

STANDARD OPERATING PROCEDURE

A Value-Based approach to Type 2 Diabetes using sodium-glucose cotransporter 2 inhibitors (SGLT2is)

OBJECTIVES

- To identify patients with T2DM and chronic kidney disease (CKD) or at risk of CKD who would benefit from the inclusion of a SGLT2 inhibitor in their treatment regimen to:
 - Prevent or delay the progression of CKD
 - Reduce the risk of cardiovascular complications
 - Reduce the number of patients reaching ESKD
- To carry out patient centric diabetes reviews in the above cohort and optimise their medication regimen. This would also include de-prescribing medicines which do not have any health-related gains associated with them as per NICE clinical guideline. (NG28)
- To successfully make the changes, with minimal disruption to the patient and the practice ensuring that patient confidentiality is respected throughout these procedures.

RATIONALE

Disease burden in people with diabetes is driven by long-term complications such as cardiovascular disease, heart failure and chronic kidney disease. Increasing evidence suggests that sodium-glucose cotransporter 2 inhibitors (SGLT2is) have beneficial effects reducing morbidity and mortality in a wide range of individuals, from those with diabetes and multiple risk factors to those with established heart failure and chronic kidney disease, regardless of the presence of diabetes.

NICE has recognised that there is more to these medicines, than just their ability to lower glucose, in terms of ability to reduce overall morbidity and mortality in people with Type 2 diabetes by reducing cardiovascular and renal complications. As a consequence, SGLT2 inhibitors have been pushed up the ladder of medical interventions in patients thought to benefit from them in their update of NG28 Type 2 Diabetes in Adults.

Several clinical trials have assessed the impact of SGLT2is on CV outcomes: EMPA-REG OUTCOMES, CANVAS, VERTIS CV, and DECLARE TIMI 58. These studies have brought to light the cardioprotective benefits of this class of drugs in terms of reduction versus placebo in hospitalisations for heart failure, composite of death from CV causes, non-fatal myocardial infarction and non-fatal stroke, and any cause mortality.

In people with chronic kidney disease (CKD), the CREDENCE and DAPA-CKD trials have demonstrated SGLT2 inhibition's particular efficacy at also reducing risk of kidney disease progression in people with T2DM and albuminuric kidney disease. The effectiveness of

SGLT2 inhibitors at glucose lowering diminishes as kidney function falls, however, the relative effects of SGLT2 inhibition on kidney disease progression and cardiovascular risk appear preserved in people with T2DM and CKD, within the range of kidney function reported in the trials.

Besides showing significant clinical benefits, SGLT2 inhibitors have also demonstrated economic value for the treatment of T2DM by reducing the costs associated with CV and microvascular complications, while also extending life expectancy.

Inclusion Criteria

Patients with a diagnosis of T2DM to be included in the project:

- Adults >18 years and <80 years and patients > 80 years with T2DM and Heart Failure.
- Patients with a HbA1c <80mmol/mol plus eGFR 25-60ml/min
- Patients with a HbA1c 50-80mmol/mol plus eGFR 60-90ml/min and ACR >3mg/mmol or a QRISK>10%
- Patients that are diet controlled with a diagnosis of T2DM and CKD3 or albuminuria may also be offered a SGLT2i.

Exclusion Criteria

Patients to be excluded from the project:

- Patients with Type 1 diabetes
- Patients with Type 3C diabetes (pancreatic insufficiency)
- Patients with Latent autoimmune diabetes (LADA)
- Patients with genetic diabetes e.g., MODY
- History of diabetic ketoacidosis (DKA)
- Active diabetic foot disease or severe PVD
- Patients (without CCF), in whom the risk of weight loss and sarcopenia may outweigh the benefit of an SGLT-2 inhibitor (e.g., severe frailty)
- Any patient on an end-of-life pathway
- Patients with a kidney transplant
- Patient with polycystic kidney disease
- Patients already optimised on a SGLT2i
- Chronic alcoholism or IVDU
- Pregnancy or planning pregnancy and breastfeeding
- Patients with a history of Fournier's gangrene
- Patients on a low carb (<130g) or ketogenic diet
- Patients on high dose immunosuppression, defined as any intravenous immunosuppression therapy in last 3 months or anyone currently on >45 mg po prednisolone (Taken from Empa-kidney exclusion criteria)
- Any patient with dementia or where a change may cause confusion
- Patients suffering with recurrent UTI or on prophylactic medication for UTIs
- Recent major surgery

RECORD KEEPING

- Documentation containing patient identifiable information must not be removed from the practice and must be kept for 5 years.
- The signed SOP (or a copy) can be removed from the practice as evidence of authorisation.
- Any documentation that you have produced must be placed in a designated file held within the practice named **Value Based Care**.
- If working remotely refer to the ABUHB medicines management remote working policy.

COMMUNICATION

- Relevant practice staff should be informed of work being undertaken where possible. Diabetes lead, Pharmacist, Reception staff and phlebotomist/HCA.

METHOD

1	• A GP partner within the practice must be given the SOP to agree and sign. It can be countersigned by other appropriate prescribers e.g., pharmacist/GP who leads on the topic. • The ABUHB lead clinical pharmacist for the project should sign the authorisation form. • The signed SOP can be copied so that a copy can be retained at ABUHB team offices if needed.
2	<u>Searches</u> • Patients to be identified using a combination of data obtained from audit plus and searches created within the practice clinical system. • A search must be carried out for permanently registered patients who fit the criteria listed in the scope. • Patient's medical history must be reviewed to filter out any patients listed in the exclusion criteria above. • Should there be any doubt when reviewing a patient's record refer to the MDT involved with the project.

3	<u>Arranging patient clinics</u> - Pharmacy technician to arrange clinic sessions to be added to the practice clinical system. Days and times to be agreed with the practice based on room availability. - Number of sessions and appointments based on the number of patients identified from the search.
4	<u>Invitation to attend “Screen and initiate” F2F appointment</u> - Pharmacy technician to send all patients identified from the search a letter explaining the review and advising that they will be contacted by telephone to arrange an appointment. (See appendix 1) - Pharmacy administrative assistant to contact all patients by telephone 1 week after the letter has been sent to book an appointment for: - A F2F cardio-renal optimisation review. - If the patient declines a review, then this will be documented in the notes under “administration” with a note to consider a SGLT2i at their next diabetes review. - If we have failed to make contact with the patient, this will be coded in the notes as a “failed encounter” with a note to consider prescribing a SGLT2i at next diabetes review. - A letter or text message confirming the date and time of the appointment will be sent to the patient if requested. (See appendix 2) - For any patient unable to be contacted a telephone message can be left inviting them to make contact by telephoning 07807277574 or email: ABB.T2DMCardio-RenalOptimisationTeam@wales.nhs.uk to book an appointment for a diabetes cardio-renal optimisation review.
5	<u>Preparing the letter</u> - The letter should be prepared and agreed by the practice GPs on the practice’s headed paper, preferably using mail merge. - The patients name and address should be taken from the patients’ computer record when undertaking the change. “Private and confidential” should be visible through the envelope window (or added to the front of the envelope via a stamp).
6	<u>F2F appointment</u> - An individualised HbA1c target should be agreed with the patient based on their age, co-morbidities, life expectancy and current medication and recorded in the patient’s notes. (Refer to appendix 3 for guidance on individualised glycaemic targets.) - Blood pressure (sitting and standing), weight/BMI, smoking status, Q-Risk, diet and exercise status to be recorded in patient’s notes.

