microbiology and Infectious Disease

An Australian diagnostic microbiology surge response to the COVID-19 pandemic
17 Jan 2021
Publication date: Available online 16 January 2021Source: Diagnostic Microbiology and Infectious DiseaseAuthor(s): Rebecca Sparks, Rifky Balghom, Catherine Janto, Adam Polkinghorne, James Branley, Harsha Samarasekara

Surrogate testing of oral third-generation cephalosporin susceptibility to common uropathogens
17 Jan 2021
Publication date: April 2021Source: Diagnostic Microbiology and Infectious Disease, Volume 99, Issue 4Author(s): Joshua R. Watson, Cynthia Burch, Amy L. Leber

Diagnostic value of gastric juice aspirate culture for early-onset sepsis: Methodological Issues
17 Jan 2021
Publication date: Available online 16 January 2021Source: Diagnostic Microbiology and Infectious DiseaseAuthor(s): Siamak Sabour, Hadis Ghajar

Emerging Infectious Diseases Journal - ahead of print

Genomic Diversity of Burkholderia pseudomallei Isolates, Colombia
14 Jan 2021
C. Duarte et al.

Potential Association between Zika Infection and Microcephaly during 2007 Fever Outbreak, Gabon
14 Jan 2021
C. Koumavor et al.

Spread of Multidrug-Resistant Rhodococcus equi, United States
14 Jan 2021
S. Álvarez-Narváez et al.

Prevalence and Time Trend of SARS-CoV-2 Infection in Puducherry, India, August–October 2020
14 Jan 2021
S. Kar et al.

Prolonged Maternal Zika Viremia as a Marker of Adverse Perinatal Outcomes
13 Jan 2021
L. Pomar et al.

Combined Epidemiologic and Entomologic Survey to Detect Urban Malaria Transmission, Guinea, 2018
13 Jan 2021
D. Sayre et al.
Outbreak of Severe Vomiting in Dogs Associated with a Canine Enteric Coronavirus, United Kingdom
13 Jan 2021
A. D. Radford et al.

Use of Commercial Claims Data for Evaluating Trends in Lyme Disease Diagnoses, United States, 2010-2018
13 Jan 2021
A. M. Schwartz et al.

Estimating the Frequency of Lyme Disease Diagnoses, United States, 2010–2018
13 Jan 2021
K. J. Kugeler et al.

Highly Pathogenic Avian Influenza A(H5N8) Virus Spread by Short- and Long-Range Transmission, France, 2016–17
13 Jan 2021
F. Briand et al.

Lung Pathology of Mutually Exclusive Co-infection with SARS-CoV-2 and Streptococcus pneumoniae
13 Jan 2021
T. Tsukamoto et al.

Human Tacheng Tick Virus 2 Infection, China, 2019
12 Jan 2021
Z. Dong et al.

Borrelia burgdorferi Sensu Stricto DNA in Field-Collected Haemaphysalis longicornis Ticks, Pennsylvania, United States
12 Jan 2021
K. J. Price et al.

Hepatitis C Virus Transmission Clusters in Public Health and Correctional Settings, Wisconsin, USA, 2016–2017
12 Jan 2021
K. R. Hochstatter et al.

Anopheles stephensi Mosquitoes as Vectors of Plasmodium vivax and falciparum, Horn of Africa, 2019
12 Jan 2021
F. G. Tadesse et al.

Estimating Transmission Parameters for COVID-19 Clusters by Using Symptom Onset Data, Singapore, January–April 2020
12 Jan 2021
S. Ng et al.

COVID-19 Outbreak in a Large Penitentiary Complex, April–June 2020, Brazil
12 Jan 2021
F. A. Gouvea-Reis et al.

Plasmodium cynomolgi Co-infections among Symptomatic Malaria Patients, Thailand
12 Jan 2021
C. Putaporntip et al.

European Journal of Clinical Microbiology & Infectious Diseases

Characteristics of the vaginal microbiomes in prepubertal girls with and without vulvovaginitis
16 Jan 2021
Abstract The present study focused on the characteristics of the vaginal microbiomes in prepubertal girls with and without vulvovaginitis. We collected 24 vaginal samples and 16 fecal samples from 10 girls aged 3–9 years with vulvovaginitis and 16 healthy girls of the same age.

Clinical characteristics of re-hospitalized COVID-19 patients with recurrent positive SARS-CoV-2 RNA: a retrospective study
15 Jan 2021
Abstract At present, it has been noticed that some patients recovered from COVID-19 present a recurrent positive RNA test of SARS-CoV-2 (severe acute respiratory syndrome coronavirus 2) after being discharged from hospitals. The purpose of the current study was to characterize the clinical features of re-hospitalized patients with recurrent SARS-CoV-2 positive results.

Retrospective study of group A Streptococcus oropharyngeal infection diagnosis using a rapid antigenic detection test in a paediatric population from the central region of Portugal
15 Jan 2021
Abstract Group A Streptococcus (GAS) is one of the most important agents of oropharyngeal infection. To avoid unnecessary antibiotic prescription, it is recommended the confirmation of GAS infection in pharyngeal swabs using culture or rapid antigen detection test (RADT).

C-reactive protein and the neonatal early-onset sepsis calculator for the diagnosis of neonatal sepsis
14 Jan 2021
Abstract Our aim was to evaluate the utility of the neonatal early-onset sepsis risk calculator (NEOSC) to the utility of C-reactive protein (CRP) for diagnosing neonatal EOS. This retrospective study reviewed the records of neonates who underwent sepsis workups due to equivocal symptoms and compared their CRP values to the calculator’s recommendations and their cultures.

A novel approach to managing COVID-19 patients: results of lopinavir plus doxycycline cohort—authors’ reply
13 Jan 2021
Applicability and performance of EUCAST’s rapid antimicrobial susceptibility testing (RAST) on primarily sterile body fluids in blood culture bottles in laboratory routine with total lab automation
12 Jan 2021
Abstract Optimisation of microbiological diagnostics in primarily sterile body fluids is required. Our objective was to apply EUCAST’s RAST on primarily sterile body fluids in blood culture bottles with total lab automation (TLA) and to compare results to our reference method Vitek2 in order to report susceptibility results earlier.

A case of infective endocarditis caused by Arthrobacter woluwensis
11 Jan 2021
Abstract Corynebacteria are rare causative agents of infective endocarditis. This is a reported case of a destructive aorto-mitral infective endocarditis caused by Arthrobacter woluwensis. Microbial identification was achieved by 16S rRNA polymerase chain reaction on valve tissue samples. Outcome was favorable after surgical valve replacement and 4-week antibiotic treatment.

Negligible risk of zoonotic anisakid nematodes in farmed fish from European mariculture, 2016 to 2018
14 Jan 2021
Background The increasing demand for raw or undercooked fish products, supplied by both aquaculture and fisheries, raises concerns about the transmission risk to humans of zoonotic fish parasites. This has led to the current European Union (EU) Regulation No 1276/2011 amending Annex III of Regulation (EC) No 853/2004 and mandating a freezing treatment of such products.

Real-time monitoring shows substantial excess all-cause mortality during second wave of COVID-19 in Europe, October to December 2020
14 Jan 2021
The European monitoring of excess mortality for public health action (EuroMOMO) network monitors weekly excess all-cause mortality in 27 European countries or subnational areas. During the first wave of the coronavirus disease (COVID-19) pandemic in Europe in spring 2020, several countries experienced extraordinarily high levels of excess mortality.

Improving tuberculosis surveillance by detecting international transmission using publicly available whole genome sequencing data
14 Jan 2021
Introduction Improving the surveillance of tuberculosis (TB) is especially important for multidrug-resistant (MDR) and extensively drug-resistant (XDR) TB. The large amount of publicly available whole genome sequencing (WGS) data for TB gives us the chance to re-use data and to perform additional analyses at a large scale.

