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

Contents

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

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)	1st 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
	2nd Line	*Add* CCB *or* indapamide
	3rd Line	ACEI *plus* CCB *plus* indapamide
	4th Line	*Add* low dose spironolactone *or* bisoprolol *or* doxazosin
Lipids See Surrey PCN guidance	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	
	Intensify treatment if HbA1c ≥	48 mmol/mol (6.5%) on lifestyle 58 mmol/mol (7.5%) on any drug therapy, or according to individualised target
	Target after intensifying treatment, HbA1c ≤	48 mmol/mol (6.5%) on lifestyle and single drug therapy alone (except SU or repaglinide) 53 mmol/mol (7%) on multiple drug therapy (or SU monotherapy), or according to individualised target
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	

Patient review	
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 ✓ Check patient has attended retinopathy screening ✓ Check feet ✓ Kidney function – eGFR and albumin:creatinine ratio (ACR)
Remember the 8 care processes!	**1. Blood glucose control** **2. Blood pressure** **3. Serum Cholesterol** **4. Serum Creatinine** **5. Urine albumin / creatinine ratio** **6. Foot risk surveillance** **7. Body Mass Index** 8. **Smoking History**

Treatment targets for patients with type 2 diabetes

Health status	HbA1c target o Discuss and agree individual HbA1c target with the patient o Relax target based on individual circumstances		Blood pressure target (mmHg) *<130/80 if there is kidney, eye or cerebrovascular damage	Cholesterol See Surrey PCN guidance
	mmol/mol	%		
Healthy (Lifestyle, diet and single drug Rx, except sulphonylurea or repaglinide))	≤ 48	≤ 6.5	<140/80*	Statins likely to be indicated , if QRISK2 ≥10%
On multiple drug Rx, or single drug Rx with sulphonylurea or repaglinide	≤ 53	≤ 7.0	<140/80*	
Suggested local targets for HbA1c and BP to individualise treatment in older people:**				
>65 years functionally independent (reasonable life expectancy)	≤ 58	≤ 7.5	<140/90	Statins likely to be indicated , if QRISK2 ≥10%
>65 years functionally dependent (several co-morbidities, intermediate life expectancy, vulnerable to hypoglycaemia and falls)	≤ 64	≤ 8.0	<140/90	Statins indicated
>65 years and frail (end stage chronic disease, limited life expectancy, moderate to severe cognitive impairment)	≤ 70	≤ 8.5	<140/90 <150/90 if >80 yrs old	Review, benefits less certain

** 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

Adopt an individualised approach to treatment and HbA1c targets

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

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*

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

First intensification (dual therapy) [3]:
Consider using a patient decision aid to guide choice of treatment

METFORMIN + SULPHONYLUREA *or*
METFORMIN + GLIPTIN *or*
METFORMIN + SGLT-2* *or*
(* if sulphonylurea contraindicated/not tolerated, or patient at risk of hypo's)
METFORMIN + PIOGLITAZONE

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

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)

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

Second intensification (triple therapy or insulin) [3]:

METFORMIN + GLIPTIN + SULPHONYLUREA *or*
METFORMIN + SULPHONYLUREA + PIOGLITAZONE *or*
METFORMIN + SGLT-2 + SULPHONYLUREA *or*
METFORMIN + PIOGLITAZONE + SGLT-2* *or*
(* except dapagliflozin)
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

Safety reminder:

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

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

Specialist initiation only :
GLP-1 mimetic + INSULIN THERAPY

Criteria for GLP-1 use:
✓ ***BMI ≥35*** AND weight related co-morbidities psychological issues
OR
✓ ***BMI ≤35*** AND Insulin would have significant occupational implications
OR
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

Preferred choices:

- SULPHONYLUREA = *gliclazide*
- GLIPTIN (or DPP-4i) = *alogliptin*, sitaglitin, (linagliptin if severe renal impairment)
- SGLT-2 = empagliflozin
- GLP-1 mimetic = *lixisenatide*, liraglutide (dulaglutide if once weekly injection needed)

cost-effective choice in *italics*

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

Adopt an individualised approach to treatment and HbA1c targets

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

First line monotherapy [1] :
SULPHONYLUREA *or*
GLIPTIN *or*
SGLT-2 (if sulphonylurea or pioglitazone is not appropriate)

- Aim for HbA1c ≤ 48 mmol/mol (6.5%) if on gliptin or SGLT-2
- Aim for HbA1c ≤ 53 mmol/mol (7%) if on sulphonylurea or individualised target

Symptomatic hyperglycaemia initially or at any stage, consider:
SULPHONYLUREA Or INSULIN
Review once blood glucose controlled

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

First intensification (dual therapy) [2,3]:
Consider using a patient decision aid to guide choice of treatment
SULPHONYLUREA + GLIPTIN *or*
SULPHONYLUREA + PIOGLITAZONE *or*
GLIPTIN + PIOGLITAZONE *or*
SGLT-2 + INSULIN THERAPY
(isophane insulin 1st line)

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

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

Second intensification (insulin therapy) [3] :
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 :
INSULIN BASED INTENSIFICATION
(Review the need for other blood glucose lowering therapy)
Consider + SGLT-2
(NICE recommend adding SGLT-2 as an option)

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

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)

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

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.

Preferred choices:
- SULPHONYLUREA = *gliclazide*
- GLIPTIN (or DPP-4i) = *alogliptin*, sitaglitin, (linagliptin if severe renal impairment)
- SGLT-2 = empagliflozin
- GLP-1 mimetic = *lixisenatide*, liraglutide (dulaglutide if once weekly injection needed)

cost-effective choice in *italics*

Refer to appendix for information on drug combinations and use in renal and hepatic impairment

Preferred drug choices

Drug Class	Preferred choice	Other options
Sulphonylurea	Gliclazide	Glimepiride
DPP-4i (Gliptins)	Alogliptin (Cost-effective choice) Sitagliptin	Saxagliptin Vildagliptin Linagliptin (in severe renal impairment)
SGLT-2 (Gliflozins)	Empagliflozin	Canagliflozin, Dapagliflozin
GLP-1 mimetics	Lixisenatide (Cost-effective choice) Liraglutide Dulaglutide (if once weekly injections appropriate)	Exenatide

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.

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)

Hypoglycaemic agent	Efficacy (↓HbA1c)	Hypoglycaemia	Weight	Side effects	Costs**
Metformin	**Reduces HbA1C by 5 - 11 mmol/mol (0.5 to 1%) on average**	Low risk	Loss (~ 0.5 – 2 kg)	Gastrointestinal Vitamin B12 deficiency, Lactic acidosis	Low
Sulphonylureas (Gliclazide)		Moderate risk	Gain (~1 - 3kg)	Gastrointestinal Hypoglycaemia	Low
Pioglitazone		Low risk	Gain (~ 1.5–3.5kg)	Bone fractures Bladder cancer Heart failure Peripheral oedema	Low
DPP-4 inhibitors (Gliptins)		Low risk	Neutral	Gastrointestinal Pancreatitis Severe joint pain	Medium
GLP-1 mimetics		Low risk	Loss (~1 - 3kg)	Gastrointestinal Pancreatitis	High
SGLT-2s inhibitors (Gliflozins)		Low risk	Loss (~ 1 – 3kg)	Genitourinary infections, Dehydration Life threatening diabetic ketoacidosis (with normal or moderately raised blood glucose) Lower limb amputation (with canagliflozin)	Medium
Insulin	Highest	High risk	Gain (~ 2 - 5kg) (weight gain can be minimised by managing eating)	Hypoglycaemia	Medium to high

****Costs:**

Low	< £100 per year
Medium	>£100 <£500 per year
High	>£500 per year

Self-monitoring of Blood Glucose Guidelines in type 1 and type 2 diabetes (SMBG)

Prescribing Clinical Network for Surrey and Crawley, Horsham and Mid-Sussex CCGs

NHS

- **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?

