

**Learn Healthy Weight Loss Methods  
Now  
(session 2 of 4)**

**Having a great holiday,  
without sacrificing your waistline!**

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# Biochemistry of Weight Loss

It's NOT as simple as:

Calories in < Calories out = Weight Loss

“Why not?”

The type of calories affect many hormones. Calories from high sugar foods influence key hormones, and key hormones affect how calories are processed.

- Insulin
- Glucagon
- Cortisol
- The Estrogens (Estradiol, Estrone, Estriol)

# Leptin (discovered 1994)

– controls appetite

Zhang Y, Proenca R, Maffei M, et al. Positional cloning of the mouse obese gene and its human homologue. *Nature* 1994; 372: 425–32.

# Ghrelin (discovered 1999)

– increases appetite

Kojima M, Hosoda H, Date Y, et al. Ghrelin is a growth-hormone-releasing acylated peptide from stomach. *Nature* 1999;402:656–60.

# Obestatin (discovered 2005)

– decreases appetite

Zhang JV, Ren PG, Avsian-Kretchmer O, *et al.*

Obestatin, a peptide encoded by the ghrelin gene, opposes ghrelin's effects on food intake. *Science* 2005;310:996–9.



# How to favorably manipulate these hormones for weight loss

# Manipulate Hormones For Weight Loss With Food:

- Avoid simple sugars
- When you do have sugary foods, have no more than 20 grams of sugar every 3 hours
- When you have a food containing more than 20 grams of sugar, that food should also contain some fat and protein (Read “The Schwarzbein Principle”)
- If the sugary food contains more than 20 grams of sugar, and has minimal fat and protein, have something containing fat and protein with it

- Have healthy, balanced, small frequent meals and snacks throughout the day:
  - About every 3 hours
  - Contain about 10-30 grams protein, about 10-30 grams fat, about 15 to 40 grams carbohydrate
- Carbohydrates :
  - Plenty of complex carbs:
    - Swiss chard
    - Mustard greens
    - Collard greens

- Bok Choy
  - Kale
  - Brussels sprouts
  - Spinach
  - Broccoli
  - Cabbage
- Have some whole grains following rule of the hand:  
[http://www.youtube.com/watch?v=EtiX\\_hE3F\\_M](http://www.youtube.com/watch?v=EtiX_hE3F_M))
  - Whole fruit (skin included whenever possible)

- Avoid simple carbs:
  - Fruit juice
  - Table sugar
  - Fructose
  - Agave nectar (even though it is low glycemic)
  - Honey
  - Molasses
- Avoid artificial sweeteners
- Have holiday treats containing the above simple sugars sparingly

# Manipulate Hormones For Weight Loss Enhanced Detoxification:

- Non-supplement methods
  1. Upon awakening and before bed – 8oz water, 1 tsp lemon juice, 1 pinch cayenne pepper
  2. Dry skin brushing with a loofah pad for 5 minutes before showering
  3. Home Sauna: Warm hot shower
- Supplemental methods:
  - Designs for Health Detox Support Packs  
<http://www.holistichealthbayarea.com/order-products/>; Click “Emerson Ecologics”; Enter Access Code: HEAL84