Hepatology

Dual Agonist of Farnesoid X Receptor and G Protein-coupled Receptor TGR5 Inhibits Hepatitis B Virus Infection in Vitro and in Vivo
12 Jan 2021
Hepatology, Accepted Article.

Infection

Concurrent cavitary pulmonary tuberculosis and COVID-19 pneumonia with in vitro immune cell anergy
17 Jan 2021
Abstract Tuberculosis (TB) is top infectious disease killer caused by a single organism responsible for 1.5 million deaths in 2018. Both COVID-19 and the pandemic response are risking to affect control measures for TB and continuity of essential services for people affected by this infection in western countries and even more in developing countries.

International Journal of Medical Microbiology

Editorial Board
12 Jan 2021
Publication date: January 2021Source: International Journal of Medical Microbiology, Volume 311, Issue 1Author(s):

Infection Control & Hospital Epidemiology - FirstView Article

An eight-year multicenter study on short-term peripheral intravenous catheter–related bloodstream infection rates in 100 intensive care units of 9 countries in Latin America: Argentina, Brazil, Colombia, Costa Rica, Dominican Republic, Ecuador, Mexico, Panama, and Venezuela. Findings of the International Nosocomial Infection Control Consortium (INICC)
14 Jan 2021
Published online by Cambridge University Press:
Timing and route of contamination of hospitalized patient rooms with healthcare-associated pathogens
12 Jan 2021
Published online by Cambridge University Press:
Minimal impact of selective susceptibility reporting on the use of piperacillin-tazobactam for Escherichia coli and Klebsiella bacteremia
11 Jan 2021
Published online by Cambridge University Press:

Subglottic suction frequency and adverse ventilator-associated events during critical illness
11 Jan 2021
Published online by Cambridge University Press:

Local, state and federal face mask mandates during the COVID-19 pandemic
05 Jan 2021
Published online by Cambridge University Press:

A multidrug-resistant Klebsiella pneumoniae outbreak in a Peruvian hospital: Another threat from the COVID-19 pandemic
05 Jan 2021
Published online by Cambridge University Press:

International Journal of Infectious Diseases

Down Syndrome patients with COVID-19 pneumonia: A high-risk category for unfavourable outcome
15 Jan 2021
Publication date: February 2021Source: International Journal of Infectious Diseases, Volume 103Author(s): Serena Vita, Virginia Di Bari, Angela Corpolongo, Delia Goletti, Joaquin Espinosa, Sebastian Petracca, Fabrizio Palmieri, Emanuele Nicastr, Abbonizio, Chiara Agrati, Fabrizio Albarello, Gioia Amadei, Alessandra Amendola, Mario Antonini, Raffaella Barbaro, Barbara Bartolini, Martina Benigni,

Clinical evaluation of commercial automated SARS-CoV-2 immunoassays
15 Jan 2021
Publication date: February 2021Source: International Journal of Infectious Diseases, Volume 103Author(s): Maximilian Kittel, Maria Christina Muth, Ingrid Zahn, Heinz-Jürgen Roth, Margot Thiaucourt, Catharina Gerhards, Verena Haselmann, Michael Neumaier, Peter Findeisen

An umbrella review of systematic reviews with meta-analyses evaluating positive and negative outcomes of Hydroxychloroquine and chloroquine therapy
15 Jan 2021
Publication date: February 2021Source: International Journal of Infectious Diseases, Volume 103Author(s): Stefano Celotto, Nicola Veronese, Mario Barbagallo, Francesca Ometto, Lee Smith, Shahina Pardhan, Yvonne Barnett, Petre Cristian Ilie, Pınar Soysal, Erik Lagolio, Peter Konstantin Kurotschka, Roberto Tonelli, Jacopo Demurta

Effectiveness of neuraminidase inhibitors to prevent mortality in patients with laboratory-confirmed avian influenza A H7N9
15 Jan 2021
Publication date: February 2021Source: International Journal of Infectious Diseases, Volume 103Author(s): Wei Cheng, Anqi Pan, Stephen L. Rathbun, Yang Ge, Qian Xiao, Leonardo Martinez, Feng Ling, Shelan Liu, Xiaoxiao Wang, Zhao Yu, Mark H. Ebell, Changwei Li, Andreas Handel, Enfu Chen, Ye Shen

Seroprevalence of West Nile Virus among Healthy Blood Donors from Different National Populations Residing in Qatar
14 Jan 2021

Tocilizumab in the treatment of critical COVID-19 pneumonia: A retrospective cohort study of mechanically ventilated patients
Response to “Early hydroxychloroquine but not chloroquine use reduces ICU admission in COVID-19 patients”

Diversity and expression of Plasmodium falciparum var gene in severe and mild malaria cases from Central India

Severe type 2 leprosy reaction with COVID-19 with a favourable outcome despite continued use of corticosteroids and methotrexate and a hypothesis on the possible immunological consequences

Impact of reproduction number on multiwave spreading dynamics of COVID-19 with temporary immunity: a mathematical model

Sequence analysis of Indian SARS-CoV-2 isolates shows a stronger interaction of mutated receptor binding domain with ACE2 receptor

Simultaneous detection and differentiation of SARS-CoV-2, influenza A virus and influenza B virus by one-step quadruplex real-time RT-PCR in patients with clinical manifestations

Institut Pasteur International Network’s efforts to guide control measures against the coronavirus disease 2019 (COVID-19) epidemic among healthcare workers in Africa

Genghis Khan’s death (AD 1227): an unsolvable riddle or simply a pandemic disease?
Splenic volume on computed tomography scans is associated with mortality in patients with sepsis
12 Jan 2021
Publication date: Available online 11 January 2021Source: International Journal of Infectious DiseasesAuthor(s): Yumi Mitsuyama, Kentaro Shimizu, Atsushi Hirayama, Sho Komukai, Tetsuhisa Kitamura, Hiroshi Ogura, Takeshi Shimazu

Dynamics of HIV-1 quasispecies diversity of participants under long-term antiretroviral therapy based on intra-host single-nucleotide variations
12 Jan 2021
Publication date: Available online 12 January 2021Source: International Journal of Infectious DiseasesAuthor(s): Yuanyuan Zhang, Qianqian Yin, Ming Ni, Tingting Liu, Chen Wang, Chuan Song, Lingjie Liao, Hui Xing, Shibo Jiang, Yiming Shao, Chen Chen, Liying Ma

The epidemiological and radiographical characteristics of asymptomatic infections with the novel coronavirus (COVID-19): A systematic review and meta-analysis
12 Jan 2021
Publication date: Available online 12 January 2021Source: International Journal of Infectious DiseasesAuthor(s): Can Chen, Changtai Zhu, Danying Yan, Hongchao Liu, Danfeng Li, Yuqing Zhou, Xiaofang Fu, Jie Wu, Cheng Ding, Guo Tian, Lei Lan, Xiaoxiao Liu, Chenyang Huang, Robert Hecht, Lanjuan Li, Shiguang Yang

Clinical characteristics and outcomes of patients hospitalized with COVID-19 in Brazil: results from the Brazilian COVID-19 Registry
12 Jan 2021

Antibiotics and Antimicrobial Resistance in the COVID-19 Era
11 Jan 2021
Publication date: Available online 9 January 2021Source: International Journal of Infectious DiseasesAuthor(s): Mentor Ali Ber Lucien, Michael F. Canarie, Paul E. Kilgore, Gladzdin Jean-Denis, Natael Fénélon, Manise Pierre, Mauricio Cerpa, Gerard A. Joseph, Gina Maki, Marcus J. Zervos, Patrick Dely, Jacques Boncy, Hatim Sati, Ana del Rio, Pilar Ramon-Pardo

Uptake of antiretroviral treatment and viral suppression among men who have sex with men and transgender women in sub-Saharan Africa in an observational cohort study: HPTN 075
11 Jan 2021

High Sensitivity C-Reaction Protein in HIV care: tuberculosis diagnosis and short-term mortality in a cohort of Kenyan HIV patients in the DREAM program
11 Jan 2021
Publication date: Available online 10 January 2021Source: International Journal of Infectious DiseasesAuthor(s): Fausto Ciccacci, Benjamin Welu, Harrison Ndoi, Irene Karea, Stefano Orlando, Davide Brambilla, Kenneth Munene, Piero Giglio, Brenda Opanga, Alban Ronoh, Scolastica Mukwanjagi, Raymond Mwiraria, Giovanni Guidotti, Maria Cristina Marazzi

Journal of Clinical Virology

Clinical Performance of The GenMark Dx ePlex Respiratory Pathogen Panels for Upper and Lower Respiratory Tract Infections
Gels from hand sanitisers may be deposited on inanimate surfaces: what is the effect on viral viability and transmission if these surfaces are subsequently contaminated with SARS-CoV-2 viruses?

