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When Dieting Courts Disorder

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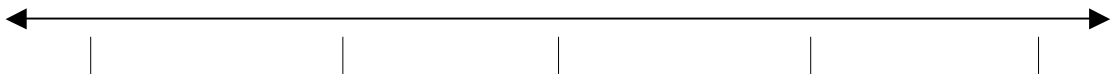
Eating disorders are the third most common chronic illness in adolescent females after asthma and obesity. The peak ages of onset are fourteen and eighteen years and, on average, it takes seven to thirteen years of being ill before a young person voluntarily seeks treatment. In cases unresponsive to therapy, up to twenty percent of patients will die as a result of starvation, cardiac arrest, or suicide. This is the highest mortality rate of any psychiatric illness. While there has been increased pressure on males over the last decade to attend to body image, this has been associated with increased body-shaping practices like weight-lifting, exercise, and steroid or other substance abuse rather than weight-loss practices like dieting. Hence the proportion of females to males who develop anorexia and bulimia has remained relatively stable at nine to one. More women than men also develop binge eating disorder, but the ration is lower at three to two. Eating disorders continue to affect primarily females.

Continuum of Eating Regulation Responses

We can think of eating patterns on a continuum with balanced, appetite-responsive eating at one end and eating that has become consistently disconnected from appetite and other body signals at the other end.



Balanced eating responsive to appetite	Occasional overeating or skipping meals	Stress-related overeating or undereating	Frequent bingeing or fasting. Severe dieting	Anorexia, Bulimia, Binge Eating

Most people's eating patterns move along this continuum somewhat, but girls are more vulnerable to developing more extreme eating patterns. Girls develop more body fat as they reach puberty while boys develop more muscle. This natural development takes girls in the opposite direction of the cultural ideals of thin "toned" bodies for females, while it takes boys in a direction consistent with the cultural ideal of muscular bigger bodies for males. Girls are put at odds with their own body development, which makes them vulnerable to dieting and related practices. Nearly all eating disorders begin with dieting. In Ontario, by grades seven and eight, sixty percent of girls have dieted to lose weight (McVey, et al., 2002).

Anorexia Nervosa

Anorexia is characterized by:

- Refusal to maintain body weight at or above 85% of expected weight for age and height
- Intense fear of gaining weight
- Disturbance in the way in which one's body weight or shape is experienced, undue influence of body weight or shape on self-evaluation, or denial of the seriousness of the current low body weight
- Amenorrhea in post-menarchal females

On average it takes seven to thirteen years before a young woman will voluntarily seek treatment, meaning that if she develops anorexia around age fourteen, she will be twenty-one to twenty-seven before she seeks treatment on her own. Recovery itself takes on average five to six years. Although relapses are common, seventy percent of adolescents have been reported to recover (Sullivan, 1995; Strober, 1997).

Bulimia Nervosa

Bulimia is characterized by:

- Recurrent episodes of binge-eating characterized by a lack of control over amounts and types of food eaten within a discrete period of time,
- Recurrent inappropriate compensatory behavior, including vomiting, extreme exercise, and the use of laxatives or diuretics, in order to prevent weight gain (purging),
- Self-evaluation is unduly influenced by body shape and weight, and
- Bingeing and compensatory behaviours that both occur on average, at least twice a week for three months

Eating Disorder Not Otherwise Specified

Fifty percent of eating disorder diagnoses fall into this category.

- For post-manarchal females, all of the criteria for anorexia nervosa are met except that the individual has regular menses.
- All of the criteria for anorexia nervosa are met except that, despite substantial weight loss, the individual's current weight is in the normal range.
- All of the criteria for bulimia nervosa are met except that binge eating and inappropriate compensatory mechanisms occur at a frequency of less than twice a week or for a duration of less than 3 months.
- The regular use of inappropriate compensatory behavior by an individual of normal body weight after eating small amounts of food (eg; self-induced vomiting after the consumption of three cookies, or a five mile run for having two bowls of broth).

