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****Death in the fasting lane: anorexia nervosa/bulimia rates on the rise.

DALLAS--When singer Karen Carpenter collapsed and died in her parents California home several months ago, the public response was one of shock and disbelief. Reports revealed that the 32-year-old singer died of heart failure, linked to her long bout with the eating disorder anorexia nervosa.

While most consider anorexia nervosa a threat to immediate health, few may recognize the disorder as serious and, as Carpenter's case illustrates, even associated with fatality. Faculty members at the health science center say that anorexia nervosa is indeed extremely serious, and it appears to be on the rise.

One-third of anorexia patients may be cured, about one-third will do better but will continue to have problems off and on for much of their lives. One-third will live on in a state of malnutrition and with a warped perspective of the world. A few will die.

At the same time, bulimia, another eating disorder in which the sufferer gorges and then forces vomiting, is also being seen more and more.

Bulimics are "gorgers," while anorexics are "restrictors," says Dr. Dan Foster, professor of Internal Medicine at The University of Texas Health Science Center at Dallas. But both begin identically by dietary restriction. Foster says there are other commonalities between the two syndromes: both involve an intense fear of becoming fat; both involve bizarre eating patterns that can be disruptive to patients and their families; both include an unusual fascination with food.

Both types of patients also suffer from a distorted body image. They look in the mirror and see a different body than others see.

"But," says Foster, "the two syndromes are separate in the person's reaction to long-term restriction." And, because the bulimic's gorging does result in some absorption of food, weight loss is not so profound as with the anorexic.

The biggest danger to life is heart malfunction, says Foster. With extreme weight loss (approximately 25 percent of body weight) or inadequate nutrition, comes the threat of low blood potassium levels. A drop in potassium can cause abnormal heart rhythms and the possibility of sudden death.

"When a person loses more than 35 percent of his or her ideal body weight, death becomes eminent," says Foster.

For bulimics, other dangers such as aspiration of food within the lungs after vomiting, may lead to pneumonia or death by asphyxiation.

While anorexia and bulimia are similar, most physicians will agree that there are enough differences to merit treating them as separate and distinct.

ANOREXIA NERVOSA

Anorexia nervosa is a disorder in which control -- both lack of and desire for -- plays an important role, says Dr. Graham Emslie, assistant professor of Clinical Psychiatry at UTHSCD and director of the inpatient psychiatric unit at Children's Medical Center. Many

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patients say they literally feel as if they are coming apart. Much of the bizarre behavior on the part of the anorexic patient comes from this fear of losing control. The patient often develops rituals and rigid behavior in order to feel in control of his or her life -- perhaps for the first time.

This compulsive behavior may be expressed in performing certain physical tasks, such as cleaning, mowing the lawn, dancing, swimming or diving, with total concentration. Even the simplest act, like cutting up meat at mealtime, is performed as if the person were going through the intricate motions of a minuet.

Anorexia nervosa, says Dr. David Waller, associate professor of Psychiatry and Pediatrics and chief of Child and Adolescent Psychiatry at UTHSCD, spans medicine and psychiatry. Waller cites cultural ideals of the thin model or movie star as contributing to the surge of cases.

Anorexia nervosa can occur in both males and females; children, adolescents and adults may all be affected. Most commonly it occurs in middle- and upper-class adolescent girls over 16. In these cases, the onset of the syndrome usually occurs after the first menstrual period.

Unfortunately, says Foster, the disease often goes undetected until it's in the critical stage. Skinny legs and bony arms can be hidden with clothes. Water retention from malnutrition can obscure the disease by giving a "mock" fleshy appearance. Enlarged glands on the sides of the neck, another sign of malnutrition and starvation, can obscure the angle of the jaw.

Although anorexia is classed as a psychiatric condition, Waller says there may be biological relationships.