- If the patient has not had a HbA1c completed in the last 6 months, or 3 months if they are on insulin or a SU, then carry out a POC HbA1c test and record the result in the patients notes under test results.
- If the patient has raised BP, then refer to NICE guideline: Hypertension in adults: diagnosis and treatment (NG136). Information on how to manage abnormal test results after starting an ACEi/ ARB also included, NICE CKS: Chronic kidney disease: ACE-inhibitors and AIIAs May 2023 (See appendix 4)
- If an ACEi or ARB is started then arrange for the patient to have a blood test to check U&Es after 1- 2 weeks.
- Dietary advice and information from patient.co.uk on type 2 diabetes and diet should be provided if requested.
- Offer the patient details of the MyDESMOND type 2 diabetes management programme www.mydesmond.wales and links to the pocket medic videos www.medic.video/w-type2 if they would like further support and education to help manage their diabetes. Code #8Hj4 Referral to DESMOND diabetes structured education programme or code #9OLM Diabetes structured education programme declined.
- Contact details for “Help Me Quit” should be provided if patient requires help to give up smoking.
- Ascertain current cardioprotective and diabetic medications being taken and check compliance.
- SGLT2i eligibility check list to be completed with the patient. (See appendix 5)
- If patient is suitable, initiate a SGLT2i and add to the patients repeat list, matching the same number of issues of any other current medication.
- Explain the cardio-renal protective benefits of the medication and complete the counselling checklist.
 - If HbA1c<58 and eGFR>45ml/min, reduce the dose of any prescribed sulphonylurea (SU) or meglitinide by 50% to avoid hypoglycaemia.
 - Follow the patient up by telephone a week later to review blood glucose readings. Titrate the dose of SU or meglitinide if required and arrange further follow up if needed.
 - No dose reduction is required if the eGFR<45ml/min (as there is no glucose lowering effect)

	- Deprescribe any diabetic medication that does not offer any health-related gains by following the de-prescribing algorithm attached. (See appendix 6) - Remove the medication from the patient's repeat list. - Offer the patient Atorvastatin 20mg if CKD stage 3 or Q-Risk>10% and the patient is not already taking a statin and no past evidence of intolerance. Advise the patient to book for a blood test after 3 months (to check lipids and LFTs.) Add atorvastatin 20mg to the repeat for 3 issues. - If the patient has two consecutive eGFR <60ml/min or ACR ≥ 3mg/mmol with no other cause identified, taken at least three months apart then code the patient as CKD if the patient is not already coded in the notes. - Remove any testing strips that may no longer be required due to stopping a SU or change the meter and strips if the patient is not using an ABUHB formulary approved BG meter. Offer the patient flash/CGM if the patient is on insulin and patient would benefit. - Patient to be provided with the following: - Manufacturer's patient information booklet. This will include written information on the sick day rules. (See appendix 7) - TREND leaflet on how to reduce your risk of genital fungal infection. (See appendix 8) - Inform the patient that they will be followed up at their next diabetic review. - Patient to be issued with a prescription for any medication prescribed.
7	<u>Documentation</u> - Patient consultation to be documented in the patients notes as: "Diabetic medication review by Independent Prescriber ----- as part of the Value Based Diabetes Cardio-Renal Optimisation Project." Code #8B3I.00 - GP to be informed of any further recommendations for patients following the optimisation clinics e.g., Titration of ACEi/ARB to be considered at patients' next review, patient's that may be suitable for a GLP-1. Copy of the data collection sheet to be provided. - If the patient declines treatment this should be coded in the patient's notes. Code #8B3O (drug declined by patient)

Project outcome data

- Compare the prescribing rates of SGLT2 inhibitors before and after the optimisation clinics have been completed.
- Review any costs savings that have been made from the deprescribing of any medication or test strips.
- Record the % of patients that have continued with treatment after 3 months. Note the reasons for any patients discontinuing treatment.
- Record the number of patients started on Atorvastatin
- Record the number of patients that needed to be coded in the notes as CKD
- Record the number of patients who were not aware of their CKD diagnosis and were provided with education on kidney health and their diagnosis of CKD.
- Record the number of patients that needed to be added to the diabetes register.
- Record the number of patients referred to a diabetes structured education programme.
- Record the number of patients referred to “Help Me Quit”
- Record the number of patients with pre-existing ASCVD/HF that have been started on an SGLT2i.
- Record any improvements in HbA1c, U&Es, ACR and BP if the patient has had blood test following the review and the data is available.

SOP Authorisation Form

GP practice

I / we agree for the ABUHB Cardio-Renal Optimisation team to undertake Cardio-Renal Optimisation reviews in patients with T2DM where appropriate according to the method set out in sections **1 to 7** of this audit pack.

**N.B. Please circle if you want the patient list to review before the clinic appointments are made.
YES / NO**

All clinical staff members at the practice should have to opportunity to read and sign the SOP, but as a minimum, a practice Partner (contractor) should sign below.

If the SOP relates to a specific therapeutic area to which a GP/Pharmacist in the practice has a particular responsibility for, this person should also sign the SOP.

Partner:

Name _____ Signature _____ Date _____

Name _____ Signature _____ Date _____

ABUHB Cardio-Renal Optimisation Team

We agree to undertake the changes detailed in the SOP according to the method set out in sections 1 to 7 in this pack.

Authorising Pharmacists

Name: Elizabeth Jenkins, Victoria Dixon, Rebecca Butler

Signature: *E. Jenkins, V Dixon, R Butler* Date: 04/08/25

Signature of SOP Operators (e.g., Technician/Admin Assistant)

Name: Rhiannon Bodman Signature: *R Bodman* Date: 04/08/25

Name: Talia Wake Signature: *T Wake* Date: 04/08/25

Name: Victoria Hales Signature: *V Hales* Date: 04/08/25

Appendix 1

Suggested Letter for Patients undergoing Diabetes optimisation review

Surgery Header

Remove Logo, 'header & footer' of this document before using in practice

PRIVATE & CONFIDENTIAL

Patient's Title & name
Patients address
Patients post code

Date

Dear Patient

We are currently reviewing all patients with type 2 diabetes to make sure we are prescribing the most optimal treatment in order to protect your heart and kidneys.

