

ISPAD Position Statement on Type 1 Diabetes in Schools

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Keywords

Type 1 diabetes · Schools · Management · Legal obligations · Workplace safety

Preface

The International Society for Pediatric and Adolescent Diabetes (ISPAD) strongly supports compliance with legal protections for children and adolescents with type 1 diabetes (T1D) to attend school, to be safe at school, and to receive optimal medical management during all school-associated activities [1]. ISPAD's Clinical Practice Consensus Guidelines [2–7] provide clinicians with concepts and standards for best clinical practice. To implement best clinical practice while the student is in the custody of the school requires understanding, respect, and compliance with the relevant legal frameworks [1–3]. The task is to

execute medically complex management in a workplace designed for education. In recognition of the unique workplace requirements, ISPAD first commissioned the ISPAD Position Statement on Type 1 Diabetes in Schools in 2018 [1] to assist schools to implement the Clinical Practice Consensus Guidelines' concepts [2]. This 2024 Position Statement aims to clearly inform education authorities, schools, school personnel, parents and policy-makers on defined roles, legal responsibilities, human rights, and stakeholder obligations for the benefit of all students with T1D. Implementing best practice while students with T1D are in compulsory custody of a school has life-saving potential and reduces the risk of short- and long-term harm to enable the student to experience a rich and supportive academic environment [2–6]. ISPAD's primary role is to deliver advocacy and leadership [7] to ensure that children and young people with T1D are provided with a safe and

The information in this document is based upon publicly available documents and should not be relied upon as constituting legal advice.

secure learning environment in school and address confusion regarding roles and obligations that exist within school systems. This revised ISPAD Position Statement, authored by members of the ISPAD Diabetes in Schools Special Interest Group [8], contains globally applicable principles and fundamentals [9, 10].

Definitions	
Child	a person under the age of 18 who is not yet sufficiently mature and capable of making and putting into effect their own decisions
Parent	parent(s), legal guardian(s), or carer/caregiver(s)
Medical team	the usual health care team treating the student with T1D
School personnel	school nurses, teaching staff, and other school employees or contractors who may be involved with the care of the student with T1D
School Student	primary and secondary schools students of the requisite ages attending school
Glucose levels	blood glucose or sensor glucose levels
Medical orders	diagnostic or treatment directives prescribed by a physician or equivalent provider regarding the specific activities to be performed or delivered as part of a diabetes management plan for a child with T1D while in the custody and care of a school
T1D education	gaining of knowledge and perspective about T1D
T1D training	skill development and practical application of the education on the student with T1D
Requisite training	training required to qualify and authorize the performance and safe execution of necessary tasks, skills, and responsibilities in accordance with local jurisdictional requirements
Delegation	physician requesting another health care professional to provide care on behalf of the physician while the requesting physician retains responsibility for patient care

1. Background

1.1 T1D is a complex chronic medical condition that requires skilled medical and psychosocial management with a multidisciplinary team approach [1–6].

- 1.2 There is overwhelming evidence supporting the benefits of spending maximal time in normoglycemia and the harms associated with spending time outside that target range [1–6]. The aim should be to maintain glucose targets as close as possible to normoglycemia during the school day and other school sponsored activities.
- 1.3 Intensive insulin therapy (IIT) is the recommended therapy for young people with T1D because it leads to improved health outcomes and reduced risk of short-term and long-term complications. Intensive insulin therapy usually comprises frequent glucose monitoring, carbohydrate quantification, insulin dose calculation, insulin administration with meals, and insulin and nutrition adjustments for physical activity [1–6].
- 1.4 ISPAD recognizes that those living with T1D across the globe face a wide variation in access to modern insulins, advanced technology devices, glucose control material and proficient and skilled diabetes education resources. This results in different levels of clinical care internationally. Individual management is also influenced by unique family circumstances and personal or parental skill levels [1–6].
- 1.5 ISPAD acknowledges that these principles will apply to other forms of diabetes that require administration of insulin whilst the student is in the custody of the school.