Together with alcohol for disinfection, hand sanitisers may contain a gel as a skin emollient. The alcohol evaporates in 30-60 seconds but the gel will remain. Gels can be sticky to touch. Possibly, some gel may be deposited on inanimate surfaces, as a result of the surfaces being touched by hands with gel on them.

COVID-19 outbreaks in care homes during the first wave: Are Care Quality Commission ratings a good predictor of at risk homes?

COVID-19 placed a significant burden on the care home population during the first wave. Care Quality Commission’s care quality ratings are given to all English care homes and could be used to identify whether care homes are at risk of COVID-19 outbreaks.

Dismantling myths on the airborne transmission of severe acute respiratory syndrome coronavirus (SARS-CoV-2)

The Covid-19 pandemic has caused untold disruption and enhanced mortality rates around the world. Understanding the mechanisms for transmission of SARS-CoV-2 is key to preventing further spread but there is confusion over the meaning of “airborne” whenever transmission is discussed.

COVID-19 testing in outbreak free care homes: What are the public health benefits?

COVID-19 care home outbreaks represent a significant proportion of COVID-19 morbidity and mortality in the UK. National testing initially focused on symptomatic care home residents, before extending to asymptomatic cohorts.

Introduction of the South African SARS-CoV-2 variant 501Y.V2 into the UK

The current surge of COVID-19 cases across the UK is now thought to be mostly driven by a new, highly transmissible SARS-CoV-2 variant (B.1.1.7/ VUI-202012/01),1 but another highly transmissible SARS-CoV-2 variant (B.1.351/501Y.V2) from South Africa has already been detected in the UK population [https://cov-lineages.org/global_report.html].

Prior COVID-19 significantly reduces the risk of subsequent infection, but reinfections are seen after eight months

As the second wave of the SARS-CoV-2 Pandemic takes hold, there is still much that is not certain, in particular the degree and duration of protective immunity following infection in the first wave. Hanrath and colleagues1 have shown that there were no reinfections identified in a cohort of 1,038 previously infected healthcare workers followed for approximately seven months after the first wave.
Acute Toxicity is a Dose-limiting Factor for Intravenous Polymyxin B: A Safety and Pharmacokinetic Study in Healthy Chinese Subjects
12 Jan 2021
Multidrug-resistant Gram-negative pathogens cause serious nosocomial infections and present a significant global medical challenge. Limited therapeutic options in clinics have forced clinicians to use the polymyxins (i.e. polymyxin B and colistin) as a last-line class of antibiotics against extensively drug-resistant Klebsiella pneumoniae, Acinetobacter baumannii and Pseudomonas aeruginosa. A multicentre analysis of Clostridium difficile in persons with Cystic Fibrosis demonstrates that carriage may be transient and highly variable with respect to strain and level.

11 Jan 2021
Clostridium difficile has been reported to occur in the gastrointestinal tract of 50% of Cystic Fibrosis (CF) subjects, however, clinical C. difficile infection (CDI) is a rare occurrence in this cohort despite the presence of toxigenic and hypervirulent ribotypes. Here, we present the first longitudinal, multicentre analysis of C. difficile prevalence among adult CF subjects.

11 Jan 2021
The battle against COVID-19 does not seem to end with screening and management of acute disease. The medium and long-term health consequences experienced by survivors of COVID-19, if any, are currently unknown[1]

Journal of Infection Prevention
Are statins beneficial for the treatment of SARS-CoV-2 infection?
13 Jan 2021
Journal of Infection Prevention, Ahead of Print. Novel coronavirus disease 2019 (COVID-19) is a highly infectious, rapidly spreading viral disease and has emerged as a public health emergency of international concern. As of this time, there are no specific antiviral therapies available for the treatment of COVID-19

Assessing the impact of a new central venous access device training program for nurses: A quasi-experimental evaluation study
13 Jan 2021
Journal of Infection Prevention, Ahead of Print. Background: Central venous access devices (CVAD) are widely used for both long- and short-term purposes within healthcare and are suitable for both hospital and community management. Training is essential in the prevention of complications such as infection

Prevalence of multidrug-resistant bacteria colonisation among asylum seekers in western Switzerland
13 Jan 2021
Journal of Infection Prevention, Ahead of Print. The recent increase of migration to Europe represents a risk of increased the prevalence of multidrug-resistant (MDR) bacteria. We conducted a cross-sectional study among asylum seekers admitted at two hospitals in Switzerland. Of the 59 patients included, 9 (14%) were colonised by a MDR bacteria, including 5 (8

Journal of Microbiology, Immunology and Infection
cgMLST@Taiwan: A web service platform for Vibrio cholerae cgMLST profiling and global strain tracking
15 Jan 2021
Publication date: Available online 15 January 2021Source: Journal of Microbiology, Immunology and InfectionAuthor(s): Yi-Syong Chen, Yueh-Hua Tu, Bo-Han Chen, Yen-Yi Liu, Yu-Ping Hong, Ru-Hsiou Teng, You-Wun Wang, Chien-Shun Chio
Cytomegalovirus management after allogeneic hematopoietic stem cell transplantation: a mini-review
14 Jan 2021
Publication date: Available online 13 January 2021
Source: Journal of Microbiology, Immunology and Infection
Author(s): Chieh-Lin Jerry Teng, Po-Nan Wang, Yee-Chun Chen, Bor-Sheng Ko

Emergence of concurrent levofloxacin- and trimethoprim/sulfamethoxazole-resistant Stenotrophomonas maltophilia: risk factors and antimicrobial sensitivity pattern analysis from a single medical center in Taiwan
14 Jan 2021
Publication date: Available online 13 January 2021
Source: Journal of Microbiology, Immunology and Infection
Author(s): Rui-Xin Wu, Ching-Mei Yu, Sung-Teng Hsu, Ching Hsun Wang

A case of methicillin resistant Staphylococcus aureus necrotizing pneumonia with pulmonary cryptococcosis
13 Jan 2021
Publication date: Available online 13 January 2021
Source: Journal of Microbiology, Immunology and Infection
Author(s): Jiunn-Sheng Wu, Ming-Yieh Peng, Chan-Yen Kuo, Jiann-Der Wu

Cancer as an Infectious Disease: A Different Treatment Alternative Using a Combination of Tigecycline and Pyrvinium Pamoate – an Example of Breast Cancer
13 Jan 2021
Publication date: Available online 13 January 2021
Source: Journal of Microbiology, Immunology and Infection
Author(s): Shu-Wei Huang, Ming-Tsun Sun, Wen-Sen Lee, Ying-shih Su, Yi-Tzu Lee, Ming-Hsien Chiang, Yung-Chih Wang, Ya-Sung Yang, Shian-Chiuan Tzeng, Yu-Min Huang, Feng-Huei Lin
A Founder Effect Led Early SARS-CoV-2 Transmission in Spain [Genetic Diversity and Evolution]
13 Jan 2021
Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) whole-genome analysis has identified five large clades worldwide which emerged in 2019 (19A and 19B) and in 2020 (20A, 20B, and 20C). This study aimed to analyze the diffusion of SARS-CoV-2 in Spain using maximum-likelihood phylogenetic and Bayesian phylodynamic analyses.

