

# Lead Poisoning: Chelation Therapy

Lead is a metal. Lead poisoning is the harmful buildup of lead in the body. **Even small amounts can be very harmful to the growth of a young person's brain.** Children under the age of 6 are at highest risk for lead poisoning. This is because they put non-food objects and their fingers in their mouths.

## Treatment and prevention

The most important treatment is to **get your child away from the source of lead!** If the lead is in the home, your child should not return home until you have controlled the lead hazards or limited the child's access to the lead.

Your child's surroundings must be checked for possible sources of lead. The health department may come to your home to help find where the lead might be. They will tell you what must be done to make the home safe.

Some children with severe lead poisoning may need a medicine to help remove lead from their blood. Using medicine to take lead out of the blood is called chelation (key LAY shun). The number of chelation treatments and the kind of medicine your child needs depend on two things:

- how high the lead levels in the body are
- how well the child responds to the medicine

Some children need only pills, but others need injections (shots) of medicine. Because all chelation medicines have side effects, this treatment is not always prescribed. If it is necessary, it is important to take all doses of the medicine. If treatment is not completed, lead levels may stay high.

## Tips for giving the medicine

One medicine often used to treat lead poisoning is called succimer. It comes in the form of large capsules. Most children do not like to take the pills. They have trouble swallowing them whole and the pills smell bad, like rotten eggs.

Here are some tips for getting your child to take this medicine:

- Open the capsule and mix the tiny beads that are inside with applesauce or Jell-O® (Picture 1), OR
- Put the beads at the bottom of a cup of ginger ale and have your child suck up the beads with a straw. (If you mix the medicine with liquid, be sure your child takes it within 30 minutes.) Some children prefer to have the capsules opened right into their mouths.



**Picture 1** Try mixing the beads in the pills with applesauce or Jell-O®.

- Sometimes it can help to pinch your child's nostrils closed to block the nasty smell and taste of the medicine.
- Important: **Never give the medicine at the same time as you give any dairy or other high calcium foods such as milk, yogurt, or orange juice with calcium.** Calcium keeps the pills from working to get rid of the lead.
- If your child takes a multi-vitamin, give it an hour before or an hour after you give the pills.
- Chelation medicine draws lead out of the body through the kidneys and into the urine. It is important that your child drinks plenty of liquids to help get rid of the lead.

## Side effects of the medicine

Some side effects from the medicine are normal and expected.

- Your child may have an upset stomach from the smell of the medicine. The stomachache usually goes away after a few doses. Call your child's doctor if it lasts longer than a day or two.
- Your child's sweat, saliva and tears may smell like rotten eggs. Your child may belch a lot or pass stinky gas. This is normal and will go away in time. It means that the medicine is working to get rid of the lead from their body.
- Your child's doctor may use blood and urine tests to check for side effects of the medicine.

## Signs of an allergic reaction

**Stop the medicine and call your child's doctor right away if your child gets hives, a new skin rash (other than eczema) or trouble breathing.**

## **Good nutrition**

Good nutrition is very important. Often, children with lead poisoning are anemic. This means that they do not have enough iron. The less iron in the body, the more lead the body will absorb.

Children need to eat foods that have a lot of iron, protein, vitamin C and calcium. Iron-rich foods and foods with vitamin C work together to help the body absorb more iron. This reduces lead in the blood.

Foods high in calcium block lead absorption.

### **Foods containing iron**

<b>Good</b>	<b>Better</b>	<b>Best*</b>
banana	fortified cereals, oatmeal	beef: all red meat
raisins	enriched bread, macaroni, rice	organ meats
dried fruit	lentils and beans (except soybeans)	pork
cantaloupe	nuts, nut butters, seeds	chicken
mango	eggs	turkey
tomato juice	enriched tortillas	fish
potatoes (with skin)	cooked spinach	oysters, clams, mussels

\* Foods high in protein often have a lot of iron.

**Foods high in vitamin C.** Vitamin C helps the body absorb iron. It is best to eat these foods with foods high in iron.

Fruits:

- oranges, tangerines
- lemons, limes
- grapefruit
- pineapple
- strawberries
- melons
- mango, papaya, kiwi
- juices with vitamin C

Vegetables: Over-cooking vegetables will reduce the amount of vitamin C in them. Try to eat them raw or lightly cooked by steaming or microwave.

- broccoli
- red and green peppers
- sweet and white potatoes

- cauliflower
- spinach, kale, leafy greens
- winter squash
- brussels sprouts
- cabbage
- tomatoes, tomato juice

Fresh fruits and vegetables are best but canned or frozen work well too.

**Foods that block iron absorption.** Try to eat foods high in calcium (\*) and these other foods at least an hour before or after your child eats foods with iron. Also, **be sure to wait an hour after your child takes the succimer pills before giving calcium-rich foods.**

- milk, cheese, yogurt\*
- soy, tofu\*
- chocolate
- ice cream\*
- grapes
- popcorn
- sardines, canned salmon\*
- pomegranate
- coffee, tea
- blueberries, raspberries, blackberries

**Warning: Do not** give dried fruits, nuts, peanut butter, popcorn or sunflower seeds to children under the age of 4 years until their back teeth (molars) grow in. These foods can cause choking.

## Iron supplements

The doctor may want your child to take iron medicine. It is very important for the child to take it:

- every day at the same time and the exact amount prescribed
- an hour before or an hour after taking succimer pills
- with or after meals to avoid stomach irritation
- with orange juice after the dose is taken

## Follow-up care

Your child's doctor will schedule blood lead level tests while your child has chelation therapy. They will be checked again several weeks after the treatment is finished.