

# High Fructose Corn Syrup and Sucrose Sweetened Milk Result in Equivalent Body Composition Changes and Weight Loss Irrespective of Baseline Calcium Intake During Weight Loss

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## Introduction

- Sucrose and high fructose corn syrup (HFCS) are the primary sources of fructose in the American diet.
- It has been argued that fructose from any source may increase abdominal fat accumulation.
- Dietary calcium from milk has been associated with increased abdominal fat loss during weight reduction.
- Subjects with lower baseline calcium intakes may respond more favorably to weight loss diets containing adequate dairy than those with higher calcium intakes at baseline.

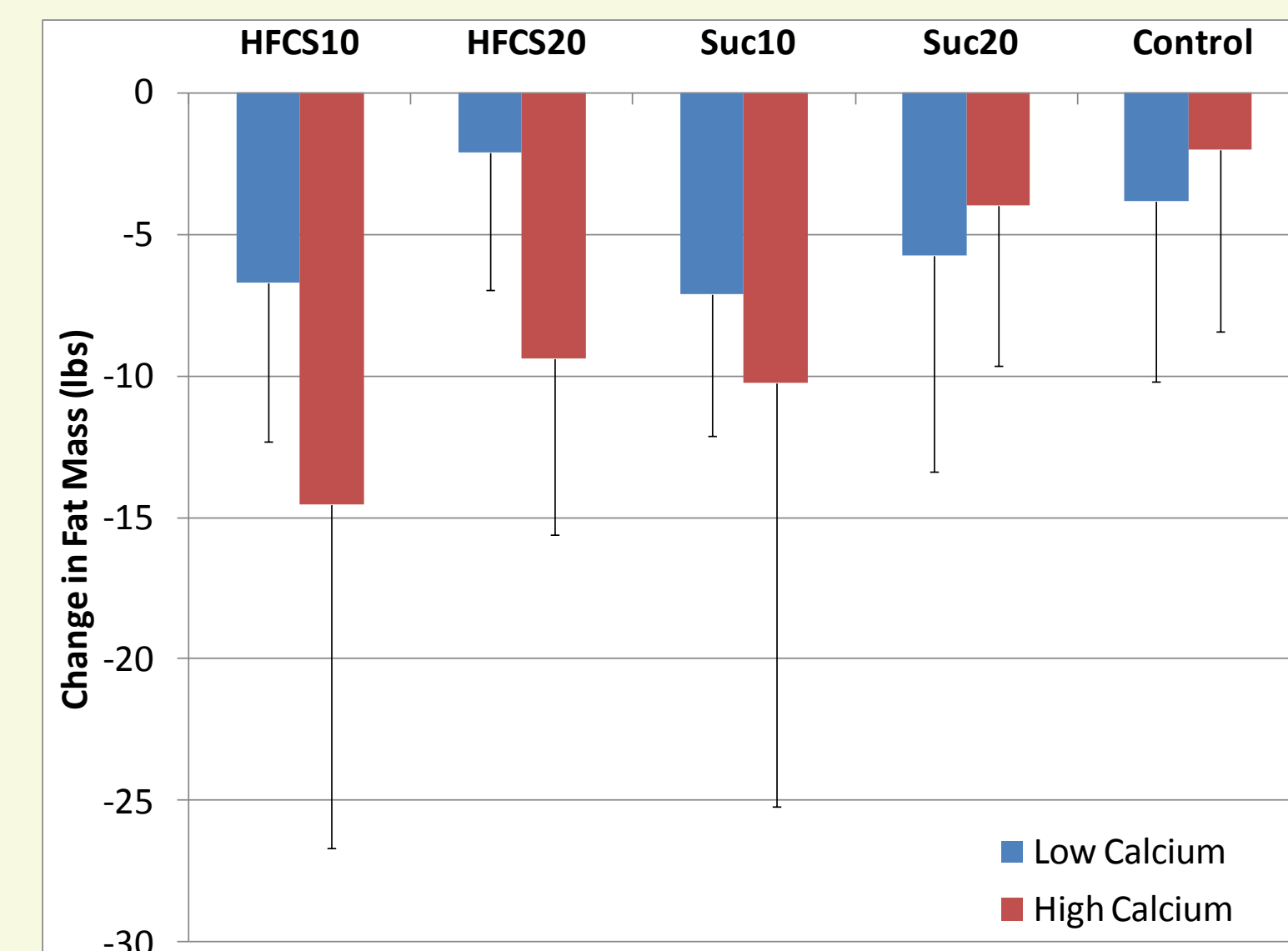
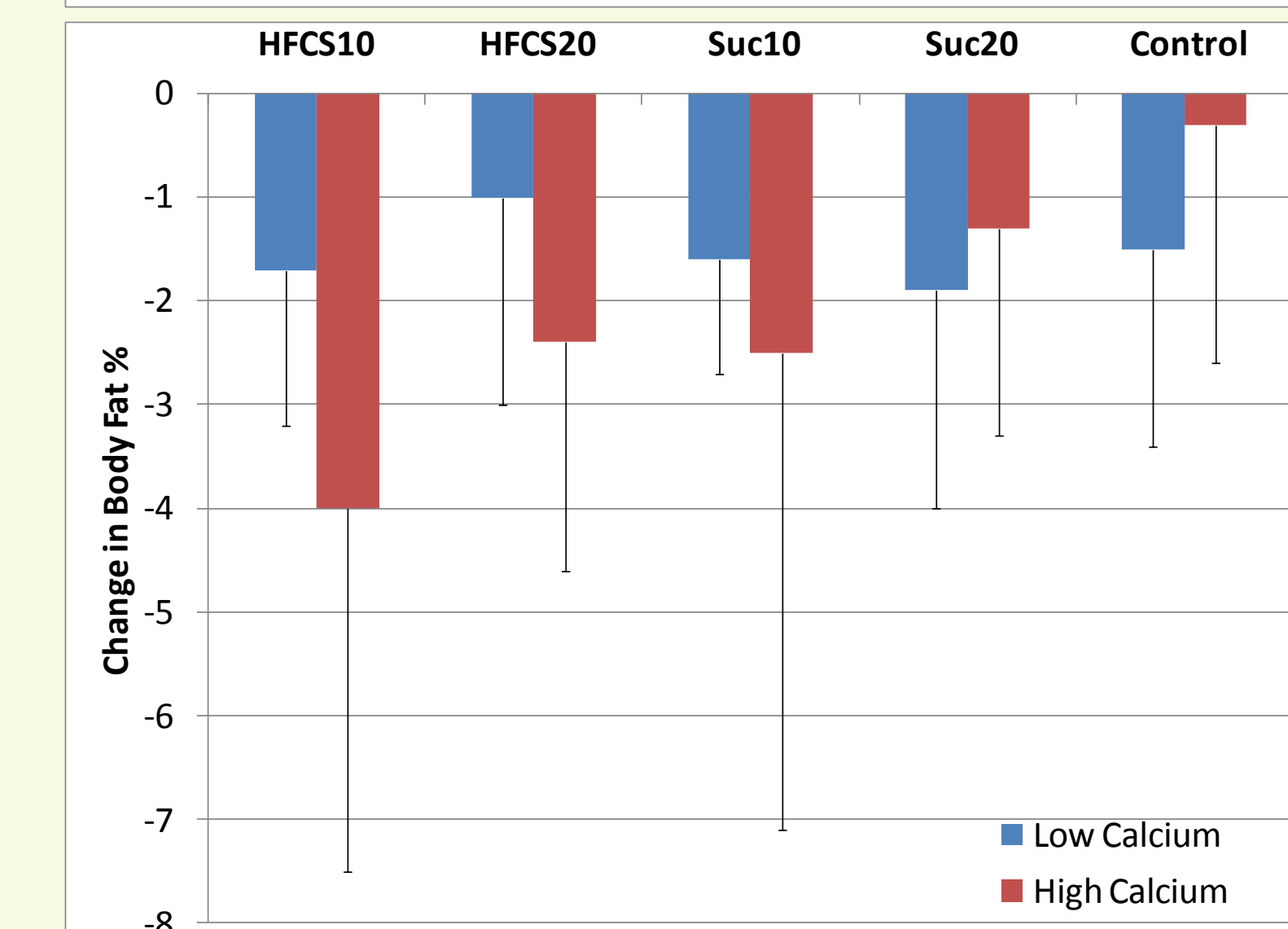
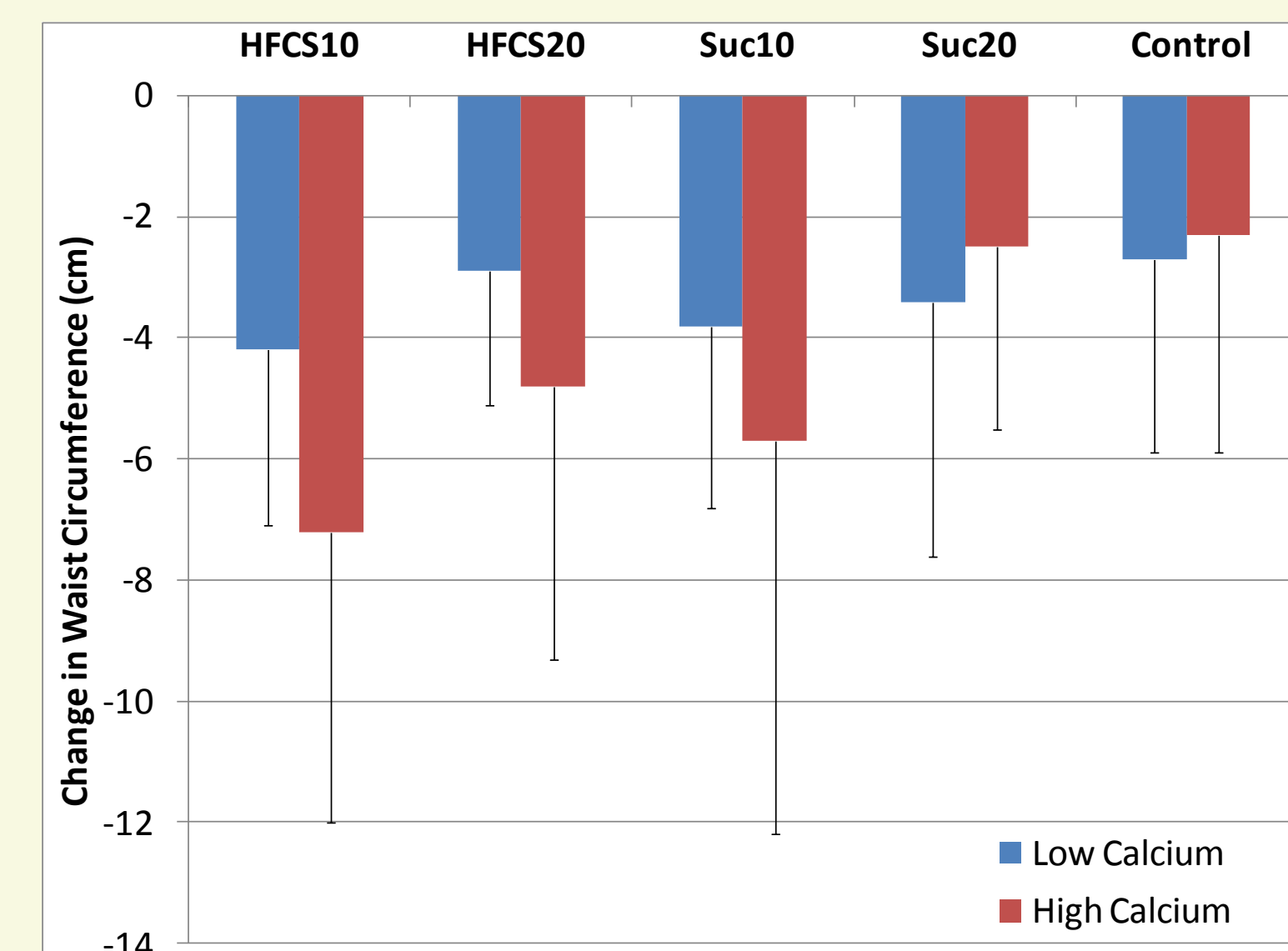
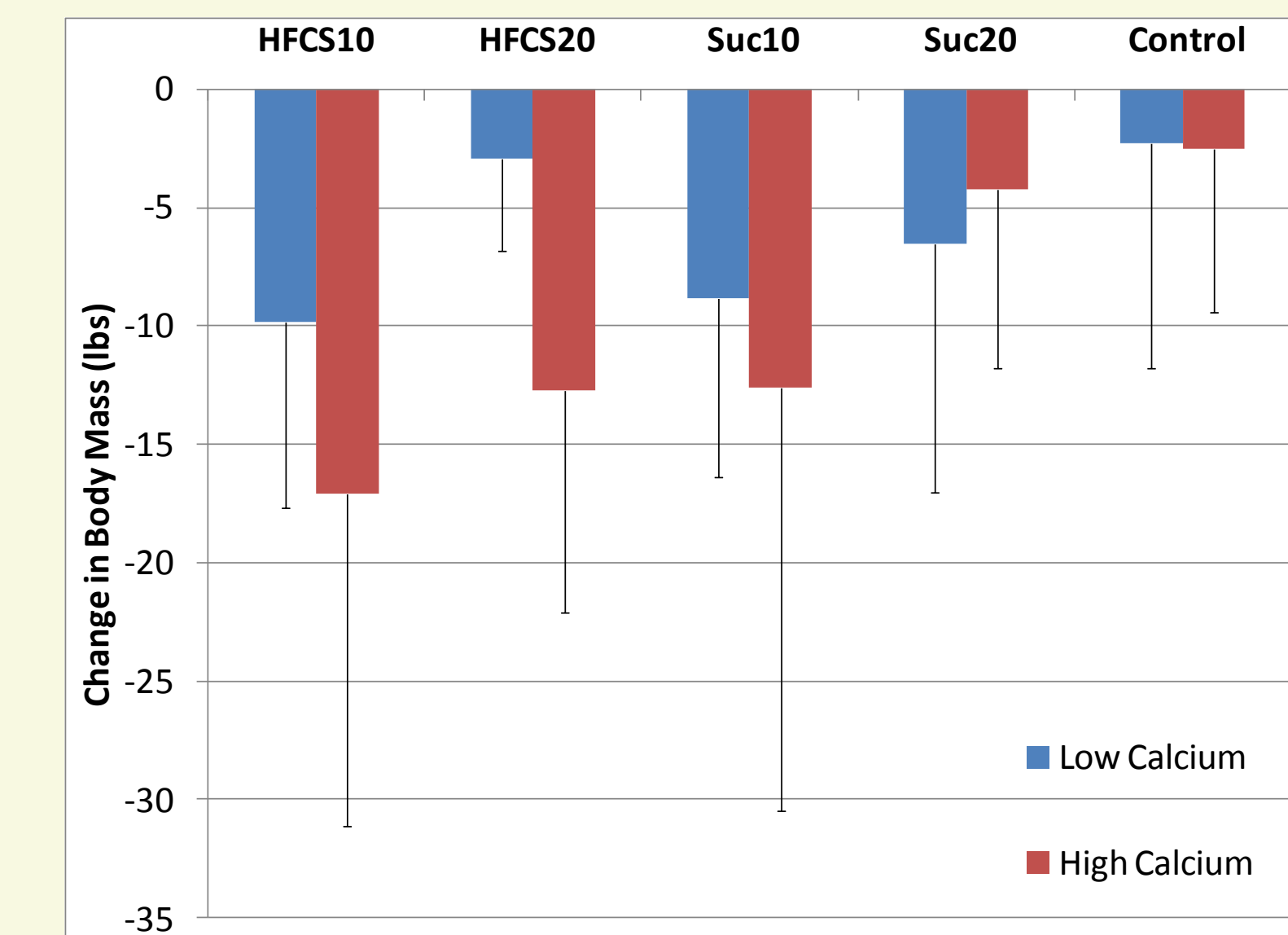
## Methods

