

GLP-1 AGENTS AND WEIGHT LOSS

"ITS MORE THAN LOOKING GOOD"

Waist-Hip Ratio Chart for Ladies

| | 0.67 | 0.70 | 0.72 | 0.75 | 0.77 | 0.80 | 0.82 | 0.85 | 0.87 | 0.90 | 0.92 | 0.95 | 0.97 | 1.00 | 1.02 | WHR |
|----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|
| 35 | 23.5 | 24.5 | 25.0 | 26.0 | 27.0 | 28.0 | 28.5 | 30.0 | 30.5 | 31.5 | 32.0 | 33.0 | 34.0 | 35.0 | 36.0 | |
| 36 | 24.0 | 25.0 | 26.0 | 27.0 | 28.0 | 29.0 | 29.5 | 30.5 | 31.5 | 32.5 | 33.0 | 34.0 | 35.0 | 36.0 | 37.0 | |
| 37 | 25.0 | 26.0 | 27.0 | 28.0 | 28.5 | 29.5 | 30.5 | 31.5 | 32.5 | 33.5 | 34.0 | 35.0 | 36.0 | 37.0 | 38.0 | |
| 38 | 25.5 | 26.5 | 27.5 | 28.5 | 29.5 | 30.5 | 31.0 | 32.0 | 33.0 | 34.0 | 35.0 | 36.0 | 37.0 | 38.0 | 39.0 | |
| 39 | 26.0 | 27.5 | 28.5 | 29.5 | 30.0 | 31.0 | 32.0 | 33.0 | 34.0 | 35.0 | 36.0 | 37.0 | 38.0 | 39.0 | 40.0 | |
| 40 | 27.0 | 28.0 | 29.0 | 30.0 | 31.0 | 32.0 | 33.0 | 34.0 | 35.0 | 36.0 | 37.0 | 38.0 | 39.0 | 40.0 | 41.0 | |
| 41 | 27.5 | 28.5 | 30.0 | 31.0 | 32.0 | 33.0 | 34.0 | 35.0 | 36.0 | 37.0 | 38.0 | 39.0 | 40.0 | 41.0 | 42.0 | |
| 42 | 28.0 | 29.5 | 30.5 | 31.5 | 32.5 | 33.5 | 34.5 | 35.5 | 37.0 | 38.0 | 39.0 | 40.0 | 41.0 | 42.0 | 43.0 | |
| 43 | 29.0 | 30.0 | 31.5 | 32.5 | 33.5 | 34.5 | 35.5 | 36.5 | 37.5 | 38.5 | 39.5 | 40.5 | 41.5 | 42.5 | 43.5 | |
| 44 | 29.5 | 31.0 | 32.0 | 33.0 | 34.0 | 35.0 | 36.5 | 37.5 | 38.5 | 39.5 | 40.5 | 41.5 | 42.5 | 43.5 | 44.5 | |
| 45 | 30.0 | 31.5 | 32.5 | 34.0 | 35.0 | 36.0 | 37.0 | 38.5 | 39.5 | 40.5 | 41.5 | 42.5 | 43.5 | 44.5 | 45.5 | |
| 46 | 31.0 | 32.0 | 33.0 | 34.5 | 36.0 | 37.0 | 38.0 | 39.0 | 40.5 | 41.5 | 42.5 | 43.5 | 44.5 | 45.5 | 46.5 | |
| 47 | 31.5 | 33.0 | 34.0 | 35.0 | 36.5 | 37.5 | 38.5 | 40.0 | 41.0 | 42.5 | 43.5 | 44.5 | 45.5 | 46.5 | 47.5 | |
| 48 | 32.0 | 33.5 | 35.0 | 36.0 | 37.0 | 38.5 | 39.5 | 41.0 | 42.0 | 43.0 | 44.0 | 45.0 | 46.0 | 47.0 | 48.0 | |
| 49 | 33.0 | 34.5 | 35.5 | 36.5 | 38.0 | 39.0 | 40.5 | 41.5 | 43.0 | 44.0 | 45.0 | 46.0 | 47.0 | 48.0 | 49.0 | |
| 50 | 33.5 | 35.0 | 36.0 | 37.5 | 38.5 | 40.0 | 41.0 | 42.5 | 43.5 | 45.0 | 46.0 | 47.0 | 48.0 | 49.0 | 50.0 | |

Waist-Hip Ratio Chart for Men

| | 0.80 | 0.82 | 0.85 | 0.87 | 0.90 | 0.92 | 0.95 | 0.97 | 1.00 | 1.02 | 1.05 | 1.07 | 1.10 | 1.12 | 1.15 | WHR |
|----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|
| 35 | 28.0 | 28.5 | 30.0 | 30.5 | 31.5 | 32.0 | 33.0 | 34.0 | 35.0 | 36.0 | 37.0 | 37.5 | 38.5 | 39.5 | 40.5 | |
| 36 | 29.0 | 29.5 | 30.5 | 31.5 | 32.5 | 33.0 | 34.0 | 35.0 | 36.0 | 37.0 | 38.0 | 39.0 | 40.0 | 41.0 | 42.0 | |
| 37 | 29.5 | 30.5 | 31.5 | 32.5 | 33.5 | 34.0 | 35.0 | 36.0 | 37.0 | 38.0 | 39.0 | 40.0 | 41.0 | 42.0 | 43.0 | |
| 38 | 30.5 | 31.0 | 32.0 | 33.0 | 34.0 | 35.0 | 36.0 | 37.0 | 38.0 | 39.0 | 40.0 | 41.0 | 42.0 | 43.0 | 44.0 | |
| 39 | 31.0 | 32.0 | 33.0 | 34.0 | 35.0 | 36.0 | 37.0 | 38.0 | 39.0 | 40.0 | 41.0 | 42.0 | 43.0 | 44.0 | 45.0 | |
| 40 | 32.0 | 33.0 | 34.0 | 35.0 | 36.0 | 37.0 | 38.0 | 39.0 | 40.0 | 41.0 | 42.0 | 43.0 | 44.0 | 45.0 | 46.0 | |
| 41 | 33.0 | 34.0 | 35.0 | 36.0 | 37.0 | 38.0 | 39.0 | 40.0 | 41.0 | 42.0 | 43.0 | 44.0 | 45.0 | 46.0 | 47.0 | |
| 42 | 33.5 | 34.5 | 35.5 | 37.0 | 38.0 | 39.0 | 40.0 | 41.0 | 42.0 | 43.0 | 44.0 | 45.0 | 46.0 | 47.0 | 48.0 | |
| 43 | 34.5 | 35.5 | 36.5 | 37.5 | 38.5 | 39.5 | 41.0 | 42.0 | 43.0 | 44.0 | 45.0 | 46.0 | 47.0 | 48.0 | 49.0 | |
| 44 | 35.0 | 36.0 | 37.5 | 38.5 | 39.5 | 40.5 | 42.0 | 43.0 | 44.0 | 45.0 | 46.0 | 47.0 | 48.0 | 49.0 | 50.0 | |
| 45 | 36.0 | 37.0 | 38.5 | 39.5 | 40.5 | 41.5 | 43.0 | 44.0 | 45.0 | 46.0 | 47.0 | 48.0 | 49.0 | 50.0 | 51.0 | |
| 46 | 37.0 | 38.0 | 39.0 | 40.5 | 41.5 | 42.5 | 43.5 | 45.0 | 46.0 | 47.0 | 48.0 | 49.0 | 50.0 | 51.0 | 52.0 | |
| 47 | 37.5 | 39.0 | 40.0 | 41.0 | 42.5 | 43.5 | 44.5 | 46.0 | 47.0 | 48.0 | 49.0 | 50.0 | 51.0 | 52.0 | 53.0 | |
| 48 | 38.5 | 39.5 | 41.0 | 42.0 | 43.0 | 44.5 | 45.5 | 47.0 | 48.0 | 49.0 | 50.0 | 51.0 | 52.0 | 53.0 | 54.0 | |

