



Type 2 diabetes in the older adult

Avoiding ills and getting the best out of the sugar pills

Irish Institute of Pharmacy Webinar
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Paid roles,
voluntary
roles and as
of April 2024

Name	Lisa Devine
Pharmaceutical and other medical companies for which you have attended an Advisory Board in the past 3 years	Paid contributor in a Roche sponsored non promotional project to great an educational document on the use of technology in diabetes.
Pharmaceutical and other medical companies for which you have delivered or received sponsored education in the past 3 years	<p>GP notebook – role as editor of Ireland ‘ in brief ‘ email and presenter for GP Notebook TV</p> <p>Creation of non-promotional educational talks for the Primary Care Diabetes Society (honorarium received)</p> <p>Tutor with lheed on their certificate in diabetes care</p> <p>Panel member at a non-promotional session at a promotional conference on chronic disease management</p>
Roles that you hold a professional contract with (i.e. for which you earn a salary/fee)	<p>Role of General Practitioner , Carlton Clinic , Bray Primary Care Centre , Killarney Road , Wicklow</p> <p>GP notebook – role as editor of Ireland ‘ in brief ‘ email.</p> <p>ICGP HSE National GP Lead Diabetes</p>
Professional non-financial roles	<p>East Coast Area Diabetes Steering Committee , Ireland</p> <p>ICGP Chronic disease management adviser group</p> <p>Primary Care Diabetes Society Committee member</p>
Other relevant potential conflicts of interest, including current research grants or awards	nil



Diabetes management in older adults requires consideration of medical, psychological, functional, and social domains.

Older adults with diabetes have higher rates of

- Functional disability + muscle loss
- Coexisting illnesses
- Premature death
- Higher care requirements

Older adults with diabetes are at higher risk of geriatric syndromes.

- Cognitive impairment
- Depression
- Urinary incontinence
- Injurious falls
- Persistent pain
- Frailty
- Polypharmacy

If left unaddressed these conditions impact

- Self-management abilities
- Quality of life

Benefits and risks of tight v looser glycaemic control in different groups

UKPDS 1977 - 1997: Intensive control

- Fewer diabetes related complications
- 20% decrease in death related to diabetes
- 40% decrease in eye, kidney, and nerve diabetes complications
- 40% decrease in PVD
- 15% decrease in heart attack
- Legacy effect for all-cause mortality and myocardial infarction



ACCORD, ADVANCE, and VADT

- Intensive control in older adults
- Increased mortality
- Increased hospitalisation
- Increased hypoglycaemia risk
- *** Trials mostly provided control via older fashioned meds

How I think about it

GLYCAEMIC CONTROL

EVERYTHING ELSE

- Other CDM targets (lipids , BP, screening etc)
- Organ protection
- Weight management
- Deprescribing
- MDT input / holistic care

Case 3 Mairead

78 Yo lady

Retired shopkeeper four children and two dogs

Independent in ADL's , handles the family bills , likes to cook Sunday lunch for her family and enjoys walking her dogs in the woods near her house.

Type 2 Diabetes x 7 years

- Diabetic nephropathy

COPD

Osteoarthritis

QRISK3 = 27%

Metformin 1gram BD
Gliclazide M/R 30mg daily
Pioglitazone 15mg daily
LAMA and PRN SABA
inhalers
Topical NSAIDS for
osteoarthritis

Hba1c – 46
BP – 138/80
LDL – 3.8
Egfr 44 , no albuminuria
BNP – Normal
Pre prandial glucose – 4.1 – 6 (has occasionally
felt unwell , sweaty and dizzy , which resolved
with eating but did not think to check her sugars)

3 subgroups of older adults

Older Adults With Good Functional Status and Without Complications

Longer expected life expectancy and likely to see the benefit of reduced complications of diabetes which results from more intensive control of hba1c , bp and lipids

In general this group have 3 characteristics in common .

Few other chronic illnesses (< 3)
No cognitive impairment
Functional status intact

Older Adults With Complications and Reduced Functionality

Competing mortality and time to benefit, people in this category will have less benefit from glucose lowering and should have less stringent glycaemic goals

In general this group have 3 characteristics in common .

multiple coexisting chronic illnesses
mild to moderate cognitive Impairment.
Two or more ADL Impairments.

Vulnerable Older Adults at the End of Life

Focus should be to avoid hypoglycaemia and symptomatic hyperglycaemia while reducing the burdens of glycaemic management

Key characteristics of this group include

In long term care , receiving palliative care / end stage chronic illness care
Moderate to severe cognitive impairment
Two or more ADL impairments

A formula for target setting ?



I don't agree with this target .