You have been identified as a patient who would benefit from a cardio-renal optimisation review.

This is a new service which is not the same as, or in place of, the annual diabetic review. You will be invited to attend a review at the surgery with a pharmacist prescriber from Aneurin Bevan University Health Board.

The review will look at your current blood sugar control, blood pressure, cholesterol, cardiovascular risk, how well your kidneys are working and current treatments prescribed.

You will be contacted shortly by telephone from a member of the diabetes cardio-renal optimisation team and offered an appointment to attend the surgery for a review.

There is no need to contact the surgery to book an appointment.

Please read the enclosed information on kidney disease and the risk of cardiovascular disease associated with diabetes for further information.

Tel: 07807277574

Email: ABB.T2DMCardio-renalOptimisationTeam@wales.nhs.uk

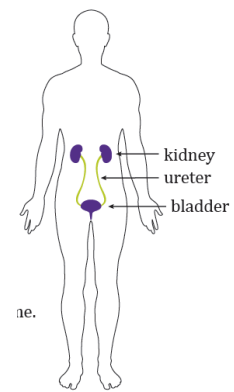
Yours sincerely

ABUHB Cardio-Renal Optimisation Team
Working on behalf of Dr. xxx & Partners

The Kidneys

Your kidneys are vital organs. You need them to live, just like you need your heart and lungs. They filter waste and extra fluid out of your blood to make urine. Your kidneys also do other important jobs including:

- Control chemicals and fluid in your body.
- Help control your blood pressure.
- Help keep your bones healthy.
- Help your body make red blood cells.



Most people have two kidneys. Each kidney is located near the middle of your back, one on each side of your spine. Each kidney is connected to your bladder by a thin tube called a ureter.

What is chronic kidney disease -CKD?

Kidney disease is a term used by doctors to include any abnormality of the kidneys, even if there is only very slight damage. 'Chronic' means a condition that does not get completely better.

Some people think that 'chronic' means severe. This is not always the case. Although some patients with CKD have more severe disease, most patients with CKD have only a very slight abnormality in the kidneys.

You are at higher risk for CKD if you:



Have diabetes



Have high blood pressure



Have heart disease



Have a family member with kidney disease



Are African-American, Hispanic, Native American, or Asian Pacific Islander



Are over 60 years old

How is CKD diagnosed?

Tests for kidney disease

eGFR test

estimated Glomerular Filtration Rate
(blood creatinine test)



- A blood test that shows how well your kidneys are working.
- Your eGFR is a number based on your age, gender, race/ethnicity, and how much creatinine (a natural waste product) is in your blood.
- You might have kidney disease if your eGFR is less than 60 for three months or more.

Urine test



- A test to look for blood or protein (albumin) in your urine.
- Blood or protein in your urine can be an early sign of kidney disease.
- There are usually no visible signs of blood or protein in your urine unless your kidney damage is very bad.

Assessment of cardio vascular risk

People with CKD are at an increased risk of heart disease, stroke, poor circulation (peripheral vascular disease).

Cardiovascular risk factors like smoking, cholesterol and blood pressure will be monitored closely and appropriate medications will be started.

Preventing kidney disease

- Diabetes and high blood pressure are the most common causes of kidney disease. If you have either of these conditions, talk to your doctor about how to control your blood sugar or blood pressure.
- Live a healthy lifestyle:



Follow a low-fat, low-salt diet



Set a goal to exercise for 30 minutes a day, 5 days per week



Have regular checkups with your doctor



Do not smoke or use tobacco



Limit alcohol



Keep a healthy weight



Drink about 2 litres of fluid a day



Have an annual flu vaccine



Keep good blood pressure control



Avoid non-steroidal inflammatory drugs NSAIDs such as ibuprofen

Treatment

Blood pressure should be treated carefully. If it is above 140/85, tablets are usually needed, and the aim is to get the blood pressure down to 130/80 or lower.

The cholesterol should be checked and you will be advised to take a statin tablet if suitable to reduce your risks of cardiovascular disease.

A blood test to check your kidney function and a urine test to check for protein should be performed at least once a year. If the urine test shows a lot of protein in the urine, or the kidney function is declining fast over time, the case will be discussed with a kidney specialist, or a referral may be made to a kidney specialist.

If someone with CKD also has diabetes, extra care to control the blood pressure, blood sugar levels and cholesterol levels is required.

Appendix 2

Suggested Letter for Patients Undergoing Diabetes optimisation review – no bloods needed

Surgery Header

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PRIVATE & CONFIDENTIAL

Patient's Title & name
Patients address
Patients post code

Date

Dear Patient

An appointment has been made for you to attend the surgery for a cardio-renal optimisation review to assess your blood sugar control, blood pressure, kidney function and current prescribed treatments. This review will be carried out by a Pharmacist Independent Prescriber from Aneurin Bevan University Health Board.

Appointment details:

Time:

Where is it:

Who is it with:

This appointment is in addition to any other appointment you may have already arranged.

Please let us know on the contact details below if you are not able to attend so that we can arrange an alternative appointment for you.

Tel: 07807277574

Email: ABB.T2DMCardio-RenalOptimisationTeam@wales.nhs.uk

Yours sincerely

ABUHB Cardio-Renal Optimisation Team
Working on behalf of Dr. xxx & Partners

Appendix 3: Deprescribing Pathway

During the SGLT2-i initiation process, the Prescribing Pharmacist may be required to de-escalate other diabetes therapies. This will lower the risk of hypoglycaemia and produce prescription cost savings.

It has been suggested that clinicians involve people in decisions about their individual HbA1c target levels, with 48-58mmol/mol being the standard target in most patients.

Intensive management in elderly and frail patients, in whom the risk of hypoglycaemia is high, should be avoided. At the initial stage of the De-prescribing pathway, the Pharmacist reviews the patient's most recent Hba1c (taken within the previous 6 months) and determines if it is 'in target'. Where an Hba1c target has not been identified, the guidance below, adapted from previous IDF recommendations and the more recent Expert Consensus statement on the management of older adults with T2DM (1), (2) may be used.

