Diabetes in children and young people: diagnosis and management of type 1 and type 2 diabetes in children and young people

Review questions

Type 1 diabetes

- What is the effectiveness of C-peptide and antibody tests to distinguish type 1 and type 2 diabetes?
- What is the effectiveness of structured education programmes in improving clinical and patient outcomes in children and young people with type 1 diabetes?
- What is the effectiveness of behavioural interventions to improve outcomes in children and young people with type 1 diabetes?
- What is the effectiveness of multiple daily injections of insulin when compared with mixed insulin injections in improving glycaemic control in children and young people with type 1 diabetes?
- What is the optimal haemoglobin A1c (HbA1c) target for children and young people with type 1 diabetes?
- What are the optimal blood glucose targets for children and young people with type 1 diabetes?
- How frequently should finger-prick blood glucose testing be performed in children and young people with type 1 diabetes?
- What is the effectiveness of finger-prick blood glucose testing compared with continuous glucose monitoring in children and young people with type 1 diabetes?
- What is the effectiveness of continuous glucose monitoring performed intermittently compared with continuous glucose monitoring performed in real-time in children and young people with type 1 diabetes?
- What is the effectiveness of blood ketone monitoring compared with urine ketone monitoring for the prevention of diabetic ketoacidosis?
- What is the effectiveness of dietetic advice using carbohydrate counting in maintaining glycaemic control in children and young people with type 1 diabetes?

- What is the effectiveness of dietetic advice using glycaemic index in maintaining glycaemic control in children and young people with type 1 diabetes?
- What is the predictive value of symptoms, signs and biochemical abnormalities as indicators of diabetic ketoacidosis in children and young people?
- What routine assessments and investigations should be used to guide management in children and young people who present with diabetic ketoacidosis?
- What is the appropriate route of administration for fluids in children and young people with diabetic ketoacidosis?
- At what rate should children and young people with diabetic ketoacidosis be rehydrated?
- What is the optimal fluid composition (including glucose, potassium and bicarbonate additives) for rehydrating children and young people with diabetic ketoacidosis?
- What is the effectiveness of intravenous osmotic agents in the management of cerebral oedema associated with diabetic ketoacidosis?
- When should intravenous insulin therapy be started and stopped in children and young people with diabetic ketoacidosis?
- How should the dosage of insulin be calculated for children and young people with diabetic ketoacidosis?
- What is the effectiveness of routine anticoagulant prophylaxis to prevent venous thrombosis in children and young people with diabetic ketoacidosis?
- Which of the following should be performed as clinical monitoring during treatment of diabetic ketoacidosis in children and young people:
    - general observations (for example, heart and respiratory rate and blood pressure)
    - body weight
    - hydration status
    - fluid balance
    - neurological observations
    - electrocardiographic (ECG) monitoring?

- Which of the following laboratory investigations should be performed to monitor children and young people during treatment for diabetic ketoacidosis:
    - blood glucose
    - blood or urine ketones
    - serum urea or electrolytes
    - acid/base status?
- What is the optimal monitoring strategy for identifying retinopathy in children and young people with type 1 diabetes?
- What is the optimal monitoring strategy for identifying nephropathy in children and young people with type 1 diabetes?

Type 2 diabetes

- What is the effectiveness of structured education programmes in improving clinical and patient outcomes in children and young people with type 2 diabetes?
- What is the effectiveness of behavioural interventions to promote engagement with clinical services in children and young people with type 2 diabetes?
- What is the effectiveness of behavioural interventions to improve outcomes in children and young people with type 2 diabetes?
- What is the effectiveness of dietetic advice to optimise glycaemic control in children and young people with type 2 diabetes?
- Does weight loss in children and young people with type 2 diabetes who are overweight or obese improve glycaemic control as measured by HbA1c?
- What is the effectiveness of metformin in improving glycaemic control in children and young people with type 2 diabetes when compared with usual care or placebo?
- What is the optimal HbA1c target for children and young people with type 2 diabetes?
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    - body weight
    - hydration status
    - fluid balance
    - neurological observations
    - ECG monitoring?
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    - blood glucose
    - blood or urine ketones

    - serum urea or electrolytes
    - acid/base status?
- What is the optimal monitoring strategy for identifying hypertension in children and young people with type 2 diabetes?
- What is the optimal monitoring strategy for identifying dyslipidaemia in children and young people with type 2 diabetes?
- What is the optimal monitoring strategy for identifying retinopathy in children and young people with type 2 diabetes?
- What is the optimal monitoring strategy for identifying nephropathy in children and young people with type 2 diabetes?