NHS
South West
Clinical Networks

DIABETES AND FRAILTY: ASSESSMENT OR RISKS AND BENEFITS OF THERAPY

GUIDELINES

Document based on: South Devon Healthcare Foundation Trust and Royal Cornwall Hospital Trust guidance
Ratified by:

Background

Elderly and frail individuals with diabetes are at marked increase in risk of adverse effects of treatments for diabetes, including admissions to hospital, and are less likely to benefit from the long-term protective effects of good glycaemia control. NICE guidance (NG28) published in DEC 2015 supports this, stipulating the following: *Consider relaxing the target HbA1c level (see recommendations 1.6.7 and 1.6.8) on a case by case basis, with particular consideration for people who are older or frail, for adults with type 2 diabetes.* There is a need for local guidance to allow a balance between the drive for tight glycaemia and blood pressure control and prevention of harm.

This guideline is based on recent published research data and consensus statements published in 2012 from the American Diabetes Association and American Geriatrics Society (Kirkman MS et al, JAGS 60:2342;2356) and the European Diabetes Working Party for Older People (Sinclair A et al, JAMDA 13: 497-502).

Assessment of frailty

There is a variety of 'Frailty' scales but none is widely used or validated in diabetes.
Two suggested examples are:

- The Rockwood Clinical Frailty Scale (Appendix 1) is a global clinical measure of fitness and frailty in elderly people and can be used with ease in practice.

- The Edmonton Frailty Scale (Appendix 2) is easy to use with minimal training and its use is encouraged in all individuals >75 years and in younger patients if there is concern. The Edmonton frail scale is available as a free App for use on Tablets and smart phones.

Some general messages

- Patients with life-expectancy less than 5 years are unlikely to derive microvascular benefits from tight glycaemic control (probably 10 years if free of complications at baseline) or tight BP control.
- Aims of treatment for patients who are very frail (e.g. those living in care homes or who have similar level of dependency living at home) should be (Kirkman et al)
    1. To avoid hypoglycaemia
    2. To control symptoms and avoid metabolic complications
    3. To reduce risk of infection
    4. To avoid hospital admission
    5. To introduce timely end-of-life care.

- An unscheduled admission to hospital in an elderly or frail patient is a marker of increased risk of recurrent hypoglycaemia and of substantial reduction in life-expectancy. De-escalation of treatment may be appropriate.
- All changes in medication and treatment targets will need to be discussed/negotiated with the patient and/or carers. The reasons for suggested changes need to be understood in terms of increased risk of therapy or low likelihood of benefit.

Table 1: Frailty and Type 2 Diabetes – suggested changes in approach to treatment

Remember: Patients can be EXCLUDED from QOF if they are on MAXIMAL TOLERATED TREATMENT or due to FRAILTY

	Level of Frailty	Therapeutic targets	Suggested actions and therapeutic options
0-1	Elderly (over 70 years) with life expectancy likely to be over 10 years And/or Edmonton Frail Scale - Up to 'Mild Frailty' Rockwood - Up to 'Mild Frailty'	• HbA1c 59 to 64 mmol/mol (7.5%-8%) Avoid low levels of HBA1c <53 (7%) if on insulin or SU (no evidence of benefit and increased risk of hypo) • BP <140/80 if tolerated	1. Metformin remains first line treatment 2. Avoid starting SU in elderly 3. Appropriate to use third line agents, Insulin, DPP4, GLP-1, Pioglitazone or SGLT-2 blockers (gliflozins) if HbA1c above target or symptoms of hyperglycaemia 4. **Reassess/Reduce** if worsening frailty or hypos
2	Elderly (over 70 years) and life expectancy likely to be less than 10 years And Edmonton Frail Scale - 'Moderate Frailty' Rockwood - 'Moderate Frailty'	• Aim is to control symptoms and avoid hypos • HbA1c <85 mmol/mol (10%) Avoid low levels of HbA1c of <59(7.5%) if on insulin or SU • BP <150/90 and no postural drop No need to measure alb/creat ratio	**1.** Caution with metformin (and other drugs) if eGFR 30-60**. Reduce or stop drugs** (*eGFR is known to over-estimate renal function in frail elderly patients*) 2. Try to **avoid** use of other 'third line agents' unless to control symptoms or to avoid insulin (Linagliptin may be useful here) 3. Consider insulin treatment to control severe hyperglycaemia with symptoms (Isophane once daily) **4. Do not restrict diet if low or losing weight**
3	Severe Frailty or reduced life expectancy. Especially: Multiple co-morbidities 'Moderately frail' patients requiring paramedic for hypo management or admitted to hospital with hyper or hypo glycaemia. Edmonton Frail Scale – 'Very Frail' Rockwood – 'Severely Frail or Very severely Frail'	• Symptom control • Avoidance of hypoglycaemia (no 'target' HbA1c necessary except as a means of assessing risk of hypo glycaemia or severe metabolic decompensation) Avoid low levels of HbA1c <59(7.5%) if on insulin or SU No need to measure alb/creat ratio	**De-escalate treatment – Reduce drugs** 1. Consider whether possible to stop insulin (seek advice) and/or SU 2. Stop metformin (and caution with other drugs) if **eGFR** is below 30 3. Try to **avoid** use of other 'third line agents' (GLP-1, Pioglitazone, SGLT-2blockers) 4. Stop lipid lowering drugs 5. Stop /Reduce other drugs likely to cause adverse effects, especially Beta-blockers

