Prescribing guidelines for the management of type 2 diabetes in primary care

Contents

- Scope of guidelines
- Overall management of type 2 diabetes in primary care
- Treatment targets for patients with type 2 diabetes
- Treatment algorithm for blood glucose control in adults with type 2 diabetes in primary care (Available separately here)
- Preferred drug choices
- Reviewing and stopping treatment
- Comparison of different classes of drugs for individualising therapy in type 2 diabetes
- Self-monitoring of blood glucose guidelines in type 1 and type 2 diabetes (Available separately here)
- Diabetes and driving: Information for Health Care Professionals
- Appendix A – tools and resources to support implementation of the guideline
  - Resources to support lifestyle changes
  - Patient decision aids to support individualised care
  - Surrey PCN support materials
  - Other resources
  - GLP-1 patient agreement forms
- Appendix B – definitions of functionally independent, functionally dependent and frail

Scope of guideline

This guideline offers guidance on the prescribing for adults with type 2 diabetes in primary care (except insulin prescribing), and brief advice on the wider management of type 2 diabetes. It does not cover lifestyle advice, the management of type 2 diabetes with insulin, choice of blood glucose testing strips, Non Diabetic Hyperglycaemia (NDH) (previously known as pre-diabetes, impaired glucose tolerance and impaired fasting glucose), type 1 diabetes or diabetes in pregnancy.

Type 2 diabetes is a complex condition which requires a multifactorial approach to it’s management. NICE recommends adopting an individualised approach to diabetes care that is tailored to the needs and circumstances of the individual. These guidelines are based on recommendations in NICE guidelines.

Tools and resources to support implementation of the guideline are signposted in Appendix A.

Agreed by Surrey PCN: February 2018
Review date: February 2021

Treatment algorithm (page 4 & 5 updated June 2022)
# Overall management of Type 2 Diabetes in Primary Care:

## Diagnosis

- **HbA1c ≥48 mmol/mol (6.5%) OR Fasting glucose ≥7 mmol/L**
  
  (Note: don’t use HbA1c if rapid rise in blood sugar/increased red cell turnover/pregnancy/anaemia/haemaglobinopathies)

  If asymptomatic repeat test two weeks apart

## Management

### Patient support and lifestyle advice (signpost to resources in Appendix A)

- Refer to structured education programme e.g. DESMOND, at diagnosis with regular reinforcement
- If overweight aim to reduce weight by 5-10%, but **any weight loss is beneficial**
- Increase physical activity and offer stop smoking support
- Erectile dysfunction – ask men about this annually. For treatment see [Surrey PCN guidance](#)
- Discuss contraception and pregnancy in women under 50 yrs

### Dietary advice (be sensitive to the person’s needs, culture and beliefs)

- Encourage review of carbohydrate intake and individualise recommendations for carbohydrate and alcohol intake, meal patterns and portion control
- Recommend slow release high fibre foods e.g. fruit and vegetables, whole grains, pulses
- Include oily fish and low fat dairy in the diet
- Reduce processed foods (including meats) and overall fat intake from all sources
- Use of foods specifically for people with diabetes is unnecessary

### Reducing Cardiovascular Risk

#### Blood pressure (see table over page for BP treatment target)

1<sup>st</sup> Line: **ACE inhibitor** (because of renal benefits) If intolerant of ACEI try an ARB

- African or Caribbean origin: use ACEI plus indapamide or Calcium Channel Blocker (CCB)
- Use CCB in women who may become pregnant

2<sup>nd</sup> Line: **Add CCB or indapamide**

3<sup>rd</sup> Line: **ACEI plus CCB plus indapamide**

4<sup>th</sup> Line: **Add low dose spironolactone or bisoprolol or doxazosin**

#### Lipids

**Primary prevention**

Offer Atorvastatin 20mg, if QRISK2 ≥10%

**Secondary prevention**

Atorvastatin 80mg.

