London Conference | PCDO Society

Session 4 : Established Type 2 diabetes, CVD and other complications

2 July 2025 | Royal College of General Practitioners

This conference was developed by the PCDO Society in conjunction with OmniaMed Communications. The sponsoring companies have had no input into the conference agenda, speaker selection or presentations, with the exception of the symposium sessions, for which the respective sponsoring companies are fully responsible.

Disclaimer/disclosure

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Received funding for providing educational sessions, writing and teaching, and attending conferences and advisory boards:

Abbott, Bayer, AstraZeneca, Boehringer Ingelheim, Eli Lilly, Menarini, Novo Nordisk, Roche, Sherborne Gibbs Limited and OmniaMed.

Disclaimer/disclosure

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Advanced Nurse Practitioner, SA1 Medical Centre

No Disclosures

Meet Susan age 63

PMH	Hypertension since 2018 Painful diabetic peripheral neuropathy Depression many years
Height, weight, WC and BMI	Height 161cm, weight 89.5kg, WC 104cm, BMI 34.6
Blood pressure	160/82mmHg
HbA1c	58mmol/mol (52mmol/mol at diagnosis)
eGFR and ACR	70mL/min/1.73m^2 (G2) 2.8mg/mmol (A1)
Lipids	TC 4.9, TG 1.6, HDL1.3, non-HDL 3.6, TC:HDL ratio 3.8. LDL 2.9 (declined statin previously)
Current medication	Metformin 500mg 2 twice daily, Sitagliptin 100mg Ramipril 5mg, Amlodipine 5mg Duloxetine 60mg Co-codamol 30/500mg
Lifestyle	Ex-smoker. Married. Alcohol 3-4 units/week

Long-term conditions

- ✓ Hypertension
- ✓ Type 2 diabetes
- ✓ Obesity
- ✓ Depression
- ✓ Painful diabetic neuropathy/chronic pain

Free stock photo; fictional case not based on real patients

Our concerns

- ✓Hypertension
- ✓Lipids
- ✓Suboptimal glycaemia
- ✓CVD risk (refused statins)
- ✓Possible previous non engagement

Free stock photo; fictional case not based on real patients

Susan’s concerns

- ✓Pain
- ✓Depression/low mood
- ✓Poor sleep and daytime tiredness
- ✓Increasing weight
- ✓Family concerns, husband recent diagnosis, ’carent’ role

What’s In It For Me?

Free stock photo; fictional case not based on real patients

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How can we help with Susan's pain?

NICE Chronic pain NG193, Neuropathic pain NG173

Neuropathic pain

- Choice of amitriptyline, duloxetine, gabapentin or pregabalin and titrate
- Switch if not effective, cross taper
- Tramadol short term rescue therapy only
- Capsaicin cream - 'only under specialist care', if unable to tolerate or unwilling to take oral therapy

OPTION-DM double blind randomised crossover trial diabetic peripheral neuropathy – 3 treatments similar efficacy; adding second effective

Tesfaye et al Lancet 2022; 400:680-90

- Enjoyed opportunity to talk about her pain and its impact
- Keen for referral to pain clinic
- Chose pregabalin; titrated to 600mg
- Resisted tramadol and patches request 'like her friend takes'

NICE Chronic pain https://www.nice.org.uk/guidance/ng193/
NICE Neuropathic pain https://www.nice.org.uk/guidance/cg173

Lifestyle and Chronic Pain

Nils and Reis Key role of lifestyle factors in perpetuating chronic pain: towards precision pain medicine 2022 J Clin Med; 11: 2732

Check for history drug abuse prior to offering gabapentin or pregabalin; care during Rx

