Editorial

Management of Juvenile Idiopathic Arthritis 2015: A Position Statement from the Pediatric Committee of the Canadian Rheumatology Association

The medical management of juvenile idiopathic arthritis (JIA) and its complications has undergone significant changes in the last decade, a result largely of the introduction of biologics and increased availability of expertise in the diagnosis and management of rheumatic diseases in children and adolescents. The result is that clinical outcome has improved and complete disease control can often be achieved[1].

In 2010, the British Society for Paediatric and Adolescent Rheumatology (BSPAR) proposed guidelines for the optimal management of children and adolescents with JIA[2]. This advocacy statement emphasizes the importance of empowering children and their caregivers, facilitating early detection of JIA, prompt referral to a team of health professionals who are expert in the diagnosis and management of childhood rheumatic diseases, prompt access to all appropriate pharmacologic and biologic therapies, and regular followup and monitoring. The Canadian Wait Time Alliance sets acceptable wait times as 4 weeks in children with JIA, other than systemic onset JIA, and within 7 days of disease onset for children with systemic onset JIA. Screening for asymptomatic uveitis should take place within 4 weeks of the diagnosis of JIA[3]. Ideally, children and adolescents with JIA should be managed by a team of health professionals with training and experience in pediatric rheumatology given the differences in presentation, course, and prognosis between JIA and inflammatory arthritis in adults. Followup is recommended at intervals of 3-4 months in the patient with controlled disease and more often in those with uncontrolled disease[4,5].

Recommendations for the pharmacologic management of children and adolescents with JIA were proposed by the American College of Rheumatology (ACR) in 2011 and updated in 2013[4,5]. They were developed with reference to published data in a rigorous process (RAND/UCLA Appropriateness Method, http://www.rand.org/pubs/monograph_reports/MR1269.html). They provide rational, evidence-based recommendations for the management of 5 groups of patients with JIA: (1) those with < 5 affected joints, (2) those with ≥ 5 affected joints, (3) those with systemic JIA with active systemic features, (4) those with systemic JIA with active arthritis, and (5) those with active sacroiliitis. The recommendations vary according to the presence or absence of poor prognostic features and the level of disease activity[4,5].

In the fall of 2015, the Pediatric Committee of the Canadian Rheumatology Association (CRA) endorsed the ACR and BSPAR guidelines and offered an update on management recommendations and a commentary on specific aspects of treatment particular to the Canadian context (Table 1[2,4-14,15-24]). This position statement was developed by members of the Canadian pediatric rheumatology community through deliberations of 2 subcommittees: The Update on Management subcommittee (8 members, chaired by Dr. Tania Cellucci) and the subcommittee on Particularities in the Canadian Context (6 members, chaired by Dr. Jaime Guzman). The statement is based on published data. All pediatric rheumatologists practicing in Canada had the opportunity to become involved in this process and review the final text of the position statement. The CRA has approved the final text as reproduced here (Table 1).

Development of the position statement consisted of the following 6 steps:

1. The Guidelines Committee of the CRA proposed the need for Canadian recommendations to address the accelerated progress in JIA treatment, the interruption in marketing of liquid nonsteroidal antiinflammatory drug (NSAID) preparations and triamcinolone hexacetonide for injection, and inequalities in access to biologics across Canadian provinces and territories.
2. An invitation for a conference call was sent by e-mail to all 45 members of the CRA Pediatric Committee to recruit volunteers for this effort.
3. The 14 volunteers attending the call decided it was best to endorse existing evidence-based recommendations, and add brief statements about the particularities of the Canadian context and new developments since publication of the endorsed recommendations.
4. Each proposed additional statement was developed by at least 2 pediatric rheumatologists based on published evidence and then critiqued until the statement was acceptable to all members of the subcommittee.
5. The statements produced by the subcommittees were circulated via e-mail to all members of the Pediatric Committee for review and suggestions. Eleven pediatric rheumatologists in addition to committee members submitted comments. The resulting revised statements were circulated 1 more time to elicit any objections, and there were none.
6. The final statement was reviewed by the CRA Guidelines

Table 1. Management of juvenile idiopathic arthritis (JIA) 2015. Position statement by the Pediatric Committee of the Canadian Rheumatology Association (CRA).

