Clinical Effectiveness
South East London

Our Healthier South East London
Integrated Care System

NHS

Prescribing alert: NICE guidance update (to be ratified by SEL IMOC)

Type 2 diabetes in adults: management (NG28) was updated on 15/2/2022. This includes changes to prescribing guidance. The SEL Integrated Medicines Optimisation Committee (SEL IMOC) will update their T2DM guidance for SEL for the summer of 2022. HbA1c management section of the CESEL T2DM guidance (page 7) will be updated to align with SEL IMOC guidance as soon as it is available.

Type 2 Diabetes Mellitus in Adults

A guide for Bexley General Practice

Key messages

1. Lifestyle changes can prevent/reduce need for medication
2. Optimise BP management adjusted for age and co-morbidities
3. Check for complications and do a QRISK2 or 3
4. Optimise HbA1c adjusted for hypoglycaemic risk and frailty
5. Encourage adherence to lifestyle and medication, review at least annually

Always work within your knowledge and competency

March 2022 (review February 2023, or earlier if indicated)

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Why focus on Type 2 Diabetes (T2DM) in Bexley?

T2DM is a risk factor for having worse outcomes from COVID-19.

Primary Care can contribute substantially to reducing diabetes complications, major vascular events and improve survival[9].

- **Preventable:** Management of non-diabetic hyperglycaemia and risk factors can reduce the risk of developing T2DM (and therefore its complications)

- **Under-diagnosed:** T2DM is common and 3,032 people remain undiagnosed in Bexley (prevalence 6% vs 8.3% expected prevalence)[32]

- **Under-treated:** Only 18% of people with diabetes had achieved the Triple Target (HbA1c/BP/statins) by Dec 2021 (historically ~ 41% for Dec 2019 and Dec 2020)

- **Weight management:** may normalise blood sugar control without the use of drugs[4]

- **Tight blood pressure control:** substantially reduces micro- and macrovascular complications and improves survival[5]

- **Cholesterol lowering drugs:** reduce the risk of major vascular events[6]

- **Modest improvements in glucose control:** reduce incidence of complications including foot ulcers, amputations and neuropathy[7]

- **Supporting patients to stop smoking:** reduces their risk of premature death, heart disease and other complications[8]

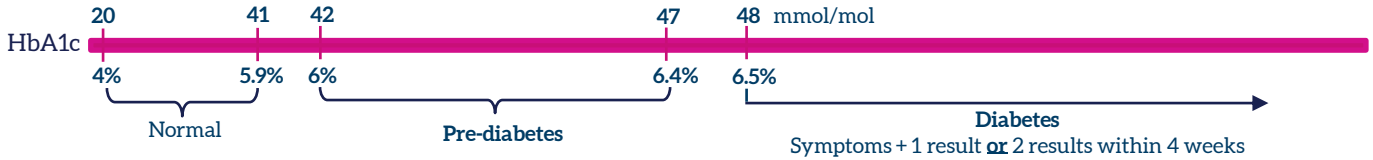
Risk Factors and Diagnosis

Risk factors for T2DM[10]

- Age >25 years and African-Caribbean or Asian
- Age >40 years and Caucasian/White European
- High blood pressure
- BMI >25 especially apple shape
- History of coronary heart disease or stroke
- Serious mental illness
- Polycystic ovarian syndrome and gestational diabetes
- Family history
- COVID-19 infection may precipitate a diabetes diagnosis[11]

Calculate T2DM risk using a QDiabetes calculator

Diagnosis using HbA1c[12]



Diagnosing diabetes with an HbA1c	If initial result is within diagnostic range for diabetes, follow the above guidance
Cautions regarding HbA1c	Caution using HbA1c in abnormal red blood cell turnover or abnormal Hb type (haemoglobinopathy, severe anaemia, altered red cell life-span e.g. post-splenectomy, recent blood transfusion) [In these conditions, liaise with local lab for an appropriate test e.g. fructosamine assay, and interpretation scale]
DO NOT use HbA1c to diagnose	Type 1 diabetes, T2DM in <30 years, symptoms <2 months, pregnancy, up to 2 months post-partum, end-stage renal disease, acute pancreatic damage, HIV infection, or if taking drugs linked with hyperglycaemia e.g. long-term corticosteroids[12]

Principles of care

	Pre-Diabetes	New diagnosis of Diabetes
Support patient understanding	Support patients/carers to reach an understanding of the diagnosis and implications and what they can do to care for themselves	
Code correctly	Use Ardens pre-diabetes clinical template	Use Ardens/Year of Care diabetes clinical template
Structured education is integral to their care	**National Diabetes Prevention Programme (NDPP)** 9-month online behaviour change programme, refer via: - DXS 'Diabetes Prevention Programme referral' - Self-refer option available until Sept 2022. Patients with Diabetes UK risk tool score ≥ 16 can self-refer to NDPP without the need for an HbA1c	Emphasise to patient and carers. Refer/encourage self-referral to structure education programme: Diabetes Book and Learn
Additional	Ardens pre-diabetes search	Use Diabetes UK Information Prescriptions to support personal care (can be downloaded into EMIS and Vision)
Reviews	**Offer annual review to people with non-diabetic hyperglycaemia and/or history of gestational diabetes:** HbA1c and Vital 5 (BP, BMI, smoking status, mental health and alcohol intake)	• Agree clear next review date • All patients should in addition have an annual review with the NICE eight care processes (8CPs)