2. T1D Management at School

- 2.1 ISPAD advocates that the absolute minimal level of T1D care at school in all countries abides by the following principles:
- The student with T1D has the right to safely attend school.
 - The student with T1D has the right to experience equal opportunity, obtain equal education and participate equally in activities with their peers, including physical exercise and other extracurricular activities, with trained school personnel providing needed care [1–3].
- 2.2 A student with T1D may spend more than half of their waking hours in the custody and care of school, including time spent away from the security of home participating in after-school activities, school sports days, field trips, excursions, school camps, and commuting to and from school [1–3].
- 2.3 Time at school often presents as the most challenging part of the day for glucose levels to stay in target range. The usual school day comprises many variables that influence

glucose levels, such as sedentary learning times, physically active times, meal and snack times, and emotional variation including excitement and stress [1–6, 11–15].

3. Student and Family Emotional Health

- 3.1 T1D causes substantial impact on the student's life, as well as that of their siblings, family relationships, and parental working lives. Each family will have different access to physical, emotional and support resources, coping skills, economic circumstances, and medical education and support [1–3].
- 3.2 The emotional health of the student with T1D is optimized by a positive, proactive approach to all challenges of T1D, especially at school. The student should be supported by peers and school personnel to do anything their peers can do and not be restricted or limited in activities. The student should be provided with as little special care as possible, but as much as necessary [1–3, 11–15].
- 3.3 Parents are obliged to advocate for their child, knowing the short-term and long-term safety issues and the risk of complications or shortened life span which may result from inappropriate care [1].
- 3.4 If the parent considers the student is not yet sufficiently mature and capable of making and putting into effect their own decisions, the student will require assistance and/or supervision [1].
- 3.5 While the development of self-management skills is encouraged, the student should not experience disadvantage because of their ability to independently manage T1D. Students may be capable but should never be solely responsible for their management at school [1–3, 11].
- 3.6 Schools should not expect that young students will “learn responsibility” for self-managing T1D by leaving them unsupported during school hours. Schools should also understand that the duration the student has lived with T1D does not determine their ability to be self-sufficient [1–3].
- 3.7 The privacy and confidentiality of the student's T1D diagnosis and management must be respected, acknowledged by the school, discussed with the student and parent, and protected by the school [1–3].
- 3.8 Because of the relentless public demands of managing T1D, and the ongoing public discussion about “diabetes,” students may be exposed to stigma and experience anxiety, depression, and social isolation. These feelings may lead to reluctance to effectively self-manage, especially during adolescence [1, 2, 8, 16, 17].

4. Medical Orders for T1D Management in Schools

- 4.1 ISPAD recommends the student's medical orders comprise of the following:
 - 4.1.1 A concise emergency response plan (ERP) outlining recognition and individualized treatment protocols for low glucose levels and for high glucose levels [1–3].
 - 4.1.2 Detailed individualized medical orders, also known as the diabetes management plan (DMP) consented by the parent or student and signed by the prescribing physician or delegated medical team member. The DMP outlines the physician's medical instructions for that student at school. The DMP should specify what diabetes responsibilities can or cannot be undertaken by the student based on the student's age, diabetes self-care abilities, and cognitive maturity. These include blood glucose checking, insulin administration, meal planning and adjustment, and adjustments for exercise [1–3, 18].
 - 4.1.3 No other party can be a signatory to prescribed and consented medical orders [1, 19].
- 4.2 The student's individualized medical orders (DMP) and ERP cannot be altered by a third party under any circumstances without the consent and authorization of the parent and physician [1, 18, 19].
- 4.3 The school's obligation to execute measures to accommodate the student's medical needs while the student is in the school's custody does not result from the physician delegating those responsibilities to the school or school personnel. The physician is not responsible for the school's actions that are adopted to fulfil the duty of care owed to the student [18, 19].
- 4.4 Parents are the final arbiters of whether their child can self-manage certain aspects of T1D, including glucose monitoring and self-administration of insulin. The medical team should guide and support parents to ensure the student is not subject to inappropriately unrealistic expectations [1].
- 4.5 The medical team should advise on the content of training required to best execute the medical orders and include these requirements in the order (DMP) [1–3].
- 4.6 Schools, in conjunction with the parent (and student), should develop a written accommodations plan on how the student's medical orders are implemented. This document is known in various jurisdictions as a “504 Plan” (USA), “Health Support Plan” (Australia) and “Individual Care Plan” (Canada) [1–3, 11–18].
- 4.7 A parent cannot be expected to “fill the gap” of school resources and provide their child's medical management during the school day and school-sponsored activities [1–3].