Diet and Exercise

- **Metformin**
- **Pioglitazone**
- **DPP-4i**
- **SGLT-2s**
- **GLP-1 mimetics**

Monotherapy or in combination with other drugs in this group

- Low risk of hypoglycaemia
- Patients do not routinely need to test unless agreed purpose for testing
- Advise patient to read DVLA advice

- **Sulphonylureas**
- **Repaglinide / nataglinide**

Monotherapy or in combination with other drugs

- Increased risk of hypoglycaemia
- Usually test 2 to 3 times a week if stable
- Drivers will need to test before driving (see DVLA advice)

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)

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

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.*

Diabetes and Driving

Information for Health Care Professionals

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.

The form DIAB1 should be used for reporting medical conditions to be completed with reference to the Guide to completing DIAB1. See:
https://www.gov.uk/government/publications/diab1-confidential-medical-information
https://www.gov.uk/government/publications/a-guide-to-filling-in-your-diab1-medical-form

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/

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

NICE guidelines (CG 182) Chronic kidney disease in adults: assessment and management. July 2014

South London Health Innovation Network Toolkit Right Insulin at the Right Time at the Right Dose

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GP Update www.gpcpd.com – GP Update Handbook April 2016.
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

For physical activity

- Get active 50+ http://www.activesurrey.com/over50s
- Exercise on Referral: Check with local CCG

For weight management and dietary advice;

- NHS Weight Management Programme www.nhs.uk/livewell/weight-loss-guide

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

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:

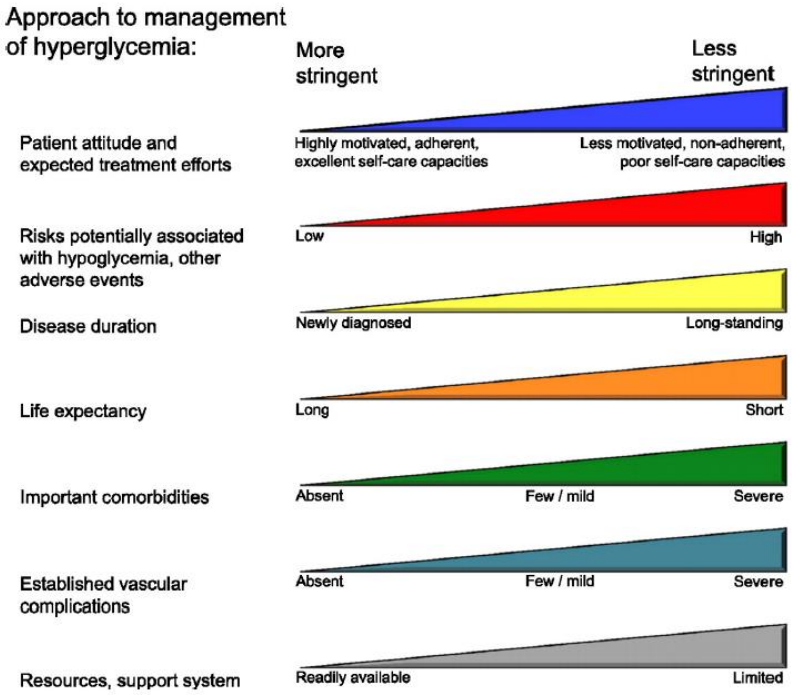
- Healthcare professionals in primary and secondary care
- Commissioners
- Medicines Optimisation teams
- Community Pharmacists

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.



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

American Diabetes Association.

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.

	Today	**6 month's target**
Weight (3% loss needed by 6 months)		
HbA1c (11mmol/mol (1%) reduction needed by 6 months)		
eGFR (to check your kidney function)		To be measured in 6 months

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

Definitions of functionally independent, functionally dependent and frail

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.