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3/12 Review DNA

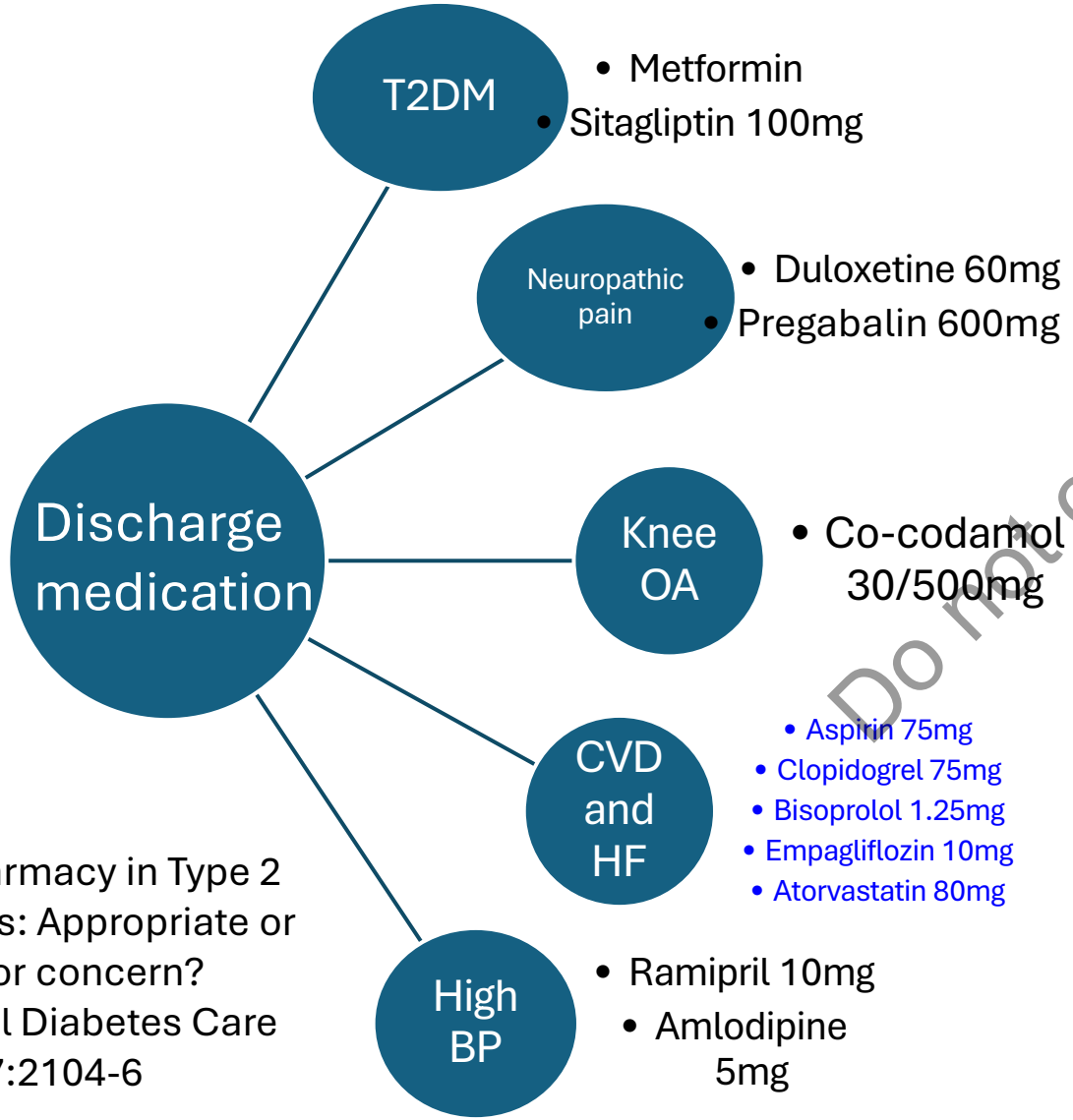
Susan 5 months later, post discharge

Age	63 years
PMH	T2DM 5 years Hypertension since 2018 Painful diabetic peripheral neuropathy Depression many years NSTEMI , stenting, mild HFrEF
Height, weight, BMI	Height 161cm, weight 89.5kg, BMI 34.6
Blood pressure	118/75mmHg
HbA1c	50mmol/mol (58mmol/mol last review)
eGFR and ACR	58mL/min/1.73m^2 (<60 for >3 months)(G3a) 2.8mg/mmol (A1)
Lipids	TC 3.4, TG 3.2, HDL 0.7. non-HDL 2.7, TC; HDL ratio 4.9, LDL 1.7 on admission

Long-term conditions:

- ✓ Hypertension
- ✓ Type 2 diabetes
- ✓ Obesity
- ✓ Depression
- ✓ Painful diabetic neuropathy/chronic pain
- ✓ ASCVD and NSTEMI
- ✓ HFrEF

Susan's discharge medication



- ✓ Discharged on individualised regimen – titration often needed eg bisoprolol
- ✓ In hospital full medication discussion often not possible
- ✓ Medicine review and reconciliation may identify pre-existing interactions

Polypharmacy in Type 2 diabetes: Appropriate or cause for concern?
Zeb et al Diabetes Care 2024:47:2104-6

Our role – encourage safe use, titrate, test, stop therapies when recommended

Our goal – help Susan understand the benefits of her medications and how to take them safely – possible short-term inconvenience for short and long-term benefit

NHS England National guidance for Lipid Management Secondary prevention

- ✓ Identify and address modifiable risk factors
- ✓ Start atorvastatin 80mg - lower dose if interaction risk, high risk side effects, preference
- ✓ Statin, ezetimibe, bempedoic acid, referral

Susan on admission

- ✓ Total cholesterol 3.4mmol/L
- ✓ Non-HDL 2.7mmol/L
- ✓ LDL 1.7mmol/L

NICE National Institute for Health and Care Excellence

EUROPEAN SOCIETY OF CARDIOLOGY

American Diabetes Association®

- ✓ LDL ≤ 2.0mmol/L
- ✓ non-HDL ≤ 2.6mmmol/L

- ✓ LDL <1.4mmol/L

NHS (2021) Summary of National Guidance for Lipid Management for Primary and Secondary Prevention of cardiovascular disease. Available at: www.england.nhs.uk/aac/publication/summary-of-national-guidance-for-lipid-management

Statin Intolerance Pathway

Risk factors statin-related MSK symptoms/statin intolerance

- ✓ Female
- ✓ Age >75 years
- ✓ Frailty/reduced lean body mass
- ✓ History muscle disorder
- ✓ Impaired renal or hepatic function
- ✓ Person/family history intolerance
- ✓ Hypothyroidism

- ✓ Excessive alcohol
- ✓ High intensity exercise
- ✓ Dehydration
- ✓ Drug interactions
- ✓ Vitamin D deficiency

Options:

- ✓ Can re-challenge/de-challenge, try different statins
- ✓ Lower dose preferable to no statin
- ✓ Alternate day/twice weekly rosuvastatin or atorvastatin
- ✓ Add ezetimibe +/- bempedoic acid + lower dose statin
- ✓ Consider inclisiran/ PCSK9 if meets criteria

https://www.england.nhs.uk/aac/wp-content/uploads/sites/50/2020/04/statin-intolerance-pathway-v2.pdf

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Has Susan had her kidney health check?

CKD coding and monitoring – ACR important

Prognosis of CKD by GFR and albuminuria categories: KDIGO 2012

Guide to frequency of assessment for CKD progression and timely referral to nephrology service

GFR categories (ml/min per 1.73 m²) Description and range				Persistent albuminuria categories Description and range		
				A1	A2	A3
				Normal to mildly increased	Moderately increased	Severely increased
				<30 mg/g <3 mg/mmol	30-300 mg/g 3-30 mg/mmol	>300 mg/g >30 mg/mmol
G1	Normal or high	≥90		(1 if CKD)	Monitor (1)	Refer* (2)
G2	Mildly decreased	60-89		(1 if CKD)	Monitor (1)	Refer* (2)
G3a	Mildly to moderately decreased	45-59		Monitor (1)	Monitor (2)	Refer (3)
G3b	Moderately to severely decreased	30-44		Monitor (2)	Monitor (3)	Refer (3)
G4	Severely decreased	15-29		Refer* (3)	Refer* (3)	Refer (4+)
G5	Kidney failure	<15		Refer (4+)	Refer (4+)	Refer (4+)