A whole spectrum of symptoms should be examined when diagnosing anorexia nervosa, Waller explained. Certainly rapid weight loss of around 20-30 percent of body weight is the overriding indicator, but attitudes and behaviors concerning weight and food also constitute critical factors.

Doctors should look for signs of a distorted body image. Waller says that some researchers have estimated the amount of distortion in the patient's body image by projecting two light beams against a dark background in varying distances from each other. The doctor asks the patient to stop him or her when the lights indicate the size of the patient's own waist or hips. This exercise will give physicians an indication of how patients are seeing their bodies, however distorted their perception.

Anorexics tend to choose high protein diets with lean meats and fresh fruits and vegetables and take large doses of vitamins. This selective dieting, self-induced vomiting and use of purgatives are also clues of anorexia. Another indicator is an obsession with exercise.

One of Waller's hospital patients was discovered jogging beside his bed in the middle of the night. The psychiatrist says there often seems to be "an internal urge toward increased activity," and exercise may take on a ritualized aspect. With this "internal urge" may also come deceitful behavior to hide bizarre attitudes and actions, he added.

In women, cessation of menses relative to nutrition and weight loss, may also occur, says Waller. Immature patterns of luteinizing hormone (LH) secretion underly the disorder. (LH is necessary for ovulation.)

Waller finds other evidences of hypothalamic dysfunction in anorexics include impaired thermoregulation, which may leave the patient chilled when everyone else is warm; partial diabetes insipidus, a metabolic disorder that can lead to kidney problems, and a reduction in pulse and blood pressure. In addition there is an increase in soft, downy, light-colored body hair.

Foster says laboratory findings in anorexia nervosa patients are typical of severe malnutrition. Bone marrow, normally a semi-fluid, becomes gelatinous. Occasionally the skin has a scaly or dirty look and patients tend to be constipated and have abdominal pain and sleep disturbances.

Waller stresses the importance of carefully investigating the possibility of other organic diseases when examining a patient suspected of anorexia. The syndrome may be associated with other medical problems such as brain tumors or seizure disorders, sometimes combined with headaches and panic attacks, and chronic inflammations in the gastrointestinal tract. Treatment should include psychiatric,

medical and nutritional help.

Emslie uses a battery of psychiatric tests, interviews and physical exams in evaluating the suspected anorexic. At Children's Medical Center's short-term inpatient unit, special therapeutic techniques are part of the regimen for patients with anorexia. Psychiatrists, social workers, nutritionists, nurses, teachers and play therapists are part of a therapeutic team trained to work with children and adolescents.

Psychiatry will open a weight disorders clinic this fall at Children's to treat anorexia, bulimia and obesity patients.

"All of the patients I have seen," says Emslie, "have had problems relating to people and with their own self-images and problems with individuation, separation and a sense of identity.

There are also striking similarities in their personalities," he says, and Waller points out that anorexics often look alike.

The young female with anorexia has been referred to in the past as a "golden girl," Emslie says. She was a compliant child, always wanting to please everyone. She is intelligent, competitive and excels in many different areas from schoolwork to dance or sports. The occasional young man with anorexia will also fit this pattern.

He describes the typical family with an anorexia patient as "enmeshed. Everyone is highly involved with each other, and the patient may have trouble separating himself or herself from others in the family."

A question that intrigues Emslie and Waller is the relationship of the patient to pain. The anorexia patient is hungry and suffers greatly from hunger pains, especially in the earlier stages. It appears, however, that at a certain stage of starvation, the victim of anorexia actually glories in the pain and then may not feel it anymore.

As with runners who experience a "high" or deadening of pain during strenuous exercise, the physicians suspect that the same thing may be taking place with the anorexic. With runners, this high is associated with the secretion of endorphins, natural morphine-like substances in the brain that connect with morphine receptors on brain cells to produce an analgesic effect. Emslie and Waller are interested in pursuing research with Dr. Sandy Kiser, associate professor of Psychiatry at the health science center, to investigate two endorphins, beta endorphin and met-enkephalin, and their secretion in anorexia patients. These two endorphins might possibly be "blocked" by drugs, giving anorexics back their hunger pains.

