Pediatric Diabetes 2014: 15(Suppl. 20): 1–3
doi: 10.1111/pedi.12182

Pediatric Diabetes

Editorial

Introduction to ISPAD Clinical Practice Consensus Guidelines 2014 Compendium

This supplement of *Pediatric Diabetes* is an update of the guideline chapters that were originally individually published in the journal between 2006 and 2008, and as a single compendium edition in 2009. The chapters have been modified and updated to reflect the significant advances in scientific knowledge and clinical care that have occurred since then. These updated guidelines also are available on the International Society for Pediatric and Adolescent Diabetes (ISPAD) website: www.ispad.org.

In 2007, the total child population of the world (0–14 yr) was estimated to be 1.8 billion, of whom 0.02% had diabetes. This means that approximately 497 000 children around the world have diabetes, with 79 000 new cases diagnosed each year (1). However, field data suggest that some individual country estimates (especially in developing countries) are uncertain or inaccurate. These very large numbers of children need help to survive with insulin injections in order to live a full life without restrictions or disabling complications and without being stigmatized for their diabetes.

Even today, almost a century after the discovery of insulin, the most common cause of death in a child with diabetes from a global perspective is a lack of access to insulin (2). Many children die before their diabetes is diagnosed. It is therefore of utmost importance that all forces unite to make it come true that no child should die from diabetes. A promising initiative has been taken by the International Diabetes Federation (IDF) 'Life for a Child' programme (www.lifeforachild.org) in collaboration with ISPAD and other organizations. Several major companies that produce insulin and other diabetes-related products have pledged their support, and the number of children and youth provided with insulin, test strips, and other support is around 13 000 in 2014 and will continue to increase. Currently 46 countries are involved. ISPAD has also pledged support and assistance in the training of pediatricians and health care professionals in childhood and adolescent diabetes through its membership network. CDiC (Changing Diabetes in Children) is another initiative providing insulin and diabetes care to India, Bangladesh, and a number of countries in Africa. Additional initiatives by ISPAD to improve diabetes care for children and adolescents worldwide include its 'science schools' for physicians and for other health care professions, its postgraduate courses and its Diabetes in Practice (DIP) programme, which have been held in a number of countries around the world. ISPAD also provides tutoring in collaboration with the European Society for Pediatric Endocrinology (ESPE) at Pediatric Endocrine and Diabetes Training Center in Africa (PETCA) in Nairobi and at Pediatric Endocrine and Diabetes Training Center in West Africa (PETCWA) in Lagos for fellows from Africa in pediatric diabetology and endocrinology.

In 1993, members of the ISPAD formulated the Declaration of Kos, proclaiming their commitment to 'promote optimal health, social welfare, and quality of life for all children with diabetes around the world by the year 2000'. Although all the aims and ideals of the Declaration of Kos were not reached by 2000, we feel that slowly, by small steps, the worldwide care of children with diabetes is improving.

ISPAD published its first set of guidelines in 1995 (3), its second in 2000 (4), and its third in 2009 (5). Since then, the acceptance of intensive therapy, also for very young children, has increased around the world. Insulin pump usage has risen in all age groups in countries where this treatment modality can be afforded. Intensive therapy requires better and more comprehensive education for it to be successful.

The ISPAD Consensus Guidelines 2000 was translated into 11 languages, reflecting the need for a truly international document. In 2003–2005, national guidelines for childhood diabetes were released: the Australian Clinical Practice Guidelines from the National Health and Medical Research Council (5), and in the UK, the National Institute for Clinical Excellence (NICE) Clinical Guideline (6). Both these publications were truly evidence-based in that they deal with the body of evidence with a systematic approach, grading each reference and building the case for each recommendation. In 2003, the Canadian Diabetes

Association published Clinical Practice Guidelines with chapters both on type 1 and type 2 diabetes in children and adolescents (7). In 2005, the American Diabetes Association (ADA) published its statement on the care of children and adolescents with type 1 diabetes (8) which has recently been updated and now shares the ISPAD hemoglobin A1c (HbA1c) target of <7.5% for all children and adolescents (9). ISPAD in collaboration with IDF has also produced the Global IDF/ISPAD Guideline for Diabetes in Childhood and Adolescence, introducing three levels of care: recommended care, comprehensive care, and limited care. In this edition of the ISPAD Guidelines, a 'limited care' section can also be found in the Supporting information.

This fourth edition of ISPAD's 'Clinical Practice Consensus Guidelines' is much larger, and has been enriched by the national guidelines mentioned above. All chapters are organized as follows: executive summary and recommendations, supporting body of the chapter, references, and as an appendix for limited care. As in past ISPAD guidelines, we have used the ADA system for grading evidence (noted below) (11). Whenever possible the reference for a statement or recommendation has been included, but as the reader will see, a vast majority of the recommendations and suggestions are graded as 'E', as they are solely based on expert consensus or clinical experience.

