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Masterclass 4: Obesity management and strategies

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Disclosures

Pharmaceutical and other medical companies for which you have attended an Advisory Board in the past 3 years

EASD attendance 2024- sponsorship from Menarini
EASD virtual attendance 2023 – sponsorship from Lilly
EASD virtual attendance 2022 – sponsorship from Novo Nordisk
In the last three years I have taken part in advisory boards for Primary Care Pharmacy Association, Daiichi Sankyo, Pfizer

Pharmaceutical and other medical companies for which you have delivered or received sponsored education in the past 3 years

Abbott, AstraZeneca, Boehringer Ingelheim, Lilly, Menarini

Roles that you hold a professional contract with (i.e. for which you earn a salary/fee)

Advanced practice pharmacist, NHS Greater Glasgow & Clyde
Diabetes specialist pharmacist, NHS Ayrshire & Arran

Professional non-financial roles

Member of the UKCPA Diabetes and Endocrinology Committee
Member of the Primary Care Diabetes Society
Member of Royal Pharmaceutical Society
Member of the Diabetes and Primary Care journal editorial board
Chair of the SIG Diabetes group
Member of the NHS Greater Glasgow & Clyde MCN Type 1 diabetes group
Member of the NHS Greater Glasgow & Clyde MCN Type 2 diabetes group
Member of the NHS Greater Glasgow & Clyde MCN Equity of Access group


Other relevant potential conflicts of interest

N/A



Objectives

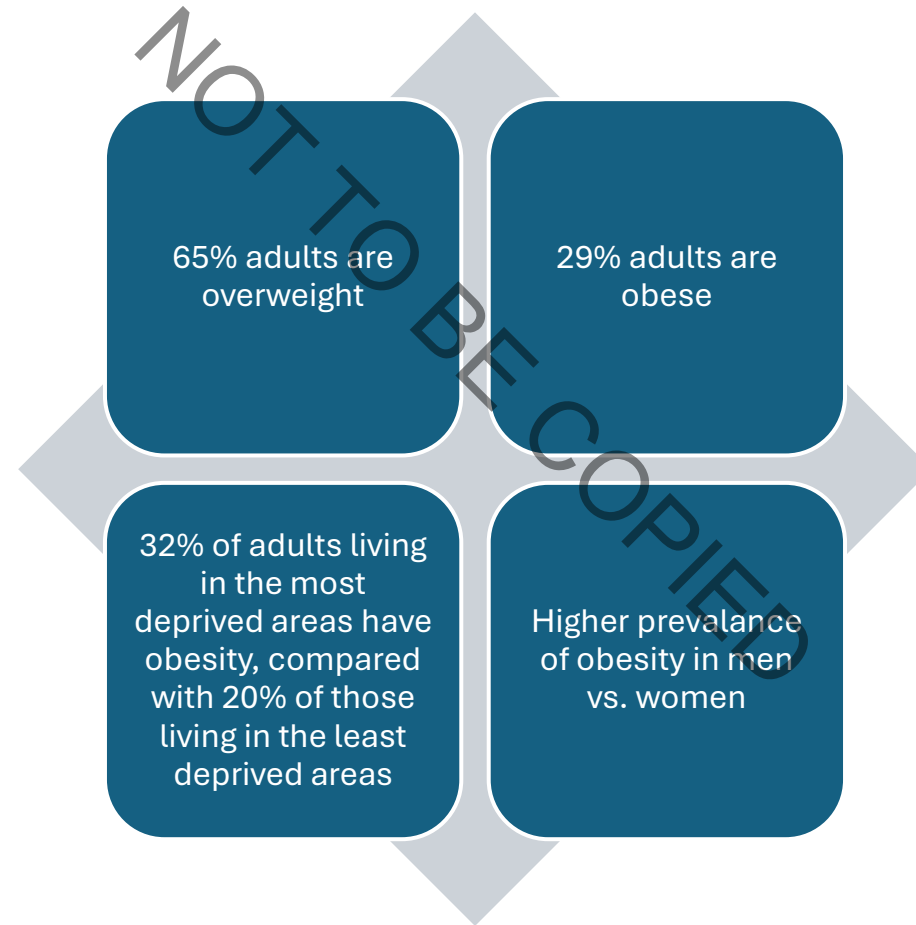
- Knowing your local pathways
- 10-minute diet advice
- Targeting weight loss from type 2 diabetes diagnosis
- New pharmacotherapies