Red flags

- **New T2DM in >60 years old with weight loss?**
  Refer on 2 week-wait referral for suspected cancer of pancreas[13]
- **HbA1c >85mmol/mol +/- weight loss at diagnosis?**
  Consider Type 1, ketosis prone, latent autoimmune diabetes in adults (LADA). Seek specialist advice.

Diabetes in women considering pregnancy?

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Refer to St Thomas' Pre-conception counselling clinic via eRS Specialty 'Obstetrics' > Clinic type 'Maternal Medicine'

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Type 2 Diabetes: NICE 8 care processes (8CP)

Individualise all targets, review dates and monitoring

1 Body Mass Index[2,14,30]

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Overweight:
- BMI ≥ 23 Asian, African-Caribbean groups
- BMI ≥ 25 Caucasian/White European

→ Agree an initial weight loss target of 5–10% of body weight

2 Which BP target?

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NICE[16]	Age <80yrs ≤140/90mmHg Age ≥80yrs ≤150/90mmHg If with CKD ≤130/80mmHg
QOF[2,15]	≤140/80mmHg (excludes those with moderate or severe frailty)

3 Cholesterol[3]

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- **Primary prevention:** Offer statin if QRISK2 or 3 ≥ 10% (QOF), after addressing modifiable risk factors
- **Secondary prevention** (history of CVD): atorvastatin 40-80mg OD

Women of child-bearing age: need contraception during statin treatment and for 1 month afterwards. Discontinue statins 3 months before trying to conceive

*QOF target excludes those with moderate or severe frailty

4 HbA1c[1,17]

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- It takes 3 months from medication dose change to impact HbA1c
- **HbA1c reviews:** check 3 monthly until target is reached, then 6 monthly
- **Individualise HbA1c target**: especially for those with reduced life expectancy, risk of falls and/or significant co-morbidities
- **Targets:**

NICE	**≤48mmol/mol** (6.5%)	Unless taking a drug that could cause adverse low sugars/hypos e.g. gliclazide, insulin
	≤53mmol/mol (7%)	If on a drug that **could** cause low sugars/hypos
QOF	**≤58 mmol/mol** (7.5%)	If patient HAS NO moderate/severe frailty
	≤75 mmol/mol (9%)	If patient HAS moderate/severe frailty

Ensure all care processes undertaken at least annually

5 Smoking

- **ASK ADVISE ACT**
- Ensure you are trained to deliver Very Brief Advice (VBA)
- If ready to quit refer to appropriate local service

6 Renal function + 7 Albumin: Creatinine ratio (ACR)[18,19]

- **Measure renal function.** Note no eGFR correction needed for ethnicity. Advise against meat consumptions 12 hrs prior to blood test
- **Measure urine ACR:** ideally early morning urine. If random sample, then confirm any ACR between 3-70mg/mmol with early morning sample. Repeat unnecessary if ACR >70mg/mmol
- ACR ≥3mg/mmol is clinically significant proteinuria
- **Consider CKD:** if eGFR <60ml and/or raised ACR (≥ 3 mg/mmol) for more than 3 months
- If urine ACR ≥3, exclude UTI and start an ACEI/ARB even if normotensive
- Use the OneLondon Diabetic Kidney Disease Risk Stratification to identify those at high risk of diabetic kidney disease progression (patients with eGFR <45)[19]

8 Foot check

Medium risk	Neuropathy/absent pulse?	Refer to Oxleas Podiatry Community Clinic (DXS)
High risk	Neuropathy/absent pulse + plus deformity or skin changes in previous ulcer	Urgently refer to Bexley Urgent Diabetic Foot Service (DXS)
Ulceration, acute Charcot foot, necrosis or infection		Bexley URGENT Diabetic Foot Service (DXS) or A&E if out of hours
Suspected sepsis		Refer to A&E

+ Additional

Retinopathy screening	Within 3 months of diagnosis and at least annually[1] Should be called automatically once T2DM coded – check retinopathy screening happening at annual review
Vital 5	Includes also mental health screening and alcohol intake (impact on outcomes)
Vaccinations	COVID-19 vaccine Flu annually and pneumococcal immunisation once[10]

National Diabetes Audit: **8CP and the triple target (TT)** of BP ≤140/80mmHg + HbA1c ≤57 mmol/mol (7.5%) + cholesterol control if QRISK2 or 3 ≥10%[20]

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Identify and address modifiable risk factors → Individualise targets & goals, especially in moderate or severe frailty → Check understanding, adherence and set a review date

Blood pressure[1,2,16]

Diagnosis hypertension in T2DM

Diagnosis	See CE Bexley hypertension guide **Confirm diagnosis with ABPM or HBPM**
Taking a BP in T2DM	• Measure sitting & standing BP in T2DM • If postural drop (≥ 20mmHg SBP), review medications and treat to target on standing BP

Which BP target?

