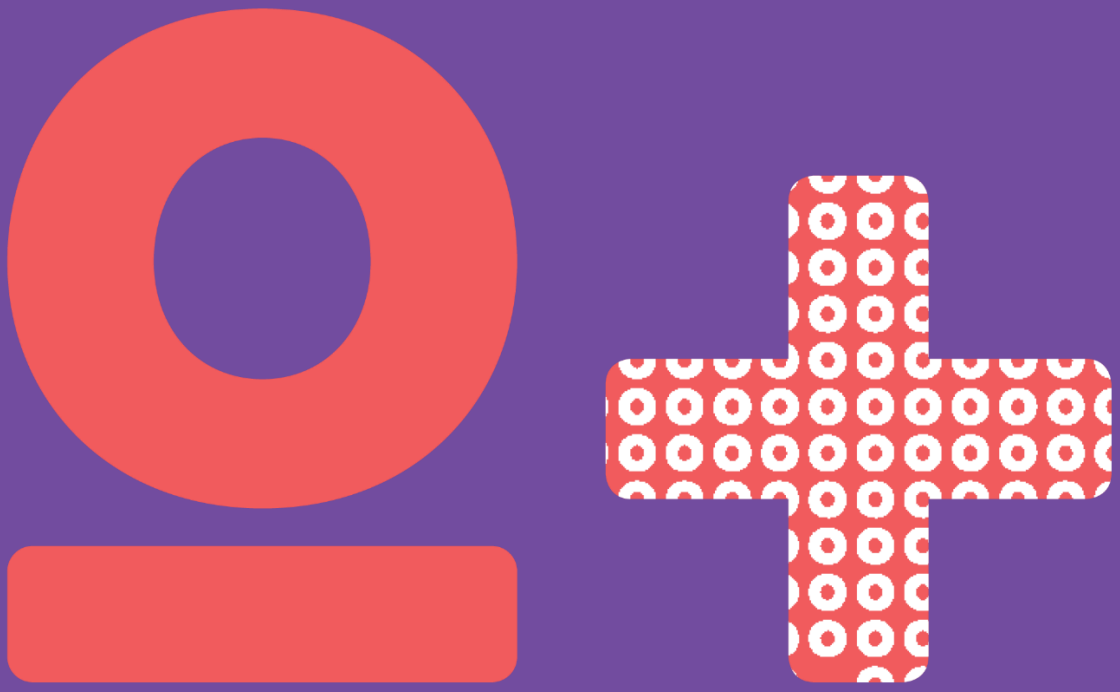
INSIDE OUT
Institute for Eating Disorders

NSW Disordered Eating (DE) and Eating Disorders (ED) in Children, Adolescents, and Adults with Type 1 Diabetes

March 2026



Acknowledgment of Country

The InsideOut Institute for Eating Disorders recognise Aboriginal people as the First Nations people of Australia. We pay respect to the traditional custodians of Country and acknowledge the wisdom of Elders who have passed, those of today and tomorrow, and pay respect to Aboriginal communities of the land on which we live and work across NSW. In this guideline, Aboriginal and Torres Strait Islander people are referred to as Aboriginal people in recognition that Aboriginal people are the original inhabitants of NSW.

Recognition of Lived Experience

We recognise the individual and collective contributions of those with a lived and living experience of eating disorders, mental ill-health and recovery, and those who love, have loved and care for them. We also acknowledge the difficult journey of those with living experience of type 1 diabetes, in particular if they have experienced disordered eating or an eating disorder. We acknowledge that every person's journey is unique and valued. We recognise their adverse experience of stigma, but also their strength and resilience. We respect and value their courageous and generous contributions, which guide us to continually shape, reflect upon and deliver quality, person-centred care in the hope of improving outcomes for all.

Development of the document

This guideline is an updated and locally adapted version of the QLD Disordered Eating (DE) and Eating Disorders (ED) in Children, Adolescents and Adults with Type 1 Diabetes [1].

The development of this guideline was facilitated by InsideOut Institute for Eating Disorders who would like to thank the NSW Working Party for their leadership and generous contributions throughout the review of this guideline, as well as Dr Neisha D'Silva, the original lead author, for her added contribution and support.

This guideline was further informed by the input of clinicians working across NSW Health, people with a lived experience of eating disorders, carers, and other key stakeholders. We are grateful for your expertise, insights, and commitment.

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Executive summary

The *NSW Disordered Eating (DE) and Eating Disorders (ED) in Children, Adolescents, and Adults with Type 1 Diabetes* guideline provides comprehensive, evidence-informed clinical guidance for the identification, prevention, assessment, and management of DE/ED in individuals with Type 1 Diabetes (T1D) across the lifespan. Adapted from Queensland Health's 2022 guidelines [1] and revised and updated by a NSW Health Working Party, it reflects current best practice and expert consensus.

Purpose and scope

This guideline supports clinicians across disciplines — medical, mental health, nursing, dietetics, and diabetes education — in delivering safe, person-centred care for individuals with T1D who experience DE/ED. It emphasises:

- *Early identification and intervention* through routine psychosocial screening.
- *Interdisciplinary collaboration* between diabetes and mental health teams, ensuring the person is at the centre of care.
- *Weight-neutral, stigma-free care* to reduce harm and improve engagement.
- *Tailored treatment approaches* that consider individual, cultural, and resource contexts.

This guideline has been written predominantly for clinicians working with people with T1D who may experience DE or ED rather than for eating disorder clinicians who may see someone with T1D. Eating disorder clinicians will find the information contained in the document helpful as it will inform them how to work collaboratively with the diabetes team should they be involved in the care of an individual with T1D.

Guidance on the inpatient treatment for individuals with T1D is out of scope of these guidelines; the focus is on outpatient and community-based care.

Aims

This guideline has been designed as a reference tool rather than a document to read end-to-end. Some sections are organised by discipline for easy access.

A key principle is integrating mental health clinicians into diabetes teams to enhance communication, collaboration, and shared goals with individuals and their families. Resource availability varies across NSW, so local adaptation may be required.

As stated in the NSW Service Plan for People with Eating Disorders (2021-2025) [2] ED are core business for all NSW Health clinicians, not just the role of the mental health clinician. This guideline equips diabetes clinicians to confidently address DE, using appropriate language, assessment, and treatment strategies, while avoiding harm. It also promotes awareness of weight stigma and encourages weight-neutral, person-centred care.

Clinical guidance

- Screen for DE/ED at diagnosis, annually, and when risk indicators are present.
- Use validated tools such as DEPS-R for diabetes-specific screening.
- Apply trauma-informed, culturally safe care, particularly for Aboriginal people, recognising holistic health and the impact of intergenerational trauma.
- Ensure a collaborative interdisciplinary team working approach to provide safe, individualised, and targeted assessment and management of the dual T1D and DE/ED diagnosis, with the knowledge that misuse of insulin is a unique compensatory behaviour that may be present.
- Individualise treatment plans, incorporating medical, nutritional, and psychological interventions concurrently.

Abbreviations

AQoL-4D	Assessment of Quality of Life – 4 dimensions
AN	Anorexia nervosa
APD	Accredited practising dietitian
ARFID	Avoidant / restrictive food intake disorder
BDI-2	Beck Depression Inventory
BED	Binge eating disorder
BMI	Body mass index
BN	Bulimia nervosa
CDE	Credentialed diabetes educator
CES-D	Center for Epidemiological Studies Depression Scale
CES-DC	Center for Epidemiological Studies Depression Scale for Children
CGM	Continuous glucose monitor (monitoring)
CIA	Clinical Impairment Assessment
CAMHS	Child and adolescent mental health service
CMHS	Community mental health service
CYMHS	Child and youth mental health service
DASS-21	Depression Anxiety Stress Scales
DASS-Y	Depression Anxiety Stress Scales - Youth
DE	Disordered eating
DE/ED	Disordered eating or eating disorders
DEPS-R	Diabetes Eating Problem Survey – Revised scale
DKA	Diabetic ketoacidosis
DPAT	Diabetes Psychosocial Assessment Tool
DSM-5-TR	Diagnostic and statistical manual of mental disorders edition 5 text revision
ECG	Electrocardiogram
ED	Eating disorders
GAD-7	Generalised Anxiety Disorder screening tool
HbA1c	Glycated haemoglobin
ICD-11	International statistical classification of diseases and related health problems 11th revision
IDT	Interdisciplinary team
LFT	Liver function tests
LHD	Local Health District
mSCOFF	Modified Sick, Control, One, Fat, Food screening tool
NDSS	National Diabetes Services Scheme
OSFED	Other specified feeding and eating disorder
PAID	Problem Areas in Diabetes
PAID-C	Problem Areas in Diabetes - Children

PAID-T	Problem Areas in Diabetes - Teen
PedsQL	Pediatric Quality of Life Inventory
PHQ-4	Patient Health Questionnaire
PROM/PRM	Patient Reported Outcome Measures
T1D	Type 1 diabetes mellitus
T1DE	Type 1 diabetes and disordered eating
UFED	Unspecified feeding or eating disorder
WHO-5	World Health Organization-Five wellbeing index

Definitions

Eating disorders	Characterised by severe and persistent disturbances in eating behaviours with associated distressing thoughts and emotions. Eating disorders can be very serious conditions affecting the physical, psychological, and social function. Types of eating disorders include Anorexia Nervosa (AN), Bulimia Nervosa (BN), Avoidant / Restrictive Food Intake Disorder (ARFID), Binge Eating Disorder (BED), Other Specified Feeding or Eating Disorder (OSFED) and Unspecified Feeding or Eating Disorder (UFED). Refer to Appendix 1: DSM-5-TR and ICD-11 for full diagnostic criteria.
Diabulimia	Insulin omission in T1D as a purging behaviour to achieve weight loss.
Disordered eating	Spectrum of severity from mildly abnormal thoughts and behaviours regarding weight, shape, and eating to more concerning thoughts and behaviours with medical and mental health consequences that do not meet formal ICD-11 or DSM-5-TR diagnostic criteria for an eating disorder.
Dysglycaemia	Chronic hyperglycaemia, glycaemic variability, Diabetic ketoacidosis, and to a lesser extent, severe hypoglycaemia.
Interdisciplinary working	Multidisciplinary working draws on knowledge from different disciplines but stays within their boundaries. Interdisciplinarity analyses, synthesises, and harmonises links between disciplines into a coordinated and coherent whole. Due to the complex nature of co-occurring type 1 diabetes and eating disorders, and the need for close working of diabetes and mental health clinicians, this document will be referring to interdisciplinary instead of multidisciplinary working.
T1DE	The experience of having an eating disorder while living with type 1 diabetes. It captures that people living with T1DE may restrict their insulin in an attempt to control their weight, but they may also engage in other eating disorder behaviours, such as restricting their intake, overexercising, or purging.
Weight bias	Refers to negative attitudes, beliefs, and stereotypes about people based on body weight or size. When these beliefs are internalised, individuals may apply them to themselves, which is linked to poorer physical and emotional health.
Weight stigma	The prejudice, abuse, devaluation, and discrimination towards people based on their body weight and size.
Weight neutral approach	An approach to healthcare that is health focused and shifts the emphasis from controlling weight to adopting health-promoting behaviours, regardless of size.

Content

Tables

1 Introduction

1.1 Introduction to T1D and DE/ED

There is an increased awareness of the higher prevalence of disordered eating (DE) and eating disorders (ED) in people with type 1 diabetes (T1D) and associated risk factors. Consequences of DE/ED in people with T1D are serious with high levels of morbidity and mortality [3]. Insulin omission is one unique DE/ED high-risk behaviour associated with life-threatening consequences. DE may persist at a subclinical level for prolonged periods impacting on physical and/or mental health outcomes or escalate to a clinical ED diagnosis.

Individual hospital-based protocols for management of co-occurring DE/ED and T1D exist, and there are emerging intervention protocols, such as the Diabetes Body Project, that show improvement in body image and some improvements in Time in Range (TIR) [4]. This poses considerable challenges, even to experienced health professionals. There is emerging evidence from trials examining brief interventions to reduce the risk of developing DE [5] or progression of DE in individuals with T1D [6], although more studies are also needed.

Young people and adults with T1D should have access to a specialist interdisciplinary team (IDT) with T1D expertise [7–9]. The burden of chronic disease in T1D is well accepted and regular psychosocial screening is part of diabetes care. Diabetes services should have psychologists/mental health clinicians as integral team members who can provide client support at diagnosis and regularly thereafter [10–12]. Clinical consensus suggests that all health professionals who care for those with T1D should be knowledgeable in identifying signs of DE and facilitating early intervention. Diabetes teams seeing individuals with T1D may benefit from support regarding processes for regular psychosocial screening and increased awareness/screening for signs/symptoms of DE/ED from a tertiary IDT.

Community-based teams/health professionals are encouraged to access advice and support from tertiary diabetes and specialist ED services/practitioners. Increased telemedicine services have improved access to tertiary diabetes teams for people living in rural and remote regions.

Early intervention is highly recommended if there are signs of DE/ED [13]. A collaborative IDT approach is central to safe, individualised, and targeted assessment and management of the dual diagnosis. An IDT approach analyses, synthesises, and harmonises links between disciplines into a coordinated and coherent whole, due to the complex nature of co-occurring T1D and ED and the need for close working of diabetes and mental health clinicians. The patient's General Practitioner (GP) should remain actively involved as an IDT member to coordinate patient care, facilitate appropriate referrals, provide access to Medicare Benefits Schedule (MBS) reimbursable schemes (such as mental health care plan) where required, and provide support.

Collaboration and bi-directional upskilling of diabetes and ED teams is recommended [13].

1.2 Defining DE and ED

- DE encompasses abnormal thoughts relating to weight, shape, and eating concerns, as well as a range of disordered behaviours which may include insulin omission.
- DE occurs on a spectrum of severity but does not meet formal diagnostic criteria for an ED.
- ED diagnosis is based on the DSM-5-TR / ICD-11 criteria and has been recently revised to include co-occurring conditions such as diabetes.
- Insulin omission is a unique DE behaviour used for weight control in those with T1D.
- The term 'Diabulimia' does not describe the range of DE/ED behaviours in those with T1D.

Disordered Eating (DE)

DE occurs on a spectrum of severity from mildly disordered thoughts and behaviours regarding weight, shape, and eating to more concerning thoughts and behaviours with medical and mental health consequences that do not meet formal DSM-5-TR or ICD-11 diagnostic criteria for an ED. DE thoughts include preoccupation with food, weight, and shape, distortion in body image, over-evaluation of weight and shape in terms of self-esteem, and fear of weight gain. DE behaviours include restrictive eating practices, food rules, erratic oral intake, excessive or compulsive eating/exercise, chronic energy restriction, binge eating, inappropriate hydration practices, and inappropriate use or manipulation of medication (e.g. insulin omission, laxatives, diuretics, thyroxine, phentermine, or GLP-1 agonists). DE behaviours are influenced by body image and body dissatisfaction [14]. This may be in the pursuit of the thin ideal for females, the pursuit of the thin- or muscular-ideal for males [15–17], whilst transgender youth may also have transgender-specific factors present, such as the minimisation of sex characteristics [18]. [Refer to Table 4: Signs of DE for full list].

Eating Disorders (ED)

ED are characterised by severe and persistent disturbances in eating behaviours with associated distressing thoughts and emotions. They can be very serious conditions affecting physical, psychological, and social function. Types of eating disorders include Anorexia Nervosa (AN), Bulimia Nervosa (BN), Avoidant / Restrictive Food Intake Disorder (ARFID), Binge Eating Disorder (BED), Other Specified Feeding or Eating Disorder (OSFED), and Unspecified Feeding or Eating Disorder (UFED). Refer to Appendix 1: DSM-5-TR and ICD-11 criteria for further information and ED diagnostic criteria.

Recent revisions of the diagnostic DSM-5-TR now include co-occurring conditions such as diabetes but are not comprehensive. Important biomedical markers such as diabetic ketoacidosis (DKA), hyperglycaemia, and recurrent hypoglycaemia may be associated with ED are not included in the diagnostic criteria. However, it is important to note target glycaemia does not preclude ED or DE behaviours. Monitoring of outcome measures for both the ED and diabetes should occur to assess the effectiveness of treatments for each condition, and the potential impact they have on each other [9]. Weight, growth (in paediatrics as measured on percentile charts), body mass index (BMI), BMI z-scores, glycated haemoglobin (HbA1c), blood glucose levels and patterns, TIR, insulin administration, menstrual cycle regularity, DKA episodes, cerebral oedema, diabetes complications, cardiovascular complications of malnutrition, and bone health should be monitored along with mental health. Categorising DE/ED by type (restrictive eating, bingeing, purging, and/or intentional insulin omission) may help identify DE/ED and assist in identifying diagnosis-specific treatment options [19,20].

Insulin Omission (MDI vs Pump)

Insulin omission is a unique weight control behaviour available to those with T1D. For those using multiple daily injections this may involve the reduction and/or omission of bolus and/or basal insulin, whilst those on insulin pump therapy may be evidenced as missed boluses, frequent disconnections, over-rides, usage of temporary basal rates and activity modes when not required. Insulin, an anabolic hormone, is required to utilise carbohydrates as fuel and to build/retain muscle. Without insulin the body's fat and muscle stores are used as an alternative source of energy via ketone production resulting in weight loss. Insulin omission can result in life-threatening complications such as DKA and accelerated vascular disease [19].

Diabulimia

'Diabulimia' is a media-coined term referring to insulin omission in T1D as a purging behaviour to achieve weight loss. This term is recognised by many, including people with T1D who have developed peer support groups. 'Diabulimia' is misleading as it does not describe the full range of EDs seen in people with T1D and may lead to underdiagnosis. Use of correct terminology assists in assessing prevalence rates to inform prevention and treatment programs [21]. 'T1DE' (which stands for T1D and DE) is a new term replacing diabulimia that refers to the experience of having an ED while living with T1D. It captures that people living with T1DE may restrict their insulin in an attempt to control their weight, but they may also engage in other ED behaviours, such as restricting their intake, overexercising, or purging.

1.3 Weight bias and stigma

Understanding weight bias and stigma in diabetes care

Weight bias refers to negative attitudes, beliefs, and stereotypes about people based on body weight or size. *Internalised weight bias* is when individuals may apply these beliefs to themselves, which is linked to poorer physical and emotional health [22].

Weight stigma is the prejudice, abuse, devaluation, and discrimination towards people based on their body weight and size.

While weight bias and stigma can affect anyone, they are more common among people with higher body weights and commonly experienced by those living with T1D [23]. Weight stigma experienced by others, as well as internalised weight stigma, is positively associated with disordered eating [24] and diabetes distress [23].

Why this matters in clinical practice

Weight stigma exists not only in society but also in healthcare settings and policy [25–27].

Experiencing weight stigma can lead to avoidance of diabetes management tasks, greater healthcare avoidance, increased perceived judgment from clinicians due to body weight, lower frequency of obtaining routine checkups, lower quality healthcare, and poorer healthcare experiences [27,28]. It is also associated with depression, anxiety, body image dissatisfaction, and negative self-esteem [29].