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 Director of cath lab
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STEP-HFpEF Trial

529 patients with and BMI >30 randomized

Once-weekly semaglutide (2.4 mg) or placebo for 52 weeks

Dual primary end points

1. Kansas City Cardiomyopathy Questionnaire clinical summary score (KCCQ-CSS; scores range from 0 to 100, with higher scores indicating fewer lifestyle limitations)
2. Change in body weight (median 231 pounds) (BMI 37)

DOI: 10.1056/NEJMod2306963



Semaglutide in Patients with Heart Failure with Preserved Ejection Fraction and Obesity

M.N. Kosiborod, S.Z. Abildstrøm, B.A. Borlaug, J. Butler, S. Rasmussen, M. Davies, G.K. Hovingh, D.W. Kitzman, M.L. Lincoff, D.V. Møller, S.J. Shah, M.B. Treppendahl, S. Verma, W. Abhayaratna, F. Zaccaro, V. Chopra, J. Ezekowitz, M. Fu, H. Ito, M. Lelonek, V. Melenovsky, B. Messerli, M. Muñoz, E. Perna, M. Schou, M. Senni, K. Sharma, P. Van der Meer, J. Vittinghoff, D. Wolf, and M.C. Petrie, for the STEP-HFpEF Trial Investigators*

ABSTRACT

BACKGROUND

Heart failure with preserved ejection fraction is increasing in prevalence and is associated with a high symptom burden and functional impairment, especially in persons with obesity. No therapies have been approved to target obesity-related heart failure with preserved ejection fraction.

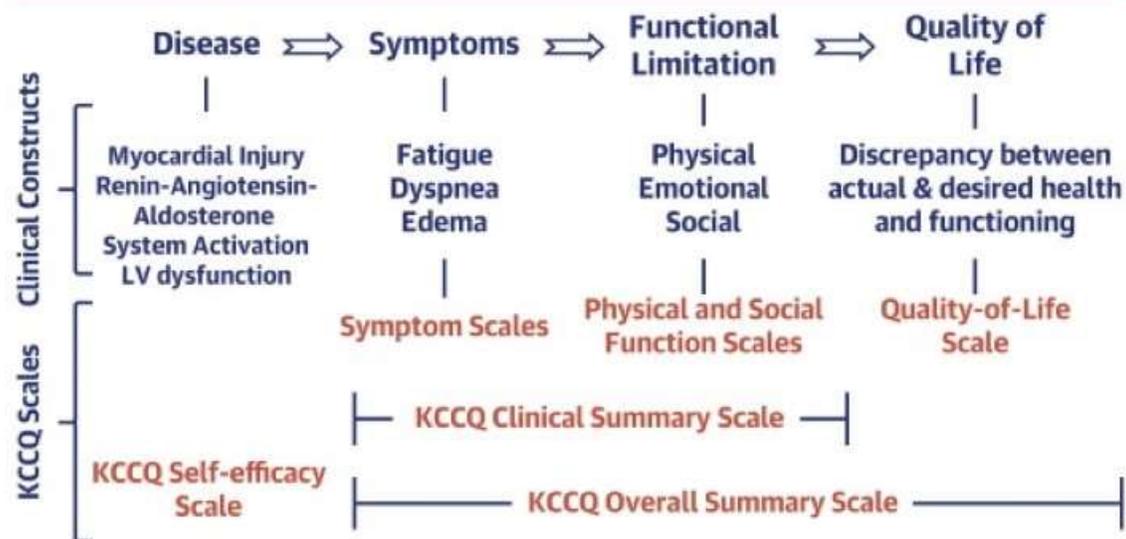
Percent weight loss at 52 weeks



Kansas City Cardiomyopathy Questionnaire clinical summary score (KCCQ-CSS; scores range from 0 to 100

CENTRAL ILLUSTRATION: Conceptual Mapping of the Kansas City Cardio- myopathy Questionnaire to Different Manifestations of Heart Failure

Mapping the Kansas City Cardiomyopathy Questionnaire (KCCQ) Scales



Spertus, J.A. et al. J Am Coll Cardiol. 2020;76(20):2379-90.

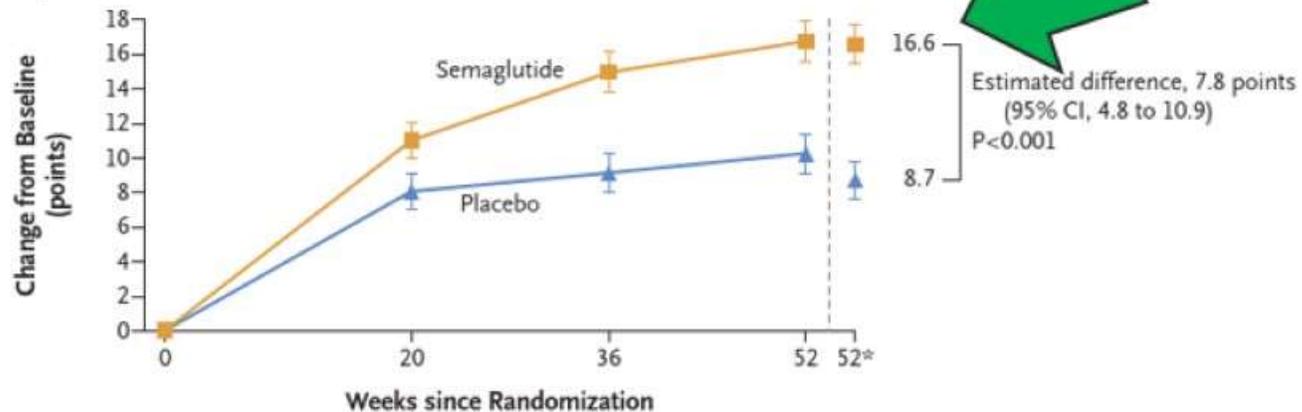
0 to 24: very poor to poor; 25 to 49: poor to fair; 50 to 74: fair
to good; and 75 to 100: good to excellent