The ISPAD guidelines serve a critical function to gather in one document comprehensive advice on diabetes care that is not only focused on children and young people, but is also based on the latest evidence and on a wide consensus of clinical practice. They are also intended for worldwide application and have thus been drafted by international writing teams, modified by experts in different specialties from many countries and were posted for review by members via the ISPAD website. As far as possible, significant input by individuals has been acknowledged. The Editors wish to give their many thanks to the large number of individuals who have contributed but whose names could not be included.

The 2014 guidelines, as with previous editions, place patient, family, and health care provider education at the center of clinical management. Education is the vehicle for optimal self-management, the key to success.

We hope therefore that the guidelines will be widely consulted and will be used to:

- improve awareness among governments, state health care providers, and the general public of the serious long-term implications of poorly managed diabetes and of the essential resources needed for optimal care;
- assist individual care givers in managing children and adolescents with diabetes in a prompt, safe, consistent, equitable, standardized manner in accordance with the current views of experts in the field; and
- provide evidence-based advice to improve the care of children with diabetes.

As in 2009, 'these guidelines are not strict protocols nor are they the final word'. Individual clinical judgment and decision making also require the family's values and expectations to be considered with the best outcomes being reached by consensus.

The American Diabetes Association evidence grading system for clinical practice recommendations is as follows:

Level of evidence	Description
A	Clear evidence from well-conducted, generalizable, randomized, controlled trials that are adequately powered, including: • Multicenter trial • Meta-analysis incorporating quality ratings • Compelling non-experimental evidence (i.e., 'allor-none' rule) developed by the Center for Evidence-Based Medicine at Oxford* Supportive evidence from well-conducted, randomized, controlled trials that are adequately powered, including: • Well-conducted trials at ≥1 institutions
B	Supportive evidence from well-conducted cohort studies including: • Prospective cohort studies or registry • Meta-analysis of cohort studies Supportive evidence from a well-conducted case–control study.
C	Supportive evidence from poorly controlled or uncontrolled studies including: • Randomized clinical trials with one major or three minor methodological flaws that could invalidate the results • Observational studies with high potential for bias • Case series or case reports Conflicting evidence with the weight of evidence supporting the recommendation.
E	Expert consensus or clinical experience.

*Either all patients died before therapy and at least some survived with therapy or some patients died without therapy and none died with therapy (e.g., the use of insulin in the treatment of diabetes ketoacidosis).

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References

1. International Diabetes Federation. Diabetes Atlas. 6th edn. International Diabetes Federation, 2013.
2. Gale EA. Dying of diabetes. Lancet 2006: 368: 1626–1628.
3. Laron Z. Consensus Guidelines for the Management of Insulin-Dependent (Type 1) Diabetes (IDDM) in Childhood and Adolescence. London: Freund Publishing House, 1995.
4. Swift PGF (Ed). ISPAD (International Society for Pediatric and Adolescent Diabetes) Consensus Guidelines for the Management of Type 1 Diabetes Mellitus in Children and Adolescents. Zeist, the Netherlands: Medforum, 2000.
5. APEG. (Australasian Paediatric Endocrine Group). Australian Clinical Practice Guidelines: Type 1 Diabetes in Children and Adolescents. Australian Government: National Health and Medical Research Council, 2005.
6. National Collaborating Centre for Women's and Children's Health. Type 1 Diabetes: Diagnosis and Management of Type 1 Diabetes in Children and Young People. London: RCOG Press, 2004.
7. Canadian Diabetes Association. Clinical Practice Guidelines for the prevention and management of diabetes in Canada. Can J Diabetes 2003: 27 (Suppl. 2): S84–S93.
8. Silverstein J, Klingensmith G, Copeland K et al. Care of children and adolescents with type 1 diabetes: a statement of the American Diabetes Association. Diabetes Care 2005: 28: 186–212.
9. Chiang JL, Kirkman MS, Laffel LMB, Peters AL. Type 1 diabetes through the life span: a position statement of the American diabetes. Diabetes Care 2014: 37: 2034–2054.
10. Joseph IW, Jeremy A, Maria C et al. Diabetic ketoacidosis and hyperglycemic hyperosmolar state: a consensus statement from the International Society for Pediatric and Adolescent Diabetes. Pediatr Diabetes 2014: 15 (Suppl. 20): 156–181.
11. Summary of revisions for the 2006 Clinical Practice Recommendations. Diabetes Care 2006: 29 (Suppl. 1): S3.