Knowing your local
pathways

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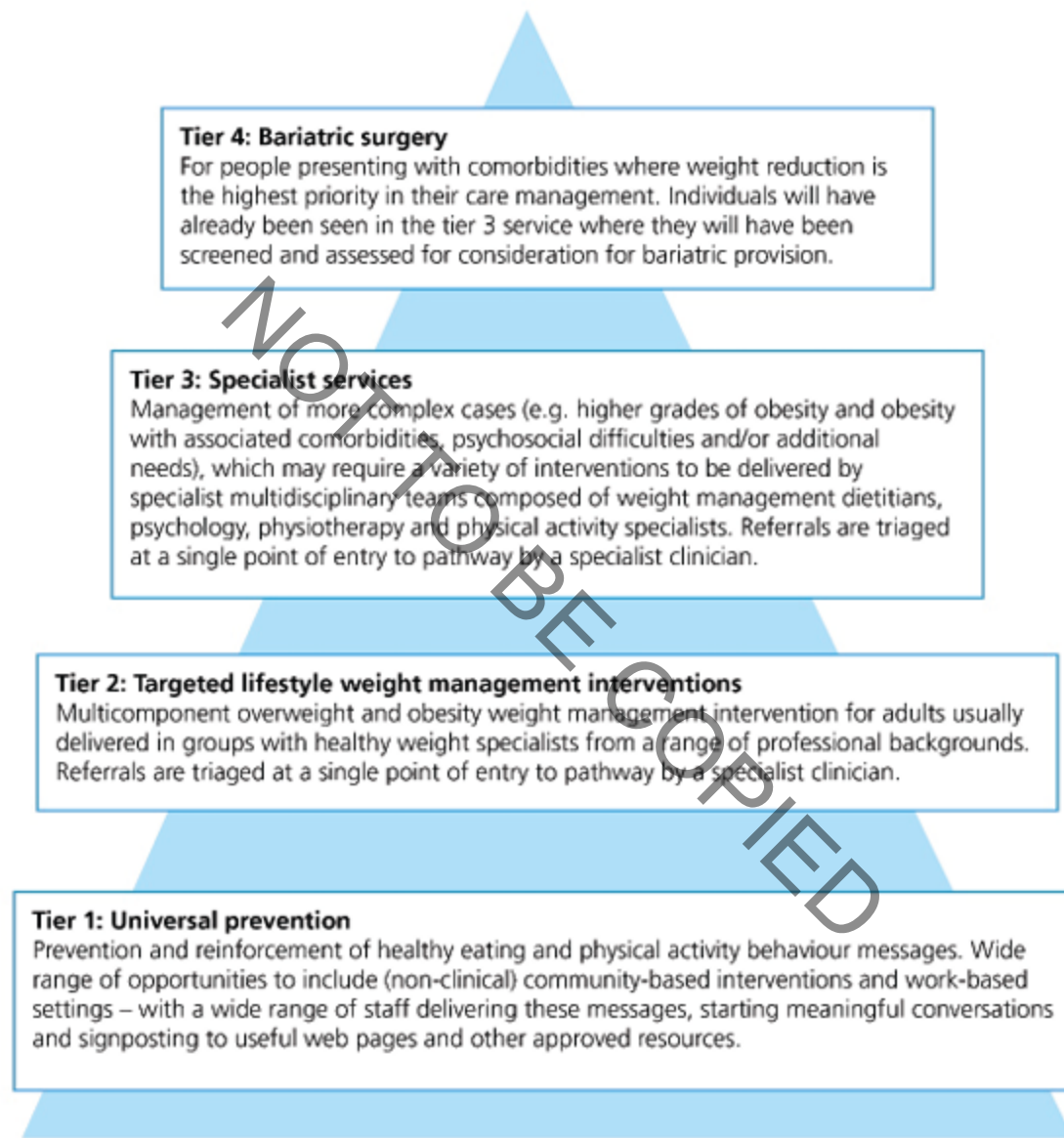
Scottish obesity statistics