Position Statement
1. General treatment principles
• In accordance with the recommendations of the British Society for Paediatric and Adolescent Rheumatology (BSPAR) and the American College of Rheumatology (ACR), the Canadian Rheumatology Association agrees that treatment of the child with JIA should be initiated without delay[2,4,5]
• Children with JIA living in communities with no access to ongoing pediatric rheumatology care should be reviewed by a pediatric rheumatology team at least annually
• Treatment should be tailored to individual patient characteristics based on the number of affected joints, the presence of active systemic features, the degree of disease activity and the presence of poor prognostic factors[4,5]
• Response to treatment should be assessed frequently, and treatment modified according to the results of the assessment. The goal of treatment is to attain a state of inactive disease with full, pain-free function, if possible
2. Exercise, physiotherapy, and occupational therapy
• All children and adolescents with JIA should be assessed and treated as indicated by a physiotherapist and/or occupational therapist with specific expertise in the management of childhood arthritis
• Physical activity and exercise, both recreational and prescriptive, may improve outcomes in children with JIA[6,7,8]
• Therapy should focus on returning children to normal physical function and to participation in age-appropriate social and physical activities to the fullest extent possible to facilitate optimal physical, emotional and psychosocial development[6,7,8]
3. Pharmacologic therapy
• Access to recommended medications should be available to all children with JIA, wherever they live in Canada
• Nonsteroidal antiinflammatory drugs (NSAID)
— Several NSAID should be available as liquid preparations for the management of children who cannot swallow tablets, and to facilitate accurate dosing in small children
• Intraarticular corticosteroids
— Intraarticular corticosteroid injections may be used as first-line treatment of oligoarthritis without the need of a trial of systemic medications, including NSAID[9]. They may also be used as adjunctive therapy in other categories of JIA. Triamcinolone hexacetonide has been shown to have longer duration of action than other preparations[9,10,11]. It is the first choice of medication for intraarticular injections and should be considered the standard of care
• Disease-modifying antirheumatic drugs (DMARD)
— The Pediatric Committee of the CRA endorses the ACR recommendations for the use of DMARD, such as methotrexate or leflunomide[4,5]
• Biologic agents
— Prompt access to biologic agents for management of JIA through provincial governmental funding programs, and for aboriginal children, through federal government funding programs, should be equitable across Canadian provinces and territories
Several newer biologics that merit attention:
— Tocilizumab should be considered as initial treatment in systemic JIA and as an option in treating children with persistently active polyarticular course JIA who have failed (or are intolerant of) methotrexate or another DMARD[12,13]
— Canakinumab may be considered for the treatment of systemic JIA in patients who are 2 years of age or older and who have active systemic features and/or active arthritis[14]
— Other biologic therapies including rituximab[15], golimumab[16], and certolizumab[17] have been used in adults with rheumatoid arthritis and in a limited number of children with JIA. The off-label use of these medications may be considered for children with refractory disease on a case-by-case basis
4. The role of imaging to monitor disease activity and damage
• Imaging plays a key role in the assessment of children with JIA[18]. Current ACR recommendations identify radiographic damage (erosions or joint space narrowing by radiograph) as a poor prognostic feature[4,5]. However, there is a shift from the use of conventional radiography to newer imaging modalities, such as ultrasound (US) and magnetic resonance imaging (MRI), to detect early or subclinical disease activity, and damage to joints, entheses, and tendon sheaths
• US and MRI are considered valuable imaging tools to identify disease activity and damage. MRI may be especially helpful in assessing disease activity in joints that are difficult to assess clinically, such as the temporomandibular, sacroiliac, hip, and subtalar joints[19]. Standardized protocols and validated scoring systems for US and MRI are currently being developed and should be incorporated into future guidelines[20]
5. Uveitis screening and management
• Early detection and treatment of uveitis are critical to the prevention of complications and preservation of vision
• Regular screening and treatment of uveitis associated with JIA should be performed according to the most up-to-date evidence-based guidelines[21,22,23]
6. Management of enthesitis, sacroiliitis, and spondylitis in children
• The CRA and Spondyloarthritis Research Consortium of Canada (SPARCC) have recently developed treatment recommendations for spondyloarthritis[24]. These include recommendations regarding the treatment of children. The CRA Pediatric Committee membership will assess these recommendations in full at a later date.