Higher scores
indicating fewer
symptoms and
physical
limitations



STEP-HFpEF Trial: Primary endpoints

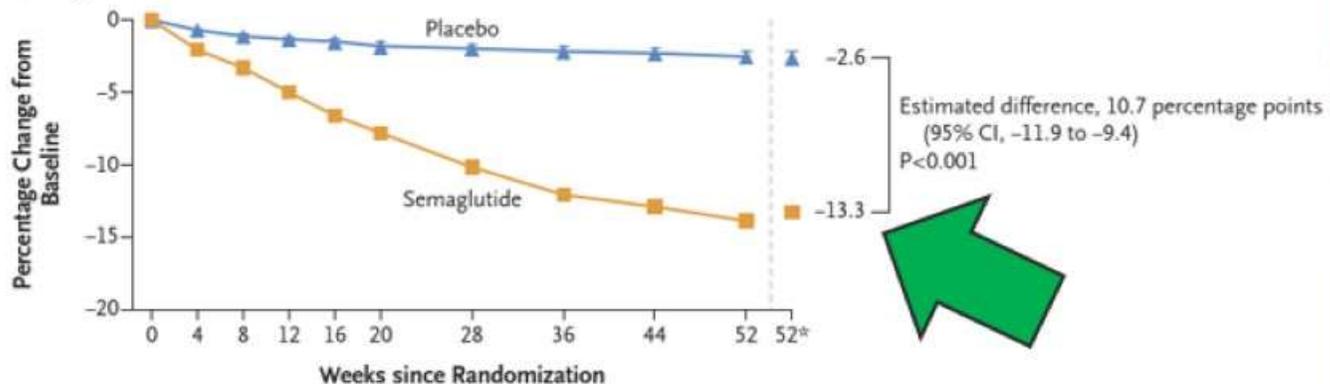
Change in KCCQ-CSS



No. of Participants

| | | | | | |
|-------------|-----|-----|-----|-----|-----|
| Semaglutide | 263 | 249 | 225 | 243 | 263 |
| Placebo | 266 | 242 | 217 | 237 | 266 |

Change in Body Weight



No. of Participants

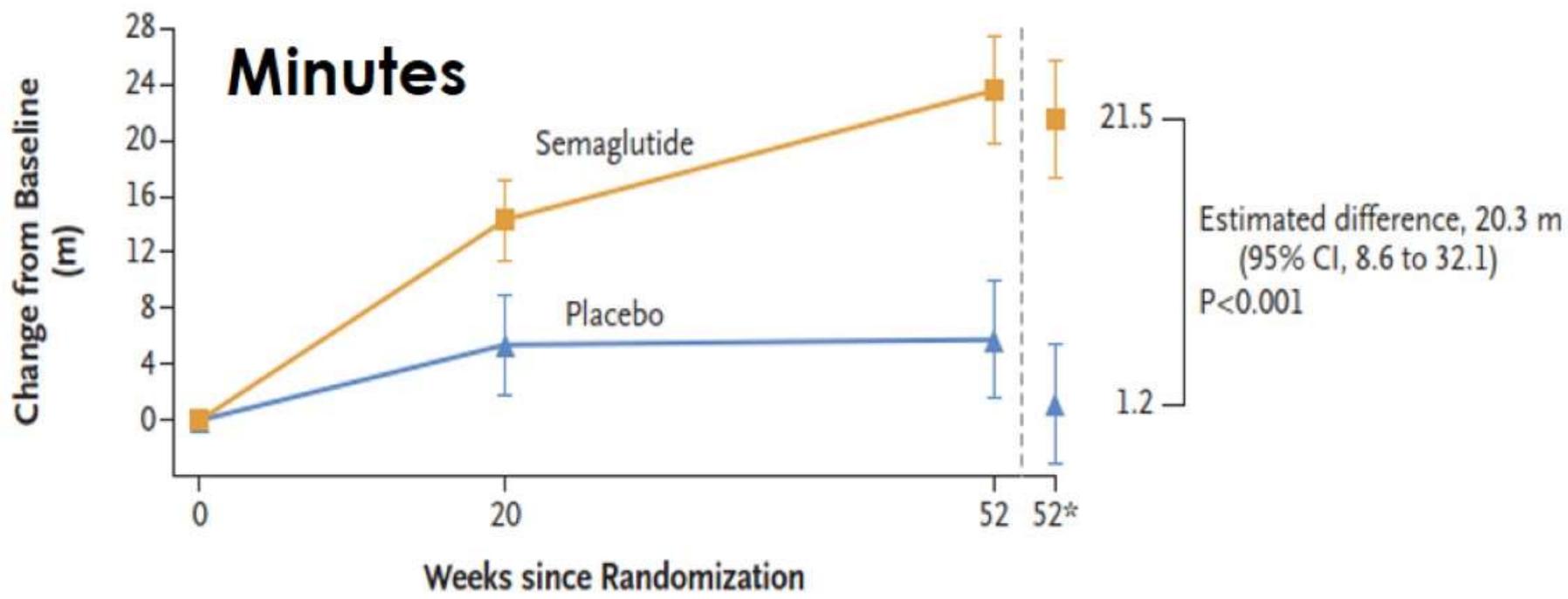
| | | | | | | | | | | | |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Semaglutide | 263 | 255 | 254 | 250 | 246 | 252 | 239 | 243 | 240 | 246 | 263 |
| Placebo | 266 | 259 | 249 | 250 | 243 | 246 | 243 | 239 | 233 | 242 | 266 |

At **least one** of the following findings: elevated left ventricular **filling pressures** (on the basis of **direct** invasive measurements), elevated **natriuretic peptide** levels (with thresholds stratified according to the BMI at baseline) **plus** echocardiographic abnormalities, or hospitalization for heart failure in the 12 months before screening plus ongoing treatment with diuretics