Purpose of weight management standards in Scotland

- Purpose and Policy Context
- Service Design
- Referral Pathways
- Intervention Components
- Treatment Duration
- Staff Training
- Monitoring and evaluation
- Sharing best practice

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Source: Adapted from *The UK Obesity Care Pathway* (Department of Health, 2013)²⁰



Consensus statement: national criteria for the prioritisation of glucagon-like peptide-1 receptor agonists (GLP-1 RAs) and GLP-1 RA/glucose-dependent insulinotropic polypeptide receptor agonists (GIP RAs) for the treatment of obesity in NHS Scotland



Patients can be treated in any healthcare setting where evidence-based and appropriate lifestyle advice can be delivered. This could be:



- A tier 2 or tier 3 weight management service depending on the complexity of the individual's needs



- Primary and community care, consistent with long term condition management of associated condition e.g. hypertension



- Secondary care as part of specialist treatment for associated conditions e.g. diabetes, chronic kidney disease (CKD)

Proposed Phase 1

GLP-1 RA and GLP-1/GIP RAs should be used as an adjunct to a reduced-calorie diet and increased physical activity for weight management including weight maintenance, in adults with an initial BMI of:

- $\geq 38 \text{ kg/m}^2$ ($\geq 35 \text{ kg/m}^2$ for members of minority ethnic groups known to be at equivalent risk of the consequences of obesity at a lower BMI than the white population)

AND • One or more obesity-related clinical conditions

OR • Edmonton Score of 3 or 4

Obesity-related clinical conditions

- Chronic kidney disease (stages 3 or 4)
- Pre-existing cardiovascular disease
- Type 2 diabetes
- Hypertension
- Idiopathic intracranial hypertension
- Metabolic dysfunction-associated steatotic liver disease (MASLD/NAFLD)
- Obstructive sleep apnoea
- Polycystic ovary syndrome (PCOS)
- Prediabetes
- Dyslipidaemia
- Significant psychological distress related to obesity

STAGE 0

- **NO** sign of obesity-related risk factors
- **NO** physical symptoms
- **NO** psychological symptoms
- **NO** functional limitations

Case Example:

Physically active female with a BMI of 32 kg/m², no risk factors, no physical symptoms, no self-esteem issues, and no functional limitations.

Class I, Stage 0 Obesity

EOSS Score

WHO Obesity Classification

STAGE 1

- Patient has obesity-related **SUBCLINICAL** risk factors (borderline hypertension, impaired fasting glucose, elevated liver enzymes, etc.) - *OR* -
- **MILD** physical symptoms - patient currently not requiring medical treatment for comorbidities (dyspnea on moderate exertion, occasional aches/pains, fatigue, etc.) - *OR* -
- **MILD** obesity-related psychological symptoms and/or mild impairment of well-being (quality of life not impacted)

Case Example:

38 year-old female with a BMI of 59.2 kg/m², borderline hypertension, mild-lower back pain, and knee pain. Patient does not require any medical intervention.

Class III, Stage 1 Obesity

WHO CLASSIFICATION OF WEIGHT STATUS (BMI kg/m²)

Obese Class I 30 - 34.9
Obese Class II 35 - 39.9
Obese Class III ≥40

Stage 0 / Stage 1 Obesity

Patient **does not meet clinical criteria for admission** at this time.

Please refer to primary care for further preventative treatment options.

STAGE 2

- Patient has **ESTABLISHED** obesity-related comorbidities requiring medical intervention (HTN, Type 2 Diabetes, sleep apnea, PCOS, osteoarthritis, reflux disease) - *OR* -
- **MODERATE** obesity-related psychological symptoms (depression, eating disorders, anxiety disorder) - *OR* -
- **MODERATE** functional limitations in daily activities (quality of life is beginning to be impacted)

Case Example:

32 year old male with a BMI of 36 kg/m² who has primary hypertension and obstructive sleep apnea.

Class II, Stage 2 Obesity

STAGE 3

- Patient has **significant** obesity-related end-organ damage (myocardial infarction, heart failure, diabetic complications, incapacitating osteoarthritis) - *OR* -
- **SIGNIFICANT** obesity-related psychological symptoms (major depression, suicide ideation) - *OR* -
- **SIGNIFICANT** functional limitations (eg: unable to work or complete routine activities, reduced mobility)
- **SIGNIFICANT** impairment of well-being (quality of life is significantly impacted)

Case Example:

49 year old female with a BMI of 67 kg/m² diagnosed with sleep apnea, CV disease, GERD, and suffered from stroke. Patient's mobility is significantly limited due to osteoarthritis and gout.