If a patient is suffering from extreme malnutrition, tube feeding may be needed, says Emslie. He believes that this is best done by the physician treating the patient medically. Close collaboration between the pediatrician and the psychiatrist at Children's during this stage can often mean the difference in whether psychiatric help can be started immediately or whether it will have to wait until the patient is out of physical danger.

BULIMIA

Chronic binge-and-purge behavior is being enacted daily by large numbers of young women across the country. Usually they are highly motivated, between the ages of 17 and 30 and demand perfection in themselves, says Foster. But for these women, a desire to be thin becomes a desperate fear of becoming fat. Often they are brought into physicians' offices by families who can't deal with their obsession with food and their bizarre eating habits.

Foster thinks the disorder probably stems from psychological origins even though hormonal changes and physical complications are sometimes present.

"For the bulimic, the drive to eat can eventually no longer be held in check," Foster explained. "They resort to gorging, followed by vomiting or the use of laxatives or diuretics, as a response to failure of restriction.

"Theirs is an irresistible urge to eat coupled with a marked fear of becoming fat," he said.

Bulimics often succumb to something similar to the "first drink phenomenon" known to alcoholics. They resist food for a time, but with one bite of a carbohydrate the ability to control their diet is

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destroyed.

Ironically, neither vomiting, laxatives nor diuretics are efficient in holding down weight. Gradually the bulimic's weight will come back up to normal.

Bulimics typically gorge on carbohydrates, which are rapidly absorbed by the body, says Foster. Binges, which may amount to 20,000 calories or more, may take four to eight hours to consume. By this time, purging is ineffective, he says.

Tooth problems are common among bulimics because of the high sugar content of their diets. Aspiration of food within the lungs after vomiting may lead to pneumonia or death by asphyxiation. But, as with anorexia, the biggest threat to life is heart malfunction from low potassium levels.

Bulimia can be just as self-destructive as anorexia, says Foster. Those in the bulimic phase show impulsive behavior -- antisocial and anti-self. There is significant incidence of self-mutilation or suicide attempts. One young bulimic spoke mentally sound while undergoing an initial examination. But when she removed her blouse there were about 500 razor blade slashes running parallel up her arm.

Emslie says that there may be more depression associated with bulimia than anorexia. "It is especially important to know which syndrome you are dealing with because this may give you a clue about treatment."

The director of the CMC psychiatric unit says that although bulimia is increasing in our culture, he does not see nearly so many of his young patients, usually under 16, with bulimia as with anorexia, say a five-to-35 ratio. On the other hand, researchers at a recent symposium on adult eating disorders sponsored by the Psychiatric Institute Foundation, reported that bulimia is far more common than anorexia in the adult population. However the researchers agree that adults with bulimia differ from those with anorexia in that they are usually aware their behavior is not normal and want to change.

"Patients with bulimia tend to hide the fact that they are vomiting and purging to take care of an out-of-control eating problem. Also confusing the picture is the fact that even though patients vomit their food as soon as possible, a great deal is absorbed; they are not likely to die from starvation," says Emslie.

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Dr. Frederick Guggenheim, an associate professor of Psychiatry at UTHSCD who works with adult females who have anorexia or bulemia, says both disorders really impair the afflicted individuals in "their living, loving and working.

"It is really the upwardly mobile social classes that have this weight consciousness," says Guggenheim. "Indeed, if you see a woman who is overweight, chances are she's lower middle-class, and if she's a little underweight, chances are she's upper middle-class. Thirty five to 40 percent of the lower middle-class population tend to be overweight, while only five percent of the women in the upper-middle class fit this classification."

Whether anorexia or bulimia, all doctors tend to agree about the seriousness of these problems. As Karen Carpenter's death so keenly illustrates, the disorders can be extremely destructive without professional intervention.

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