Low Risk (if no other markers of kidney disease, no CKD)

Moderately increased risk

High risk

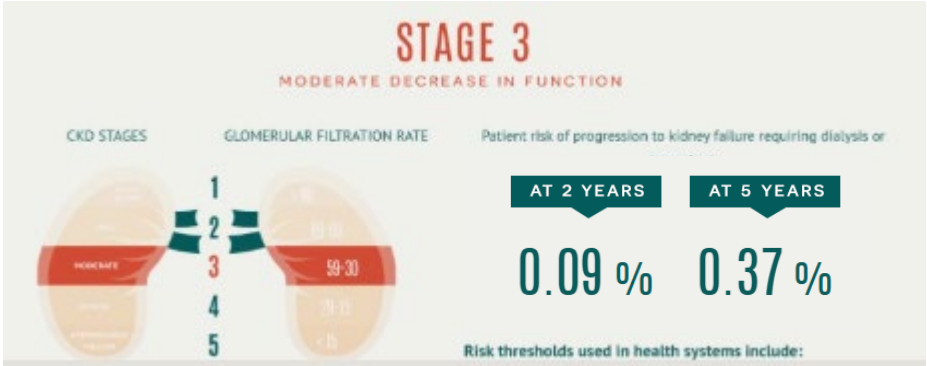
Very high risk

Susan G3a A2
eGFR 55
ACR 3.4mg/mmol

If we code accurately we can find and manage people

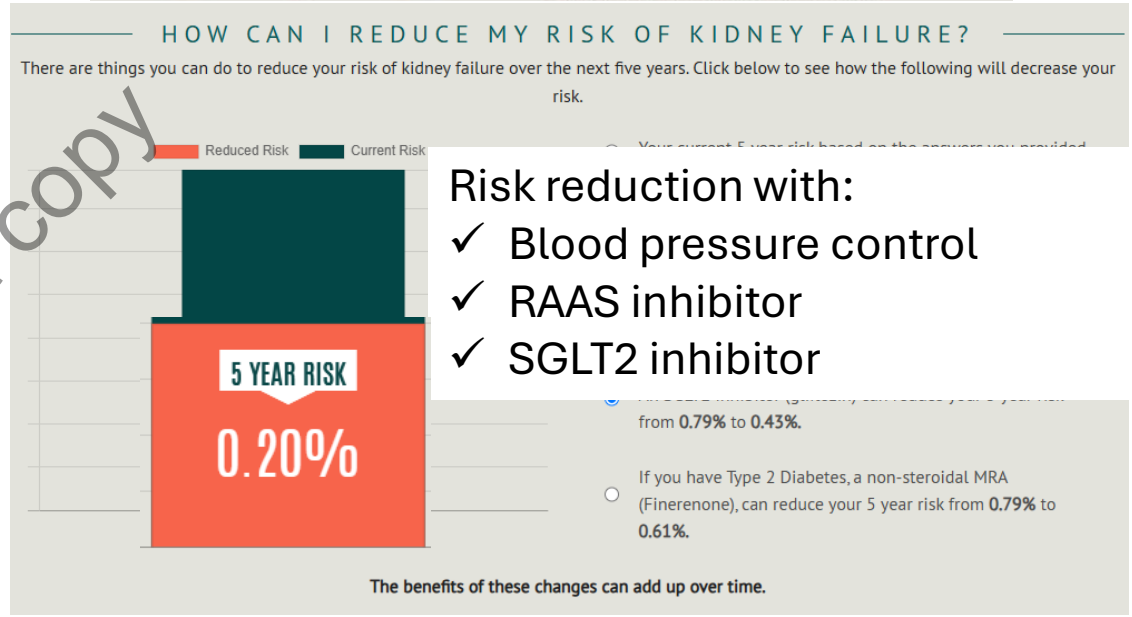
Kidney failure risk equation

https://kidneyfailurerisk.com/



NICE referral criteria

- ✓ 5% 5 year risk of renal replacement therapy
- ✓ ACR>70mg/mmol unless caused by diabetes
- ✓ ACR <30mg/mmol and haematuria
- ✓ Sustained 25%+ decrease eGFR and change in category in 12 months
- ✓ Hypertension poorly controlled on 4 medicines at therapeutic doses
- ✓ Suspected renal artery stenosis



Risk reduction with:

- ✓ Blood pressure control
- ✓ RAAS inhibitor
- ✓ SGLT2 inhibitor

Susan - risk is low at 0.37% at 5 years

NICE CKD NG203 2021

NICE offers pragmatic guidance on management of eGFR in ACEI/ARB titration

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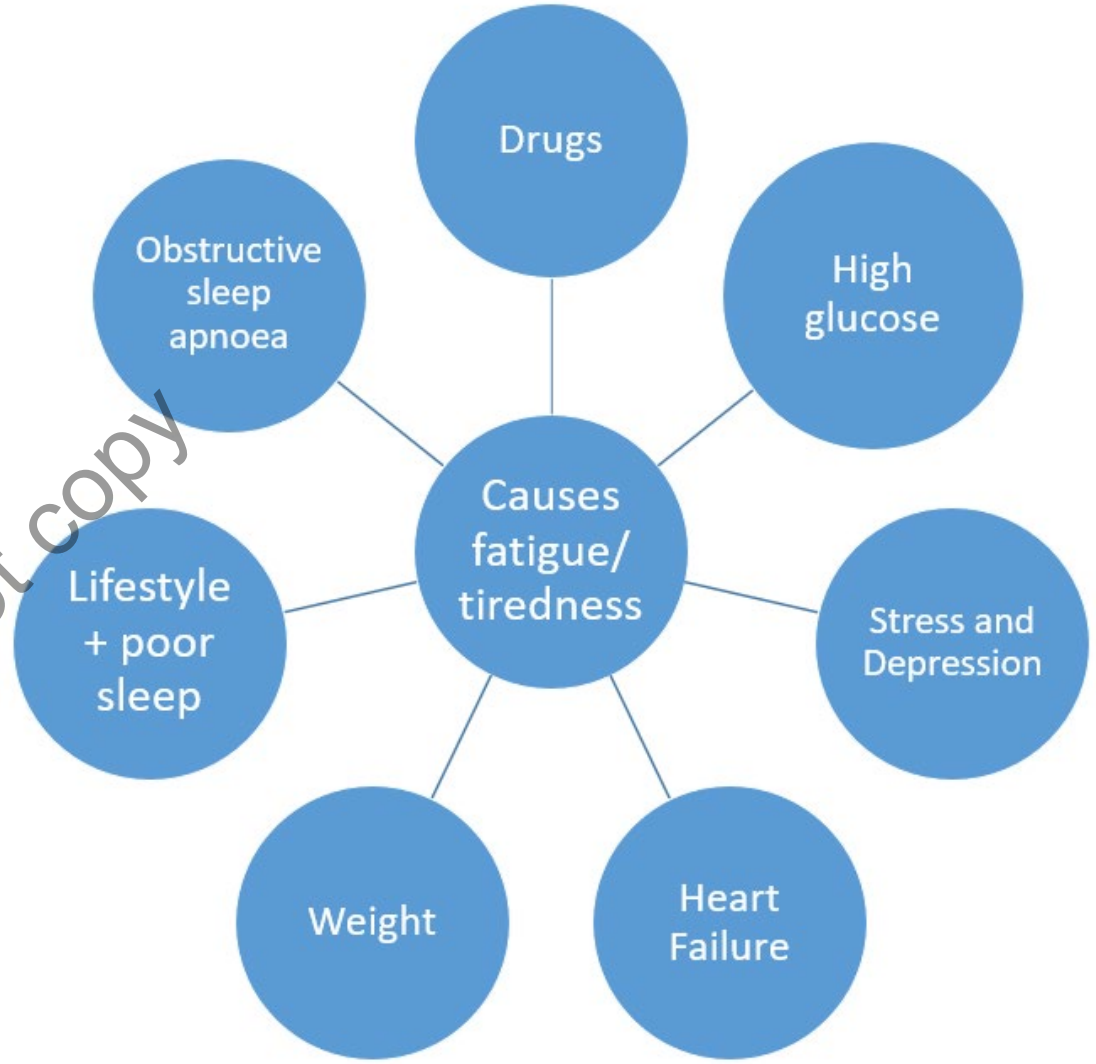
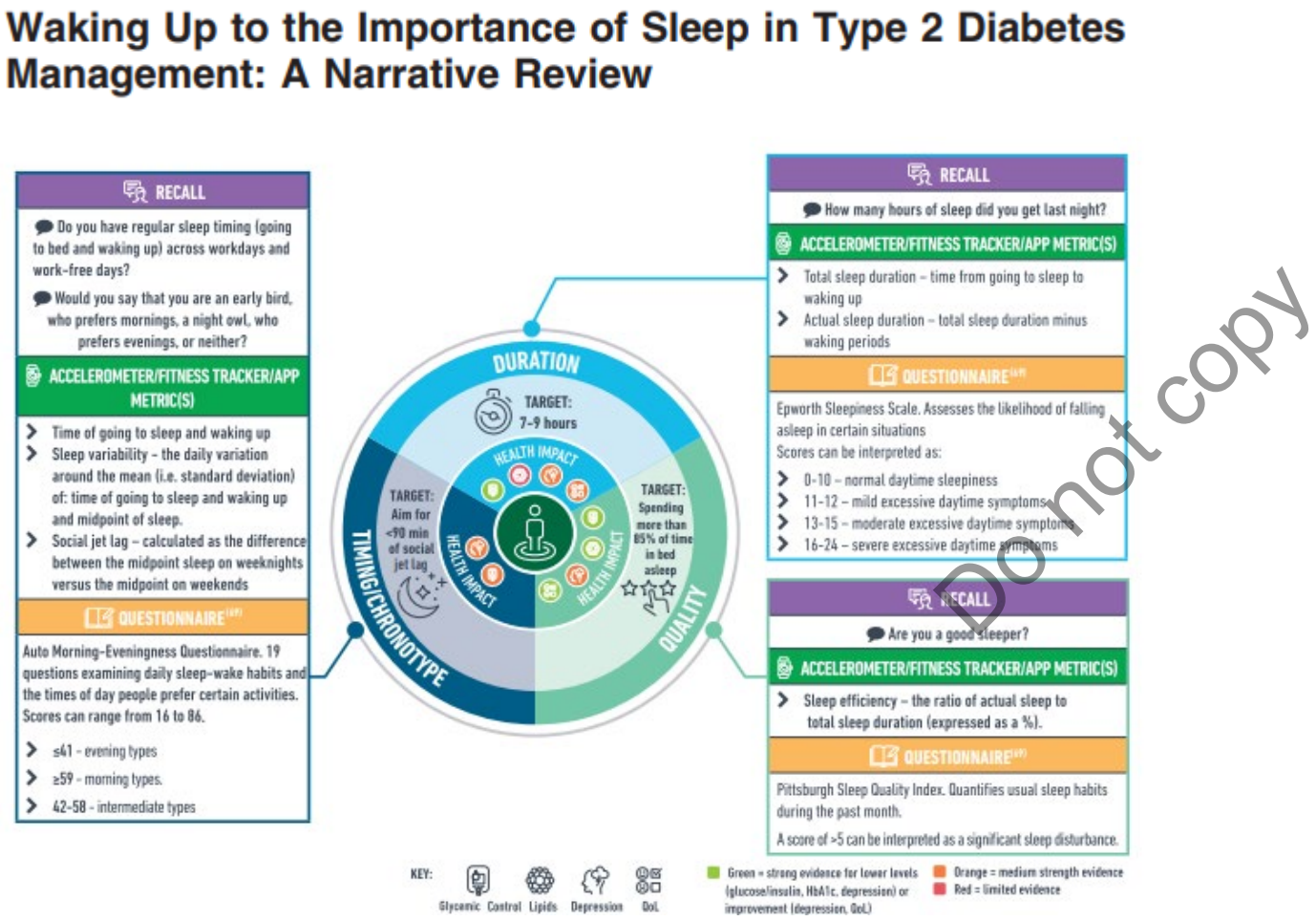
Why is Susan tired?

