



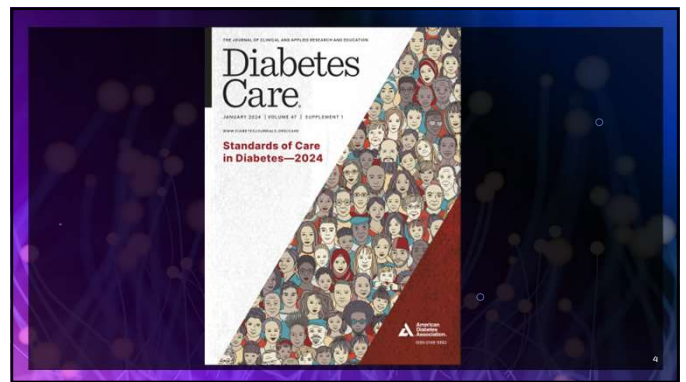
1



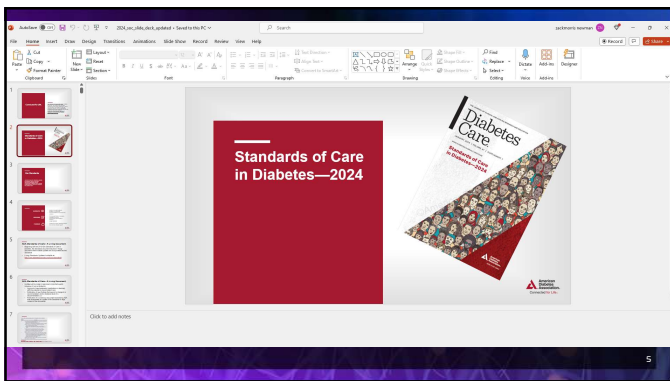
2



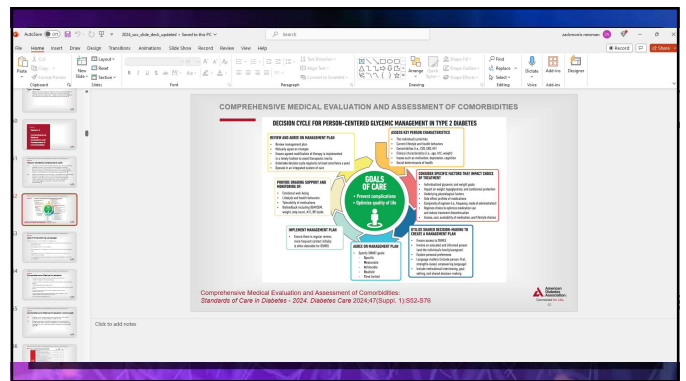
3



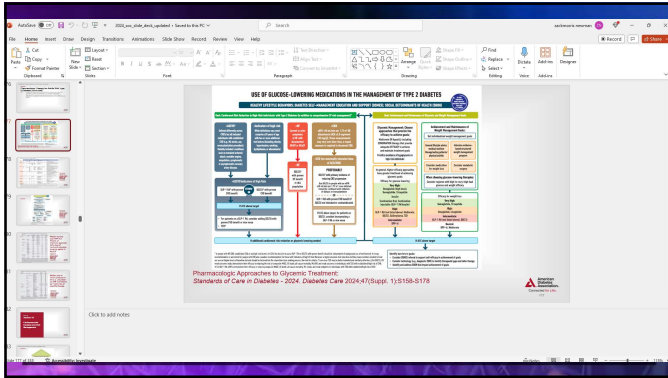
4



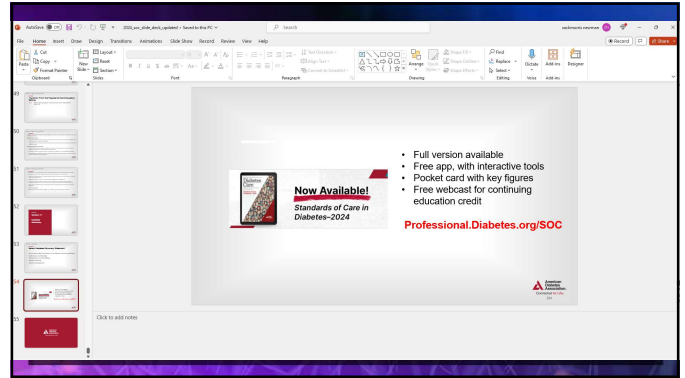
5



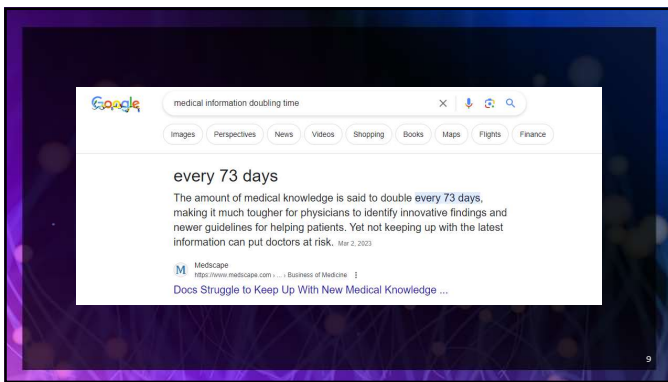
6



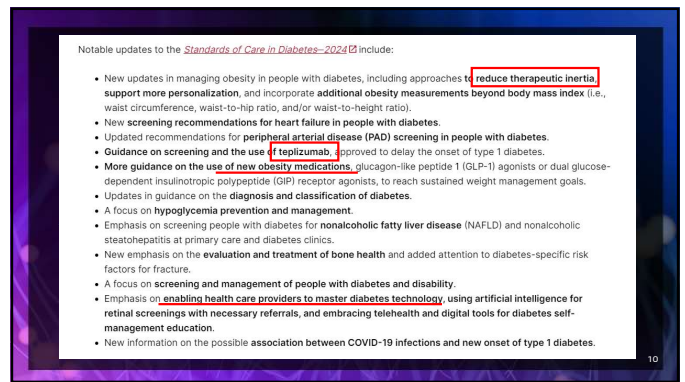
7



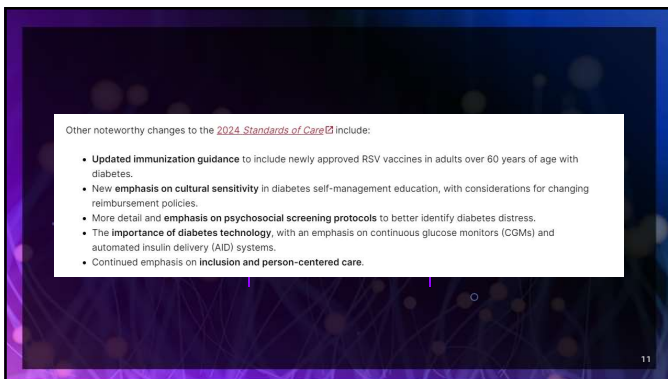
8



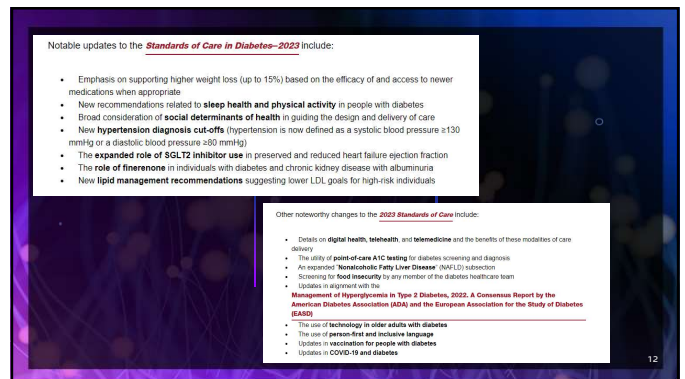
9



10



11



12



13

Diabetes Weekend Update

SATURDAY NIGHT LIVE

This Weekend Update Anchor said the iconic rebuttal "Jane, you ignorant slut" while hosting from 1977-1978.

Dan Aykroyd

14



15

2023 Highlights

Recommendations for the Treatment of Confirmed Hypertension in Nonpregnant People With Diabetes

New for 2023

Lipid Goals – Primary Prevention

- For people with diabetes aged 40–75 at higher cardiovascular risk*
 - (*LDL >100, HTN, Smoke, CKD, albuminuria, family hx ACSVD)
