Lead Antidotes

Lead interferes with a variety of processes in the body and is toxic to many organs and tissues including heart, bones, intestines, and kidneys, as well as the reproductive and nervous systems. Lead is particularly toxic to children due to the ability to interfere with the development of the nervous system and can lead to permanent learning and behavior disorders. Common symptoms of lead toxicity include abdominal pain, confusion, anemia, irritability and can also lead to seizures, coma and death. Signs of chronic poisoning also include short term memory loss, depression, loss of coordination, and numbness and tingling in the extremities. Other commonly associated signs include lead lines on the gingival border, wrist-drop, and growth arrest lines (lead lines) in bone. A common scenario leading to lead toxicity is ingestion of lead paint that exists in older homes. Treatment of lead poisoning consists of separating the child from the lead exposure. Chelation often used when separation fails to adequately drop lead levels or when lead levels are in potentially encephalo pathogenic range. 2 parenteral and 2 oral chelators may be used. Parenteral chelators include dimercaprol, and CaNa2 EDTA. The 2 oral chelators currently used in the United States are penicillamine and succimer.

PLAY PICMONIC

Antidotes

Penicillamine

Pencil-mine

Penicillamine is a chelator that can be used in the treatment of lead toxicity. The pharmaceutical form is D-penicillamine as L penicillamine is toxic. It is important to know the main use of this drug is for copper toxicity.

Dimercaprol

Dime-cap

Dimercaprol, also known as BAL, is a heavy metal chelator. It is a bisulfide molecule and is a lipid-soluble drug that must be administered intramuscularly. This medication binds to heavy metals like lead and allow them to be excreted in the urine.

CaEDTA

ET-DEA

Calcium disodium edentate is a chelator that may be used IM or IV in the treatment of lead toxicity.

Succimer

Sucker

Also known as dimercaptosuccinic acid, succimer is a compound that contains two carboxylic acid and two thiol groups that is used as a chelating agent commonly indicated for the treatment of lead poisoning.