Daytime tiredness

Thyroid function tests	Normal
eGFR and ACR	eGFR 48mL/min/1.73m^2 (G3a) 3.2mg/mmol ACR (A2)
FBC, Platelets	Normal, platelets 257
B12 and folate	Normal
AST	48 (High)
ALT	40 (High)
GGT	68
HbA1c	60mmol/mol
Ultrasound scan	Previously - no gall stones; fatty liver



Sleep and diabetes



Do you sleep well?

Insomnia

Any difficulty getting to sleep or staying asleep?

Obstructive sleep apnoea

Do you snore? Does anyone tell you that you stop breathing?

Duration

How many hours of sleep did you get last night?

Timing/chronotype

Do you have regular sleep timing? Any difference on work and non-work days?

Henson et al Diabetes Care 2024; 47:331-343

Obstructive sleep apnoea?

STOP-BANG

- ✓ Snoring
- ✓ Tired
- ✓ Observed stop breathing/choking
- ✓ Pressure – high blood pressure
- ✓ BMI >35
- ✓ Age >50
- ✓ Neck size >40cm
- ✓ Gender male

- ✓ Low risk 0-2
- ✓ Intermediate risk 3-4
- ✓ High risk 5-8 OR
- ✓ Yes to 2+ STOP questions and at least one of male, BMI>35 or neck >40cm

Chung F et al Anesthesiology 2008; 108:812-821

Susan scored 6 High risk

Epworth sleepiness score

How likely are you to doze?
0 Never
1 Slight chance
2 Moderate chance
3 High chance

Situation
- ✓ Sitting and reading
- ✓ Watching TV
- ✓ Sitting inactive in public place
- ✓ Passenger in car for an hour
- ✓ Lying down in the afternoon
- ✓ Sitting talking to someone
- ✓ Sitting quietly after lunch without alcohol
- ✓ In a car stopped for a few minutes in traffic

Susan scored 16 out of 24

Obstructive Sleep Apnoea/Hypopnoea Syndrome and diabetes

- ✓ Bidirectional relationship with diabetes
- ✓ Hypoxia, sleep fragmentation – 'restless' or 'non-restorative sleep'
- ✓ Associated with hypertension which is difficult to treat
- ✓ Increased risk neuropathy, retinopathy, CVD and some cancers v T2DM alone

Prioritise for rapid assessment

- ✓ vocational driving or vigilance critical job
- ✓ unstable cardiovascular disease
- ✓ pregnancy
- ✓ preoperative assessment for major surgery

Classification:

Mild 5-15 events per hour
Moderate >15-30
Severe >30

Share DVLA Fitness to practice guidance – assess if 'sleepiness affects driving'

https://www.nice.org.uk/guidance/ng202

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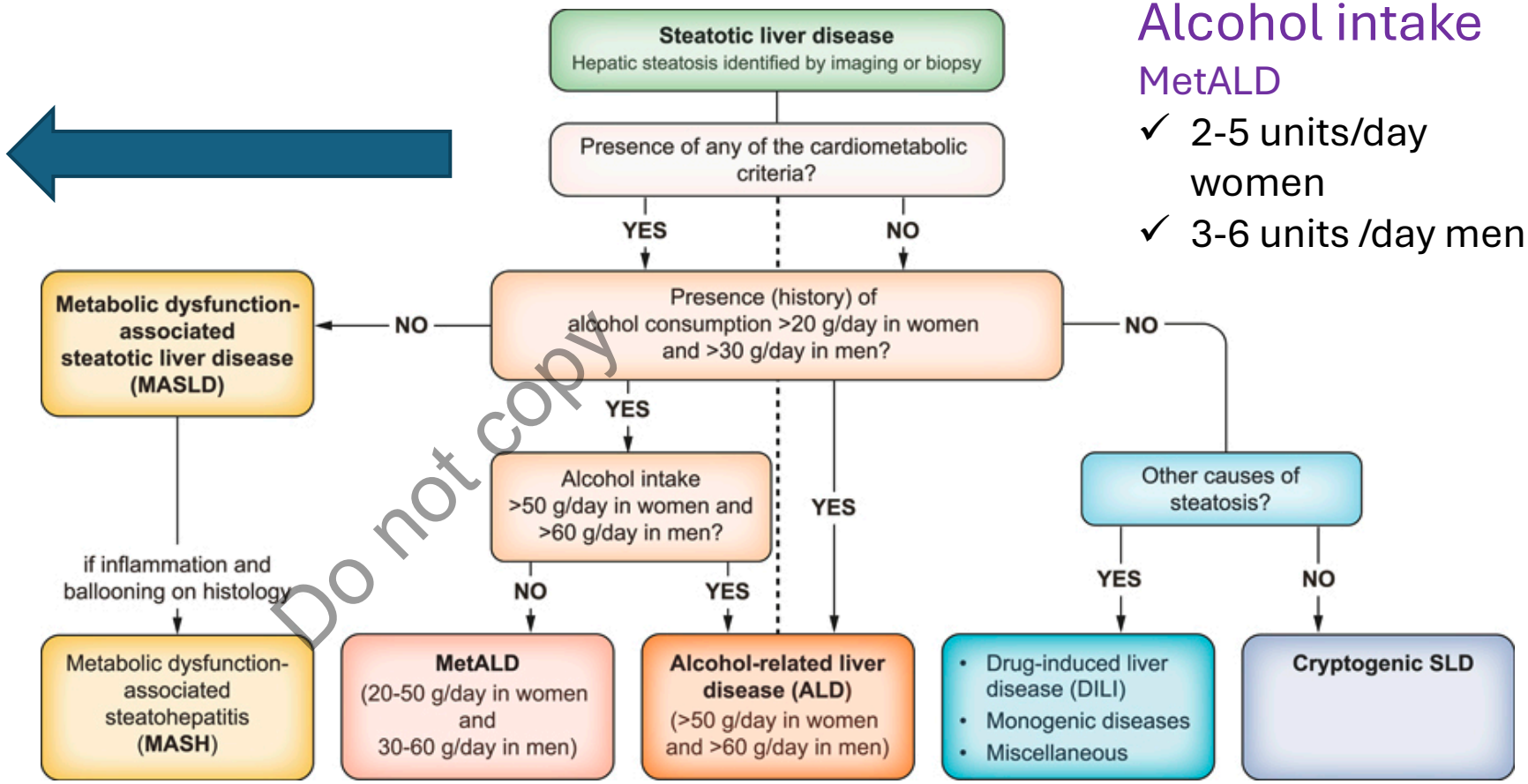
Has Susan got MASLD?

