

# Limb Reduction Defects

BIRTH DEFECT RESEARCH FOR CHILDREN



## What are Limb Reduction Defects (LRDs)?

LRDs involve missing tissue or bone in any part of a limb or limbs. LRDs can range in severity from missing fingers and toes to the complete absence of one or both arms and/or legs.



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How many children have Limb Reduction Defects?

LRDs happen in one out of every 2,000 births. Upper limb defects occur twice as often as lower limb defects. Approximately half the cases of LRDs also have birth defects in other body systems.

What Causes Limb Reduction Defects?

LRDs have been linked in some studies to prenatal exposure to several drugs and/or chemicals including anti-seizure medications, antihistamines, anti-nausea medications, sedatives and pesticides. Since LRDs do not occur in every case of prenatal exposure to these substances, researchers believe there may be a genetic predisposition for LRDs that is triggered by exposure to certain environmental substances. Some LRDs are part of a birth defect syndrome that can be inherited.

How can you help a child with an LRD?

**Medical Examination:** The limbs form at the same time as other parts of the skeleton and major organs. It is important for every child with a LRD to have a complete evaluation to look for possible problems in the heart, kidney, gastrointestinal system and other body systems that may also be affected.

**Prosthetics:** Since a child born with a missing arm or leg may be a candidate for an artificial limb, it is important to consult a prosthetist as early as possible. Advances in prosthetics have now made bionic (myoelectric) arms available for some children with missing hands or forearms. A bionic arm has a life-like hand that can open and close through nerve impulses in the child's upper arm. Great improvements have also been made in artificial legs and feet. A more flexible prosthetic foot has been developed that aids children in better walking and running.

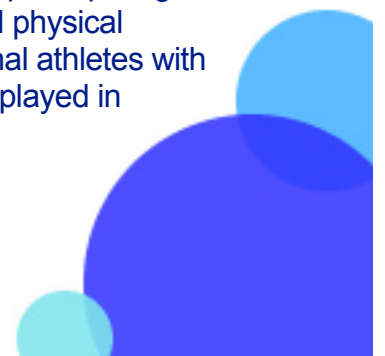
**Surgery:** Children with partially formed hands may benefit from new advances in surgical reconstruction. Surgeons now use a variety of techniques including transfer of bone and skin from other parts of the body to reconstruct the hand.

**Living Conditions:** Parents of children with limb reduction are usually amazed at the dexterity their children develop in learning to perform everyday tasks like tying shoes, writing, walking and riding bikes. Although special aids are available to help children with some of these tasks, most children master skills without any extra assistance.

**Making Friends:** Children with LRDs must learn to cope with looking different from other children. The parents' attitude about their child's birth defect has a major impact in how the child feels about his/her differences and how they respond to the curiosity of others. Parents can help their children feel good about themselves and explain their birth defect in a matter-of-fact way to other children. The teenage years may be more difficult for children with LRDs than early childhood. It helps if the teenager has been encouraged to develop a variety of interests and abilities that allow them to interact with their peers on many levels other than dating and social situations.

**Support Groups:** There are national organizations that can be very helpful to families of children with limb reduction defects. These groups have telephone hotlines, publish newsletters and directories and share information about prosthetics and reconstructive surgery.

**Sport and Physical Activities:** Limb reduction defects do not prevent children from participating and even excelling in many sports and physical activities. Several professional athletes with limb reduction defects have played in major league sports.



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Can LRDs be prevented?

Although the cause(s) of many LRDs remains unknown, some cases have been attributed to certain environmental exposures. It is important to avoid all unnecessary exposure to drugs, chemicals and other potentially harmful toxic environmental substances during pregnancy. If an LRD is a part of a multiple birth defect syndrome that is inherited, genetic counseling can help a family determine the risk of recurrence.

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