

Chronic Recurrent Multifocal Osteomyelitis (CRMO) in children and young people

Information for parents and carers



leeds children's
hospital

caring about children

Contents

Page 03	What is CRMO?
Page 04	Are there any tests for CRMO?
Page 04	Is there a treatment?
Page 06	What course is this condition likely to take?
Page 06	Abbreviations and their meanings
Page 07	Contact Details

What is CRMO?

Chronic recurrent multifocal osteomyelitis (CRMO) is a rare bone disorder, affecting children and adolescents and it is caused by dysregulated inflammation (this is called an autoinflammatory process). It causes an inflammation of areas of bone. The inflammation appears to come about spontaneously with no known cause. This is not a bone infection.

It is called 'chronic' as it may appear gradually and last a long time. Sometimes (but not always) it is recurrent, so it may get better but come back again. It is called "multifocal" as sometimes (but not always) it occurs in several bones.

Usually the affected area of bone is painful, and the skin and muscle over the bone may also be tender, swollen or hot. Occasionally children and young people can also have a high temperature with CRMO, but this is not due to infection. CRMO can affect virtually any bone in the body, but most commonly affects the ends of the long bones in legs or arms, the collar bones, the bones of the spine, or the hip bones. It can lead to chronic pain, bony deformities and fractures if left untreated.

A small proportion of children and young people with CRMO can develop associated conditions also caused by an over-active/dysregulated immune system such as arthritis, psoriasis or inflammatory bowel disease.

Are there any tests for CRMO?

Some blood tests (i.e. CRP and ESR) may be done to measure inflammation at diagnosis and during follow-up. Bone scans, MRI scans and X-rays are sometimes helpful in measuring how active the inflammation is in the bones.

Is there a treatment?

There is no 'cure' for CRMO, but there are effective treatments which can be used to effectively control pain and inflammation. A course of regular Non-steroidal anti-inflammatory medicines or NSAIDs (such as ibuprofen, diclofenac or naproxen), is usually tried first as they can be helpful in a large number of children and young people with CRMO. NSAIDs have an anti-inflammatory and pain-relieving property when taken regularly over a number of weeks until inflammation has settled. It is important to follow the directions given by your Rheumatology team for their use (for example not using these "as needed" but regularly if prescribed).

If the disorder is very active, causing a lot of pain and disrupting normal activities, a course of a medication called Pamidronate may be effective. This medication is normally given to people to strengthen weak bones (low bone mineral density), but it has been found to be effective in the treatment of CRMO, especially for bone pain that does not respond to NSAID treatment alone.

Treatment with Pamidronate can be repeated as needed (for some patients 3-4 monthly, but often less frequently). The treatment is usually repeated only if pain and inflammation come back.

Pamidronate is given through a drip infusion over 2 consecutive days over 4-6 hours (usually in the Children's Hospital Day Case Unit) which means that your child can go home between infusions. A small plastic tube (called a cannula) will be inserted into your child's vein - either in their arm or the back of their hand. A numbing cream may be applied to their skin before the procedure. The cannula is used to give the infusion of Pamidronate.

The main side effects are flu-like symptoms with aches and pains, a high temperature, headache, feeling sick or vomiting. This is more likely with the first course of Pamidronate and it is rare for flu-like symptoms to occur after the first course of Pamidronate. Paracetamol taken regularly is often helpful for these flu-like side effects.

The 'Bisphosphonate treatment for children' leaflet has further information on how Pamidronate is thought to work.

Other drugs used to treat arthritis, such as steroids, Disease Modifying Anti-Rheumatic Drugs (DMARD) or Biologic Drugs have been effective for some children (especially if they have overlapping features of arthritis) but are not discussed in this leaflet.

What course is this condition likely to take?

CRMO can last from months to many years and it can resolve on its own in half to two thirds of patients once they reach adulthood. It tends to have periods of exacerbation (when the bone is inflamed) and periods of remission (when it appears to have got better).

Many children and young people will not have active disease while on appropriate treatment, but in others, the disease may persist. Some children will need to stay on medications for many years and/or start additional medications. Others could come off medications.

Abbreviations and their meanings

- **CRMO:** Chronic recurrent multifocal osteomyelitis
- **CRP:** C-reactive protein (a protein which increases in the blood if there is inflammation)
- **ESR:** Erythrocyte sedimentation rate (also a blood test for inflammation)
- **MRI:** Magnetic resonance imaging (MRI) uses a large magnet and radio waves to look at organs and structures inside your body
- **NSAID:** Non-steroidal anti-inflammatory drug
- **DEXA Scan:** Bone density scan
- **DMARD:** Disease Modifying Anti-Rheumatic Drugs
- **Biologic Drugs:** A special type of DMARD. They are drugs that are made in a laboratory from proteins that target specific parts of the immune system which fuel inflammation.

Contact details

If you have unanswered questions or concerns please telephone or email:

Children's Rheumatology Nurse Specialists

By telephone

Monday - Friday 08:00 - 17:00:

- **0113 392 0683**
(Please leave a message if not answered)

By email

- **leedsth-tr.prnurses@nhs.net**



What did you think of your care?

Scan the QR code or visit bit.ly/nhsleedsfft

Your views matter



© The Leeds Teaching Hospitals NHS Trust • 2nd edition (Ver 1)
Developed by: Vanessa Van Rooyen, Children's Rheumatology CNS
Produced by: Medical Illustration Services
MID code: 20230315_009/EP

LN004839
Publication date
03/2023
Review date
03/2026