

# Itai-itai

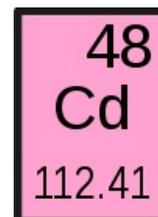
**Itai-itai disease** (translated as it hurts, it hurts) is caused by excessive intake of **cadmium** through food. It has been described in Japan, where wastewater from a cadmium pigment plant was used to fertilize and irrigate rice plantations. The cultivated rice contained large amounts of cadmium.

Cadmium accumulated in the body in the liver and kidneys. In the kidneys, it caused damage to the renal tubules, proteinuria, hypercalciuria and excessive calcium leaching from the bones. This led to **decalcification of the spine, destruction of the vertebrae** and subsequent root pain. Severe root pain gave the disease its name.

Contaminated rice plantations had to be covered with an asphalt carpet and permanently removed from agricultural production.

Furthermore, cadmium is involved in **atherogenesis** and **hypertension**.

According to IARC, it is among **the proven human carcinogens** (group I).



## Links

### Related Articles

- Environment and health
- Toxic metals
- Foreign substances in food

### Source

- BENCKO, Vladimír, et al. *Hygiena : Učební texty k seminářům a praktickým cvičením*. 2. edition. Praha : Karolinum, 1998. ISBN 80-7184-551-5.