- 4.8 Schools must permit students with T1D to monitor their glucose levels, administer insulin, and treat both low glucose and high glucose levels according to the medical orders (DMP) and written accommodations plan, in an appropriately safe place chosen in collaboration with the student and parent [1–3, 18].
- 4.9 T1D management should occur with minimal disruption to normal class routines and activities [1–3].
- 4.10 Students with T1D have the right to be encouraged and enabled to participate in physical activity with the appropriate adjustments for safety and optimal performance clearly outlined in the student’s medical orders (DMP) [1–3, 11–15].
- 4.11 Managing nutrition during school hours, including calculation of carbohydrate content of school meals, is an important requirement of optimal T1D management. It requires a defined approach between parent, student, and school personnel. Whoever (parent or school personnel) is responsible to provide/calculate/check the carbohydrate content of meals and snacks should be identified in each case and in each circumstance, both on-campus and off-campus [1–3].
- 4.12 Schools should establish processes regarding the use and handling of diabetes equipment including lancets, syringes, or needles, and used test strips. Jurisdictional requirements and workplace safety should inform schools on the requirements to manage sharps and biological waste to minimize risks to both students and school personnel. It is recommendable that parents should provide the necessary resources such as sharps containers or other means of disposal, depending on local circumstances [1–3].
- 4.13 When sitting an examination, students with T1D are entitled to appropriate adjustments and provisions, including access to glucose self-monitoring devices (which may include a smart phone or other electronic device for CGM), access to low-glucose treatment, access to insulin, access to water, access to toilet, and be granted extra time if required. Education programs to assist school personnel to safely execute the appropriate adjustments during exams should be readily accessible [1–3].
- 5.2 Communication strategies for the student with T1D should be clear, respectful, timely, and simple. Parents, and the student’s medical team (with parental consent), should be accessible points of escalation for school personnel. For continuity of care, the medical team contact should be identified for each student [1–3].
- 5.3 Positive outcomes for the student can be achieved with a mutually supportive approach with effective communication between parents and school, augmented by modern communication technology if available [1–3].

5. Communication Requirements

- 5.1 The parent (and student where appropriate) should clearly define how to execute the student’s medical orders at school, both on and off campus, and the school should clearly define how they will execute the student’s medical orders at school, both on and off campus.

6. The School Workplace and T1D

- 6.1. Schools are workplaces, subject to workplace safety legislation in many jurisdictions. Schools are obliged to manage the risks to the health and safety of all participants in their workplace. This includes ensuring schools provide safe systems of work, do not endanger the health of their students, and ensure their employees have the skills, knowledge, abilities, and appropriate standard of training to perform duties [18, 20–23].
- 6.2. ISPAD recognizes and acknowledges that school personnel comprise a diverse range of education professionals [23], whose primary expertise is in educating young people. They are not lay persons but a professional class of employees [23]. School personnel are entitled to education and training to work safely [17].
- 6.3. Most school personnel have no medical qualifications, no medical training, and no medical experience [23].
- 6.4. Some school personnel may be uncomfortable with health-related information and procedures [1–3, 11]. Various resources exist, and tools have been developed and evaluated [8, 19], to educate and train school personnel.
- 6.5. The contributions made by school personnel to appropriately assist the student with T1D should be acknowledged and appreciated by all stakeholders involved in the student’s care [1–3].

