

## **How The Hibernation Diet Works and the Honey-Insulin-Melatonin Cycle (HYMN)**

Let's assume that you sleep for 8 hours a night. At rest, an average female of 5 foot 6 inches and weighing 135 pounds will burn about 60 calories an hour or approximately 480 calories during the 8 hours of rest. During the first 4 hours of sleep (your primary "Slow Wave Sleep" hours), that totals 240 calories.

When you include at least 3 resistance exercise routines in your weekly schedule (we will talk more about this later beginning on page 43), the total calories burned during this peak recovery rest period (the first 4 hours) will be increased to 600 calories. During lighter sleep (the last 4 hours), your body will burn up to 50% more calories (or 360 calories vs. only 240) than if you were not exercising. ***The total calories burned each night is now 960 (or 6,720 calories in a week) - - twice the calories you would burn if you did not exercise.***

Are you ready for the really good news? During sleep, our body uses fat for energy during rest and recovery. ***For this to occur, our liver must be adequately stocked with fuel reserves to get through the 8 hour fast.*** When our liver is fueled, our blood sugar is stable and our body can use fat stores almost exclusively for energy (a physiologic condition very similar to the hibernation state in animals). And ***one of the best ways to fuel our liver is to eat 1 or 2 tablespoons of honey*** within an hour of bedtime (see page 37 for suggestions for warm bedtime drinks using honey).

Fat provides 9 calories for each gram of fat. Those 6,720 calories that you are now burning each week represent 746 grams of fat or approximately 1.64 pounds. By adding moderate resistance exercise to your weekly routine and keeping your liver fueled (stocked with glycogen) by eating honey before bedtime, you are now burning 50% more fat (0.82 pounds per week more) than you would have otherwise. Think of it, in one month, ***you have now lost nearly 3 and ½ pounds, just by sleeping!***

Compare that to the calories burned by running for 1 hour each day on a treadmill. The average person will burn about 1000 calories an hour but most of those calories come from glycogen stores in your liver and muscles. Only 300 calories will come from body fat stores. In a week, only 2100 calories from body fat will be burned (or a little over ½ pound), compared with 6,720 calories from fat while sleeping. ***The net difference is 1.6 times (62%) more body fat burned while sleeping than while running on a treadmill.***

***But there's more!*** By eating honey before bedtime, the pre-stocked liver keeps blood sugar levels stable. Some of the glucose from honey will pass through the liver to the blood stream and cause a mild insulin spike. This slight elevation of insulin will increase the uptake of tryptophan into the brain. Tryptophan is converted to serotonin which, when the lights are off (as in total darkness), is converted to melatonin. Melatonin induces sleep. Melatonin also inhibits insulin which prevents a fall in blood sugar, thus prohibiting the release of dangerous stress hormones - adrenalin and cortisol – and ***allowing your recovery hormones to do their job while they use up your fat stores.*** This ***Honey – Insulin – Melatonin Cycle (HYMN)*** is truly a miracle of nature waiting for you to discover and experience better health!