

Chronic Recurrent Multifocal Osteomyelitis (CRMO)



Pediatric Rheumatology

What is Chronic Recurrent Multifocal Osteomyelitis (CRMO)?

CRMO is a rare disease which results in a chronic inflammation of bone. The cause of CRMO is unclear however it is not caused directly by an infection. This disease affects more girls than boys, and most commonly appears at around the age of 10. Other terms used for this disease are: CNO (chronic nonbacterial osteomyelitis).

What are the symptoms of CRMO?

Children will present with pain in a bony area. There is usually swelling of the area, but not always; sometimes the affected areas may be red or warm to the touch. Children with CRMO may also have a fever. The knees, ankles, wrists, clavicles, and shoulder are common areas to be affected. Some children may only have involvement of a jaw bone, with swelling and pain. Some children have one site affected, and some children may have multiple sites. CRMO can come and go, there may be periods when the child has no symptoms but a flare can reoccur. When the disease is active in an area, the pain can be severe. Often children may wake at night with pain.

How is CRMO diagnosed?

CRMO is a 'diagnosis of exclusion', because the signs of the disease are similar to other diseases, such as osteomyelitis (bone infection), or arthritis. Often the diagnosis is made following investigations such as x rays, bone scans and MRI. In some cases a biopsy may be needed to confirm the diagnosis.

How is CRMO treated?

The goal of treatment is to reduce pain to the affected area and reduce the frequency of flares. The first line of treatment is nonsteroidal anti-inflammatory drugs, usually Naproxen or Advil. Many children with CRMO have an excellent response to NSAID treatment. If this first therapy is not effective methotrexate may be added. In addition prednisone may be used to decrease the inflammation and pain, and allow the bones to heal. Prednisone is usually used short term and only during an episode. If these treatments are not successful pamidronate may be used. This drug belongs to a family of medications called bisphosphonates, which are active on bones. This drug is given intravenously usually for 3 days. It works by slowing the release of calcium from bones and slowing bone breakdown.

What is the long term outlook for CRMO?

Overall the outlook for children with CRMO is very good. Most children go into remission in late childhood, although some do have relapses. Regular clinic visits are important to determine the amount of bone inflammation and help determine if more imaging or medications are necessary. Physiotherapy may be recommended and some children are not able to participate in certain activities during a flare.