Calories In/Calories Out and the Puerto Rican Holiday Meal

Frequent articles in the PRHSJ deal with aspects of overweight in the population (1-3). The premise of this letter to the editor is that persons really **do not want** to put on excess pounds but weight gain can be furtive and can increase slowly and stealthily as described in two simplistic examples. First is the chronic or continuous caloric case. We have a 20 yr old individual with complete adherence to normal weigh. Assuming no change in lifestyle except that 10 Kcal (the amount contained in 2 pieces of gum) are eaten per day. The resulting excess will be 3650 Kcal per year which is about the same as 3500 Kcal - the amount needed to produce one pound of body weight (4). If this process is continued until the age of 60, the individual will have not only excess dental caries but a weight gain of 40 pounds. In the second or acute (more calories at one time) example, let us start again with the same 20 yr old individual with complete adherence to normal weight. A report in the NEJM (5) has measured annual weight changes in large populations and found that the time between November and January (the Holiday Season) accounts for a weight gain of about one pound per year and the significant thing is that this pound is **not** lost. If this process is continued until the age of 60, the individual will need a new wardrobe to comply with the 40 extra pounds.

We look for a simplistic solution which is **to be aware of caloric intake** (assuming all else remains constant). The term "calories in /calories out" was coined by the French chemist Nicholas Clement in the 1820's (4) so being able to properly balance each side will lead to weight stability. In the chronic example removal of the two pieces of gum or one minute of stair walking per day (10 Kcal expenditure) will equate both sides. The acute example is more problematic. Accuracy of caloric prediction is inversely proportional to the complexity of the meal. It has been documented that as more food items and portion sizes are eaten, the ability to judge caloric intake becomes less and less accurate (6).

This brings us to the example of the traditional holiday meal in Puerto Rico (Table 1).

Table 1. Holiday Meal in Puerto Rico†

Appetizers	Main Meal	Side Dishes	Desserts	Beverages
Mixed nuts	Pasteles (pork)	Guineitos en escabeche	Tembleque	Coquito
Fried cheese balls	Lechon asado	Ensalada de coditos	Arroz con dulce	Water
Meatballs	Mixed green salad*			Wine
Morcilla asada	Arroz con gandules			Coffee**

*with French dressing, **with milk and sugar, †Nutritional composition found in the Addendum (next page)

Even an experienced dietitian would have difficulty in making an estimate of caloric content. We have tried to include typical foods and portion sizes with the assumption that every item on the menu is sampled. We do not provide an answer to prevent the holiday weight-gain but give some awareness of caloric intake on at least one occasion. In this case, **calories in** of this one meal alone are **2,940Kcal**. This value exceeds the recommended amount per day of 2,500Kcal for men and 2,000Kcal for women (7). **Calories out** is left for the discretion of the diner. Suggested for the men is a moderately-paced stroll of 80 minutes which will not only settle digestion but burn the excess 440Kcal (8) and for the women to cut portion size by one third.

In concluding we recognize that the human body is a marvelous contraption and if caloric balance is properly managed, weight stabilization can be maintained for a lifetime. We have given simplistic examples here but to those persons who really **do not want** to gain weight, the real key is to make a **personal commitment** to weight maintenance and make it a **priority**.

References

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8. https://www.wikihow.life/Burn500Calories#.

Addendum. Selected nutrients in the Puerto Rico Holiday Meal

Nutrient	Amount in meal	Recommended amount/Day	Nutrient	Amount in meal	Recommended amount/Day
Energy	2,940 kcal*	2,500 kcal	Sodium	5724.7 mg*	2300 mg
Protein	114.9 g	56 g	Calcium	2272.8 mg	1300 mg
% Protein	15.6	10-35%	Iron	40.3 mg	18 mg
Carbohydrate	183.9 g*	360 g	Zinc	23.8 mg	11 mg
% Carbohydrate	25.1%*	45-65 %	Magnesium	818.1 mg	420 mg
Fat	169.6 g*	≤ 70 g	Copper	2.1 mg	0.9 mg
% Fat	52.0%*	25-30%	Vitamin A	10,355.3 IU	5000 IU
Alcohol	30.5 g	-	Vitamin C	134.0 mg	90 mg
% Alcohol	7.3	-	Vitamin D	652.9 IU	400 IU
Saturated Fat	60.8 g*	≤ 15 g	Vitamin E	20.4 IU	20 IU
% Saturated Fat	19.3 %*	≤ 7 %	Vitamin K	407.1 mcg	120 mcg
Mono Unsat Fat	78.7 g*	≤ 44 g	Niacin	46.8 mg	20 mg
% Mono Unsat Fat	23.8*	≤ 20 %	Folate (total)	791.1 mg	400 mg
Poly Unsat Fat	30.1 g	≤ 22 g	Dietary Fiber	42.2 g	28 g
% Poly Unsat Fat	8.9	≤ 10 %	Total Sugar	78.2 g*	≤ 37.5 g
Trans Fat	0	≤ 1%	Added Sugar	66.2 g*	≤ 63 g
Cholesterol	689.2 mg*	≤ 300 mg	Sucrose	20.3 g	-
PFA 18:2 Linoleic	31.1 g	10 g	Caffeine	254.4 mg	≤ 400 mg

*Nutritional concern. *Prepared and analyzed by Cindy A Rodriguez, BS Director of NutriEtiquetas, Franklin, MA with Nutrition Pro ™ software. Email nutriEtiquetas@gmail.com.

Alan M. Preston, PhD
Department of Biochemistry, University of Puerto Rico
Medical Sciences Campus, San Juan, Puerto Rico
Email: alan.preston@upr.edu