STEP-HFpEF Trial: Lifestyle walking distance

Change in 6-Minute Walk Distance



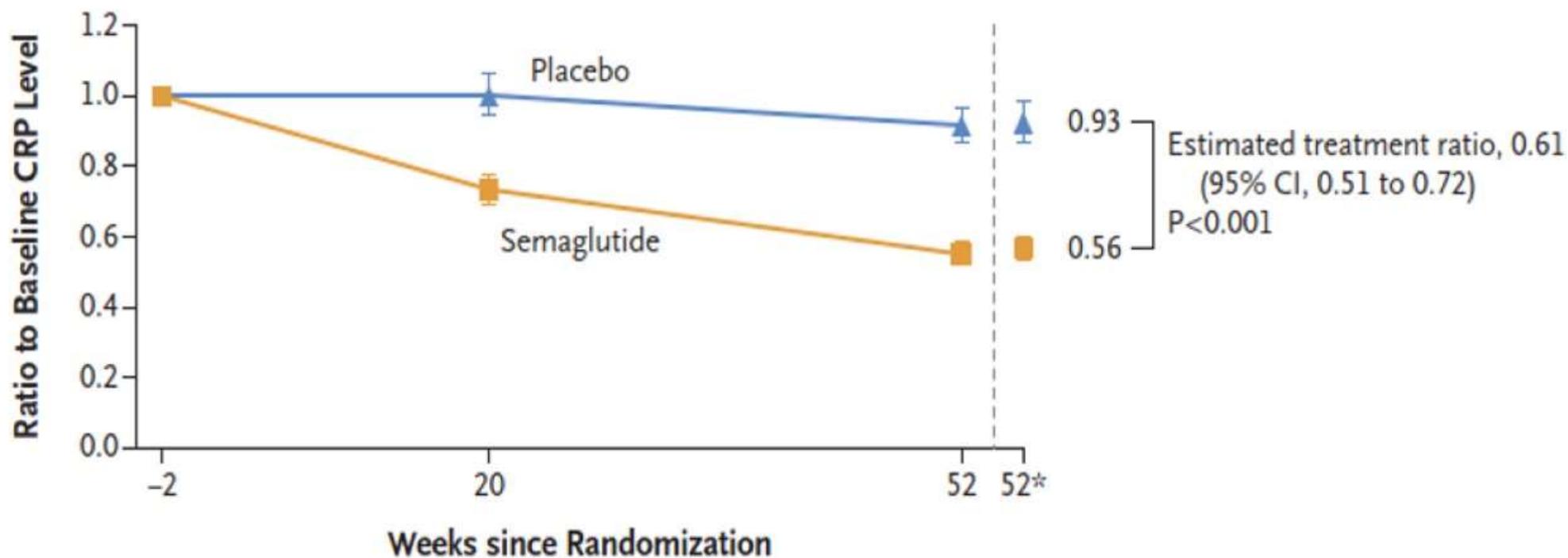
No. of Participants

| | | | | |
|-------------|-----|-----|-----|-----|
| Semaglutide | 263 | 245 | 240 | 263 |
| Placebo | 266 | 232 | 225 | 266 |



STEP-HFpEF Trial: Inflammation

Change in C-Reactive Protein Level



No. of Participants

| | | | | |
|-------------|-----|-----|-----|-----|
| Semaglutide | 263 | 245 | 240 | 263 |
| Placebo | 266 | 232 | 225 | 266 |



NYHA Class II - Mild symptoms (mild shortness of breath and/or angina) and slight limitation during ordinary activity.

STEP-HFpEF Trial

Table 1. Baseline Demographic and Clinical Characteristics of the Participants.*

| | | | |
|---|---------------------|---------------------|---------------------|
| Median LVEF (IQR) — % | 57.0 (50.0–60.0) | 57.0 (50.0–60.0) | 57.0 (50.0–60.0) |
| LVEF stratum — no. (%) | | | |
| 45 to <50%‡ | 37 (14.1) | 48 (18.0) | 85 (16.1) |
| 50 to 59% | 113 (43.0) | 102 (38.3) | 215 (40.6) |
| ≥60% | 113 (43.0) | 116 (43.6) | 229 (43.3) |
| Median KCCQ-CSS (IQR) — points§ | 59.4 (42.7–72.9) | 58.3 (40.5–72.9) | 58.9 (41.7–72.9) |
| Median 6-minute walk distance (IQR) — m | 316.0 (251.0–386.0) | 325.8 (232.4–392.0) | 320.0 (240.0–389.0) |
| Hospitalization for heart failure within 1 year — no. (%) | 42 (16.0) | 39 (14.7) | 81 (15.3) |
| Coexisting conditions at screening — no. (%) | | | |
| Atrial fibrillation | 135 (51.3) | 140 (52.6) | 275 (52.0) |
| Hypertension | 216 (82.1) | 217 (81.6) | 433 (81.9) |
| Coronary artery disease | 53 (20.2) | 45 (16.9) | 98 (18.5) |
| NYHA functional class — no. (%) | | | |
| II | 183 (69.6) | 167 (62.8) | 350 (66.2) |
| III or IV | 80 (30.4) | 99 (37.2) | 179 (33.8) |



