



Weekly update

Through our research, community outreach and expert commentary, the University of Birmingham is taking an active role in the fightback against COVID-19. You can read our latest statements and follow our research updates at www.birmingham.ac.uk/coronavirus.

Through Birmingham Health Partners, a strategic alliance between the University and two NHS Foundation Trusts, we are working to support frontline healthcare professionals. For the latest updates visit their [website](#).

Research

COVID-19 diabetes research briefing

Researchers across Birmingham Health Partners have published their latest summary of the COVID-19 literature, focusing on patients with diabetes. Between 20-30% of coronavirus patients at University Hospitals Birmingham have diabetes and they are likely to have increased severity of the virus. The infographic on page 3 of this briefing summarises the practical adjustments to standard diabetes care, in patients hospitalised with COVID-19. ([More information](#))

University of Birmingham spinout companies help with diagnostics and treatments

A number of our spinout companies have been contributing to the COVID-19 efforts. These include:

- [The Binding Site](#) is working alongside researchers in Birmingham Health Partners to improve detection of SARS-CoV-2 antibodies.
- [The Native Antigen Company](#) was among the first commercial suppliers to produce antigens for SARS-CoV-2 in February 2020. They are now collaborating with Oxgene™ to increase the production of antigens that will be used to develop diagnostics and vaccines.
- [Alta Bioscience](#) provides a peptide synthesizing service – including peptide antigens for antibody generation.
- [Abingdon Health](#) is mobilizing its rapid test development and manufacturing operations to scale-up the deployment of rapid diagnostics. Abingdon is also part of the UK Rapid Test Consortium (UK-RTC).

Researchers to investigate role of charitable funding of health care in NHS - major new study

A new four-year research project, awarded £1.4 million funding from the Wellcome Trust, will explore the past, present and future of charitable fundraising for health care. ([More information](#))

How do communities respond to crises?

New research explores how communities can respond to and recover from the coronavirus crisis. ([More information](#))

Community

Medical students volunteer as call handlers to support ambulance service through COVID-19 pandemic

A group of University of Birmingham medical students are using their skills to support the fight against COVID-19 by training as NHS 111 call handlers with the West Midlands Ambulance Service (WMAS). ([More information](#))

Chinese partners send protective gear to help Birmingham's COVID battle

University of Birmingham partners across China have joined forces to send protective equipment that medical and care staff in the West Midlands can use in the ongoing battle against coronavirus. Eight partner institutions have pledged over 105,000 items of PPE.

The first shipment of 2,000 particulate filter respirators, 10,000 surgical masks, 20,000 examination gloves and 500 protective coveralls has arrived at Queen Elizabeth Hospital from Sun Yat-sen First Affiliated Hospital, Guangzhou. ([More information](#))



(Above) The first shipment of PPE arrives from our Chinese partners.

COVID-19 testing effort at UK's first 'Lighthouse Lab'

Professor Alan McNally, Director of the Institute of Microbiology and Infection has been seconded to the Milton Keynes lab as Infectious Disease lead. Professor McNally was heavily involved with the scientific response to the 2005 H5N1 avian flu as a senior researcher in the UK reference lab in Surrey, helping to develop a molecular testing regimen for the virus. ([More information](#))

Birmingham In This Together campaign launched to support COVID-19 relief efforts

The University of Birmingham has launched a campaign to help fund COVID-19 research and provide PPE supplies for NHS workers. The appeal will also fund hardship grants for students who have lost part-time jobs they relied on for financial support as a result of the virus. ([More information](#))



Comment

Universities and Regional Economies: Multiplier Effects and the Impact of COVID-19

Universities are crucial for the development of their local areas and fewer students also means less income for regional economies and fewer jobs across different sectors. ([More information](#))

Why we need more than 'following the science' to make the best decisions in the COVID-19 crisis

Decisions about how and when to exit lock down must be informed by good science but decisions about who to put at risk and what is an acceptable risk are ethical and policy decisions, not scientific decisions, writes Professor Heather Widdows. ([More information](#))

Coronavirus: what does it mean when the government says it is 'following the science'?

Which scientific advice is being followed by SAGE? ([More information](#))

Could Poor Air Quality Be the Key To COVID-19 Hotspots?

The idea that air pollution exacerbates the severity of COVID-19 is very plausible, writes Roy Harrison, Professor of Environmental Health ([More information](#))

The pandemic paradox: The consequences of COVID-19 on domestic violence

Research has shown that family and sexual violence can escalate during and after large-scale disasters. ([More information](#))

Covid-19: risk factors for severe disease and death

As the covid-19 pandemic accelerates, governments are warning people at high risk to be particularly stringent in observing social distancing measures because if they become ill they are more likely to need critical care including ventilation, and to die.¹ Most data on covid-19 are from China, and although most confirmed cases have been classified as mild or moderate, 14% are severe and 5% critical.² Case fatality rates are difficult to assess with certainty but could be as high as 1%,³⁴ which is much greater than seasonal influenza at about 0.1%. ([More information](#))

