SCIENCE SET

Foods, Fads, and Fun

Diet plans offer weight loss, but may hold danger and disappointment

STUART HUTSON The Battalion

While some people spend the summer basking in the sun poolside in as little clothing as is legally permissible, others huddle in air-conditioned rooms and cover as much of their bodies as they can.

For these self-conscious souls, promises of "lose 30 pounds in 30 days" and "fast and easy weight loss" may seem like godsends. But it is hard to say whether those promises are really true or even safe.

"There is controversy in everything," said Dr. Steven E. Nizielski, a

Texas A&M assistant professor of huto to the fats and proteins." man nutrition. "Many issues regarding effective methods for weight loss have vet to be resolved.

While almost every fad diet has some way of making people look or feel slimmer, Rhoda Rahn, a health/nutrition education specialist at A.P. Beutel Health Center, said it is important to know as much as possible about a diet before choosing it.

"People need to know what they are getting into, and that, in the end, it will be a healthy balance of healthy eating and exercise that will make the difference for the rest of their lives," she said.

High-protein diets

High-protein diets offer the dieter as many fatty, high-protein foods (such as steak or hamburgers) as he or she wants to eat, but restrict intake of high-carbohydrate foods such as breads and sugary treats.

Embodied in such forms as "The Protein Power Plan" and "Dr. Atkinson's New Diet Revolution." this form of dieting has recently drawn worldwide attention.

"Your body gets energy from carbohydrates, fats and proteins," Rahn said.

"It usually first burns the carbohydrates [in the form of glucose in the blood] and then moves on to fats and proteins. These highprotein diets eliminate the first step and make your body skip straight

Nizielski said the increased protein intake may be greatly beneficial if done an undue strain on the kidneys, which in moderation.

"The majority of the protein taken in by the body is usually used to make new tissue, but any above the amount needed is turned into fat, which can be used for energy," he said. "But reasonably increased amounts while dieting can help a person keep muscle tissue that would have otherwise been lost. Plus, it has been shown that protein is most probably the most satiating of the three sources. Meaning that if you eat more protein, you will fill more full more quickly and want to eat fewer calories."

While the diet may cause the dieter to lose weight, Nizielski said it may eventually lead to health problems after long periods of time because of the high amounts of fat usually eaten by the dieter.

"Superseding all other effects, consumption of large amounts of fat has been strongly linked to heart disease — especially high consumption of saturated fat," he said. "There also have been some studies indicating that high consumption of fat also increases the chances of getting certain types of cancer."

The diet's elimination of carbohydrates causes decreased response of insulin, a hormone that tells fatty tissues and muscles to grow by absorbing sugar (glucose). While this may result in greater weight loss, Nizielski said it may also result in "insulin resistance," or the body's failure to respond to insulin's signal. He said this resistance is a precursor to Type II diabetes.

Rahn said the diet may also result in bohydrates help the body convert fat to energy.

The best idea here is to eat foods that are good protein sources but not extremely high in fat such as legumes and beans or things like fish," Nizielski said.

Cabbage-soup and broth diets

The cabbage-soup and other broth diets work on the principle that the dieter will fill up on low-calorie broth and eat just enough supplemental food to provide energy for the day.

Basically, you aren't really eating anything, so you don't get any of the three energy types," Rahn said. "Besides robbing you of energy, it is also robbing you of nutrients that you need. And really, you aren't losing fat, you are losing muscle and water."

Nizielski said the body loses water on these diets because a certain amount of carbohydrates along with water is stored for quick use. When the body consumes these carbohydrates, it also expends the water.

"Your metabolism also drops because your body gets used to fewer calories, so it's also more likely that you will actually put back on more weight than you took off after you stop the diet," Rahn said.

Liquid diets

Liquid diets such as Slim Fast have been around for decades and offer dieters the opportunity to lose weight by replacing one or more meals a day with a shake that conand little fat. 'These are



sensible diet plan because now they contain nutrients and other esdaily diet, but they tend to have one fatal flaw," Rahn said. "They usually request that a 'healthy

dinner' accompany a shake for breakfast and lunch, but it is so little food that the person is usually so hungry, he or she eats way too much.

Diet pills

Rahn said diet pills, such as Metabolife, work primarily through chemicals that speed up metabolism,

See DIETS on Page 4.

Fermilab detects fundamental particle of the universe

PATRICE PAGES The Battalion

PHOTOS BY ANDY HANCOCK/THE BATTALION

A fundamental particle, the tau neutrino, was observed on July 20 at the world's most powerful particle accelerator, the Tevatron, at the Fermi

National Laboratory in Illinois near Chicago. Among all the particles known to exist, the tau neutrino is the only one that was never observed until now, though it was believed to exist.

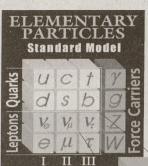
Neutrinos are an important building block of the fundamental particles," said Robert C. Webb, professor of physics at Texas A&M. "Unfortunately they are the hardest ones to make measurements of, to actually see in the laboratory."

theory called the Standard Model, which is the current description of the elementary particles of matter and their interactions.

Matter is made of only three Matter is made of only three particles, called up quark, down quark and electron.

A fourth particle, an electron neutrino, also exists, making what physicists call a fami-

Physicists have discovered today, there are two other fam-The tau neutrino plays an important role in a lilies of particles, each made of



four particles. The tau neutrino is one of the particles in the third family of particles. Although physicists knew that the tau neutrino existed, no one had ever seen one.

In 1995, an experiment called Direct Observation of the Nu Tau or DONUT, was set up to make the first direct observation of the tau neutrino. Fifty-four physicists from institutions in the United States, Japan, South

Korea and Greece are involved in this experiment, which started collecting data in 1997.

By using the Tevatron, tau neutrino physicists produced a beam,

supposedly containing tau neutrinos. This beam crossed the DONUT experiment, where tau neutrinos interacted with an iron target, producing particles called taus, which, if detected, reveal the presence of the tau neutrino.

Tau neutrinos very rarely interact with matter, so a lot of them had to be produced for them to be detected. About 100 trillion neutrinos have been produced by the Tevatron during the last three years. A careful analysis of the collected data has finally provided evidence of four tau neutrinos.

"It is a very difficult experiment," Webb

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See Particle on Page 4.

would like to know: HOW do cats purr? - Kimberly Collier, senior industrial engi-



Answer: Cats: the enigm animal kingdom. How doth on their feet? How do they their backs like that? And... they purr?

Well Kimberly, I'm sureth will be glad to know that question kept six veterinar dents at the small animal busy for a good hour. They p every student and vet they find, and finally came to a a sus on the answer.

Their answer was that, as anyone knows, cats purr by stricting the opening between lungs and throat, called the The constriction disturbs the flow, and the resulting turbul vibrates the cat's throat and cords. The sound of the vibrati a purr.

However, the six students m tain that this is only an educ guess because the only way to fy this theory is to stick ateleso scope down a cat's throat while purring. And, since puringisa untary action performed by the that usually indicates appeasem you can probably imagine it is tle hard to get a cat to pur w gagging it with a scope.

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Beverly Mireles, Editor in Chief

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Question: While walkingdo a street, it often happens that halogen lamp (the yellows lights) goes off just as one pa by it. Why does it go off in the place? Is it a coincidence the goes off just as you pass by it? —Vivek Gulati, graduate

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