(1) Ismail-Beigi, et al. *Individualizing glycaemic targets in Type 2 Diabetes. Implications of Recent Clinical Trials. Ann Inter Med* 2011 Apr19; 154(8): 554-9

(2) W David Strain et al., *Diabetes and Frailty: An Expert Consensus Statement on the Management of Older Adults with Type 2 Diabetes. Diabetes Therapy: Research, treatment and education of diabetes and related disorders.* 2021 May;12(5):1227-1247.

Suggested Glycaemic Targets

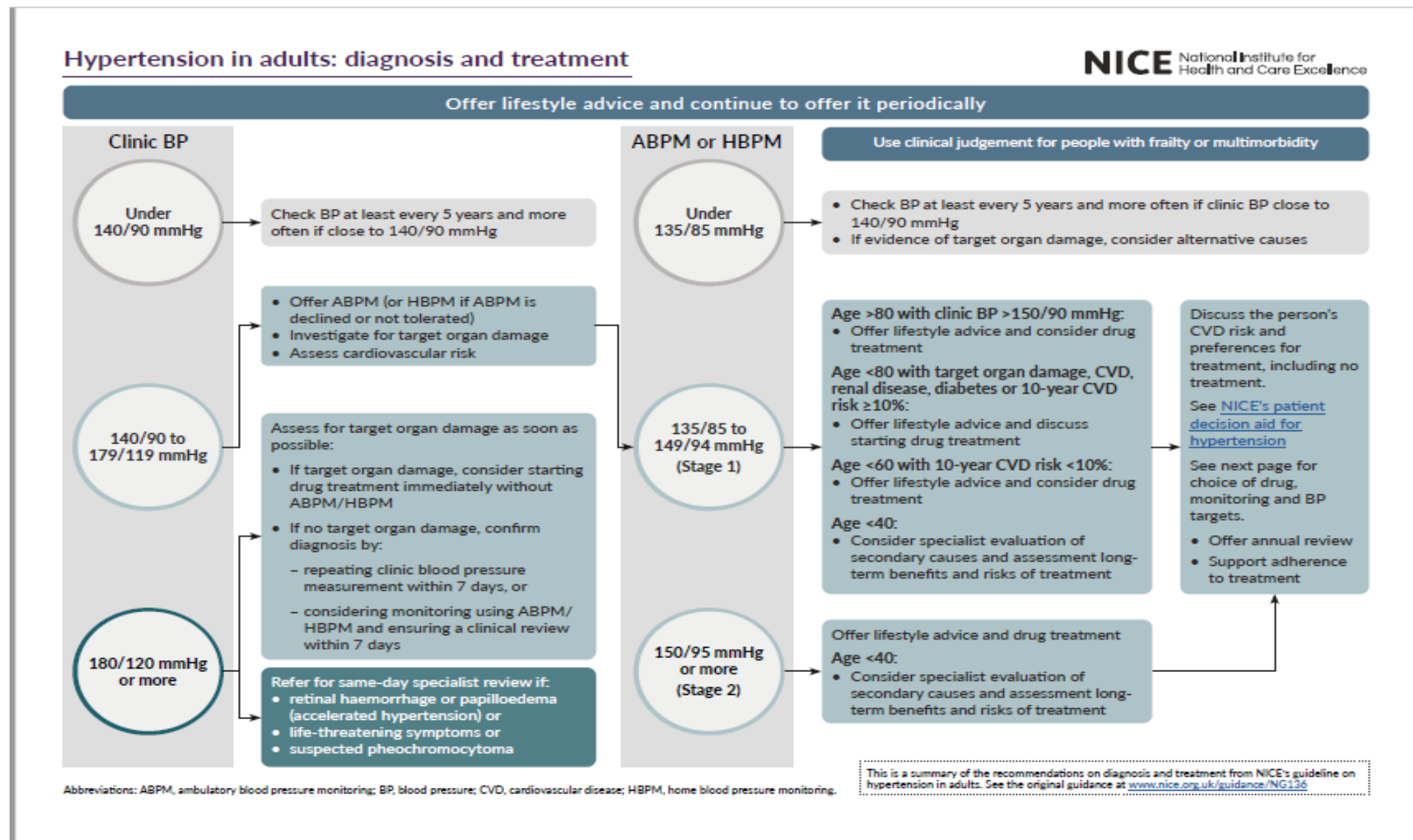
Young individuals -

- Healthy/fit - 42-48 mmol/mol
- unless hypoglycaemia
- quality of life compromised
- occupational risk

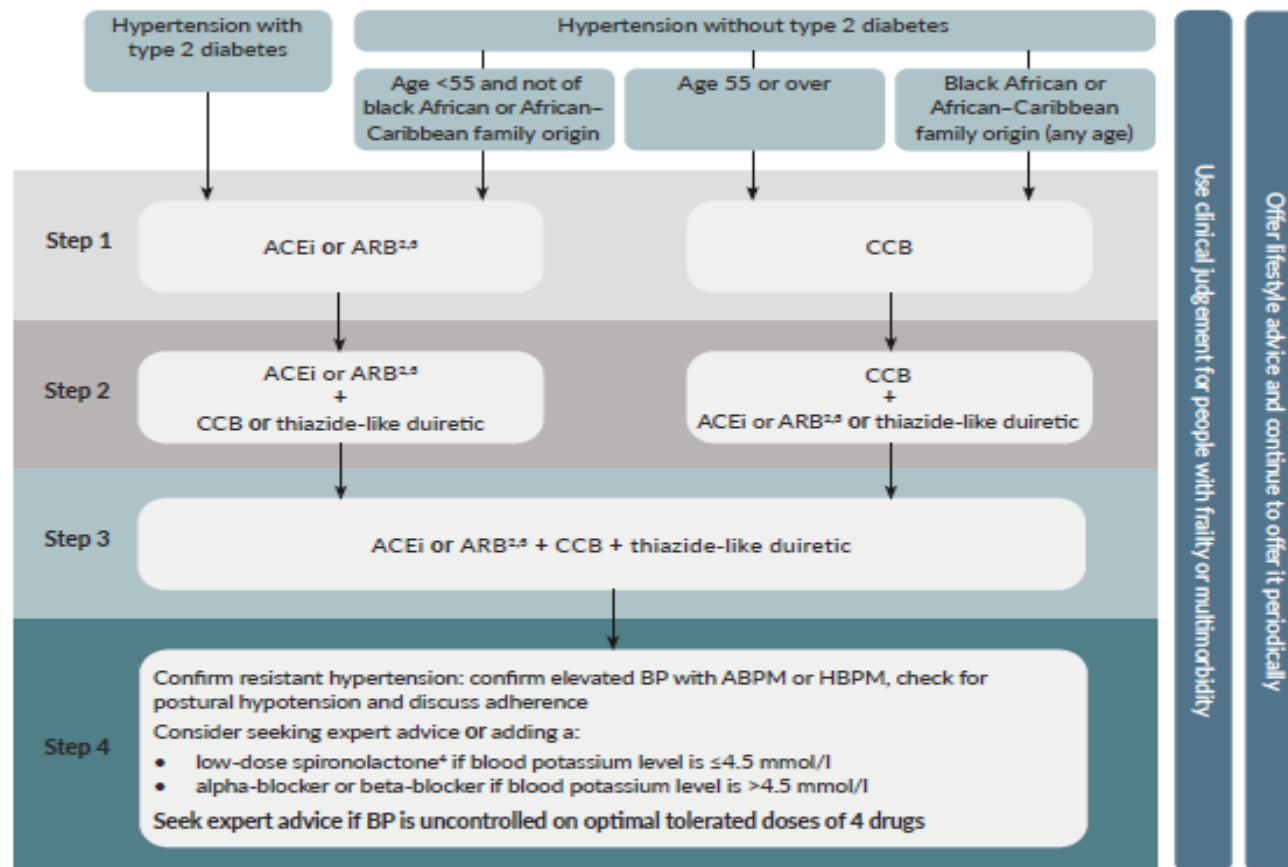
Older adults - (> 65 y)