Table 13.1—Framework for considering treatment goals for glycemia, blood pressure, and dyslipidemia in older adults with diabetes

Patient characteristics/ health status	Rationale	Reasonable A1C goal‡	Fasting or preprandial glucose	Bedtime glucose	Blood pressure	Lipids
Healthy (few coexisting chronic illnesses, intact cognitive and functional status)	Longer remaining life expectancy	<7.0–7.5% (53–58 mmol/mol)	80–130 mg/dL (4.4–7.2 mmol/L)	80–180 mg/dL (4.4–10.0 mmol/L)	<130/80 mmHg	Statin, unless contraindicated or not tolerated
Complex/intermediate (multiple coexisting chronic illnesses* or two or more instrumental ADL impairments or mild-to-moderate cognitive impairment)	Intermediate remaining life expectancy, high treatment burden, hypoglycemia vulnerability, fall risk	<8.0% (64 mmol/mol)	90–150 mg/dL (5.0–8.3 mmol/L)	100–180 mg/dL (5.6–10.0 mmol/L)	<130/80 mmHg	Statin, unless contraindicated or not tolerated
Very complex/poor health (LTC or end-stage chronic illnesses** or moderate-to-severe cognitive impairment or two or more ADL impairments)	Limited remaining life expectancy makes benefit uncertain	Avoid reliance on A1C; glucose control decisions should be based on avoiding hypoglycemia and symptomatic hyperglycemia	100–180 mg/dL (5.6–10.0 mmol/L)	110–200 mg/dL (6.1–11.1 mmol/L)	<140/90 mmHg	Consider likelihood of benefit with statin

GLYCAEMIC CONTROL



Target Hba1c = <64 mmol



Actual Hba1c = 46



Hba1c – 46
BP – 138/80
LDL – 3.8
Egfr 44 , no albuminuria
BNP – Normal
Pre prandial glucose – 4.1 – 6 (has occasionally felt unwell , sweaty and dizzy , which resolved with eating but did not think to check her sugars)

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Hypoglycaemia in the older adult

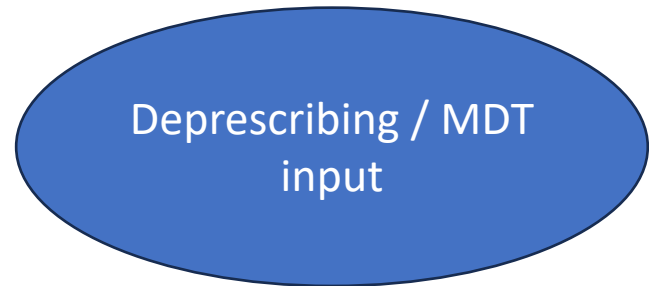
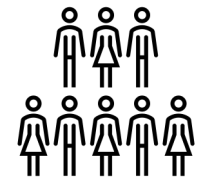
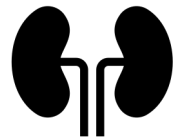
Older adults have an increased risk of experiencing hypoglycaemia

Older adults are more likely to experience impaired hypoglycaemia awareness

- Increased risk of physical complications of severe hypoglycaemia , falls , hospitalisations and mortality .
- Hypoglycaemia can also have significant psychosocial complications for patients in terms

Medications with a lower risk of hypoglycaemia are preferred in older adults with type two diabetes

After setting target hba1c consider if organ protection / other action is needed



SGLT2i and GLP-1 RA reduce Major Adverse Cardiac Events, which is likely to be independent of baseline HbA1c.

In people with HF, CKD, established CVD, or multiple risk factors for CVD, the decision to use a GLP-1 RA or an SGLT2i with proven benefit should be independent of baseline HbA1c.

How do traditional medications interact with older adults

Metformin	Sulphonylurea	Pioglitazone
<ul style="list-style-type: none">• EGFR – not for use if Egfr < 30 and dose reduction is < 45• Use with caution in patients with hepatic dysfunction / cardiac failure (risk of LA)• Sick Day Rules• GI symptoms and reduction in appetite• B12 monitoring	<ul style="list-style-type: none">• Hypoglycaemia risk• Requires monitoring of blood sugars• Can cause weight gain	<ul style="list-style-type: none">• Not prone to causing hypoglycaemia• Risk of inducing heart failure in the elderly• Concerns about the possible association with fracture risk and bladder cancer• Pioglitazone may lead to weight gain

Treatment plan

Principles of prescribing

Avoid agents which carry a high risk of hypoglycaemia

Set appropriate targets

De prescribe where appropriate

Consider organ protection where appropriate

Make medication regimens as simple as possible

Maximise medication safety e.g. educate the patient on sick day rules

Reduce Metformin to 500mg BD po

STOP Gliclazide M/R 30mg daily

STOP Pioglitazone 15mg daily

LAMA and PRN SABA inhalers

Topical NSAIDS for osteoarthritis

Discuss adding organ protection = SGLT2 Inhibitor

Discuss adding a statin

Advise about sick day rules

Maximise holistic elements of care (exercise and dietary interventions , education interventions)

SGLT 2 Inhibitor essentials

Pro's

Effective in improving glycaemic control

Provide organ protection independent of glucose lowering potential .