All clinicians are susceptible to unconscious bias which is informed by their own beliefs and past experiences. It is important for all clinicians to be aware of their own beliefs about weight, food, and eating, as they can influence interactions with individuals with T1D and their families, and the care that they provide.

Moving beyond weight-centric care

Discussing weight and using it as one indicator of health may be appropriate, but weight should never be the sole measure of health or progress. Weight is shaped by biological, genetic, psychological, and environmental factors. Health at Every Size ® (HAES ®) [30] is a weight neutral approach where health is assessed using a broad range of factors rather than weight or BMI.

When discussing weight, use a curious, compassionate approach, assess holistically, and consider the individual's thoughts and beliefs about their weight and body size, their experience of weight stigma, and any behaviours they may be using to control their weight.

The weight-centric vs weight-neutral model

A weight-centric approach is the assumption that weight is the main indicator of health, and if controlled will lead to improved health outcomes. However, working in a weight-centric way can lead to weight cycling (yo-yo dieting) linked to increased risk of type 2 diabetes, cardiovascular disease, adverse cardiometabolic markers, fractures, chronic inflammation, and some cancers [31–39], disordered eating [40,41], psychological and emotional distress [42], increased weight bias and stigma in healthcare resulting in receiving inadequate care [28,43], avoidance of healthcare altogether [28,43–45], and increased mortality rates [34–36,46,47].

A weight-neutral approach is health focused and shifts the emphasis from controlling weight to adopting health-promoting behaviours, regardless of size. Working in a weight neutral way is associated with improved physiological measures (e.g. blood pressure, cholesterol, and triglycerides) [48–51], reduced body dissatisfaction and increased self-compassion and self-esteem [48,49,52], improved eating behaviours and lower rates of disordered eating behaviours [48–53], lower rates of depression and improved psychological wellbeing [48–51], greater engagement in sustainable, enjoyable movement [45], and no adverse health outcomes reported [48,54].

In summary, focusing on weight may be unhelpful and potentially harmful, whereas focusing on promoting health-promoting behaviours can improve physical and psychological health and engagement.

1.4 Language

The table below gives guidance on the use of weight-neutral language when talking to individuals, their families and communities, and our colleagues. The examples are from the *Equity, Diversity, and Inclusion: Inclusive Language Guide* from the American Psychological Association [55] and the *Preferred language for weight-inclusive conversations with youth and their families* from the American Diabetes Association [56]:

Table 1: Guidance on Language

Term to avoid	Suggested alternative	Why it matters
Discussion of body weight		
• Ideal weight • Goal weight • "Your preferred weight is..." • "Your ideal weight is..."	• "Your weight is..." • "The health indicator(s) for you to be aware of is/are"	• Terms like "ideal weight", "goal weight", etc. are judgmental and convey a false belief that there is a single, universal weight that prevents illness. It does not account for the individual's personal or health goals. • BMI is a population-based measure that is less helpful in individual clinical practice. Rather than focus on weight, focus exclusively on the health issue at hand, for example, cholesterol, blood pressure, or A1C levels.
• Underweight • Overweight • Obese • Morbidly obese	• Lower weight • Higher weight	• Avoid referring to individuals by a label that implies that they are defined by the diagnosis or symptoms that they experience. Examples include "anorexic", "bulimic", "binge eater" or "obese person". • Instead, consider focusing on specific habits/behaviours over which the individual does have control rather than making goals about weight. Focusing only on weight can result in feelings of failure when the individual is unable to meet weight goals despite significant efforts. Many behaviours result in improved health markers regardless of weight change.
Language to be inclusive of body diversity to avoid unintended consequences		
Unsolicited comments on body size or body changes, either observed or measured, even if well intentioned: • "Wow, you're looking great!" • "Look at how much weight you've lost! I'm so proud of you!" • "You're getting so big!" • "What happened, you've lost/ gained so much weight?"	Comments on body size or body changes warranted by the context (e.g. a medical discussion with a health care professional), after asking consent: • "Is it alright if we talk about your weight?" • "Would you feel okay/comfortable if we discussed your weight?" • Or, if in survey form, "the next questions concern your weight. You may answer them or skip to the next section." • "What, if any, concerns might you have about your weight?" • "How do you view or feel about your body?" • "Have you experienced any significant weight changes?" If yes: • "How do you feel about that?" • "What do you think might be going on?" • "How may I help?"	• Avoid unsolicited commentary on body size or body changes or do not comment at all unless you are that individual's health care provider and it is warranted. This prevents unintended consequences or mixed messages about people's health or appearance [56].

Practical tips for clinicians working with people with T1D

- **Language:** Use person-first, non-stigmatising, weight-neutral language; avoid moralising food or weight.
- **Assessment:** Screen for DE and internalised weight bias; include psychosocial factors in routine reviews.
- **Goals:** Set goals around glycaemic targets, wellbeing, sleep, stress, and physical function rather than weight.
- **Monitoring:** Use weight measurements only when clinically indicated; contextualise results and avoid over-interpretation.
- **Care Planning:** Collaborate on weight-neutral behaviour goals (e.g. regular meals, eating a variety of foods, joyful movement, sleep hygiene, self-care, diabetes management).
- **Reflective Practice:** Regularly examine personal biases; seek supervision and training in weight-neutral and trauma-informed care. Seek support if you have your own worries about food, eating, and weight.
- **Safety:** Be alert to rapid weight loss, malnutrition, and ED risk; engage with interdisciplinary team members.

1.5 Prevalence and contributing factors

- Prevalence of DE in the T1D population may be as high as 40%.
- Young females with T1D are 2.4x more likely to meet diagnostic criteria for an ED.
- The increased prevalence of DE in T1D is related to both diabetes-specific and psychosocial factors.

Prevalence of DE/ED

The prevalence of DE in adolescent girls with T1D may be as high as 40%, higher than their peers without diabetes which is estimated at 25% [15,57,58]. In males with T1D, rates of 13-18% are reported [15,57,59]. Clinical ED diagnosis in adolescent girls with T1D is ~7%, which is twice the rate of those without diabetes [57]. DE behaviours can present at pre-adolescence and increase through to adulthood, with common age of onset being mid-late adolescence [60].

Reported prevalence rates of co-occurring DE and T1D vary due to methodological limitations [57,61] such as differing sample characteristics, lack of consensus as to valid and reliable screening tools to compare people with and without diabetes, and the definition of DE in T1D [19]. Diagnosis of DE is currently based on the absence of fulfilling the DSM-5-TR and/or ICD-11 criteria for ED [Refer to Appendix 1: DSM-5-TR and ICD-11 criteria].

Compared to their peers without diabetes, girls with T1D are 2.4 times more likely to have a clinical ED and 1.9 times more likely to engage in DE [62]. BED, OSFED, and BN are twice as common in people with T1D compared to the general population; however, there is no difference in rates of AN in people with T1D [63].

Contributing factors to DE/ED in T1D

(For full list, refer to Table 2: Potential contributing factors to DE/ED in T1D below)

People diagnosed with T1D during their adolescent years are at greater risk for DE and body image discontent. Adolescent females are at risk, partly due to normal pubertal body changes and societal pressures to be thin. Males can also be driven to achieve increased muscularity [15,64].

Body dissatisfaction, dieting practices, and reductions in prescribed insulin dosing are strong determinants of DE. Earlier diagnosis of T1DM (between 7-18 years), female gender, and a history of being at a higher BMI are associated with higher risk [65].

Contributing factors for all age groups include weight loss at diagnosis and subsequent weight regain with insulin commencement, as well as a daily focus on dietary management, carbohydrate counting, and blood glucose levels. These factors can result in an unhealthy preoccupation with food and weight [64]. Additionally, the prevalence of

youth with a higher BMI with T1D at diagnosis has increased, consistent with the general population [66], and the prevalence of DE/ED in T1D often correlates with higher body weight [65], however young people at a lower body weight are also at risk and may present with food restriction and potential for DKA. Individuals with higher body weight may experience weight stigma, which can result in greater body dissatisfaction [65] and an increase in DE behaviours, such as food restriction and dieting in attempts to lose weight, but is more likely to increase the risk of further weight gain [65,67]. The first 12 months post diagnosis are crucial to supporting clients who experience rapid weight gain [68,69].

Dysglycaemia (chronic hyperglycaemia, glycaemic variability, DKA, and to a lesser extent, severe hypoglycaemia), result in subtle neuropsychological changes. The effects vary according to the stage of neurodevelopment with those diagnosed early in life at greater risk. Deficits are seen across multiple cognitive domains including executive function and speed of information processing. Some evidence exists that this could affect psychological and mental health outcomes throughout life. [70]

Table 2: Potential contributing factors to DE/ED in T1D

Diabetes specific factors	Psychosocial factors
• Weight loss pre-diagnosis due to insulin deficiency followed by rapid weight regain secondary to commencement of insulin can result in body dissatisfaction • Burden of living with a chronic illness • Societal pressure, including media and social media, to meet the body shape and weight ideal • Focus on diet, carbohydrate counting, and glycaemic control in T1D management • Routine focus on weighing at clinic visits to assess insulin requirements and growth • Episodes of recurrent hypoglycaemia can trigger binge eating episodes and subsequent weight gain • Restricting or omitting insulin, a unique purging behaviour to achieve weight loss without the need for significant food restriction • Dysglycaemia (chronic hyperglycaemia, glycaemic variability, DKA and to a lesser extent severe hypoglycaemia) results in subtle neuropsychological changes.	• Diabetes burden and related distress • Depression and anxiety (more prevalent in people with T1D) • Weight and body dissatisfaction • Low self-esteem • Family functioning and parental involvement in managing chronic condition including increasing autonomy with age for diabetes self-management • Exposure to social media, the wider media, and societal pressures to be, or strive for, an 'ideal' body shape • Positive appraisal of weight loss from parents, carers, partners, peers, and health professionals • Different life stages and challenges with body changes e.g. during puberty, perimenopause, pregnancy, post-partum • Transitions e.g. moving out of home and needing to be independent around food and eating, starting high school or university, commencing employment Attempts to lose weight by restricting food intake, leading to binge eating

In order to mitigate risk, it is recommended diabetes health professionals focus on behaviours rather than weight in discussions. Building trust and forming relationships with knowledgeable health professionals can enable early detection and open discussions. Weighing can be part of routine diabetes management and should be done sensitively [71].

Carbohydrate estimation combined with routine balanced meals should be encouraged rather than an absolute focus on carbohydrate counting accuracy to mitigate risk. [Refer to Section 2: Preventing DE/ED in T1D for more strategies to support prevention of DE].

1.6 Consequences of DE/ED in T1D

- DE in people with T1D is a serious problem with associated high levels of morbidity and mortality.
- DE can persist at a subclinical level for prolonged periods impacting on physical and/or mental health outcomes or escalate to a clinical ED diagnosis.
- Insulin omission is a high-risk behaviour associated with life-threatening consequences.

DE thoughts and behaviours occur along a continuum of severity and are associated with poorer glycaemic control [72]. Consequences for those with T1D are very serious, more so when insulin omission is present [19]. Early detection and management of DE may prevent escalation to diagnosis of a clinical ED, prevent medical consequences requiring hospitalisation, and reduce mortality [73].

DE can increase risk and earlier onset of complications including:

- Impaired growth in children and adolescents
- Diabetic microvascular complications e.g. nephropathy, neuropathy, and 5-fold risk of retinopathy
- Episodes of recurrent DKA [74]
- Recurrent hypoglycaemia
- Impaired mental health (anxiety, depression, diabetes distress)
- Acute complications of malnutrition such as impaired cognition, electrolyte abnormalities, postural hypotension, bradycardia, tachycardia
- Consequences of hormonal abnormalities such as menstrual abnormalities and poor bone health
- Gastrointestinal symptoms e.g. delayed gastric emptying and gut transit, constipation, post prandial fullness and early satiety, epigastric discomfort, and irritable bowel syndrome (IBS) symptoms [75]
- Other consequences impacting on quality of life including family conflict, fatigue and sleep disturbances, excessive hunger/thirst, dehydration, muscle atrophy, and digestive problems [19].
- Increased ten-year mortality rates: 35% in women with AN and co-occurring T1D, compared to 6.5% for AN and 2.5% for T1D alone. [76]

1.7 Aboriginal People

The Aboriginal view of health is holistic, encompassing mental, physical, cultural, and spiritual elements. Connection to country, family, community, and culture are central to Aboriginal people's identity and wellbeing. When the harmony of these interrelations is disrupted, ill health will arise or persist. Approaching assessment and treatment of ED in this community should be understood through a holistic lens. Available research suggests that Aboriginal Australians have a lower incidence of T1D [77], but may experience higher rates of ED than non-Aboriginal populations [78], and so the prevalence of Aboriginal People with T1D and DE/ED is unknown.

There is no one Aboriginal group of people, but many diverse groups, all with different languages, traditions, and customs. Approaches to care for Aboriginal people should be informed by an understanding of the individual's history and culture. It is recognised that the experiences of trauma and loss are a direct outcome of the disruption to cultural wellbeing beginning from colonisation. Compounded trauma and loss of this magnitude continue to have intergenerational effects today. Impacts include relationship with food, the types of food accessed, and ways in which food is accessed.

Table 3: Key areas for consideration when providing care for Aboriginal People

Key Area	Considerations
Guiding principles	*Holistic Approach* ED management should be tailored to what works locally. However, as a common theme, treatment should be holistic. This means clinical treatment of conditions and symptoms occur alongside the wellbeing and

	culturally appropriate healing to treat the individual as whole and involve the family. *Trauma-informed* Care should be delivered through a trauma-informed lens, which considers the impact of collective trauma on trust in the healthcare system and healthcare providers in these communities. *Individualised Care* Throughout assessment, diagnosis, and treatment, it is important for clinicians to take the time to understand the cultural differences that exist in the way the individual thinks about their own health and wellbeing. Emphasis should be placed on asking questions with curiosity to try and understand their unique experience, circumstances, and concerns as opposed to making assumptions. Efforts should be made to customise models and/or tailor current treatment approaches to accommodate the culturally diverse needs, resources, and expectations of the individual. This may include working alongside an Aboriginal Health Worker, engaging with Elders or other community members, and/or using Clinical Yarning methods which has the potential to improve outcomes for patients and practitioners [79]. Clinical yarning includes the: • *Social yarn* - where the clinician aims to find common ground and develop the interpersonal relationship • *Diagnostic yarn* - where the clinician facilitates the individual's health story while interpreting it through a biomedical or scientific lens • *Management yarn* - that employs stories and metaphors as tools to help individuals understand a health issue so a collaborative management approach can be adopted. There is cultural and research evidence that supports this approach. [79] *Anti-discrimination* Stigma, discrimination, and racism entrench social disadvantage and reinforce ongoing negative impacts and stressors on Aboriginal peoples' mental health and wellbeing. Consider if there are ways that you deliver your service that might be a barrier or not work well for many Aboriginal people and how these processes might be amended to better suit Aboriginal people.
Language and communication	Care should be taken to use culturally safe language with Aboriginal communities. The language used to describe disordered eating may differ between Aboriginal communities. For example, the use of the term 'eating disorder' can be offensive in some Aboriginal communities as deficit-centric words such as 'disorder' in general can be disempowering. It can be better to talk about feelings and behaviours rather than using labels, to avoid language that can potentially induce shame within the individual's community. See the Centre for Aboriginal Health's 'Communicating Positively: A Guide to Appropriate Aboriginal Terminology' [80] for further examples.
Screening and assessment	At the screening stage, ask the individual whether they identify as an Aboriginal person, and explain how this information will be shared should they disclose this. At assessment, ask the individual whether they would like to consult with an Aboriginal Health Worker regarding their treatment. Do not immediately assume this to be the case, as some individuals may not want this information disclosed due to the tight-knit nature of some Aboriginal communities which may impact privacy and confidentiality. Consider using culturally safe spaces for consultations. Be aware that some Aboriginal people may have lower literacy levels or speak English as a second, third, or fourth language and therefore avoiding the use of clinical language and over-reliance on health literature if this is the case, as well as checking that you and the individual have a shared understanding of what is being communicated is helpful. Paper forms may not be appropriate or may need to be modified or administered with a clinician to guide the individual through the questions to ensure mutual understanding of information shared.
Food and nutrition	It is important to understand the potential barriers that Aboriginal people may face, such as food insecurity, financial barriers, and geographic barriers, and to work with the individual and their family or community members to devise a care plan that is feasible for them. These experiences can uniquely influence the beliefs one holds about food and eating related behaviours. Standard nutrition guidance may not be suitable for Aboriginal people who are accustomed to living off the land or experiencing high rates of food insecurity. In these cases, work with the individual, their family, and community to understand what would be helpful and feasible.

2 Preventing DE/ED in T1D

Treatment delivered by skilled IDTs with clear communication channels and consistent messages, goals, and targets regarding T1D management achieve better psychological outcomes. Skilled teams employ the following general treatment strategies which may avoid triggering DE thoughts and behaviours in people with T1D:

- The person with T1D and their family/support people (including schools) are the central members of the care team.
- The diabetes team must be capable of identifying the educational, behavioural, and psychosocial factors that impact on diabetes outcomes and work to overcome identified barriers or adjust the treatment goals where appropriate.
- At T1D diagnosis, care pathways acknowledge the support and education needed and include support from a mental health clinician.
- At T1D diagnosis, education is to be provided and includes:
  - Insulin is vital for growth, and for the body to rebuild, heal, and rehydrate.
  - Insulin initiation is likely to lead to weight restoration.
- Explain reasons for monitoring growth and weight and regard individual weight or shape concerns seriously. Conversations about weight are a sensitive topic for many, especially those struggling with DE.
- Internalisation of weight bias and weight-based victimisation have been shown to be positively associated with disordered eating [24], therefore it is important to not focus on weight, but rather, consider discussing growth or other non-weight based indicators instead. Utilise a 'weight neutral' HAES® approach, with an emphasis on a positive relationship with food, eating, and exercise behaviours as opposed to weight control.
- Good quality sleep is an essential component of healthy development and is required for physical and mental health. Poor sleep is associated with food cravings, excess food intake, and poorer quality diet.
- Language is important. Language has power and can persuade, change, or reinforce beliefs. Be mindful to discuss growth and healthy lifestyle behaviours, rather than weight [Refer to Section 1.4: Language for more guidance]. Use positive and motivational language [128].
- The IDT need to be aware of the signs and symptoms of DE.
- Routine psychosocial screening is recommended for identification of early signs of DE.

Access to specialised multidisciplinary diabetes services with T1D expertise is essential for young people with T1D and are recommended for adults with T1D, providing positive therapeutic value [81,82]. The core IDT ideally includes an endocrinologist, dietitian, credentialled diabetes educator, and mental health clinician with T1D expertise, along with the general practitioner. The IDT for youth with T1D should include specialists with training and expertise in paediatric, adolescent, and young adult development.