- Functionally independent - 53-59 mol/mol (healthy pre-frail)
- Functionally dependent - 59-64 mmol/mol (moderate frailty: 2 comorbidities and impairments in ADLS)
- Severely frail and or dementia - 70mmol/mol (severe frailty: significant co morbidities, functional deficits, limited independence)
- End of life/ poor prognosis – avoid symptoms of hyperglycaemia

Appendix 4: NICE guidance on Hypertension in adults : diagnosis and management (NG136)



Choice of antihypertensive drug¹, monitoring treatment and BP targets



Monitoring treatment

Use clinic BP to monitor treatment.

Measure standing and sitting BP in people with:

- type 2 diabetes OR
- symptoms of postural hypotension OR
- aged 80 and over.

Advise people who want to self-monitor to use HBPM. Provide training and advice.

Consider ABPM or HBPM, in addition to clinic BP, for people with white-coat effect or masked hypertension.

BP targets

Reduce and maintain BP to the following targets:

Age <80 years:

- Clinic BP <140/90 mmHg
- ABPM/HBPM <135/85 mmHg

Age ≥ 80 years:

- Clinic BP <150/90 mmHg
- ABPM/HBPM <145/85 mmHg

Postural hypotension:

- Base target on standing BP

Frailty or multimorbidity:

- Use clinical judgement



This visual summary builds on and updates previous work on treatment published by the BIHS (formerly BHS)

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¹For women considering pregnancy or who are pregnant or breastfeeding, see NICE's guideline on [hypertension in pregnancy](#). For people with chronic kidney disease, see NICE's guideline on [chronic kidney disease](#). For people with heart failure, see NICE's guideline on [chronic heart failure](#).

²See MHRA drug safety updates on ACE inhibitors and angiotensin-II receptor antagonists: not for use in pregnancy, which states 'Use in women who are planning pregnancy should be avoided unless absolutely necessary, in which case the potential risks and benefits should be discussed', 'ACE inhibitors and angiotensin II receptor antagonists: use during breastfeeding and clarification: ACE inhibitors and angiotensin II receptor antagonists'. See also NICE's guideline on [hypertension in pregnancy](#).

³Consider an ARB, in preference to an ACE inhibitor in adults of African and Caribbean family origin.

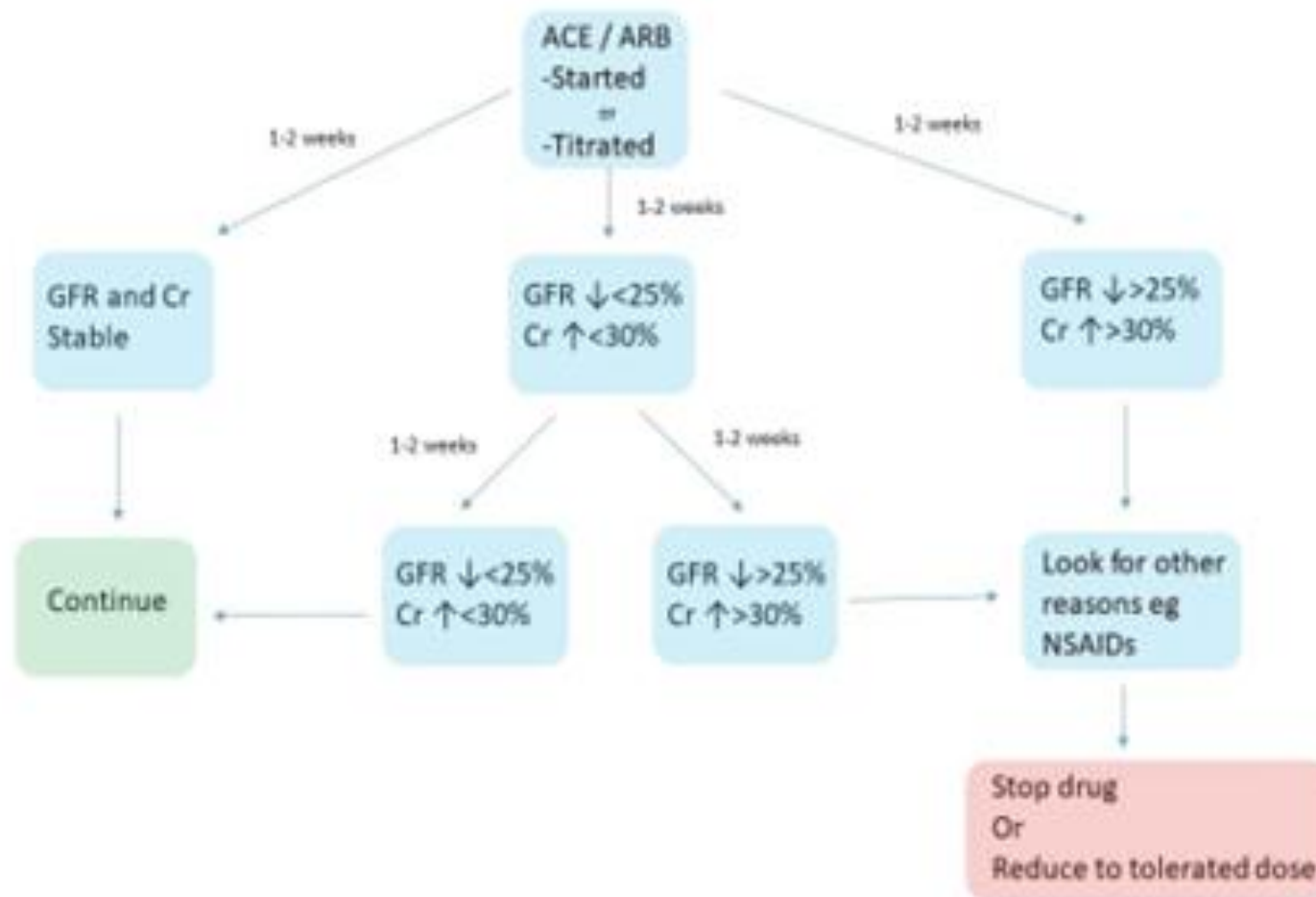
⁴At the time of publication (August 2019), not all preparations of spironolactone have a UK marketing authorisation for this indication.