NICE	Age <80yrs ≤140/90mmHg Age ≥80yrs ≤150/90mmHg If with CKD ≤130/80mmHg
QOF[15]	≤140/80mmHg (excludes those with moderate or severe frailty)

Step 1
ACEI or ARB*
ramipril/lisinopril or losartan

↓

Step 2
ACEI or ARB* + CCB/thiazide-like diuretic
ramipril/lisinopril or losartan | amlodipine or indapamide (IR)

↓

Step 3
ACEI or ARB* + CCB + thiazide-like diuretic

↓

If uncontrolled on optimal doses regard as resistant hypertension.
Repeat ABPM/HBPM, assess for postural hypotension, discuss adherence

↓

Step 4
If good renal function and potassium ≤4.5 mmol/L consider low dose spironolactone. If potassium > 4.5mmol/L and/or reduced renal function, consider alpha blocker (doxazosin) or beta-blocker (atenolol/bisoprolol) and/or seeking specialist advice

Optimise medication to most effective tolerated dose, and **check adherence** at each step before stepping up

Consider hypotension if BP ≤90/60mmHg with symptoms. Reduce medication accordingly (may limit up titration of doses).

***For people of Black African or African-Caribbean family origin** use ARB instead of ACEI (as increased risk of angioedema with ACEI)

***For advice on hypertension management in pregnancy**, see CESEL Bexley guide on hypertension page 6

Weight Management[1,14,24]

Physical Activity

Increased physical activity, even without weight loss, brings health benefits

To prevent obesity	45-60 mins moderate intensity exercise/day
With a history of obesity	60-90 mins moderate intensity exercise/day to avoid regaining weight

Weight management referrals in T2DM

- General advice on healthy weight/lifestyle to all
- Tailor interventions to people's circumstance/choices
- Signpost to local and national resources including Bexley council
- Referral forms and further details on DXS – **'Diabetes Info Pack'** and **'Bexley Healthy Weight Pathway'**

BMI > 25	**Offer Tier 2 referral, options including:** • Slimming World • Counterweight Multiple options, please refer to **'Bexley Healthy Weight Pathway'** on DXS
BMI ≥ 30 or **BMI > 27.5 if Black African, African – Caribbean and Asian background**	**Offer Tier 2 referral, options:** • Bexley CVD Prevention Programme • NHS Digital Weight Management Programme **If newly diagnosed T2DM and BMI 30-34.9:** discuss referral with the bariatric surgery team[1]
BMI ≥ 40 or BMI ≥35 with T2DM	**Offer Tier 3 referral:** • SEL Tier 3 Healthy Weight programme, form and criteria on DXS. Refer via e-RS or e-mail gst-tr.tier3@nhs.net • Include BP, BMI, blood tests in last **6** months: HbA1c, lipids, renal
BMI ≥ 35 **+** **Would consider bariatric surgery** **+** **Tier 3 completed**	**Offer Tier 4 referral:** • Bariatric service (for King's & PRUH refer to SEL Treatment Access Policy for criteria; for GSTT see here). • Include details of completed Tier 3 programme for eligibility

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HbA1c management [1,2,17]

Step 1 3 months

Person centred lifestyle advice

If HbA1c ≥ 48mmol/mol (6.5%)* go to Step 2

Step 2 3 months from dose change

Metformin standard release

- Start 500mg OD with/after food and increase by 500mg every 2 weeks until on 1g BD (use MR if GI side-effects)
- Aim for HbA1c of ≤ 48mmol/mol (6.5%)*
- If HbA1c ≥ 58mmol/mol (7.5%)* go to step 3

1st intensification

Step 3 3 months from dose change

Gliclazide: preferred 2nd-line for most patients[16] (guidance under review)

- Consider alternative to gliclazide (Gliptins, SGLT-2 and Pioglitazone) especially if BMI≥35, frail elderly or concern regarding hypoglycaemia e.g. Group 2 driver[26]
- Gliclazide dose 40mg-80mg once to twice daily with meals
- Titrate on pre-meal blood glucose target 4-6mmol/L, individualised BM target or HbA1c
- If HbA1c ≥ 58mmol/mol (7.5%)* go to step 4

2nd intensification

Step 4 3 months from dose change

Third agent needed, or considering insulin, or contra-indications to metformin/gliclazide?