The mental health clinician in the IDT will assist the individual with diabetes and support other team members to recognise and address coping, behavioural, or mental health problems [11]. Psychologists also provide psychoeducation on increased prevalence of DE/ED and other mental health issues in the diabetes population. If there is no access to a mental health clinician in the IDT, it is recommended to contact the tertiary diabetes service for support and guidance.

The following clinical approaches are suggested:

- From T1D diagnosis, it is most important the IDT provides a positive, motivational, and supportive approach. Clear consistent goals and communication around diabetes education and management plans lead to better psychological outcomes [28]. The primary aim is to achieve glycaemic targets without compromising psychological wellbeing. The individual with diabetes and their family/caregivers are the central members of the team [28,83] and involved in decisions related to their care. The IDT need to identify the caregiver or support people who will be involved in the care and treatment and discuss with them their role in supporting the individual. This should include a clear plan of what is expected of them, support on how to communicate effectively with individual, and what and how to feedback to the IDT. To assist in this process, a Resource for Caregivers and Families of people with T1D and ED is available which can be provided to the parent/carer.

- At diagnosis, provide factual information about insulin initiation so individuals clearly understand that insulin is required for medical safety, growth, and to rebuild and heal which will result in weight restoration. A small percentage of individuals may experience temporary fluid retention [84].
- An insulin regimen is only effective if the individual is able to implement and maintain the regimen [10]. The diabetes team must evaluate educational, behavioural, emotional, and psychosocial factors that could impact the implementation of the management plan. The team should work with the individual and family to overcome barriers and redefine goals as appropriate [10].

Ongoing support and education should include the following actions:

- Establish care pathways outlining the education plan and frequency of visits to IDT members at diagnosis and beyond [28].
- Normalise emotional reactions to the diagnosis and in coping during this period of change.
- Provide dietary education in a staged manner according to their individual needs and minimising potential harm without dietary restriction. Macronutrient content and balanced eating may still need to be discussed but should be approached sensitively [7]. Emphasise the need to avoid dietary restriction and that a positive relationship with food involves a regular, flexible, and balanced approach to food selection and consumption to meet daily nutritional requirements.
- Explain reasons for monitoring weight, growth, and blood glucose level for normal growth and development. Ensure concerns raised about weight, growth, muscle mass, or shape are taken seriously and addressed [84]. Proactive discussions around common problems such as insulin omission may decrease the likelihood of these problems occurring [10].
- Optimise insulin management and monitor diet quality and adequacy for age appropriateness. If Blood Glucose Level (BGL) is high, prior to increasing insulin dose, conduct a dietary assessment to ensure dietary adequacy, and explore whether insulin is being omitted intentionally to control weight. Provide education around nourishing the body adequately, administering adequate insulin for the carbohydrate ratio, and encourage participation in joyful movement with goal of optimal insulin management and a healthy relationship with movement rather than weight control.
- Encourage joyful movement to assist with expected growth profiles and encourage a healthy relationship with exercise but be mindful if exercise is being used as a way of controlling weight.
- If glycaemic targets are not being met, consider any diabetes specific or psychosocial factors [Refer to Table 2: Potential contributing factors to DE/ED in T1D] to understand the root cause, and work collaboratively with the individual to try to address these before increasing basal insulin rates.
- Ensure IDT clinicians are aware of the signs and symptoms of disordered eating (including indicators of insulin omission) and assist the individual at an early stage before DE thoughts and behaviours become entrenched.
- Weight importance and dieting for weight control have been identified as predictors of development of DE/ED in young people. In younger people with T1D excessive focus on child's weight by authority figures leads to body dissatisfaction, dieting, low self-esteem, and weight bias [85]. Internalisation of weight bias and weight-based victimisation have been shown to be positively associated with disordered eating [24], therefore it is important to not focus on weight, but rather, consider discussing growth or other non-weight based indicators instead. Utilise a 'weight neutral' HAES® approach, with an emphasis on a positive relationship with food, eating, and exercise behaviours as opposed to weight control. For children and adolescents, engage a family approach to lifestyle behaviours.
- IDT clinicians must be aware of weight bias and weight stigma and avoid language or interactions that may increase risk of harm [Refer to Section 1.3: Weight bias and stigma and Section 1.4: Language].
- Carry out psychosocial screening as part of routine care in T1D, and screen for DE/ED for those identified as at risk [10,86].
- Focus on building a trusting non-judgemental relationship and regularly enquire about emotional health in order to intervene early if issues are identified [11].
- Address sleep patterns. Short sleep duration, poor sleep quality, and late bedtimes are all associated with food cravings, excess food intake, and poor diet quality in adolescents [87,88].Poor sleep also affects cognitive

and psychomotor function including mood and is associated with negative outcomes such as depression, decreased school performance, quality of life, and risk-taking behaviours. To establish and maintain healthy sleep patterns, it is recommended to have consistent bedtime and wake-up times, avoid screen time 1 hour before sleep, and to keep screens out of the bedroom. Sleep recommendations include:

  - Children aged 5 to 13 years get 9 to 11 hours of uninterrupted sleep
  - Young people aged 14 to 17 years get 8 to 10 hours of uninterrupted sleep [89]
  - Adults to have approximately 7-9 hours of sleep [90]
- Consider additional psychoeducational programmes:
  - Useful resources addressing body image for individuals and clinics can be found on the Butterfly Foundation website which addresses body image for young people and parents as well as tips to support use of social media [Refer to Appendix 5: Eating disorder and mental health services]
  - Training and psychoeducational ED resources can be found on the InsideOut Institute and the Centre for Clinical Interventions websites [Refer to Appendix 7: Resources]

Emerging evidence:

- Online or face to face sessions directed at pre- and young adolescents enhance protective factors for ED such as resilience, self-esteem, self-compassion, and media literacy [13].
- A pilot study involving a six-week virtual program for females aged 16-35 years resulted in meaningful reductions in ED risk factors and symptoms [5].
- A two-week self-compassion intervention for adolescents with co-occurring DE also resulted in improved coping resources, increased mindfulness, and a greater awareness of not being alone with problems [6].
- A feasibility randomised controlled trial assessed a psychoeducation intervention for parents of children aged 11-14 years with T1D to help prevent development of disordered eating and improve parental wellbeing [91]. At 3-month follow up there were small to moderate improvements in parent reported Diabetes Eating Problem Survey – Revised Scale (DEPS-R) scores, child-reported DEPS-R scores, parent diabetes distress, Child Eating Behaviour Questionnaire subscales: food responsiveness, satiety responsiveness, and parent wellbeing. HbA1c at follow up was not reported [91].
- The Diabetes Body Project, a virtual prevention program for women aged 14-35 years old with T1D, has shown significant improvements with small effect sizes for ED symptoms, diabetes distress, quality of life, and dietary restraint; and medium effect sizes for diabetes-specific DE behaviours, body dissatisfaction, and pursuit of the thin ideal, when compared with educational controls [4]. Clinical trials in young people in NSW and in adults in QLD are currently underway.

3 Identification, screening and assessment of DE/ED in T1D (including assessment for hospital admission)

- Health professionals involved in provision of care to the T1D population should understand the principles of a positive relationship with food and eating, and be aware of signs of DE [Refer to Table 4: Signs of DE].
- General psychosocial screening should be routine in T1D care and followed by specific screening for DE/ED where suspected (e.g. DEPS-R).
- Clinical interviews are required for assessment and confirmation of DE/ED for individuals at risk of DE.
- Once DE is identified, promptly assess severity of medical/psychological risk (using Table 6: Indications for consideration for hospital admission in young people and Table 7: Indications for consideration for hospital admission in adults; and Appendix 6: Algorithm for asking about self harm and suicidality) to determine need for escalation of care, referrals to specialist services, or if meets criteria for hospital admission.
- Be mindful of DE/ED in youths that are transitioning from paediatric to adult services, that assessments/interventions for DE/ED are well coordinated.

3.1 Principles of a positive relationship with food and eating

Identifying and addressing DE early can prevent thoughts and behaviours becoming entrenched and decrease the associated serious long-term health outcomes.

DE is best identified by comparison with a positive relationship with food and eating. A positive relationship with food and eating includes nourishing your body with a variety of foods without guilt, listening to hunger/fullness cues, finding enjoyment in eating, viewing food as fuel, pleasure, and culture, not as "good" or "bad," and allowing flexibility and balance rather than rigid rules to control weight.

Clinicians need to gauge when behaviours or attitudes to eating/food differ from normal expectations for T1D management. For example, behaviours encouraged for T1D self-management such as weighing food and carbohydrate counting are considered normal in diabetes management yet may be considered dysfunctional in the general population [92]. It is important to understand what the behaviour is being used for and how it is affecting the individual.

3.2 Identification of DE, including signs and symptoms

IDT members should maintain vigilance for signs of DE, as early signs of DE/ED are often first observed by members of the IDT and should be addressed. Potential DE signs in isolation may not be defined as DE, as DE behaviours are also accompanied by abnormal cognitions associated with weight, shape, and self- worth. Growth charts, continuous glucose monitors (CGM), and insulin pump downloads can provide further evidence of disordered eating behaviours with diet, activity, or insulin dosing.

Transition from paediatric to adult services is a high-risk time of loss to follow up care and disengagement with health professionals [93]. Consider appropriate timing/arrangements for transition for those with T1D with DE/ED and/or other psychosocial concerns, to ensure appropriate assessment and treatment occurs, and there is continuity of treatment.

Table 2: Signs of DE

Many of the signs of DE below, particularly the behavioural and psychosocial signs, may not be disclosed by the individual. This non-disclosure is likely due to the fear and shame associated with the use of behaviours and the eating disorder.

Behavioural

- Frequent weighing or reluctance to be weighed.
- Body checking.
- Excessive use of "body building" supplements.
- Dietary restraint with/without out-of-control eating/bingeing.
- Insulin restriction or omission for weight loss or weight control.
- Restrictive patterns of eating e.g. restricting carbohydrate, intermittent fasting, gluten free without clinical indication, eating past comfortably full due to food restriction.
- Skipping meals/restrictive eating/secretive eating/not eating in front of others.
- Binge eating i.e. consuming large amounts of food in a short amount of time, with a loss of control, and associated feelings of guilt/shame.
- Change to whole-foods diet including vegetarian/vegan diet when this does not align with previous dietary choices or family intake.
- Excessive exercise.
- Laxative/diuretic abuse (including herbal remedies/teas/supplements).
- Vomiting, chewing and spitting behaviour.
- Misuse of medications to cause weight loss e.g. phentermine, thyroxine, GLP1-agonists.

Psychosocial

- Preoccupation and dissatisfaction with body weight (and shape), including experience of positive appraisal of weight loss at diagnosis.
- Rigid focus on food, unhelpful interpretation of food as good or bad, food rules and/or restrictive patterns of eating e.g. restricting carbohydrate, intermittent fasting, gluten free without clinical indication.
- Impaired psychological wellbeing including negative affect, deterioration of interpersonal relationships, anxiety and/or diabetes distress. (NB in the general population, 55-98% of people with an ED have a concurrent mood/anxiety disorder).
- Perfectionism, low self-esteem or other psychopathology.
- Concern expressed by a third party (e.g. parent or partner).
- Isolating self, especially around mealtimes e.g. cooking separate meals, eating separately from loved ones, avoiding social situations around food and eating.

Medical

- Cardiac symptoms:
  - Hypotension or Postural hypotension
  - Tachycardia or Postural tachycardia
  - Bradycardia
  - ECG abnormalities/arrhythmia
  - Hypothermia.
- Pathology:
  - Electrolyte abnormalities
  - Raised LFTs
  - Neutropaenia
  - Hypoalbuminaemia.
- Weight change.
- Stunted height on growth charts.
- Hormonal imbalance:
  - Menstrual abnormalities (e.g. amenorrhoea)
  - Lowered bone mineral density, osteoporotic fractures
  - Poor dentition, loss of enamel, sore gums, halitosis, calloused knuckles (secondary to purging).
  - Hair loss, lanugo, dry skin, brittle nails (secondary to effects of starvation and nutritional deficiencies).
- Refer to Table 6 and 7: Indications for Consideration for Hospital Admission for further indicators.

Diabetes related management

- Frequent DKA admissions.
- Acute changes in HbA1c (>1.5% in 3 month period) or chronic high HbA1c (>9%/75mmol/L) indicative of insufficient insulin.
- Variable BGL e.g. excessive food post hypoglycaemic episode.
- Binge eating or eating large quantities of food with inadequate insulin.
- Frequent unprescribed changes of baseline insulin regimen.
- Acute increase/decrease in weight, crossing or falling in centiles, significant weight fluctuation, rapid weight gain.
- Early development of microvascular complications.
- Insulin pump and continuous glucose monitor (CGM) downloads indictive of skipped meals, restrictive eating, excessive or binge eating with/without bolus insulin.
- Missed basal and bolus doses.
- Secretive about boluses/pump set changes.
- Automatic pump issues, such as:
  - Frequent disconnects from auto-mode (usually reported as failed technology – such as app not working, Bluetooth issues), particularly after meals and overnight.
  - Pump off body but left in auto-mode (so that reports continue).
  - Underdosing for carbohydrate, however the resultant autocorrections make it less likely for BGLs to run high (which can therefore trigger other compensatory behaviours such as excessive exercise).
  - Frequent hypos following large amounts of food (caused by auto-corrections/basal increases with binges).
  - Use of Exercise activity/Temp targets/Ease off features after meals.
  - Calibrating the blood glucose to a higher number (e.g. telling the pump the BG is 6 when it is much higher, thus the pump thinks a 16 is a 6. This might be picked up when TIR is high but HbA1c is also high).
  - Changing the 'target'.
  - Entering in manual bolus amounts as opposed to carbohydrate amounts.
  - Frequent disconnects including 'sensor failure, sensor doesn't stay on/always falls off'.
  - Lower Total Daily Dose than expected.

3.3 Routine psychosocial screening

Routine comprehensive psychosocial screening is recommended to identify those struggling in any of the emotional domains; symptoms of depression, anxiety, diabetes distress, and body dissatisfaction [94], and DE behaviours. Where DE/ED is suspected, for example those that exhibit signs of DE as per Table 4: Signs of DE, a diabetes specific DE/ED screening tool is recommended as outlined in Step 2 below. The DEPS-R has the most evidence to date as a screening tool for those with T1D and DE/ED (>10yrs age) [10].

Step 1: General psychosocial screening in T1DM management

Paediatric psychosocial screening

Depression is common among adolescents, but rates increase significantly in the presence of chronic health conditions, such as T1D [95–97]. At diagnosis and during routine follow-up care, psychosocial issues and family stresses that could impact diabetes management should be screened and assessed, as well as the incidence of depressive symptoms. Provide appropriate referrals for mental health treatment to trained mental health clinicians, who are ideally integral members of the IDT, or at least have paediatric diabetes experience [10].

Ensure within the family, there is appropriately timed transfer of diabetes tasks to children and adolescents, as premature transfer of diabetes care to the child can result in diabetes burnout or hinder the ability of the adolescent to take on diabetes management tasks, and result in a deterioration in glycaemic control. Ideally, questions should be asked of peer relationships, social adjustment, and school performance to determine whether further intervention is needed [10].

From age 7-8 years, psychosocial and diabetes-related distress should be assessed. By age 12 years, or when developmentally appropriate, and no later than one year prior to transition to adults, offer adolescents time by themselves with members of the IDT [10,93].

There is no consensus in guidelines on which psychosocial screening tools to use. The Diabetes Psychosocial Assessment Tool (DPAT) [Refer to Appendix 2: Diabetes Psychosocial Assessment Tool (DPAT)] is a suggested comprehensive psychosocial screening tool developed for routine use. There is a child version (age ≥ 12 years of age) and teen version (age 15-17 years). The DPAT incorporates three validated tools to assess:

i) Diabetes distress (PAID-C / PAID-T)
ii) Symptoms of depression and anxiety (PHQ-4)
iii) General emotional wellbeing (WHO-5).

It also includes questions on social support, finances, weight, shape, and eating concerns, as well as problems with hypoglycaemia [98].

Alternatively, other validated tools can be used to measure:

Depression and anxiety

i) Children's Depression Inventory (CDI 2) for ages 7-17 years: https://www.apa.org/obesity-guideline/depression-inventory.pdf [99]
ii) Center for Epidemiological Studies Depression Scale for Children (CES-DC) scale for ages 6-17 years: https://www.brightfutures.org/mentalhealth/pdf/professionals/bridges/ces_dc.pdf [100]
iii) Beck Depression Inventory (BDI-2) for ages 13+: https://www.ismanet.org/doctoryourspirit/pdfs/Beck-Depression-Inventory-BDI.pdf [101]
iv) Depression Anxiety Stress Scales – Youth (DASS-Y) for ages 8-17 years: https://www2.psy.unsw.edu.au/dass/DASSY.htm [102]

Quality of Life

i) Pediatric Quality of Life Inventory (PedsQL) generic, and type 1 diabetes modules. These measures offer a child self-report for ages 5-7 and 8-18, as well as teens ages 13-18. There are also PedsQL parent proxy reports for children ages 2 to 18 [103,104] https://www.pedsql.org https://www.pedsql.org/PedsQL-Scoring.pdf
ii) Kidscreen-10 for ages 8-17 years: https://www.kidscreen.org/english/questionnaires/language-versions-view-and-download/ [105]
iii) Clinical Impairment Assessment (CIA) for ages 14+ years: https://registercentrum.blob.core.windows.net/riksat/r/CIA-3-0-SkgysNldfG.pdf [106]

Diabetes-specific emotional distress

i) Problem Areas in Diabetes Survey-Children (PAID-C) for children ages 8 to 12, and their parents (P-PAID-C) [107]. Similarly, Problem Areas in Diabetes Survey-Children (PAID-T) for adolescents ages 13-18 years [108], and their parents (P-PAID-T) can be used [109]. [Refer to Appendix 2: Diabetes Psychosocial Assessment Tool (DPAT) for a copy of the PAID-C and PAID-T as part of the DPAT tool]

Adult psychosocial assessment (age 16 years and over)

The Diabetes Psychosocial Assessment Tool (DPAT) [Refer to Appendix 2: Diabetes Psychosocial Assessment Tool (DPAT)] is a suggested comprehensive psychosocial screening tool developed for routine use in people with T1D (≥16 years). The DPAT incorporates three well-known, validated tools to assess diabetes distress:

i) Diabetes distress (PAID)
ii) Symptoms of depression and anxiety (PHQ-4)
iii) General emotional wellbeing (WHO-5).

It also includes questions on social support, finances, weight, shape, and eating concerns as well as problems with hypoglycaemia [98]. This tool is well accepted by young adults (18-25 years) with T1D [110]. The DPAT can be used as a conversational tool during routine consultation and provides a referral pathway to specific members of the IDT [98].