STEP-HFpEF Trial

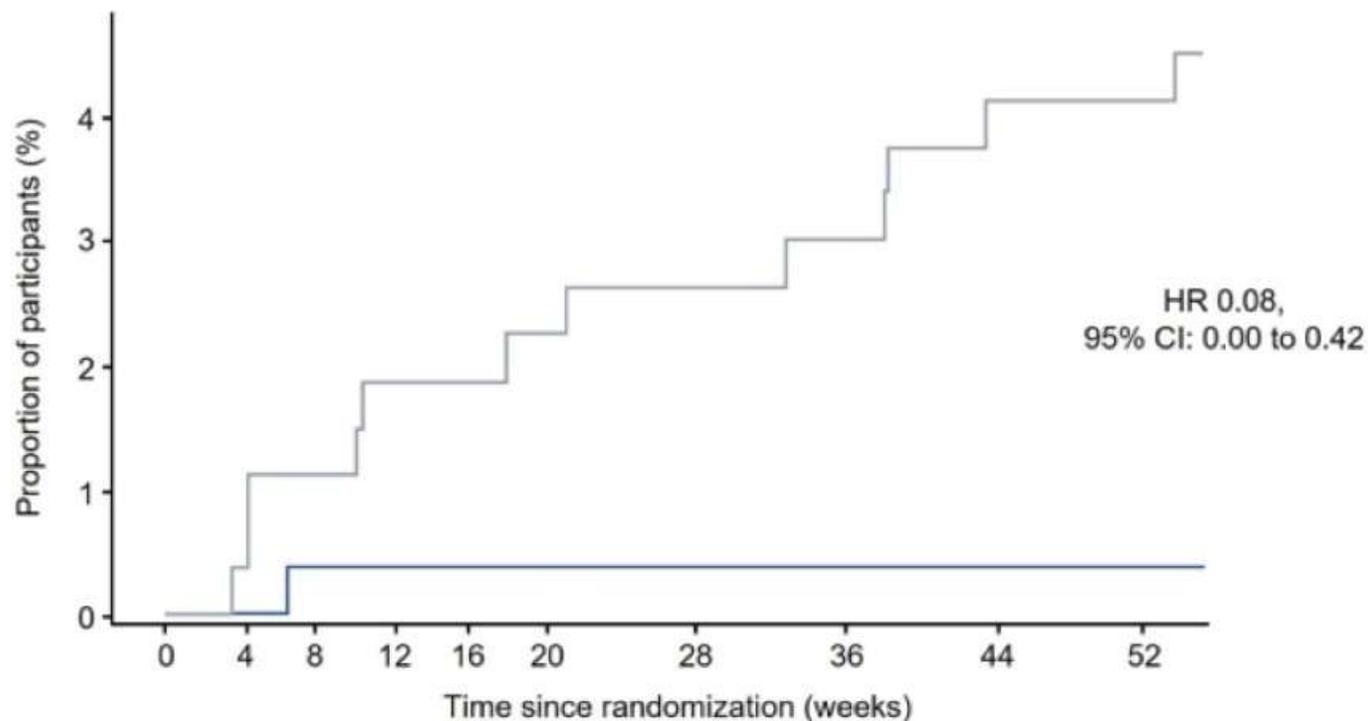
Table 2. Efficacy End Points.*

| End Point | Semaglutide (N=263) | Placebo (N=266) | Estimated Difference or Ratio (95% CI) | P Value |
|---|------------------------|--------------------|---|---------|
| Dual primary end points | | | | |
| Change in KCCQ-CSS from baseline to week 52 — points | 16.6 | 8.7 | 7.8 (4.8 to 10.9)† | <0.001 |
| Percentage change in body weight from baseline to week 52 | -13.3 | -2.6 | -10.7 (-11.9 to -9.4)† | <0.001 |
| Confirmatory secondary end points | | | | |
| Change from baseline to week 52 in 6-minute walk distance — m | 21.5 | 1.2 | 20.3 (8.6 to 32.1)† | <0.001 |
| Change from baseline to week 52 in CRP level — % | -43.5 | -7.3 | 0.61 (0.51 to 0.72) ‡§ | <0.001 |
| Hierarchical composite end point — crude percentage of wins¶ | 60.1 | 34.9 | 1.72 (1.37 to 2.15) | <0.001 |



STEP-HFpEF Trial

Figure S6. Cumulative incidence plot of time from randomization to first heart failure event including HR and 95%CI



Number of participants

| | | | | | | | | | | |
|--------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Semaglutide 2.4 mg | 263 | 263 | 262 | 262 | 261 | 261 | 261 | 259 | 258 | 254 |
| Placebo | 266 | 265 | 263 | 261 | 261 | 260 | 259 | 258 | 254 | 252 |

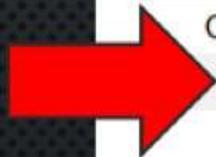
— Semaglutide 2.4 mg — Placebo



STEP-HFpEF Trial

Table S5. Number and proportion of participants with reportable adverse events

| | Semaglutide 2.4 mg (N=263) | | | Placebo (N=266) | | |
|--|-------------------------------|---------------|------------------------|--------------------|---------------|------------------------|
| | n (%) | No. of events | Events/100 person-year | n (%) | No. of events | Events/100 person-year |
| Serious adverse events | 40 (15.2) | 78 | 30.5 | 75 (28.2) | 151 | 56.8 |
| Serious adverse events leading to discontinuation of drug or placebo | 6 (2.3) | 7 | 2.7 | 6 (2.3) | 7 | 2.6 |
| Gastrointestinal disorders | 1 (0.4) | 1 | 0.4 | 1 (0.4) | 1 | 0.4 |
| Adverse events leading to discontinuation of drug or placebo | 35 (13.3) | 47 | 18.4 | 14 (5.3) | 17 | 6.4 |
| Fatal events | 3 (1.1) | 3 | 1.2 | 4 (1.5) | 5 | 1.9 |
| Most frequent serious adverse events* | | | | | | |
| Cardiac disorders | 8 (3.0) | 10 | 3.5 | 33 (12.4) | 50 | 17.2 |
| Atrial fibrillation | 4 (1.5) | 4 | 1.4 | 10 (3.8) | 13 | 4.5 |
| Cardiac failure | 0 | 0 | 0 | 13 (4.9) | 14 | 4.8 |
| Atrial flutter | 0 | 0 | 0 | 3 (1.1) | 5 | 1.72 |
| Cardiac failure congestive | 1 (0.4) | 1 | 0.35 | 4 (1.5) | 4 | 1.4 |



Obesity epidemiology



Emergence of the obesity epidemic: 6-decade visualization with humanoid avatars

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ABSTRACT

Background: Visualizations of the emerging obesity epidemic, such as with serial US color prevalence maps, provide graphic images that extend informative public health messages beyond those in written communications. Advances in low-cost 3D optical technology now allow for development of large image databases that include participants varying in race/ethnicity, body mass, height, age, and circumferences. When combined with contemporary statistical methods, these data sets can be used to create humanoid avatar images with prespecified anthropometric features.

Introduction

The global obesity epidemic began several decades ago (1) and continues unabated today (2). One of the most striking visual presentations of the rise in obesity prevalence are the color-coded US maps published by the CDC (3). Extending back several decades, the maps sequentially show the remarkable rise in obesity prevalence across the full United States by state and territory. These graphic images of obesity sweeping across the United States over several decades extend informative public health messages beyond those in written communications. Ivan

<https://www.cdc.gov/obesity/data/databases.html>

Avatars- signifies the material appearance on Earth.. Hinduism history

From 1960 up to the present represents almost a 60-y time span for which anthropometric data on US population

Obesity epidemiology

Am J Clin Nutr 2022;115:1189–1193



AVERAGE US ADULT MALE



AVERAGE US ADULT FEMALE



150 patients with type 2 diabetes and BMI 27 to 43 were randomly assigned

1- intensive medical therapy alone

2- intensive medical therapy plus Roux-en-Y gastric bypass or sleeve gastrectomy.

