



Eating Disorders and Diabetes

If you are living with diabetes and experiencing disordered eating or an eating disorder, you are not alone. Anyone living with diabetes can be at risk of developing an eating disorder. Approximately one in 25 Australians has an eating disorder (1) and around one in 20 Australians has diabetes (2).

Type 1 diabetes

Eating disorders are more common in people with type 1 diabetes, when compared to their peers without type 1 diabetes (3, 4). While anyone living with diabetes can be at risk of developing an eating disorder, adolescent and adult females are most at risk. Eating disorders are twice as likely to occur in adolescent girls with type 1 diabetes than in those without (5). An increased risk also applies to disordered eating, with approximately 28% of adolescent girls and 9% of adolescent boys with type 1 diabetes experiencing disordered eating (6).

Type 2 diabetes

There is limited research on type 2 diabetes and eating disorders. It is estimated that between 12% to 40% of people with type 2 diabetes have an eating disorder (7). Binge eating disorder is the most common eating disorder in people with type 2 diabetes (8).

It is never advised to 'watch and wait'. If you or someone you know may be experiencing an eating disorder, accessing support and treatment is important. Early intervention is key to improved health and quality of life outcomes.

What is the link between eating disorders and diabetes?

There is a complex relationship between diabetes and eating disorders which differs between type 1 and type 2 diabetes.

Type 1 diabetes

Research suggests that type 1 diabetes is a risk factor in the development of eating disorders (9-11).

The management of diabetes involves an emphasis on diet, detailed meal planning, precision in food proportions and constant monitoring of food intake (in particular, carbohydrates) (12-14). These practices are associated with an increased risk of developing an eating disorder (12-14).

Research has shown that some people with diabetes develop fixations about food, find it difficult to maintain normal eating patterns, and may misuse insulin for weight management (12). One research study found that 60% of people with type 1 diabetes self-reported insulin restriction (15).

Apart from insulin misuse, people with co-occurring eating disorders and type 1 diabetes do not differ from people with eating disorders without type 1 diabetes. They share the same eating disorder symptoms including eating disorder behaviours, body dissatisfaction, perfectionism and drive for thinness (16).

Type 2 diabetes

The relationship between eating disorders and type 2 diabetes is not as clear, with less research on this association than in type 1 diabetes. It is thought that the relationship between eating disorders and type 2 diabetes is two-fold. Firstly, people with type 2 diabetes often follow dietary regimens (especially in people with higher weight) that may increase risk of developing an eating disorder. Secondly, eating disorders and disordered eating may lead to increases in body weight that, in turn, increase the risk of developing type 2 diabetes (7).

Insulin misuse may also occur in people with type 2 diabetes who are on insulin therapy.

Diabulimia

The term 'diabulimia' is a term often used informally to represent insulin misuse as a weight control behaviour and/or compensation for binge eating episodes in people with diabetes and an eating disorder. However, 'diabulimia' is not a medical/psychiatric eating disorder diagnosis and this term gives the false impression that the only eating disorder experienced by people with diabetes is bulimia nervosa. Insulin misuse among people with type 1 or type 2 diabetes who require insulin can seriously impact their health.



Risk factors and potential triggers

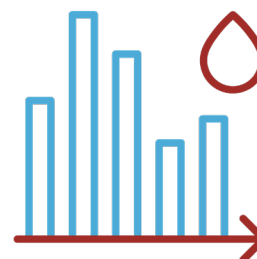
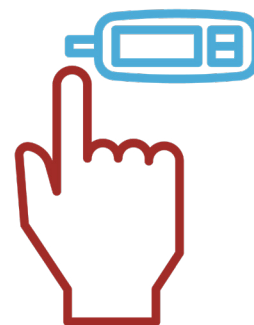
Risk factors and potential triggers of an eating disorder for people with diabetes may include:

- Fear of weight gain and desiring weight loss
- Having higher weight
- Weight increase as a result of insulin treatment in people with type 1 diabetes
- Emphasis on food and weight in diabetes management
- Transitioning from parental management to self-management of diabetes as a young person (adolescent/young adult)
- Concern over shape and weight/negative body image
- Feeling of a lack of control over one's body
- Difficulty coping with long-term condition of diabetes including prognosis, complications and management
- Poor self-image
- Withdrawing from interaction with family and supports