Committee to determine acceptability for official endorsement.

The CRA Pediatric Committee endorses the ACR recommendations for pharmacological management of JIA. These include:

- The use of NSAID and intraarticular corticosteroids as first-line agents; it should be added that appropriate procedural sedation should be in place when performing intraarticular injections in children.
- The use of DMARD in patients with oligoarthritis who have

not responded to NSAID or who have poor prognostic features (arthritis of the hip, cervical spine, wrist or ankle, prolonged inflammatory marker elevations, or the presence of erosions), in patients with polyarthritis, and in patients with systemic JIA and active arthritis. Sulfasalazine may have a role in management of children with enthesitis-related arthritis[4,5].

- The use of a tumor necrosis factor-α inhibitor (etanercept, infliximab, adalimumab) in patients with oligoarthritis or polyarthritis who have not responded adequately to 3–6 months of treatment with a DMARD. The position statement mentions more recently available biologic agents and supporting references. Anakinra may be appropriate in children with systemic JIA who have failed to respond to systemic corticosteroids (with active systemic features) or methotrexate (with active arthritis)[25].

It is also worth noting that recent guidelines for the treatment of JIA-associated uveitis state that infliximab and adalimumab are indicated for the management of methotrexate-resistant anterior uveitis[21,26].

Therapeutic advances have dramatically improved the outcomes of children with JIA. The position statement reproduced in this editorial (Table 1) represents the views of Canadian Pediatric Rheumatologists, and is offered as an evidence-based approach to optimal management. It complements the ACR and BSPAR recommendations, with added comments applicable to the Canadian context. The statement will require updating as new biologics and other modalities of therapy emerge and are demonstrated to be effective. Management of complications of JIA such as macrophage activation syndrome, specific management of temporomandibular joint disease, and the use of biosimilars were beyond the scope of this position statement.

TANIA CELLUCCI, MD,
Department of Pediatrics, McMaster University, Hamilton, Ontario, Canada;
JAIME GUZMAN, MD,
Department of Pediatrics, University of British Columbia, Vancouver, British Columbia, Canada;
ROSS E. PETTY, MD,
Department of Pediatrics, University of British Columbia, Vancouver, British Columbia, Canada;
MICHELLE BATTHISH, MD,
Department of Pediatrics, Western University, London, Ontario, Canada;
SUSANNE M. BENSELER, MD,
Department of Pediatrics, University of Calgary, Calgary, Alberta, Canada;
JANET E. ELLSWORTH, MD,
Department of Pediatrics, University of Alberta, Edmonton, Alberta, Canada;
KRISTIN M. HOUGHTON, MD,
Department of Pediatrics, University of British Columbia, Vancouver, British Columbia, Canada;
CLAIRE M.A. LeBLANC, MD,
Department of Pediatrics, McGill University, Montreal, Quebec, Canada;
ADAM M. HUBER, MD,
Department of Pediatrics, Dalhousie University, Halifax, Nova Scotia, Canada
NADIA LUCA, MD,
Department of Pediatrics, University of Calgary, Calgary, Alberta, Canada;
HEINRIKE SCHMELING, MD,
Department of Pediatrics, University of Calgary, Calgary, Alberta, Canada;
NATALIE J. SHIFF, MD,
Department of Pediatrics, University of Saskatchewan, Saskatoon, Saskatchewan, Canada;
GORDON S. SOON, MD,
Department of Pediatrics, University of Toronto, Toronto, Ontario, Canada;
SHIRLEY M.L. TSE, MD,
Department of Pediatrics, University of Toronto, Toronto, Ontario, Canada;
On behalf of the Pediatric Committee of the Canadian Rheumatology Association.
Address correspondence to Dr. R.E. Petty, Division of Rheumatology, Department of Pediatrics, University of British Columbia, British Columbia's Children's Hospital, 4480 Oak St., Room K4-114, Vancouver, British Columbia V6H 3V4, Canada; E-mail: rpetty@cw.bc.ca

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