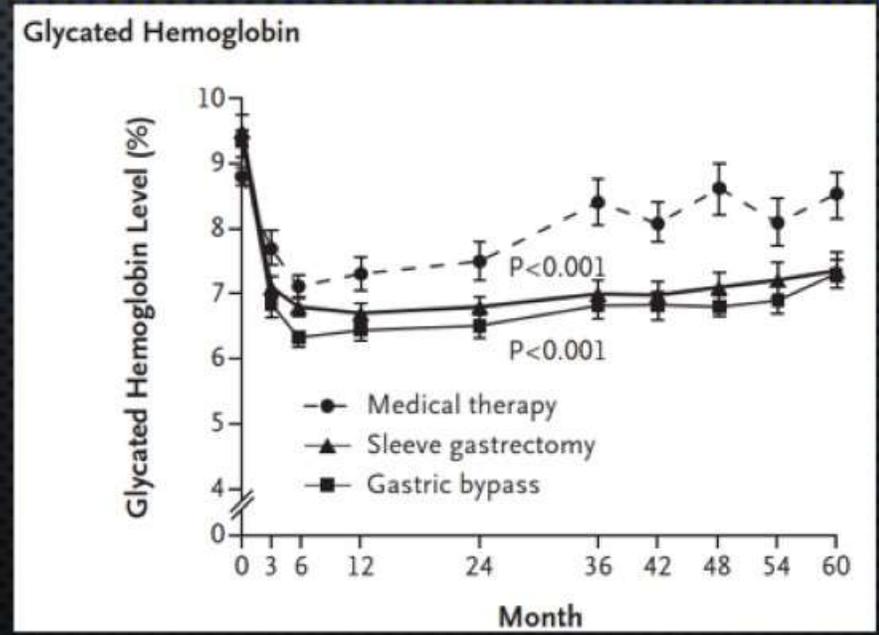
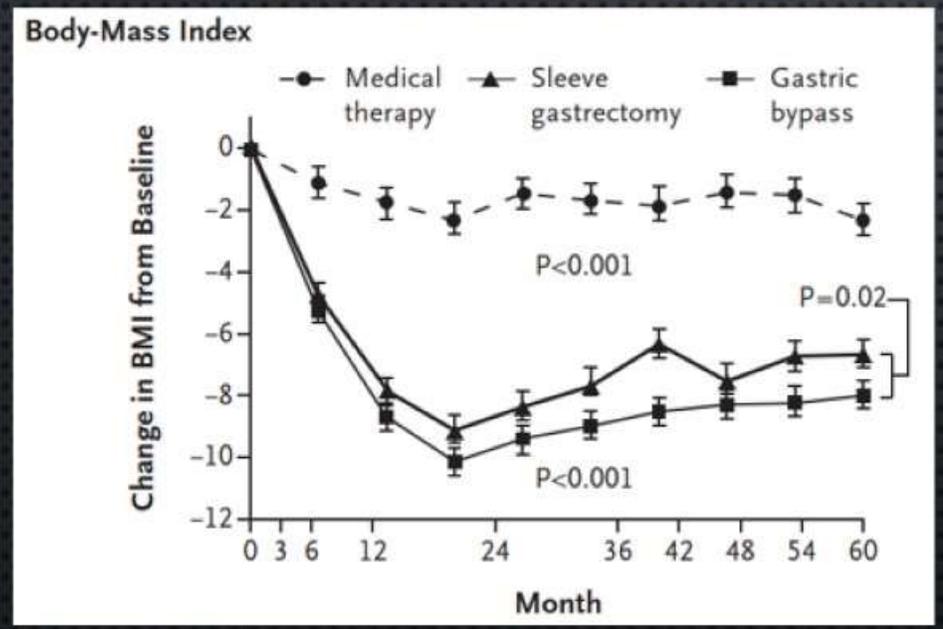
Bariatric Surgery versus Intensive Medical Therapy for Diabetes — 5-Year Outcomes

Philip R. Schauer, M.D., Deepak K. Latt, M.D., M.P.H., John P. Kirwan, Ph.D.,
Kathy Wolski, M.P.H., Ari Aminian, M.D., Stacy A. Brethauer, M.D.,
Sankar D. Navaneethan, M.D., M.P.H., Rishi P. Singh, M.D., Cole E. Pothier, M.P.H.,
Steven D. Nissen, M.D., and Sangeeta R. Kashyap, M.D.,
for the STAMPEDE Investigators*

STAMPEDE trial
5 years

Primary outcome: glycated hemoglobin level <6.0% with or without the use of diabetes medications

Bariatric surgery plus intensive medical therapy was more effective than intensive medical therapy alone



N Engl J Med 2017;376:641-51



STAMPEDE Investigators-5 years

| | Gastric-bypass | Sleeve-gastrectomy | Medical-therapy |
|--------------------------------------|----------------|--------------------|-----------------|
| Triglyceride level | -40% | -29% | -8% |
| High-density lipoprotein cholesterol | 32% | 30% | 7% |
| Use of insulin | -35% | -34% | -13% |

One patient in the medical-therapy group had a **fatal myocardial infarction** and **one** patient in the sleeve-gastrectomy group had a **stroke**

Excessive weight gain

was observed in 19% of the patients in the medical-therapy group and in no patients in surgical group (P<0.001)

N Engl J Med 2017;376:641-51



Look AHEAD Trial

5145 overweight or obese patients with type 2 diabetes

intensive lifestyle intervention that promoted weight loss through decreased caloric intake and increased physical activity (intervention group)
Vs
placebo

Trial stopped early on the basis of a futility analysis-9.6 yrs

Cardiovascular Effects of Intensive Lifestyle Intervention in Type 2 Diabetes

The Look AHEAD Research Group*

ABSTRACT

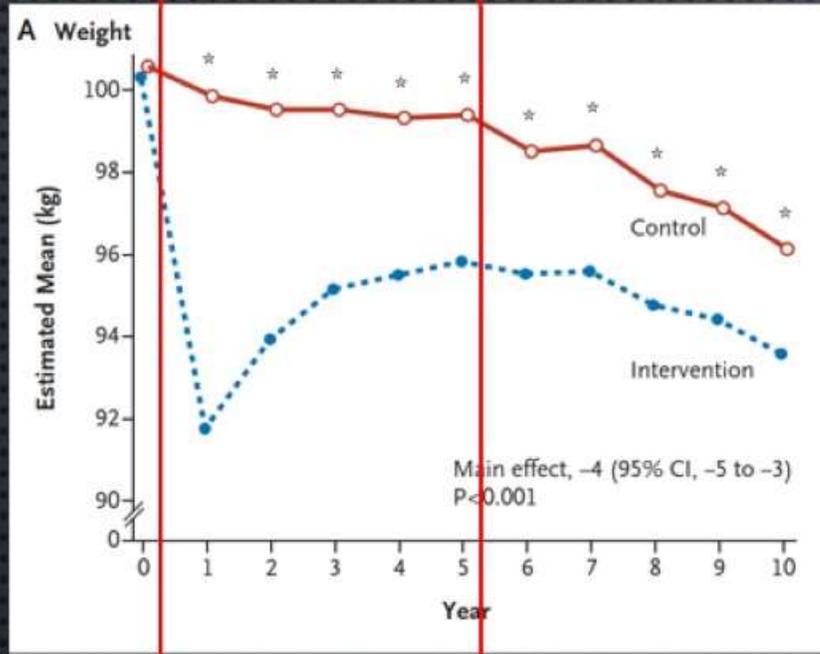
BACKGROUND

Weight loss is recommended for overweight or obese patients with type 2 diabetes on the basis of short-term studies, but long-term effects on cardiovascular disease remain unknown. We examined whether an intensive lifestyle intervention for weight loss would decrease cardiovascular morbidity and mortality among such patients.