Hospital visiting in epidemics: an old debate reopened

COVID-19 is exerting massive pressure on health care systems across the globe. While social distancing and self-isolation have been adopted as ways to ease such pressures, regulating visitors to healthcare institutions is another. ([More information](#))

Why a new future politics of work is paramount after Covid-19

Covid-19 is already having devastating effects on work, both in the UK and globally, with decreased employment and rising unemployment. In the UK, the state Job Retention Scheme is the only thing protecting many people from unemployment. But, what happens after? ([More information](#))

Forced migration, Sexual and Gender-based Violence and COVID-19

The advent of the COVID-19 crisis has the potential to compound the effects of the ongoing refugee-crisis for the most vulnerable social groups. ([More information](#))

Contact us

Email: publicaffairs@contacts.bham.ac.uk

Twitter: [@BhamPolicy](https://twitter.com/BhamPolicy)

In partnership with

Appendix

Further updates to this clinical briefing can be [viewed here](#).



University Hospitals Birmingham
NHS Foundation Trust



UNIVERSITY OF
BIRMINGHAM



COVID19

Diabetes Guidelines

Birmingham
Health Partners

Issue#: DM_V1.01

Date: 24APR2020



Key intro:

Between 20-30% of UHB patients have diabetes

they are likely to have increased COVID-19 severity

new national guidance and practical adjustments to standard diabetes care in hospitalised patients

Key Advice on Admission

Check

- Check blood glucose (capillary, lab, blood gas) in **all** patients presenting in hospital
- Check capillary ketones in **all** patients with **known diabetes**, even if bloods normal
 - <0.6mmol/L = safe
 - 1.5-2.9 mmol/L = increased risk of DKA
- Check capillary ketones in **any** patient with a **blood glucose >15mmol/L**



Stop

- Stop SGLT-2 inhibitor therapy in **all unwell patients** as can cause euglycaemic DKA
canagliflozin, dapagliflozin, empagliflozin, sotagliflozin
- Stop Metformin, if patient: dehydrated, has raised lactate or acute kidney injury
- Never stop** background insulin in patients with T1DM or T2DM
Lantus, Semglee, Levemir, Tresiba, Humulin I

Note

- Atypical diabetes** presentations such as **euglycaemic DKA** can occur spontaneously in the setting of COVID19 infection (even as a first presentation and in patients with T2DM)
This manifests as profound **ketosis (ketones > 3.0 mmol/L)** and **acidosis (pH < 7.3)** at **normal blood glucose** levels (<11 mmol/L)
- Treat** euglycaemic DKA, DKA and HHS as per Trust guidelines
BUT give **IV fluids at half the normal rate** in COVID19-suspected or COVID19-positive patients due to significant acute lung and cardiac problems

Examine the feet in **all** patients with diabetes in particular for acute ulceration, infection or ischaemia

Key Advice for patients on the wards

- Encourage **self-management** where possible including self-glucose testing
- Glucose target** of **5-15 mmol/L** whilst in hospital
- Capillary ketones:** check in **all** patients where **blood glucose > 15mmol/L** or if **unwell with normal blood glucose**
- Limit the use of VRIII (insulin sliding scale) in patients (use existing trust guidelines to convert to subcutaneous insulin)
- Insulin pumps:** if patient unable to self-manage, start a conventional s/c basal-bolus insulin regimen and remove the pump (*after s/c insulin administered*)
- Continuous glucose monitors** can be left on, but will still need conventional capillary glucose monitoring
- For imaging:** pumps and monitors **can be worn during non-magnetic imaging (x-ray/CT), but not magnetic imaging (MRI)**

Key Advice for patients in critical care

- Ventilated patients with COVID-19 are **highly insulin resistant**, requiring **high rate of insulin infusion (>20 U/hr)**
IV insulin scales may need rapid escalation
- There is a **paradoxical risk of hypoglycaemia** in patients nursed prone
- Atypical diabetes** presentations such as **euglycaemic DKA** can occur spontaneously in the setting of **COVID-19** infection, as well as patients on **SGLT-2 inhibitor therapy**
- Check capillary ketones in **any** patient with a **blood glucose >15mmol/L** or **unexplained metabolic acidosis**
- VRIII** (insulin sliding scales) **can be avoided** in some patients (due to the expected limitations in availability of infusion pumps)
Consider converting to s/c insulin as per Trust guidelines and refer to the Diabetes team early

Referrals

7 day Diabetes Inpatient Support available at all 4 sites – please refer early for advice

At the QEHB site refer via PICS - Diabetes referral QEHB

At HGS sites refer via Concerto - Diabetes Electronic Referral System

Medications to stop temporarily when unwell (DAMN GlucoSe drugs)

- Diuretics**
- ACE inhibitors**
- NSAIDs**
- Metformin**
- GLP1 analogues**
- SGLT inhibitors**

(Resource: https://abcd.care/sites/abcd.care/files/site_uploads/Resources/Position-Papers/SGLT2-inhibitors-ABCD.pdf)