

## Be Wary of "Calorie Blockers"

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Many people wish that a pill or potion could counteract the effect of eating more than one needs to maintain weight. Many thieves cater to this wish by selling "miracle" products claimed to block the absorption of food components.

In the early 1980s, "starch blockers" were claimed to contain an enzyme extracted from beans that could block the digestion of significant amounts of starch. The enzyme works in the test tube, but the human body produces more starch-digesting enzymes than these products could possibly block. In addition, undigested carbohydrates that reach the large intestine can ferment and cause trouble. In 1982, the FDA received more than 100 reports of abdominal pain, diarrhea, vomiting and other adverse reactions among users of "starch-blockers." As the reports poured in, the agency took regulatory action and drove most of these products from the marketplace.

During the early 1990s, Cal-Ban 3000 was said to cause "automatic" weight loss by decreasing appetite and blocking the absorption of fat. Its ingredient was guar gum, a soluble fiber used in small amounts as a thickener in sauces, desserts, syrups, and various other foods. Guar gum has some medically recognized value as a bulk laxative, a cholesterol-lowering agent, and an adjunct to controlling blood sugar levels in certain diabetics. But it has not been proven effective for weight control.

When taken by mouth, guar gum forms a gel within the stomach that may contribute to a feeling of fullness and block absorption of a few nutrients. However, neither of these characteristics is enough to produce weight loss. Many overweight people keep eating even when their stomach signals that it is full. Moreover, if food absorption is decreased, the individual may eat more to compensate.

But Cal-Ban tablets were not merely ineffective. When placed in water, they would swell to 4 or 5 times their original size and assume the consistency of putty. The U.S. Food and Drug Administration collected reports of at least 17 cases of esophageal obstruction among Cal-Ban users. Hospital stays were required by ten of these people, one of whom died. Other reports of harm involved stomach obstruction, upper and lower intestinal obstruction, nausea, and vomiting.

Extracts of *Gymnema sylvestre*, a plant grown in India, are alleged to cause weight loss by preventing sugar from being absorbed into the body. Chewing the plant's leaves can prevent the taste sensation of sweetness. But there is no reliable evidence that the chemicals they contain can block sugar absorption or produce weight loss.

In recent years, chitosan capsules have been claimed to cause weight loss and lower blood cholesterol by binding fats in the stomach and preventing them from being digested and absorbed. Some sellers refer to chitosan as a "fat magnet." It has even been marketed as a weight-control product for dogs. Chitosan is derived from chitin, a polysaccharide

found in the outer skeleton of shellfish such as shrimp, lobster, and or crabs. Although chitosan may decrease fat absorption, the amount contained in the capsules is too small to have much of an effect. Scientific studies have found no significant differences in weight or serum cholesterol levels between subjects who took chitosan and those who received a placebo.