- Repeatedly chewing and spitting out, but not swallowing, large amounts of food.
- Binge eating disorder: recurrent episodes of binge eating in the absence of the regular use of inappropriate compensatory behaviors characteristic of bulimia nervosa.

Binge eating disorder is often associated with anxiety and depression and affects twenty-five to thirty percent of the obese population.

Food Avoidance Emotional Disorder

For young children, another eating pattern should be considered. Known in Britain as "food avoidance emotional disorder" the term has not been formally adopted in North America to date. It is characterized by:

- Selective eating of a narrow range of foods for at least 2 years
- Unwillingness to try new foods
- Fear of swallowing, choking, or vomiting
- Profound refusal to eat, drink, walk, talk, or self-care
- Determined resistance to efforts to help
- Food avoidance not accounted for by primary affective disorder
- Weight loss
- Mood disturbance not meeting criteria for primary affective disorder

FAED is different from anorexia in that there are no abnormal cognitions regarding weight or shape and no morbid preoccupation regarding weight or shape (Bryant-Waugh, 2000).

Diagnostic Issues in Children and Adolescents

Only three percent of family doctors and thirty-three percent of pediatricians recognize

eating disorders in practice. For early-onset eating disorders, there are additional factors that contribute to delay in or failure to diagnose. One is a lack of awareness that children of younger ages can be affected. Because they may not have reached menarche, there may not be missing periods to tip parents off. Also, children and adolescents might lose only a small amount of weight, or simply stop gaining weight and still be in trouble. They should not be maintaining their weight or even losing a small amount because increased weight is required for growth in height, for puberty, and for organ development, including that of the brain. Young people may also make it difficult for others to realize their eating is troubled by concealing this from family and friends by, for example, throwing away lunches, making excuses about not being hungry, and wearing baggy clothing. As they do not have the developmental perspective that adults do, children and adolescents may think they are getting fat when they are just developing normally (Bryant-Waugh et al., 1992).

Risk Factors for the Development of Eating Disorders

There are no known specific causes of eating disorders, but we do know that a number of factors increase the likelihood that an individual will develop an eating disorder. These include cultural factors, namely living in a western or westernized society where there is an emphasis on appearance and the values of control, perfection, and independence, values that are believed to be reflected by certain body types: for women a slim "toned" body, and for men a more muscular body. Girls are especially at risk because puberty-related changes in their bodies put them at odds with this body and beauty ideal.

Puberty brings many other changes with it. There is increased pressure to

accommodate to socially prescribed roles for women and men. Increasing autonomy goes along with a shift away from family and towards peers. This is also a period of intense brain development. Accommodating to these changes can be overwhelming to those young people who already tend to be very anxious or perfectionist, characteristics that may have some genetic basis.

Teasing by peers, especially teasing about body weight has been associated with low body satisfaction, low self-esteem, high depressive symptoms and thinking about and attempting suicide *regardless of actual* weight (Eisenberg, Neumark-Sztainer, Story, 2003). These comprise additional risk factors for the development of eating disorders. Similarly, sexual harassment and sexual abuse may increase shame about the body and thereby increase risk. Medical conditions that bring increased attention to food intake and the body, like diabetes, also increase risk, as do activities that require limiting body size, weight, or shape, like ballet dancing, gymnastics, and wrestling.

Young people who are uncomfortable discussing their problems with their parents will have additional stress. Teens from immigrant families who are acculturating to western values may experience a split between family values and peer values. This may increase the difficulties involved in the transition from childhood to adolescence and simultaneously make it more difficult to discuss related problems with parents.

Finally, some research has shown that a maternal preoccupation with dietary restriction is also a risk factor (Francis and Birch, 2005). This may be related to the larger role that mothers have had in raising children, making their preoccupations more salient, to the fact that women have been under pressure to diet far longer than have men, or to the fact that the researchers did not ask about fathers' eating habits. In any case,

dietary restriction at home is a strong influence on children and is a risk factor for eating disorders.