Alternatively, other validated tools can be used to measure:

Depression and anxiety

i) Beck Depression Inventory (BDI-2) for ages 13+: https://www.ismanet.org/doctoryourspirit/pdfs/Beck-Depression-Inventory-BDI.pdf [101]
ii) Depression Anxiety Stress Scales (DASS-21) for ages 17+ years: https://maic.qld.gov.au/wp-content/uploads/2016/07/DASS-21.pdf [111]
iii) Center for Epidemiological Studies Depression Scale for Children (CES-D) scale for ages 6+ years: https://www.apa.org/depression-guideline/epidemiologic-studies-scale.pdf [100]
iv) Generalised Anxiety Disorder (GAD-7) for ages 14 + years https://www.ndss.com.au/wp-content/uploads/Generalized-Anxiety-Disorder-Seven.pdf [112]

Quality of Life

i) Assessment of Quality of Life (AQoL-4D) – 4 dimensions ages 18+ years: http://www.aqol.com.au/documents/AQoL-4D/AQoL-4D_Data_Collection_Copy.pdf [113]
ii) Clinical Impairment Assessment (CIA) for ages 14+ years: https://registercentrum.blob.core.windows.net/riksat/r/CIA-3-0-SkgysNldfG.pdf [106]
iii) Pediatric Quality of Life Inventory (PedsQL) generic, and type 1 diabetes modules. These measures offer a teen self-report for ages 13-18. There are also PedsQL parent proxy reports for children ages 2 to 18 [103,104]: https://www.pedsql.org https://www.pedsql.org/PedsQL-Scoring.pdf
iv) Kidscreen-10 for ages 8-17 years: https://www.kidscreen.org/english/questionnaires/language-versions-view-and-download/ [105]

Diabetes-specific emotional distress

ii) Problem Areas in Diabetes Survey (PAID) for ages 18 + years: https://professional.diabetes.org/sites/default/files/media/ada_mental_health_toolkit_questionnaires.pdf [114]
iii) Problem Areas in Diabetes Survey-Children (PAID-T) for adolescents ages 13-18 years [108], and their parents (P-PAID-T) can be used [109]. [Refer to Appendix 2: Diabetes Psychosocial Assessment Tool (DPAT) for a copy of the PAID-T as part of the DPAT tool]
iv) The Diabetes Distress Screening Scale (DDS) for ages 18+ years: https://professional.diabetes.org/sites/default/files/media/ada_mental_health_toolkit_questionnaires.pdf [114]

Screening and Assessment with Patient Reported Outcome Measures (PROMs)

Patient Reported Outcome Measures (PROMs) capture what matters most to patients about their health and quality of life. They help clinicians understand the impact of care from the patient's perspective. Collecting and using PROMs at the point of care supports shared decision-making and ensures care is tailored to individual needs.

The Patient Reported Outcome Measures – Health Outcomes and Patient Experience program (PRMs-HOPE program) facilitates the routine and systematic collection of outcomes and experience that matter to people through the secure online HOPE platform used by NSW Health. When PROMs are routinely and systematically collected and used at point of care, they provide a broader picture of a patient's general health and wellbeing and helps build a long-term picture of changes in emotional health and eating behaviours, helping clinicians monitor progress and adjust care plans as needed.

The HOPE platform:

- Has several diabetes screening tools available across NSW, including the DDS, PAID, PAID-T and Diabetes Eating Problems Survey-Revised (DEPS-R).
- Offers several flexible options for completing PROMs. Patients can complete them independently via SMS, email, in a clinic or hospital waiting room, a carer or family member can assist by entering responses on their behalf, or, when necessary, a clinician can record the answers for the patient directly into the platform
- Offer immediate results to the care team through the electronic Medical Record (eMR) once a survey is submitted.
- Has a Decision Support Guide for each PROM available to aid with interpreting and using PROM results at the point of care.

You can request access to the HOPE platform through your PRMs Lead in your Local Health District or Specialty Health Network. For more information, email aci-prm@health.nsw.gov.au or visit the ACI Patient Reported Measures webpage.

Following psychosocial screening and assessment

Address weight, shape, or eating concerns with a clinical dietetic assessment, or a conversation initiated by an IDT member who has attained rapport with the individual. Weight, shape, and eating concerns could be as seemingly mild as wanting to "eat healthier", refresh carbohydrate counting, or manage weight. However, the possibility of underlying DE or an ED should be considered in these assessments and conversations, and screening for DE/ED is recommended (see Step 2 below).

The National Diabetes Subsidy Scheme (NDSS) has two resources that can be helpful in having conversations 'Diabetes and Emotional Health' [115] and 'Enhancing your Consulting Skills' [92], which suggests the following approach to broaching the topic of DE:

- Promote open and honest communication – create a non-judgmental space within your consultations and appreciate that it may take time for an individual to feel comfortable talking about the issues that underlie their disordered eating.
- Start with non-threatening questions - Ask about the individual's general wellbeing before broaching the topic of eating behaviours e.g. "*You seem a bit anxious today, what do you think?", "What's worrying you at the moment?".*
- Ask about weight and body image concerns - Initiate discussion about weight and body image at a suitable point in the consultation. Normalise the concerns that many people with T1D have about these issues *"A lot of young people worry about their weight. Have you had any concerns?"*
- Comment on the presence of a biological marker of DE in a non-judgmental way e.g. elevated HbA1c – *"HbA1c seems to have increased quite a bit since we last saw each other, do you have any thoughts why this might be?"*
- Ask directly about insulin omission - Asking about insulin omission can be an effective and efficient way of screening for the presence of DE e.g. *"A lot of people with type 1 diabetes find it hard to keep up with taking their insulin all the time. Do you find that you sometimes miss your insulin injections?"* and if they say yes, then explore *"Tell me about some of the reasons why you miss your insulin."*

Step 2: DE/ED specific screening tools

Screening for ED should begin in pre-adolescence and continue through adulthood to identify risk and access treatment as soon as possible [116]. Screening can be conducted by any IDT member.

Screening should occur at:

- Initial assessment/diagnosis
- The yearly diabetes review
- If any signs of DE/ED are present [Refer to Table 4: Signs of DE]

For those with any indication of DE/ED risk, consider using a diabetes-specific DE/ED questionnaire or direct referral to a qualified member of the IDT for clinical assessment of DE/ED. Diabetes-specific ED/DE screening tools are recommended as insulin omission is a potential weight control behaviour unique to people with diabetes, and questions related to this compensatory behaviour should be included. Monitoring of carbohydrate intake, assessment of dietary restraint, and eating refined carbohydrates to treat hypoglycaemia, all need consideration in the context of T1D as affirmative answers could be attributed to diabetes management rather than DE behaviours and cognitions [92].

Diabetes Eating Problems Survey-Revised (DEPS-R)

The DEPS-R is a reliable, valid, and brief screening tool for identifying disordered eating behaviour, and can be used in children as young as 10 years old [10]. [Refer to Appendix 3: Diabetes Eating Problem Survey – Revised Scale (DEPS-R Scale)]. The DEPS-R has the most evidence to support its use to date [86,117]. It is helpful in clinics as it can be administered in 10 minutes. Scores greater than or equal to 20 indicate greater risk of DE behaviours requiring prompt clinical assessment to assess for an ED.

The DEPS-R also contains several questions that ask about insulin misuse or eating disorder behaviours such as vomiting. Even when the total score for the DEPS-R is less than 20, if these questions are answered as true, even in rare occurrences, it should identify a need for further assessment as even infrequent misuse of insulin for body shape or weight reasons is of concern and requires ongoing monitoring. These questions include:
Q4. When I overeat, I don't take enough insulin to cover the food
Q8. I make myself vomit
Q9. I try to keep my blood sugar high so that I will lose weight
Q10. I try to eat to the point of spilling ketones in my urine
Q13. After I overeat, I skip my next insulin dose
There may be limitations to the use of DEPS-R in males who experience a desire for muscularity or excessive exercise as a compensatory behaviour [15] as these are not specifically asked in the screening tool.

Modified Sick, Control, One, Fat, Food (mSCOFF)

Other screening tools include the Modified Sick, Control, One, Fat, Food (mSCOFF), which is a brief 5-item eating disorder screening tool. However, the mSCOFF may not be sensitive enough to pick up early stages of DE [118]. Also, the fifth item 'Do you ever take less insulin than you should', could overestimate DE, as there may be appropriate reasons to reduce insulin. A positive response on this item should be further explored to avoid misinterpretation.

Screening questionnaires are a useful first step in identifying DE and can be conducted by any clinician. Responses may provide indications of potential DE and facilitate conversation. Clinicians should be aware of limitations of screening tools and that the client may not be ready to share their struggles with eating, weight, and body image. Responses may not line up with clinical observations. Examples of how to respond to elevated scores on the DEPS-R and mSCOFF and have the conversation with the individual are included in Appendix 4: Responding to elevated scores on DEPS-R and mSCOFF.

A clinical interview by an experienced psychologist or mental health clinician and/or dietitian will be needed to further explore presence, severity, and specificity of DE, and by an experienced psychologist, mental health clinician or medical practitioner if diagnosis of an ED is required.

3.4 Clinical interview and assessment for DE/ED, medical and psychological risk

Clinical interviews should be carried out by the diabetes team psychologist and/or psychiatrist. If there is no psychologist and/or psychiatrist in the diabetes team, refer to a local eating disorder specialist service or mental health clinician with knowledge of ED and T1D. If this clinician has limited knowledge or experience in working with people with T1D, they should be provided with resources on ED and T1D and should liaise closely with the diabetes team. In the absence of a mental health service/clinician, contact the local Eating Disorder Coordinator for advice on where to refer.

Clinical assessments can be conducted by various members of the treating team. These assessments should be discussed in the IDT case discussions to formulate an individualised management plan [refer to Table 5: Assessment of DE/ED in T1D, Table 6 and Table 7: Indications for consideration for hospital admission]. At any point in the assessment process referrals can be made to eating disorder specialist services or mental health clinicians for diagnostic clarification and management/treatment advice.

Table 3: Assessment of DE/ED in T1D

Aspect	Assessment
Physical	• Weight (kg) and weight centile (plot on age and sex specific growth chart). • Length/Height and height centile (plot on age and sex specific growth chart). • Mid-parental height should be documented where height measurements from biological parents are available. • BMI/BMI centile for age. • Recent weight history (last 6 months). • Individual's desired weight. • Changes in trajectory of previously followed weight or height, or age-centile for children and adolescents should prompt careful evaluation of dietary intake. Where growth history is limited consider accessing GP data. Faltering height for age may indicate nutritional inadequacy. • Parental pubertal history (age of maternal menarche; any discordance between parental pubertal progress compared to peers) should be documented. • For adults, significant weight changes over lifespan including lowest and highest weights, weight pre and post diabetes diagnosis. Refer to Section 1.4: Language for more guidance on how to discuss weight and weight change.
Cognitive-behavioural	• History of dieting/DE. • Family history of DE/ED. • Frequency of weighing (including excessive avoidance). • Satisfaction with body weight, shape, and appearance. • Body checking behaviours e.g. measuring with tape/hands, use of different clothing, comparison to others, excessive use of mirrors; and frequency (including excessive avoidance). • Other medication use for the purposes of weight management e.g. laxatives, diet pills, diuretics, sports supplements. • Social attitude or influences including eating out, eating with others, preparing foods, excessive baking, eating at school, isolation or withdrawing, etc. • Food and eating attitudes. • Current and past relationship with food. • Amount of time spent thinking about food, weight, and body image. • Body image, past and present (considering feelings about having diabetes technologies e.g. pump, CGM attached to body). • Wearing baggy, ill-fitted, or layered clothing.

Aspect	Assessment
Diabetes	• Insulin management. • Insulin omission or under-dosing for meals. Indications include: o Manual override of insulin pump suggested mealtime bolus o Underreporting the amount of carbohydrates recorded at mealtimes o Lack of carbohydrates recorded at mealtimes o Use of temp basals with pump therapy o Injecting insulin into parts of the body that make supervision difficult (e.g. upper thighs) o Actively avoiding supervision of insulin o Squeezing insulin out after injection o Reporting an allergy to insulin o Diluting blood glucose levels e.g. water on fingers o Type of insulin omitted (basal vs bolus) o For meal insulin, how much e.g. 50% of required bolus and how frequently e.g. all meals, half of meals over a week, omitted for binge eating episodes or eating, snack times o How much long-acting insulin taken e.g. number of days per week or % taken of required dose o How many hours an insulin pump is disconnected o Corrections taken i.e. frequency, % taken, according to correction factor or guessed o Triggers for insulin omission. • Blood glucose level monitoring and glycaemic control: o Blood glucose level checking i.e. frequency, method e.g. flash glucose monitoring (FGM), continuous glucose monitoring (CGM), glucometer o Flexibility and rigidity around blood glucose level management o Fear of hypo or hyperglycaemia o CGM/FGM time in target range / % time hyperglycaemic after meals and overnight o Significant deterioration in glycaemic control e.g. >1.5% change in $HbA1_c$ within a 3-month period, or a HbA1c of > 9% (>75mmol/mol) [119] o CGM/FGM indicates lack of regular meals with restrictive/binge cycles o Large correction doses of insulin after binge(s) o Frequency of DKA and hospital admissions for diabetes. • History of Diabetes: o Age of diagnosis o Diabetes duration. • Self-management of diabetes: o Attitudes towards carbohydrate counting o Focus on blood glucose levels o Insulin dosing. • For routine diabetes management see ISPAD [8] or ADA guidelines [120].

Aspect	Assessment
Medical	• Medical assessment of indications for consideration for hospital admission [Refer to Table 6 and Table 7: Indications for consideration for hospital admission]. • HbA1c not consistent with meter, pump, CGM/FGM downloads (e.g. dilution of blood, measuring milk instead of blood). • Non-insulin medication including contraception and medications that may be used for weight loss e.g. dexamphetamine, phentermine, orlistat, inappropriate use of GLP-1 agonists. • Menstrual history (including age of maternal menarche) and current menstrual pattern. • Review of biochemistry (including refeeding syndrome markers if at high risk i.e. potassium, magnesium, phosphate), haematological, and hormonal profiles. • Review of micronutrients that may be of concern e.g. vitamin D, vitamin B12, iron. • Consider ECG if purging (e.g. vomiting, laxatives, diuretics) or low weight / rapid weight loss. • Bone health and consider bone density assessment. • Diabetes Annual Cycle of Care screening including for peripheral neuropathy (feet), retinopathy (eyes), nephropathy, co-occurring conditions e.g. coeliac screen and TFT's for hypothyroidism. • Gastrointestinal symptoms or concerns including gastroparesis, reflux, and constipation. • Physical features indicating DE/ED behaviours including calloused knuckles, fine hairs on face, dry skin, hair loss, bad breath, sore gums, or loss of enamel on teeth. • Exclude coeliac disease/hypothyroidism.
Dietary	• Full diet history and fluid intake. Assessment of adequacy of dietary intake including overall energy intake compared with estimated requirements, macro and micronutrients. NB relative energy deficiency/ low energy availability (with associated negative consequences) may be present in a weight stable state or when not presenting at a low weight. • Dieting behaviours e.g. calorie counting, food group avoidance including meat, or low carbohydrate diet patterns and reasoning for such. • Inconsistency between reported intake and CGM/FGM/pump reports e.g. skipped meals, lack of carbohydrate. • Inconsistency between child/parent reported intake. • Special diets followed e.g. low carbohydrate, lactose free, or confirmed diagnosis e.g. gluten free for coeliac disease. • Meal and eating patterns e.g. skipping meals, late night eating, fasting behaviours, secretive eating, not eating in front of others. • Carbohydrate counting methods and rigidity. • Binge eating including frequency, time of day or week, triggers, location, and detail of content of a typical binge. • Purging/vomiting behaviours including frequency, timing, and triggers. • Use of 'sugary' drinks or artificially sweetened drinks, chewing gum. • Caffeine consumption, including coffee, tea, or energy drinks. • Food rules, fears, and beliefs e.g. "cut" or banned foods in diet, avoidance of foods, feared foods including particular carbohydrates. • Flexibility or rigidity around food or nutrient intake. • Food allergies/intolerances, and whether these are confirmed. • Current and past vitamin, mineral, or sports supplement use. • Alcohol intake and drug use including tobacco cigarettes and other substances. • Individual's views on eating habits or difficulties and personal nutrition goals.

Aspect	Assessment
Exercise	• Type, frequency, and duration of activity. • Purpose e.g. weight management. • Consider if movement is maladaptive including if exercise is used as compensation for eating e.g. before or after eating, or if exercise is compulsive e.g. exercising despite being injured or unwell, prioritising exercise over most other things, having rigid exercise routines. • Monitor for high levels or changes in incidental exercise including amount of activity involved in part-time work or if working in an active role e.g. trade/apprenticeship. • Monitor for all activity modes including school-based sport or activity sessions, weekend sport, or individually led exercise or training sessions. Determine frequency and duration of training sessions as well as game time and intensity of both. • Screen for activities with high training loads or long session duration i.e. competitive dancing or sports. • Screen for overuse of exercise monitoring devices such as fitness watches, step counters/digital pedometers, or heart rate monitors. Including rules around daily step goals or calorie expenditure. • Screen for overuse of exercise monitoring apps, such as GPS run trackers. • Screen for % of exercise undertaken alone, individually, or unsupervised i.e. running or exercising in bedroom at night. Monitor if time spent exercising individually is stable or is increasing. • Monitor for overuse exercise injuries such as stress fractures or tendonitis i.e. shin splints. Refer to Safe Exercise at Every Stage 2 (SEES-2), Safe Exercise at Every Stage – Youth (SEES-Y), and Safe Exercise at Every Stage - Athlete (SEES-A) guidelines for further information and guidance [121–123].
Emotional	• Emotional wellbeing including diabetes distress and DPAT scores (or other psychosocial measures). • Mental health co-occurring conditions (depression, anxiety, personality disorders, substance abuse, self-harm, and suicidal ideation). • Assess for perfectionism traits, core low self-esteem, maladaptive coping strategies. • Interpersonal problems, family relationships and conflict. • School refusal, excessive use of internet/social media, bullying, distress related to school. • Trauma, grief/loss.
Family	• Family history of ED or mental health diagnoses. • Family structure and dynamics.
Other	• Previous counselling/treatment for DE/history of ED diagnosis. • Family history of dieting, ED, mental health issues, poor relationships with food and body. • Food security and access to food.

Adapted from Australian Institute Sport (AIS)/National Eating Disorder Collaboration (NEDC) and Dietitians Australia (DA) Eating Disorder Assessment template [124].

4 Indications for Consideration for Hospital Admission

Children & adolescents

Refer to the 'NSW Eating Disorders Toolkit: A Practice-Based Guide to the Inpatient Management of Children & Adolescents with Eating Disorders' [125] for guidance on the physical indicators for consideration of a hospital admission for a young person with an ED. The list is not exhaustive, and any other medical concerns should be discussed with the treating medical practitioner/s. If unsure, seek specialist advice. In addition to these indicators, additional diabetes-specific parameters, mental health, and child protection issues are included below.

