

Complex regional pain syndrome (CRPS)

WHAT IS COMPLEX REGIONAL PAIN SYNDROME (CRPS) AND HOW DOES IT HAPPEN?

Complex regional pain syndrome (CRPS) is a bigger than usual reaction of the body to an injury. The injury may be very minor such as a cut to the finger or you may not remember the injury, if it happened at all. There are two types of CRPS, type 1 can happen after an injury or no injury and type 2 can happen after a proven injury to a nerve in the body. After the injury has healed the brain keeps sending pain messages to the body even when no tissue (muscle, bone, ligament, tendon or nerve) damage is there. The cause of CRPS is not really known. The nerves, that give our skin feeling and our muscles movement, in the body part that is affected become much more sensitive than other nerves and this causes pain in the affected area.

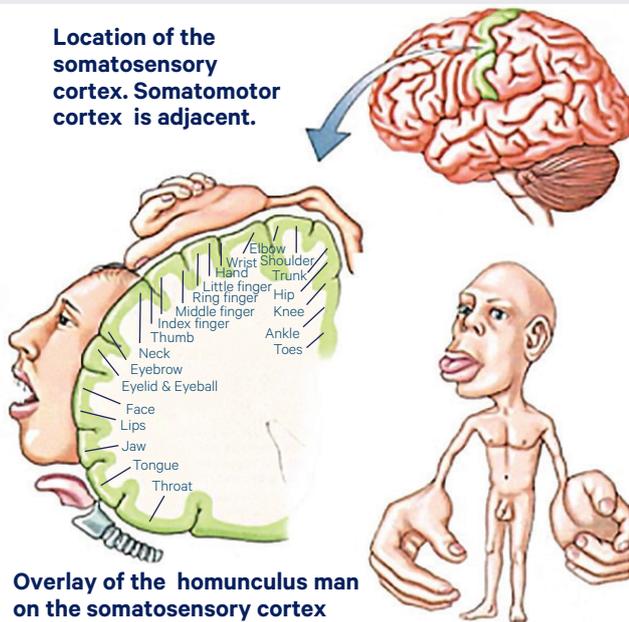
One theory suggests that something goes wrong with the swelling (inflammatory) response in the body after a minor injury and it continues to wind up and up until the whole 'protective system' of the body, including the nerves, becomes very very sensitive. This can cause a change in how our brain and your affected body part talk to each other. Our brain has a map of each body part and this can change or become 'smudged' with CRPS.

Other theories in the past have included CRPS being caused from psychological or personality problems but this has been proven wrong in a large research study. The swelling theory has not been confirmed, but seems possible. It is likely that there are several potential causes of CRPS. We really don't know.

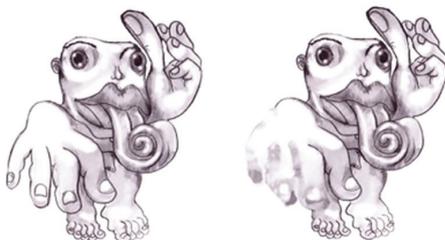
The symptoms of CRPS can vary in how bad they can get and how long they last. The main symptom is pain. CRPS is not in your imagination but some emotional factors, like fear, worry or feeling depressed, can make the pain worse.



Location of the somatosensory cortex. Somatomotor cortex is adjacent.



Overlay of the homunculus man on the somatosensory cortex



Smudging of the virtual hand

Some common symptoms can be:

- Ongoing pain. Pain can include burning, shooting, stabbing or throbbing pain.
- Feeling like the affected body part is bigger than it really is or feeling as though the body part doesn't belong to you anymore.
- The sensory (feeling) system can develop problems so that you can't be sure exactly where on the body part someone has touched you unless you are looking at it.
- Intense pain can come from slight or soft touch often called Allodynia or skin sensitivity.
- Swelling and sweating might be seen in the body part.
- It can become more and more difficult to move and your joints could become stiff.
- You may develop shaking, or become 'stuck' or feel weak.
- Skin temperature and colour of the body part might change. You might feel hot or cold and the colour can often become bright red or purple.
- You may notice changes in hair and nail growth.
- Insomnia, depression, extreme difficulty concentrating and short-term memory problems can be common.

The symptoms are usually much worse than you would expect after the injury. The symptoms often have a big effect on day-to-day activities and the pain could spread to other body parts.

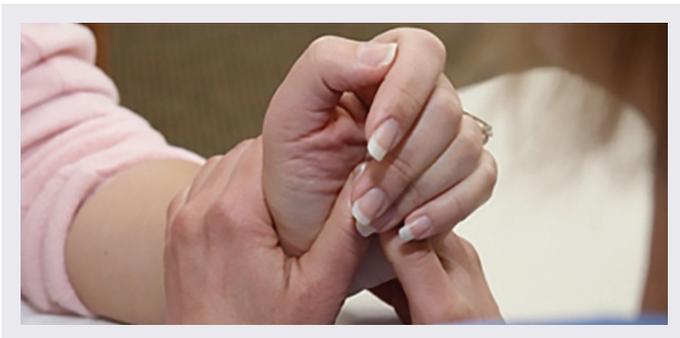


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HOW IS CRPS TREATED?

Hand Therapy

Rehabilitation plays a very important part in the treatment of CRPS and is most effective when started early. The most important goals of rehabilitation are to restore as much function to the body part as possible and to improve your quality of life. Rehabilitation probably won't stop the pain completely but will help you use the limb more normally. It should also help to avoid secondary problems like your muscles getting weak through lack of use. Treatment includes helping you to understand the condition and what you can do to help yourself. Treatment for CRPS is a combination of rehabilitation guided by your hand therapist in conjunction with pain relief provided by your GP or specialist.