Case Study 1

Sonya is a ten year old girl whose aunt died suddenly in a car accident one year ago. One month after her aunt died, Sonya began refusing breakfast, complaining of abdominal pain and soon after started bringing lunch home uncompleted. A visit to the family physician a week ago revealed that she had lost six kilograms and had not grown in height in over a year. Sonya's mom recently registered her in a dance class after she complained of being fat.

Questions to consider:

Is this a case of early onset anorexia nervosa or food avoidance emotional disorder?

What features would have to be different for your opinion to change?

What role does menstruation have in drawing your conclusion?

This is a case of early onset anorexia nervosa. It is distinguished from classic adolescent onset of anorexia by the absence of amenorrhea only due to age. It is distinguished from food avoidance emotional disorder by the presence of restrained eating and body shape concerns (Cooper et al., 2002).

Eating Disorders and the Family

The two medical practitioners who in the 1800's identified anorexia nervosa as an illness: Gull in England, and Lasegue in France, thought that an important part of successful treatment was taking the ill child away from the influence of her parents. More recently, family therapists like Salvatore Minuchin theorized that certain types of

families were more likely to generate anorexia in their children (Minuchin et al., 1978). This view has not been borne out by family therapy research, which has shown that there is no such consistent pattern of family structure or family functioning (Eisler, 2005). It is more likely that what at first appeared to be the cause of an eating disorder is actually an effect of it. Families who have a child with anorexia, similarly to those who have a child or other member with another chronic illness, become organized around the problem (Steinglass, 1998; Eisler, 2005) and this re-organization makes them look similar to one another. That is, the illness becomes the central organizing principle of family life. Families can get stuck in this new way of functioning, creating an impediment to wellness.

Eating-related issues become the currency of family relationships, replacing previous centers of relating. For instance, whereas previously a discussion of what happened at school may have been a regular dinnertime topic, now the eating or not eating, or leaving the table to purge is on everyone's minds.. Family members may make personal interpretations of what is or isn't eaten, as in "You're just trying to upset me by not eating," and "You're tying to make me fat." Because of the life-threatening nature of the illness, the family is focused on the here and now – each meal is a new and urgent situation that brings attention back to the moment at hand. The family can only fantasize about a day when they will again be able to joke with one another and laugh in a carefree way, or dream together about great places for a vacation (Eisler, 2005).

Family members often describe themselves as "walking on eggshells" around the child with the eating disorder. Their ways of interacting with the child may appear rigid and this is not necessarily an indication of how they were as a family previously. If their

daughter will eat only low fat strawberry yogurt, then a parent will rather make an extra trip to the grocery store at night to make sure the fridge is stocked with it than expect their daughter to eat what is available. Parents are often afraid that doing anything differently or having new expectations will just make things worse, that is, their daughter will eat nothing instead of something.

Because the family is under great stress, each member is likely to respond by doing more of what they usually do when stressed. If mom is usually responsible for the children, she will throw herself more intensely into this role. If dad generally uses work to deal with family stress, he may spend even more time at work. If a parent typically uses a substance as a way of dealing with stress, he or she may use this coping mechanism even more. Siblings may spend more time at friends' homes or more time in front of the television set, or may get more involved with after school activities. Families also become less able to meet the different needs of their members: decisions about university get put off, vacations get cancelled, holiday celebrations are modified, siblings have to do without having parents at their school or sports events, parents have to stay more involved in their teenager's life than would be usual, and so on. The whole family is less able to move forward and everyone feels a loss of control and helpless. This includes the young person with the eating disorder, whose life has become very tiny and repetitive and who believes her only sphere of control is with food (Eisler, 2005).