#### Blood glucose (see table over page for individualising blood glucose treatment targets)

- Individualise HbA1c, treat the patient not the target (see table 1 for advice on treatment targets)
- Relax target if on treatment associated with hypoglycaemia
- Lifestyle is crucial

<table>
<thead>
<tr>
<th>Intensify treatment if</th>
<th>HbA1c ≥ 48 mmol/mol (6.5%) on lifestyle</th>
<th>58 mmol/mol (7.5%) on any drug therapy, or according to individualised target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target after intensifying treatment, HbA1c ≤ 48 mmol/mol (6.5%) on lifestyle and single drug therapy alone (except SU or repaglinide)</td>
<td>53 mmol/mol (7%) on multiple drug therapy (or SU monotherapy), or according to individualised target</td>
<td></td>
</tr>
</tbody>
</table>

## Managing complications

### Foot care

At initial foot screening – give foot education leaflet with information on how to self-refer

Annual examination for risk factors and stratification of risk:

- **Neuropathy** (use 10g monofilament)
- **Evidence of ischaemia**
- **Ulceration, callouses, infection or gangrene**
- **Deformity, Charcots arthropathy**

Refer if one or more of the above is present

### Autonomic neuropathy (think about symptoms and manage)

- Reduced hypo awareness or highly fluctuating blood glucose control
- Unexplained bladder emptying
- Gastrointestinal symptoms: gastroparesis, diarrhoea
- Consider referral to specialist service for overall management advice

### Peripheral neuropathy

Tight glycaemic control may reduce progression of neuropathy See [Surrey PCN treatment guidelines for diabetic neuropathy](#)

### Renal and eye disease

BP target is lower in renal and eye disease <130/80

[NICE guidelines on CKD, managing complications in type 2 diabetes](#)
### Treatment targets for patients with type 2 diabetes

<table>
<thead>
<tr>
<th>Health status</th>
<th>HbA1c target</th>
<th>Blood pressure target (mmHg)</th>
<th>Cholesterol</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>o Discuss and agree individual HbA1c target with the patient</td>
<td>* ≤130/80 if there is kidney, eye or cerebrovascular damage</td>
<td>Statins likely to be indicated, if QRISK2 ≥10%</td>
</tr>
<tr>
<td></td>
<td>o Relax target based on individual circumstances</td>
<td>≤140/80*</td>
<td>Statins indicated</td>
</tr>
<tr>
<td>Healthy (Lifestyle, diet and single drug Rx, except sulphonylurea or repaglinide)</td>
<td>≤ 48 mmol/mol</td>
<td>≤ 6.5%</td>
<td>≤140/80*</td>
</tr>
<tr>
<td>On multiple drug Rx, or single drug Rx with sulphonylurea or repaglinide</td>
<td>≤ 53 mmol/mol</td>
<td>≤ 7.0%</td>
<td>≤140/80*</td>
</tr>
</tbody>
</table>

**Suggested local targets for HbA1c and BP to individualise treatment in older people**:  

<table>
<thead>
<tr>
<th>Age and Function</th>
<th>HbA1c</th>
<th>Blood Pressure</th>
<th>Statins indicated</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;65 years functionally independent</td>
<td>≤ 58 mmol/mol</td>
<td>≤ 7.5%</td>
<td>≤140/90</td>
</tr>
<tr>
<td>&gt;65 years functionally dependent</td>
<td>≤ 64 mmol/mol</td>
<td>≤ 8.0%</td>
<td>≤140/90</td>
</tr>
<tr>
<td>&gt;65 years and frail</td>
<td>≤ 70 mmol/mol</td>
<td>≤ 8.5%</td>
<td>≤140/90, &lt;150/90 if &gt;80 yrs old</td>
</tr>
</tbody>
</table>

**see Appendix B for definitions of functionally independent, functionally dependent and frail**
Treatment Algorithm for blood glucose control in adults with type 2 diabetes in primary care

See next page for notes and treatment algorithm in patients if metformin is not tolerated / contra-indicated