Class III, Stage 3 Obesity

STAGE 4

- **SEVERE** (potential end stage) from obesity-related comorbidities - *OR* -
- **SEVERELY** disabling psychological symptoms - *OR* -
- **SEVERE** functional limitations

Case Example:

45 year old female with a BMI of 54 kg/m² who is in a wheel chair because of disabling arthritis, severe hyperpnea, and anxiety disorder.

Class III, Stage 4 Obesity

Proposed Phase 2

GLP-1 RA and GLP-1/GIP RAs used as an adjunct to a reduced-calorie diet and increased physical activity for weight management including weight maintenance, in adults with an initial BMI of:

- $\geq 35 \text{ kg/m}^2$ ($\geq 32 \text{ kg/m}^2$ for members of minority ethnic groups known to be at equivalent risk of the consequences of obesity at a lower BMI than the white population)

AND

- One or more obesity-related clinical conditions

Proposed Phase 3

GLP-1 RA and GLP-1/GIP RAs used as an adjunct to a reduced-calorie diet and increased physical activity for weight management including weight maintenance, in adults with an initial BMI of:

- $\geq 30\text{kg/m}^2$ ($\geq 27\text{kg/m}^2$ for members of minority ethnic groups known to be at equivalent risk of the consequences of obesity at a lower BMI than the white population)

AND

- One or more obesity-related clinical conditions

10-minute diet advice

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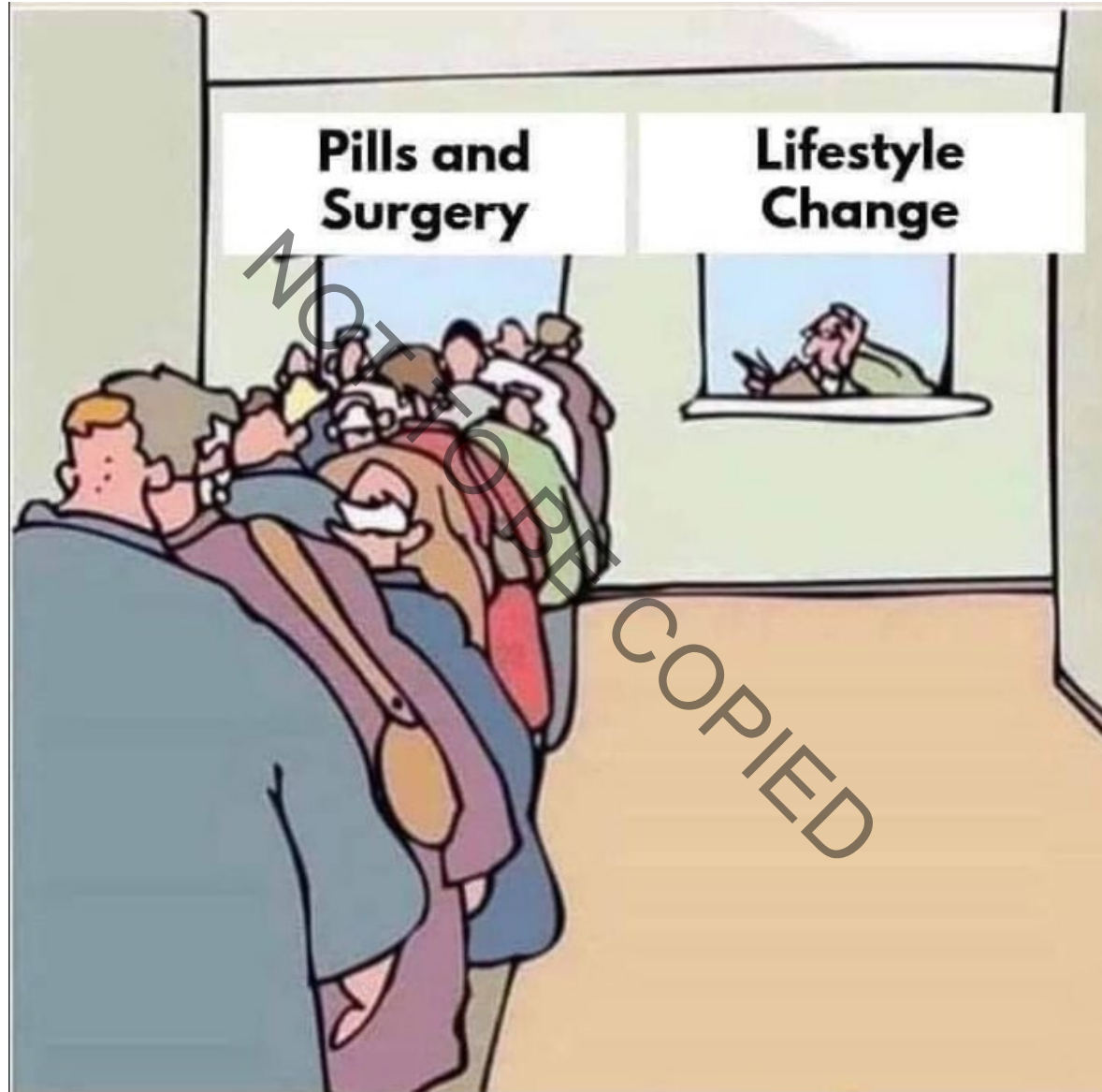