Characterization of Hepatitis B Precore/Core-Related Antigens [Genome Replication and Regulation of Viral Gene Expression]
13 Jan 2021
Current therapies rarely cure chronic hepatitis B virus (HBV) infection due to the persistence of the viral episome, the covalently closed circular DNA (cccDNA), in hepatocytes. The hepatitis B virus core-related antigen (HBcrAg), a mixture of the viral precore/core gene products, has emerged as one potential marker to monitor the levels and activities of intrahepatic cccDNA.

Unexpected Discovery and Expression of Amphibian Class II Endogenous Retroviruses [Genetic Diversity and Evolution]
13 Jan 2021
Endogenous retroviruses (ERVs) are the remnants of past retroviral infections. Fossil records of class II retroviruses have been discovered in a range of vertebrates, with the exception of amphibians, which are known only to possess class I and class III-like ERVs. Through genomic mining of all available amphibian genomes, we identified, for the first time, class II ERVs in amphibians.

Changes in SARS-CoV-2 Spike versus Nucleoprotein Antibody Responses Impact the Estimates of Infections in Population-Based Seroprevalence Studies [Pathogenesis and Immunity]
13 Jan 2021
Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)-specific antibody responses to the spike (S) protein monomer, S protein native trimeric form, or the nucleocapsid (N) proteins were evaluated in cohorts of individuals with acute infection (n = 93) and in individuals enrolled in a postinfection seroprevalence population study (n = 578) in Switzerland.

Chikungunya Virus Replication Rate Determines the Capacity of Crossing Tissue Barriers in Mosquitoes [Virus-Cell Interactions]
13 Jan 2021
Chikungunya virus (CHIKV) is a reemerging and rapidly spreading pathogen transmitted by mosquitoes. The emergence of new epidemic variants of the virus is associated with genetic evolutionary traits, including duplication of repeated RNA elements in the 3’ untranslated region (UTR) that seemingly favor transmission by mosquitoes.

The SARS-CoV-2 Conserved Macrodomain Is a Mono-ADP-Ribosylhydrolase [Structure and Assembly]
13 Jan 2021
Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and other SARS-related CoVs encode 3 tandem macrodomains within nonstructural protein 3 (nsp3). The first macrodomain, Mac1, is conserved throughout CoVs and binds to and hydrolyzes mono-ADP-ribose (MAR) from target proteins.

TRAF6 and TAK1 Contribute to SAMHD1-Mediated Negative Regulation of NF-κB Signaling [Virus-Cell Interactions]
13 Jan 2021
Sterile alpha motif and HD domain-containing protein 1 (SAMHD1) restricts HIV-1 replication by limiting the intracellular deoxyxynucleoside triphosphate (dNTP) pool. SAMHD1 also suppresses the activation of NF-B in response to viral infections and inflammatory stimuli. However, the mechanisms by which SAMHD1 negatively regulates this pathway remain unclear.

Effective Inhibition of SARS-CoV-2 Entry by Heparin and Enoxaparin Derivatives [Vaccines and Antiviral Agents]
13 Jan 2021
Severe acute respiratory syndrome-related coronavirus 2 (SARS-CoV-2) has caused a pandemic of historic proportions and continues to spread globally, with enormous consequences to human health.
Currently there is no vaccine, effective therapeutic, or prophylactic. As with other betacoronaviruses, attachment and entry of SARS-CoV-2 are mediated by the spike glycoprotein (SGP).

**Characterization of Localization and Export Signals of Bovine Torovirus Nucleocapsid Protein Responsible for Extensive Nuclear and Nucleolar Accumulation and Their Importance for Virus Growth [Structure and Assembly]**

Torovirus (ToV) has recently been classified into the new family Tobaniviridae, although historically, it belonged to the Coronavirus (CoV) family. The nucleocapsid (N) proteins of CoVs are predominantly localized in the cytoplasm, where the viruses replicate, but in some cases the proteins are partially located in the nucleolus.

**The Inflammasome Components NLRP3 and ASC Act in Concert with IRGM To Rearrange the Golgi Apparatus during Hepatitis C Virus Infection [Virus-Cell Interactions]**

Hepatitis C virus (HCV) infection triggers Golgi fragmentation through the Golgi-resident protein immunity-related GTPase M (IRGM). Here, we report the roles of NLRP3 (NOD-, LRR- and pyrin domain-containing protein 3) and ASC (apoptosis-associated speck-like protein containing a caspase activation and recruitment domain [CARD]), two inflammasome components, in the initial events leading to this.

**Mareks Disease Virus Requires Both Copies of the Inverted Repeat Regions for Efficient In Vivo Replication and Pathogenesis [Pathogenesis and Immunity]**

Marek’s disease virus (MDV) is an oncogenic alphaherpesvirus of chickens. The MDV genome consists of two unique regions that are both flanked by inverted repeat regions. These repeats harbor several genes involved in virus replication and pathogenesis, but it remains unclear why MDV and other herpesviruses harbor these large sequence duplications.

**Novel Oncolytic Herpes Simplex Virus 1 VC2 Promotes Long-Lasting, Systemic Anti-melanoma Tumor Immune Responses and Increased Survival in an Immunocompetent B16F10-Derived Mouse Melanoma Model [Cellular Response to Infection]**

Oncolytic virotherapy (OVT) is now understood to be an immunotherapy that uses viral infection to liberate tumor antigens in an immunogenic context to promote the development of antitumor immune responses. The only currently FDA-approved oncolytic virotherapy, T-Vec, is a modified type 1 herpes simplex virus (HSV-1).

**Dissecting Herpes Simplex Virus 1-Induced Host Shutoff at the RNA Level [Cellular Response to Infection]**

Herpes simplex virus 1 (HSV-1) induces a profound host shutoff during lytic infection. The virion host shutoff (vhs) protein plays a key role in this process by efficiently cleaving host and viral mRNAs. Furthermore, the onset of viral DNA replication is accompanied by a rapid decline in host transcriptional activity.

**Human Noroviruses Attach to Intestinal Tissues of a Broad Range of Animal Species [Virus-Cell Interactions]**

Human noroviruses are the most common nonbacterial cause of gastroenteritis outbreaks, with new variants and genotypes frequently emerging. The origin of these new viruses is unknown; however, animals have been proposed as a potential source, as human noroviruses have been detected in animal species.

**Human Cytomegalovirus Interactions with the Basement Membrane Protein Nidogen 1 [Virus-Cell Interactions]**

Human cytomegalovirus (CMV) interactions with the basement membrane protein nidogen 1 (NID1) are critical for the establishment of persistent infections.
In 2000, we reported that human cytomegalovirus (HCMV) induced specific damage on chromosome 1. The capacity of the virus to induce DNA breaks indicated potent interaction between viral proteins and these loci. We have fine mapped the 1q42 breaksite. Transcriptional analysis of genes encoded in close proximity revealed virus-induced downregulation of a single gene, nidogen 1 (NID1).