Abbreviations: ABPM, ambulatory blood pressure monitoring; ACEi, ACE inhibitor; ARB, angiotensin-II receptor blocker; BP, blood pressure; CCB, calcium-channel blocker; HBPM, home blood pressure monitoring.

How should I manage abnormal test results in people on an angiotensin-converting enzyme inhibitor?

- Some increase in serum creatinine and potassium is expected after starting or increasing the dose of an angiotensin-converting enzyme (ACE) inhibitor.
- **If the estimated glomerular filtration rate (eGFR) decreases by less than 25%, or serum creatinine increases by less than 30%:**
 - Do not modify the ACE inhibitor dose and recheck levels in a further 1–2 weeks.
- **If eGFR decreases by 25% or more, or serum creatinine increases by 30% or more:**
 - Investigate other causes of deteriorating renal function, such as volume depletion.
 - Consider concurrent medication which could contribute to deterioration in renal function, and stop or reduce the dose where possible, for example:
 - Nephrotoxic drugs (such as nonsteroidal anti-inflammatory drugs).
 - Vasodilators (such as calcium-channel blockers, nitrates).
 - Potassium supplements or potassium-sparing diuretics.
 - Diuretics (consider dose reduction if the person is hypovolaemic).
 - If the decrease in eGFR or the increase in serum creatinine persists despite these measures:
 - Stop the ACE inhibitor therapy, *or*
 - Reduce the dose to a previously tolerated lower dose and recheck levels in 5–7 days (add an alternative antihypertensive medication if required).
- **If serum potassium is 5.0 mmol/L or above:**
 - Investigate other causes of hyperkalaemia and treat accordingly.
 - Stop or reduce the dose of potassium-sparing diuretics (amiloride, triamterene, spironolactone) or nephrotoxic drugs (such as nonsteroidal anti-inflammatory drugs).
- **If serum potassium persists between 5.0 and 5.9 mmol/L despite these measures,** reduce the dose of ACE inhibitor to a previously tolerated lower dose and recheck levels in 5–7 days.
- **Stop ACE inhibitors if serum potassium persists above 6 mmol/L despite these measures.**

ACEi rules



Appendix 5: Checklist for initiation of a SGLT2i

SGLT2 inhibitor Initiation Checklist for the Management of DKD

Date:	Patient Initials:	D.O.B:		
Current HbA1c:	mmol/mol	eGFR:	BMI:	Weight:
		ml/min		Kg
Date of last foot check:		Classification: Low/Moderate/High risk		
Heart Failure: Y/N		ASCVD: Y/N	High risk of CVD: Y/N	
			Q-risk =	
Smoker: Y/N		BP:	mm/Hg	ACR:

Patient History	YES	NO
eGFR <25ml/min		
HbA1c > 80mmol/mol		
Previous ketosis/DKA		
Pregnant, planning pregnancy or breastfeeding		
Active diabetic foot disease (infection/ischaemia/ulcer		
Severe PVD or previous lower limb amputation		
History of Fournier's gangrene		
Patient is on a low-carb <130g, ketogenic diet or prone to fasting		
Type 1 diabetes/ LADA/ Type 3c		
Excess alcohol consumption/IVDU		
History of recurrent UTI or on prophylactic treatment for UTI		
Kidney transplant/polycystic kidney disease		
Dementia, cognitive impairment or where a change could cause confusion		
Evidence of severe frailty		
Patients on high dose immunosuppression, defined as any intravenous immunosuppression therapy in last 3 months or anyone currently on >45 mg po of prednisolone		

If the answer is 'YES' to any of the above, then do not prescribe an SGLT2 inhibitor.

Patient Counselling	Discussed
Explain the mode of action.	
Discuss benefits: prevents progression of renal disease and reduces CV risk.	
Discuss dosage and when to take.	
Possible side effects and management: risk of genitourinary infections.	
Risk of Fournier's gangrene, discuss symptoms – pain, tenderness, erythema, swelling in the genital or perineal area, temperature.	
Discuss signs of DKA – excessive thirst, nausea, vomiting, abdominal pain, difficulty breathing, confusion, and sleepiness.	
Discuss the importance of routine preventative foot care.	
Discuss the importance of maintaining adequate fluid intake to prevent volume depletion.	
Discuss sick day rules	
Provide Patient Information booklet on SGLT2i	
Consider stopping or reducing the dose of concurrent thiazide/loop diuretics/ SU or DPP4-i	