 - High-intensity statin therapy is recommended
 - Reduce LDL cholesterol by at least 50% of baseline
 - Target LDL cholesterol <70 mg/dL
- For people with diabetes aged 40–75 at higher cardiovascular risk* with **LDL cholesterol of 70+**
 - it may be reasonable to add ezetimibe or a PCSK9 inhibitor to maximum tolerated statin therapy.

www.DiabetesEd.net

16

USE OF GLUCOSE-LOWERING MEDICATIONS IN THE MANAGEMENT OF TYPE 2 DIABETES

HEALTHY LIFESTYLE BEHAVIORS, DIABETES SELF-MANAGEMENT EDUCATION AND SUPPORT (DSME), SOCIAL DETERMINANTS OF HEALTH (SDOH)

Cardiovascular Risk Reduction in High-Risk Individuals with Type 2 Diabetes

Additional Cardiovascular Risk Reduction or Glycemic Lowering Meds

Additional Cardiovascular Risk Reduction or Glycemic Lowering Meds

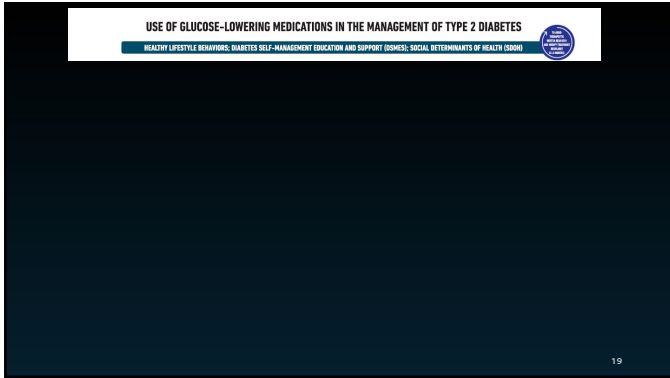
Additional Cardiovascular Risk Reduction or Glycemic Lowering Meds