Language Matters: Obesity

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7AM 1 X MULTI SEED TOAST + BUTTER + COFFEE
7:30 6 X MIDLET GEMS
8AM 4 X DIGESTIVE BISCS + BUTTER + COFFEE
10AM 1 X ROLL COOD WAM + COFFEE
" " KIT KAT
1pm 1 X ROLL COOD WAM + BUTTER + COKE ZERO
1 X CRISPS, ROLLY
1 X TANGERWE
1:30 1 X GO AHEAD BISCUIT
1:00 TOAD IN THE MOLE, ROAST POTATOES, PEAS
PM BUNCH OF GRAPES
+ COFFEE + 4 DIGESTIVE BISCS + BUTTER
+ 3 CANS COKE ZERO

Quick diet tips

- Keep food diary
- Calorie count/deficit
- Effect of carbohydrates on blood glucose levels
- Food labels
- Hydration
- Eat all food groups
- Eat well plate



EAT AND BE HEALTHY

- ↑ Pay more attention to food labels. Look for hidden sugars.
- ↑ Drink green or red top milk instead of blue top.
- ↑ Boil rice or vegetables.
- ↑ Bake or grill food instead of frying.
- ↑ Increase fibre intake such as brown rice.
- ↑ Use monounsaturated oil e.g. extra virgin olive oil or rapeseed oil.
- ↑ Maximise protein in the diet e.g. fresh fish, chicken.
- ↑ Eat at least 5 portions of fruit and vegetables daily.
- ↑ Use wholemeal flour to make chappatis.
- ↓ Most South Asian diets are too high in carbohydrates such as rice, nan, chappati, potatoes.
- ↓ Replace sugary drinks or fruit juice with no added sugar drinks or water.
- ↓ Swap sweet foods such as mithai, chocolate, biscuits and cakes.
- ↓ Use minimal oil in curries.
- ↓ If you smoke, it would be better to try to stop.

↑ = Increase ↓ = Decrease

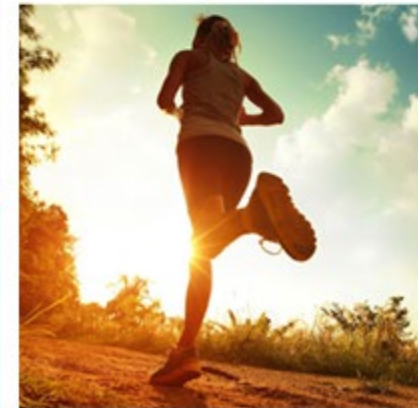


EXERCISE ACTIVITY

Be physically active for 30 minutes daily for five days per week with slight shortness of breath.

Buy a pedometer and build activity by trying to increase steps by 3-4000 per day

- ↑ Choose an activity you enjoy such as walking, swimming, cycling or dancing
- ↑ Muscle
- ↓ Sitting down time
- ↓ Waistline



Importance of Physical Behaviours for type 2 Diabetes

The chart and table below demonstrate the importance of physical behaviours on type 2 diabetes in a 24 hour period.

