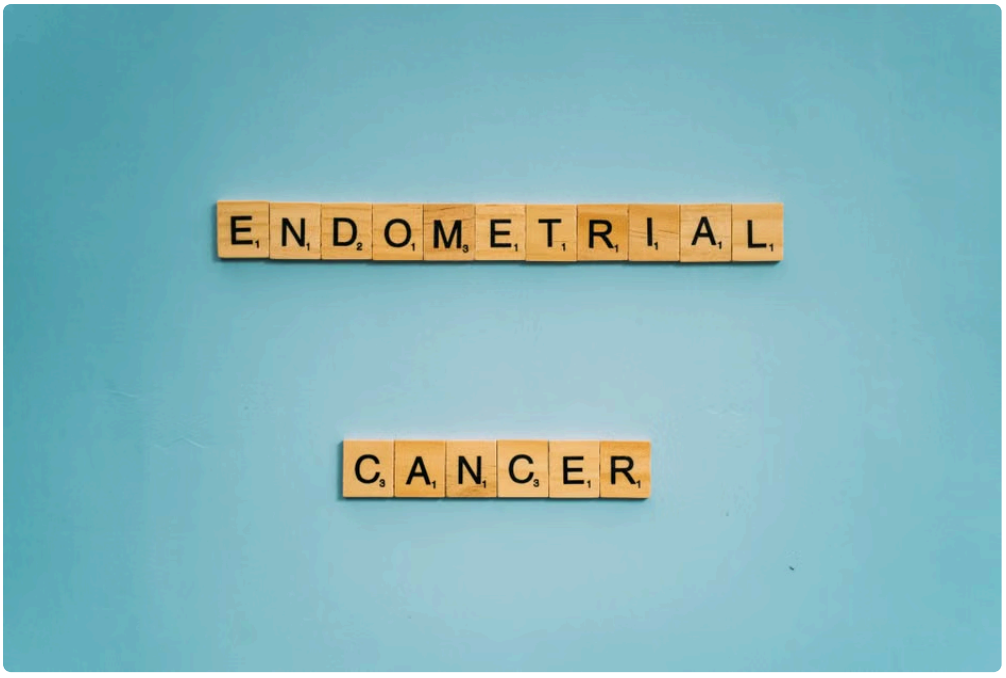
Multiple endocrine neoplasia type 2, usually shortened to MEN2, is a rare inherited condition that increases the chance of developing tumours in certain hormone-producing glands. It matters when discussing medicines such as semaglutide because US prescribing information for semaglutide products, including Ozempic and Wegovy, lists a personal or family history of medullary thyroid carcinoma (MTC), or a diagnosis of MEN2, as a contraindication.



This does not mean that semaglutide has been proven to cause thyroid cancer in people. The warning is based largely on thyroid C-cell tumours observed in rodents, while the relevance to humans remains uncertain. Anyone with MEN2, a family history of MTC, or questions about weight-management treatment should speak with a qualified clinician rather than start, stop, or change a medicine on their own.

What is the MEN2 condition?

MEN2 is an inherited cancer syndrome most often caused by a change (variant) in the *RET* gene. It is usually passed from a parent to a child in an autosomal dominant pattern: a person with the variant has a 50% chance of passing it on to each child. Genetic counselling and testing can help relatives understand their risks.

The main tumour associated with MEN2 is medullary thyroid carcinoma. Other possible tumours include phaeochromocytoma, which develops in the adrenal glands, and parathyroid disease, which can raise calcium levels. The combination and timing depend on the particular MEN2 subtype and the individual.

Feature What it means MEN2A Often associated with MTC and may also involve phaeochromocytoma or parathyroid disease. MEN2B Associated with MTC and phaeochromocytoma, and may include distinctive physical features and benign nerve growths. Familial MTC A form in which MTC runs in a family without the other typical MEN2 tumours.

People with MEN2 may not have symptoms at first. Because early detection and specialist care can be important, a known diagnosis or relevant family history should be shared with healthcare professionals, including the prescriber of any weight-management medicine.

How do GLP-1 receptor agonists work?

Glucagon-like peptide-1 (GLP-1) is a gut hormone involved in blood-sugar regulation and appetite. GLP-1 receptor agonists mimic some of its effects. Depending on the specific medicine and dose, they can increase insulin release when blood sugar is high, reduce glucagon release, slow stomach emptying, and act on appetite pathways to increase fullness and reduce hunger.

Semaglutide is a GLP-1 receptor agonist. Ozempic is a semaglutide product used primarily to treat type 2 diabetes in the United States; Wegovy is a higher-dose semaglutide product approved for chronic weight management in eligible people and for certain other risk-reduction uses. They contain the same active ingredient but have different approved uses and dosing. They should not be used together.

These medicines are generally intended to be part of a broader care plan—not a substitute for nutrition, physical activity, sleep, or medical follow-up. They are prescription medicines, and suitability depends on a person's medical history, treatment goals, and local prescribing rules.

Why does MEN2 matter for semaglutide?

US product information for semaglutide carries a boxed warning about thyroid C-cell tumours. In studies, semaglutide caused these tumours in rodents. It is not known whether this effect occurs in humans. Because MTC can be part of MEN2, the US label says not to use the medicine in people with a personal or family history of MTC or MEN2.

This is a **glp-1 contraindication** in the relevant US product information—not a claim that semaglutide has been proven to cause MTC in people with MEN2. The label also notes that routine monitoring with calcitonin testing or thyroid ultrasound has uncertain value for detecting MTC in people taking these medicines. A clinician may investigate symptoms or findings when appropriate, but screening tests should not be treated as a way to override a contraindication.

Drug labels and recommendations can vary by country and product. A clinician or pharmacist should check the current local prescribing information. If you have MEN2, a family history of MTC, or an uncertain family cancer history, raise it before treatment begins.

