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Type 2 diabetes: Prescribing pathway.
Cardiff and Vale University Health Board
Primary and Secondary care teams

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Edited by [redacted]
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1

Diagnosis of Type 2 Diabetes: HbA1c >48mmol/mol confirmed on two tests. Aim for personalised glycaemic targets.
Refer for structured Education (XPERT) National Exercise Referral Scheme www.wlga.gov.uk/ners.
Check Urine ACR, eGFR , Foot examination, assess CV risk and refer for diabetic retinal screening services

2

Metformin 500mg OD then* BD over** 1-2 weeks. Titrate to maximum 500mg 2 BD over next 4 weeks if tolerating well. Use Metformin MR*** if side effects occur with standard preparation.

If existing CV disease or heart failure, high CV risk (QRISK2 > 10%) or <40 years with an additional CV risk factor (BP, lipids, obesity, smoking ,FH), or CKD (raised ACR and/or reduced eGFR): Add* an *SGLT2 inhibitor as soon as Metformin tolerability confirmed (Caution in elderly)***:D***apagliflozin 10mg OD,
Empagliflozin 10mg - 25mg OD, Canagliflozin 100mg-300mgOD

6months HbA1c >58mmols, intensify using step 3

3

Check compliance, lifestyle measures and dietary measures before adding new agent based on BMI and hypoglycaemia risk, CV risk and eGFR

DPP4 Inhibitor: Sitagliptin 100mg OD (lowest cost), Linagliptin 5mg OD, Saxagliptin 5mg OD, Alogliptin 25mg OD *(low risk of hypos, suitable in elderly)*

Sulphonylurea : Gliclazide 40mg OD to max 160mg BD *(high risk of hypos)*

PPAR γAgonist : Pioglitazone 15mg to maximum 45mg OD *(consider in NASH)*

If not already started in step 2*: SGLT2:* Dapagliflozin 10mg OD, Empagliflozin 10-25mg OD, Canagliflozin 100-300mg OD

Consider GLP-1 RA, if BMI > 35kg/m2 (lower in Black, Asian, other minority ethnic groups) or if insulin would have other implications (Stop DPP-4 inhibitors when starting GLP-1 RA)

S.C Once week	S.C once daily	Oral Once a day
Semaglutide (*Ozempic)* 0.25-1mg Dulaglutide *(Trulicity)* 0.75-4.5mg Tirzepatide Kwikpen (*Mounjaro*) (GLP and GIP RA) 2.5mg-15mg	Liraglutide *(Victoza)* 0.6-1.2mg	oral Semaglutide (*Rybelsus*) 3mg-14mg, 30min before food.

Scan the QR code

Pocket Medic	SGLT-2i Patient Info Leaflet	Hypoglycaemia management Education
	ABCD_A4_Leaflet_Final (002).jpg (848×1200)	

If HbA1c >58mmols and / or osmotic symptoms:
- Check compliance with current medicines
- Reinforce lifestyle advice and dietary advice
- titrate to maximum tolerated dose of current

(take into account eGFR and other co-morbidities), consider insulin guided by step 4 , discuss with community or secondary care team

Current stock shortages with **GLP-1 RA**. Click link for most recent advice -Primary Care Services Intranet - CPhO MedsLet 2024_29 GLP-1 receptor agonists update.pdf - Medicines Shortages by Date (sharepoint.com) *

As of March 2024 – Oral Semaglutide (Rybelsus) and Tirzepatide are the only GLP-1 RA that can be initiated in new patients.

4

Add Basal Insulin
- Human Insulin 0.2-0.3 units/kg once daily
- Titrate according to fasting blood glucose and use BD split dose if required
- Humulin I KwikPen
- Insulatard 3ml cartridge + Novopen

If target HbA1c not achieved or requires >60units /dose then consider changing to:
- **Premixed Human insulin**
- Humulin M3 Kwikpen

If Recurrent Hypoglycaemia - Assess for causes and consider changing to Long-acting insulin:

-Abasaglar or Lantus

-Toujeo if daily dose is very high.

If greater flexibility over timing of dose required, consider:

-Tresiba 100units/ml cartridges (*current 100units/ml Flexpen shortage)*

-Tresiba 200units/ml Flexpen should only be used if patients unable to use cartridges or have a large daily insulin requirement. ***CAUTION if using higher strength insulin products*** Drug Safety Update April 2015

Basal Bolus Insulin

Consider adding mealtime insulin as part of a multiple daily injection regimen

Costs per month:
(prices as per June 2024 Drug Tariff)