Refer to South East London Blood Glucose Control Management Pathway for Adults with Type 2 Diabetes Mellitus

***Individualise targets and goals**
Patients with moderate or severe frailty the QOF target is ≤75 mmol/mol (9%)

Guidance aligns with SEL IMOC Blood Glucose Control Management Pathway for Adults with Type 2

Need more help?

- See page. 13 for a list of clinical support and services available for Bexley page 13
- For further lipid advice, **including triglyceride management**: SEL IMOC Lipid Management 2021. Or e-mail the GSTT Community CVD clinic team for advice gst-tr.KHPCommunityCVD@nhs.net

Cholesterol Management [2,3]

Cardiovascular risk

- **Check baseline bloods:** non-fasting lipid profile, LFTs, HbA1c, TFT, U&Es
- Record weight, smoking status, BP
- Calculate QRISK2 or 3 (see page 8)
- Offer education and lifestyle interventions to modify risk
- Use shared decision-making to consider risk vs benefits of drug therapy

Primary Prevention

If QRISK2 or 3* ≥ 10%, or patient has CKD: start **Atorvastatin 20mg OD** (or Rosuvastatin 10mg OD), after addressing modifiable risk factors

- Calculate baseline non-HDL level (total cholesterol minus HDL cholesterol)
- Repeat lipids after 3 months, **aiming for ≥ 40 % reduction in non-HDL level**
- LFTs check: baseline, 3 months, 12 months, then as clinically indicated

*For more notes on QRISK2 or 3 use and when not to use, see page 8

≥ 40 % reduction	Review annually	
< 40% reduction	1. Consider **up-titration of statin** to maximum dose Atorvastatin 80mg (or Rosuvastatin 20mg**)	If still not achieving target after further 3 months, refer to lipid clinic.
	2. If intolerant to higher dose, consider **adding ezetimibe 10mg OD** to maximal tolerated statin dose	
	3. If intolerant to **any statin, start ezetimibe 10mg OD** and **refer to community CVD clinic** (via DXS)	

Secondary Prevention

History of CVD, (MI, angina, stroke/TIA, peripheral vascular disease, abdominal aortic aneurysm): Offer high-dose, high-intensity statin: Atorvastatin 40-80mg OD or maximum tolerated dose (or Rosuvastatin 20mg** OD)

If no baseline : consider a target of non-HDL cholesterol <2.5mmol/L or LDL cholesterol <2mmol/L

≥ 40 % reduction	Review annually	
< 40% reduction	Ensure on max tolerated statin dose and consider **adding ezetimibe 10mg**	If still not achieving target after further 3 months, refer to lipid clinic.

**For rosuvastatin 40mg, specialist supervision is recommended when this dose is initiated

Pre-conception, Pregnancy[26]

Pre-conception care: women with known diabetes, wishing to conceive

- **Refer to pre-conception counselling clinic** GSTT/KCH (eRS: search 'Obstetrics', clinic type 'Maternal Medicine'), or QEH* (lg.sidcupdiabetes@nhs.net), DVH* (dgn-tr.dvhdiabetescentre@nhs.net). *Can also refer using the DART form (DXS).
- **Start folic acid 5mg once a day**, at least 3 months before trying to conceive
- Check **HbA1c,TFTs, U&Es**
- Aim for HbA1c **≤6.5%** or **48mmol/mol**, if HbA1c very high **>10%** or **86mmol/mol**, advise to wait before trying for baby, as risk of serious problems, offer contraception until good glucose control)[26]
- **Start regular home glucose monitoring** (blood glucose machines available from the hospital antenatal teams). Blood glucose should be 5-7 mmol/l pre-breakfast ('fasting' level), 4-7mmol/l before meals at other times of the day.
- **Review medications and stop those contraindicated in pregnancy**
  - e.g. ACEi, ARB and statin - see Bexley CESEL Hypertension Guide (page 6) for further information, seek specialist advice if necessary
  - See Best Use of Medicines in Pregnancy 'BUMPS' for information on drugs to avoid in pregnancy
- **Reinforce life-style modifications**

Known diabetes and pregnant?

- Should be under a **Consultant Obstetrician/Obstetric Physician at site of booking** (e.g. LGT, DVH, GSTT) if pregnant with diabetes, or complex and/or multiple co-morbidities including renal disease.
- Ensure on **folic acid, has home-glucose monitor, review medication, reinforce life-style** (see above)
- Fasting glucose should be 5-7 mmol/l and 1-hour post-meal if on metformin/insulin < 7.8 mmol/l

Gestational diabetes mellitus (GDM)[26]

GDM = diabetes developed during pregnancy. It usually resolves after delivery, but is associated with adverse maternal and foetal outcomes

