

Healing & *The Series* Disease Reversal

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This series explores Dean Ornish's evidence-based claims of healing & disease reversal by dietary and lifestyle changes. He is a California University Professor of Medicine in San Francisco. This instalment introduces "good" and "bad" carbohydrates.

The body metabolises simple ("bad") and complex ("good") carbohydrates very differently. Although Dr Atkins and Professor Ornish agreed that too many people eat too many simple carbohydrates, they disagreed on the solution. Atkins advocated replacing simple carbohydrates with high-fat, high-protein foods, such as bacon, sausage, butter, steak, pork rinds and cheese. Telling people what they want to believe is partly the reason for the Atkins diet's popularity.

Dr Atkins was partly right in saying that too many "bad carbs", such as sugar, high-fructose corn syrup (sweetener used in the processed food industry), white flour and white rice may promote weight gain and chronic diseases. But his prescription was wrong. The solution is not to go from refined carbohydrates like white pasta to pork rinds, and from sugar to sausage, but to replace refined bad carbohydrates with unrefined good carbohydrates.

Good (unrefined, complex) carbohydrates include fruits, vegetables, whole grains, legumes, nuts and soy products in their natural unrefined forms. They are also high in fibre, which fills you up before you consume too many calories. Fibre also slows down digestion and intestinal absorption, helping to keep blood sugar within a normal range.

The "glycaemic index" is a measure of how much a given food will raise blood sugar, that is, how fast a carbohydrate in food is converted to glucose. Good carbohydrates have a low glycaemic index and bad carbohydrates have a high glycaemic index.

"Glycaemic load" takes into account both a typical serving size and how quickly the food is absorbed. This is probably a better indicator (than glycaemic index) of how foods will affect blood sugar.

A carrot, for example, has a high glycaemic index but a low glycaemic load, because its carbohydrates are absorbed rapidly but there aren't many of them. Glycaemic load is the amount of carbohydrate in a food serving multiplied by that food's glycaemic index. So although the glycaemic index of a carrot is about the same as that of a baked potato, the latter's glycaemic load is much higher because a potato is very dense in carbohydrates, whereas a serving of carrots doesn't contain many carbohydrates. **Eating a baked potato therefore causes a sharp rise in some people's blood glucose whereas a carrot does not.** This important distinction is not always clear to diabetics. The accompanying table illustrates this.

Food (serving size)	Carbohydrate Content (in grams)	Glycaemic Index (percent expressed as decimal)	Glycaemic Load (rounded to nearest tenth)
Potato (1 baked)	37	1.21	45
Carrots (½ cup cooked)	8	1.31	10
Lentils (½ cup cooked)	20	0.41	8
Dry beans (½ cup cooked)	27	0.60	16
White rice (½ cup cooked)	35	0.81	28
Wild rice (½ cup cooked)	18	0.78	14
White bread (2 slices)	24	1.00	22
Whole-grain bread (2 slices)	24	0.64	15
White pasta (1 cup cooked)	40	0.71	28
Whole-grain cereal (1 cup)	24	0.60	14
Cornflakes (1 cup)	26	1.19	31
Raisins (½ cup)	47	0.96	45
Corn chips (1 oz)	15	1.05	16
Popcorn (air-popped, 1 cup)	5	0.79	4

Bibliography

1. Division of Preventive Medicine, Brigham and Women's Hospital, Harvard Medical School. 2. International Tables of Glycemic Index. Am J Cl Nutrition 1995; 62:8715-935. 3. Netzer Corinne T. The Complete Book of Food Counts. 2000; 5th ed. Dell: New York.