Lifestyle intervention is crucial

If HbA1c ≥ 48 mmol/mol (6.5%) with lifestyle alone

First line monotherapy: Start METFORMIN (if eGFR >45ml/min, ser Creat <130 micromol/l)
- Titrate dose every 2 weeks to maximum tolerated dose to reduce incidence of side-effects. See Surrey PAD advice
- If not tolerated, try metformin MR

➢ Aim for HbA1c ≤ 48 mmol/mol (6.5%) or individualised target

If HbA1c ≥ 58 mmol/mol (7.5%) or individual target not met

First intensification (dual therapy): Consider using a patient decision aid to guide choice of treatment
METFORMIN + SULPHONYLUREA or METFORMIN + GLIPTIN or METFORMIN + SGLT-2* or
- METFORMIN + PIOGLITAZONE

➢ Aim for HbA1c ≤ 53 mmol/mol (7%) or individualised target

If HbA1c ≥ 58 mmol/mol (7.5%) or individual target not met

Second intensification (triple therapy or insulin):
METFORMIN + GLIPTIN + SULPHONYLUREA or METFORMIN + SULPHONYLUREA + PIOGLITAZONE or METFORMIN + SGLT-2 + SULPHONYLUREA or
- METFORMIN + PIOGLITAZONE + SGLT-2* or
- METFORMIN + INSULIN THERAPY (isophane insulin 1st line) (review the need for other blood glucose lowering therapy)

➢ Aim for HbA1c ≤ 53 mmol/mol (7%) or individualised target

If HbA1c ≥ 58 mmol/mol (7.5%) or individual target not met

Further intensification:
METFORMIN + INSULIN BASED INTENSIFICATION (review the need for other blood glucose lowering therapy)
or If triple therapy contraindicated, not tolerated, or not effective AND meet strict criteria for use consider:
METFORMIN + SULPHONYLUREA + GLP-1 mimetic

➢ Aim for HbA1c ≤ 53 mmol/mol (7%) or individualised target

Criteria for GLP-1 use:
- BMI ≥58 AND weight related co-morbidities psychological issues
- BMI ≤58 AND insulin would have significant occupational implications
- Weight loss would improve other weight related co-morbidities

Continue only: If 3% fall in weight AND 11mmol/mol fall in HbA1c by 6 months

Specialist initiation only:
GLP-1 mimetic + INSULIN THERAPY

Preferred choices:
- SULPHONYLUREA = gliclazide
- **GLIPTIN (or DPP-4i) = sitagliptin, linagliptin in patients with deteriorating renal function where there is a risk that dose reduction of sitagliptin may not take place)
- SGLT-2 = empagliflozin
- GLP-1 mimetic = lixisenatide, liraglutide (dulaglutide if once weekly injection needed)

Safety reminder:
- Check MHRA contraindications and warning for pioglitazone, SGLT-2s, DPP-4s (gliptins) and GLP-1s
- Use SGLT-2 initiation checklist on Surrey PAD

Adopt an individualised approach to treatment and HbA1c targets

Symptomatic hyperglycaemia (and/or weight loss)
Test urine ketones, initially or at any stage, consider:
SULPHONYLUREA Or early use of INSULIN
Review once blood glucose controlled

Monitoring:
- Check HbA1c after patient been on maximum tolerated dose for 3 months; intensify if HbA1c >target
- Check 6 monthly once HbA1c and blood glucose lowering treatment are stable
- Reassess needs and circumstances at each review, consider stopping treatments that are not working

At review:
- Check adherence to diet, lifestyle and medication
- Assess emotional and psychological needs
- Review and consider stopping treatments that are not working
- Consider substituting with an alternative hypoglycaemic agent
- Review HbA1c target
- Assess hypoglycaemia risk
- Reinforce importance of diet and lifestyle changes
- CV risk managed
- Retinopathy screening
- Check feet
- Kidney function – eGFR and albumin:creatinine ratio (ACR)