Family-Based Approach

The best evidence currently available suggests that for children and adolescents with anorexia, a family-based approach is most effective, particularly for those who have been

ill for less than three years (Russell et al., 1987; Rutherford and Couturier, 2007). The principles of this approach are the same across the age range, but are implemented in a way that is respectful of the developmental stage of the young person. It is different from traditional family therapy in that the role of the therapist is to support the parents in refeeding their children and getting them back on the road to normal development.

During the first, or symptom-oriented, phase of this treatment, the goal is for parents to take responsibility for managing the illness-specific behaviours of their child while other family or individual problems are ignored. Parents are told in an appropriately grave manner about the devastating nature of the eating disorder but are absolved of any blame for the child's eating disorder. Then they are informed that the therapist has expertise, but no answers, and it is only them who can get their child well (Lock et al., 2002). The therapist helps the parents understand that they must be united in their approach to the eating disorder and that they will have to take charge of their child's re-feeding even if she is in her teens, due to a regression caused by the eating disorder. A direct observation of a family meal is held early on in the first phase of therapy, during which the therapist makes observations and some suggestions to the parents who must find some way to help their child eat a little more than the she will agree to at first.

In the second, or family relationships-oriented phase, a focus is maintained on continuing to establish healthier eating patterns and adequate weight. In addition, the "role" of anorexia in the family context is addressed and any problematic long-term and trans-generational family patterns are challenged. At this time internal and external resources for continued healing are identified and new goals for the work are made (Lock et al., 2002).

The final phase, which is autonomy and future-oriented, addresses issues of personal autonomy, which are likely to occur as the young person's development moves forward again, for example, issues of curfews. While other family business is the focus during this phase, the therapist still attends to how the family is managing eating issues, to relapse prevention, and to early identification of warning signs (Lock et al. 2002).

Research shows that a short-term course of six months of the family-based approach is as effective as a longer-term course of twelve months for adolescents who have been ill for a relatively short time. One year of this work is preferable to six months for non-intact families and for those with more severe eating-related obsessive compulsive thinking (Lock et al., 2005b). Follow-up research shows that those who are doing well after six months or after twelve months continue to do well many years later. Family-based therapy for eating disorders is available as individual family therapy or as a multiple family group therapy.

Is There a Role for Individual Therapy?

There is very little research testing different individual psychotherapies for adolescents with anorexia. A recent study of late adolescent and adult subjects tested three psychotherapies: cognitive behavioural, interpersonal, and nonspecific supportive clinical management. It was expected that CBT would be superior, but in fact non-specific supportive clinical management was best. This therapy provides education, care, and support while fostering a therapeutic relationship that promotes adherence to treatment. The aim is to assist the patient through use of praise, reassurance, and advice (McIntosh et al., 2005).

For bulimia, individual cognitive behavioural therapy is considered the treatment

of choice for adults, but there is very little research regarding teens with bulimia. The research available currently shows benefits coming from cognitive behavioural therapy and from family-based treatment (Rutherford and Couturier, 2007). Cognitive behavioural therapy for bulimia can be adapted to make it more teen-friendly (Lock, 2005).

Case Study 2

Jenna

Jenna is the sixteen-year old daughter of a mother and father who are well to do and busy at a very demanding jobs. She began dieting with her friends in high school and won their admiration for losing the most weight. At a party one night she ate and drank more than usual and then vomited. Jenna began bingeing and purging regularly and regained most of the weight she had lost. She started socializing with a group in the grade above hers that spends most weekend nights drinking. One of Jenna's old friends got worried about her and told Jenna's mom about the drinking, bingeing, and purging.

Questions to consider:

How would you advise Mom about how to help Jenna?

Would you recommend family therapy for this family?

Might a medication be helpful for Jenna?

Either cognitive behavioural therapy or family-based therapy could be helpful to reduce or eliminate bingeing and purging. However, because Jenna's behaviours put her at significant risk for death, family-based therapy would be the best choice at least for the first phase of her treatment. Abusing alcohol along with bingeing and purging is a particularly toxic combination, because their combined impact puts Jenna at risk of heart

failure. Her parents should be informed about the dangers of bulimia and substance abuse and learn practical ways that they can help Jenna to stop her risky behaviours and to recover from bulimia. While the SSRI Fluoxetine has been helpful in stopping bingeing, Jenna could not be prescribed this medication until there is reasonable certainty that she will not be drinking at the same time as using it.