- **Screening for GDM:** occurs for at-risk patients at antenatal booking appointments; patients should be under consultant care throughout
- **If previous GDM and now pregnant:** need an early OGTT at 16 weeks gestation (via midwives)
- **Past history of GDM = increased risk of developing T2DM, therefore should be offered:**
  - **Lifestyle advice:** weight control, diet and exercise
  - **Fasting glucose 6-13 weeks post-partum to exclude diabetes** (for practical reasons this might take place at the 6-week post-natal check)
  - **After 13 weeks offer fasting glucose** if not done earlier, or an **HbA1c** if former not possible
  - HbA1c when patient wishes **to conceive again**
  - **Annual HbA1c** to screen for T2DM
  - **Offer National Diabetes Prevention Programme** (refer via DXS) or self-referral, after completing Diabetes UK risk-score: Diabetes UK risk

Sick-day rules[27,28]

For anyone with diabetes

- If available increase glucose monitoring to at least 4 times a day when unwell
- Maintain fluid and carbohydrate intake. Sugary fluids if glucose low and sugar-free fluids if glucose high
- **NEVER stop insulin**: change dose of insulin and gliclazide according to glucose readings

Patients should seek medical advice if they:

- have no access to glucose monitoring and experience symptoms of high glucose e.g. thirst, polyuria, fatigue
- are unable to maintain hydration or take carbohydrates due to vomiting
- have persistently high or low glucose despite altering medication doses
- other concerns

If changing medication doses remember to change them back when better i.e. eating and drinking normally for 2 days

SADMANS rules

Consider stopping these classes of drugs temporarily during dehydrating illness

S	SGLT2 inhibitors	**M**	Metformin
A	ACE inhibitors	**A**	ARBs
D	Diuretics	**N**	NSAIDs
		S	Sulfonylureas

- **Patient Information Leaflet:** Type 2 Diabetes: What to do when you are ill (TREND)
- **London Clinical Network Guidance Sick day rules:** how to manage Type 2 diabetes if you become unwell with coronavirus and what to do with your medication
- **NHS Video library guide to using glucometer**

Notes on QRISK2 or 3

- A QRISK2 'calculator' is integrated into EMIS, however a more inclusive CV risk score, QRISK3, can be found here.
- **QRISK2 is not applicable in people at high-risk of CVD:** Type 1DM, CKD 3-5, those with pre-existing CVD/previous stroke/TIA, as they should be on lipid modification treatment.
- **QRISK2 will underestimate some people's risk** e.g. severe mental illness, CKD and rheumatological conditions, which **QRISK3 DOES include.**
- **The calculated CV risk is an estimate. Clinical judgement is required to adjust for factors that the risk calculator does not take into account.**

Type 2 Diabetes Review (at least once a year)		
Advice for patients		
Dietary advice Diabetes UK	1. Eat plenty of vegetables 2. Have sufficient fibre in your diet 3. Be mindful about carbohydrates: the type and the amount 4. Eat fish, especially oily fish (mackerel, salmon, sardines) regularly 5. Cut down on: • sugary food and drinks • energy dense foods such as crisps, cakes, biscuits and pastries • alcohol • salty, processed foods	**Consider doing the CDEP Nutrition learning module to increase your knowledge of diet and T2DM**
Goal setting	Support your patients to make SMART goals e.g. **Specific:** 'I want to lose weight' **Measurable:** 'I'll aim to lose 2kg' **Achievable:** 'I attend a Book and Learn course to help me' **Realistic:** 'I'll ask my family to help too' **Timed:** 'I will do this over the next 6 months'	Watch this short patient video on achieving goals
Personalised care	'A one-size-fits-all health and care system simply cannot meet the increasing complexity of people's needs and expectations. Personalised care is based on 'what matters' to people and their individual strengths and needs.' NHS England	Consider learning through the Personalised Care Institute, or encouraging patients to work with a Social Prescribing Link Worker (SPLW) to help take control
Sick day rules	See page 8	

Resources for patients	
Support Groups	**Diabetes UK Bexley Group** https://www.diabetesukbexley.com/contact-us
General diabetes information	**Diabetes UK** Patient information leaflets in different languages
Structured diabetes education	**NHS South London Diabetes Book & Learn** https://diabetesbooking.co.uk/
Self-management education and support for African and Caribbean Communities	Healthy Eating and Active Lifestyles for Diabetes (HEAL-D) is a culturally-tailored diabetes self-management education and support programme for African and Caribbean communities. HEAL-D | Lifestyle for diabetes in African & Caribbean communities
Structure pre-diabetes education	**National Diabetes Prevention Programme**: patients with pre-diabetes can **self-register**
Support during Ramadan	**Ramadan and diabetes**
Healthy lifestyle	**Dash diet** for lowering blood pressure **Local Walking For Health group** https://www.walkingforhealth.org.uk/walkfinder and **Local activity finders: getactive** and **gomammoth** NHS Better Health **free tools and support** to kickstart your health (weight, smoking, activity, alcohol) **Bexley Stop Smoking**

Type 2 Diabetes Review (at least once a year)