Refer to appendix for information on drug combinations and use in renal and hepatic impairment
### Treatment Algorithm for blood glucose control in adults with type 2 diabetes in primary care - if metformin is not tolerated / contra-indicated

#### Lifestyle intervention is crucial

If HbA1c ≥ 48 mmol/mol (6.5%) with lifestyle alone

First line monotherapy:
- SULPHONYLUREA
- GLIPTIN
- SGLT-2 (if sulphonylurea or pioglitazone is not appropriate)

If HbA1c ≥ 58 mmol/mol (7.5%) or individual target not met

First intensification (dual therapy):
- Consider using a patient decision aid to guide choice of treatment
- SULPHONYLUREA + GLIPTIN
- SULPHONYLUREA + PIOGITAZONE
- GLIPTIN + PIOGITAZONE
- SGLT-2 + INSULIN THERAPY

If HbA1c ≥ 58 mmol/mol (7.5%) or individual target not met

Second intensification (insulin therapy):
- INSULIN THERAPY

If HbA1c ≥ 58 mmol/mol (7.5%) or individual target not met

Further intensification:
- INSULIN BASED INTENSIFICATION

#### Adopt an individualised approach to treatment and HbA1c targets

- Aim for HbA1c ≤ 48 mmol/mol (6.5%) or individualised target
- Aim for HbA1c ≤ 53 mmol/mol (7%) or individualised target

#### Symptomatic hyperglycaemia initially or at any stage, consider:

- SULPHONYLUREA
- INSULIN

**Monitoring:**
- Check HbA1c after patient has been on maximum tolerated dose for 3 months; intensify if HbA1c > target
- Check 6 monthly once HbA1c and blood glucose lowering treatment are stable
- Reassess needs and circumstances at each review, consider stopping treatments that are not working

**At review:**
- Check adherence to diet, lifestyle and medication
- Assess emotional and psychological needs
- Review and consider stopping treatments that are not working
- Consider substituting with an alternative hypoglycaemic agent
- Review HbA1c target
- Assess hypoglycaemia risk
- Reinforce importance of diet and lifestyle changes
- CV risk managed
- Retinopathy screening
- Check feet
- Kidney function – eGFR and albumin:creatinine ratio (ACR)

**Safety reminder:**
- Check MHRA contraindications and warnings for pioglitazone, SGLT-2s, DPP-4is (gliptins) and GLP-1s
- Use SGLT-2 initiation checklist on Surrey PAD

**Preferred choices:**
- SULPHONYLUREA = glipizide
- GLIPTIN (or DPP-4i) = sitagliptin, linagliptin, in patients with deteriorating renal function where there is a risk that dose reduction of sitagliptin may not take place
- SGLT-2 = empagliflozin
- GLP-1 mimetic = liraglutide, lixisenatide

**Notes:**
1. Repaglinide is a clinically effective and cost-effective alternative for monotherapy, however is not licensed with non-metformin combinations at first intensification. No recommendation is made in the guidelines, as there is little usage in Surrey.
2. NICE does not make a recommendation on the place of SGLT-2 therapy at first intensification in non-metformin pathway, due to absence of studies.
3. GLP-1s are not recommended by NICE at first or second intensification because of their high cost. There is an absence of studies using GLP-1s other than with metformin and sulphonylureas.
4. There is limited evidence for treatment intensification options for people for whom metformin is contraindicated or not tolerated.

---

Agreed by Surrey PCN Feb 2018; review date Feb 2021

(*Updated June 2022*
Preferred drug choices

<table>
<thead>
<tr>
<th>Drug Class</th>
<th>Preferred choice</th>
<th>Other options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulphonylurea</td>
<td>Gliclazide</td>
<td>Glimepiride</td>
</tr>
<tr>
<td>DPP-4i (Gliptins)</td>
<td>Sitagliptin (decision made June 2022 APC) Linaagliptin (in patients with deteriorating renal function where there is a risk that dose reduction of sitagliptin may not take place)</td>
<td>DO NOT INTIATE in new patients (June 2022 APC) Saxagliptin Vildagliptin Alogliptin</td>
</tr>
<tr>
<td>SGLT-2 (Gliflozins)</td>
<td>Empagliflozin</td>
<td>Canagliflozin, Dapagliflozin</td>
</tr>
<tr>
<td>GLP-1 mimetics</td>
<td>Lixisenatide (Cost-effective choice) Liraglutide Dulaglutide (if once weekly injections appropriate)</td>
<td>Exenatide</td>
</tr>
</tbody>
</table>

