HALTING THE RISE IN OBESITY AND DIABETES

Life Stage: School-aged Child (5 - 18 yrs)

INTERVENTION POINTS

1. Social Determinants/Health Promotion

National policies on taxing sugar-sweetened beverages, food labelling, marketing of foods to children etc

School Health & family life Education policy, health education curriculum incl. nutritional literacy

Health Education/Promotion on avoidance of risk factors for obesity & diabetes

Parental and Care-giver education on nutrition and physical activity

National policy for inclusion of quality physical education in schools

Standards for nutrition and physical activity in schools

Premier's Youth Council on Fitness (PYFC)

Public awareness and education on childhood obesity

2. Primary Prevention/Risk Reduction

School health assessments and referral process

Public awareness and education on childhood obesity

3. Screening & Early Detection

Routine weight and blood glucose screening guidelines (0-18 years)

Implementation of weight and blood glucose guidelines for monitoring

Comprehensive School- and community-based screening services (5-18 yrs)

Referral resources for family support and health education

Statutory reporting for Diabetes Register

4. Care and Treatment

Protocols for management of excessive weight gain, overweight and obesity.

Protocols for management of impaired glucose metabolism in children

Referral resources for development of self-care skills, family support and health education

Statutory reporting of diabetes diagnoses for National Register

5. Quality of Care

Adherence to national guidelines for clinical management

Clinical Care Quality Reporting system with monitoring and accountability mechanisms

Defining Childhood Obesity (5-18 years)

Weight Category	BMI-for-age	COMMENTS
Underweight	$<5^{th}$ percentile	*For children and teens, BMI is age and sex-specific and is often referred to as* ***BMI-for-age****. A child's weight status is determined using an* ***age- and sex-specific percentile*** *for BMI rather than the BMI categories used for adults, because children's body composition varies by age and gender. BMI level (among children and teens) is expressed relative to other children of the same age and sex.*
Normal Weight	5^{th} to $<85^{th}$	
Overweight	$\geq 85^{th}$ and $<95^{th}$	
Obese	$\geq 95^{th}$	

HEALTH PROMOTION

Supportive Policies

Principals, Board chairs, parents and pupils, should assess the whole school environment and ensure that all school policies help children and young people to maintain a healthy weight, eat a healthy diet and be physically active, in line with existing standards and guidance:

- building layout and recreational spaces,
- catering (including vending machines) and the food and drink children bring into school
- the taught curriculum including Physical Education (PE) and certification for possible external examination
- school travel plans and provision for cycling
- relating to the National Healthy Schools Programme.
- WHO Health Promoting Schools framework (e.g. Bermuda's Healthy Schools programme and PYFC).
- Policies for meeting guidelines for physical activity, and inclusion in School Improvement Plan

EVIDENCE

Activities included in beneficial programmes:

- ***Curriculum on healthy eating, physical activity and body image*** *integrated into regular curriculum;*
- ***More sessions for physical activity*** *and the development of fundamental movement skills throughout the school week*
- *Improved* ***nutritional quality of foods*** *made available to students*
- *Creating an environment and culture that* ***support children eating nutritious foods and being active throughout each day***
- *Providing* ***support for teachers and other staff*** *to implement health promotion strategies and activities (e.g. professional development, capacity building activities)*
- ***Engaging with parents*** *to support activities in the home setting to encourage children to be more active, eat more nutritious foods and spend less time in screen-based activities*

PRIMARY PREVENTION

- Measure Height/Length & Weight, calculate BMI percentile and document at all Child health care visits. Anthropometric policy **recommends at least annually for 5-18 year old.**
- Diet and nutritional history
- Diet and physical activity interventions with school, home and community components.
- Involvement of School Nurses, Therapists etc in implementing effective school-based obesity interventions
- Implementation of Healthy Schools programme, and PYFC initiatives (referrals to PYFC Case Manager for Individual Wellness Plans).
- Formalized Referral System emphasizing feedback.

EVIDENCE

- *Multi-component behaviour-changing interventions that incorporate* ***diet, physical activity and behaviour change*** *may be beneficial in achieving small, short-term reductions in BMI, BMI z score and weight in children aged 6 to 11 years.*
- *School-based interventions (during or after-school) can include:*
  - *parent education and counseling*
  - *staff education,*
  - *physical activity,*
  - *student education and counseling,*
  - *parent participation, at school or via telephone consultation.*

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<table>
<tr><th>SCREENING AND EARLY DETECTION</th><th>EVIDENCE</th></tr>
<tr><td>Routine “Well Child” Growth & Weight Monitoring
• School Nurses P1 Assessments include weight/BMI screening; include at P2-4 when Vision screening performed.
• Include measurement or recording of weight on Medical Health Form used by School-based Rehabilitation services
• Collaborate with PYFC annual weight measurements of children [at P5-6, M1-3, S1-2] conducted by PE teachers.
• Establish and implement guidelines for routine screening for overweight and obesity in all children
• Establish and implement guidelines for routine screening for diabetes and prediabetes in asymptomatic children, if indicated by established criteria
• Behavioural Counseling Interventions: Assess, Advise, Agree, Assist, Arrange</td><td>• Routine screening for obesity to begin at age 6 years – earlier is recommended as obesity at 5 years predicts later obesity.
<u>Criteria for Diabetes Screening in Asymptomatic Children</u>:
• Overweight (BMI >85th percentile for age and sex, weight for height >85th percentile, or weight >120% of ideal for height)
<u>Plus</u> any two of the following risk factors:
• Family history of type 2 diabetes in first- or second-degree relative
• Race/ethnicity (Native American, African American, Latino, Asian American, Pacific Islander)
• Signs of insulin resistance or conditions associated with insulin resistance (acanthosis nigricans, hypertension, dyslipidemia, polycystic ovary syndrome, or small-for gestational-age birth weight)
• Maternal history of diabetes or GDM during the child’s gestation.
Age of initiation: age 10 years or at onset of puberty, if puberty occurs at a younger age. Frequency: every 3 years</td></tr>
<tr><th>CARE AND TREATMENT</th><th>EVIDENCE</th></tr>
<tr><td>• Obesity management in school settings
- Importance of confidentiality and building self-esteem
- Lifestyle-based Interventions to help child eat a healthy diet and be physically active, develop positive body image and build self-esteem
• Diabetes care should be provided by a specialist and team to improve lifestyle management:
• Diabetes self-management education and support
• Nutrition therapy
• Physical activity
• Psychosocial screening and care</td><td>• Children and adolescents should engage in 60 minutes/day or more of moderate or vigorous intensity aerobic activity, with vigorous muscle strengthening and bone strengthening activities at least 3 days/week.
• Lifestyle-based weight loss interventions with 26 or more hours of intervention contact are likely to help reduce excess weight in children and adolescents.</td></tr>
<tr><th>QUALITY OF CARE</th><th>EVIDENCE</th></tr>
<tr><td>• Adherence to clinical management guidelines
• Adherence to other management recommendations:
- Routine immunization according to age-related recommendations
- Annual influenza vaccination
- Pneumonia vaccination with pneumococcal polysaccharide vaccine (PPSV23)
• Referrals to Behavioural and Mental health professionals for psychosocial care</td><td>• Children and their carers may experience psychological problems (anxiety, depression, behavioural and conduct disorders and family conflict) or psychosocial difficulties that can impact on the management of diabetes and well-being.
• Offer to children and carers dietetic support to help to optimize body weight and blood glucose control.
• Explain HbA1c target level ideal for minimization of risk of long-term complications.</td></tr>
</table>

KEY: BMI = Body Mass Index DOH = Department of Health PYFC = Premier’s Youth Fitness Council

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