Primary outcome was a **composite of death** from cardiovascular causes, **nonfatal myocardial infarction**, **nonfatal stroke**, or hospitalization for **angina** during a maximum follow-up of **13.5 years**



Look AHEAD Trial



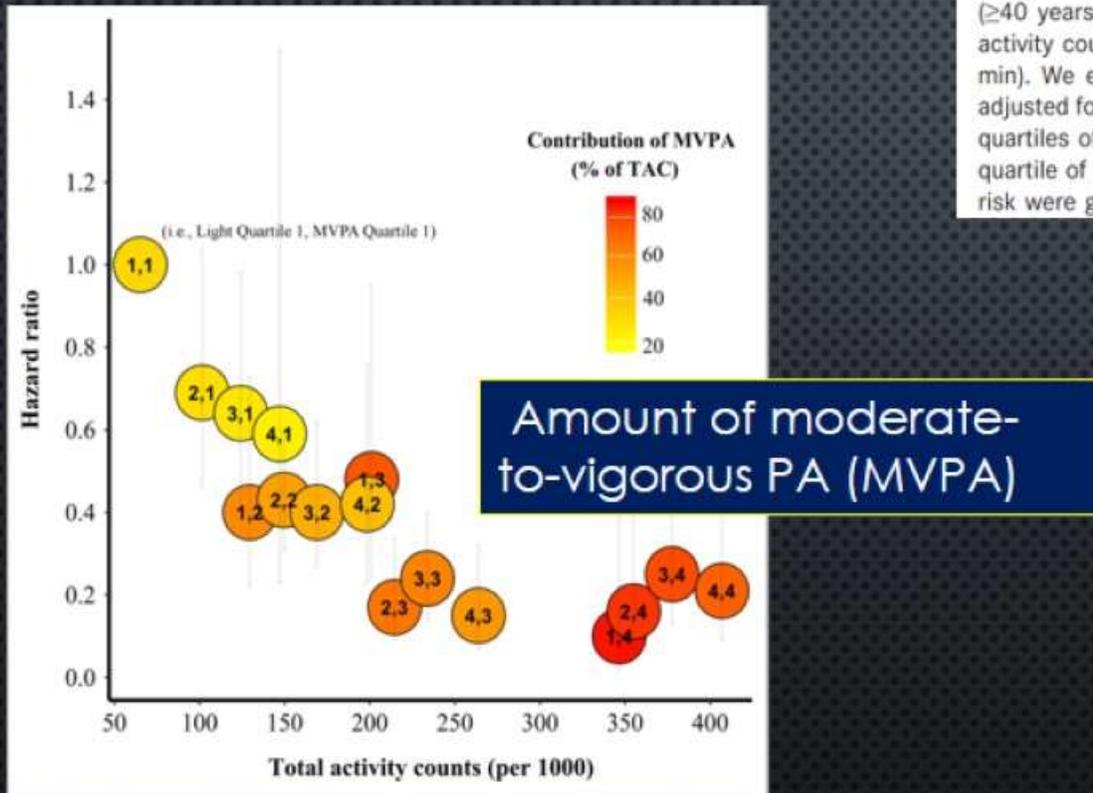
N Engl J Med 2013;369:145-54

Table 2. Primary and Secondary Outcomes and Other Cardiovascular Outcomes.*

| Outcome | Patients with Event | Control Group | Intervention Group | Hazard Ratio (95% CI) | P Value |
|--|---------------------|------------------------------------|--------------------|-----------------------|---------|
| | no. | no. of events (rate/100 person-yr) | | | |
| Primary outcome | | | | | |
| Death from cardiovascular causes, nonfatal myocardial infarction, nonfatal stroke, or hospitalization for angina | 821 | 418 (1.92) | 403 (1.83) | 0.95 (0.83–1.09) | 0.51 |
| Secondary outcomes | | | | | |
| Death from cardiovascular causes, nonfatal myocardial infarction, or nonfatal stroke | 550 | 283 (1.25) | 267 (1.17) | 0.93 (0.79–1.10) | 0.42 |
| Other cardiovascular outcomes | | | | | |
| Death | | | | | |
| Any cause | 376 | 202 (0.86) | 174 (0.73) | 0.85 (0.69–1.04) | 0.11 |
| Cardiovascular cause | 109 | 57 (0.24) | 52 (0.22) | 0.88 (0.61–1.29) | 0.52 |
| Myocardial infarction | | | | | |
| Fatal or nonfatal† | 354 | 191 (0.84) | 163 (0.71) | 0.84 (0.68–1.04) | 0.11 |
| Fatal | 16 | 11 (0.05) | 5 (<0.02) | 0.44 (0.15–1.26) | 0.13 |
| Nonfatal | 342 | 183 (0.80) | 159 (0.69) | 0.86 (0.69–1.06) | 0.16 |
| Hospitalization for angina | 390 | 196 (0.87) | 194 (0.85) | 0.97 (0.80–1.19) | 0.79 |
| Stroke | 165 | 80 (0.34) | 85 (0.36) | 1.05 (0.77–1.42) | 0.78 |
| Heart failure | 218 | 119 (0.51) | 99 (0.42) | 0.80 (0.61–1.04) | 0.10 |
| CABG | 525 | 269 (1.21) | 256 (1.14) | 0.93 (0.78–1.10) | 0.41 |
| Carotid endarterectomy | 54 | 25 (0.11) | 29 (0.12) | 1.10 (0.64–1.87) | 0.74 |



Total volume of PA rather than intensity seems to be the key driver in reducing the risk for **all-cause mortality**



Greater volume of moderate-to-vigorous activity was associated with even lower mortality risk

Volume of Light Versus Moderate-to-Vigorous Physical Activity: Similar Benefits for All-Cause Mortality?

Pedro F. Saint-Maurice, PhD; Richard P. Troiano, PhD; David Berrigan, PhD; William E. Kraus, MD; Charles E. Matthews, PhD

Background—It is unclear whether the greater benefits of moderate-to-vigorous physical activity (PA) over light PA are attributed to the higher-intensity PA or simply the greater volume of PA accumulated per unit time for moderate-to-vigorous PA. We examined this question using estimates of the *volume* of light and moderate-to-vigorous PA in relation to all-cause mortality.