Reviewing and stopping treatment

*Optimising non-insulin therapies and initiating insulin at the right time ensures good early glycaemic control and improved outcomes for patients. Act early to avoid complications.*

**Assess adherence**
- Assess adherence to medication and lifestyle before changing therapy or increasing dose

**Titrate therapy in timely manner**
- Titrate doses of medication in a safe and timely manner to avoid inappropriate intensification delay.
- Consider factors that may limit titration such as co-morbidities, side effects, interactions and patient choice
- Assess and address any current hypoglycaemia prior to intensification of therapy

**Optimise the dose**
- Ensure medication and lifestyle interventions are optimised before moving to the next therapy
- Where co-morbidities, side effects or interactions limit titration, think about the next step

**Review response**
- Review response to therapy 2-6 monthly when individualised targets are not met and 6 monthly thereafter once stable
- Consider stopping medication that is having little/no impact on HbA1c in line with NICE guidance.
- Most of the non-insulin newer agents will only reduce HbA1c by 0.5-1% (5-11mmol/mol) on average.
- Think about alternative medication or lifestyle interventions.
<table>
<thead>
<tr>
<th>Hypoglycaemic agent</th>
<th>Efficacy (↓HbA1c)</th>
<th>Hypoglycaemia</th>
<th>Weight</th>
<th>Side effects</th>
<th>Costs**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metformin</td>
<td>Reduces HbA1C by 5 - 11 mmol/mol (0.5 to 1%) on average</td>
<td>Low risk</td>
<td>Loss (~ 0.5 – 2 kg)</td>
<td>Gastrointestinal Vitamin B12 deficiency, Lactic acidosis</td>
<td>Low</td>
</tr>
<tr>
<td>Sulphonylureas (Gliclazide)</td>
<td></td>
<td>Moderate risk</td>
<td>Gain (~1 - 3kg)</td>
<td>Gastrointestinal Hypoglycaemia</td>
<td>Low</td>
</tr>
<tr>
<td>Pioglitazone</td>
<td></td>
<td>Low risk</td>
<td>Gain (~ 1.5–3.5kg)</td>
<td>Bone fractures Bladder cancer Heart failure Peripheral oedema</td>
<td>Low</td>
</tr>
<tr>
<td>DPP-4 inhibitors (Glitins)</td>
<td></td>
<td>Low risk</td>
<td>Neutral</td>
<td>Gastrointestinal Pancreatitis Severe joint pain</td>
<td>Medium</td>
</tr>
<tr>
<td>GLP-1 mimetics</td>
<td></td>
<td>Low risk</td>
<td>Loss (~1 - 3kg)</td>
<td>Gastrointestinal Pancreatitis</td>
<td>High</td>
</tr>
<tr>
<td>SGLT-2s inhibitors (Gliflozins)</td>
<td></td>
<td>Low risk</td>
<td>Loss (~ 1 – 3kg)</td>
<td>Genitourinary infections, Dehydration Life threatening diabetic ketoacidosis (with normal or moderately raised blood glucose) Lower limb amputation (with canagliflozin)</td>
<td>Medium</td>
</tr>
<tr>
<td>Insulin</td>
<td>Highest</td>
<td>High risk</td>
<td>Gain (~ 2 - 5kg) (weight gain can be minimised by managing eating)</td>
<td>Hypoglycaemia</td>
<td>Medium to high</td>
</tr>
</tbody>
</table>