Screening questions to discuss before treatment

Screening questions help a prescriber identify information that could affect treatment. They do not diagnose MEN2, and a "no" answer cannot rule out every inherited risk. Be as specific as you can, and say when you do not know.

- Have you ever been diagnosed with MEN2 or a pathogenic *RET* gene variant?
- Have you ever had medullary thyroid carcinoma (MTC)?
- Has a parent, sibling, child, or other close relative had MTC or MEN2? Do you know the diagnosis or age at diagnosis?
- Have you had genetic counselling or testing for an inherited endocrine tumour condition?
- Have you had a thyroid operation, adrenal tumour, or parathyroid disease? What was the reason and what did the pathology report show?
- Are you taking another GLP-1 medicine, or have you previously had a serious reaction to one?
- Are you pregnant, planning pregnancy, or breastfeeding? What other health conditions and medicines should the prescriber consider?

If a relative's community pharmacy prescriber diagnosis is unclear, ask whether medical records or a family member can clarify it. A GP, endocrinologist, genetics service, or pharmacist can help decide what follow-up is appropriate. Do not rely on informal advice from social media channels or sellers to interpret a complex family history.

What does the evidence say about weight loss?

Large randomised controlled trials (RCTs) have tested semaglutide alongside lifestyle support in people with overweight or obesity. In the STEP programme, adults without diabetes who received weekly semaglutide 2.4 mg and lifestyle intervention generally lost more weight on average than those receiving placebo and lifestyle intervention. In STEP 1, average weight change at 68 weeks was about −14.9% with semaglutide compared with −2.4% with placebo. Individual results varied, and trial results do not guarantee what one person will experience.

Other STEP trials studied different groups and questions, including people with type 2 diabetes, the effect of continuing treatment, and outcomes in adolescents. Results across trials support semaglutide's effectiveness for many eligible people, but also highlight that weight regain can occur after treatment stops. The medication, side effects, costs, and ongoing support should therefore be discussed as part of a long-term plan.

RCT evidence can tell us about average benefits and common adverse effects in the groups studied. It cannot establish that a rare inherited condition such as MEN2 is safe to ignore. People with MEN2 were not the group these trials were designed to assess, and the prescribing contraindication still applies where specified by the local product label.



NICE guidance and eligibility in England

NICE guidance is for the NHS in England and should not be confused with US FDA approval or local coverage rules. NICE recommends semaglutide for weight management alongside a reduced-calorie diet and increased physical activity for eligible adults within specialist weight-management services. The criteria include a body mass index (BMI) of at least 35 kg/m^2 with at least one weight-related comorbidity, or a BMI of 30 to 34.9 kg/m^2 with referral to a specialist service that meets the relevant criteria. Lower BMI thresholds apply for some ethnic groups, reflecting differences in health risk.

NICE guidance also places limits on the duration and setting of treatment. People should check the current NICE technology appraisal and local NHS service arrangements, since eligibility, access, and implementation can differ. A clinician will consider more than BMI alone, including health conditions, previous support, preferences, and whether the medicine is appropriate and safe.

Meeting a weight-management eligibility threshold does not cancel a contraindication. If someone meets NICE criteria but has MEN2 or a personal or family history of MTC, the prescriber must consider the applicable product information and discuss safer alternatives or specialist advice.

Side effects and monitoring

The most common side effects of semaglutide are gastrointestinal. These can include nausea, vomiting, diarrhoea, constipation, abdominal discomfort, and reduced appetite. They are often most noticeable when treatment starts or the dose increases. Prescribers usually increase the dose gradually to improve tolerability, but the schedule must follow the specific product instructions.

More serious problems are less common but need prompt medical attention. Seek urgent advice for severe, persistent abdominal pain (which may signal pancreatitis), signs of an allergic reaction, or symptoms of gallbladder disease such as persistent upper abdominal pain with fever or jaundice. Ongoing vomiting or diarrhoea can lead to dehydration and may affect kidney function. People with diabetes may need monitoring for low blood sugar, especially if they also use insulin or certain other glucose-lowering medicines.

Monitoring should be tailored to the person and may include weight, treatment response, side effects, hydration, blood sugar where relevant, and review of other medicines. Tell the prescriber about planned surgery or procedures involving anaesthesia, since delayed stomach emptying may be relevant. Follow the product's instructions and the care team's advice; do not adjust doses independently.

Buying medicines safely

Use a legitimate prescriber and a regulated pharmacy. Online marketplaces and social media channels may advertise products described as semaglutide, but listings can be misleading, counterfeit, improperly stored, or supplied without appropriate medical assessment. Avoid buying prescription medicines from unverified sellers or using products that are not clearly authorised for your location. A pharmacist can help verify a pharmacy and explain how to use a prescribed product safely.

The bottom line

MEN2 is an inherited condition that can raise the risk of medullary thyroid carcinoma and other endocrine tumours. Semaglutide products such as Ozempic and Wegovy have a US-label contraindication for people with MEN2 or a personal or family history of MTC, based on a rodent tumour finding whose relevance to humans is unknown. STEP trials show meaningful average weight loss for many participants, but evidence does not remove this safety restriction. Share your medical and family history, ask screening questions, and make treatment decisions with a qualified clinician familiar with current local guidance.

References and further reading

- US prescribing information for Ozempic and Wegovy: boxed warning and contraindications.
- NICE Technology Appraisal TA875: Semaglutide for managing overweight and obesity.

- Wilding JPH et al. Once-Weekly Semaglutide in Adults with Overweight or Obesity. *New England Journal of Medicine*. 2021.
- National Cancer Institute: Multiple Endocrine Neoplasia Type 2 (MEN2).