Principles of remote monitoring: See CES LTC during COVID-19 guide

	Tasks/Activity	Who?	Where?	Tools/Support
Review planning	**Call/recall planning:** Use Ardens searches to help decide who to prioritise for review Follow the Year of Care model [31]	Admin colleague with clinician support: GP/nurse/pharmacist		Ardens or UCLP searches available on your EMIS system, ask CE Bexley for support
Pre-patient review	**Contact patient for:** 1. **Bloods:** U&Es, FBC, lipids, HbA1c & urine ACR 2. **BP measurement:** in practice, ABPM, or HBPM 3. **Weight and height:** home measurements (for remote reviews)	HCA/GP Nurse/pharmacist	Remote or F2F	AccuRx and e-Consult have diabetes review templates for pre-review information gathering - text/contact patient to encourage completion pre-review.
Patient review	1. **Ask the patient their concerns, expectations, and questions** 2. **Review trend for BMI and BP** 3. **Review investigations:** urine ACR, renal function, HbA1c, cholesterol 4. **Re-calculate QRISK2 or 3** for primary prevention 5. **Discuss risk-reduction + life-style**: in context of QRISK2 or 3, Vital 5 and COVID risk 6. **Review mental health:** consider PHQ-9 and GAD 7. Any signs of diabetes distress? 7. **Medication review**: Any concerns? Focus on side-effects and adherence. Signpost to community pharmacy for New Medicines Service. Ensure renal function, HbA1c, cholesterol and BP satisfactory and adjust medications if needed. 8. **Foot check examination and advice on foot care**: share link via AccuRx Diabetes UK advice on Footcare 9. **Eye check:** Check patient is receiving annual eye check ups 10. **Driving:** Use Driver and Vehicle Licensing Agency (DVLA)'s Assessing fitness to drive: a guide for medical professionals for information relating to diabetes[25]	GP/GP Nurse/pharmacist	Remote or F2F	Use Ardens T2DM clinical template (ensures correct coding, annual review, medication review & Vital 5) Sign post to Diabetes Book and Learn for structured education Consider IAPT – MIND in Bexley mental health support for long-term health conditions. (Self referral or via DXS)
	• **Goal setting** • **Self management** • **Referral/signposting to community resources**	GP/GP nurse/pharmacist or social prescribing link worker & patient		Self-management resources - send links via AccuRx Diabetes UK Information Prescriptions to support personal care
	• **Follow-up plans:** agree with patient e.g. review BP monthly until it is at target, HbA1c every 3 months until at target and then 6 monthly	GP/GP Nurse/pharmacist		

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T2DM: Preferred Medication[1,3,16,29]

	Drug	Starting dose	Daily Range	Notes (these are not extensive, please refer to the latest BNF for further information especially titration increments/cautions/contra-indications)
Biguanide	Metformin	500mg OD	Metformin standard release Start 500mg daily with/after food and increase by 500mg every 2 weeks until on 1g BD or maximum tolerated dose	• Ensure eGFR >45ml/min, or review dose. Contraindicated if corrected eGFR <30ml/min. Routine renal function at least annually, 6 monthly for those at risk of renal impairment. • Consider slow-release preparation if standard preparation causes gastrointestinal side effects. • Take with meals to reduce gastrointestinal side effects • Remember sick day rules ☛ P.8 • Manufacturer advises patients and carers should be informed to seek urgent medical advice if symptoms of lactic acidosis e.g., dyspnoea, cramps, abdominal pain
Sulfonylureas	Gliclazide	40mg – 80mg daily	160mg-320 mg daily, doses over 160mg divided. Titrate every 2 weeks according to pre-meal blood glucose – 4-6mmol/L or individualised target or against 3 monthly HbA1c.	• Inform patients of risk of adverse events/hypoglycaemia, particularly if renal impairment • Advise patients on how to manage hypoglycaemia • Use with care in those with mild to moderate renal impairment (eGFR 30-60ml/min), only prescribe under specialist advice in severe impairment (eGFR <30ml/min) • Self-monitor according to DVLA guidance and consider alternative if Group 2 driver (large lorries and buses) • Consider alternative if BMI >35 • Care with frail elderly, housebound and certain occupations e.g., working heavy machinery
ACEI	1st line Ramipril	2.5mg OD (1.25mg OD in frail/elderly patients)	2.5mg-10mg OD	• For people of Black African or African-Caribbean family origin, use ARB instead of ACEI (as increased risk of angioedema with ACEI) • Check base line U&Es and renal profile (Na/K/Cr/eGFR). Hyperkalaemia may occur, therefore close monitoring of serum potassium is required • Re-check renal profile within 2 weeks of initiation or dose increase and then at least annually. • **Titrate ACEI/ARB up at 2-4 weekly intervals to achieve optimal BP control** • Initiation/dose titration: if Cr increases by >20% (or eGFR falls by >15%) stop ACEI and seek specialist advice. ACEI dose should only be increased if serum creatinine increases by <20% (or eGFR falls by <15%) after each dose titration and potassium <5.5mmol • **ACEI/ARB dose should be optimised before the addition of a second agent** • Side effects: symptomatic hypotension can occur on first dosing – suggest take at night. Dry cough with ACEI, consider switch to ARB • **Caution:** Do not combine ACEI and ARB to treat hypertension • For diabetic nephropathy ARB of choice: losartan and irbesartan
	2nd line Lisinopril	10mg OD	10-80mg OD (maintenance dose 20mg for hypertension)	
ARBs	Losartan	50mg OD (25mg OD if >75yrs old)	50-100mg OD	
	Candesartan	8mg OD	8mg-32mg OD	

