

# Does the Healthy Eating Index (HEI) Intrinsically Favor Low Fat Diets while Stacked Against those of High Fat?

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To answer this question, let us: 1- use actual examples of each type of diet 2- determine the HEI of each and 3-identify factors that produce the differences.

## Composition of Representative Diets

Table 1 shows a thumb-nail sketch of a low fat, high carbohydrate, medium protein diet (Lo-Fat) and a high fat, low carbohydrate, medium protein diet (Hi-Fat). The meals were transcribed from authentic commercial diet plans which list full ingredients and portion sizes [1,2].

	Breakfast	Lunch	Dinner	Snack Content	Caloric
Lo-Fat	7-Grain Cereal	Cauliflower Salad	Brussels Sprouts	None	1794 KCal
	Orange Juice	Carrot Soup	Casserol		
		Fruit Salad	Green Salad		
			Raspberry Ice		
Hi-Fat *	Cheesy Bacon	Chicken Salad	Beef Stroganoff	Cheese Cubes	1776 KCal
	Egg Muffin		Cauliflower	Hard Boiled Egg	
	Coffee				

Table 1: Thumbnail Sketch of Meals.

\*Supplement: Water, Sodium, Potassium, Magnesium

## Determination of HEI's

Tables 2 and 3 show values from the first and the latest editions of the HEI. It should be mentioned that the 1995 version was formulated on the basis of total caloric intake while the 2015 edition is adjusted to 1000 Kcal intake [3].

Item	Total Points	Points Lo-Fat*	Points Hi-Fat*
Grains	10	7	3
Vegetables	10	10	10
Fruits	10	10	3
Milk	10	5	10
Meat	10	0	10
Total Fat	10	10	0
Satd Fat	10	10	0
Cholesterol	10	10	0
Sodium	10	10	0
Variety	10	10	10
<b>TOTAL</b>	<b>100</b>	<b>82</b>	<b>46</b>

Table 2: Components of the HEI -1995 [4].

\*Portion size adjusted for caloric intake of 1,700 Kcal

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Item	Total Points	Points Lo-Fat	Points Hi-Fat
Total Fruits	5	5	5
Whole Fruits	5	5	5
Vegetables	5	5	5
Greens/Beans	5	5	0
Whole Grains	10	10	0
Dairy	10	1.6	3
Total Protein	5	3.2	5
Seafood/Plant Prot	5	5	5
Fatty Acids	10	10	2.2
Refined Grains	10	10	10
Sodium	10	10	0
Added Sugars	10	10	10
Satd Fats	10	10	0
<b>TOTAL</b>	<b>100</b>	<b>89.8</b>	<b>50.2</b>

Table 3: Components of the HEI -2015 [5].

These results show that the HEI's consistently show high values for a Lo-Fat diet compared to much lower values for the Hi-Fat diet.

## Factors Causing Differences in the Diets

Components of the HEI specify both foods and nutrients to be consumed in abundant amounts and those to be consumed in moderation. This Lo-Fat diet is congruent with these recommendations with the exception of the meat category (this was a vegetarian diet) so will always have a high point value. On the other hand, the standard Hi-Fat diet requires minimum carbohydrate and maximal fat [6]. Consequently, most fruits which have natural sugar content as well as starchy vegetables and whole grains are banned with the consequent loss of 20-25 points. High fat content is often associated with increased cholesterol and saturated fat which results in another 15-20 point reduction. Finally to prevent electrolytic imbalance, ketogenic diets require sodium supplementation which diminishes the HEI by another 10 points or all toll, a reduction of 45-55 points.

Therefore the answer to “Does the Healthy Eating Index (HEI) Intrinsically Favor Low Fat Diets while Stacked Against those of High Fat?” is “YES.”

### Caveats

This conclusion will hold true for the standard ketogenic diet but may be less so with modified keto- diets such as the Mediterranean or restricted types [7]. Likewise the Lo-Fat diet may be non-vegetarian and incorporate limited amounts of lean meat and seafood [8].

### References

1. Ornish D (1982) Stress, diet and your heart. New York, NY. Holt, Rinehart and Winston 318-322.
2. Gregory R (2018) 21-day ketogenic diet weight loss challenge. Emeryville, CA. Rockridge Press 68-69.
3. Guenther PM, Reedy J, Krebs-Smith SM (2008) Development of the Healthy Eating Index-2005. *J Am Diet Assoc* 108: 1896-1901.
4. Kennedy ET, Ohls J, Carlson S, Fleming K (1995) The Healthy Eating Index: Design and applications. *J Am Diet Assoc* 95: 1103-1108.
5. Krebs-Smith SM, Pannucci TE, Subar AF, Kirkpatrick SI, Lerman JL, et al. (2018) Update of the Healthy Eating Index: HEI-2015. *J Acad Nutr Diet* 118: 1591-1602.
6. Paoli A, Rubini A, Volek J, Grimaldi KA (2013) Beyond weight loss: A review of the therapeutic uses of very-low-carbohydrate (ketogenic) diets. *Eur J Clin Nutr* 67: 789-796.
7. Pérez-Guisado J, Muñoz-Serrano A, Alonso-Moraga Á (2008) Spanish Ketogenic Mediterranean diet: A healthy cardiovascular diet for weight loss. *Nutr J* 7: 30.
8. Truswell AS (1982) Pop diets for weight reduction. *Br Med J (Clin Res Ed)* 285: 1519-1520.



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