

Neuropathic Pain In Children

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What is neuropathic pain in children?

Neuropathic pain is nerve-related pain. It is caused by injury or disease of the nervous system that affects the electrical signals that carry information between the body and the brain. It can be considered chronic when it lasts longer than 3 months. Read An Overview of Neuropathic Pain and Its Impact (<https://www.iasp-pain.org/resources/fact-sheets/an-overview-of-neuropathic-pain-and-its-impact/>) for a detailed description.

What are the causes of neuropathic pain in children?

In adults, neuropathic pain often comes from conditions like diabetes or shingles. In children, the causes are different and varied. It can be caused by:

- Medical conditions: such as sickle cell disease, genetic disorders, or cancer.
- Injuries: such as surgery, accidents, or nerve injuries during birth.
- Treatments: such as chemotherapy for cancer.

How common is neuropathic pain in children?

About 1 in 5 children and teens live with chronic pain, like pain in their muscles or joints, headaches, or abdominal pain ^[1], but we do not know how many children live with neuropathic pain specifically.

We do know that neuropathic pain is much more common in certain groups, like cancer patients (related or not to their treatment), children who are missing a limb (because of accidents, surgery, or birth anomalies), and increases throughout adolescence, particularly in girls ^[1,2,3,4,6].

What does neuropathic pain in children feel like?

Pain feels different for everyone. Children may describe it differently depending on their ages or how well they can communicate. Older children often describe it as burning, tingling, electric shock, or

say it just feels weird ^[5,6]. They may also be more sensitive to touch in the painful area, and sometimes the area can feel numb at the same time ^[1]. The pain can start when a child moves or is touched, but it can also occur spontaneously, and its intensity is often described as moderate to severe ^[1,3,7].

How is neuropathic pain diagnosed in children?

Neuropathic pain can be hard to diagnose in children and teens because most medical tests were designed for adults. There is one screening tool developed for children (Pediatric PainSCAN®), and two tools that were developed for adults have been tested in children (painDETECT and the LANSS) ^[7].

A healthcare professional (physician, nurse, or physical therapist) will ask a child (or parent or caregiver) questions about the characteristics of pain and do a full physical exam, including evaluation of the painful area to assess how the skin feels. A healthcare provider may also ask older children or adolescents to complete a questionnaire or screening tool and might request additional tests.

What is the impact of neuropathic pain on the lives of affected children?

Neuropathic pain can make everyday activities hard for children, such as playing, doing sports, or going to school. As a result, it can lower their quality of life and lead to high levels of stress, sadness, and worry that may also affect their families ^[1,3,7].

We still have a lot to learn about the long-term effects of neuropathic pain on children, but experts believe that the cause of the pain influences how well a child recovers; for example, it can last several years in genetic causes. However, trying to prevent pain and treating the pain as soon as it starts improves the chances of a child feeling better ^[12].

What is the treatment of neuropathic pain in children?

A team approach that looks at a child's physical, emotional, and social needs is often recommended by healthcare providers. This means using treatments that work on the body, mind, and interactions with others, such as a combination of medication, psychological and physical therapies, and teamwork with healthcare professionals and parents/caregivers ^[8].

Doctors who specialize in children's pain often recommend using treatments that work for adults. They check the child carefully and watch for side effects to make sure the medicine is safe ^[9,10].

Psychological support may include different therapies like relaxation, cognitive behavioral therapy, acceptance and commitment therapy, and mindfulness-based stress reduction that help children cope with their concerns and worries ^[8].

Physical rehabilitation treatments may include traditional exercise approaches (aerobic or strength training), "mirror therapy," and/or virtual reality to help children participate in everyday activities, sports, or social activities ^[8,11,12].

A common goal of treatment, that has been used in other types of pain in children, is to help the child to return to their normal lives ^[13]. This includes "4S":

- Sport: focus on returning children to their normal physical activity, exercise, and/or sports.
- Social: create plans to hang out with friends and take part in social activities again.
- Sleep: help children sleep better to improve their daily lives.
- School: create plans to help children get back to classes comfortably and safely.

Final messages

- Chronic pain is common in children and teens. It can affect many parts of their lives and their future health.
- Diagnosing and treating neuropathic pain requires trained professionals, teamwork with the family, and education.
- More research and collaboration are needed to better understand and manage neuropathic pain in children.

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