Additional Cardiovascular Risk Reduction or Glycemic Lowering Meds

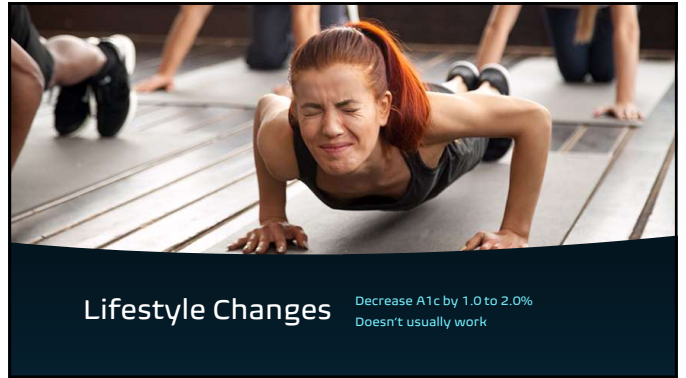
17



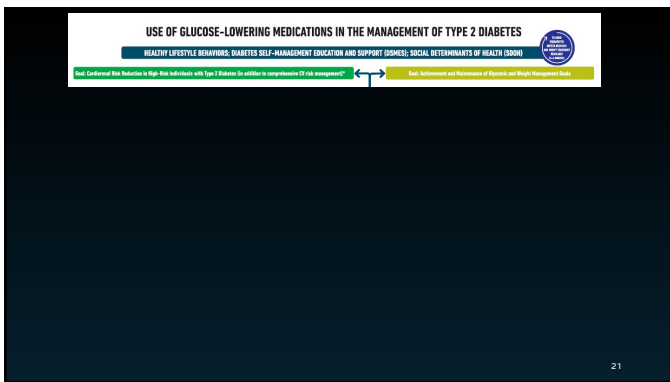
18



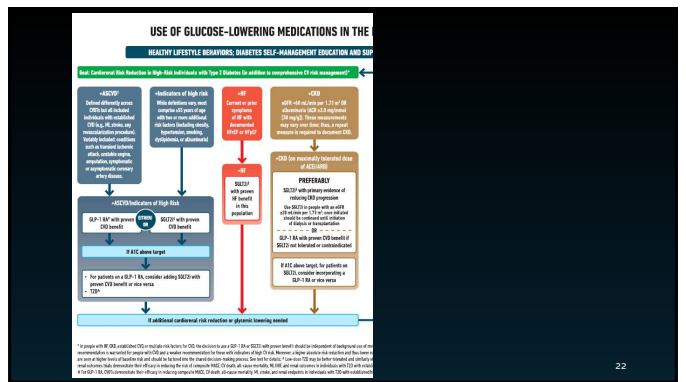
19



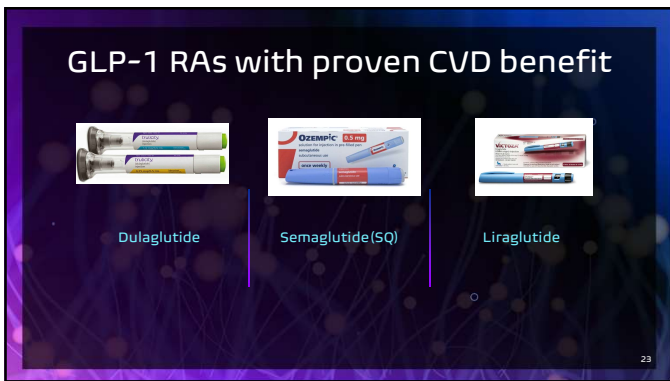
20



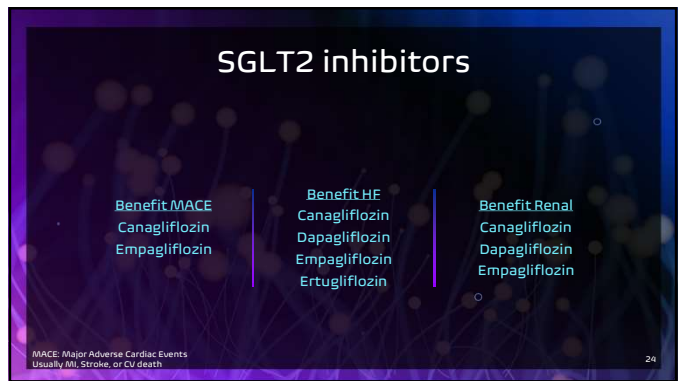
21



22



23



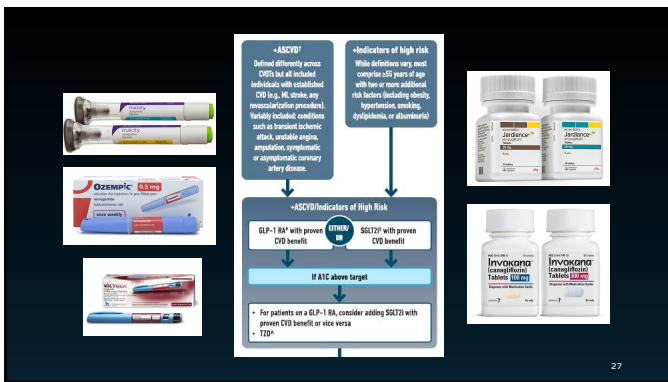
24



25



26



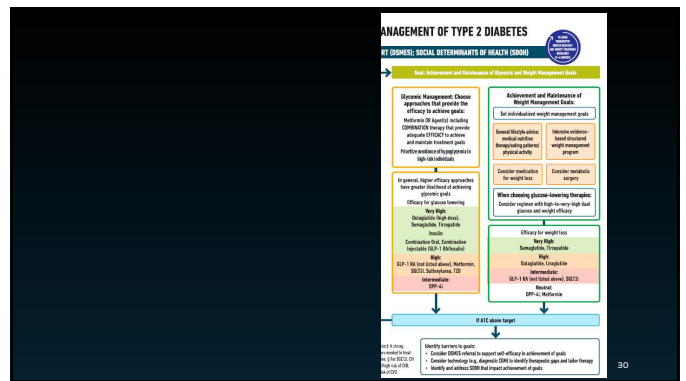
27



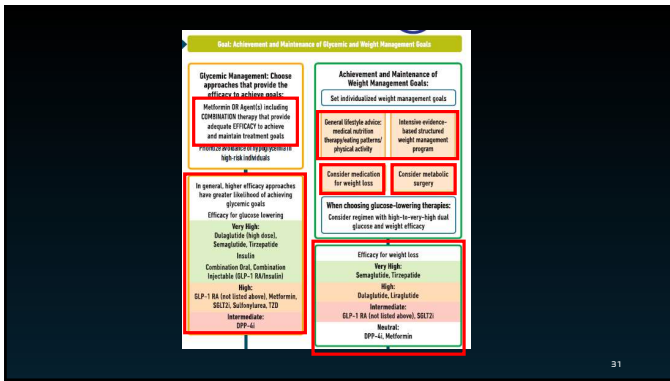
28



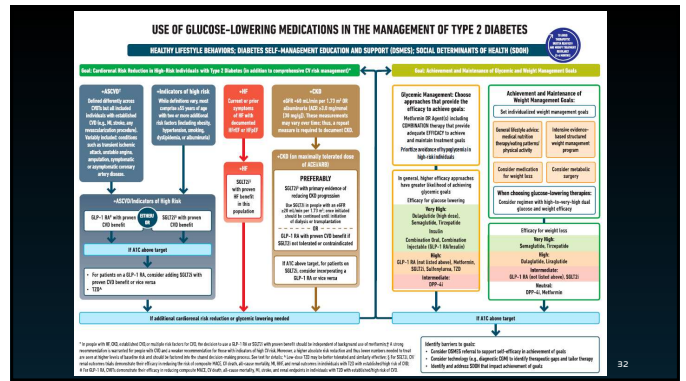
29



30



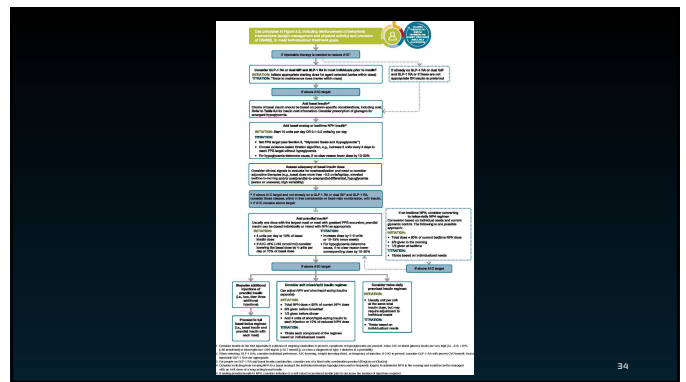
31



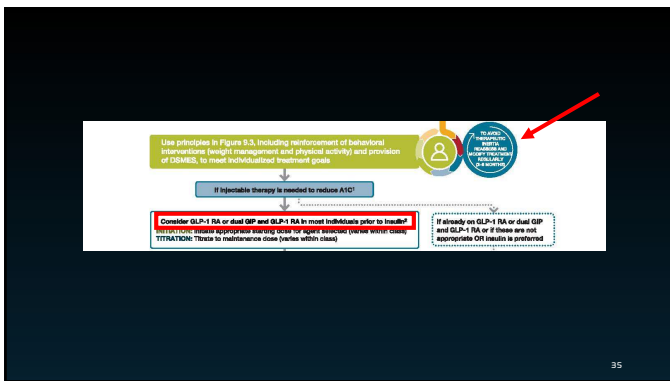
32



33



34



35

Table 3.3—Medications for lowering glucose: summary of characteristics

Medication	Class	Weight	CV Benefit	Diabetes	Other	Relative to addition to comprehensive T2D management	Notes	Key Considerations
Metformin	Biguanide	Yes	Yes	Yes	None	High	Low risk of hypoglycemia; weight loss; may improve insulin sensitivity.	Contraindicated in patients with severe renal impairment (eGFR < 30 mL/min/1.73 m ²).
SGLT2i	SGLT2 Inhibitor	Yes	Yes	Yes	Yes	High	Weight loss; may improve insulin sensitivity; may improve cardiovascular outcomes.	Contraindicated in patients with severe renal impairment (eGFR < 30 mL/min/1.73 m ²).
GLP-1 RA	GLP-1 Receptor Agonist	Yes	Yes	Yes	Yes	High	Weight loss; may improve insulin sensitivity; may improve cardiovascular outcomes.	Contraindicated in patients with severe renal impairment (eGFR < 30 mL/min/1.73 m ²).
DPP-4i	DPP-4 Inhibitor	No	No	Yes	No	Intermediate	Low risk of hypoglycemia; weight neutral.	Contraindicated in patients with severe renal impairment (eGFR < 30 mL/min/1.73 m ²).
Insulin	Insulin	No	No	Yes	No	High	High risk of hypoglycemia; weight gain.	Contraindicated in patients with severe renal impairment (eGFR < 30 mL/min/1.73 m ²).

36

Diabetes Weekend Update

SATURDAY NIGHT LIVE

- From 1994-1997 this Anchor was known for his bone-dry delivery.