Metabolic dysfunction-associated steatotic liver disease (MASLD)

Adult criteria

At least 1 out of 5:

- ☐ BMI ≥25 kg/m² [23 Asia] OR WC >94 cm (M) 80 cm (F) OR ethnicity adjusted equivalent
- ☐ Fasting serum glucose ≥5.6 mmol/L [100 mg/dl] OR 2-hour post-load glucose levels ≥7.8 mmol/L [≥140 mg/dl] OR HbA1c ≥5.7% [39 mmol/L] OR type 2 diabetes OR treatment for type 2 diabetes
- ☐ Blood pressure ≥130/85 mmHg OR specific antihypertensive drug treatment
- ☐ Plasma triglycerides ≥1.70 mmol/L [150 mg/dl] OR lipid lowering treatment
- ☐ Plasma HDL-cholesterol ≤1.0 mmol/L [40 mg/dl] (M) and ≤1.3 mmol/L [50 mg/dl] (F) OR lipid lowering treatment



Alcohol intake

MetALD

- ✓ 2-5 units/day women
- ✓ 3-6 units /day men

Fib-4 fibrosis score – assess need for further investigation

EASL-EASD-EASO Clinical Practice Guidelines on the Management of Metabolic Dysfunction-Associated Steatotic Liver Disease (MASLD)

Obes Facts. 2024;17(4):374-444. doi:10.1159/000539371

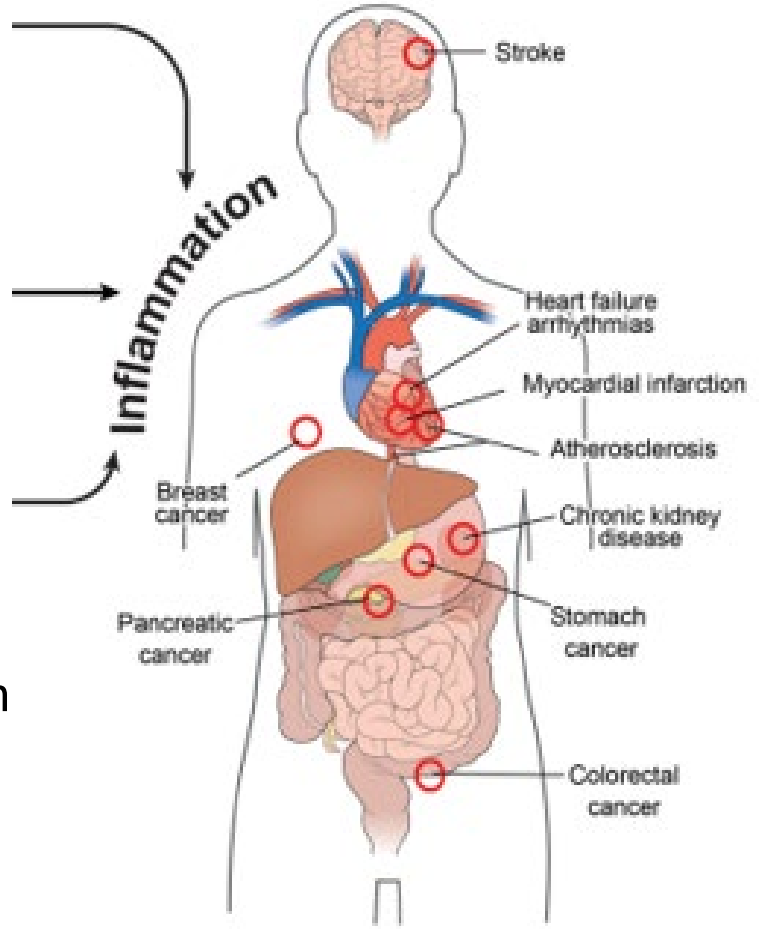
Why is it important to diagnose and manage MASLD?

- ✓ Increased CVD risk
- ✓ Liver - progression to cirrhosis
- ✓ Increased cancers

Fib-4 <1.3 – repeat 1-4 years
≥1.3 – ELF test or refer for fibroscan

Management:

- Weight loss Mediterranean diet or similar; ↓ UPF/sugar/fizzy drinks
- Aerobic and resistance physical activity
- Drugs not yet licensed – pioglitazone, high dose semaglutide (ESSENCE), tirzepatide (SYNERGY-NASH), survodutide, resmetirom (thyroid hormone receptor –β agonist)



Susan Fib-4 1.86 – referred for fibroscan; lifestyle and weight loss

Aostee et al Lancet Regional Health; 2024:36

Targer et al Gut 2024; 74:691-702

MASLD lifestyle pilot SA1 Medical Centre 2025

Practice lifestyle project

- ✓ 72 people coded with fatty liver on imaging, 50% with T2DM
- ✓ Fib-4, cardiometabolic risk profile; F2F lifestyle consultations baseline and 3 months
- ✓ 10/60 referred for fibroscan as no ELF test available locally

Clinician Education programme – toolkit to assist future management and coding

F2F group education sessions for cluster practice patients

Challenges:

- ✓ Few aware of fatty liver diagnosis so little motivation to attend; prompting ++