7. International Legal Rights for T1D

- 7.1. Legal frameworks and medicolegal obligations for safe and optimal management of T1D at school provide clarity of roles and purpose that can be successfully used to promote best medical practice to serve the best interests of the student, family, school personnel, and school [1–3, 5, 17, 18, 24].
- 7.2. The World Health Organization recognizes T1D as a disability. Many countries recognize

T1D under common law as a disability [1, 16, 25–30].

- 7.3. Recognition of T1D as a disability should be accurately represented to patients and stakeholders, acknowledging that such terminology does not define the person. Rather it provides the legal framework obligations for optimal management and equal opportunity. Disability should not equal exclusion and can be managed with inclusive interaction [25].
- 7.4. Accordingly, legal frameworks exist in many countries to protect children and adolescents with T1D against discrimination. Those frameworks affirm the student's legal and human rights to have an equal opportunity to participate in all aspects of school life on the same basis as their peers [1, 4, 5, 11–15, 18].
- 7.5. International human rights law lays down the obligations of governments to act in certain ways, or to refrain from certain acts, to promote and protect human rights and fundamental freedoms of individuals or groups. The rights of children with disabilities are specifically recognized in the *United Nations Convention on the Rights of the Child* and the *United Nations Convention on the Rights of Persons with Disabilities* (CRPD) [1, 25–29].
- 7.6. Most countries, including less resourced countries, are signatories or parties to the CRPD, which should protect young people with T1D from discrimination. This may be direct discrimination, for example, refusing school enrolment, or indirect discrimination, such as schools refusing to allow self-care in school or provide appropriately trained personnel to enable the child to participate in school life on an equal basis with their peers [1, 24].
- 7.7. In countries where legislative protections to support students with T1D are not expressly defined, ISPAD advocates that those countries adhere to their obligation under the CRPD [1].
- 7.8. All students with T1D should be allowed to attend school in a safe and supportive environment that enables best practice of management of T1D with trained staff in accordance with international legal principles [1–3, 11–15, 18, 22].

8. Reasonable Adjustments or Accommodations

- 8.1. A common form of disability and discrimination legislation obliges schools and education authorities to make reasonable adjustments or accommodations to facilitate prescribed complex T1D medical care, including the provision of appropriately trained

personnel while the school maintains custody and care of the student [1–3, 16, 17, 23, 30–32].

- 8.2. In such legislative contexts, reasonable adjustments for a student with T1D may include insulin or glucagon administration where prescribed. In some countries, it may also include, where prescribed with parental consent in the medical orders (DMP), complex diabetes management relating to the requirements of optimal use of advanced diabetes technology including insulin pumps, continuous glucose monitors, and automated insulin delivery systems [1–3].
- 8.3. In settings where regular blood glucose checks and glucagon are not readily available, ISPAD advocates for the most optimal interventions possible, including basic first aid management of hypoglycemia with adult supervision of the student until full recovery. Optimal management also includes allowing and supervising insulin administration during school hours when prescribed. Schools' obligations have been clarified in various courts and are consistent across jurisdictions [1–3, 7, 22, 23].

9. Schools' Duty-of-Care Obligations to Protect from Foreseeable Harm

- 9.1. Where government education systems require compulsory school attendance, authority over the student is delegated to the school. This creates a positive duty for schools to proactively take steps to protect students from foreseeable harm [1, 2, 18].
- 9.2. Generally, under common law and comparable systems of law, all school students, irrespective of their medical diagnosis, are legally protected through the schools' duty-of-care obligations. Schools are required to take care to protect students from harm that is reasonably foreseeable. The legal concept of negligence imposes duties and responsibilities to avoid injury to a person, whom, it can be reasonably foreseen, might be injured by an act or omission [1–3, 18].
- 9.3. There is foreseeable harm for the student with T1D experiencing out-of-target glucose levels. By executing prescribed medical orders, the school gives the student the best opportunity to maintain target glucose levels [1–6, 10, 17, 22].
- 9.4. There is foreseeable harm for the student with T1D experiencing discrimination, bullying and stigmatization that impacts self-esteem, motivation, and emotional health [1, 4, 5, 16, 19].