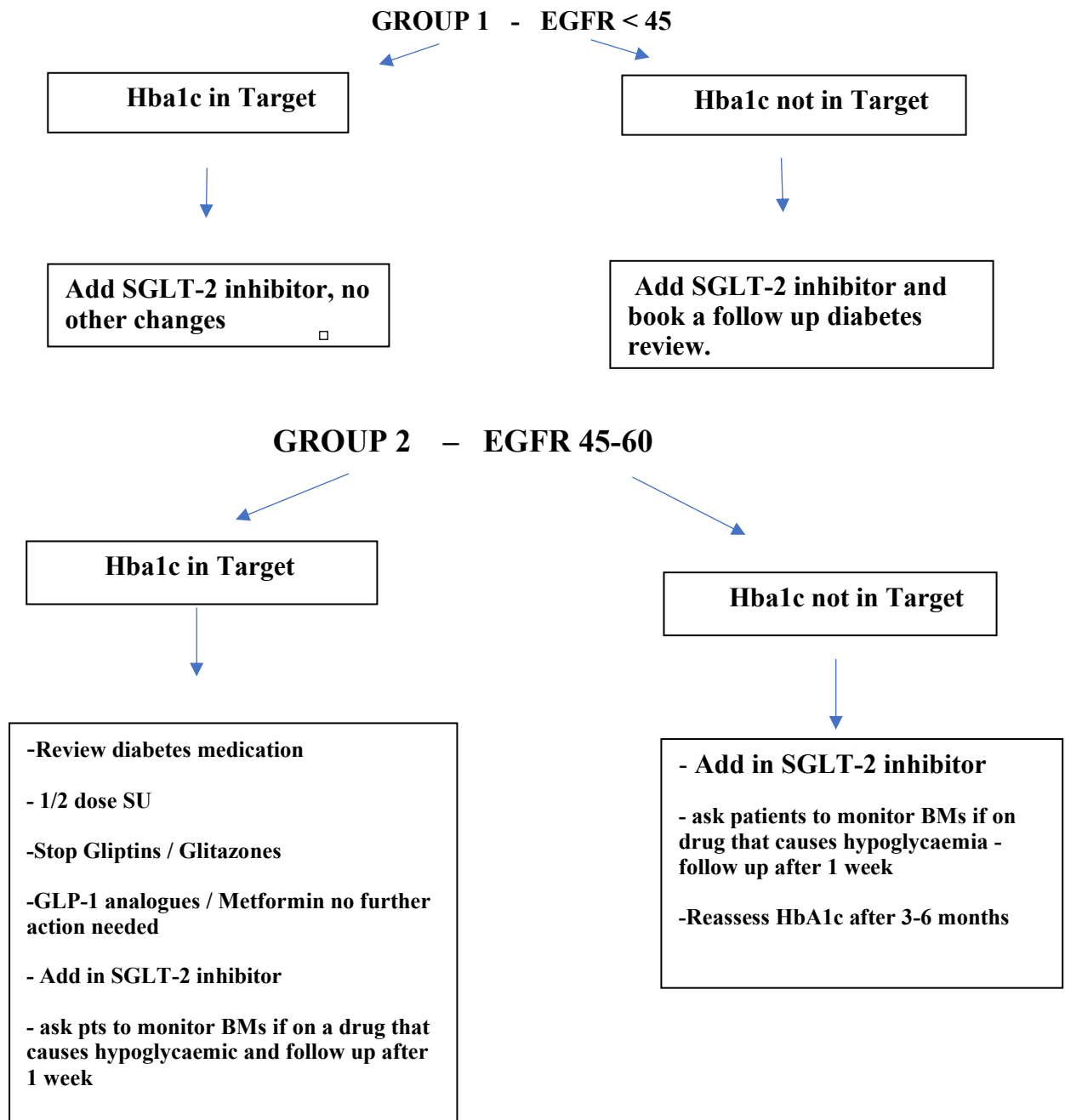
Plan: Started: Reduced dose or stopped: SU/loop diuretic /thiazide/gliptin Recommendation for next diabetic review:

Appendix 6: Deprescribing Algorithm

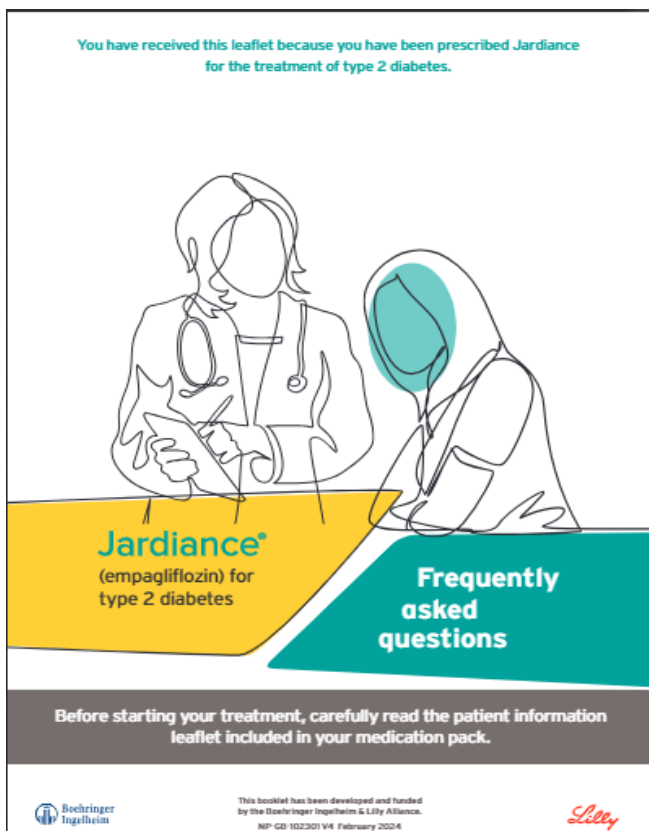
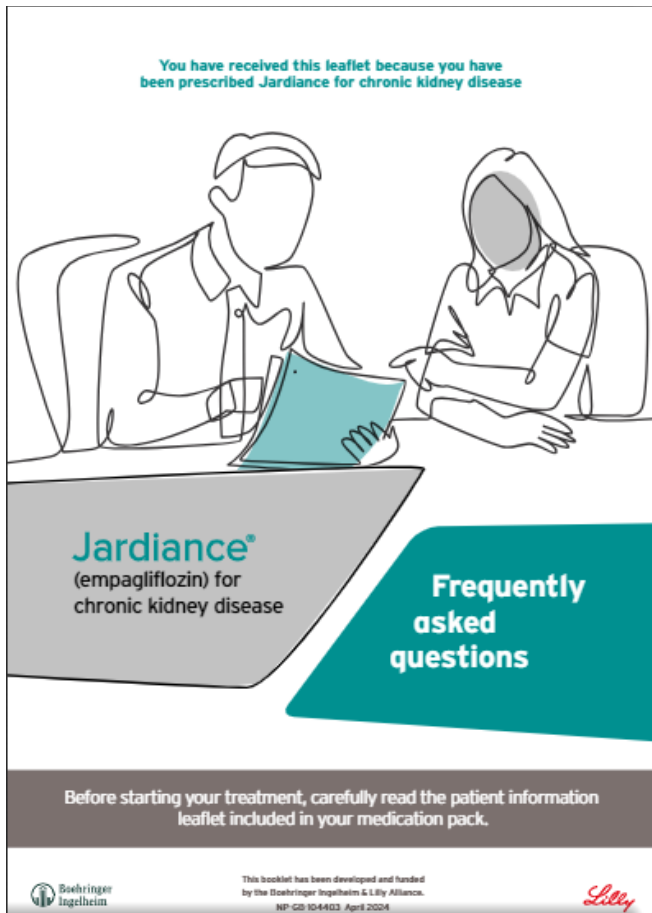
De-prescribing Anti-Diabetic agents when initiating SGLT-2 inhibitors in patients with T2DM and CKD

