

COncise adVice on Inpatient Diabetes (COVID:Diabetes):

POST-COVID-19 DIABETES DISCHARGE PATHWAY – RISK STRATIFICATION AND FOLLOW-UP GUIDANCE FOR PEOPLE BEING DISCHARGED FROM SECONDARY CARE AFTER COVID-19 INFECTION

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JBDS Joint British
Diabetes Societies
for Inpatient care

PCDS
Primary Care Diabetes Society



NATIONAL INPATIENT DIABETES COVID-19 RESPONSE GROUP*

AIM:

To provide recommendations for safe ongoing care for people being discharged from a secondary care setting (hospital or virtual ward) after COVID-19 infection **and** who have:

- › Pre-existing diabetes
- › Newly diagnosed diabetes
- › Hyperglycaemia associated with COVID-19 infection
- › Dexamethasone associated hyperglycaemia

i **NOTE: local models of care may vary – please ensure the agreed discharge plan is feasible and accessible via local care pathways.**

THIS GUIDANCE:

- › Is for health care professionals managing people with COVID-19 in a secondary care setting (hospital or virtual ward)
- › Aims to safely bridge the gap, at the point of discharge, between care processes in secondary care and primary care for people with COVID-19 whether they received steroid treatment in hospital or not
- › Is applicable to any person being discharged from secondary care following COVID-19 infection **and** who has pre-existing diabetes, newly diagnosed diabetes or hyperglycaemia associated with either COVID-19 or dexamethasone treatment
- › Supports but does not replace professional clinical judgement and local clinical pathways

BACKGROUND

- › COVID-19 infection may predispose to hyperglycaemia in people with and without a prior diagnosis of diabetes
- › Hyperglycaemia is associated with adverse outcomes in those with COVID-19 infection
- › Hyperglycaemia is also a common side effect of steroids (eg, dexamethasone) which are an effective treatment for people with COVID-19 infection experiencing hypoxia

GLUCOSE CONTROL AND CLINICAL RECOVERY FROM COVID-19

- › Some patients will require relatively high insulin doses during COVID-19 illness in order to manage the associated hyperglycaemia, particularly if they have required dexamethasone treatment
- › It may take a considerable amount of time for glucose measurements to return to pre-COVID-19 or target levels
- › People at particular risk of extreme changes in glucose levels during recovery from COVID-19, with hypoglycaemia being of particular concern, include those who have required dexamethasone treatment, those newly started on insulin in hospital or those who received higher insulin doses compared to pre-admission doses
- › The unpredictable timeframe for steroid associated hyperglycaemia to abate can be associated with a greater risk of hypoglycaemia

⚠ Providing on-going support for glucose management beyond the inpatient setting is important!

KEY “GUIDING PRINCIPLES” AND RESPONSIBILITIES:

An appropriate level of clinical diabetes support should be available following discharge, based on the individual person’s needs.

Review of a HbA1c result from the COVID-19 admission is recommended. This can 1) help differentiate stress hyperglycaemia from previously undiagnosed diabetes and 2) give an indication of the preceding glycaemic control and degree of insulin resistance. If not available, a HbA1c should be arranged but should not delay discharge.

Factors beyond HbA1c should also be taken into consideration when planning a safe discharge and follow-up care. The table below uses a risk stratification model to support safe decision making when planning a person’s discharge, even if there is no recent HbA1c result available.

Secondary care inpatient teams:

- › Using the risk stratification table below, agree an appropriate follow-up e.g., high, intermediate or low risk follow-up plan¹
- › Consider if any further tests, which may support on-going care, are required prior to discharge (e.g., C- Peptide and autoantibody tests in newly diagnosed diabetes)
- › Clearly document follow-up plan in discharge documentation and discuss with person/carer
- › According to local pathways make any necessary referrals prior to discharge
- › Ensure the person/carer has any necessary emergency contact numbers and/or education resources and/or equipment prior to discharge
- › People under a specialist diabetes service before developing COVID-19 (e.g., people with type 1 diabetes) would be expected to remain under the care of that service

Primary care teams:

Should have access to specialist diabetes advice/guidance to support clinical case discussion, medicines optimisation (including insulin dose titration) and shared decision making (e.g., access to a complex cases or post-covid MDT)

Table 1: Key clinical considerations to support decision making for post-covid diabetes follow-up planning (for people being discharged from secondary care setting after COVID-19 infection):