- 9.5. In countries with legislative obligation for parents to send their child to school, the standard of care required of schools is high. The duty-of-care obligations for schools consider the vulnerability of students and require schools and school personnel to act positively to best ensure against the risk of injury. This includes protecting students from harm caused by themselves or others [1, 26, 33].
- 9.6. It is important that school personnel are informed about the seriousness of T1D and the school's obligations while they have custody and care of the student [23]. The school's custodial role for students ensures that the obligations to the student with T1D are not diminished or relinquished by a student being deemed to be "self-managing" [1, 23].
- 9.7. To assist the school and education authority to meet their duty-of-care requirements and legal obligations for a student with T1D, those schools and education authorities should:
 - 9.7.1 Educate all school personnel about T1D and the need to actively respond to emergency situations [1–3, 11–15, 18, 23].
 - 9.7.2 Educate and train school personnel who have supervisory responsibilities for the student on first aid management. The individual nature of such education and training requires parental and student input [1–3, 11–15, 18, 23].
 - 9.7.3 Provide trained staff, which may include a school nurse or other trained staff member, who can execute complex individualized T1D medical care, including insulin administration [1–3, 11–15, 18, 23].

10. Stakeholder Roles and Responsibilities

- 10.1. Individualized, person-centered care is the preferred approach to the planning, delivery and evaluation of health care that is grounded in mutual understanding, cultural awareness and partnerships between the accountable medical team, students and their families, and school personnel [1–3].
- 10.2. The responsibilities of the three main stakeholders are:
 - Parents are ultimately responsible for the medical decisions made on behalf of their child. Therefore, the parents' informed consent and decisions regarding the health and wellbeing of their child are paramount. It is imperative that parents remain engaged as part of the team even when the student with T1D reaches adolescence [1, 22].
 - The student's physician or nurse practitioner is responsible for prescribing medications. The medical team is responsible for outlining in detail the recommended medical orders for that student. The medical team usually comprises a doctor and diabetes educator and preferably also includes dietitians, psychologists, social workers, and exercise specialists who work directly with the student and family [1].
 - School and the education authorities are responsible for executing the medical orders and parental guidance for the student's individualized care requirements. Schools are responsible for education and training of school personnel to ensure that they meet the requirements and are competent to execute medical orders provided by the parent and medical team including complex care and drug administration [1].

11. Education and Training for School Employees

- 11.1 To meet their obligations to an enrolled student with T1D, schools have a responsibility to provide education and requisite training for their staff.
- 11.2 Education is the gaining of knowledge and perspective about T1D.
- 11.3 Training is the skill development and practical application of the education on the student with T1D.
- 11.4 Education and training implementation must comply with local jurisdictional requirements and regulations.
- 11.5 The ISPAD recommended levels of T1D care, education and training are outlined in the attached infographic (Fig. 1).

12. Education Requirements for All School Employees – ISPAD Level 1 Education

- 12.1 All school personnel have duty-of-care obligations to a student with T1D. Accordingly, school personnel should receive appropriate, continual, and updated (at a minimum annually) foundation education to develop a clear understanding about school-related needs for the student with T1D [1, 12, 18, 34]. ISPAD refers to this education as Level 1.
- 12.2 The level 1 education curriculum should include the principles of T1D and how it impacts on students and families. This includes the recognition of signs, symptoms, and urgency to treat low glucose levels,



School / Education authority are responsible for providing safe systems of work, including education and training of school personnel to ensure competency.

Student with Type 1 Diabetes

Medical Orders (DMP) from Medical Team consented by Parent



School and Parent develop plan on how Medical Orders are implemented at school



EDUCATION is the gaining of knowledge and perspective about T1D.

TRAINING is the skill development and practical application of the education on the student with T1D.

Education and Training must comply with local jurisdictional requirements, standards and regulations.