A Novel Live Attenuated Respiratory Syncytial Virus Vaccine Candidate with Mutations in the L Protein SAM Binding Site and the G Protein Cleavage Site Is Protective in Cotton Rats and a Rhesus Macaque [Vaccines and Antiviral Agents]

13 Jan 2021
Respiratory syncytial virus (RSV) is the leading cause of acute lower respiratory tract infections in children of <5 years of age worldwide, infecting the majority of infants in their first year of life. Despite the widespread impact of this virus, no vaccine is currently available.

cDNA-Derived RNA Phage Assembly Reveals Critical Residues in the Maturation Protein of the Pseudomonas aeruginosa Leviphage PP7 [Genome Replication and Regulation of Viral Gene Expression]

13 Jan 2021
PP7 is a leviphage, with a single-stranded RNA genome, that infects Pseudomonas aeruginosa PAO1. A reverse genetic system for PP7 was previously created by using reverse-transcribed cDNA (PP7O) from a virion-derived RNA genome. Here, we have found that the PP7O cDNA contained 20 nucleotide differences from the PP7 genome sequence deposited in the database.

CD300lf Conditional Knockout Mouse Reveals Strain-Specific Cellular Tropism of Murine Norovirus [Virus-Cell Interactions]

13 Jan 2021
Noroviruses are a leading cause of gastrointestinal infection in humans and mice. Understanding human norovirus (HuNoV) cell tropism has important implications for our understanding of viral pathogenesis. Murine norovirus (MNoV) is extensively used as a surrogate model for HuNoV. We previously identified CD300lf as the receptor for MNoV.

Systematic Assessment of Antiviral Potency, Breadth, and Synergy of Triple Broadly Neutralizing Antibody Combinations against Simian-Human Immunodeficiency Viruses [Vaccines and Antiviral Agents]

13 Jan 2021
Daily burden and clinical toxicities associated with antiretroviral therapy (ART) emphasize the need for alternative strategies to induce long-term human immunodeficiency virus (HIV) remission upon ART cessation.

Virome of Bat Guano from Nine Northern California Roosts [Genetic Diversity and Evolution]

13 Jan 2021
Bats are hosts to a large variety of viruses, including many capable of cross-species transmissions to other mammals, including humans. We characterized the virome in guano from five common bat species in 9 Northern California roosts and from a pool of 5 individual bats.

Deep Gene Sequence Cluster Analyses of Multi-Virus-Infected Mucosal Tissue Reveal Enhanced Transmission of Acute HIV-1 [Pathogenesis and Immunity]

13 Jan 2021
Exposure of the genital mucosa to a genetically diverse viral swarm from the donor HIV-1 can result in breakthrough and systemic infection by a single transmitted/founder (TF) virus in the recipient. The highly diverse HIV-1 envelope (Env) in this inoculating viral swarm may have a critical role in transmission and subsequent immune response.

Influenza Virus Neuraminidase Engages CD83 and Promotes Pulmonary Injury [Pathogenesis and Immunity]

13 Jan 2021
Influenza A viruses cause severe respiratory illnesses in humans and animals. Overreaction of the innate immune response to influenza virus infection results in hypercytokinemia, which is responsible for mortality and morbidity. However, the mechanism by which influenza induces hypercytokinemia is not fully understood.
Enterovirus D68 Protease 2Apro Targets TRAF3 To Subvert Host Innate Immune Responses [Virus-Cell Interactions]
13 Jan 2021
Human enterovirus D68 (EV-D68) has received considerable attention recently as a global reemergent pathogen because it causes severe respiratory tract infections and acute flaccid myelitis (AFM). The nonstructural protein 2A protease (2Apro) of EVs, which functions in the cleavage of host proteins, comprises a pivotal part of the viral immune evasion process.

Capsid Structure of Leishmania RNA Virus 1 [Structure and Assembly]
13 Jan 2021
Leishmania parasites cause a variety of symptoms, including mucocutaneous leishmaniasis, which results in the destruction of the mucous membranes of the nose, mouth, and throat. The species of Leishmania carrying Leishmania RNA virus 1 (LRV1), from the family Totiviridae, are more likely to cause severe disease and are less sensitive to treatment than those that do not contain the virus.

N-Linked Glycosylation Plays an Important Role in Budding of Neuraminidase Protein and Virulence of Influenza Viruses [Structure and Assembly]
13 Jan 2021
Neuraminidase (NA) has multiple functions in the life cycle of influenza virus, especially in the late stage of virus replication. Both of hemagglutinin (HA) and NA are highly glycosylated proteins. N-linked glycosylation (NLG) of HA has been reported to contribute to immune escape and virulence of influenza viruses. However, the function of NLG of NA remains largely unclear.

Human Papillomavirus 16 L2 Recruits both Retromer and Retriever Complexes during Retrograde Trafficking of the Viral Genome to the Cell Nucleus [Virus-Cell Interactions]
13 Jan 2021
Previous studies have identified an interaction between the human papillomavirus (HPV) L2 minor capsid protein and sorting nexins 17 and 27 (SNX17 and SNX27) during virus infection. Further studies show the involvement of both retromer and retriever complexes in this process since knockdown of proteins from either complex impairs infection.

CD34+ Hematopoietic Progenitor Cell Subsets Exhibit Differential Ability To Maintain Human Cytomegalovirus Latency and Persistence [Virus-Cell Interactions]
13 Jan 2021
In human cytomegalovirus (HCMV)-seropositive patients, CD34+ hematopoietic progenitor cells (HPCs) provide an important source of latent virus that reactivates following cellular differentiation into tissue macrophages. Multiple groups have used primary CD34+ HPCs to investigate mechanisms of viral latency.

The Vaccinia Virus B12 Pseudokinase Represses Viral Replication via Interaction with the Cellular Kinase VRK1 and Activation of the Antiviral Effector BAF [Virus-Cell Interactions]
13 Jan 2021
The poxviral B1 and B12 proteins are a homologous kinase-pseudokinase pair, which modulates a shared host pathway governing viral DNA replication and antiviral defense. While the molecular mechanisms involved are incompletely understood, B1 and B12 seem to intersect with signaling processes mediated by their cellular homologs termed the vaccinia-related kinases (VRKs).

The Decision To Publish Gutierrez-Alvarez et al., "Middle East Respiratory Syndrome Coronavirus Gene 5 Modulates Pathogenesis in Mice" [Editorial]
13 Jan 2021

A Replication-Defective Influenza Virus Harboring H5 and H7 Hemagglutinins Provides Protection against H5N1 and H7N9 Infection in Mice [Vaccines and Antiviral Agents]
13 Jan 2021
The recent highly pathogenic avian influenza (HPAI) H5N1 and H7N9 viruses have caused hundreds of human infections with high mortality rates. Although H5N1 and H7N9 viruses have been limited mainly to avian species, there is high potential for these viruses to acquire human-to-human transmission and initiate a pandemic.
Non-steroidal anti-inflammatory drugs dampen the cytokine and antibody response to SARS-CoV-2 infection [Pathogenesis and Immunity]

Identifying drugs that regulate severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection and its symptoms has been a pressing area of investigation during the coronavirus disease 2019 (COVID-19) pandemic.

Experimental Reptarenavirus Infection of Boa constrictor and Python regius [Pathogenesis and Immunity]

Boid inclusion body disease (BIBD) causes losses in captive snake populations globally. BIBD is associated with the formation of cytoplasmic inclusion bodies (IBs), which mainly comprise reptarenavirus nucleoprotein (NP). In 2017, BIBD was reproduced by cardiac injection of boas and pythons with reptarenaviruses, thus demonstrating a causal link between reptarenavirus infection and the disease.

Development of a Simian RNA Polymerase I Promoter-Driven Reverse Genetics for the Rescue of Recombinant Rift Valley Fever Virus from Vero Cells [Vaccines and Antiviral Agents]

Rift Valley fever (RVF), which has been designated as a priority disease by the World Health Organization (WHO), is one of the most pathogenic zoonotic diseases endemic to Africa and the Arabian Peninsula.