SITTING/BREAKING UP PROLONGED SITTING

Limit sitting. Breaking up prolonged sitting (every 30 min) with short regular bouts of slow walking/simple resistance exercises can improve glucose metabolism.



STEPPING

- An increase of only 500 steps/day is associated with 2-9% decreased risk of cardiovascular morbidity and all-cause mortality.
- A 5 to 6 min brisk intensity walk per day equates to ~4 years' greater life expectancy.



SLEEP

Aim for consistent, uninterrupted sleep, even on weekends.



Quantity - Long (>8h) and short (<6h) sleep durations negatively impact HbA_{1c}.



Quality - Irregular sleep results in poorer glycaemic levels, likely influenced by the increased prevalence of insomnia, obstructive sleep apnoea and restless leg syndrome in people with type 2 diabetes.



Chronotype - Evening chronotypes (i.e. night owl: go to bed late and get up late) may be more susceptible to inactivity and poorer glycaemic levels vs morning chronotypes (i.e. early bird: go to bed early and get up early).

SWEATING (MODERATE-TO-VIGOROUS ACTIVITY)

- Encourage ≥ 150 min/week of moderate-intensity physical activity (i.e. uses large muscle groups, rhythmic in nature) OR ≥ 75 min/week vigorous-intensity activity spread over ≥ 3 days/week, with no more than 2 consecutive days of inactivity. Supplement with two to three resistance, flexibility and/or balance sessions.
- As little as 30 min/week of moderate-intensity physical activity improves metabolic profiles.