	Applicable to	School responsibilities	Content	ISPAD Recommendations
LEVEL 1 EDUCATION	All school personnel 	All school personnel have a duty of care to apply an appropriate urgent response to all students, including those with T1D. The duty is to: <ul style="list-style-type: none"> • Act immediately • Escalate to a person with training. 	Foundational understanding of T1D and how it impacts students and families. Recognition of signs, symptoms and urgency to treat: <ul style="list-style-type: none"> • Low glucose levels, • High glucose levels if student unwell. Who to contact for help.	Level 1 Education (e-learning and other sources)
LEVEL 2 EDUCATION AND TRAINING	School personnel who interact directly with the student and are likely to need to respond immediately to medical events: <ul style="list-style-type: none"> • In the classroom and • During other school-based activities. 	Schools have a duty: <ul style="list-style-type: none"> • To protect the health and safety of staff and students. • To ensure staff are educated and trained. Student has the right to immediate access to a person with T1D specific first aid skills to keep them free from foreseeable harm. 	Understanding details of the student's medical orders (Diabetes Management Plan). T1D specific first aid training according to student's Emergency Response Plan (Diabetes Action Plan). <ul style="list-style-type: none"> • How and when to initiate treatment for high or low glucose levels • Understanding when and whom to call for additional assistance. Knowledge of the impact of food and activity on glucose levels. Education and training is specific to the needs of individual students.	Complete: <ul style="list-style-type: none"> • Level 1 Education ↓ • Level 2 Education and Training course ↓ • T1D First Aid Training ↓ • Individualised Education and Training by parent (may be assisted by education from medical team)
LEVEL 3 EDUCATION AND TRAINING	Complex care of the student with T1D must be undertaken by <ul style="list-style-type: none"> • Authorised Health Professional (e.g. Nurse) OR <ul style="list-style-type: none"> • Non-medical personnel with the appropriate: <ol style="list-style-type: none"> 1: Education that is student specific 2: Training that provides the authority as required in local jurisdiction 	Schools have a duty: <ul style="list-style-type: none"> • To provide safe systems of work and appropriate training for its personnel. • To safely facilitate prescribed complex T1D medical care. • To provide trained and authorised school personnel to provide complex medical care. • To ensure informed parental consent. 	Complex medical care includes <ol style="list-style-type: none"> 1. Insulin administration 2. Other T1D medical interpretations and interventions. Content of Level 3 Education and Training should be <ul style="list-style-type: none"> • Informed by the student's medical orders (Diabetes Management Plan) • Individualised • Applicable on-campus and individualised for each off campus activity. 	Complete: <ul style="list-style-type: none"> • Level 1 & Level 2 Education ↓ • T1D First Aid Training ↓ • Individualised Level 3 Education e-learning modules ↓ • Level 3 Training to authorise complex care ↓ • Individualised Education and Training by parent (may be assisted by education from medical team)

Fig. 1. Student with T1D.

the requirements to act if the student is unwell, and the escalation protocols for that student [1, 4, 5].

12.3 Accordingly, it is important to have current, accessible, language and culturally appropriate T1D education materials to enable flexible and rapid education of new or substitute school personnel, including clear pathways of escalation when required [1]. There are several ISPAD endorsed, culturally appropriate education materials available [8, 12, 13].

13. First Aid T1D Training and T1D Individualized Education – ISPAD Level 2 Education and Training

13.1 Schools have an obligation to protect the health and safety of all students, irrespective of a T1D diagnosis, and to protect the health and safety of all staff [23]. This includes providing a First Aid Emergency Response, defined as emergency care and/or treatment given to preserve life, to prevent the condition from worsening, and to promote recovery. Such assistance is usually performed by a member of school personnel with basic first aid training [19, 35–42].

13.2 School personnel with day-to-day supervisory responsibilities for the student with T1D, or those with greater oversight of the student while in the school's custody and care, are likely to need to respond immediately to medical events or schoolwide emergencies. Therefore, to assist such school personnel to discharge their duty-of-care obligations to the student, they must have T1D First Aid training as a workplace obligation [1–3].