A Highly Conserved Circular RNA circRasGEF1B Enhances Antiviral Immunity by Regulating miR-21-3p/MITA Pathway in Lower Vertebrates [Virus-Cell Interactions]

Circular RNAs (circRNAs) represent a class of widespread, diverse, and covalently closed circRNAs that function as microRNA (miRNA) sponges and crucial regulators of gene expression in mammals. However, the regulation and function of circRNAs in lower vertebrates are still unknown.

Cross-Reactive anti-Nucleocapsid Protein Immunity against Crimean-Congo Hemorrhagic Fever Virus and Hazara Virus in Multiple Species [Pathogenesis and Immunity]

The World Health Organization estimates that there may be three billion people at risk of infection by Crimean-Congo Hemorrhagic Fever Virus (CCHFV), a highly lethal, emerging orthonairovirus carried by ticks. On the other hand, the closely related Hazara virus (HAZV), a member of the same serogroup, has not been reported as a pathogen for humans.

The immunological impact of adenovirus early genes on vaccine-induced responses in mice and nonhuman primates [Vaccines and Antiviral Agents]

Adenovirus (Ad) is being explored for use in the prevention and treatment of a variety of infectious diseases and cancers. Ad with a deletion in early region 3 (E3) provokes a stronger immune response than Ad with deletions in early regions 1 and E3 (E1/E3).

Possible Action of Transition Divalent Metal Ions at the Inter-Pentameric Interface of Inactivated Foot-and-Mouth Disease Virus Provide A Simple but Effective Approach to Enhance Stability [Vaccines and Antiviral Agents]
The structural instability of inactivated foot-and-mouth disease virus (FMDV) hinders the development of vaccine industry. Here we found that some transition metal ions like Cu²⁺ and Ni²⁺ could specifically bind to FMDV capsids at capacities about 7089 and 3448 metal ions per capsid, respectively.

A Potent anti-Simian Immunodeficiency Virus Neutralizing Antibody Induction Associated with a Germline Immunoglobulin Gene Polymorphism in Rhesus Macaques [Pathogenesis and Immunity]
13 Jan 2021
Virus infection induces B cells with a wide variety of B cell receptor (BCR) repertoires. Patterns of induced BCR repertoires are different in individuals, while the underlying mechanism causing this difference remains largely unclear. In particular, the impact of germline BCR immunoglobulin (Ig) gene polymorphism on B cell/antibody induction has not fully been determined.

The Intact Non-Inducible Latent HIV-1 Reservoir is Established In an In Vitro Primary TCM Cell Model of Latency [Genome Replication and Regulation of Viral Gene Expression]
13 Jan 2021
Abstract: The establishment of HIV-1 latency has hindered an HIV-1 cure. "Shock and Kill" strategies to target this reservoir aim to induce the latent provirus with latency reversing agents (LRAs). However, recent studies have shown that the majority of the intact HIV-1 viral reservoir found in ART-suppressed HIV infected individuals is not inducible.

Adeno-associated Virus (AAV) Capsid Chimeras with Enhanced Infectivity Reveal a Core Element in the AAV Genome Critical for both Cell Transduction and Capsid Assembly [Gene Delivery]
13 Jan 2021
Adeno-associated viruses (AAV) have attracted significant attention in the field of gene and cell therapy due to highly effective delivery of therapeutic genes into human cells. The ability to generate recombinant AAV vectors composed of unique or substituted protein sequences has led to the development of capsid variants with improved therapeutic properties.

Mechanisms and consequences of Newcastle disease virus W protein subcellular localization in the nucleus or mitochondria [Virus-Cell Interactions]
13 Jan 2021
We previously demonstrated that W proteins from different Newcastle disease virus (NDV) strains localize in either the cytoplasm (e.g., NDV strain SG10) or the nucleus (e.g., NDV strain La Sota). To clarify the mechanism behind these cell localization differences, we overexpressed W protein derived from four different NDV strains or W protein associated with different cellular regions in Vero.

GRK2 mediates (beta)-arrestin interactions with 5-HT2 receptors for JC polyomavirus endocytosis [Virus-Cell Interactions]
13 Jan 2021
JC polyomavirus (JCPyV) infects the majority of the population, establishing a lifelong, asymptomatic infection in the kidney of healthy individuals. People that become severely immunocompromised may experience JCPyV reactivation, which can cause progressive multifocal leukoencephalopathy (PML), a neurodegenerative disease.

Consequences of Phosphorylation in a Mononegavirales Polymerase-Cofactor System [Genome Replication and Regulation of Viral Gene Expression]
13 Jan 2021
Vesicular stomatitis virus (VSV) is a member of the order Mononegavirales, which consists of viruses with a genome of nonsegmented negative-sense (NNS) RNA. Many insights into the molecular biology of NNS viruses were first made in VSV, which is often studied as a prototype for members of this order.

Generation and Characterization of recombinant SARS-CoV-2 expressing reporter genes [Virus-Cell Interactions]
11 Jan 2021
The emergence of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), the pathogen responsible of coronavirus disease 2019 (COVID-19), has devastated public health services and economies worldwide. Despite global efforts to contain the COVID-19 pandemic, SARS-CoV-2 is now
found in over 200 countries and has caused an upward death toll of over 1 million human lives as of November 2020

Microbiology and Molecular Biology Reviews: Current Issue

Extracellular Metabolism Sets the Table for Microbial Cross-Feeding [Review]
13 Jan 2021
The transfer of nutrients between cells, or cross-feeding, is a ubiquitous feature of microbial communities with emergent properties that influence our health and orchestrate global biogeochemical cycles. Cross-feeding inevitably involves the externalization of molecules. Some of these molecules directly serve as cross-fed nutrients, while others can facilitate cross-feeding.

Pseudomonas aeruginosa as a Model To Study Chemosensory Pathway Signaling [Review]
13 Jan 2021

Bacteria have evolved a variety of signal transduction mechanisms that generate different outputs in response to external stimuli. Chemosensory pathways are widespread in bacteria and are among the most complex signaling mechanisms, requiring the participation of at least six proteins.

P2RX7 at the Host-Pathogen Interface of Infectious Diseases [Review]
13 Jan 2021

The P2X7 receptor (P2RX7) is an important molecule that functions as a danger sensor, detecting extracellular nucleotides from injured cells and thus signaling an inflammatory program to nearby cells. It is expressed in immune cells and plays important roles in pathogen surveillance and cell-mediated responses to infectious organisms.

Morbidity and Mortality Weekly Report (MMWR)

EARLY RELEASE: Emergence of SARS-CoV-2 B.1.1.7 Lineage - United States, December 29, 2020-January 12, 2021
15 Jan 2021
This report describes SARS-CoV-2 variants of concern, including the B.1.1.7 variant, and modeling data indicating that B.1.1.7 has the potential to increase the U.S. pandemic trajectory in the coming months.

14 Jan 2021
This report describes the CDC Emergency Management Program activities.

Erratum: Vol. 69, No. 49
14 Jan 2021
MMWR erratum volume 69, issue 49

Cancer Screening Test Receipt - United States, 2018
14 Jan 2021
This report describes progress toward national cancer screening targets in 2018.

Assessment of Neonatal Abstinence Syndrome Surveillance - Pennsylvania, 2019
14 Jan 2021
This report describes neonatal abstinence syndrome surveillance efforts in Pennsylvania.

QuickStats: Percentage of Women Aged 22-44 Years Who Have Ever Cohabited with an Opposite-Sex Partner, by Education - National Survey of Family Growth, United States, 2006-2010 and 2015-2019
14 Jan 2021
This report describes the percentage of women aged 22-44 years who have ever cohabited with an opposite-sex partner.

EARLY RELEASE: COVID-19 Trends Among Persons Aged 0-24 Years - United States, March 1-December 12, 2020
13 Jan 2021

12 Jan 2021
This report describes earlier implementation of stringent mitigation policies by European countries and reported COVID-19 deaths through the end of June 2020.