Dangers of Eating Disorders

Eating disorders wreak havoc on the person. There are changes in brain chemistry with psychological effects of moodiness, irritability, and difficulties concentrating; bones can become osteoporotic; heart rate and blood pressure become lower and the heart can fail; blood may be anemic and body fluids may become depleted of potassium or sodium creating risk of heart changes or failure; kidneys may fail; digestion is slowed and bloating and constipation are common; hormonal changes can result in amenorrhea and may contribute to bone loss and problems growing; and skin bruises easily, nails become brittle, and hair may fall out. It is common for children and teens with eating disorders to become socially isolated. These physical, psychological, and social effects together cause a regression for the young person just at a time when there would usually be intense development. If the eating disorder is not treated early on the impact of this regression is likely to be magnified and this in turn will contribute to the illness becoming chronic.

A significant portion of young people with eating disorders have co-existing conditions, most commonly depression, obsessive-compulsive disorder, and anxiety disorders. Depression may be pre-existing or a consequence of starvation and social

isolation. Co-existing conditions may be treated simultaneously with the eating disorder so long as the child or teen is medically stable and not in an acute starvation state.

A hospital admission must be considered when any of the following features are present on physical examination or in blood work as they may indicate medical risk (APA Guidelines July 2006)

- weight < 85% or BMI < 17.5 kg/m2[1] (problems with BMI)
- heart rate near 40 bpm (HR <50 bpm daytime; <45 bpm at night)
- orthostatic hypotension with an increase in pulse rate of > 20 bpm (at HSC this has to be > 35 bpm for inpatient admission)
- BP of > 10-20 mm Hg/min drop from supine to standing
- BP < 80/50 mmHg
- Hypokalemia, 3mmol/l, Hypophosphatemia < 0.5 mmol/l, hypomagnesemia < 0.5 mmol/l
- Generally rely more on combination of problems
- QTc prolongation from ECG.

There are also psychiatric indications for admission which include:

- Acute food refusal
- Uncontrollable bingeing and purging
- Acute psychiatric emergencies (e.g., suicidal ideation)
- A comorbid diagnosis.

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Case Study 3

Graeme

Graeme is 14 years old and has lost twenty-five percent of his body weight rapidly over three months. He threatens suicide when asked to consider increasing his nutritional intake, counts calories, and is extremely concerned about fat. On examination, he presents with bradycardia, hypotension, and prolonged QTc. He refuses to eat anything whatsoever in hospital. Graeme appears guarded and depressed and has isolated himself from other patients. Often he can be seen engaging in counting rituals and washing his hands.

Questions for Discussion:

Which co-existing conditions would you consider?

How would you treat the co-existing condition(s)?

Would you consider the use of medication for the eating disorder? If so, which medications?

Are there any adverse effects you would screen for?

What risks would you discuss with Graeme and his family?

Graeme is in hospital because of the impact of rapid weight loss on his body systems, which are showing serious stress. Because he is refusing to eat anything at all, he may need to be fed through a nasogastric tube, which will involve challenging his capacity to make decisions. His doctor may declare him incapable, which is to say that Graeme is unable to appreciate the impact of his health-related decisions on his life. In this case his parents will likely become substitute decision makers and may then give consent for the tube feeding. Because Graeme's feelings about eating more are so intense

that he feels suicidal, he may benefit from a medication that makes him less anxious about eating and weight gain. The two types of medication that have been found helpful are SSRI'S and Atypical Neuroleptics. Fluoxetine or Prozac is the only SSRI that is approved for use with children and adolescents, however, there is evidence to suggest that it is not effective with those who are very low weight. Olanzapine and Risperidone are the atypical neuroleptics that have been found helpful for children and teens respectively, when used in very small doses. However, there is evidence that they may cause prolongation of QTc interval, which is already prolonged in Graeme's case. If Risperidone were to be tried with Graeme, he and his parents would need to be told about this risk. If they agree to try the medication, adverse effects would be screened for using a regular testing protocol. It is possible that Graeme also has obsessive compulsive disorder, given his counting rituals and handwashing. Risperidone could be helpful with this as could be individual therapy, but the latter would be more likely to be helpful once he is out of the acute state he is currently in.