Warning signs

Warning signs for a person with diabetes who may be experiencing an eating disorder may include:

- Lessening attention to diabetes management
- Increasing secrecy about diabetes management including discomfort testing/injecting in front of others
- Fear of the impact of insulin on body weight
- Unexplained weight loss, gain or fluctuations
- Extreme fluctuations in blood glucose levels
- High to very high Hemoglobin A1c (HbA1c) on a continuous basis
- HbA1c inconsistent with blood glucose meter readings
- Frequent high or low blood glucose levels and/or diabetic ketoacidosis (DKA), possibly resulting in hospital admission
- Misusing insulin doses, or changing doses significantly or frequently
- Restricting certain food or food groups to lower insulin dosages



Health consequences

In addition to the health complications that occur with eating disorders and the complications that occur in diabetes, people experiencing both conditions face added health consequences.

People with type 1 or type 2 diabetes who misuse insulin can experience severe consequences to their health. The consequences are generally related to prolonged elevated blood glucose levels. This includes DKA, a dangerous and acute complication of diabetes that occurs when the body has reduced insulin (17).

Short-term consequences of insulin misuse include:

- Slow wound healing
- Staph and other bacterial infections
- Yeast infections
- Menstrual disruption
- Wasting or loss of muscle tissue
- Electrolyte imbalances

Long-term consequences associated with insulin misuse include (18-20):

- Loss of vision
- Kidney damage
- Liver disease
- Heart disease
- Foot problems

Many of these consequences can be fatal either over time (such as with kidney disease) or very quickly (such as with DKA). The mortality risk is three times greater for people who misuse their insulin compared to those who use their insulin appropriately (18).

Treatment

Access to evidence-based treatment has been shown to reduce the severity, duration and impact of an eating disorder. The goals of treatment for a person experiencing an eating disorder and diabetes will depend on the diagnosis, as well as the severity and duration of symptoms, and should be tailored to meet the individual needs of the person.

Supporting a person to eat regular meals is a focus of treatment for many eating disorders and addressing other emotional and psychological factors such as anxiety, depression, body image, and self-esteem are also important. The management of diabetes should take into consideration the person's eating disorder diagnosis, and may involve psychological treatment, psychoeducation, and diabetes education (21).

The NICE Guidelines recommend a multidisciplinary, shared-care approach to the treatment and management of co-occurring eating disorders and diabetes. If appropriate, the involvement of family and supports should be considered to support eating disorder treatment and diabetes management (21).

Most people can recover from an eating disorder with community-based treatment. In the community, the minimum treatment team includes a medical practitioner such as a GP and a mental health professional. The involvement of an accredited practising dietitian to provide nutrition rehabilitation and education may be required to support effective treatment and recovery. A referral to an endocrinologist to support diabetes management may also be required.

Hospital treatment may be advised when a person needs medical and/or psychiatric stabilisation, nutritional rehabilitation and/or more intensive treatment and support.



Recovery

It is possible to recover from an eating disorder, even if a person has been living with the illness for many years or is experiencing the illness alongside other comorbidities such as diabetes.

The path to recovery can be long and challenging, however, with the right team and support, recovery is possible. Some people may find that recovery brings new understanding, insights and skills.

Getting help

If you think that you or someone you care about has an eating disorder, it is important to seek help immediately. The earlier you seek help the closer you are to recovery. Your GP is a good 'first base' to seek support and access eating disorders treatment. To find help in your local area go to [NEDC Support and Services](#).

Additionally, call the Butterfly National Helpline (1800 33 4673) for support from trained counsellors and more information on available services.