Norm MacDonald

UPDATE WEEKEND UPDATE WEEKEND

37

Lightning Round

What's new in 2024 but not in the ADA update



38

Novo Nordisk to discontinue Levemir insulin in U.S. market

Reuters
November 8, 2023 1:43 PM CST - Updated a month ago



novo nordisk®

39

Annals of Internal Medicine REVIEW

Comparative Benefits and Harms of Basal Insulin Analogues for Type 2 Diabetes

A Systematic Review and Network Meta-analysis

Anastasia-Vasiliki Madenidou, MD, MSc; Paschalis Paschos, MD, MSc; Thomas Karagiannis, MD, MSc; Anastasia Katoulis, MD, MSc; Eleni Athanasiadou, MSc; Konstantinos Ktziou, MD, PhD; Eleni Bekari, MD, PhD, MSc; David R. Matthews, MD, DFPM; and Apostolos Tzioupas, MD, PhD, MSc

DISCUSSION

On the basis of our findings, differences in glycaemic efficacy among basal insulin analogues were minimal and probably lacked clinical significance (58). Detemir caused less weight gain than any other regimen, whereas Glar-300 had a favorable weight profile compared with Deg 100, Deg 200, Deg 3TW, Glar-100, and LY296.3016. Fewer patients treated with Deg 100, Deg 200, and Glar-300 had nocturnal hypoglycemia than those treated with other basal insulin analogues. Incidence of severe hypoglycemia did not differ among interventions, except NPL, which was associated with higher hypoglycemic risk than any other insulin regimen. We observed no differences between glargine and glargine biosimilars (LY296.3016, MK1293, and MYL1501D) in terms of reduction in HbA_{1c}, level, effect on body weight, or incidence of hypoglycemia.

40

Tirzepatide

Glucagon-like peptide 1 (GLP-1), glucose-dependent insulinotropic polypeptide (GIP) agonist



ORIGINAL ARTICLE

Tirzepatide versus Semaglutide Once Weekly in Patients with Type 2 Diabetes

Juan P. Frías, M.D., Melanie J. Davies, M.D., Julio Rosenstock, M.D., Federico C. Riera Manghi, M.D., Laura Fernández Landó, M.D., Brandon K. Bergman, Pharm.D., Bing Liu, Ph.D., Xuesei Cai, Ph.D., and Katelyn Brown, Pharm.D. for the SURPASS-2 Investigators*

41

Tirzepatide

Noninferior and also superior to semaglutide in reducing A1c

RESEARCH SUMMARY

Tirzepatide vs. Semaglutide Once Weekly in Patients with Type 2 Diabetes

From JAMA. doi:10.1001/jama.2023.25119

CLINICAL RELEVANCE

The findings of this study suggest that tirzepatide may be a more effective treatment for type 2 diabetes compared with semaglutide. Tirzepatide was noninferior to semaglutide in terms of A1c reduction, but superior in terms of weight loss and hypoglycemia reduction. The findings suggest that tirzepatide may be a more effective treatment for type 2 diabetes compared with semaglutide.

CONCLUSIONS

Tirzepatide was noninferior and also superior to semaglutide in reducing A1c in patients with type 2 diabetes.



42

43

Retatrutide

Glucagon-like peptide 1 (GLP-1), glucose-dependant insulintropic polypeptide (GIP), and glucagon receptor agonist

ORIGINAL ARTICLE

Triple-Hormone-Receptor Agonist Retatrutide for Obesity — A Phase 2 Trial

Anis M. Jassroff, M.D., Ph.D., Lee M. Kaplan, M.D., Ph.D., Juan P. Frías, M.D., Qweil Wu, Ph.D., Yu Du, Ph.D., Sirel Gurbaev, M.D., Tamer Coskun, M.D., Ph.D., Axel Haupt, M.D., Ph.D., Zvonko Milicevic, M.D., and Mark L. Hartman, M.D. for the Retatrutide Phase 2 Obesity Trial Investigators*

44

Retatrutide

Results similar to bariatric-metabolic surgery

RESEARCH SUMMARY

Triple-Hormone-Receptor Agonist Retatrutide for Obesity — A Phase 2 Trial

Jassroff et al. • DOI: 10.1001/jama.2023.20213

OBJECTIVE: Identify if retatrutide, a triple-hormone receptor agonist, is superior to placebo for weight loss in obese patients with type 2 diabetes.

DESIGN: Phase 2, multicenter, double-blind, randomized, controlled trial comparing the efficacy and safety of retatrutide to placebo in obese patients with type 2 diabetes.

SETTING: 10 sites in the United States and 10 sites in Mexico.

PARTICIPANTS: 400 obese patients with type 2 diabetes.

INTERVENTIONS: Retatrutide or placebo.

MEASUREMENTS AND MAIN RESULTS: Retatrutide was superior to placebo for weight loss at 24 weeks. Retatrutide was also superior to placebo for improvement in glycemic control, blood pressure, and lipid control.

CONCLUSIONS: Retatrutide is superior to placebo for weight loss and improvement in glycemic control, blood pressure, and lipid control in obese patients with type 2 diabetes.