- One-hundred twenty-nine overweight or obese individuals were placed on a hypocaloric diet for 24 weeks.
- Individual caloric targets were determined by estimating resting metabolic rate (Mifflin St Joer) and prescribing a 500Kcal/day deficit.
- The diet consisted of 10% or 20% calories from sugar provided by HFCS sweetened or Sucrose sweetened lowfat milk
  - 25<sup>th</sup> and 50<sup>th</sup> percentile population consumption levels respectively for fructose.
- Subjects and research staff were blinded to which sugar was consumed.
- All participants participated in a structured, progressive exercise program.
- A 5<sup>th</sup> group was included as a usual diet, exercise only control group.
- Subjects were classified according to baseline calcium level by initial three-day food record
  - low calcium < 600 mg/d; n=43; male=7; female=36)
  - high calcium > 600 mg/d; n=86; male=22; female=64).

## Results

### Baseline Characteristics

		Mean	Std. Deviation	N
Body Mass (lbs)	Low Calcium	189.6	25.7	65
	High Calcium	193.0	29.8	146
BMI	Low Calcium	32.2	3.2	65
	High Calcium	31.6	3.3	146
Waist (cm)	Low Calcium	91.3	7.6	64
	High Calcium	91.4	9.4	147
Body Fat %	Low Calcium	44.4	5.8	64
	High Calcium	42.6	6.6	148
Fat Mass (lbs)	Low Calcium	81.3	16.7	64
	High Calcium	79.6	17.6	148



- In the entire cohort there were reductions in body mass and all measures of adiposity ( $p < 0.001$ ).
- In all measures the 4 hypocaloric and sweetened milk groups experienced greater reductions than the control group ( $p < 0.01$ ).
- Baseline calcium consumption did not impact any of the analyses.

## Discussion & Conclusion

- HFCS and sucrose sweetened milk have equivalent effects on body composition during weight loss.
- Baseline calcium consumption does not impact any of these parameters.