To find help or learn more, visit
nedc.com.au

References

1. Paxton SJ, Hay P, Touyz SW, Forbes D, Madden S, Girosi F, et al. Paying the price: The economic and social impact of eating disorders in Australia. 2012.
2. Australian Bureau of Statistics (ABS). Microdata: National Health Survey, 2017–18. ABS cat. no. 4324.0.55.001. Findings based on detailed microdata file analysis. Canberra: ABS; 2019.
3. Young V, Eiser C, Johnson B, Brierley S, Epton T, Elliott J, et al. Eating problems in adolescents with Type 1 diabetes: a systematic review with meta-analysis. *Diabetic medicine*. 2013;30(2):189-98.
4. Jones JM, Lawson ML, Daneman D, Olmsted MP, Rodin G. Eating disorders in adolescent females with and without type 1 diabetes: cross sectional study. *BMJ*. 2000;320(7249):1563-6.
5. Gagnon C, Aimé A, Bélanger C. Predictors of comorbid eating disorders and diabetes in people with type 1 and type 2 diabetes. *Canadian journal of diabetes*. 2017;41(1):52-7.
6. Wisting L, Frøisland DH, Skriverhaug T, Dahl-Jørgensen K, Rø Ø. Disturbed eating behavior and omission of insulin in adolescents receiving intensified insulin treatment: a nationwide population-based study. *Diabetes care*. 2013;36(11):3382-7.
7. García-Mayor RV, García-Soidán FJ. Eating disorders in type 2 diabetic people: Brief review. *Diabetes & Metabolic Syndrome: Clinical Research & Reviews*. 2017;11(3):221-4.
8. Herpertz S, Albus C, Lichtblau K, Köhle K, Mann K, Senf W. Relationship of weight and eating disorders in type 2 diabetic patients: a multicenter study. *International Journal of Eating Disorders*. 2000;28(1):68-77.
9. Colton P, Olmsted M, Daneman D, Rydall A, Rodin G. Disturbed eating behavior and eating disorders in preteen and early teenage girls with type 1 diabetes: a case-controlled study. *Diabetes care*. 2004;27(7):1654-9.
10. Davison K. Eating disorders and diabetes: current perspectives. *Can J Diabetes*. 2003;27(1):62-73.
11. Colton P, Rodin G, Bergenstal R, Parkin C. Eating disorders and diabetes: introduction and overview. *Diabetes Spectrum*. 2009;22(3):138-42.
12. Rodin G, Olmsted MP, Rydall AC, Maharaj SI, Colton PA, Jones JM, et al. Eating disorders in young women with type 1 diabetes mellitus. *Journal of psychosomatic research*. 2002;53(4):943-9.
13. Mannucci E, Tesi F, Ricca V, Pierzazuoli E, Barciulli E, Moretti S, et al. Eating behavior in obese patients with and without type 2 diabetes mellitus. *International journal of obesity*. 2002;26(6):848-53.
14. Colton PA, Rodin GM, Olmsted MP, Daneman D. Eating disturbances in young women with type I diabetes mellitus: mechanisms and consequences. *Psychiatr Ann*. 1999;29(4):213-8.
15. Deiana V, Diana E, Pinna F, Atzeni M, Medda F, Manca D, et al. Clinical features in insulin-treated diabetes with comorbid diabulimia, disordered eating behaviors and eating disorders. *European Psychiatry*. 2016;33(S1):S81-S.
16. Custal N, Arcelus J, Agüera Z, Bove FI, Wales J, Granero R, et al. Treatment outcome of patients with comorbid type 1 diabetes and eating disorders. *BMC psychiatry*. 2014;14(1):1-5.
17. Philpot U. Eating disorders in young people with diabetes: Development, diagnosis and management. *Journal of Diabetes Nursing*. 2013;17(6).
18. Goebel-Fabbri AE, Fikkan J, Franko DL, Pearson K, Anderson BJ, Weinger K. Insulin restriction and associated morbidity and mortality in women with type 1 diabetes. *Diabetes Care*. 2008;31(3):415-9.
19. Takii M, Uchigata Y, Tokunaga S, Amemiya N, Kinukawa N, Nozaki T, et al. The duration of severe insulin omission is the factor most closely associated with the microvascular complications of type 1 diabetic females with clinical eating disorders. *International Journal of Eating Disorders*. 2008;41(3):259-64.
20. Nielsen S. Eating disorders in females with type 1 diabetes: an update of a meta-analysis. *European Eating Disorders Review: The Professional Journal of the Eating Disorders Association*. 2002;10(4):241-54.
21. National Institute of Health Care and Excellence. Eating disorders: recognition and treatment. 2017.

The National Eating Disorders Collaboration (NEDC) is funded by the Australian Government Department of Health.

This fact sheet is for general information only and should not be a substitute for medical or health advice. While every effort is made to ensure the information is accurate NEDC makes no warranties that the information is current, complete or suitable for any purpose. Reviewed and updated in November 2021.



To find help or learn more, visit
nedc.com.au