Table 1. Mean (SD) Weight Change at 24 Weeks

Group	Weight Change (kg)
Retatrutide	-10.5 (3.5)
Placebo	-4.5 (3.0)

45

Icodec

ORIGINAL ARTICLE

Weekly Icodec versus Daily Gargine U100 in Type 2 Diabetes without Previous Insulin

Julio Rosenstock, M.D., Stephen C. Bain, F.R.C.P., Amoolya Gowda, M.D., Esteban Jódar, M.D., Ph.D., Bo Liang, M.D., Ph.D., Jidko Lingray, M.D., M.P.H., M.S.C.S., Tomoyuki Nishida, M.Sc., Roberto Trevisan, M.D., Ph.D., and Ofri Mosenzon, M.D. for the ONWARDS 1 Trial Investigators*

46

Icodec

Phase 3
FDA Decision April 2024
Higher rates of hypoglycemia in type 1 DM

RESEARCH SUMMARY

Weekly Icodec versus Daily Gargine U100 in Type 2 Diabetes without Previous Insulin

Rosenstock et al. • DOI: 10.1001/jama.2023.20213

OBJECTIVE: Compare the efficacy and safety of weekly icodec versus daily Gargine U100 in type 2 diabetes without previous insulin.

DESIGN: Phase 3, multicenter, randomized, controlled trial.

SETTING: 10 sites in the United States and 10 sites in Mexico.

PARTICIPANTS: 400 type 2 diabetes patients without previous insulin.

INTERVENTIONS: Weekly icodec or daily Gargine U100.

MEASUREMENTS AND MAIN RESULTS: Weekly icodec was superior to daily Gargine U100 for weight loss and improvement in glycemic control.

CONCLUSIONS: Weekly icodec is superior to daily Gargine U100 for weight loss and improvement in glycemic control in type 2 diabetes without previous insulin.

47

GLP-1 Receptor Agonists and Anesthesia

American Society of Anesthesiologists Consensus-Based Guidance on Preoperative Management of Patients (Adults and Children) on Glucagon-Like Peptide-1 (GLP-1) Receptor Agonists

Girish P. Joshi, M.B.B.S., M.D., Basem B. Abdelmalak, M.D., Wade Weigel, M.D., Suljipico G. Soriano, M.D., Monica W. Harbell, M.D., Catherine I. Kuo, M.D., Paul A. Stricker, M.D., Karen B. Domino, M.D., M.P.H., American Society of Anesthesiologists (ASA) Task Force on Preoperative Fasting

48

GLP-1 RA Preoperative Management

Day(s) Prior to Procedure

- Daily dosing: Hold on the day of surgery
- Weekly dosing: Hold a week prior
- Suggestion is irrespective to indication (DM2 or weight loss)
- If held for longer than dosing schedule think about hyperglycemia

Day of Procedure

- If GI symptoms are present consider delaying procedure
- If GLP-1 RA was NOT held as advised, proceed with full stomach precautions or consider gastric ultrasound
- No evidence for optimal fasting guidelines for GLP-1 RA use

49

Orforglipron

ORIGINAL ARTICLE

Daily Oral GLP-1 Receptor Agonist Orforglipron for Adults with Obesity

Sean Wharton, M.D., Thomas Blewins, M.D., Lisa Conroy, M.D., Julio Rosenstock, M.D., Sohini Raha, Ph.D., Rong Liu, Ph.D., Xiaosu Ma, Ph.D., Kieren J. Mather, M.D., Axel Haupt, M.D., Deborah Robins, M.S., Edward Pratt, M.D., Christof Kazda, M.D., et al., for the CZCI Investigators*

THE LANCET

Efficacy and safety of oral orforglipron in patients with type 2 diabetes: a multicentre, randomised, dose-response, phase 2 study

Juan P Frias, MD • Stanley Hsis, MD • Sarah Eyde, PhD • Rong Liu, PhD • Xiaosu Ma, PhD • Manjige Konig, MD et al. Show all authors


Published: June 23, 2023 • DOI: [https://doi.org/10.1016/S0140-6736\(23\)01302-8](https://doi.org/10.1016/S0140-6736(23)01302-8) Check for updates

50

Orforglipron

Oral medication with similar weight reduction and safety profile of injectable GLP-1 RAs

Also works well for DM2, might be less burdensome than injectables or oral semaglutide (orforglipron does not need to be taken on an empty stomach)



51

Diabetes Weekend Update

SATURDAY NIGHT LIVE

This host from 1985-1991 was known for his head shaking and wild hair.



Dennis Miller

52

AWP vs NADAC

Average Wholesale Price

- "List price" or "sticker price"
- Typically highly inflated from the manufacturer's price
- Similar to MSRP of vehicles

National Average Drug Acquisition Cost

- Developed by CMS
- Average price that pharmacies pay for prescription drugs
- Provides more transparency into drug pricing

53

AWP vs NADAC

Average Wholesale Price

- "List price" or "sticker price"
- Typically highly inflated from the manufacturer's price
- Similar to MSRP of vehicles

National Average Drug Acquisition Cost

- Developed by CMS
- Average price that pharmacies pay for prescription drugs
- Provides more transparency into drug pricing

54

Table 3 - Median monthly (30-day) AWP and NADAC of maximum approved daily dose of noninsulin glucose-lowering agents in the U.S.