**Costs:**
- Low < £100 per year
- Medium >£100 <£500 per year
- High >£500 per year

Comparison of different classes of drugs for individualising therapy in type 2 diabetes
(see accompanying table for recommended combinations and use in renal and hepatic impairment)
Self-monitoring of Blood Glucose Guidelines in type 1 and type 2 diabetes (SMBG)

- Patient education is vital when initiating SMBG
  - Teach patient how to interpret and action BG results
  - Agree testing times and targets with the patient
  - Carry out structured annual assessment to confirm continued benefit of SMBG
  - Use just HbA1c testing, in those who will not benefit from SMBG

Key questions to think about before continuing SMBG:
1. Is SMBG appropriate for this patient?
2. What value does self-monitoring add to the patient’s care?
3. Is the patient’s blood glucose well controlled?

### Insulin
- High risk of hypoglycaemia
- See table below for testing
- Drivers should test no more than 2 hours before driving, ideally just before driving, and every 2 hours when driving (see DVLA advice)

<table>
<thead>
<tr>
<th>Insulin regimen</th>
<th>Minimum recommended BG testing frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>ONCE daily insulin with oral agents</td>
<td>≥ 1 test per day at different times of day</td>
</tr>
<tr>
<td>TWICE daily insulin</td>
<td>2 tests per day, before meals when insulin is due</td>
</tr>
<tr>
<td>BASAL BOLUS insulin &amp; carbohydrate counting</td>
<td>May need ≥ 4 tests per day</td>
</tr>
<tr>
<td>INSULIN PUMP</td>
<td>≥ 6 tests per day, up to 10 tests per day</td>
</tr>
<tr>
<td>Gestational diabetes (with or without insulin)</td>
<td>Without insulin: usually 6 tests / day, With insulin: up to 10 tests per day</td>
</tr>
</tbody>
</table>

**Consider stepping down or stopping SMBG:**
- When patients therapy is changed and does not cause hypoglycaemia
- If patient’s control is quite stable
- After pregnancy (if not breastfeeding)
- Once recovered from inter current illness (including on discharge from hospital)
- If SMBG has a negative effect on well being
- If no action is being taken on results

**Consider stepping up SMBG when:**
- Therapy or dosing is changed
- Control is deteriorating e.g. increased frequency of hypoglycaemia
- Planning or during pregnancy
- Breastfeeding
- Inter current illness (refer to local sick day rules if available)
- Ensuring safety during activity e.g. exercise or driving
- Systemic corticosteroids are co-prescribed

Notes: See individual CCG guidance for preferred local choice of blood glucose meter. Freestyle Libre advice here.
Clinicians should be aware of the DVLA guidance *Assessing Fitness to Drive – a guide for medical professionals*. This guide describes the impact of medical conditions on driving, which classes of driver are affected and when there is a requirement to notify the DVLA of a medical condition that affects driving.

**Diabetes mellitus: assessing fitness to drive**

The DVLA have published specific guidance on driving in patients with diabetes mellitus “Diabetes mellitus: assessing fitness to drive”. The guidance covers:

- Insulin treated diabetes
- Impaired awareness of hypoglycaemia “hypoglycaemia unawareness”
- Diabetes complications
- Temporary Insulin treatment, including gestational diabetes, post myocardial infarction
- Diabetes treated by medication other than insulin
- Diabetes managed by diet/lifestyle alone
- Hypoglycaemia due to other causes
- Pancreas Transplant
- Islet cell transplantation

**Information for Patients:**

All drivers with diabetes should be advised to read the information provided in 'Information for drivers with diabetes' - DIABINF - A Guide to Insulin Treated Diabetes and Driving

- INF188/2: Information for drivers with diabetes treated by non-insulin medication, diet, or both
- INF188/5: Lorry and/or bus drivers with diabetes treated by diet alone when do you need to tell us?

Information on how to inform the DVLA about medical conditions that affect driving can be found here: [https://www.gov.uk/diabetes-driving](https://www.gov.uk/diabetes-driving).