Suicidality

Those with anorexia tend to have a higher frequency of suicide attempts than those with bulimia. Previous studies have found suicidality to be more likely in the binge/purge subtype than in the restricting subtype of anorexia. One finding of interest is that among subjects with anorexia or bulimia, attempters and non-attempters differed on measures of personality characteristics and interpersonal relations and not on measures of eating-related symptoms or attitudes[2]. The results from this study suggest that particularly in bulimic women, those who saw themselves as lacking in self-efficacy, had more difficulty identifying internal states, and were distrustful of others, were more likely to

have made a suicide attempt. Among those with anorexia, those who saw themselves as lacking in self-efficacy were most likely to have made a suicide attempt. (Favaro & Santonastaso, 1997).

Treatment

Anorexia

There are inpatient, day hospital, and outpatient programs for the treatment of eating disorders. In Canada there are currently no residential treatment programs for children and teens, with the exception of Homewood Health Centre in Guelph which does accept teens who are over sixteen. To choose the best treatment for an individual, it is necessary to consider: the child or teen's physical condition, the degree to which the eating disorder is incapacitating her at home, with friends, and at school, and her own motivation to change and insight into the illness.

Graeme is medically unstable and therefore must be cared for in an inpatient setting. He lacks insight into his illness and is actively refusing to participate in treatment, which makes him pre-contemplative in terms of motivation to change. His parents will need to be educated about the nature of eating disorders so that they can understand what their role will be in helping him to recover. Graeme will be depending on them for this and he may need them to support him very directly at meals for up to a year or more. Once Graeme is medically stable and has reached his goal weight[3], he may continue his recovery process in an outpatient setting, where his parents will continue to be involved and where any co-existing conditions, like obsessive-compulsive disorder, will also be treated.

Outpatient treatment may be in a hospital setting where medical and mental health

service is combined, or it may be in the community where these services are accessed separately (e.g. family doctor or pediatrician, family therapist, dieititian, and individual therapist). The treatment may be an individual family-based or multiple family-based approach. In either case, a family-based approach as described earlier would be the family intervention of choice. For Sonya, the ten-year old who recently lost an aunt, individual family-based work would be ideal because that approach can successfully be applied to younger children (Lock et al., 2006) and because her age makes it less likely that she would benefit from multiple family group work since, there, most of the other young people would be older than she is, on average between fourteen and eighteen.

Multifamily group work begins with an introductory session followed soon after by a four-day intensive. Over the period of a year following, six full-day follow-up sessions are held at intervals of 2 weeks to two months. It helps break the isolation of families by bringing them together in a context where they can support one another. A big advantage of outpatient work is that the child or teen is able to continue at her regular school, misses a minimum number of days for appointments or group meetings, and is able to keep up with friends from school, minimizing social isolation.

Teens who have been inpatients more than once, or have failed to gain weight in an outpatient setting, should be considered for day hospital treatment. Their development is compromised by their lack of weight gain and it is important that they not be left in this limbo for long. Day hospital is attended by teens between the ages of thirteen and eighteen, Monday through Friday for an average of six months. They have all of their meals and snacks in the program, which gives their usually beleaguered parents a break. They have semi-weekly medical checks and learn to enjoy a great variety of foods. They

are able to attend school within hospital and benefit from an intensive group therapy and family therapy program. Individual therapy is also available. At home on the evenings and weekends, they can stay in touch with friends and be part of their families.