Table 2: Targets for capillary blood glucose levels in frail patients (including inpatients)

	Frailty category **See also Table 1**	**Intermediate risk of hypoglycaemia** Patients on insulin and/or sulphonylurea therapy	**High risk of hypoglycaemia or recurrent hypos** in spite of optimisation of insulin and/or oral hypoglycaemic therapy (seek advice)
0-1	Edmonton Frail Scale - Up to 'Mild Frailty' Rockwood - Up to	cbg (pre-meal) 6-11mmol/l	cbg (pre-meal) 8-15 mmol/l
2	Edmonton Frail Scale - 'Moderate Frailty' Rockwood - 'Moderate Frailty'	cbg (pre-meal) 8-15 mmol/l	cbg (pre-meal) 10-20 mmol/l
3	Edmonton Frail Scale - 'Severe Frailty' Rockwood - 'Severe or very Severe Frailty'	cbg (pre-meal) 8-15 mmol/l	cbg (pre-meal) 10-25 mmol/l In the very frail it may be appropriate to accept higher cbg than this but care is needed to avoid decompensation and DKA/HHS

Appendix 1: Rockwood Frailty Scale

1 Very Fit – People who are robust, active, energetic and motivated. These people commonly exercise regularly. They are among the fittest for their age.

2 Well – People who have no active disease symptoms but are less fit than category 1. Often, they exercise or are very active occasionally, e.g. seasonally.

3 Managing Well – People whose medical problems are well controlled, but are not regularly active beyond routine walking.

4 Vulnerable – While not dependent on others for daily help, often symptoms limit activities. A common complaint is being "slowed up", and/or being tired during the day.

5 Mildly Frail – These people often have more evident slowing, and need help in high order IADLs (finances, transportation, heavy housework, medications). Typically, mild frailty progressively impairs shopping and walking outside alone, meal preparation and housework.

6 Moderately Frail – People need help with all outside activities and with keeping house. Inside, they often have problems with stairs and need help with bathing and might need minimal assistance (cuing, standby) with dressing.

7 Severely Frail – Completely dependent for personal care, from whatever cause (physical or cognitive). Even so, they seem stable and not at high risk of dying (within ~ 6 months).

8 Very Severely Frail – Completely dependent, approaching the end of life. Typically, they could not recover even from a minor illness.

9 Terminally Ill – Approaching the end of life. This category applies to people with a life expectancy <6 months, who are not otherwise evidently frail.

Scoring frailty in people with dementia

The degree of frailty corresponds to the degree of dementia. Common **symptoms in mild dementia** include forgetting the details of a recent event, though still remembering the event itself, repeating the same question/story and social withdrawal.

In **moderate dementia,** recent memory is very impaired, even though they seemingly can remember their past life events well. They can do personal care with prompting.

In **severe dementia,** they cannot do personal care without help.

Appendix 2: Edmonton Frailty Scale

The Edmonton Frail Scale

Frailty points domain	Item	0 points	1 point	2
Cognition	Please imagine that this pre-drawn circle is a clock. I would li e you to place the numbers in the correct positions then place the hands to indicate a time of 'ten after r eleven'.	No errors	Minor spacing errors	Other errors
General health status	In the past year, how many times hhave you been admitted to a hospi tal?	0	1-2	2
	In general, how would you describe your health?	Excellent/very good/good	Fair	Poor
Functional independ-ence	With how many of the following activities do you require help? (meal preparation, shopping, transportation, telephone, housekeeping, laundry, managing money, taking medications)	0-1	2-4	5-8
Social support	When you need help, can you count on someone who is willing and able to meet your needs?	Always	Sometimes	Never
Medication use	Do you use ffive or more different prescription medications on a regularr basis?	No	Yes	
	At times, do you forget to take your prescription medications?	No	Yes	
Nutrition	Have you recently lost weight such that your clothing has become looser?	No	Yes	
Mood	Do you often feel sad or depressed?	No	Yes	
Continence	Do you have a problem with losing control of urine when you don't want to?	No	Yes	
Functional performan ce	I would like you to sit in this chairwith you r back and arms resting. Then when I say 'GO', please stand up and walk at a safe and comfortable pace to the mark on the floorr (approximately 3m away), return to the chair and sit down.	0-10 seconds	11-20 seconds	One of >20 seconds, patient unwilling or requires aasiistance
Total	Final score is the sum of column totals			*117*

Scoring the Reported Edmonton Frail Scale (/17):

Not frail 0-5
Apparently vulnerable 6-7
Mild frailty 8-9
Moderate frailty 10-1
Severe frailty 12-17