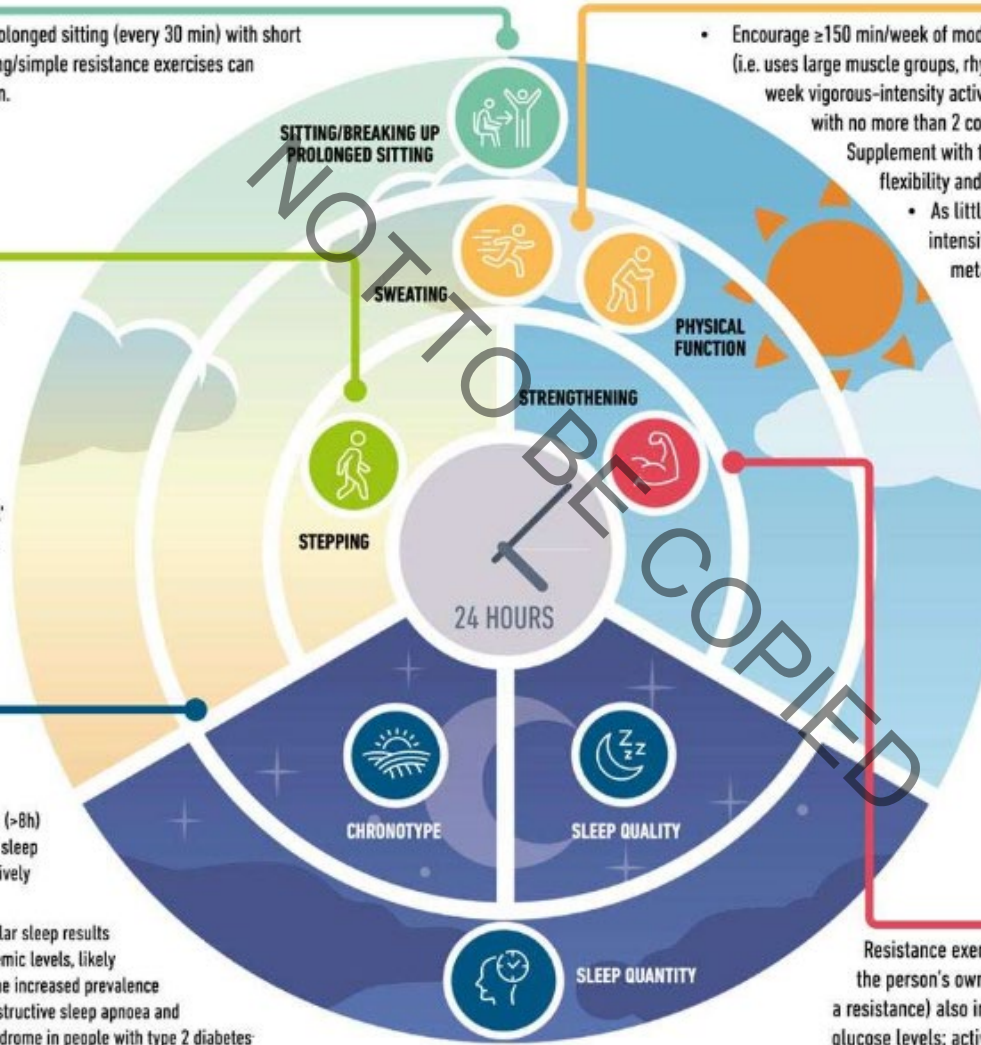
Physical function/frailty/sarcopenia

- The frailty phenotype in type 2 diabetes is unique, often encompassing obesity alongside physical frailty, at an earlier age. The ability of people with type 2 diabetes to undertake simple functional exercises in middle-age is similar to that in those over a decade older.



STRENGTHENING

Resistance exercise (i.e. any activity that uses the person's own body weight or works against a resistance) also improves insulin sensitivity and glucose levels; activities like tai chi and yoga also encompass elements of flexibility and balance.



- +
 - • Don't just tell patients to eat healthy or exercise, give them ideas on how to do this!

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Targeting weight
loss from type 2
diabetes diagnosis

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DIRECT Trial

At 12 months, almost half of participants achieved remission to a non-diabetic state following a structured weight management programme

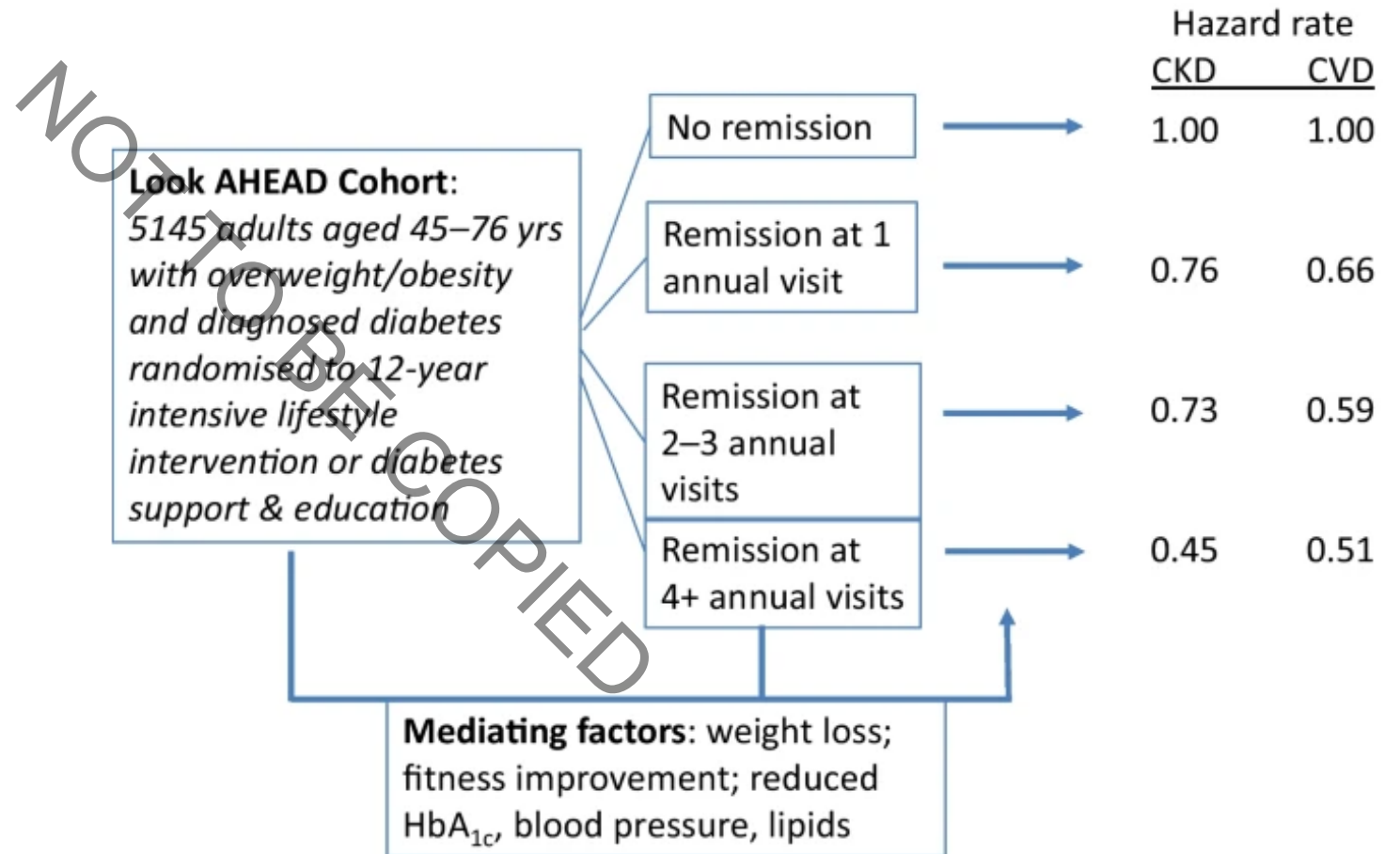
- Participants in the intervention group:
 - 36% lost ≥ 15 kg
 - 46% achieving remission at 1 year, , and 36% at two years.
 - 74% stopped taking glucose-lowering medications
 - 48% stopped taking antihypertensive drugs
 - Reduction by 0.31 mmol/L of TG
 - QoL improved significantly