Class	Component	Dosage strength/ product strength	Median AWP (per 1,000 units)	Median NADAC (per 1,000 units)	Maximum approved daily dose
Biguanides	• Metformin	500 mg (50)	\$61 (\$45, \$47.76)	\$5	2,000 mg
		850 mg (85)	\$108 (\$51, \$109)	\$2	2,000 mg
		1,000 mg (100)	\$171 (\$51, \$144)	\$2	2,000 mg
		1,500 mg (150)	\$184 (\$50, \$134)	\$2	2,000 mg
Sulfonylurea (2nd generation)	• Glimepiride	1 mg	\$29 (\$25, \$28)	\$5	4 mg
		10 mg (10)	\$71 (\$42, \$91)	\$5	4 mg
		30 mg (30)	\$45 (\$26, \$78)	\$5	4 mg
		4 mg (4)	\$45 (\$26, \$78)	\$5	4 mg
Thiazolidinedione	• Pioglitazone	45 mg	\$148 (\$1, \$49)	\$4	45 mg
		30 mg	\$108 (\$108, \$108)	\$7	45 mg
		15 mg	\$24 (\$24, \$24)	\$4	45 mg
		30 mg	\$24 (\$24, \$24)	\$4	45 mg
Meglitinides	• Repaglinide	0.5 mg	\$25	\$27	800 mg
		1 mg	\$49 (\$49, \$49)	\$11	800 mg
		2 mg	\$49 (\$49, \$49)	\$11	800 mg
		4 mg	\$49 (\$49, \$49)	\$11	800 mg
DPP-4 inhibitors	• Sitagliptin	25 mg	\$24	\$44	100 mg
		50 mg	\$40	\$54	100 mg
		75 mg	\$24	\$44	100 mg
		100 mg	\$47	\$55	100 mg
SGLT2 inhibitors	• Canagliflozin	300 mg	\$151	\$174	300 mg
		300 mg	\$151	\$174	300 mg
		300 mg	\$151	\$174	300 mg
		300 mg	\$151	\$174	300 mg
GLP-1 RA	• Ozempic	4.5 mg pen	\$1,137	\$862	4.5 mg
		3 mg pen	\$644	\$773	3 mg
		1.8 mg pen	\$1,137	\$862	3 mg
		1.8 mg pen	\$1,137	\$862	3 mg
Dual DPP and GLP-1 receptor agonist	• Trisopta	15 mg pen	\$1,228	\$982	15 mg
		15 mg pen	\$1,228	\$982	15 mg

Median monthly cost AWP and NADAC of maximum approved daily dose of noninsulin glucose-lowering agents in the U.S.

Pharmacologic Approaches to Glycemic Treatment: Standards of Care in Diabetes - 2024. Diabetes Care 2024;47(Suppl 1):S155-S176

55

Table 4 - Median cost of insulin products in the U.S. calculated as AWP and NADAC per 1,000 units of specified dosage form/product

Insulin	Component	Dosage form/product	Median AWP (per 1,000 units)	Median NADAC (per 1,000 units)
Rapid-acting	• Aspart (Rapid-acting product)	U-100 vial	\$174	\$129
		U-100 cartridge	\$171	\$129
		U-100 prefilled pen	\$164	\$129
		U-100 cartridge	\$42	\$44
		U-100 cartridge	\$42	\$44
		U-100 cartridge	\$42	\$44
		U-100 cartridge	\$42	\$44
		U-100 cartridge	\$42	\$44
		U-100 cartridge	\$42	\$44
		U-100 cartridge	\$42	\$44
Intermediate-acting	• Human regular	U-100 vial	\$172 (\$145, \$178)	\$137 (\$132, \$143)
		U-100 prefilled pen	\$168	\$136
		U-100 vial	\$172 (\$145, \$178)	\$137 (\$132, \$143)
		U-100 prefilled pen	\$168	\$136
		U-100 vial	\$172 (\$145, \$178)	\$137 (\$132, \$143)
		U-100 prefilled pen	\$168	\$136
		U-100 vial	\$172 (\$145, \$178)	\$137 (\$132, \$143)
		U-100 prefilled pen	\$168	\$136
		U-100 vial	\$172 (\$145, \$178)	\$137 (\$132, \$143)
		U-100 prefilled pen	\$168	\$136
Long-acting	• Degludec (Degludec)	U-100 vial, U-200 prefilled pen	\$275	\$225
		U-100 vial	\$242	\$217
		U-100 prefilled pen	\$147	\$114
		U-100 prefilled pen	\$242	\$217
		U-100 prefilled pen	\$242	\$217
		U-100 prefilled pen	\$242	\$217
		U-100 prefilled pen	\$242	\$217
		U-100 prefilled pen	\$242	\$217
		U-100 prefilled pen	\$242	\$217
		U-100 prefilled pen	\$242	\$217
Preixed insulin products	• Aspart 70/30	U-100 vial	\$127	\$101
		U-100 vial	\$127	\$101
		U-100 vial	\$127	\$101
		U-100 vial	\$127	\$101
		U-100 vial	\$127	\$101
		U-100 vial	\$127	\$101
		U-100 vial	\$127	\$101
		U-100 vial	\$127	\$101
		U-100 vial	\$127	\$101
		U-100 vial	\$127	\$101

Median cost of insulin products in the U.S. calculated as AWP and NADAC per 1,000 units of specified dosage form/product

Pharmacologic Approaches to Glycemic Treatment: Standards of Care in Diabetes - 2024. Diabetes Care 2024;47(Suppl 1):S155-S176

56

My patient doesn't have insurance

CostPlus
Save Dollars

For Providers Medications Contact Doctor Our Mission Sign In Sign Up

No middlemen. No price games. Huge drug savings.

Imatinib (Generic for Glivec) Retail Price: \$250.00 \$13.40	Abiraterone Acetate (Generic for Zytiga) Retail Price: \$1093.20 \$33.50	Invokana (Canagliflozin) Retail Price: \$675.14 \$245.92	Mesalamine (Generic for Canasa) Retail Price: \$769.80 \$28.70	Lisinopril (Generic for Prinivil) Retail Price: \$24.00 \$5.60
---	---	--	---	---

57

Diabetes Medications

Is your medication out of stock?