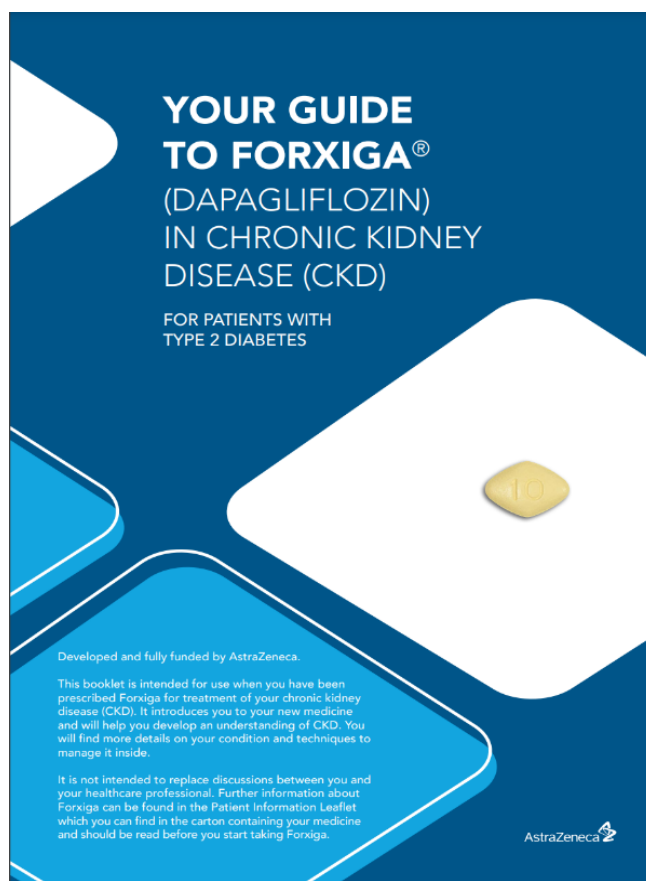
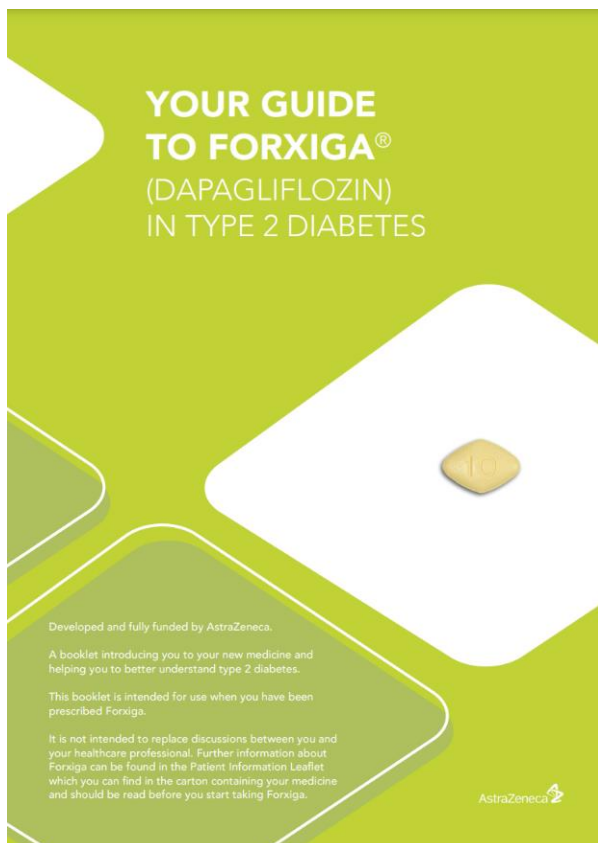
Date of Document: 18.4.2023 Authors: Dr Mousumi Biswas, Professor Peter J. Evans

- For patients with HbA1c 50- 80 mmol/mol who are NOT on insulin and eGFR 25-60ml/min
 - or HbA1c 50-80mmol/mol and eGFR 60-90 and a ACR>3mg/mmol or a QRisk>10%
- Age group 18-80 Years (initiate > 80 y if heart failure history - HF PEF and HF REF)
- Review HbA1c, taken within the previous 6 months, in every patient.



Appendix 7: Patient information booklets





Appendix 8: Trend leaflet on how to minimise genital fungal infection

Authors: Elizabeth Jenkins last revised 04/08/2025



➤ WHY IS THIS LEAFLET FOR YOU?

Fungal infection - known as thrush - is a possible side of effect of some medications used to help you control your type 2 diabetes. This is a very common condition, especially in women. Men and women who have diabetes are at higher risk. It is usually easily treated. This leaflet will help you to understand why you may develop a genital fungal infection and how to manage it.

Data collection sheet.

	Patient Identifier
	First Name
	Last Name
	NHS/CHI Number
	Date Of Birth
	Age
	Diabetes Reg./Duration of Diabetes (yrs)
	HbA1c
	EVENTDATE
	EGFR
	EVENTDATE
	ACR
	EVENT DATE
	Q-Risk
	Pateint coded as CKD
	BP
	EVENT DATE
	BMI
	EVENT DATE
	Diabetic Meds (+TDD)
	Diuretic
	ACE/ARB + TDD
	Statin and dose
	ASCVD/HF
	Liver Disease ALT/AST > 3 X ULN
	Foot check in last 15 months
	Active Foot Disease (ulcer or infection)
	Previous Episode DKA/Ketosis
	End of Life/Life expectancy < 12 months
	Cognitive impairment/dementia
	Pregnant/planning pregnancy/breastfeeding
	History Fourniers gangrene
	Severe PVD/ Previous amputation
	Low carb/ketogenic diet/fasting
	Previous Pancreatitis/Type 3c
	Kidney Transplant/ polysystic kidney disease
	Recurrent Thrush/UTI/Pyelonephritis
	Excess alcohol consumption/IVDU
	Smoking Status
	Comments
	Test strips
	Plan
	Recommendation for next diabetic review
	Started on Dapagliflozin
	Started on a statin
	Gliclazide stopped
	Gliclazide dose reduced
	Glipitin stopped
	Metformin dose increased
	Metformin dose reduced
	Test strips stopped
	Test strips changed to ABUHB approved
	Added CKD code to the patients notes
	Added patient to the Diabetes register
	Patient aware of the current test results and CV risk
	Patient informed of CV risk and HbA1c result
	Referral for a structured education programme
	Diet advice provided
	Patient signposted to "Help me Quit" for smoking
	HbA1c 3-6 months post initiation
	change in HbA1c (mmol/mol) increase or decrease
	eGFR 3-6 months post change in treatment
	ACR (3-6 months post change in treatment)
	BP (3-6 months post change in treatment)