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T2DM: Preferred Medication[1,3,16,29]

	Drug	Starting dose	Daily Range	Notes (these are not extensive, please refer to the latest BNF for further information especially titration increments/cautions/contra-indications)
CCBs	Amlodipine	5mg OD	5-10mg OD	• Increase after 2-4 weeks to maximum dose of 10mg OD. • Caution: Interacts with simvastatin – consider switching to atorvastatin. • If amlodipine causes ankle oedema consider using a thiazide-like diuretic instead • **CI:** unstable angina, aortic stenosis, severe hypotension • Side effects include flushing and headaches at initiation; swollen ankles especially at higher doses
Thiazide-like diuretics	Indapamide (IR)	2.5mg OD	2.5mg OD	• Check baseline renal profile, then after 2 weeks, then at least annually. If K < 3.5mmol/L or eGFR <25ml/min, stop indapamide and seek specialist advice.
Aldosterone receptor antagonist (K+ sparing diuretic)	Spironolactone	25mg OD	25mg OD	• Step 4: Spironolactone is the preferred diuretic at step 4 (NICE), but is an unlicensed indication in resistant hypertension (BNF) • Consider only if potassium ≤4.5mmol/L (caution in reduced eGFR <30ml/min, as increased risk of hyperkalaemia). Monitor Na/K/renal function within 1 month and repeat 6 monthly thereafter • If K>4.5mmol/L should be stopped.
α-B	Doxazosin (IR)	1mg OD	2-16mg OD (or BD dosing when >8mg/day)	• Consider at Step 4 if potassium ≥ 4.5mmol/L. Initial dose of 1mg usually increased after 1-2 weeks to 2mg OD • At doses above 8mg/day, consider split dosing from OD to BD to reduce BP variation • **Caution:** Initial dose as may cause postural hypotension, avoid in elderly as orthostatic hypotension risk
β-B	Atenolol	25mg OD	25-50mg OD	• Consider at Step 4 if potassium ≥ 4.5mmol/L. • **Particular caution in T2DM – symptoms of hypoglycaemia may be masked.** • Beta blockers may be considered in younger people and in those with an intolerance/CI to ACEI/ARBs, women of childbearing potential, co-existent anxiety/tachycardia/heart failure. • **CI:** asthma, 2nd/3rd degree AV block, severe PAD • **Caution:** beta blockers can cause bradycardia if combined with certain CCBs e.g. Verapamil/Diltiazem
	Bisoprolol	5-10mg OD	5-20mg OD	
Statin **(See page 7)**	Atorvastatin (alternative is rosuvastatin)	20mg OD	20-80mg OD	• Seek specialist advice if eGFR <30ml/min, liver disease, untreated hypothyroidism, heavy drinker • **CI** in pregnancy, breast feeding, avoid or address contraceptive needs women of childbearing age. Advise to stop 3 months before conception. • Multiple drug interactions, check BNF for advice, avoid grapefruit juice • Advise patient to visit GP if they experience unexplained muscle pains • Refer to SEL IMOC Guidelines on Lipid Management

Bexley clinical support and services

- **Bexley Care Community Diabetes Specialists Nurses** – DXS Bexley Care 'Single Point of Contact Referral form' under 'Diabetic Pathway', email address oxl-tr.diabetes@nhs.net
- **General advice – non-urgent -** Consultant Connect, Advice and Guidance using 'Diabetes Non-Emergency' on e-RS.
- **General Diabetic Medicine** – Triage service at QMH, OP clinics at QEH, DVH, Lewisham Hospital, King's/Denmark Hill, Diabetes with complications (GSTT)
- **BHNC Phlebotomy Plus** – annual review for housebound patients including phlebotomy service. Referral form on DXS 'Phlebotomy Plus Referral form', send via e-RS.
- **Podiatry and foot** (routine and urgent*) – Oxleas (*different forms) or use DART form, both on DXS.
- **Community Hypertension and Lipid Clinic**: DXS referral or email for advice gst-tr.KHPCommunityCVD@nhs.net
- **Erectile dysfunction**– intermediate service at Bexley Group Practice (24 Station Road, Belvedere). Referral via DXS 'Erectile Dysfunction Clinic Referral form' email to bex.erectiledysfunction@nhs.net
- Specialist clinics:
  - **Pre-conception counselling.** GSTT/KCH - on eRs specialty '**Obstetrics'**. Clinic type '**Maternal medicine'.** For QEH* (lg.sidcupdiabetes@nhs.net), DVH* (dgn-tr.dvhdiabetescentre@nhs.net), refer by email with patient details or use the DART form (on DXS).
  - **Women with diabetes who become pregnant should be under a Consultant Obstetrician/Obstetric Physician at site of booking** (e.g. LGT, DVH, GSTT) (also if pregnant with complex and/or multiple co-morbidities including renal disease)
  - **Renal Diabetes** – Renal impairment & diabetes (GSTT)