**Diabetes UK resources:**

Diabetes UK has produced some useful information for patients about driving, which includes a short video summarising when to inform the DVLA. See: [https://www.diabetes.org.uk/Guide-to-diabetes/Living_with_diabetes/Driving/](https://www.diabetes.org.uk/Guide-to-diabetes/Living_with_diabetes/Driving/)
References
NICE guidelines (NG28) Type 2 diabetes in adults: management. Dec 2015
NICE TA 390 Canagliflozin, dapagliflozin and empagliflozin as monotherapies for treating type 2 diabetes. May 2016
International Diabetes Federation: Managing older people with type 2 diabetes, global guideline 2013
SIGN national clinical guideline 116. Management of Diabetes
South London Health Innovation Network Toolkit Right Insulin at the Right Time at the Right Dose

Diabetes guideline working group:
Charlotte Budkiewicz, North West Surrey CCG
Louise Gebhard, Lead Diabetes Specialist Nurse, North West Surrey CCG
Lesley Healey, Practice Nurse, Station Road Surgery, Surrey Heath CCG
Naeed Hussain, Primary Care Pharmacist, Surrey Heath CCG
Lizette Howers, Prescribing Advisor and Primary Care Pharmacist, East Surrey CCG
Helen Marlow, Lead Primary Care Pharmacist and NICE Medicines Prescribing Associate, Surrey Downs CCG
Rachel MacKay, Head of Medicines Management, Guildford and Waverley CCG
Perminder Oberai, Medicines Optimisation Pharmacist, North West Surrey CCG
Hannah Bishop, Public Health Lead, Surrey County Council

Acknowledgements:
PrescQIPP for comparison of commonly prescribed antidiabetic treatment
Appendix A – tools and resources to support implementation of the guideline

## Resources to support lifestyle changes

### For healthy lifestyle and exercise guidance
- [www.healthysurrey.org.uk](http://www.healthysurrey.org.uk)

### For physical activity
- Get active 50+ [http://www.activesurrey.com/over50s](http://www.activesurrey.com/over50s)
- Exercise on Referral: Check with local CCG

### For weight management and dietary advice;

### For stop smoking
- Stop smoking advice and referral to Quit51 (free stop smoking service across Surrey) for all smokers. For information and referral forms including self-referral; [www.healthysurrey.org.uk/your-health/smoking](http://www.healthysurrey.org.uk/your-health/smoking)

## Patient decision aids to support individualised care

- NICE Patient Decision Aid “**Type 2 diabetes in adults: controlling your blood glucose by taking a second medicine – what are your options?**”
- Mayo Clinic Shared Decision Making – *Diabetes Medication Choice*

## Surrey PCN support materials

- Guidance on Metformin Titration to reduce gastrointestinal (GI) side effects
- **SGLT-2 inhibitors – prescribing initiation checklist**

Comparison of commonly prescribed antidiabetic treatments (link to be inserted)

Acute Kidney Injury prevention (insert link to PAD page with resources on)

## Other resources

**South London Health Innovation Network – Right insulin, Right Time, Right Dose Toolkit**

This toolkit provides background to the importance of early and appropriate medication intensification and use of the Right Insulin at the Right Time at the Right Dose. Links to useful resources can be found within the toolkit. These include exemplar prescribing guidance, audits, an evidence review, responsible prescribing messages, useful case studies and examples of good practice.

The toolkit is for:
- Healthcare professionals in primary and secondary care
- Commissioners
- Medicines Optimisation teams
- Community Pharmacists
Individualising HbA1c targets
American Diabetes Association elements of decision making used to determine appropriate efforts to achieve glycemic targets.

Appendix 1
Depiction of the elements of decision making used to determine appropriate efforts to achieve glycemic targets.