CLINICAL CONSIDERATIONS TO SUPPORT DECISION MAKING	RED = HIGH RISK - ANY ONE OF THE FOLLOWING	AMBER = INTERMEDIATE RISK - ANY ONE OF THE FOLLOWING	GREEN = LOW RISK
Diabetes	<ul style="list-style-type: none"> • HbA1c > 10% (86mmol/mol) • Type 1 diabetes (Known or new diagnosis of type 1 diabetes*) • Presented with or developed DKA or HHS * • Hyperglycaemia secondary to dexamethasone treatment* • Type 2 diabetes newly started on insulin • Type 2 diabetes where oral therapies SGLT2i, SU and/ or metformin were stopped/ withheld during admission 	<ul style="list-style-type: none"> • HbA1c 7.5-10% (59 – 86mmol/mol) • Type 2 diabetes on 3 or more glucose lowering treatment • Type 2 diabetes with insulin doses more than 80-100 units / day 	<ul style="list-style-type: none"> • HbA1c <7.5% (58mmol/mol) • Stable and simple oral glucose lowering treatment with low-risk of hypoglycaemia • Type 2 diabetes treated with insulin and with no AMBER or RED risk factors
Frailty	<ul style="list-style-type: none"> • CFS 6 or above – moderate frailty and above** 	<ul style="list-style-type: none"> • CFS 3 – 5 – managing well – living with mild frailty 	<ul style="list-style-type: none"> • CFS less than 3 – fit and very fit
BMI	<ul style="list-style-type: none"> • >35 or >30 if other co-morbidities present (>27.5 for South Asians) 	<ul style="list-style-type: none"> • >30 or <30 if other co-morbidities present (>27.5 for South Asians) 	<ul style="list-style-type: none"> • <30 (<27.5 for South Asians)
Renal function	<ul style="list-style-type: none"> • eGFR <30 ml/min • Known to renal services*** • Rapidly declining renal function >15ml/min/yr*** • On renal replacement therapy 	<ul style="list-style-type: none"> • eGFR 30-45 ml/min 	<ul style="list-style-type: none"> • eGFR>45 ml/min

CLINICAL CONSIDERATIONS TO SUPPORT DECISION MAKING	RED = HIGH RISK - ANY ONE OF THE FOLLOWING	AMBER = INTERMEDIATE RISK - ANY ONE OF THE FOLLOWING	GREEN = LOW RISK
Hospital Duration directly related to COVID-19	<ul style="list-style-type: none"> >2 weeks 	<ul style="list-style-type: none"> 1-2 weeks 	<ul style="list-style-type: none"> <1 week
BP (irrespective of antihypertensive use)	<ul style="list-style-type: none"> >160/100 	<ul style="list-style-type: none"> 140-160/90-100 	<ul style="list-style-type: none"> <140/90
Other important considerations	<ul style="list-style-type: none"> ICU care during admission, especially intubation Other significant co-morbidities including OSA, CVA, IHD, heart failure, transplant patients Learning disability Significant mental health problems Pregnant women 	<ul style="list-style-type: none"> Other co-morbidities - e.g., co-morbidities associated with steroid or immunosuppressive therapy (COPD, Asthma, Rheumatological disease, inflammatory bowel disease) No diabetes review within last 18 months either primary or secondary care 	<ul style="list-style-type: none"> No other significant co-morbidities or risk factors
RECOMMENDATION FOR ON-GOING CARE/FOLLOW-UP AFTER DISCHARGE	RED = HIGH RISK	AMBER = INTERMEDIATE	GREEN = LOW RISK
NOTE: plan should be clearly communicated in the discharge documentation and communicated to person and carer/family	<ul style="list-style-type: none"> Specialist diabetes team follow-up ideally within 6 weeks Ensure safety netting advice provided including when and how to seek earlier help/support Provide emergency contact numbers and essential educational resources 	<ul style="list-style-type: none"> Specialist diabetes team follow-up within 3-6 months Ensure safety netting advice provided including when and how to seek earlier help/support Provide emergency contact numbers and essential educational resources 	<ul style="list-style-type: none"> Primary care follow-up within 3-6 months Ensure safety netting advice provided including when and how to seek earlier help/support Provide emergency contact numbers and essential educational resources
<p>* Will need earlier input according to local pathways</p> <p>** For people who are approaching the end of life wherever possible discuss and agree an individualised follow-up plan with the diabetes specialist team/MDT/person/carer/family/GP or community team². The agreed care plan should focus on symptom control and be tailored to the person's needs.</p> <p>*** Consider referral to local renal services</p>			

Link to all NATIONAL COVID-19 INPATIENT DIABETES RESPONSE GROUP guidance documents: <https://abcd.care/coronavirus>

REFERENCES

1. Risk stratification model adapted from: <https://doi.org/10.1111/dme.14462>
2. Link to End of Life Diabetes Care: clinical care recommendations document: https://www.diabetes.org.uk/resources-s3/2018-03/EoL_Guidance_2018_Final.pdf

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