Additional professional resources

- '**Summary of Diabetes Pathways in Bexley**' and '**Bexley Healthy Weight Pathway**' - on DXS
- **Diabetes foot care pathway** for SEL, Dartford & Gravesham – on DXS
- **Cambridge Diabetes Education Programme**: comprehensive, competence-based learning. https://www.cdep.org.uk/
- Diabetes in Healthcare Diabetes UK free online learning for health professionals
- RCGP Diabetes Hub
- Personalised Care Institute
- Primary Care Diabetes Society
- More professional resources on SEL ICS website – coming later in 2022
- PITstop for Diabetes training – email admin@pitstopdiabetes.co.uk to enquire about free courses for Bexley
- TrendDiabetes

Structured education

- **NHS South London Diabetes Book & Learn** https://diabetesbooking.co.uk/
- **National Diabetes Prevention Programme (NDDP)** https://preventing-diabetes.co.uk/south-east-london/

Acknowledgements

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Access this and other guides online at: Clinical Effectiveness South East London (CESEL)

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Abbreviations

2WW – Two-week-wait referral

8CP – 8 Care Processes

α-B – Alpha blocker

A&E – Accident and Emergency

ABPM – Ambulatory blood pressure monitoring

ACE-i– Angiotensin converting enzyme inhibitor

ACR – Albumin-creatinine ratio

ALT – Alanine aminotransferase

APL – Active patient link tools

ARB – Angiotensin receptor blocker

AST – Aspartate aminotransferase

BAME – Black, Asian and Minority Ethnic

β-B – Beta blocker

BD – Twice daily (dosing)

BM- Blood monitoring

BMI – Body mass index

BNF - British National Formulary

BP – Blood Pressure

CDEP – Cambridge diabetes Education Programme

CES – Clinical Effectiveness Southwark

CCB – Calcium channel blocker

CI – Contra-indication

CK – Creatinine Kinase

CKD – Chronic Kidney Disease

Cr – Creatinine

CVD – Cardiovascular disease

DASH – Dietary approaches to stop hypertension

DESMOND – Diabetes Education and Self-Management for Ongoing and Diagnosed

DPP – Diabetes Prevention Programme

DVLA – Driver and Vehicle Licensing Agency

DXS – Point-of-care tool

ECG – Electrocardiogram

eGFR – Estimated glomerular filtration rate

ERS – Electronic Referral System

F2F – Face-to-face

FBC – Full blood count

GSTT – Guy's and St. Thomas' Hospital Trust

GI – Gastro-intestinal

IGR – Impaired Glucose Regulation

IR – Immediate release

K – Potassium

KCH – King's College Hospital

HbA1c – Haemoglobin A1c %

HBPM– Home blood pressure monitoring

HDL – High-density lipoprotein

IGR – Impaired glucose regulation

IHD – Ischaemic Heart Disease

LFT – Liver function tests

LADA – Latent autoimmune diabetes in adults

LDL – Low-density lipoprotein

MI – Myocardial infarction

NDA – National Diabetes Audit

NDDP – National Diabetes Prevention Programme

NICE – The National Institute for Health and Care Excellence

NSAID – Non steroidal anti-inflammatory drug

OD – Once daily (dosing)

OGTT – Oral glucose tolerance testing

PAD – Peripheral arterial disease

PCOS – Polycystic ovarian syndrome

PHM – Population health management (contract)

PLT – Protected learning time

PMS – Primary medical services (contract)

QOF – Quality and outcomes framework (contract)

QRISK2 – a prediction algorithm for CVD. EMIS currently using QRISK2 (although QRISK3 released in 2017)

RCGP – Royal College of General Practitioners

Renal profile – includes serum sodium, potassium, creatinine, eGFR

SELAPC – South East London Area Prescribing Committee

SEL – South East London

SBP – Systolic blood pressure

SPC – Summary of product characteristics

SPLW – Social Prescribing Link Worker

T2DM – Type 2 Diabetes Mellitus

TIA – Transient ischaemic attack

TFT – Thyroid function tests

TT – Triple target

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March 2022 (review February 2023, or earlier if indicated)