## Sports OK for Children With Chronic Conditions

BY KATE JOHNSON

Montreal Bureau

QUEBEC CITY — Children with chronic health conditions should be encouraged to play sports, and guidelines about physical activity in children with specific conditions will soon be available, said Dr. John Philpott, who is heading the joint effort of the Canadian Academy of Sport Medicine and the Canadian Pediatric Society.

Dr. Philpott, a pediatric sports medicine specialist at the University of Toronto, outlined conditions already discussed by the joint guideline committee, including juvenile idiopathic arthritis, hemophilia, diabetes types 1 and 2, and cystic fibrosis.

#### **Arthritis**

Children with juvenile idiopathic arthritis are prone to injury as a result of instability, muscle atrophy, and osteopenia, Dr. Philpott said at the joint annual meeting of the Canadian Academy of Sport Medicine and the Association Québécoise des Médecins du Sport.

They might be limited by increased energy expenditure, compared with healthy children, and by joint pain, but overall, their level of aerobic fitness is determined more by the duration rather than the severity of their disease. Particular risks in this population can arise from uveitis and temporomandibular joint involvement—making eye protection and mouth guards important.

Children with systemic arthritis and those with HLA-B27–associated disease might have cardiac problems that should be carefully assessed by a pediatric cardiologist. Though more liberal attitudes toward exercise are emerging for this population in general, Dr. Philpott said limited weight-bearing activity is still recommended for children with moderate to severe disease.

Children with neck arthritis should have x-ray evaluation of their C1-C2 stability, "which may or may not affect your recommendations regarding contact or collision sports," he said.

#### Hemophilia

For children with hemophilia, minimizing bleeding risk is obviously the main concern, Dr. Philpott said. These children might have pain and limited range of motion that contribute to their overall lower level of physical fitness and muscle strength, compared with healthy children. However, there is good evidence that physical fitness is beneficial in this population because it improves bone density and factor VIII levels.

"Most children with hemophilia are appropriately prophylaxed to minimize bleeding risk, but it is important that there is a care plan for the patient, parents, and coaches aimed at preventing and treating bleeds," he said. This should include protective equipment, factor prophylaxis and replacement therapy, and icing.

#### **Diabetes**

Most children with diabetes can play any sport, with an individualized approach to blood glucose control, he said. "Hypo-

glycemia is of particular concern for an exercising child with this disease—particularly those with type 1 diabetes who are on insulin—although some type 2 patients are also on insulin."

Children are more prone than adults to blood glucose variations, and exercise increases insulin sensitivity. "After exercise, overnight hypoglycemia—especially in a new diabetic—can be a grave concern, and this needs to be monitored closely."

Medical alert bracelets are very helpful.

Blood glucose monitoring is recommended before, during, and after exercise—at least initially, Dr. Philpott said, and use of insulin pumps might be considered.

#### **Cystic Fibrosis**

Ventilation is the main issue for patients with cystic fibrosis. "Mucus plugging and bronchospasm all lead to airflow restriction and carbon dioxide retention; oxygen desaturation and cyanosis are not uncommon," he said. Also, chronic malnu-

trition from malabsorption can result in decreased muscle mass and strength.

There are no absolute contraindications to sport participation for children with cystic fibrosis, although scuba diving is not recommended because of the risks of pneumothorax, said Dr. Philpott.

"These patients can have greater salt loss and dehydration during exercise, compared to their healthy peers, and flavored sodium-chloride drinks are helpful for this," he recommended.



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