Tirzepatide for Blood Glucose Management in Type 2 Diabetes Prescribing Guidance

Tirzepatide (Mounjaro®) is a long-acting dual glucose-dependent insulinotropic polypeptide (GIP) receptor and glucagon-like peptide-1 (GLP-1) receptor agonist, a new class of medicine, that increases insulin sensitivity and secretion, suppresses glucagon secretion, and slows gastric emptying. GLP-1 RAs are established in the management of type 2 diabetes, the dual action on the GIP receptor is a new mechanism of action.

NICE TA924 recommends Tirzepatide for the treatment of type 2 diabetes alongside diet and exercise when it is insufficiently controlled only if:

- triple therapy with metformin and 2 other oral antidiabetic drugs is ineffective, not tolerated, or contraindicated, AND
- they have a body mass index (BMI) of 35 kg/m^2 or more, and specific psychological or other medical problems associated with obesity, OR
- they have a BMI of less than 35 kg/m^2, AND:
    - insulin therapy would have significant occupational implications, or
    - weight loss would benefit other significant obesity-related complications. Use lower BMI thresholds (usually reduced by 2.5 kg/m^2) for people from South Asian, Chinese, other Asian, Middle Eastern, Black African, or African-Caribbean family backgrounds.

Preference of agent should be decided based on the clinician's judgement about patient characteristics. Local specialists have suggested the following based on the medication currently available for new patient initiations:

- Oral Semaglutide may be preferred in patients with lower BMIs e.g. < BMI 35 kg/m^2.
- Tirzepatide may be preferred in patients with higher BMIs e.g. > BMI 35 kg/m^2 or who despite optimisation of all other therapies still require further glycaemic control
- Insulin may be preferred in patients with symptomatic hyperglycaemia (osmotic symptoms)
- For management of patients with retinopathy please refer to Primary Care Diabetes Society (PCDS) and Association of British Clinical Diabetologists (ABCD) Local specialists have suggested that for patients with a HbA1c of 86mmol/mol or higher with established background retinopathy (R1) rapid reduction in HbA1c should be avoided. Guidance on what represents rapid reduction is variable – reductions suggested range from >1.5% in less than 12 months and 30mmol/mol or 3%, with no time range specified. As per NICE guidance NG242
- please liaise with the patients opthalmologist so they can assess the person's eyes before treatment begins and check for changes afterwards.

Due to pending NICE guidance, DO NOT prescribe Tirzepatide for weight management only.

Approved by BNSSG APMOC [October,2024]
Review [October,2027]

Tirzepatide is available in a KwikPen device, each pen dials only one specified dose, with **4 doses per pen.** Appropriate formulary needles will also need to be prescribed separately.

Initiate with 2.5mg ONCE WEEKLY and after 4 weeks escalate to 5mg ONCE WEEKLY as a maintenance dose. when starting Tirzepatide consider adjusting other medications; for example, a dose reduction or cessation of sulfonylureas, a 10-20% dose reduction in insulin (depending on level of glycaemic control) and stopping DPP-4 inhibitors.

Tirzepatide should be reviewed after 6 months, and it is recommended that Tirzepatide is only continued if there has been a beneficial metabolic response (a reduction of at least 11 mmol/mol [1.0%] in HbA1c and weight loss of at least 3% of initial body weight in 6 months)

Higher strengths of Tirzepatide (Mounjaro® KwikPen®) are available (7.5mg/0.6ml, 10mg/0.6ml, 12.5mg/0.6ml and 15mg/0.6ml solution for injection 2.4ml pre-filled pens) however local Specialists advise**:** ***In most cases, 5mg per week of Tirzepatide will be sufficient for good glycaemic control. However*** *higher doses than 5mg/week* may be considered after careful assessment if there has been a beneficial metabolic response to the 5mg dose i.e. reduction of HbA1c of at least 11 mmol/mol and weight loss of at least 3% in 6 months and further weight loss may benefit other obesity-related complications.*

*If higher doses are appropriate do not substitute by doubling up a lower dose preparation.

Continue to

- Offer lifestyle and diet advice.
- Signpost to diabetes education
- Consider eligibility for referral to the NHS Type 2 Diabetes Pathway to Remission
- Individualised HbA1c target based on patient specific factors, as per NICE Guidance (https://www.nice.org.uk/guidance/ng28)
- Ensure robust contraception for women with childbearing potential. In overweight/ obese women, switch to a non-oral contraceptive or add a barrier method when initiating or escalating therapy (for 4 weeks)