Metformin 500mg 2BD £2.64 (*Metformin 1g tab BD £106.00*) Metformin SR 1g 2OD £2.55 Gliclazide 160mg BD £3.40	Empagliflozin 10mg-25mg OD £36.59 Dapagliflozin 10mg OD £36.59 Canagliflozin 100mg-100mg OD £36.59	Dulaglutide SC OW 0.75mg - 4.5mg £73.25 Semaglutide SC OW 0.25mg-1mg £73.25 Liraglutide (*Victoza*) OD 1.2mg once daily £78.48 Tirzepatide Kwikpen (Mounjaro) OW 2.5mg-15mg £92.00-£122.00	***NB Actual cost will depend on daily dose prescribed*** Humulin I Kwikpen 100u/ml 3ml pen x5 - £21.70 Humulin M3 KwikPen 100u/ml 3ml pen x5 -£21.70
Pioglitazone 15mg OD £1.01 Pioglitazone 30mg OD £1.37 Pioglitazone 45mg OD £1.89	**Sitagliptin** 25mg-100mg OD £3.06-£3.66 Linagliptin 5 mg OD £33.26 Saxagliptin 2.5-5mg OD £31.60 Alogliptin 6.25mg-25mg OD £26.60	Oral Semaglutide 3mg-14mg OD £78.48	***NB: Actual cost will depend on daily dose prescribed*** Lantus solostar pen 100u/ml 3ml pen x5 -£34.75 Abasaglar kwikpen 100u/ml 3ml pen x5 -£34.75 Toujeo solostar pen 300u/ml 1.5ml pen x3 -£32.14 *Tresiba flextouch 100u/ml 3ml pen x5 -£46.60* Tresiba flextouch 200u/ml 3ml pen x5 - £55.92 Tresiba penfill 100units/ml solution for injection 3ml cartridges x5 -£46.60

Prescription Pearls

- **STOP** medicines that are not tolerated, or not had an impact on glucose control or weight loss (unless has CV or renal benefit e.g. SGLT-2)
- **Renal Thresholds:** please refer to pages 3-4
- **Heart Failure**: SGLTs are beneficial. Avoid Piogltiazone, caution with Saxagliptin and Alogliptin.
- **Elderly Patients:** Avoid hypoglycaemia. Aim for HbA1c target of 58-68 if frail, co-morbidities or cognitive impairment present.
- Reassess the person's needs and circumstances at each review and think about whether to stop any medicines that are not effective.

Prescribing thresholds based on eGFR				
eGFR mls/min	**>60mls**	**45-60**	**30-45**	**<30**
Metformin	3 g total maximum daily dose (in 2–3 daily doses)	2 g total maximum daily dose (in 2–3 daily doses)	1 g total maximum daily dose (in 2–3 daily doses)	STOP
Dapagliflozin	Recommended dose is 10mg	Recommended dose is 10mg	Negligible glucose-lowering effects once eGFR falls below 45. Consider adding an additional glucose-lowering agent if further glycaemic improvement is required. If using for cardio–renal benefits, continue at all stages of renal impairment.	*Initiation is not recommended if eGFR <15ml/min.* Negligible glucose-lowering effects once eGFR falls below 45. Consider adding an additional glucose-lowering agent if further glycaemic improvement is required. If using for cardio–renal benefits, continue at all stages of renal impairment.
Empagliflozin	Initiate 10 mg and titrate to 25 mg if additional glycaemic improvement required	Initiate or continue 10 mg only	Negligible glucose-lowering effects once eGFR falls below 45. Consider adding an additional glucose-lowering agent if further glycaemic improvement is required. If using for cardio–renal benefits, continue at all stages of renal impairment.	*Initiation is not recommended if eGFR <20ml/min.* Negligible glucose-lowering effects once eGFR falls below 45. Consider adding an additional glucose-lowering agent if further glycaemic improvement is required. If using for cardio–renal benefits, continue at all stages of renal impairment.
Canagliflozin	Initiate with 100mg and up-titrate	Initiate or continue 100 mg only. Negligible glucose-lowering effects once eGFR falls below 45. Consider adding an additional glucose-lowering agent if further glycaemic improvement is required.		*Do not initiate.* Negligible glucose-lowering effects once eGFR falls below 45. Consider adding an additional glucose-lowering agent if further glycaemic improvement is required.

Prescribing thresholds based on eGFR				
eGFR mls/min	**>60mls**	**45-60**	**30-45**	**<30**
Ertugliflozin	Initiate 5 mg and titrate to 15 mg if additional glycaemic improvement required		Initiation not recommended. Negligible glucose-lowering effects once eGFR falls below 45. Consider adding an additional glucose-lowering agent if further glycaemic improvement is required.	Discontinue
Sulphonylurea	No dose adjustment	Increased risk of hypos, consider reducing dose.		
GLP-1 analogues	No dose adjustment	No dose adjustment	No dose adjustment	Stop in end-stage renal disease
Sitagliptin	No dose adjustment	No dose adjustment	Reduce dose to 50mg	Reduce dose to 25mg
Saxagliptin	No dose adjustment	No dose adjustment	Reduce dose to 2.5mg	Stop in end-stage renal disease
Linagliptin	No dose adjustment	No dose adjustment	No dose adjustment	No dose adjustment
Alogliptin	No dose adjustment	eGFR <50ml/min Reduce dose to 12.5mg	Reduce dose to 12.5 mg	Reduce dose to 6.25mg
Pioglitazone	No dose adjustment	No dose adjustment	No dose adjustment	Avoid in those on dialysis