Table 4: Indications for consideration for hospital admission in young people with both DE/ED and T1D (for age < 16 years)

Aspect	Parameter	Indication for consideration for hospital admission
Anthropometry	Weight loss	• Refer to NSW Eating Disorders Toolkit: A Practice-Based Guide to the Inpatient Management of Children & Adolescents with Eating Disorders [125]
Diabetes	Blood Glucose Indicators	• HbA1c greater than 9% mmol/mol, DKA, regular hypoglycaemia, episode of severe hypoglycaemia.
	Insulin	• Insulin omission, restriction of insulin or suspicion of this behaviour that requires inpatient re-establishment or titration of insulin regimen.
	Ketones	• Ketosis—Blood ketones greater than or equal to 1.5 mmol/L or urine ketones +++.
Mental health	Increased Risk of Harm	• Severe or significant mental health issues and/ or family stress and behaviours contributing to and/ maintaining the ED behaviour. • Suicidality/self-harm unmanageable in outpatient setting.
Child protection issues	Increased Risk of Harm	• At significant risk of harm which significantly impacts management of T1D and ED. • Breakdown of social structure impacting and interfering with management.

Adults

Refer to the 'Guidelines for the Inpatient Management of Adult Eating Disorders in General Medical and Psychiatric Settings in NSW' [126] for guidance on the physical indicators for consideration of a hospital admission for an adult with an ED. This list is not exhaustive, and any other medical concerns should be discussed with the treating medical practitioner/s. An admission for T1D with an ED/DE would be most appropriate in a medical setting for initial medical stabilisation and insulin titration. There may be some exceptions where a mental health admission is more appropriate. If unsure, seek specialist advice. In addition to these indicators, additional diabetes-specific parameters, mental health, and child protection issues are included below.

Table 5: Indications for consideration for hospital admission in adults with both DE/ED and T1D (for age ≥ 16 years)

Aspect	Parameter	Indication for consideration for hospital admission
Anthropometry	Weight loss	• Refer to Guidelines for the Inpatient Management of Adult Eating Disorders in General Medical and Psychiatric Settings in NSW [126]
Diabetes	Blood Glucose Indicators	• HbA1c greater than 10% (86 mmol/mol), DKA, episode of severe hypoglycaemia
	Insulin	• Insulin omission, restriction of insulin or suspicion of this behaviour that requires inpatient re-establishment or titration of insulin regimen.
	Ketones	• Ketosis—Blood ketones greater than or equal to 1.5 mmol/L or urine ketones +++
Mental health	Increased Risk of Harm	• Severe or significant mental health issues and/ or family stress and behaviours contributing to and/ maintaining the eating disorder behaviour • Suicidality/ self-harm unmanageable in outpatient setting
Child protection issues (16- 18 years)	Increased Risk of Harm	• At significant risk of harm which significantly impacts management of Diabetes and Eating disorder • Breakdown of social structure impacting and/ interfering with management

4.1 Questions and algorithm for asking about self-harm and suicidality risk

A suicide risk assessment is essential if an individual is suspected of having an established ED as this is a major cause of mortality. This risk may be due to co-existent mood disorders or a consequence of the cognitive and psychological changes from malnourishment [127].

Asking the following questions and undertaking actions as indicated by the algorithm [Refer to Appendix 6: Algorithm for asking about self-harm and suicidality risk] can help improve the safety of people with DE/ED and T1D:
1. Have you been feeling down or depressed? If 'no', no further action. If 'yes', ask:
2. Do you ever experience any thoughts of suicide or self-harm? If 'no' encourage individual to contact their GP or Mental Health Line (Ph: 1800 011 511) or Kids Helpline (Ph: 1800 55 1800) for further assessment and management of depressed mood. If 'yes' follow your service procedures and refer to emergency department or mental health services as indicated.

Asking about suicide or self-harm can be anxiety provoking for health professionals. It is valuable to know that asking does not increase the risk of someone attempting to take their own life. Rather, it can be protective by creating a sense of connectedness and can also reduce distress. It is important to normalise the experience that many people with diabetes feel this way too, so it is important to support them access the appropriate support and identify key support people. Asking provides an opportunity for communication.

5 Intervention to manage DE/ED in T1D

Summary of the principles of treatment:

- Respond promptly.
- Optimise communication with sensitive approach.
- Individualise the Care Pathway with increased frequency of appointments, supports, and monitoring.
- Use an IDT approach with realistic, joint management plans. It is important that all IDT members have confidence and training in communicating with the individual +/- family/carer, so they can relay information and be able to have difficult conversations.
- Consider early, shared care with specialist ED Teams or Community Mental Health Service (CMHS).
- Address diabetes knowledge, diabetes management skills, dietary management, diabetes distress, and other psychosocial concerns concurrently with DE/ED.
- Ensure regular IDT review of progress and management plan.
- Escalate support at any stage if risk increases or there is inadequate treatment progression.
- Be mindful of DE/ED in young people who are transitioning from paediatric to adult services, that assessments and interventions for DE/ED are well coordinated.

There is limited evidence of effective interventions to reduce DE as well as improve glycaemic control [19]. The following plan represents the consensus of experienced professionals working in this field with clinical expertise in managing co-occurring DE/ED and T1D.

5.1 Principles of treatment

Clinical consensus recommends that the IDT apply certain core principles when treating DE in T1D. A prompt response is paramount. Communication style is important. Careful word choice can make a powerful and positive difference to the emotional wellbeing, self-care and health outcomes of people affected by diabetes. Conversely, careless or negative language can cause harm and demotivation. A position statement by Diabetes Australia serves as a guide for anyone communicating with and about people with diabetes [128].[Refer to Section 1.4: Language for further guidance]

An IDT using a person or family-centred approach is key. It is important that family/carers are involved for young people and consenting adults, as part of the IDT from the outset of treatment if appropriate. It is important that they are involved throughout assessment and treatment as they are vital in providing the individual with support.

Out-of-routine, individualised care is required to provide appropriate level of support and monitoring. Concurrent addressing of diabetes knowledge, insulin therapy, dietary management, and psychological interventions is needed. To do this, early collaboration with specialist Eating Disorder Teams or CMHS is essential.

Transition of care from paediatric to adult services is an important process to ensure ongoing management of a chronic disease in a developmentally appropriate setting. Clear communication between clinical teams leads to an effective transition process. All patient related issues need to be discussed, particularly the psychosocial challenges that may complicate future diabetes care. DE/ED issues, including the emotional and behavioural challenges, need to be emphasised during the clinical handover process so that they continue to be monitored and reviewed.

The principles of treatment are explored in detail below.

Principle 1: Prompt response with sensitivity

- Avoid complacency.
- People with diabetes and their families/carers, need and deserve communication that is clear and accurate, respectful and inclusive, free from judgement and bias [128].
- Explain to the individual and their family/carers (if appropriate) that based on the clinical assessment the individual displays signs of DE.
- Explain that deviation from previous growth trajectory (when this is known) is concerning in the context of DE/ED.
- Elicit the individual +/- family/carers awareness and concerns.
- Acknowledge the focus on food and glycaemic control in diabetes management and potential challenges for the individual +/- family/carers.
- Advise the individual that their concerns with weight and shape are valid and will be addressed.
- Explain the necessity of treatment, and that support is available.
- Inform the individual on the consequences of untreated DE, including insulin omission (if evident) on overall short-term, and long-term health (such as diabetes-specific complications, ED complications, fertility, and poor bone health):
    - Give information factually and avoid instilling fear as this may lead to disengagement from treatment
    - Verify with the individual/family/carer that the information is clear
    - Invite the individual/family/carer to ask questions.
- Seek collateral history with the individual's consent when appropriate (e.g. parents, partners, other healthcare professionals).

Principle 2: Family-centred or person-centred approach

- Decide at the outset of treatment, who the appropriate family/carer support will be.
- Develop a clear plan of what is expected of the family/carer/support person in the individual's care and treatment, support them on how to communicate effectively with their loved one, and what and how to feedback to the IDT. To assist in this process, a Resource for Caregivers and Families of People with T1D and ED is available which can be provided to the parent/carer.
- Work towards shared decision-making.
- Treatment decisions should be realistic, achievable, modifiable, flexible, and minimise harm.
- Identify any beliefs around health, food, and eating within the family which may be contributing to risk factors or DE/ED behaviours.
- Commence treatment where the individual feels ready to focus, if safe and appropriate, as they are more likely to engage with treatment plan.
- Be sensitive if the individual prefers not to be weighed or know their weight.
- Celebrate the small successes along the way.
- If treatment goals are not achieved, explore the individual's +/- family/carer's challenges and revise the treatment plan.
- Identify and discuss the parameters and timeframes in which escalation of treatment for DE/ED will be required. [Refer to Principle 5: Individualised care pathway]

Principle 3: Early collaboration with specialist ED services / clinicians or local ED coordinator

- Early involvement of local or statewide specialist ED services/clinicians or CMHS for assessment and/or support with management is crucial.
- Rural and regional centres are encouraged to consider accessing Telehealth opportunities to gain access to ED Teams, mental health clinicians, or CMHS.
- Shared care between specialist ED services/clinicians and the diabetes IDT is recommended.
- Regular and effective communication between both teams is essential to facilitate a thorough handover process. This ensures that all clinicians are fully informed and that the individual is not burdened with relaying information themselves. Moreover, it promotes alignment among team members, enabling them to collaboratively work towards consistent and patient-centred outcomes.

- It is essential for Diabetes teams to remain involved with care when an individual is referred to an ED Service/clinician or CMHS.
- Teams should discuss and confirm who has the primary responsibility for monitoring the physical health of the patient.
- Bi-directional upskilling of Diabetes and ED Teams are required to integrate care.
- Diabetes teams should be aware of risk and normality of relapse for someone with DE/ED. Collaborate with the individual and ED team for relapse prevention and type of follow up.

Principle 4: An Interdisciplinary Team (IDT) approach

- Communication and the collaboration between diabetes and ED teams needs to be clear and an IDT meeting attended by both teams to ensure consistency in treatment.
- It is important that all IDT members have confidence and training in communicating with the individual +/- family/carer, so they can relay information and be able to have difficult conversations.
- The core IDT should include an endocrinologist/paediatrician, dietitian, credentialled diabetes nurse educator, mental health clinician, +/- psychiatrist with T1D expertise and a GP.
- The patient's General Practitioner (GP) should remain actively involved as an IDT member to coordinate patient care, facilitate appropriate referrals, provide access to Medicare Benefits Schedule (MBS) reimbursable schemes (such as mental health or ED care plan) where required, and provide support.
- Engage early with ED Services or CMHS to ensure collaborative treatment from the outset of treatment.
- Effective communication within the team and a collaborative approach is essential.
- Suggested IDT approach:
    - IDT case discussion at every post clinic meeting
    - IDT based treatment decisions, goals and targets, in consultation with the individual +/- family/carer
    - IDT to reassess treatment plans at least 3 monthly (more frequently, if the individual's progress is deteriorating or treatment targets are not being met)
    - IDT to decide the timing of referral of the individual +/- family/carer to ED Team, CMHS or hospital admission.

Principle 5: Individualised care pathway

- Individualise the individual's care pathway outside of routine clinical care.
- Addressing psychosocial issues that can trigger/exacerbate DE behaviours can also be helpful e.g. media and social media, interpersonal issues, loneliness and boredom, ADHD symptoms, lack of support/understanding of diabetes self-care.
- Joint (individual/family/carer and IDT) treatment goals and plans should consider the frequency of appointments, level of support, and monitoring.
- Treatment plans should consider the severity of DE along its spectrum, ranging from mild symptoms to diagnosed ED.
- Be mindful of DE/ED in young people who are transitioning from paediatric to adult services, that assessments/interventions for DE/ED are well coordinated.

Suggested treatment plan:

- Full involvement of IDT from the outset.
- Individualise the frequency of visits:
    - 2–4 weekly appointments, if there are thoughts and/or behaviours of DE present (excluding insulin omission) and in the absence of the following: poor glycaemic control, failure to maintain growth and weight trajectory, diabetes-related complications, ED-related complications, poor QOL, or other mental health diagnosis
    - 1–2 weekly appointments if there are thoughts and/or behaviours of DE present including insulin omission or the following are present: poor glycaemic control, failure to maintain growth and weight trajectory, diabetes-related complications, ED-related complications, poor QOL, or other mental health diagnosis
    - Hospital admission if there are acute clinical or metabolic complications of DE/ED [Refer to Section 4: Indications for Consideration for Hospital Admission], risks of self-harm or suicidality [Refer to

Appendix 6: Algorithm for asking about self-harm and suicidality risk]
    - Hospital admission should be offered at any stage if the individual/family is unable to cope. It should also be considered if there is evidence of chronic symptoms/signs of DE that have not improved with outpatient management but are concerning for the IDT
    - Frequency of visits can be adjusted at any stage based on the individual's current clinical assessment or general concerns.
- Individualise which members of the IDT require greater intensity of involvement.
- Individualise the monitoring of specific health outcomes at each visit:
    - Refer to Section 4: Indications for Consideration for Hospital Admission for a comprehensive list.
    - Examples include HbA1c, CGM metrics, growth velocity, BMI, psychopathology in addition to ED specific medical monitoring [20].

Principle 6: Concurrent integration of diabetes knowledge, dietary, and psychology interventions

- Provide education on insulin management, including importance of basal insulin to prevent DKA.
- Provide education on the signs and symptoms of DKA.
- Provide sick day management including checking for ketones.
- Clinical consensus suggests that in individuals with T1D and DE/ED, all medical and psychological aspects of care should be addressed concurrently.

A systematic review and meta-analysis in 2017 discussed six intervention studies based on psychotherapies that identified and challenged cognitions and affect about DE [3]. Whilst there was some improvement in DE symptoms and a reduction in insulin omission was reported, none of the interventions showed improvement in HbA1c. The lack of improvement in glycaemic control could be attributed to the use of HbA1c instead of TIR as an outcome measure, a lack of diabetes integration into the DE treatment, or may reflect a more relaxed approach to diabetes targets while the DE was addressed.

Family Based Therapy (FBT) has been established as the strongest evidence-based treatment for adolescent AN [129]. There are few treatment outcome studies for the T1D plus ED subgroup that address the success of these therapies or recommended therapeutic adaptations. The agreed treatment principles [130] include an IDT approach with team members communicating frequently to maintain congruent treatment goals. Prior to outpatient treatment, the individual may need inpatient care to ensure medical and psychiatric stability, particularly if there is a severe risk of DKA. The outpatient team must work collaboratively with the individual and family/ carer to establish small goals that are realistic and achievable.

In those children/adolescents with established ED, FBT in Phase 1 is geared at empowering parents and carers to coach the child to eat. The child is not invited to be part of conversations about their nutrition, meal planning, or meal preparation. Parents may be required to assume a greater responsibility for nutritional restoration and closely supervise insulin injections when following this evidence-based treatment for ED.

Emerging evidence supports the use of CBT-e (Cognitive Behaviour Therapy - enhanced) with adolescents if FBT is either unacceptable, contraindicated, or ineffective. CBT-e is also one of the evidence-based treatments for adults with EDs and can be modified to incorporate insulin use/misuse as a treatment target.

6. Suggested IDT roles for management of T1D with DE

6.1 Medical / Endocrinologist / General Practitioner

Insulin management

- Explain the reasons why basal and bolus insulin doses are required and not negotiable.
- Both MDI or pump therapy are acceptable and need to be individualised, taking into consideration DKA risk.
- Support and supervision of insulin dosing is required for children/adolescents and should be considered for adults.
- For children/adolescents the school care plan should stipulate that children/adolescents should consume food and administer insulin in a supervised environment. This can be helpful in cases of insulin omission.
- Review diabetes technologies such as CGMs and insulin pump reports to monitor insulin omitting behaviours.
- Prevent hypoglycaemia which may cause associated fear and trigger binge eating behaviours.
- For adults with chronic hyperglycaemia, reduce the blood glucose levels slowly to standard targets by gradually increasing insulin doses. This will reduce the risk of sudden worsening of existing retinopathy, and inducing autonomic neuropathy, peripheral neuropathy, and/or nephropathy [131].

Monitor for insulin oedema with insulin re-initiation

- Insulin oedema following initiation, re-initiation, or intensification of insulin is a rare phenomenon in paediatrics [132]. It appears to be associated with DKA and children with chronic poor glycaemic control where there is significant long-term malnutrition.
- In adults [10,93], the incidence is 3-3.5%. It can be mild or result in generalised oedema. It occurs 1-week post initiation and is usually self-limiting within 4 weeks of conservative management of fluid and salt restriction. Occasionally diuretic therapy is required. Oedema is more severe in those who are underweight with poor cardiac, renal, or hepatic reserve [133,134].

Monitor growth and weight

- Monitor growth and weight centiles for children/adolescents.
- Monitor weight and BMI for adults when appropriate.
- Be mindful that weight can be a sensitive topic. [Refer to Section 1.3: Weight bias and stigma and Section 1.4: Language for further guidance.]

Monitor for diabetes-specific complications and ED complications

- Assess DKA risk and provide education to the individual, family, and/or carer.
- Monitor and treat long-term complications secondary to T1D. Note that long-term complications secondary to T1D are not frequently seen in children and adolescents.
- Monitor pathology e.g. biochemistry, haematological, hormonal profiles.
- Monitor for menstrual cycle irregularities and bone health:
    - Bone health has been shown to be worse in children with T1D compared to unaffected children. There is also an association between increased fracture risk and poor glycaemic control. Amenorrhoea is a well-recognised risk factor for poor bone health. Evaluation of bone health with a Bone Mineral Density scan is recommended in those with complications or amenorrhoea for more than 6 months duration [135]. Children and adolescents require BMD z-scores using approved radiology software packages.
    - Complete nutritional restoration is required to reverse suppression of the neuro-endocrine axis and restore the natural menstrual cycle.
    - For bone health, weight restoration is required to return to normal pubertal oestrogen production, as well as ensuring adequate levels of calcium and vitamin D. There is emerging evidence if there is failure of weight restoration or failure of return of menses with weight restoration, that there may be a benefit for:
        - physiologic oestrogen replacement using transdermal oestrogen (with cyclic progestin) in adolescent females

- low dose oral 17 β oestradiol to mimic pubertal oestrogen in females with a bone age < 15 years that may protect against bone loss and improve spine and hip bone density [136–138].

  - In adult females, after 12 months of aggressive nutritional rehabilitation, consideration may be given to transdermal oestradiol with cyclic progestin [139]. The oral contraceptive pill is not recommended for the treatment of low bone density in patients with AN. Oral oestrogen suppresses IGF-1 production in the liver, a hormone that is already decreased in starvation due to growth hormone resistance, which may explain the lack of benefit of oral oestrogen on bone density in those with low body weight. [136,137]
  - Movement may be maladaptive where exercise is used inappropriately to manage weight and may not be appropriate if the individual is underweight. Guidance around exercise needs to be individualised, keeping in mind that weight-bearing activity is important for bone health, but can be detrimental in those who are underweight or using exercise as an ED behaviour. This decision needs to be made in collaboration with the mental health/ED team. The *Safe Exercise at Every Stage 2* (SEES-2), Safe Exercise at Every Stage - Youth (SEES-Y), and Safe Exercise at Every Stage - Athlete (SEES-A) guidelines [121–123] can help support clinicians to manage exercise during treatment for an ED.