Methods and Results—We used National Health and Nutrition Examination Survey 2003–2006 accelerometer records in adults (≥ 40 years; $n=4840$) and mortality data collected through 2011 ($n=700$ deaths). We estimated intensity-specific PA volume using activity counts (AC) accumulated in light (100–759 AC/min), moderate-to-vigorous PA (≥ 760 AC/min), and total PA (≥ 100 AC/min). We examined quartiles of each exposure using Cox proportional hazard models (hazard ratios [95% confidence interval] adjusted for demographic and behavioral risk factors, health status, and body mass index. Mortality risk was less across increasing quartiles of light PA volume (AC $\times 1000$) when compared with the least quartile (AC ≤ 61.8); the least risk occurred in the upper quartile of light PA, AC > 98.5 (hazard ratios=0.69, 95% confidence interval: 0.47, 1.00, P trend ≤ 0.05). The benefits for mortality risk were greater across quartiles of moderate-to-vigorous PA and reached a hazard ratio of 0.28 (95% confidence interval: 0.17,

National Health and Nutrition Examination Survey 2003–2006 accelerometer records in adults (≥ 40 years; $n=4840$) and mortality data collected through 2011 ($n=700$ deaths)

J Am Heart Assoc. 2018;7:e008815



Table 1. Weighted US Proportions (Standard Error) for Covariates by Quartiles of Light and Moderate-to-Vigorous PA

| n=4840 | Light PA | | | | Moderate-to-Vigorous PA | | | |
|--------------------------------|-------------|-------------|-------------|-------------|-------------------------|-------------|-------------|-------------|
| | Q1 (n=1159) | Q2 (n=1215) | Q3 (n=1236) | Q4 (n=1230) | Q1 (n=1174) | Q2 (n=1217) | Q3 (n=1229) | Q4 (n=1220) |
| | % (SE) | % (SE) | % (SE) | % (SE) | % (SE) | % (SE) | % (SE) | % (SE) |
| Sex (male) | 54.5 (2.4) | 50.1 (1.8) | 44.7 (2.2) | 38.7 (1.6) | 34.4 (1.6) | 36.9 (1.9) | 44.4 (1.5) | 63.1 (1.5) |
| Ethnicity (non-Hispanic white) | 80.2 (1.8) | 80.3 (2.3) | 77.8 (2.0) | 72.3 (3.3) | 81.7 (1.9) | 75.7 (2.9) | 76.3 (2.4) | 77.3 (2.4) |
| BMI status (obese) | 41.8 (1.9) | 33.9 (1.9) | 36.5 (1.8) | 32.9 (1.7) | 38.9 (1.7) | 44.5 (1.6) | 36.5 (2.0) | 27.1 (1.4) |
| Education (<high school) | 21.2 (1.8) | 13.8 (1.8) | 17.2 (1.5) | 18.4 (1.3) | 29.2 (2.6) | 17.3 (1.2) | 13.7 (1.4) | 14.1 (1.4) |
| Alcohol consumption (current) | 54.1 (2.3) | 64.0 (2.0) | 63.5 (2.3) | 64.7 (2.5) | 41.1 (2.5) | 59.6 (1.9) | 66.1 (2.7) | 72.4 (2.1) |
| Smoking habits (current) | 18.0 (1.6) | 19.6 (1.9) | 23.5 (1.8) | 22.4 (1.6) | 18.3 (1.5) | 24.1 (2.1) | 20.9 (1.1) | 20.7 (1.2) |
| Diabetes mellitus (yes) | 22.8 (1.6) | 11.6 (1.6) | 11.5 (0.9) | 8.0 (0.8) | 28.1 (1.9) | 15.1 (1.1) | 10.6 (0.9) | 4.5 (0.8) |
| Stroke (yes) | 9.6 (1.2) | 2.9 (0.6) | 2.5 (0.4) | 2.1 (0.4) | 12.0 (1.4) | 3.4 (0.5) | 2.5 (0.5) | 1.0 (0.3) |
| Chronic heart failure (yes) | 22.3 (1.7) | 10.3 (1.0) | 8.7 (1.3) | 5.7 (0.7) | 29.1 (1.8) | 11.0 (1.5) | 7.5 (1.0) | 4.0 (0.6) |
| Reduced mobility (yes) | 19.2 (1.4) | 14.5 (1.6) | 10.3 (1.2) | 8.6 (0.9) | 30.0 (1.4) | 14.7 (1.2) | 9.5 (1.2) | 4.1 (0.7) |
| Cancer/malignancy (yes) | 17.7 (1.4) | 15.0 (1.2) | 11.1 (0.9) | 9.1 (0.8) | 24.6 (1.5) | 13.4 (1.4) | 10.9 (1.0) | 7.6 (1.0) |





Original article

Short-term cardiovascular events after bariatric surgery in patients with metabolic syndrome

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Primary endpoint: patients with MetS more frequently experienced MACE compared with patients without MetS (.3% versus .1%; P ,.001)

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760,076 patients aged 18 years with body mass index 35 kg/m² who underwent primary bariatric surgery between 2015 and 2018

Postoperative MACE

| Variable | MetS (n = 111,128) | Non-MetS (n = 466,754) | Total (n = 577,882) | P value |
|--|--------------------|------------------------|---------------------|---------|
| MACE | 314 (.3%) | 460 (.1%) | 774 (.1%) | <.001 |
| Intra-op or post-op myocardial infarction | 85 (.1%) | 86 (.02%) | 171 (.03%) | <.001 |
| Intra-op or post-op CVA | 33 (.03%) | 36 (.007%) | 69 (.01%) | <.001 |
| Death intra-op or within 30 d post-op | 211 (.2%) | 347 (.1%) | 558 (.1%) | <.001 |
| Intra-op or post-op cardiac arrest requiring CPR | 107 (.1%) | 133 (.03%) | 240 (.04%) | <.001 |

MACE 5 major adverse cardiovascular events

Translational biology of inflamed adipocytes



In the lookahead trial the greatest weight loss (10kg) was seen at

1.1 year

2.3 years

3.5 years

4.10 years

Answer 1 One year



QUESTION

Primary outcome of the STAMPEDE trial was glycated hemoglobin level <6.0% with or without the use of diabetes medications which represents the 2 arms of trial

1. Intensive medical treatment vs bariatric surgery
2. Pioglitazone vs DPPIV inhibitor
3. SGLT2 vs GLP1
4. Insulin vs GLP1
5. Weight loss vs GLP1

Answer 1. Medical vs surgery



Using the National Health and Nutrition Examination Survey which is the correct statement related to exercise and CV events

1. Total volume of physical activity rather than intensity seems to be the key driver in reducing the risk for all-cause mortality
2. Intensity of exercise is the key drive of reducing cardiovascular risk
3. There is no difference between low and high intensity exercise for CV events
4. There was increased mortality with exercise
5. None of the above

Answer 1 total volume wins



QUESTION

In the STAMPEDE trial which treatment reduced the triglycerides 40%

1. Intensive medical treatment
2. Pioglitazone
3. Roux-en-Y gastric bypass
4. Sleeve gastrectomy
5. 3 omega treatment group

Answer 3. gastric bypass



IN THE LOOKAHEAD TRIAL 5145 OVERWEIGHT OR OBESE PATIENTS WITH TYPE 2 DIABETES WERE RANDOMIZED TO WHAT 2 ARMS

1. Insulin + GLP1 vs GLP 1
2. intensive lifestyle intervention that promoted weight loss through decreased caloric intake and increased physical activity (intervention group) vs placebo
3. SGLT2 vs Insulin
4. SGLT2 + GLP1 vs lifestyle
5. Gastric bypass vs lifestyle

Answer 2. intensive lifestyle