Outcomes:

- ✓ 80% lost weight and made changes, 95% returned for follow up visit
- ✓ Clinician education well-received and patient group education sessions planned
- ✓ Close liaison with hepatology team
- ✓ Toolkit for health board-wide dissemination still in development

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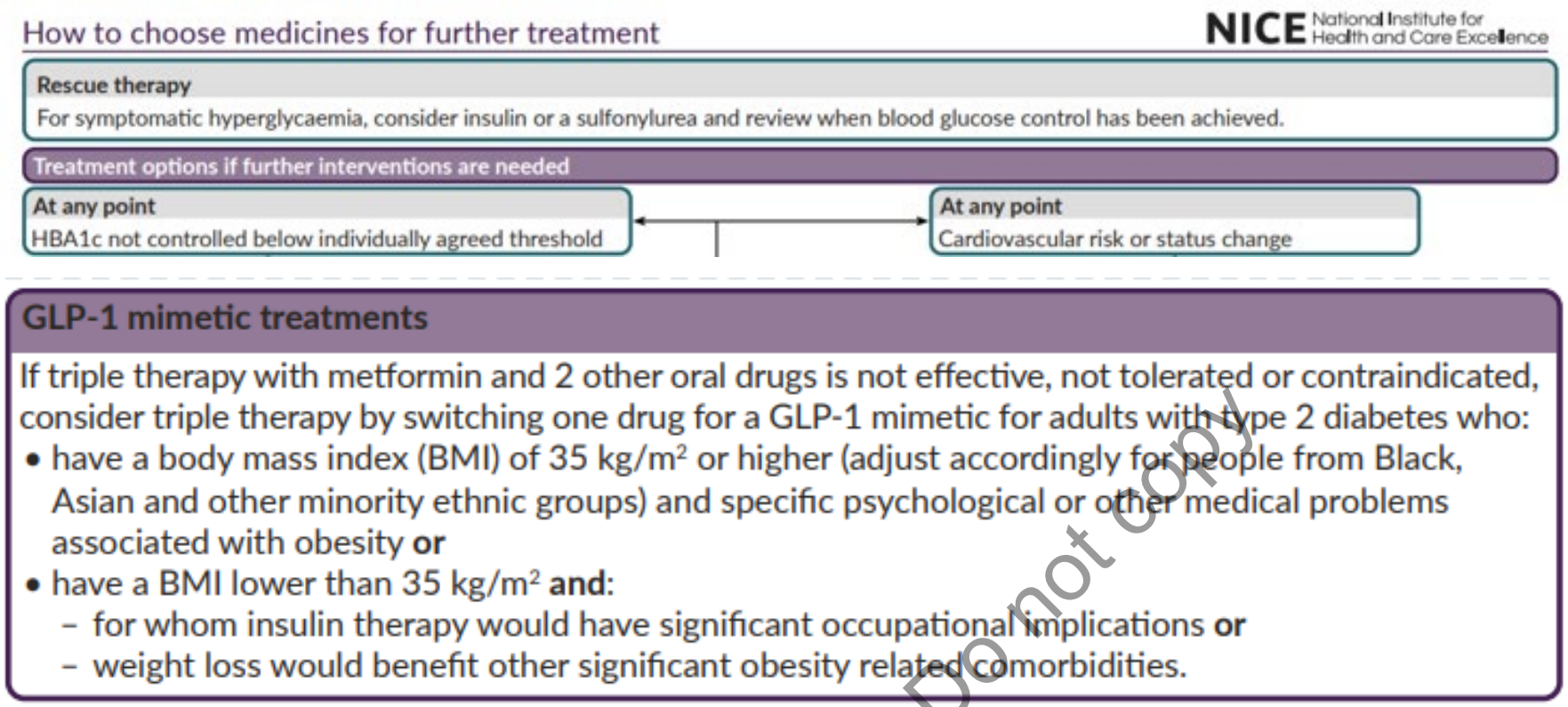
What else can we offer Susan?



Susan
HbA1c 60 mmol/mol
CVD and CKD
On metformin, sitagliptin and empagliflozin

Diabetes Distilled: Heart and SOUL – oral semaglutide demonstrates cardiovascular benefit in high-risk people with type 2 diabetes