Nature Reviews Microbiology - Current Issue

An arresting antitoxin
13 Jan 2021
Nature Reviews Microbiology, Published online: 13 January 2021; doi:10.1038/s41579-021-00512-z
This study provides evidence that an antisense RNA antitoxin is involved in persister cell formation by inhibiting transcription of a toxin and by inhibiting global translation.

Architecture of bacterial respiratory chains
12 Jan 2021
Nature Reviews Microbiology, Published online: 12 January 2021; doi:10.1038/s41579-020-00486-4
Bacteria have much more diverse and versatile respiratory chains than eukaryotes, enabling adaption to different environmental conditions. In this Review, Kaila and Wikström discuss the architecture, function and bioenergetics of modular bacterial respiratory chains and supercomplexes.

Emerging infections and the integrative environment-health sciences: the road ahead
11 Jan 2021
Nature Reviews Microbiology, Published online: 11 January 2021; doi:10.1038/s41579-021-00510-1
The integrative environment-health sciences including One Health, Conservation Medicine, EcoHealth and Planetary Health embody the transdisciplinary synthesis needed to understand the multitude of factors that underpin emerging infections and their management.

Population bottlenecks and founder effects: implications for mosquito-borne arboviral emergence
11 Jan 2021
Nature Reviews Microbiology, Published online: 11 January 2021; doi:10.1038/s41579-020-00482-8
In this Review, Weaver and colleagues discuss the role of genetic drift following population bottlenecks and founder effects in mosquito-borne arboviral evolution and spread, and the emergence of human disease, focusing on chikungunya virus and Zika virus.

New England Journal of Medicine - Current Issue

(A Little) Clarity on Convalescent Plasma for Covid-19
13 Jan 2021
New England Journal of Medicine, Ahead of Print.

Convalescent Plasma Antibody Levels and the Risk of Death from Covid-19
13 Jan 2021
New England Journal of Medicine, Ahead of Print.

Interim Results of a Phase 1–2a Trial of Ad26.COV2.S Covid-19 Vaccine
13 Jan 2021
New England Journal of Medicine, Ahead of Print.

Scandinavian Journal of Infectious Diseases: Table of Contents

Distant metastatic foci of infection in adult patients with diabetic foot – not as rare as we think?: case series and review of the literature
11 Jan 2021
The activity of ceftazidime/avibactam against carbapenem-resistant Pseudomonas aeruginosa
11 Jan 2021

Team-to-team transmission of COVID-19 in ice hockey games – a case series of players in Finnish ice hockey leagues
11 Jan 2021

Sexually Transmitted Infection Online First

Sexual health interventions delivered to participants by mobile technology: a systematic review and meta-analysis of randomised controlled trials
15 Jan 2021

Background The use of mobile technologies to prevent STIs is recognised as a promising approach worldwide; however, evidence has been inconclusive, and the field has developed rapidly. With about 1 million new STIs a day globally, up-to-date evidence is urgently needed.

Chemsex and diagnoses of syphilis, gonorrhoea and chlamydia among men who have sex with men in the UK: a multivariable prediction model using causal inference methodology
15 Jan 2021

Introduction In the last decade diagnoses of most STIs have risen among men who have sex with men (MSM). Although a significant proportion of this is likely due to increased STI screening, understanding the role of behavioural drivers remains critical.

Perceptions of an HIV self-testing intervention and its potential role in addressing the barriers to HIV testing among at-risk heterosexual men: a qualitative analysis
15 Jan 2021

Objectives Voluntary HIV testing rates are still low in several Asian countries including Singapore. HIV self-testing (HIVST) has the potential to increase testing, leading to earlier diagnosis and better prognosis. However, the views of at-risk individuals, especially heterosexual men (HSM), who are not coming forward for testing are still poorly understood.

Implementation of a national HIV pre-exposure prophylaxis service is associated with changes in characteristics of people with newly diagnosed HIV: a retrospective cohort study
13 Jan 2021

Objectives To review characteristics of individuals newly diagnosed with HIV following implementation of a national pre-exposure prophylaxis (PrEP) programme (comprehensive PrEP services, delivered in sexual health clinics) to inform future delivery and broader HIV prevention strategies.

Methods We extracted data from national HIV databases (July 2015–June 2018).

‘It’s literally giving them a solution in their hands: the views of young Australians towards patient-delivered partner therapy for treating chlamydia
13 Jan 2021

Objectives Patient-delivered partner therapy (PDPT) is a method for providing antibiotic treatment for the sexual partners of an index patient with an STI by means of a prescription or medication that the index patient gives to their sexual partner(s). Qualitative research regarding barriers and enablers to PDPT has largely focused on the views of healthcare providers.

Determinants associated with viable genital or rectal Chlamydia trachomatis bacterial load (FemCure)
13 Jan 2021

Background Chlamydia trachomatis (CT) is routinely diagnosed by nucleic acid amplification tests (NAATs), which are unable to distinguish between nucleic acids from viable and non-viable CT organisms.

Objectives We applied our recently developed sensitive PCR (viability PCR) technique to
measure viable bacterial CT load and explore associated determinants in 524 women attending Dutch sexual health

Estimating the percentage of European MSM eligible for PrEP: insights from a bio-behavioural survey in thirteen cities
13 Jan 2021

Objectives This paper aims to estimate the percentage of European men who have sex with men (MSM) who may benefit from pre-exposure prophylaxis (PrEP), applying the three most widely used HIV risk indices for MSM (MSM Risk Index, Menza score, San Diego Early Test (SDET) score) and drawing on a large-scale multisite bio-behavioural survey (Sialon II)

HSV-infection-related herpetic anogenital ulcer disease among PLWH in southeastern US: electronic medical record based analysis
12 Jan 2021

Objectives The southeastern US is a domestic epicentre for incident HIV with high prevalence of herpes simplex virus (HSV) coinfection. We estimated the incidence rates (IR) of symptomatic herpetic anogenital ulcer disease (HAUD) and assessed its associations with demographic and clinical characteristics, specifically with immunological markers using median, nadir and trajectory CD4 counts

Adverse pregnancy and neonatal outcomes associated with Neisseria gonorrhoeae: systematic review and meta-analysis
12 Jan 2021

Objective To examine associations between Neisseria gonorrhoeae (NG) infection during pregnancy and the risk of preterm birth, spontaneous abortion, premature rupture of membranes, perinatal mortality, low birth weight and ophthalmia neonatorum

Diagnostic role of CXCL13 and CSF serology in patients with neurosyphilis
12 Jan 2021

Background Considering the unknown prevalence of neurosyphilis in West China, and the confusing diagnosis of neurosyphilis, the role of CSF _CXCL13_ and syphilis serology was studied to provide a more accurate reference for the clinical detection and diagnosis of neurosyphilis

Comparison of the patterns of chlamydia and gonorrhoea at the oropharynx, anorectum and urethra among men who have sex with men
12 Jan 2021

Objective Chlamydia and gonorrhoea are common sexually transmitted infections that infect the oropharynx, anorectum and urethra in men who have sex with men (MSM). This study aimed to examine the pattern of infection at more than one site (multisite) for chlamydia and gonorrhoea among MSM

Clinical and laboratory features of 244 men with primary syphilis: a 5-year single-centre retrospective study
11 Jan 2021

Background Syphilis incidence has exponentially increased in recent decades, particularly among men who have sex with men (MSM). Primary syphilis is characterised by a chancre appearing at the site of Treponema pallidum (TP) inoculation. Atypical morphological variants of syphilitic chancre are frequent

Cost-effectiveness of two screening strategies for _Chlamydia trachomatis_ and _Neisseria gonorrhoeae_ as part of the PrEP programme in the Netherlands: a modelling study
11 Jan 2021

Objectives Pre-exposure prophylaxis (PrEP) users are routinely tested four times a year (3 monthly) for asymptomatic _Chlamydia trachomatis_ (CT) and _Neisseria gonorrhoeae_ (NG) infections on three anatomical locations. Given the high costs of this testing to the PrEP programme, we assessed the impact of 3 monthly screening (current practice), compared with 6 monthly on the disease burden

HIV non-occupational postexposure prophylaxis (nPEP) usage among five key populations in China
11 Jan 2021

Objectives To examine the feasibility of non-occupational postexposure prophylaxis (nPEP) as a national strategy for HIV prevention in China, we investigated nPEP usage and related sociodemographic and behavioural factors among five key populations at high risk of contracting HIV
Opposing associations of depression with sexual behaviour: implications for epidemiological investigation among gay, bisexual and other men who have sex with men
11 Jan 2021
Objective The aim of this report is to investigate the nature of the relationship between depression and condomless sex (CLS) among gay, bisexual and other men who have sex with men (GBMSM).