Medication	Form	Retail price	Our price	Savings
Aspart (Generic for Preconal)	Tablet	\$49.89	\$9.50	Save \$35.70
Accu-Chek Guide Me Meter for Diabetic Blood Glucose Testing	Kit	\$29.99	\$12.76	Save \$17.23
Accu-Chek Guide Test Strips for Diabetic Blood Glucose Testing	Box of 50 Test Strips	\$29.99	\$18.79	Save \$11.20
Accu-Chek Softclix Lancets for Diabetic Blood Glucose Testing	Box of 100 Lancets	\$29.49	\$16.49	Save \$4.00
Biossano (Bexagliflozin)	Bottle of Tablets	\$49.85	\$49.85	Save \$0.00
Desonneson Ace Spray Retin (Generic for Minoxidil)	Nasal Spray	\$696.60	\$107.2	Save \$128.88
Glimepiride (Generic for Amaryl)	Tablet	\$7.60	\$5.60	Save \$2.20
Glibenclamide (Generic for Glucotrol)	Tablet	\$6.59	\$6.50	Save \$0.09
Glibenclamide Extended Release (ER) (Generic for Glucotrol XL)	Extended Release Tablet	\$19.85	\$8.30	Save \$4.53

58

Invokamet (Canagliflozin-Metformin HCl)	Bottle of Tablets	6766-65	\$245.92	Save \$460.71	Get Started
Invokamet XR (Canagliflozin-Metformin HCl)	Bottle of Extended Release Tablet	6660-56	\$245.92	Save \$434.58	Get Started
Invokana (Canagliflozin)	Bottle of Tablets	6676-14	\$245.92	Save \$430.22	Get Started
liraglutin (Generic for Saxenda)	Tablet	662-40	\$11.60	Save \$50.80	Get Started
Metformin (Generic for GlucoPhage)	Tablet	690-00	\$5.60	Save \$14.40	Get Started
Metformin Extended Release (ER) (Generic for GlucoPhage XR)	Extended Release Tablet	68-99	\$5.90	Save \$3.09	Get Started
Metformin HCl (Generic for Biomet)	Bottle of Solution	6598-00	\$239.08	Save \$358.92	Get Started
Metformin HCl ER (Modi) (Generic for Glimepiride)	Tablet Extended Release	61422-99	\$8.90	Save \$1,414.00	Get Started
Metformin HCl ER (Osam) (Generic for Fortamet)	Tablet Extended Release	6516-99	\$6.80	Save \$309.10	Get Started

59

My patient doesn't have insurance

Invokana 70/30

60

Diabetes Weekend Update

SATURDAY NIGHT LIVE

This dynamic duo sat behind the counter from 2000-2008, although not always together.

Tina Fey and Amy Poehler

61



62

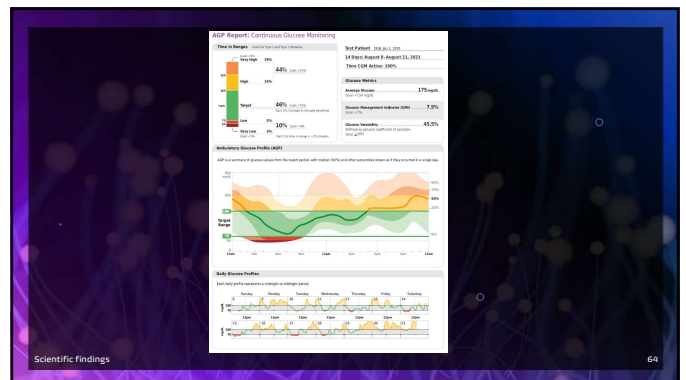
Dexcom g7

- 10 day wear
- No calibrations
- Customizable low and high BG alerts
- Data share automatically with Clarity app
- Transmitter & sensor together
- Links to Tslimx2 insulin pump (closed loop system)
- \$89 per month

FREESTYLE LIBRE 3

- ▶ 14 day wear
- ▶ No calibrations
- ▶ Customizable low and high BG alerts
- ▶ Data share automatically with Libreview app
- ▶ Transmitter & sensor in one
- ▶ Does not link to insulin pumps, but has FDA approval for this
- ▶ \$40 per month or less

63



64

Medicare

Find out if you're eligible

If you have Medicare, you may be covered for the FreeStyle Libre 2 or 3 system if you meet all of the following coverage criteria¹:

You have been diagnosed with diabetes.

Your doctor has determined that you (or your caregiver) have adequate training using a CGM and has written a prescription.

Your CGM is being used as indicated by the FDA.

You've experienced one of the following situations when it comes to treating your glucose:

- You are insulin-treated
- You have a history of problematic hypoglycemia with documentation of either: multiple level 2 hypoglycemic events or a history of one level 3 hypoglycemic event

You have a visit with your doctor 6 months prior to starting CGM to evaluate your diabetes control and determine that all criteria listed are met.

65



66

The future is now

The iLet Bionic Pancreas

The iLet is an automated insulin delivery system that reduces the need to make decisions about your diabetes management - because it makes the decisions for you.


No more:

- Carb Counting*
- Correction Factors
- Carb Ratios
- Pre-set Basal Rates

or any of the other settings that might be overwhelming about other insulin delivery devices.

The iLet needs only one number - your weight.

*Some insulin can't count.




BetaBionics 67

67

Questions

David.Newman@Sanfordhealth.org
612-961-9055



68

68