- Escalate care when required.

Other

- Address sleep patterns. To establish and maintain healthy sleep patterns, it is recommended to have consistent bedtime and wake-up times, avoid screen time 1 hour before sleep, and keep screens out of the bedroom.
- Screen for the use of pharmacotherapy for weight loss e.g. dexamphetamine, phentermine, orlistat, and inappropriate use of GLP-1 agonists. For those seeking treatment for weight loss, thorough screening for DE should occur prior to consideration of pharmacotherapy.

6.2 Dietitian (APD)

Principles for children, adolescents, and adults with T1D and DE

- Acknowledge the individual's thoughts and feelings around eating.
- Aim for regular eating with 3 meals with 2-3 snacks in between to normalise eating habits and regulate hunger and satiety levels.
- In children and adolescents, assess nutritional adequacy by ensuring energy requirements are being met and there is adequate representation of all food groups appropriate for the age and growth requirements. This changes with the age of the child, activity, and growth.
- In adults, assess nutritional adequacy by ensuring energy requirements are being met and there is adequate representation of all food groups.
- Consider clinical dietary requirements (e.g. coeliac disease, gastroparesis).
- Children and adolescents may require weight gain and catch-up growth if tracking away from previous height and weight centiles, or if there has been weight loss in the lead up to diagnosis.
- Adjust total glycaemic load and carbohydrate distribution to meet individual needs and prevent rapid weight gain.
- Consider micronutrient supplementation to address deficiencies e.g. multivitamin, thiamine, vitamin D, calcium, phosphate, iron [1].
- A meal plan may be required for the individual and/or family/carer if they are struggling to make changes.
- Explore and address any 'fear' foods and food rules.
- Address eating behaviours such as grazing, timing of meals and snacks, and pace of eating.
- Encourage a safe, protected environment for eating e.g. the dining table with others, away from television or games and out of the bedroom. This enables insulin to be supervised.
- Supervise bathroom time after a meal and/or develop management plan with the adult or parent/carer to support those who are purging.
- Explain the reasons why insulin doses must be administered, this is not negotiable.
- Review diabetes technologies such as CGMs and insulin pump reports to monitor insulin omitting behaviours.
- In adults with concurrent diabetes distress, consider changing focus from carbohydrate counting to consistent carbohydrate exchanges/portions at each meal to reduce the distress/anxiety of variable insulin doses and carbohydrate counting. Alternatively, if counting carbohydrate in grams is identified to contribute to the DE/ED, consider teaching 10g carb portions or 15g carb exchanges.

- Movement may be maladaptive where exercise is used inappropriately to manage weight and may not be appropriate if the individual is underweight. Guidance around exercise needs to be individualised, keeping in mind that weight-bearing activity is important for bone health, but can be detrimental in those who are underweight or using exercise as an ED behaviour. This decision needs to be made in collaboration with the mental health/ED team. The *Safe Exercise at Every Stage 2* (SEES-2), Safe Exercise at Every Stage - Youth (SEES-Y), and Safe Exercise at Every Stage - Athlete (SEES-A) guidelines [121–123] can help support clinicians to manage exercise during treatment for an ED.
- Address fears around exercise with diabetes. Education on strategies to maintain blood glucose levels with exercise is important to empower the individual to manage exercise safely and confidently using the *Safe Exercise at Every Stage* (SEES) guidelines [121–123].
- Monitor frequency and duration of exercise - as DE behaviours decrease, exercise may increase.

Additional principles for adults with TID and DE

- Consider dietary education approaches such as HAES® [48], RAVES™ [140], motivational interviewing, mindful eating, etc. and consider dietetic alignment with concurrent evidence- based psychological therapies (e.g. CBT-e, SSCM, and FBT).
- Dietitians who are unfamiliar with these approaches should consider seeking professional supervision/support from an ED specialist dietitian. Dietitians within the IDT should consider being upskilled in these techniques.

6.3 Credentialled Diabetes Educator (CDE)

- Review understanding of the pathophysiology of T1D.
- Provide education around the action of insulin and the goals of management.
- Review insulin administration.
- Address reasons and details of insulin omission or restriction.
- Explore feelings associated with hypoglycaemia and hyperglycaemia.
- Provide education on the accurate treatment of hypoglycaemia.
- Address other barriers to taking insulin including hypoglycaemia-related fears or needle phobia.
- Provide education on the signs and symptoms of DKA, and insulin adjustment for sick days.
- Encourage the use of diabetes technologies, such as sensors, in appropriate individuals.
- Review diabetes technologies such as CGMs and insulin pump reports to monitor insulin omitting behaviours.
- Movement may be maladaptive where exercise is used inappropriately to manage weight and may not be appropriate if the individual is underweight. Guidance around exercise needs to be individualised, keeping in mind that weight-bearing activity is important for bone health, but can be detrimental in those who are underweight or using exercise as an ED behaviour. This decision needs to be made in collaboration with the mental health/ED team. The *Safe Exercise at Every Stage 2* (SEES-2), Safe Exercise at Every Stage - Youth (SEES-Y), and Safe Exercise at Every Stage - Athlete (SEES-A) guidelines [121–123] can help support clinicians to manage exercise during treatment for an ED.

6.4 Mental health clinician / psychologist

- When the DPAT, PAID-T, or other psychosocial questionnaires have highlighted risk, start conversations around the individual's responses in the questionnaire.
- Explore all factors that may be exacerbating presentation through use of a formulation. This may include the adjustment process in managing diabetes (including diabetes distress, low self-confidence in diabetes management) but may also include other psychosocial factors.
- Explore thoughts and feelings related to weight, body image, and eating.
- Explore underlying personality traits which may lead to unhelpful thoughts and feelings (e.g. perfectionism, obsessive thoughts, impulsivity).
- Focus on wellbeing and a positive relationship with food and eating rather than weight.
- Focus on nutritional adequacy – in children/adolescents, focus on nutritional adequacy to support growth along appropriate trajectory on centile charts.

- Explore social support network (including family).
- Consider family involvement in treatment plan.
- Consider psychotherapy to address identified psychological problems specific to T1D and DE.
- Address co-occurring psychopathology e.g. depression, anxiety.
- Address sleep patterns. To establish and maintain healthy sleep patterns, it is recommended to have consistent bedtime and wake-up times, avoid screen time 1 hour before sleep, and to keep screens out of the bedroom.

6.5 Specialist services referrals

- Tertiary Diabetes Service.
- Local or tertiary Specialist ED Service/clinician or CMHS if available.
- Consultant Psychiatrist/Mental Health clinician or service.
- General Paediatrician.
- Exercise Physiologist.
- Drug and Alcohol Service.
- Consider referral to Department of Communities and Justice (DCJ) if child/adolescent is at risk of significant harm.
- GP referral for a Mental Health Plan or Eating Disorder Plan (EDP) for private treatment with a dietitian and psychologist, or for a private specialist eating disorder service if none available in public health service (with need for close liaison with diabetes service).
- Escalation to Hospital Inpatient Admission.

Appendix 1: DSM-5-TR and ICD-11 criteria

DSM-5-TR Criteria: American Psychiatric Association. (2022). *Diagnostic and statistical manual of mental disorders* (5th ed. Text Revision). Washington, DC: Available from: https://www.psychiatry.org/psychiatrists/practice/dsm

Access the InsideOut DSM-5-TR criteria here: https://insideoutinstitute.org.au/resource-library/dsm-5-diagnostic-criteria-for-eating-disorders

ICD-11 criteria: World Health Organization (WHO). (2022). *International Classification of Diseases (11th revision).* Available: https://icd.who.int/browse/2024-01/mms/en#1412387537

Appendix 2: Diabetes Psychosocial Assessment Tool (DPAT)

Diabetes Psychosocial Assessment Tool (DPAT) – ≥ 12 years old

Queensland Government

Diabetes Psychosocial Assessment (Phase One)

Facility: .....

(Affix identification label here)

URN:

Family name:

Given name(s):

Address:

Date of birth: Sex: ☐M ☐F ☐I

Date: ____ / ____ / ____

Do you have any concerns or questions that you would like addressed today?

1. .....
2. .....

Checklist:

- ☐ Young person is 12 years of age (dependent upon developmental age)
- ☐ Parents continuing to mostly attend reviews with the young person and their clinician
- ☐ Confidentiality explained to young person and strictly adhered to (as appropriate)

Problem Areas in Diabetes – Child Version (PAID-C)

Instructions: Living with diabetes can sometimes be hard. Sometimes it might get annoying. Sometimes it can be a little annoying and sometimes it can get pretty frustrating. We have a list of things that can sometimes bother people about their diabetes. Think about how much each of the items below may have upset or bothered you **DURING THE PAST MONTH** and tick (✓) the appropriate number.
Please note that we are asking you how much each item may be bothering you in your life. If something is not a bother or a problem for you, you would tick "1". If it is a very big bother, you would tick "6".

During the past month I have been...	Not a problem		Medium problem		Big problem	
1. Feeling sad when I think about having diabetes.	☐1	☐2	☐3	☐4	☐5	☐6
2. Feeling stressed-out by what I have to do every day for my diabetes.	☐1	☐2	☐3	☐4	☐5	☐6
3. Feeling angry when I think about having diabetes.	☐1	☐2	☐3	☐4	☐5	☐6
4. Feeling sick and tired of always trying to take care of my diabetes.	☐1	☐2	☐3	☐4	☐5	☐6
5. Feeling that my friends or family keep nagging me about food or about checking blood sugars.	☐1	☐2	☐3	☐4	☐5	☐6
6. Feeling like my parents don't trust me to care for my diabetes.	☐1	☐2	☐3	☐4	☐5	☐6
7. Feeling I must be perfect in caring for my diabetes.	☐1	☐2	☐3	☐4	☐5	☐6
8. Feeling that my blood sugars keep going up and down, no matter how hard I try.	☐1	☐2	☐3	☐4	☐5	☐6
9. Feeling like my parents blame me for blood sugar numbers they don't like.	☐1	☐2	☐3	☐4	☐5	☐6
10. Feeling that my friends or family don't understand how hard it is to live with diabetes.	☐1	☐2	☐3	☐4	☐5	☐6
11. Feeling like my parents worry about bad things happening to me.	☐1	☐2	☐3	☐4	☐5	☐6

DIABETES PSYCHOSOCIAL ASSESSMENT (PHASE ONE)

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Diabetes Psychosocial Assessment (Phase One)

(Affix identification label here)

URN:

Family name:

Given name(s):

Address:

Date of birth: Sex: ☐M ☐F ☐I

Child Psycho-education Provided for Anxiety and Depressive Symptoms

Anxiety	Worries are unpleasant thoughts that you can't get out of your head. They're like annoying bugs that keep buzzing around and won't leave you alone. It's normal to have worries – everyone has them from time to time. It's only a problem when your worries get in the way of other parts of your life, or if they make you unhappy. When you worry, your body and thoughts can go through several changes. These changes can be uncomfortable, and for some people they're scary.	• Dry mouth • Feeling like there is a 'lump' in your throat • 'Butterflies' in the tummy • Sweaty hands • 'Jelly' legs • Want to go to the toilet • Difficulty breathing • Heart beats fast • Shaky voice • Blurred eye sight • Headache • Light headed/feel faint • Thinking unhelpful or unpleasant thoughts • 'Spiralling' thoughts • Teary • Feeling hot/red face
Depression	There may be times when everyone feels down, fed-up, unhappy or sad. Most of the time these feelings come but sometimes these feelings can persist and stay to affect aspects of your life like school, your relationships, or your emotional wellbeing. You can't seem to shift them and end up feeling depressed. You may have noticed you are:	• Often teary • Cry for no reason or over minor things • Has trouble going to sleep or staying asleep • Feeling your lacking energy and are constantly tired • Comfort eating or lost your appetite • Difficulty with concentration • Stopped doing or have lost interest in things you have previously enjoyed • Go out less, stopped hanging out with friends and want to be left alone

Your Emotional Health

Over the past 2 weeks, how often have you been bothered by the following problems... (PHQ-4)	**Not at all**	**Several days**	**More than half the days**	**Nearly every day**
1. Feeling nervous, anxious or on edge?	☐0	☐1	☐2	☐3
2. Not being able to stop or control worrying?	☐0	☐1	☐2	☐3
3. Little interest or pleasure in doing things?	☐0	☐1	☐2	☐3
4. Feeling down, depressed or hopeless?	☐0	☐1	☐2	☐3
Social support for life in general?	**Strongly disagree**	**Disagree**	**Agree**	**Strongly agree**
5. I can count on someone when things go wrong.	☐0	☐1	☐2	☐3
6. I can talk about my problems with someone.	☐0	☐1	☐2	☐3

Your weight, shape and eating	**On a scale of 1 to 5, where 5 is the best outcome**				
7. I am comfortable with my current weight.	☐1	☐2	☐3	☐4	☐5
8. I am comfortable with my body shape/appearance.	☐1	☐2	☐3	☐4	☐5
9. I am comfortable with my eating pattern.	☐1	☐2	☐3	☐4	☐5

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URN:

Family name:

Given name(s):

Address:

Date of birth: Sex: ☐M ☐F ☐I

Your Emotional Health *(continued)*

Hypoglycaemia (hypo or low blood glucose)	Strongly disagree	Disagree	Agree	Strongly agree
10. I worry about hypoglycaemia...	☐0	☐1	☐2	☐3

11. Do your hypo symptoms usually occur at a blood glucose level of...	☐ 3 or more mmol/L ☐ Between 2.0–2.9mmol/L	☐ Less than 2mmol/L ☐ I do not feel symptoms
12. I feel that I can't ever be safe from hypoglycaemia	☐ Not a problem ☐ Slight problem ☐ Moderate problem	☐ Somewhat serious problem ☐ Serious problem ☐ Very serious problem

Your Well-being (WHO–5)

Over the past 2 weeks...	All of the time	Most of the time	More than half of the time	Less than half of the time	Some of the time	None of the time
13. I have felt cheerful and in good spirits.	☐5	☐4	☐3	☐2	☐1	☐0
14. I have felt calm and relaxed.	☐5	☐4	☐3	☐2	☐1	☐0
15. I have felt active and vigorous.	☐5	☐4	☐3	☐2	☐1	☐0
16. I woke up feeling fresh and rested.	☐5	☐4	☐3	☐2	☐1	☐0
17. My daily life has been filled with things that interest me.	☐5	☐4	☐3	☐2	☐1	☐0

Over the past 2 weeks...	Very negative	Negative	Neutral	Positive	Very positive
18. What is the impact of diabetes on your quality of life?	☐1	☐2	☐3	☐4	☐5

Financial Concerns

	Yes	No
Do you have a Medicare Card?	☐	☐
Do you have a Health Care Card?	☐	☐
Do you have private health insurance?	☐	☐
Are there financial concerns in your family that you are aware of and that impact your diabetes?	☐	☐

Comments:

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Diabetes Psychosocial Assessment (Phase One)

(Affix identification label here)

URN:

Family name:

Given name(s):

Address:

Date of birth: Sex: ☐M ☐F ☐I

Problem Areas in Diabetes – Parents of Children (P-PAID-C)

Instructions: Living with diabetes can sometimes be difficult. In day-to-day life, there may be many problems and hassles with your child's diabetes. The problems may range from minor hassles to major life difficulties. Listed below are a variety of possible problem areas which people with diabetes may have. Think about how much each of the items below may have upset or bothered you **DURING THE PAST MONTH** and tick (✓) the appropriate number.

Please note that we are asking you how much each item may be bothering you in your life, **NOT** whether the item is merely true for you. If you feel that an item is not a bother or a problem for you, you would tick "1". If it is very bothersome to you, you would tick "6".

During the past month I have been...	Not a problem		Medium problem		Big problem	
1. Feeling sad when I think about my child having and living with diabetes.	☐1	☐2	☐3	☐4	☐5	☐6
2. Feeling overwhelmed by my child's diabetes regimen.	☐1	☐2	☐3	☐4	☐5	☐6
3. Feeling angry when I think about my child having and living with diabetes.	☐1	☐2	☐3	☐4	☐5	☐6
4. Feeling constantly concerned about food and eating.	☐1	☐2	☐3	☐4	☐5	☐6
5. Worrying about the future and the possibility of my child developing serious complications.	☐1	☐2	☐3	☐4	☐5	☐6
6. Feeling upset when my child's diabetes management is "off track."	☐1	☐2	☐3	☐4	☐5	☐6
7. Feeling "burned-out" by the constant effort to manage my child's diabetes.	☐1	☐2	☐3	☐4	☐5	☐6
8. Feeling that my child does not check blood sugars often enough.	☐1	☐2	☐3	☐4	☐5	☐6
9. Feeling discouraged or defeated when I see high blood sugar results on my child's meter.	☐1	☐2	☐3	☐4	☐5	☐6
10. Feeling that I act like the "diabetes police" (e.g. nag about eating properly, checking blood sugars, not trying hard enough).	☐1	☐2	☐3	☐4	☐5	☐6
11. Feeling that I cannot trust my child to care for their diabetes.	☐1	☐2	☐3	☐4	☐5	☐6
12. Feeling I must be perfect in managing my child's diabetes regimen.	☐1	☐2	☐3	☐4	☐5	☐6
13. Worrying that my child will miss or skip blood sugar checks.	☐1	☐2	☐3	☐4	☐5	☐6
14. Feeling that my child's blood sugars often swinging wildly.	☐1	☐2	☐3	☐4	☐5	☐6
15. Feeling that I am often failing with managing my child's diabetes regimen.	☐1	☐2	☐3	☐4	☐5	☐6
16. Feeling like I worry about complications for my child too much.	☐1	☐2	☐3	☐4	☐5	☐6

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Diabetes Psychosocial Assessment (Phase One)

(Affix identification label here)

URN:

Family name:

Given name(s):

Address:

Date of birth: Sex: ☐M ☐F ☐I

Transition Capability (clinician to complete)

Factors to consider	Current clinical picture
Developmental appropriateness	
Cognitive capability	
Emotional capability	
Environmental capability	
Level of motivation	
Treatment adherence	
Barriers to transition	

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Given name(s):

Address:

Date of birth: Sex: ☐M ☐F ☐I

Referrals		Select (✓)
PAID-C score	Sum of items: _____ = Total PAID-C score: _____ If PAID-C score ≥20 → CDE/Psychologist	☐
P-PAID-C score	Sum of items: _____ = Total P-PAID-C score: _____ If P-PAID-C score ≥35 → CDE/Psychologist	☐
WHO-5 score	Sum of items: _____ x 4 = Total WHO-5 score: _____ If score ≤50 → CDE	☐
	If score ≤28 → Psychologist	☐
PHQ-4 score	Total anxiety: _____ + Total depression: _____ = Total PHQ-4 score: _____ If Anxiety and/or Depression ≥3 → Psychologist	☐
Your weight, shape and eating	If score 1 or 2 for question ☐ 7, ☐ 8, ☐ 9 → Dietitian	☐
Hypoglycaemia	If question 12 any answer ☐ except "Not a problem" *AND/OR* If question 11 any answer ☐ except "3 or more" → CDE	☐

Staff to Discuss/Address the Following Concerns		Select (✓) plan documented
Social/financial/ cultural support	If concerns identified → SW/IHW	☐

Comments:

Clinician name:	Designation:	Signature:	Date:

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Diabetes Psychosocial Assessment Tool (DPAT) – 15-17 years old

Queensland Government

Diabetes Psychosocial Assessment (Phase Two)

Facility: .....