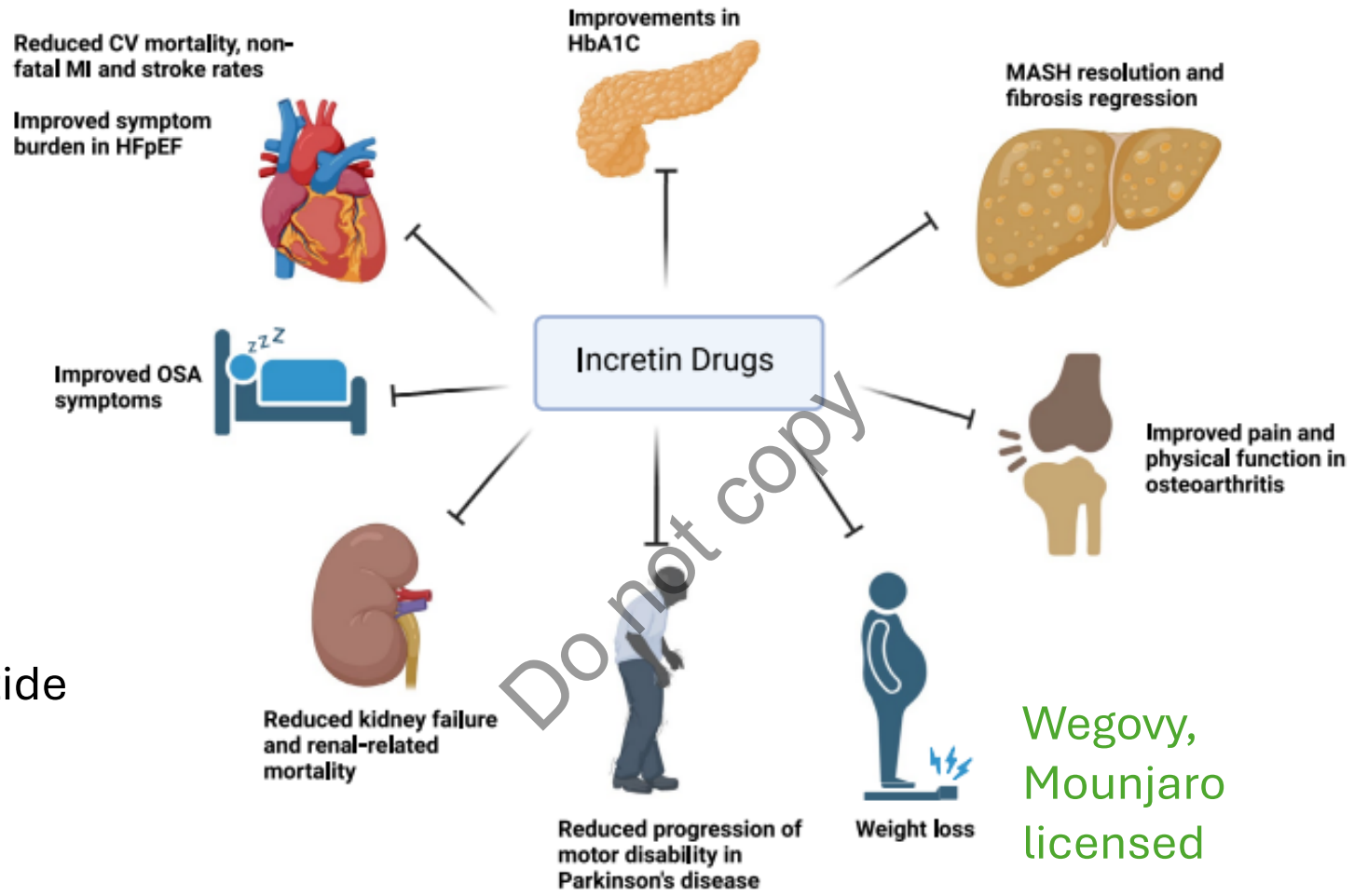
Effects of semaglutide on CKD in patients with T2DM
Percovik et al FLOW trial
N Engl J Med 2024;391:109-121
DOI: 10.1056/NEJMoa2403347

Expanding evidence base for incretin-based drugs

Semaglutide oral and injectable, dulaglutide, liraglutide

STEP HFpEF
SUSTAIN-7
semaglutide

FLOW
semaglutide



↓ obesity related cancers

↓ Alcohol intake

OA
STEP-9
semaglutide

Peripheral arterial disease
STRIDE
semaglutide

Wegovy, Mounjaro licensed

Evidence base versus licensed indications

Diagram from: Elangovan et al Hepatology International (2025) 19:337-348

Susan's success story

BP	128/75
eGFR, ACR	59 and 3.2mg/mmol
LDL	1.3mmol/L
WC and BMI	95cm, 29kg/m^2
Drug therapy	Atorvastatin 80mg
	Aspirin 75mg, clopidogrel 75mg
	Bisoprolol 10mg, Ramipril 10mg
	Metformin/empagliflozin 1g/5mg twice daily, semaglutide 1mg once weekly
	Duloxetine 60mg, pregabalin 300mg

Multiple long-term conditions

- ✓ Hypertension
- ✓ T2DM
- ✓ Obesity
- ✓ Depression
- ✓ Painful diabetic neuropathy/pain
- ✓ OA
- ✓ CVD
- ✓ CKD
- ✓ Obstructive sleep apnoea
- ✓ MASLD

Susan's success story

BP	128/75
eGFR, ACR	59 and 3.2mg/mmol
LDL	1.3mmol/L
WC and	
Drug therapy	
	Aspirin
	Bisoprolol 10m
	Metformin/e twice daily, weekly
	Duloxet gabalin 300mg

Optimised, happy and engaged

Multiple long-term conditions
All optimised

ssion

diabetic neuropathy/pain

✓ Obst sleep apnoea

✓ MASLD

Take home messages

Patient-centred care and shared decision-making with MDT may improve outcomes

Polypharmacy *is* appropriate in people with T2DM, CVD and multiple long-term conditions

SGLT2 inhibitors and GLP-1 receptor agonists provide multiple benefits – initiate as soon as CVD, HF or CKD diagnosed, *even if not needed for glycaemia*

Diabetes Distilled

Diabetes Distilled is an e-newsletter from the Primary Care Diabetes & Obesity Society designed to share the latest developments in diabetes and obesity for primary care teams. We summarise the latest papers that matter.

Sign up to receive the Diabetes Distilled newsletter at the link below

Diabetes Distilled: Heart and SOUL – oral semaglutide demonstrates cardiovascular benefit in high-risk people with type 2 diabetes

Results of SOUL trial suggest oral semaglutide offers similar cardiovascular benefits to the... injectable formulation.

22 Apr 2025

Diabetes Distilled: Time to intensify blood pressure treatment in people with type 2 diabetes?

BPROAD study: Reducing systolic blood pressure to <120 mmHg versus <140 mmHg in... people with type 2 diabetes

3 Apr 2025

Diabetes Distilled: Preserving muscle is important when using incretin mimetics for weight loss

How to minimise loss of muscle mass when using GLP-1-based therapies for weight loss.

26 Mar 2025

Diabetes Distilled: Finerenone reduces new diabetes and improves heart failure outcomes in the FINEARTS-HF trial

Some of the known excess risk of type 2 diabetes in people with heart failure attenuated,... and outcomes improved.

3 Mar 2025

Diabetes Distilled: Reframing the definition and diagnosis of clinical obesity

Consensus report advises definitions of clinical and pre-clinical obesity, according to... the presence of obesity-related

3 Mar 2025

Diabetes Distilled: The 4S Pathway – realigning management for older people with diabetes

Practical guidance from the International Geriatric Diabetes Society on the management o... diabetes in older people.

3 Mar 2025

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Thank you.

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