13.3 Those school staff should also have detailed education on the individual's strengths, capabilities, challenges, and prescribed medical orders as outlined in the student's individual medical order (DMP) and written accommodations plan [1–3]. They should also be educated on the knowledge of the impact of food and activity on that individual's glucose levels for planning for special events in the classroom.

13.4 The student with T1D has the right to immediate access to a person with T1D-specific first aid skills to keep them free from foreseeable harm [1–3, 11–15, 18].

13.5 The T1D first aid response includes recognition and treatment of hypoglycemia and the escalation of any complex medical care requirements to qualified personnel [1–3, 11–15, 18].

13.6 Accordingly, requisite T1D first aid training may include, subject to local jurisdictional requirements:

- How and when to initiate prescribed individualized treatment for high or low blood glucose

levels [1]. This will include treatment without delay for suspected hypoglycemia if glucose testing is not available [1–3, 15, 16]. It may include glucagon administration in some jurisdictions [3, 15, 16, 29].

- Knowing and understanding when and whom to call for assistance including those school personnel who have the appropriate authority and training to undertake complex medical needs, emergency responders, parents, and medical team [1–3].
- Competently checking glucose levels (blood or sensor) if equipment is available and according to that student's medical orders (DMP) [1–3, 11–16, 18, 20, 41].

13.7 The recommended process to complete level 2 education and training is to complete:

1. Level 1 education course
2. Level 2 education course specific to the needs of that student
3. T1D first aid training course
4. Individualized education and training by parent. The medical team may assist individualized education with parental consent.

14. Complex Medical Care of the Student with T1D – ISPAD Level 3 Education and Training

14.1 For a student with T1D, complex medical care includes administration of insulin and glucagon [1].

14.2 Complex care may also require medical interpretations and interventions that could impact the health of the student [1–3]. These may include but are not limited to:

- Monitoring glucose levels, including interpretation to support decision making where applicable.
- Insulin dose calculation.
- Carbohydrate counting.
- Knowledge of the student's insulin delivery device.
- Ketone monitoring.
- Glucagon administration (if not prescribed in level 2).

14.3 Complex care of the student with T1D, including administration, or careful supervision of insulin administration via injections or insulin pump, requires school personnel to be specifically trained and legally authorized to then obtain informed parental consent [1–3, 16, 18].

- 14.4 Most school personnel are not medically authorized to execute complex medical care. While those personnel have duty-of-care obligations to provide first aid assistance, they are not obliged to be trained to execute complex medical care [1, 4, 5, 11, 12, 16, 18].
- 14.5 Schools and education authorities are obliged to provide personnel who are available and trained to safely execute and manage the complex medical needs of a student with T1D to fulfil:
- The duty of care owed by the school to the student with T1D to keep the student free from foreseeable harm [1, 16, 18].
 - Legal and regulatory requirements for occupational health and workplace safety that require schools to provide safe systems of work and appropriate training of their staff [1, 37, 38].
 - Training registration and accreditation compliance requirements [1, 3, 11, 16, 18].
- 14.6 If a medically authorized health professional (nurse) is unavailable in the school environment, ISPAD supports non-medical personnel with the appropriate education, recognized training, and authority to provide consented complex T1D care in accordance with local jurisdictional, legal, and regulatory requirements [1, 4, 5, 11, 16, 18].
- 14.7 The content of level 3 education and training should be student specific, with clear understanding of when and how to perform each task outlined in the student's medical orders (DMP) and should incorporate a clear and consented communication plan [1, 3, 16, 18].
- 14.8 Parental education and training of school personnel – after the staff have completed level 1 education and level 2 education and first aid training – assists the school personnel to understand the medical requirements of that individual. The parent may engage the student's medical team, including the diabetes educator, to support the advice to the school on that student's individual needs [43].
- 14.9 The T1D education and training of nonmedical qualified school personnel and school nurses on complex T1D care is referred to as ISPAD level 3 education and training.
- 14.10 The recommended process to complete level 3 education and training is to complete:
1. Level 1 and level 2 education courses
 2. Requisite T1D first aid training course
 3. Level 3 education course specific to the needs of that student (as informed by consented medical orders)
4. Level 3 requisite training course consistent with local jurisdictional training, registration and accreditation compliance requirements that authorizes the nonmedical staff member to undertake medical care, including the administration of insulin.
5. Individualized education and training on that student by the parent. This may be supported by the medical team at parental request.
- 14.11 While it is the responsibility of the medical team to provide training to parents and students, it is not the responsibility of the medical team to provide training to employees, including school personnel. Nor is it the responsibility of the medical team to assess school personnel competence in executing complex T1D care.
- 14.12 While the medical team may direct the school to appropriate educational materials, the medical team is not responsible for ensuring delivery of the education or monitoring completion rates.