(Affix identification label here)

URN:

Family name:

Given name(s):

Address:

Date of birth: Sex: ☐M ☐F ☐I

Date: ____ / ____ / ____

Do you have any concerns or questions that you would like addressed today?

1. .....
2. .....

Checklist:

- ☐ Phase one assessments are completed
- ☐ Young person is now in the transition clinic
- ☐ Young person is approximately 15–17 (dependent upon developmental age)
- ☐ Independent visits or parts of visits encouraged between the young person and their clinician
- ☐ Confidentiality explained to young person and strictly adhered to (as appropriate)

Problem Areas in Diabetes – Teen Version (PAID-T)

Instructions: Living with diabetes can sometimes be difficult. In day-to-day life, there may be many problems and hassles with your diabetes. The problems may range from minor hassles to major life difficulties. Listed below are a variety of possible problem areas which people with diabetes may have. Think about how much each of the items below may have upset or bothered you **DURING THE PAST MONTH** and tick (✓) the appropriate number.

Please note that we are asking you how much each item may be bothering you in your life, **NOT** whether the item is merely true for you. If you feel that an item is not a bother or a problem for you, you would tick "1". If it is very bothersome to you, you would tick "6".

During the past month I have been...	Not a problem		Medium problem		Big problem	
1. Feeling sad when I think about having and living with diabetes.	☐1	☐2	☐3	☐4	☐5	☐6
2. Feeling overwhelmed by my diabetes regimen.	☐1	☐2	☐3	☐4	☐5	☐6
3. Feeling angry when I think about having and living with diabetes.	☐1	☐2	☐3	☐4	☐5	☐6
4. Feeling "burned-out" by the constant effort to manage diabetes.	☐1	☐2	☐3	☐4	☐5	☐6
5. Feeling that I am not checking my blood sugars often enough.	☐1	☐2	☐3	☐4	☐5	☐6
6. Not feeling motivated to keep up with my daily diabetes tasks.	☐1	☐2	☐3	☐4	☐5	☐6
7. Feeling that my friends or family act like "diabetes police" (e.g. nag about eating properly, checking blood sugars, not trying hard enough).	☐1	☐2	☐3	☐4	☐5	☐6
8. Feeling like my parents don't trust me to care for my diabetes.	☐1	☐2	☐3	☐4	☐5	☐6
9. Missing or skipping blood sugar checks.	☐1	☐2	☐3	☐4	☐5	☐6
10. Feeling that I am often failing with my diabetes regimen.	☐1	☐2	☐3	☐4	☐5	☐6
11. Feeling like my parents blame me for blood sugar numbers they don't like.	☐1	☐2	☐3	☐4	☐5	☐6
12. Feeling that my friends or family don't understand how difficult living with diabetes can be.	☐1	☐2	☐3	☐4	☐5	☐6
13. Worrying that diabetes gets in the way of having fun and being with my friends.	☐1	☐2	☐3	☐4	☐5	☐6
14. Feeling like my parents worry about complications too much.	☐1	☐2	☐3	☐4	☐5	☐6

DIABETES PSYCHOSOCIAL ASSESSMENT (PHASE TWO)

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Diabetes Psychosocial Assessment (Phase Two)

(Affix identification label here)

URN:

Family name:

Given name(s):

Address:

Date of birth: Sex: ☐M ☐F ☐I

Child Psycho-education Provided for Anxiety/Depressive Symptoms and Diabetes Burn Out

Anxiety	Worries are unpleasant thoughts that you can't get out of your head. They're like annoying bugs that keep buzzing around and won't leave you alone. It's normal to have worries – everyone has them from time to time. It's only a problem when your worries get in the way of other parts of your life, or if they make you unhappy. When you worry, your body and thoughts can go through several changes. These changes can be uncomfortable, and for some people they're scary.	• Dry mouth • Feeling like there is a 'lump' in your throat • 'Butterflies' in the tummy • Sweaty hands • 'Jelly' legs • Want to go to the toilet • -Difficulty breathing • Heart beats fast • Shaky voice • Blurred eye sight • Headache • Light headed/feel faint • Thinking unhelpful or unpleasant thoughts • 'Spiralling' thoughts • Teary • Feeling hot/red face
Depression	There may be times when everyone feels down, fed-up, unhappy or sad. Most of the time these feelings come and go but sometimes these feelings can persist and stay to affect aspects of your life like school, your relationships, or your emotional wellbeing. You can't seem to shift them and end up feeling depressed. You may have noticed you are:	• Often teary • Cry for no reason or over minor things • Has trouble going to sleep or staying asleep • Feeling your lacking energy and are constantly tired • Comfort eating or lost your appetite • Difficulty with concentration • Stopped doing or have lost interest in things you have previously enjoyed • Go out less, stopped hanging out with friends and want to be left alone
Burn out	Diabetes is hard work – it requires 24/7 management with no breaks! As a result, one of the most common complaints is diabetes burn out, which most people with T1DM will experience at some point. Diabetes burnout is a state in which a person with diabetes grows tired of managing their condition, loses motivation or ignores managing diabetes tasks and becomes increasingly frustrated, negative and exhausted by their condition. Experiencing diabetes burnout doesn't necessarily mean you have a mental health issue or are lazy and don't care about living a long healthy life, it just means that sometimes diabetes can feel overwhelming and you can get burnt out from all that hard work. Heyman(2019) https://beyondtype1.org/diabetes-burnout/	• Strong negative feelings (e.g. overwhelmed, anger, frustration) about diabetes • Feeling controlled by diabetes • Isolation, or feeling alone with diabetes • Avoidance of some, or all diabetes management activities and being unmotivated to change this behaviour • Feeling sick and tired of doing everything you're supposed to do but feel like your blood sugar is still out of control. • Don't care anymore about managing diabetes and want to just give up?

Your Emotional Health

Over the past 2 weeks, how often have you been bothered by the following problems... (PHQ-4)	**Not at all**	**Several days**	**More than half the days**	**Nearly every day**
1. Feeling nervous, anxious or on edge?	☐0	☐1	☐2	☐3
2. Not being able to stop or control worrying?	☐0	☐1	☐2	☐3
3. Little interest or pleasure in doing things?	☐0	☐1	☐2	☐3
4. Feeling down, depressed or hopeless?	☐0	☐1	☐2	☐3
Social support for life in general?	**Strongly disagree**	**Disagree**	**Agree**	**Strongly agree**
5. I can count on someone when things go wrong.	☐0	☐1	☐2	☐3
6. I can talk about my problems with someone.	☐0	☐1	☐2	☐3

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Your Emotional Health *(continued)*

Your weight, shape and eating	On a scale of 1 to 5, where 5 is the best outcome				
7. I am comfortable with my current weight.	☐1	☐2	☐3	☐4	☐5
8. I am comfortable with my body shape/appearance.	☐1	☐2	☐3	☐4	☐5
9. I am comfortable with my eating pattern.	☐1	☐2	☐3	☐4	☐5

Hypoglycaemia (hypo or low blood glucose)	Strongly disagree	Disagree	Agree	Strongly agree
10. I worry about hypoglycaemia...	☐0	☐1	☐2	☐3

11. Do your hypo symptoms usually occur at a blood glucose level of...	☐3 or more mmol/L ☐Between 2.0–2.9mmol/L	☐Less than 2mmol/L ☐I do not feel symptoms
12. I feel that I can't ever be safe from hypoglycaemia	☐Not a problem ☐Slight problem ☐Moderate problem	☐Somewhat serious problem ☐Serious problem ☐Very serious problem

Your Well-being (WHO–5)

Over the past 2 weeks...	All of the time	Most of the time	More than half of the time	Less than half of the time	Some of the time	None of the time
13. I have felt cheerful and in good spirits.	☐5	☐4	☐3	☐2	☐1	☐0
14. I have felt calm and relaxed.	☐5	☐4	☐3	☐2	☐1	☐0
15. I have felt active and vigorous.	☐5	☐4	☐3	☐2	☐1	☐0
16. I woke up feeling fresh and rested.	☐5	☐4	☐3	☐2	☐1	☐0
17. My daily life has been filled with things that interest me.	☐5	☐4	☐3	☐2	☐1	☐0

Over the past 2 weeks...	Very negative	Negative	Neutral	Positive	Very positive
18. What is the impact of diabetes on your quality of life?	☐1	☐2	☐3	☐4	☐5

Financial Concerns

	Yes	No
Do you have a Medicare Card?	☐	☐
Do you have a Health Care Card?	☐	☐
Do you have private health insurance?	☐	☐
Are there financial concerns in your family that you are aware of and that impact your diabetes?	☐	☐

Comments:

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Transition Goals

Time period	Goals (what is to be achieved)	Supports (who is to assist in achieving the goals)	Processes (how is this to be accomplished)
Immediate			
Intermediate			
Long-term			

Problem Areas in Diabetes – Parents of Teens (P-PAID-T)

Instructions: Living with diabetes can sometimes be difficult. In day-to-day life, there may be many problems and hassles with your child's diabetes. The problems may range from minor hassles to major life difficulties. Listed below are a variety of possible problem areas which people with diabetes may have. Think about how much each of the items below may have upset or bothered you **DURING THE PAST MONTH** and tick (✓) the appropriate number.

Please note that we are asking you how much each item may be bothering you in your life, **NOT** whether the item is merely true for you. If you feel that an item is not a bother or a problem for you, you would tick "1". If it is very bothersome to you, you would tick "6".

During the past month I have been...	Not a problem		Medium problem		Big problem	
1. Feeling sad when I think about my child having and living with diabetes.	☐1	☐2	☐3	☐4	☐5	☐6
2. Feeling overwhelmed by my child's diabetes regimen.	☐1	☐2	☐3	☐4	☐5	☐6
3. Feeling angry when I think about my child having and living with diabetes.	☐1	☐2	☐3	☐4	☐5	☐6
4. Feeling constantly concerned about food and eating.	☐1	☐2	☐3	☐4	☐5	☐6
5. Worrying about the future and the possibility of my child developing serious complications.	☐1	☐2	☐3	☐4	☐5	☐6
6. Feeling upset when my child's diabetes management is "off track."	☐1	☐2	☐3	☐4	☐5	☐6
7. Feeling "burned-out" by the constant effort to manage my child's diabetes.	☐1	☐2	☐3	☐4	☐5	☐6
8. Feeling that my child does not check blood sugars often enough.	☐1	☐2	☐3	☐4	☐5	☐6
9. Feeling discouraged or defeated when I see high blood sugar results on my child's meter.	☐1	☐2	☐3	☐4	☐5	☐6
10. Feeling that I act like the "diabetes police" (e.g. nag about eating properly, checking blood sugars, not trying hard enough).	☐1	☐2	☐3	☐4	☐5	☐6
11. Feeling that I cannot trust my child to care for their diabetes.	☐1	☐2	☐3	☐4	☐5	☐6
12. Worrying that my child will miss or skip blood sugar checks.	☐1	☐2	☐3	☐4	☐5	☐6
13. Feeling that my child's blood sugars often swinging wildly.	☐1	☐2	☐3	☐4	☐5	☐6
14. Feeling that I am often failing with managing my child's diabetes regimen.	☐1	☐2	☐3	☐4	☐5	☐6
15. Feeling like I worry about complications for my child too much.	☐1	☐2	☐3	☐4	☐5	☐6

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Transition Capability (clinician to complete)

Factors to consider	Current clinical picture
Developmental appropriateness	
Cognitive capability	
Emotional capability	
Environmental capability	
Level of motivation	
Treatment adherence	
Barriers to transition	

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Referrals		Select (✓)
PAID-T score	Sum of items: _____ = Total PAID-T score: _____ If PAID-T score ≥30 → CDE/Psychologist	☐
P-PAID-T score	Sum of items: _____ = Total P-PAID-T score: _____ If P-PAID-T score ≥40 → CDE/Psychologist	☐
WHO-5 score	Sum of items: _____ x 4 = Total WHO-5 score: _____ If score ≤50 → CDE	☐
	If score ≤28 → Psychologist	☐
PHQ-4 score	Total anxiety: _____ + Total depression: _____ = Total PHQ-4 score: _____ If Anxiety and/or Depression ≥3 → Psychologist	☐
Your weight, shape and eating	If score 1 or 2 for question ☐ 7, ☐ 8, ☐ 9 → Dietitian	☐
Hypoglycaemia	If question 12 any answer ☐ except "Not a problem" *AND/OR* If question 11 any answer ☐ except "3 or more" → CDE	☐

Staff to Discuss/Address the Following Concerns		Select (✓) plan documented
Social/financial/ cultural support	If concerns identified → SW/IHW	☐

Comments:

Clinician name:	Designation:	Signature:	Date:

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Diabetes Psychosocial Assessment Tool (DPAT) - Adults

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Diabetes Psychosocial Assessment

Facility: _____

(Affix identification label here)

URN:

Family name:

Given name(s):

Address:

Date of birth: Sex: ☐M ☐F ☐I

Date: ____ / ____ / ____

Problem Areas in Diabetes (PAID) Questionnaire

Tick (✓) the number that gives the best answer for you. Please provide an answer for each question. Please bring the completed form with you to your next consultation where it will form the basis for a dialogue.

Which of the following diabetes issues are currently a problem for you?	Not a problem	Minor problem	Moderate problem	Somewhat serious problem	Serious problem
1. Not having clear and concrete goals for your diabetes care?	☐0	☐1	☐2	☐3	☐4
2. Feeling discouraged with your diabetes treatment plan?	☐0	☐1	☐2	☐3	☐4
3. Feeling scared when you think about living with diabetes?	☐0	☐1	☐2	☐3	☐4
4. Uncomfortable social situations related to your diabetes care (e.g. people telling you what to eat)?	☐0	☐1	☐2	☐3	☐4
5. Feelings of deprivation regarding food and meals?	☐0	☐1	☐2	☐3	☐4
6. Feeling depressed when you think about living with diabetes?	☐0	☐1	☐2	☐3	☐4
7. Not knowing if your mood or feelings are related to your diabetes?	☐0	☐1	☐2	☐3	☐4
8. Feeling overwhelmed by your diabetes?	☐0	☐1	☐2	☐3	☐4
9. Worrying about low blood sugar reactions?	☐0	☐1	☐2	☐3	☐4
10. Feeling angry when you think about living with diabetes?	☐0	☐1	☐2	☐3	☐4
11. Feeling constantly concerned about food and eating?	☐0	☐1	☐2	☐3	☐4
12. Worrying about the future and the possibility of serious complications?	☐0	☐1	☐2	☐3	☐4
13. Feelings of guilt or anxiety when you get off track with your diabetes management?	☐0	☐1	☐2	☐3	☐4
14. Not "accepting" your diabetes?	☐0	☐1	☐2	☐3	☐4
15. Feeling unsatisfied with your diabetes physician?	☐0	☐1	☐2	☐3	☐4
16. Feeling that diabetes is taking up too much of your mental and physical energy every day?	☐0	☐1	☐2	☐3	☐4
17. Feeling alone with your diabetes?	☐0	☐1	☐2	☐3	☐4
18. Feeling that your friends and family are not supportive of your diabetes management efforts?	☐0	☐1	☐2	☐3	☐4
19. Coping with complications of diabetes?	☐0	☐1	☐2	☐3	☐4
20. Feeling "burned out" by the constant effort needed to manage diabetes?	☐0	☐1	☐2	☐3	☐4

DIABETES PSYCHOSOCIAL ASSESSMENT

PAID – © Joslin Diabetes Center 1999

Page 1 of 4

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Diabetes Psychosocial Assessment

(Affix identification label here)

URN:

Family name:

Given name(s):

Address:

Date of birth: Sex: ☐M ☐F ☐I

The following questions will assist us in determining which allied health service you may benefit from. Completion of this form is optional.

Do you have particular concerns or questions that you would like to be addressed today?

1. .....
2. .....
3. .....