<table>
<thead>
<tr>
<th>Approach to management of hyperglycemia:</th>
<th>More stringent</th>
<th>Less stringent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient attitude and expected treatment efforts</td>
<td>Highly motivated, adherent, excellent self-care capacities</td>
<td>Less motivated, non-adherent, poor self-care capacities</td>
</tr>
<tr>
<td>Risks potentially associated with hypoglycemia, other adverse events</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>Disease duration</td>
<td>Newly diagnosed</td>
<td>Long-standing</td>
</tr>
<tr>
<td>Life expectancy</td>
<td>Long</td>
<td>Short</td>
</tr>
<tr>
<td>Important comorbidities</td>
<td>Absent</td>
<td>Few/mild</td>
</tr>
<tr>
<td>Established vascular complications</td>
<td>Absent</td>
<td>Few/mild</td>
</tr>
<tr>
<td>Resources, support system</td>
<td>Readily available</td>
<td>Limited</td>
</tr>
</tbody>
</table>

Inzucchi SE et al. Dia Care 2012;35:1364-1379

GLP-1 patient agreement forms

See next page
Patient Agreement Form

Lixisenatide, liraglutide, dulaglutide or exenatide for type 2 diabetes

At your appointment today we have agreed to start treatment with one of the following medicines to help manage your type 2 diabetes:

- Lixisenatide (Lyxumia)
- Liraglutide (Victoza)
- Dulaglutide (Trulicity)
- Exenatide (Byetta or Bydureon)

These medicines all work in a very similar way and are sometimes known as GLP-1 agonists. Further information on how to use the device and any side-effects you should be aware of is included in the patient information provided with your medicine supply.

Although these medicines are given as an injection, they work in a different way to insulin. However they should help reduce your blood glucose levels and may also help you lose weight, especially if you follow a healthy diet and take regular exercise.

Please ask your nurse or GP if you would like further information on the use of these medicines to treat type 2 diabetes or help and support with losing weight.

These injections do not work for everyone, we therefore need to regularly monitor whether they are being effective. The National Institute of Health and Care Excellence (NICE) have advised that treatment with these medicines should only be continued for patients who have a reasonable benefit. This means after 6 months a patient sees a reduction in their HbA1c (measurement of long term blood sugar control) of 11mmol/mol (in the old number system that is about 1% HbA1c) and a reduction in their weight of 3% or more.
**Patient Agreement:**

The information overleaf has been explained to me and I understand that treatment with:

__________________________________________________________________________  (Insert name of medicine)

will be stopped and alternative options considered if the beneficial effects on my weight and HbA1c are not achieved after 6 months, or continued long-term.

<table>
<thead>
<tr>
<th></th>
<th>Today</th>
<th>6 month’s target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight (3% loss needed by 6 months)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HbA1c (11mmol/mol (1%) reduction needed by 6 months)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>eGFR (to check your kidney function)</td>
<td></td>
<td>To be measured in 6 months</td>
</tr>
</tbody>
</table>

Patient name ………………………………………………………………………

Patient signature …………………………………………………………………

Clinician name ……………………………………………………………………

Date………………………… Date of 6-month review ……………………………

If you have any questions or problems with your treatment, please contact:

Name:………………………… Contact number ……………………………

(Adapted from Derbyshire Joint Area Prescribing Committee type 2 diabetes guidelines)
Appendix B

<table>
<thead>
<tr>
<th>Definitions of functionally independent, functionally dependent and frail</th>
</tr>
</thead>
</table>

Source: International Diabetes Federation: Managing older people with type 2 diabetes, global guideline 2013

**Functionally independent:**
This category is characterized by people who are living independently, have no important impairments of activities of daily living (ADL), and who are receiving none or minimal caregiver support. Although diabetes may be the main medical problem, this category includes those who have other medical comorbidities which may influence diabetes care.

**Functionally dependent:**
This category represents those individuals who, due to loss of function, have impairments of ADL such as bathing, dressing, or personal care. This increases the likelihood of requiring additional medical and social care. Such individuals living in the community are at particular risk of admission to a care (nursing) home.

**End of Life Care:**
These individuals are characterized by a significant medical illness or malignancy and have a life expectancy reduced to less than 1 year.