RETUNE Trial

- Participants' BMI averaged 22.4 kg/m² at the end of the study (from an average of 24.8 kg/m²).
- People needed to lose on average 8% of their body weight to go into remission.
- In the 14 out of 20 people who went into remission, their average HbA1c fell from 53mmol/mol at the start of the study to 45mmol/mol. Their blood pressure dropped despite taking less medication to treat this.
- The participants' liver and pancreas fat levels were higher than expected at the start of the trial but then decreased to normal levels after weight loss.

LOOKAHEAD Trial

Impact of remission from type 2 diabetes on long-term health outcomes:



New pharmacotherapies

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GLP-1 Fight



Eli Lilly

Boehringer
Ingelheim

Novo Nordisk

Amgen

Pfizer

GLP-1RA

Oral Semaglutide 50mg (novo Nordisk)

-Phase 3 (OASIS-1)

-weight loss- semaglutide vs placebo- 17.4% vs. 1.8% at week 68

-nausea - semaglutide vs placebo- 52% vs. 15%

-vomiting- semaglutide vs placebo- 24% vs. 4%

Orforglipron 12mg, 24mg, 36mg and 45mg (Eli Lilly)

-Oral, once daily non-peptide GLP-1RA

-weight loss- ororglipron vs placebo- 14.7% vs. 2.3%

GLP-1 and GIP
antagonist

AMG 133 (Amgen)

- once every 4 weeks, s/c (3 injections)
- ongoing phase 2 trial
- weight loss- AMG133 vs placebo-
14.5% vs. 1.5% at day 85 (phase 1 trial)

GLP-1, Glucagon
and GIP
antagonist
(triple G)

Retatrutide 1,4,8,12mg (Eli Lilly)

-subcutaneous, once every 4 weeks

-ongoing phase 3 trial

-weight loss from phase 2 trial-
retatrutide vs placebo- 24.2% vs. 2.1%
at week 48

GLP-1 and Glucagon agonist

Survodutide 0.6,2.4,3.6,4.8mg (boehringer Ingelheim)

-once weekly subcutaneous

-progressed to phase 3 clinical trials (SYNCHRONIZE programme). -

weight loss in phase 2 trial- survodutide vs. Placebo 18.7% vs. 2% at week 46

-discontinuation rate- survodutide vs. placebo 20-29% vs. 4%-- due to rapid escalation phase

GLP-1 and Amylin agonists

Carisegma (Novo Nordisk)

-once weekly, s/c

-cagrilintide 2.4 mg and
semaglutide 2.4mg combo

-combo product produced
2x more weight loss than
individual products

Summary



Quick diet advice will go a long way



Give ideas on how and when to exercise



Lots happening in obesity management