Your Emotional Health

Over the past 2 weeks, how often have you been bothered by the following problems... (PHQ-4)	Not at all	Several days	More than half the days	Nearly every day
1. Feeling nervous, anxious or on edge?	☐0	☐1	☐2	☐3
2. Not being able to stop or control worrying?	☐0	☐1	☐2	☐3
3. Little interest or pleasure in doing things?	☐0	☐1	☐2	☐3
4. Feeling down, depressed or hopeless?	☐0	☐1	☐2	☐3
Social support for life in general	**Strongly disagree**	**Disagree**	**Agree**	**Strongly agree**
5. I can count on someone when things go wrong...	☐	☐	☐	☐
6. I can talk about my problems with someone...	☐	☐	☐	☐

Your weight, shape and eating	On a scale of 1 to 5, where 5 is the best outcome				
7. I am comfortable with my current weight	☐1	☐2	☐3	☐4	☐5
8. I am comfortable with my body shape	☐1	☐2	☐3	☐4	☐5
9. I am comfortable with my eating pattern	☐1	☐2	☐3	☐4	☐5

Financial Concerns	Yes	No
10. Do you have a Medicare card?	☐	☐
11. Do you have a NDSS card?	☐	☐
12. Do you have a Health Care card?	☐	☐
13. Do you have difficulty managing your living costs on your current income?	☐	☐
14. Do you have difficulty managing your healthcare costs on your current income?	☐	☐
15. Do you have private health insurance?	☐	☐

Hypoglycaemia (hypo or low blood glucose)

16. I feel that I can't ever be safe from hypoglycaemia...	☐ Not a problem ☐ Slight problem ☐ Moderate problem	☐ Somewhat serious problem ☐ Serious problem ☐ Very serious problem
17. Do your hypo symptoms usually occur at a blood glucose level of...	☐ 3 or more mmol/L ☐ Between 2.0–2.9mmol/L	☐ Less than 2mmol/L ☐ I do not feel symptoms

Your Well-being (WHO–5)

Over the past 2 weeks...	All of the time	Most of the time	More than half the time	Less than half of the time	Some of the time	None of the time
18. I have felt cheerful and in good spirits	☐5	☐4	☐3	☐2	☐1	☐0
19. I have felt calm and relaxed	☐5	☐4	☐3	☐2	☐1	☐0
20. I have felt active and vigorous	☐5	☐4	☐3	☐2	☐1	☐0
21. I woke up feeling fresh and rested	☐5	☐4	☐3	☐2	☐1	☐0
22. My daily life has been filled with things that interest me	☐5	☐4	☐3	☐2	☐1	☐0

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URN:

Family name:

Given name(s):

Address:

Date of birth: Sex: ☐ M ☐ F ☐ I

Referrals		Select (✓)
PAID score	Sum of items: _____ x 1.25 = Total PAID score: _____ If PAID score ≥30 → CDE	☐
PHQ-4 score	If (question 1 and 2) and/or (question 3 and 4) ≥3 → Psychologist/GP mental health plan	☐
WHO-5 score	Sum of items: _____ x 4 = Total WHO-5 score: _____ If score ≤50 → CDE	☐
	If score ≤28 → Psychologist/GP mental health plan	☐
Your weight, shape and eating	If score 1 or 2 for question ☐ 7, ☐ 8, ☐ 9 → Dietitian	☐
Hypoglycaemia	If question 16 any answer ☐ except "Not a problem" *AND/OR* If question 17 any answer ☐ except "3 or more" → CDE	☐

Staff to Discuss/Address the Following Concerns		Select (✓) plan documented
Social support	Response "Disagree" or "Strongly disagree": ☐ Yes ☐ No If *YES* →	☐
Financial concerns	If *NO* to any of questions ☐ 10, ☐ 11, ☐ 12, ☐ 15 (if eligible for HCC) →	☐
	If *YES* to any of questions ☐ 13 and ☐ 14 →	☐
Discuss DAFNE program	☐ Yes ☐ No	☐
Actions	Referred to: ☐ DNE ☐ Dietitian ☐ Psychology ☐ Has existing primary care psychology support ☐ Has declined psychology referral ☐ Management plan documented in the patient's Health Record	

Comments:

Clinician name:	Designation:	Signature:	Date:

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Given name(s):

Address:

Date of birth: Sex: ☐M ☐F ☐I

Health Record Audit

1. Type diabetes: ☐T1DM ☐T2DM ☐LADA ☐MODY ☐Other *(specify)*: .....
2. Year of diagnosis: .....
3. Diabetes medications – Insulin: ☐OD ☐BD ☐MDI ☐Pump ☐Metformin
4. HbA1c: ..... %: ..... mmol/mol
5. BMI – Height: ..... Weight: ..... BMI: .....
6. Diabetic ketoacidosis (DKA) in the previous 2 years: ☐Yes ☐No
7. Serious hypoglycaemia episode in the previous 2 years: ☐Yes ☐No
8. Coeliac disease: ☐Yes ☐No
9. Addisons disease: ☐Yes ☐No
10. Thyroid disease: ☐Yes ☐No
11. Hypertension ☐Yes ☐No
12. Annual health review in the previous 2 years: ☐Yes ☐No

Was the patient seen by any of the following allied health in the previous 12 months:

13. Diabetes nurse educator: ☐Yes ☐No
14. Dietitian: ☐Yes ☐No
15. Psychologist: ☐Yes ☐No
16. External psychologist: ☐Yes ☐No
17. Psychiatrist: ☐Yes ☐No

Clinician name:	Designation:	Signature:	Date:

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Appendix 3: Diabetes Eating Problem Survey – Revised (DEPS-R) [141]

Access full example:
https://insideoutinstitute.org.au/resource-library/diabetes-eating-problem-survey-revised-deps-r

INSIDEOUT
Institute for Eating Disorders

The Diabetes Eating Problem Survey-Revised (DEPS-R)

The Diabetes Eating Problem Survey – Revised (DEPS-R) is a screening tool that has been designed to screen adolescents and adults with type 1 diabetes who may have an eating disorder. It asks questions about eating habits, diabetes control, insulin misuse, and other compensatory behaviours. This is a screening tool, not a diagnostic tool, and can help facilitate further evaluation or referral to specialists.

Scores greater than or equal to 20 indicate greater risk of disordered eating behaviours requiring prompt clinical assessment to assess for an eating disorder. The DEPS-R also contains several questions that ask about insulin misuse or eating disorder behaviours such as vomiting. Even when the total score for the DEPS-R is less than 20, if these questions are answered as true, even in rare occurrences, it should identify a need for further assessment as even even infrequent misuse of insulin for body shape or weight reasons is of concern and requires ongoing monitoring.

Do you take insulin? Yes No **If *No*, do not complete this form.**

Living with diabetes can sometimes be difficult, particularly regarding eating and diabetes management. Listed below are a variety of statements regarding diabetes management. For each statement, tick (✓) the ONE answer that indicates how often this is true for you during the PAST MONTH.

How often is this true for you during the last month?...	Never	Rarely	Sometimes	Often	Usually	Always
1. Losing weight is an important goal to me	0	1	2	3	4	5
2. I skip meals and/or snacks	0	1	2	3	4	5
3. Other people have told me that my eating is out of control	0	1	2	3	4	5
4. When I overeat, I don't take enough insulin to cover the food	0	1	2	3	4	5
5. I eat more when I am alone than when I am with others	0	1	2	3	4	5
6. I feel that it's difficult to lose weight and control my diabetes at the same time	0	1	2	3	4	5
7. I avoid checking my blood sugar when I feel like it is out of range	0	1	2	3	4	5
8. I make myself vomit	0	1	2	3	4	5
9. I try to keep my blood sugar high so that I will lose weight	0	1	2	3	4	5
10. I eat in a way to get ketones in my urine	0	1	2	3	4	5
11. I feel fat when I take all of my insulin	0	1	2	3	4	5
12. Other people tell me to take better care of my diabetes	0	1	2	3	4	5
13. After I overeat, I skip my next insulin dose	0	1	2	3	4	5
14. I feel that my eating is out of control	0	1	2	3	4	5
15. I alternate between eating very little and eating huge amounts	0	1	2	3	4	5
16. I would rather be thin than to have good control of my diabetes	0	1	2	3	4	5

Scoring Instructions:
1. Calculate the mean of all non-missing items.
2. Multiply this value by 16.
Possible total score 0 to 80. A score >20 indicates more disordered eating behaviour and warrants in depth conversations/referrals.

TOTAL SCORE /80

Markowitz, J. T., Butler, D. A., Volkening, L. K., Antisdel, J. E., Anderson, B. J., & Laffel, L. M. (2010). Brief Screening Tool for Disordered Eating in Diabetes: Internal Consistency and External Validity in a Contemporary Sample of Pediatric Patients with Type 1 Diabetes. *Diabetes Care*, 33, 495-500.

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Appendix 4: Responding to elevated scores on DEPS-R and mSCOFF

Questions related to Diabetes – DEPS-R items 4, 6, 7, 9, 10, 12, 13; mSCOFF item second F.
Validate their experience (e.g. "Managing diabetes is really challenging").
Normalise and provide hope (e.g. "These are common experiences in people living with diabetes. We have helped a lot of people living with diabetes and these challenges you have mentioned").
If the majority of items are highly elevated focus on medical stability and risk.
Consider there may be knowledge gaps around diabetes management. Check their understanding around diabetes management, including risks, as there are high health literacy demands.
Explore specific difficulties or particular contexts that the challenges exist in (e.g. home, peers, strangers) and look at helping with problem solving.
Enquire about what their understanding is of doing this behaviour and what they are wanting to achieve. Use decision balancing – what are the good things about doing this? What are the not-so good things?
Determine if behaviour is in response to specific diabetes tasks (e.g. injection pain or side effects of medication) or glucose levels (e.g. hypoglycaemia). Normalise this response as appropriate and help problem solve.
Discuss the avoidance cycle, which can reduce anxiety and make you feel better in the short-term but in the long term can create further challenges. Reinforce that there is no perfection with diabetes rather progress, and numbers are information.
Listen for change language and areas where they appear open to change. Target those for further discussion and problem solving.

Questions related to Body Satisfaction – DEPS-R items 1, 6, 8, 11, 16; mSCOFF items S, O, first F
Thank the individual and normalise and validate with a compassionate response. Validate that diabetes makes you more body aware and body is checked at appointments (e.g. stomach for pump and injection sites, weight, foot checks), and focus is on numbers (e.g. weight, time-in-range, BGLs, HbA1c), which can be difficult.
Identify patterns to behaviours. Are there particular triggers or time points where compensatory behaviours are more likely to occur? Afternoons and evenings are known to be more problematic. Focus on one trigger or time point at a time.
Introduce mindfulness and diabetes related positive affirmations to emphasise paying attention to the current situation rather than the past or future, reduce distress, and delay an unhelpful response.
Determine if their 'criteria for success' or expectations of themselves (e.g. weight, body shape, glycaemia) is unrealistic or skewed from where they are at currently or ever. Identify small realistic and manageable steps to work on following a weight neutral and HAES® approach.
Determine what 'thin' means to them and what motivates them to achieve thinness (e.g. weight number, body shape, body type, hair, skin). Work through a plan with them to address these factors using problem solving.
Focus on health and wellbeing rather than weight. What does healthy look like to them that is not weight/shape focused? Introduce other ways to provide self-care.
Explore their past experiences with weight, body satisfaction, and food. This may be influencing their current experiences.
Explore what else might be influencing their thoughts, feelings, and behaviours. Cultural expectations and norms, social media, peers, family, colleagues, and interactions.
Identify all of their current methods for weight loss (e.g. excessive exercise, restricting food intake, drugs and alcohol, vomiting, laxatives), as well as behaviour around diabetes related to body satisfaction (e.g. reduced insulin doses, run glucose levels higher, missed medication doses). Discuss risks associated with these and provide education and refer to other available resources.

Questions related to Eating Behaviours – DEPS-R items 2, 3, 5, 10, 13, 14, 15; mSCOFF items S and C
Normalise and validate and provide a compassionate response e.g. *"We know this is common in people with diabetes."*
Consider using the RAVES™ model as first intervention focusing initially on regularity of eating (R) and adequacy (A) and consider referral to a dietitian to explore eating and eating behaviours further.
Use a food diary or food intake recall if appropriate to gain a picture of the day/week and typical eating patterns.
Ensure you have a shared understanding of the behaviours being discussed; overeating, bingeing, skipping meals, loss of control, restricting food types (e.g. avoiding or reducing carbohydrates, using a keto diet, following fad diets etc). Problem solve ways to address these with the individual and their family/carer if appropriate.
Each behaviour on its own may not mean intent to lose weight. Explore the context and purpose. Some less obvious areas for exploration include not experiencing hunger, financial/resource difficulties, food insecurity, other people influencing the behaviour through incorrect assumptions about diabetes. Address each area individually.
What thoughts and feelings are associated with eating behaviours? Common emotions are fear, anxiety, sadness, anger, guilt, and shame. Remind the individual that strong emotions are okay and that they are a natural response to a stressful situation (diabetes!). It is *how* they respond to them that they have the most control over.
Reality check the sense of being out of control. Determine your own biases on this to remove personal judgement. How does it fit with the family's eating patterns? Would others describe this as out of control? Consider a referral to a dietitian. Are there unhelpful/incorrect beliefs imposed by others?
Gather an understanding of the context to the eating behaviours. Are there specific foods that are being avoided or particular social contexts that managing diabetes whilst eating is difficult? Identify barriers to change and break these down.

Adapted with permission from New Zealand Society for the Study of Diabetes (NZSSD) *Diabetes, Body Satisfaction, and Eating Behaviours Guidance* (2025).[71]

Appendix 5: Eating disorder and mental health services

NSW Health – Adult services

If you require further advice/support for an adult with T1D and DE/ED, then contact the following:

- Tertiary Diabetes Service.
- Local Health District Eating Disorder Coordinator.
- NSW Health Mental Health Line Ph: 1800 011 511 – for advice, brief assessment and referral to NSW public health services.
- Kids Helpline Ph: 1800 55 1800 – free support and counselling to people aged 5-25.
- NSW Adult Eating Disorder Tertiary Outreach Service – see full details below.

For treatment referrals:

- InsideOut Institute Treatment Database – for a list of public and private clinicians and service providers.
- Refer to local CMHS.
- NSW Health Mental Health Line Ph: 1800 011 511 – for advice, brief assessment and referral to NSW public health services.

For escalation in care (LHD Eating Disorder Coordinator can assist if escalation in care is required):

- Call an ambulance or direct the patient to attend emergency department - for patients who are medically unstable.
- Tertiary diabetes or ED services – for patients who are not responding to community treatment.

Peter Beaumont Unit & Non-Admitted Tertiary Eating Disorder Service

What is it?

For information, go to: Peter Beumont Eating Disorders Service | Sydney Local Health District

How do I refer?

Clinicians and other providers caring for people with ED can access vE-Connect by calling Phone: 1800 443 833. Monday to Friday 08:00 to 20:00.

NSW Tertiary Residential Eating Disorders Centre & Day Program – Baiyangbaiyaang

What is it?

For information, go to: Residential Eating Disorders Centre | NSW Government

How to refer

Baiyangbaiyaang centralised single point of referral:

Referral Link: https://redcap.link/19qvy7rh

QR Code:

EDDP: Phone: 02 4924 6820
REDC: Phone: 0497 137 830

NSW Health – Child and youth services

If you require further advice/support for a young person with T1D and DE/ED, then contact the following:

- Tertiary Diabetes Service.
- Local Health District Eating Disorder Coordinator.
- Local CAMHS/CYMHS service.
- Kids Helpline Ph: 1800 55 1800 – free support and counselling to people aged 5-25.
- Children's Hospital Westmead Tertiary Eating Disorder Service – see full details below.

For treatment referrals:

- InsideOut Institute Treatment Database – for a list of public and private clinicians and service providers.
- Refer to local CAMHS/CYMHS.
- NSW Health Mental Health Line Ph: 1800 011 511 – for advice, brief assessment and referral to NSW public health services.
- Kids Helpline Ph: 1800 55 1800 – free support and counselling to people aged 5-25.

For escalation in care (LHD Eating Disorder Coordinator can assist if escalation in care is required):

- Call an ambulance or direct the patient to attend emergency department - for patients who are medically unstable.
- Tertiary diabetes or ED services – for patients who are not responding to community treatment.

Children's Hospital Westmead Tertiary Eating Disorder Service

What is it?

For information, go to: Eating disorders, The Children's Hospital at Westmead

How do I refer?

A referral from your GP, paediatrician or specialist is required.
Any questions about the referral and appointment process, please contact: Phone: 02 7825 2446

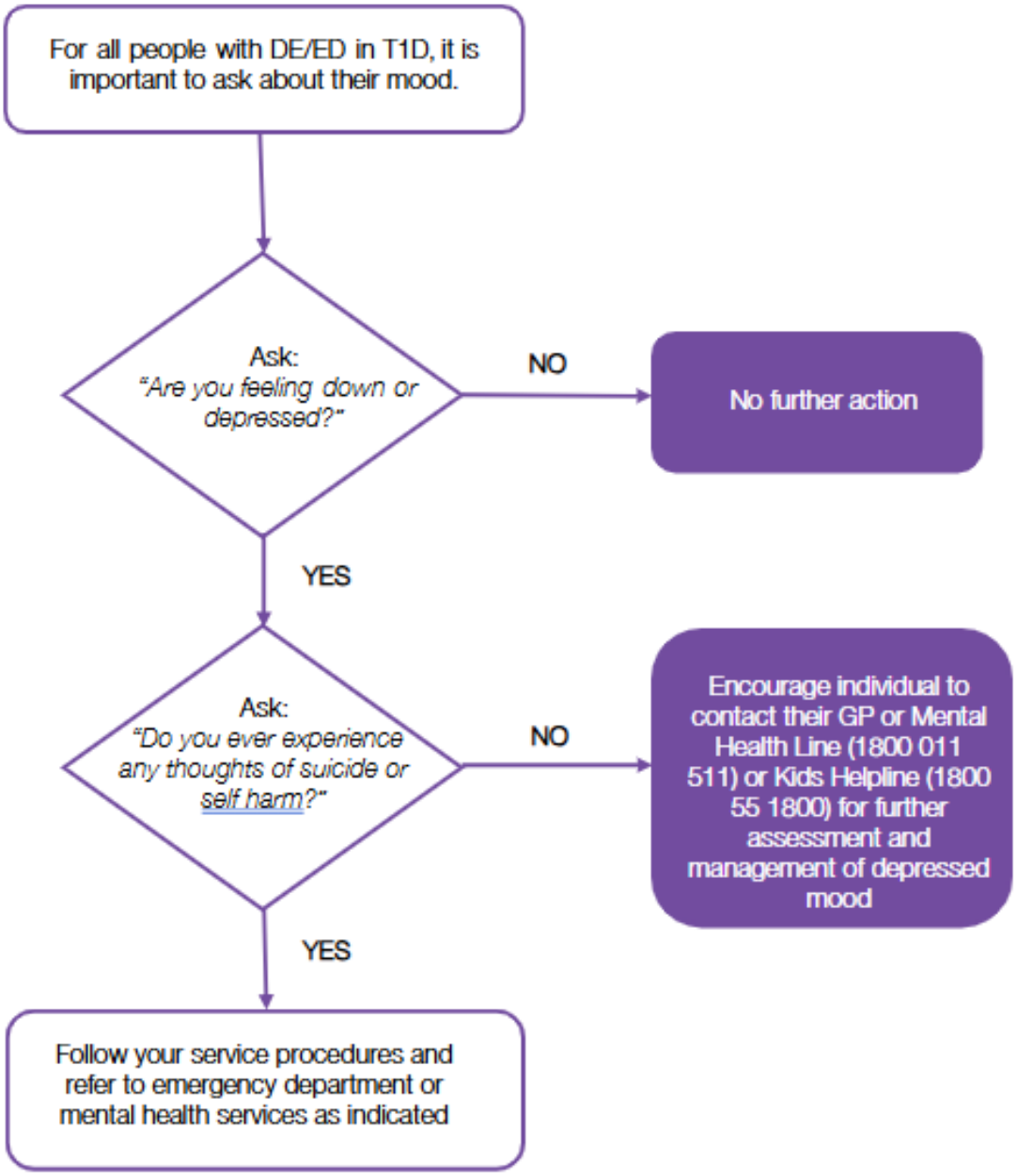
Non-NSW Health services

Go to InsideOut Institute's Treatment Service Database for a list of private ED services and clinicians.

The Butterfly Foundation

For information, go to: https://butterfly.org.au

Appendix 6: Algorithm for asking about self-harm and suicidality risk for ≥ 16 years old



Appendix 7: Resources

Resources for healthcare professionals

InsideOut Institute: The Diabetes Eating Problem Survey (DEPS-R)

InsideOut Institute Webinar: Detection of Eating Disorders in Type 1 Diabetes: The Role of New Diabetes Technology

InsideOut Institute Webinar: Type 1 Diabetes & Eating Disorders – How can I help?

Australian Centre for Behavioural Research in Diabetes: Diabetes & Emotional Health: A Practical Guide and Toolkit

Australian Centre for Behavioural Research in Diabetes: Resources for Health Professionals

Resources for consumers

InsideOut Institute: Eating Disorders: Type 1 Diabetes and Insulin Misuse

Australian Centre for Behavioural Research in Diabetes: Diabetes and Emotional Health factsheets

Straight to the Point: Type 1 Diabetes Guide for Adults

NEDC: Eating Disorders and Diabetes factsheet

InsideOut Institute ED Resource Library

Centre for Clinical Interventions ED resources

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