Low risk of hypoglycaemia

Promote weight loss of up to 4 kg

Can improve bp control ave 4mmhg

Once daily oral therapy

Cons

Mycotic genital infections

Rare risk UTI andourniers gangrene

Risk of hypovolaemia especially if also on a loop diuretic

Small increased fracture risk and changes in bone mineral density (BMD) (canaglifozin and ertuglifozin)

Small increased risk lower limb amputation with canaglifozin in one trial

Risk of euglycaemic DKA and very important to use sick day rules

Incretin therapies in older adults

DPP4 Inhibitors (sitagliptin , saxagliptin , linagliptin)	GLP 1 Analogues
<p>Few side effects and minimal risk of hypoglycaemia</p> <p>Costly and less potent than other agents</p> <p>Saxagliptin has been associated with increased admissions in patients with heart failure</p> <p>Sitagliptin and saxagliptin require dose adjustment in renal failure</p> <p>Rare risk of pancreatitis</p> <p>Rare side effects or joint pain and skin disorders</p>	<p>Very potent agents , can cause weight loss and reduce risk of cardiovascular disease</p> <p>High risk for GI side effects and need to consider is weight loss will be a positive / negative factor for the patient</p> <p>Injectable agents – can be a positive in the case of a weekly agent if assistance is available , can be a negative due to need to be dextrous</p> <p>Usual cautions around pancreatitis , history of thyroid cancer / Fhx Multiple endocrine neoplasia</p> <p>Worsening of retinopathy in patients with very high hba1cs on Insulin</p>

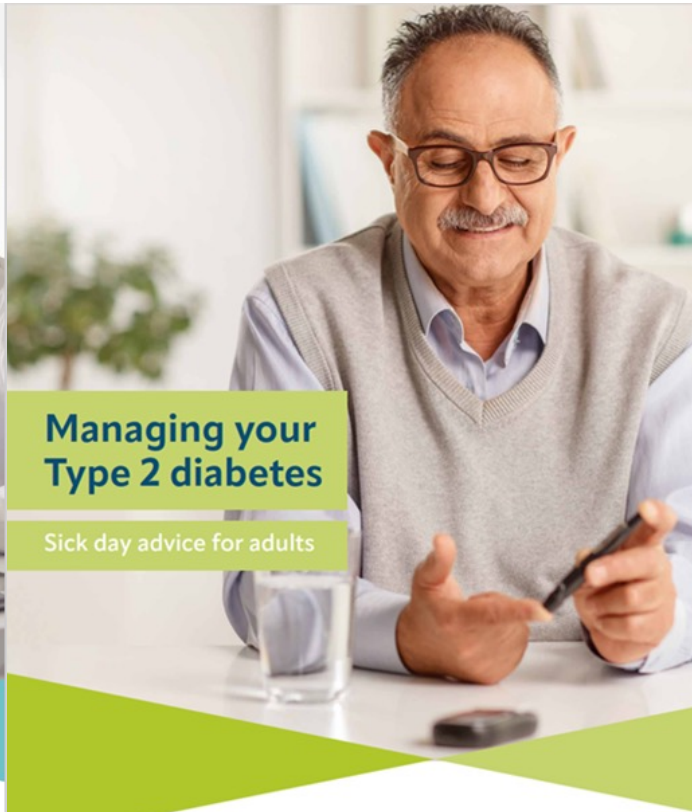


<https://www.hse.ie/eng/about/who/cspd/ncps/diabetes/resources/education/>



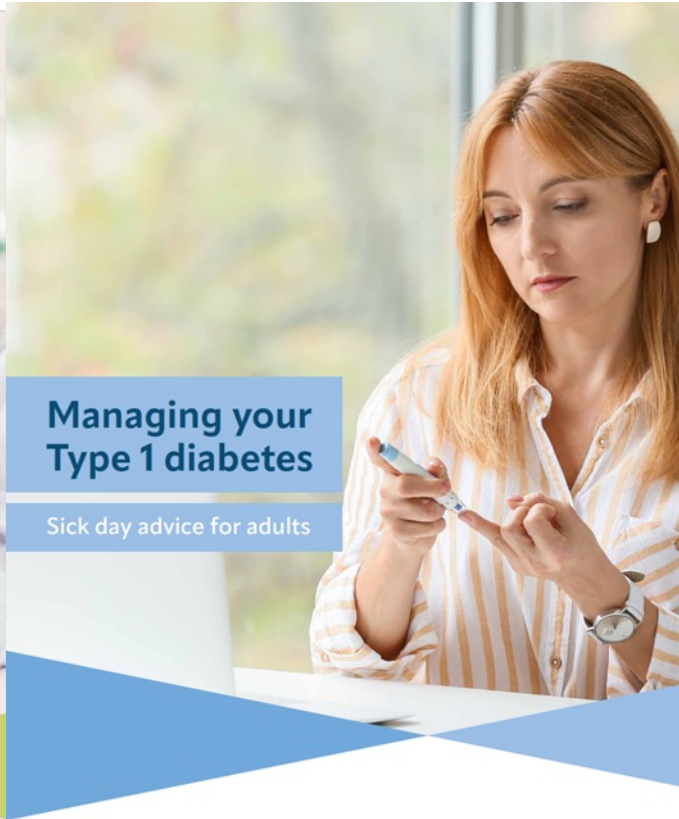
Managing care of adults with **diabetes mellitus** when they are unwell

Advice for clinicians



Managing your **Type 2 diabetes**

Sick day advice for adults



Managing your **Type 1 diabetes**

Sick day advice for adults