Whatever type of treatment a young person is involved with, she will go through a period of intense behavioural protest against the treatment, once it begins to succeed at helping her to eat (Lask, 2000). She will not like gaining weight, even if at some level she knows she must and is secretly relieved that her parents are helping her to do so. During this period of time, which may be most intense for about three months, but can continue up to six months or more, it is likely that she will be angry and possibly aggressive with her parents, deceptive about her eating practices, and will try to "scam" when having her weight taken. For instance, she may drink copious amounts before being weighed or fix small but heavy items onto her body so that she appears to weight more than she does. It is important that the family doctor or pediatrician have experience with eating disorders and takes precautions against these deceptions. It is also helpful if the teen is not informed of her weight.

At meals, the child or teen may try to eat less than she needs by keeping her parents at a distance so that they cannot see what she eats, by hiding food, crumbling it, refusing it, or vehemently arguing with parents about the food until they tire and relent. All of these behaviours are expressions of the young person's fear of giving up her illness and are to be expected, but not accepted. At meals it is helpful if to keep conversation light and general and to watch for hiding of food. Meals and snacks should take place within a specific time frame and a plan should be made with professional help regarding how to deal with food refusals.

Bulimia

There is little research on treatment of adolescents with bulimia, however, it is generally more susceptible to outpatient treatment and the current guidelines of the National Institute for Clinical Excellence (NICE 2004) identify cognitive behavioural therapy as the treatment of choice for adolescents with bulimia. One recent study showed that a family-based approach adapted for bulimia was superior to supportive psychotherapy in relation to greater symptom remission by the end of treatment and a more immediate reduction in Eating Disorder Examination scores. At six-month follow-up, this advantage was maintained, but no longer statistically significant ((Rutherford and Couturier, 2007). A case series using CBT adapted especially for teens showed results similar to those expected in bulimic adults treated using CBT. Finally, a randomized control trial of family therapy vs. cognitive behaviour therapy guided self-care for teens with bulimia and related disorders showed that CBT guided self-care had an advantage in offering more rapid reduction of bingeing, lower cost, and greater acceptability for the teens themselves (Schmidt et al., 2007).

Binge Eating

Even less research exists for adolescents who binge-eat. As with bulimia, it is predicted that CBT will be effective for teens as it is with adults, but there are currently no published reports. It has been suggested that dialectical behaviour therapy and interpersonal therapy may also be effective with binge eating disorder. As they target emotion regulation and relationships respectively, they focus on key areas of importance for teens.

Outcome in Anorexia Nervosa

A prospective fifteen-year follow-up study of adolescents with anorexia showed that three-quarters of the ninety-five patients fully recovered. The course of recovery was protracted, with a median time of seventy-two months. Thirty percent of the cohort progressed from anorexia to bulimia within five years of follow-up. Predictors of chronic outcome included early weight loss after hospital discharge, extreme pre-morbid social isolation, and extreme compulsivity in daily routines. The main predictor of binge eating was family discord (Strober, 1999).

Clearly there is a need for further research in this field. However, it is certain that eating disorders are damaging to the development of children and adolescents and should not be left untreated. The family is currently the greatest resource for those affected.

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[1] BMI is an indicator that further examination should be made, but it is not reliable as a single measure when used with children or adolescents.

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[2] The Eating Disorders Inventory was the psychometric tool used in this study with adult subjects.

[3] The goal weight will be a percentage of Graeme's "progress weight", i.e. the weight that Graeme would be now had he not developed an eating disorder. The progress weight will be estimated by the pediatrician and dietitian, and will be based on Graeme's family history and his growth charts from early childhood on. Progress weight may be changed as a child gets older to reflect the natural developmental process of increasing weight with increasing height. The "goal" weight of an inpatient stay will be a percentage of the progress weight, and will be decided by the treatment team based on an estimate of what will give him the best chance of making a full recovery once he is outside of hospital.