If your symptoms are not beginning to improve or you have had them for a while your hand therapist may discuss referring you to a pain specialist doctor or pain management team. This team is usually made up of an anaesthetist doctor who can advise you on pain relief options, an occupational therapist and physiotherapist who will complete rehabilitation with you and a counsellor or psychologist who can guide you through coping with feelings associated with CRPS.

Medications

Simple over the counter medication like Ibuprofen or Paracetamol in the first instance could be enough to help settle the pain if taken regularly. If the pain is not getting better your GP may talk to you about trying specific pain medication that helps to settle nerve pain like Amitriptyline or Gabapentin. If you have any questions or concerns about pain relief you should discuss this with your GP.

Surgery

Surgery is often not recommended to manage symptoms of CRPS as this can make your symptoms worse.

WHAT CAN I EXPECT FROM MY REHABILITATION?

Most rehabilitation will begin very gently to avoid a 'flare-up' of your symptoms, and you will probably need pain medication to help reduce the pain so that you can start the rehabilitation. The aim is to reduce pain and keep the affected limb moving.

- **Desensitisation:** This is a technique that aims to normalise touch in the affected body part. It involves touching the skin often with different-textured fabrics for example, wool, silk, cotton wool, gradually working towards the painful areas. Getting as relaxed as possible before starting can help you manage these touches. As you practise, you can start to progress from gentle movements like light stroking to firmer stroking, tapping or circular movements.
- **Relaxation and/or stress management techniques:** These can help in managing pain on a day-to-day basis.
- **Body awareness:** This can be especially helpful if you develop negative feelings about the affected body part. It encourages you to look at, touch and think about the body part as often as possible so that it begins to feel a normal part of your body again. You may find some of these techniques uncomfortable or painful while you're doing them and for a while afterwards. If you can't manage one of them, try a different one to begin with. Try to build some of the activities into your everyday life for example concentrate on the feel of the bed sheets or your clothes against your skin or think about the feel of water on your skin as you shower, if you can, try different water temperatures or different textures (e.g. flannel, sponge) as you wash.
- **Exercise:** This will help prevent stiffness and loss of muscle. Exercise can be difficult if you have severe pain so you will need to work with your hand therapist to find out which exercises work best for you, when you should stop, and the techniques you can use to cope if your pain does increase for a time. Your hand therapist will also advise on pain relief therapies such as transcutaneous electrical nerve stimulation (TENS). Hydrotherapy (exercises performed in water) and combinations of mind/body exercises such as t'ai chi may also be useful.



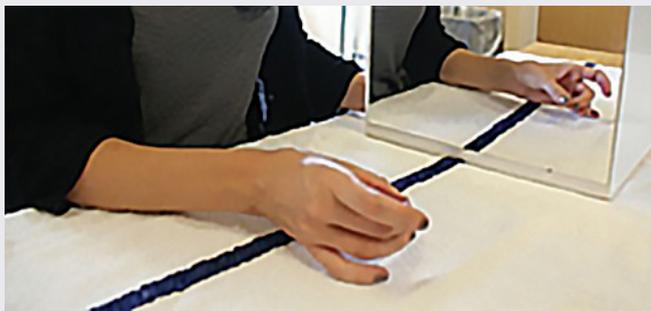
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Graded Motor Imagery programme: Your hand therapist may also suggest more specialised therapies such as graded motor image therapy. These aim to 'retrain' the way the brain and the hand talk to each other and clear up the 'smudged' picture of the body part in the brain. Graded motor imagery is made up of three elements:

Left-right discrimination: It is thought that in CRPS, the brain has difficulty quickly recognising left and right. You'll be shown images of parts of the body and asked to identify whether it is the left or right side. Repeating this exercise regularly will improve how quickly and accurately the brain recognises left and right.

Imagined movements: Using images of hand movements or hands, you will be asked to imagine moving your own hand, in your mind's eye, into that position.

Mirror visual feedback therapy: A mirror is placed so that the affected limb is hidden behind it and you see only the non-affected limb and its reflection. The brain processes visual feedback more readily than other senses, so when you move both limbs in the same way, the brain 'sees' both limbs moving easily and painlessly. This reminds of the brain of the affected limb without making it painful.



WHAT SHOULD I LOOK OUT FOR?

During your recovery, you may experience 'flare-ups' of pain, this is very common. You should try not worry about any flare-ups as long as it is part of feeling an overall improvement in your symptoms.

Sometimes your hand therapy can make your symptoms feel worse, do not stop doing your rehabilitation but you might reduce the amount you are doing. Talk to your hand therapist about this and if you need to, book in earlier to see your hand therapist.

If your symptoms are becoming steadily worse, talk about this with your hand therapist and a referral to a pain management team may be made. Your hand therapist will continue to see you until your referral has been accepted and you have an appointment.

WHAT WILL HAPPEN IF I DO NOT HAVE TREATMENT?

If CRPS is not diagnosed and treated it can spread and affect other body parts. This will make CRPS much harder to treat. The pain may make it hard to use your body in daily tasks in the way you usually would and then your muscles can become weak and your overall energy levels can get less. This will affect your overall quality of life.

CONTACT DETAILS AND REFERENCES

Your hand therapist is _____

Merivale Hand Clinic (03) 3559775

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