15. On-Campus versus Off-Campus Requirements

- 15.1 Prescribed medical orders do not change whether the student is on campus or off campus [9, 16, 18, 23, 29, 30], though specific adjustments may be made to the medical orders to address variables in specific circumstances, for example, physical activity.
- 15.2 However, the training required for school personnel may change for off-campus activities to safely execute prescribed medical care [23]. The school must consider and address the risks specific to the off-campus location, remoteness, access to transport, communication availability, local language, and vicinity of medical services [16, 18, 23, 44].
- 15.3 The circumstance of off-campus activities should be cooperatively planned in a timely manner between all parties to assist the school in meeting its obligations to the student's safety and well-being [15, 16, 18, 23, 44].
- 15.4 To assist with compliance with jurisdictional, legal, and regulatory obligations, schools should mitigate risk by considering the worst-case scenario for each off-campus activity. Schools should ensure level 3 trained school personnel are always available in case the student becomes incapable of their usual standard of self-care to deal effectively with diabetic ketoacidosis, severe hypoglycemia, other medical conditions that may impair conscious state [23, 44], and psychosocial challenges.

- 15.5 The medical team may advise on the content of training required to best execute the medical orders off campus, but it is the school's obligation to implement those medical orders while the student is in the school's custody and care [1, 3, 16, 18, 23].
- 15.6 Parents should provide to the school to accompany the student on camp:
- The DMP with detailed, written medical orders to account for physical activity and dietary requirements.
 - The ERP with adequate supplies of prescribed treatments for low glucose levels (simple carbohydrate, snack, glucagon).
 - Parent, medical team, and emergency center contact details and instructions.
 - Supplies specific to that student's needs including medical supplies, glucose and ketone monitoring devices, delivery devices, sharps containers, charging devices, storage containers, and ensuring supplies are within their use by date.
 - Other specific requirements.

Acknowledgments

The authors are committee members of the ISPAD Schools Special Interest Group (SIG) [8] who gratefully acknowledge the input of experienced colleagues, legal experts, parents, young people living with T1D, and school personnel who have directly or indirectly contributed to the creation of this ISPAD Position Statement. The SIG particularly wishes to acknowledge and thank

Mr Peter Seidel and Ms Bridgid Cowling of Arnold Bloch Leibler for their generous pro bono public interest advice and legal validation of the Position Statement to ensure consistency with global legal frameworks that protect the human and general legal rights of a student with T1D in the school setting. We thank parent advocate and ISPAD member Tamara Boyer for her lived experience in negotiating the legal frameworks in T1D in schools. We thank Simone Beever for her copyediting expertise. ISPAD also acknowledges the Australian Paediatric Society for funding the graphics of the Position Statement Table. We gratefully acknowledge the input of Jenny Goss, Angie Middlehurst, Crystal Woodward ADA, and the Legal Team, Medical Chamber of Slovenia.

Conflict of Interest Statement

The authors declare that there is no conflict of interest.

Funding Sources

There was no funding for the work on this manuscript.

Author Contributions

P.W.G. and G.F.: conceptualization, data curation, formal analysis, investigation, methodology, validation, writing – original draft, and writing – review and editing; N.B., L.E.C., R.C.-H., K.L., S.E.L., and C.A.M.: conceptualization, data curation, formal analysis, investigation, methodology, validation, and writing – review and editing.

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