Methods Data are from the Antiretrovirals, Sexual Transmission Risk and Attitude (ASTRA) study of people living with HIV and attending one of eight HIV outpatient clinics in England (2011-2012) and the Attitudes

Sexually Transmitted Infections current issue

Undetectable equals untransmittable (U = U): awareness and associations with health outcomes among people living with HIV in 25 countries
15 Jan 2021
Objectives ‘Undetectable equals Untransmittable’ (U=U) is an empowering message that may enable people living with HIV (PLHIV) to reach and maintain undetectability. We estimated the percentage of PLHIV who ever discussed U=U with their main HIV care provider, and measured associations with health-related outcomes

Research news in clinical context
15 Jan 2021
Universal HIV test-and-treat intervention in African correctional settings While people who are incarcerated have a higher burden of HIV and other STIs, delivering sexual health services in correctional settings is difficult

Is Madagascar at the edge of a generalised HIV epidemic? Situational analysis
15 Jan 2021
Objectives To describe the epidemiological situation of the HIV/AIDS epidemic and to identify the main drivers for vulnerability in Madagascar. Design Literature review, qualitative research and situational analysis. Data sources Search of electronic bibliographic databases, national repositories of documentation from 1998 to 2018

Effects of enhanced STI partner notification counselling and provider-assisted partner services on partner referral and the incidence of STI diagnosis in Cape Town, South Africa: randomised controlled trial
15 Jan 2021
Objectives We investigated the effects of an enhanced partner notification (PN) counselling intervention with the offer of provider-assisted referral among people diagnosed with STI in a Cape Town public clinic. Methods Participants were adults diagnosed with STI at a community clinic

Advanced clinical practitioners in integrated sexual health and HIV
15 Jan 2021
The National Health Service is facing rising demands for services, issues of funding, variations in quality and safety, and labour challenges.1 2 These challenges are felt acutely within genitourinary medicine, which has one of the lowest fill rates nationally.3 one-third of sexual and reproductive consultants are due to retire in the next 5 years and sexual health services face budget cuts of

Modelling the impact of a sex work crackdown on syphilis transmission among female sex workers and their clients in South China
15 Jan 2021
Objective To estimate the potential effects of an intense sex work crackdown on syphilis transmission in Guangdong Province, China. Methods We developed a deterministic compartmental model of syphilis transmission among female sex workers (FSW) and their male clients in Guangdong Province, China

HPV types, cervical high-grade lesions and risk factors for oncogenic human papillomavirus infection among 3416 Tanzanian women
15 Jan 2021
Objective The objective of the present study was to assess the prevalence and type-specific distribution of cervical high-risk (HR) human papillomavirus (HPV) among women with normal and abnormal cytology, and to describe risk factors for HR HPV among HIV-positive and HIV-negative women in Tanzania.

Preparing for PrEP; the cost of delaying universal access in England
15 Jan 2021
Objectives Pre-exposure prophylaxis (PrEP) is not commissioned within National Health Service (NHS) England. Individuals can access it privately online or by enrolment into a clinical trial. We established a list of individuals not enrolled in trials, awaiting PrEP.

High prevalence of coinfection of azithromycin-resistant Mycoplasma genitalium with other STIs: a prospective observational study of London-based symptomatic and STI-contact clinic attendees
15 Jan 2021
Objectives Azithromycin treatment of Chlamydia trachomatis (CT) may not be adequate to treat concomitant Mycoplasma genitalium (MG) infection, and particularly if MG has macrolide resistance-associated mutations (MG-MRAMs). We estimated prevalence of coinfections of CT with MG carrying MRAM, and risk factors for MG-MRAM among a sexual health clinic population.

Association between rectal douching and HIV acquisition: the mediating role of condom use and rectal bleeding in a national online sample of Chinese men who have sex with men
15 Jan 2021
Objectives Previous studies have demonstrated that rectal douching (RD) is associated with HIV acquisition among men who have sex with men (MSM). However, the precise mechanism underlying the association between RD and HIV remains unclear. Methods We recruited participants over WeChat from October 2017 to October 2018.

Is COVID-19 affecting the epidemiology of STIs? The experience of syphilis in Rome
15 Jan 2021
Dear Editor, In response to the COVID-19 pandemic, on 9 March 2020, the Italian government announced a nationwide lockdown programme of social distancing, self-isolation for contacts and prohibition of public events.

Enhancing help-seeking behaviour among men who have sex with men at risk for sexually transmitted infections: the syn.bas.in randomised controlled trial
15 Jan 2021
Objectives Men who have sex with men (MSM) are at increased risk for STIs and mental disorders. Syndemic theory holds that psychosocial issues co-occur and interact, and thus increase sexual risk behaviour. Psychosocial issue identification, referral and management might reduce risk behaviour.

Genital HSV-1 DNA detection is associated with a low inflammatory profile in HIV-uninfected South African women
15 Jan 2021
Objectives Genital herpes simplex virus (HSV) infections are common in South Africa and worldwide. While HSV-2 is known to cause genital lesions, HSV-1 is better known to cause oral infections. Due to the global rise in genital HSV-1 infections, we aimed to compare the genital cytokine environment associated with HSV-1 and HSV-2 infections and their relation to the proinflammatory genital immune.

Prevalence of and risk factors for curable sexually transmitted infections on Bubaque Island, Guinea Bissau
15 Jan 2021
Objectives Complications from sexually transmitted infections (STIs) can result in severe morbidity and mortality. To date, no STI population studies have been conducted on the Bijagos Islands, Guinea Bissau.

Site and sex-specific differences in the effect of vitamin D on human papillomavirus infections: analyses of NHANES 2009-2014
15 Jan 2021
Persistent human papillomavirus (HPV) infection with oncogenic HPV types (or the high-risk HPV types) is responsible for about 90% of anal and cervical cancers; 70% of oropharyngeal, vaginal and vulvar cancers; and more than 60% of penile cancers.

Factors associated with vaginal detection of prostate-specific antigen among participants in a clinical trial in Malawi
15 Jan 2021
Self-report of sexual behaviours in clinical studies is often subject to misreporting due to recall or social desirability bias or misinterpretation of the study questionnaires. Use of biomarkers of semen exposure, such as the detection of prostate-specific antigen (PSA) in vaginal secretions, offers an additional means of assessing sexual behaviours and condom use that is not subject to

Macrolide and fluoroquinolone resistance of Mycoplasma genitalium in southern Spain, 2018-2019
15 Jan 2021
Objectives In recent years, resistance in Mycoplasma genitalium (MG) to first-line (azithromycin) and second-line (moxifloxacin) treatment has been increasingly reported worldwide, however, no data regarding the south of Spain are available. Methods To determine resistance rates, MG-positive samples collected from June 2018 to June 2019 were analysed by sequencing the 23S rRNA and parC genes.

NIS Affiliation

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15 Jan 2021

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