The Royal Australian College of General Practitioners

Diagnosis and management of juvenile idiopathic arthritis

Juvenile idiopathic arthritis (JIA) is one of the less common but challenging diseases presenting to Australian general practice; affecting 1–4 children per 1000. GPs should contribute to a team management approach to JIA (specialist and general practice) based on the following therapeutic goals: preservation of function and quality of life, minimisation of pain and inflammation, joint protection, and control of systemic complications.

This algorithm refers to children and adolescents aged less than 16 years presenting with one or more painful and swollen joints. Refer to RACGP *Clinical guidelines for musculoskeletal diseases* for more information on recommendations and grading of evidence **www.racgp.org.au/guidelines/musculoskeletaldiseases**

SUSPECTED JIA

- Pain and/or swelling in one or more joints
- Stiffness after rest or sleep
- Constitutional features (eg. fever, rash, loss of weight)
- Previous episodes
- Family history (rheumatic or autoimmune diseases)
- Impact on activity levels, sleep and/or school attendance

EXTRA HISTORY

- Overseas travel

CLINICAL EXAMINATION

- Examine all joints: tender and/or swollen joints (synovitis, range of movement, deformity)
- Localise the site of discomfort
- Conduct general physical examination, including lymphadenopathy, hepatosplenomegaly, fever, rash, nail changes, bruising, bleeding
- Measure growth parameters (height, weight, BMI)
- Assess nail pits, psoriatic rash

CONSIDER MIMICKERS OF JIA

Serious

- Acute painful onset monoarticular arthritis associated with fever is septic unless proven otherwise. Needs urgent culture

Common

- Reactive: post-infectious (eg. mumps, dengue fever, Ross River virus)
- Rheumatic fever in Aboriginal population, poststreptococcal arthritis
- Trauma or nonaccidental injury (eg. occult fracture, foreign body)
- Hypermobility

Uncommon

- Inflammatory: inflammatory bowel disease, sarcoidosis
- Infection: septic arthritis, Lyme disease, osteomyelitis
- Systemic: systemic lupus erythematosus, Henoch-Schönlein purpura and other vasculidites
- Malignancy: acute lymphocytic leukaemia, bone tumours

USEFUL TESTS IF SYMPTOMS PRESENT FOR MORE THAN 4 WEEKS

- FBE, ESR, CRP

Consider these further investigations in discussion with a paediatric rheumatologist

- X-rays and further imaging
- Autoimmune investigation if indicated (ANA, dsDNA, C3, C4, immunoglobulins)
- Investigations for classifying JIA (eg. RhF, ANA, HLA B27)

INITIAL THERAPY

PHARMACOLOGICAL INTERVENTIONS

Each JIA subtype may require a different approach to therapy. The main three subtypes of JIA are: oligoarthritis, polyarthritis, and systemic onset.

- Basic therapy (in consultation with paediatric rheumatologist)
- Traditional NSAIDs **(B)**
- Simple analgesics (eg. paracetamol) **(C)**
- Consider weak opioids (eg. codeine) **(D)**

NONPHARMACOLOGICAL INTERVENTIONS

- Adequate diet including daily calcium and vitamin D intake **(B)**
- Calcium supplementation (together with vitamin D when on corticosteroids) **(B)**
- Land based exercise programs **(C)**
- Aquatic exercise **(C)**
- Thermotherapy (heat/ice packs, warm baths) **(D)**
- Consider splints **(D)**
- Consider foot orthotics **(D)**

Diagnosis and management of juvenile idiopathic arthritis

MONITORING AND SUPPORT

Psychosocial support and education (C)
- Psychosocial support for patients, family members, and carers
- Ongoing education on disease management and medications
- Refer patients to support organisations

Ongoing monitoring of JIA (C)
- Optimise multidisciplinary communication
- Assess arthritis activity at least three times per year and adjust therapy to maintain swollen and tender joint count as low as possible
- Monitor toxicity and medication side effects
- Paediatric rheumatology review at least twice per year
- Adjust medication in consultation with paediatric rheumatologist
- Ophthalmology review (uveitis)

Managing comorbidities (C)
- Regular ophthalmological review for JIA related diseases treated with long term corticosteroids
- Preventive medicine: immunisations, weight, growth, nutrition, dental
- Monitor sleep, fatigue, mood, school progress, peer and age appropriate activity

MANAGEMENT OF ACUTE FLARE EPISODES

- Determine if persistent flare
- Manage short term flares symptomatically with analgesics +/– NSAIDs, heat, and relative rest
- Beware of infection if on immunosuppressive medication and evaluate for co-infection
- If persisting flare or other concerns, contact a paediatric rheumatologist or rheumatology team for advice

WARNING: Treatment may cause serious adverse effects. GPs and patients/carers must monitor for signs and symptoms of potential toxicity through regular clinical and laboratory review. Seek clear specific guidance from a rheumatologist

SELECTED PRACTICE TIPS (SEE THE FULL GUIDELINE FOR MORE TIPS AND FURTHER DETAILS)

www.racgp.org.au/guidelines/juvenileidiopathicarthritis

Intervention	Recommendation
Pharmacological management	
Simple analgesics	In overweight children, the ideal body weight should be used to calculate analgesic dose Maximum daily dose of paracetamol is 90 mg/kg to a maximum of 4 g/day
Traditional NSAIDs	**Caution:** Most children with asthma can take NSAIDs safely. However, those with diagnosed or suspected aspirin induced asthma (symptoms of asthma usually accompanied by facial flushing and rhinitis within 3 hours of exposure to an NSAID) should avoid all NSAIDs
Topical NSAIDs	**Caution:** Do NOT prescribe topical NSAIDs to treat patients with JIA. There is no evidence that they work **(Recommendation 12 D)**
Advanced therapy	DMARDs, intra-articular or systemic steroids, biological DMARDs, as prescribed by rheumatologist
Nonpharmacological interventions	
Calcium intake	Monitor calcium intake in children with JIA and provide advice on increasing daily calcium **(Recommendation 14 B)**
Nutritional therapies	Consider treating some patients with JIA with oral calcium and vitamin D supplementation
Orthotics	Most children who have JIA of the lower limb only need comfortable, supportive shoes rather than orthotics
No evidence	
Thermotherapy	No systematic reviews or randomised control trials of thermotherapy for treating children and adolescents with JIA **(Recommendation 19 D)**
Complementary therapies	No significant research into use of complementary/alternative physical therapies in children with JIA **(Recommendation 20 D)**
General	
Care plan	Prompt the specialist involved for a case-by-case guide to monitoring disease activity, complications and medication side effects

FOR DETAILED PRESCRIBING INFORMATION

National Prescribing Service **www.nps.org.au**
Paediatric Handbook **www.rch.org.au/paed_handbook**
Therapeutic Guidelines **www.tg.com.au**
Australian Medicines Handbook **www.amh.net.au**

PATIENT SERVICES

Arthritis Australia **www.arthritisaustralia.com.au**
Australian Rheumatology Association **www.rheumatology.org.au**

NHMRC grades of recommendations

A Body of evidence can be trusted to guide practice
B Body of evidence can be trusted to guide practice in most situations
C Body of evidence provides some support for recommendation(s) but care should be taken in its application
D Body of evidence is weak and recommendation must be applied with caution

Note: A recommendation cannot be graded A or B unless the volume and consistency of evidence components are both graded either A or B

This project is supported by the Australian Government Department of Health and Ageing through the Better Arthritis and Osteoporosis Care initiative

Expiry date of recommendations: August 2014