

# ALUMINUM

*The information on this sheet is of a general nature and is for educational purposes only. It is in no way intended to reflect the findings in this report.*

## SOURCES OF ALUMINUM TOXICITY

- beverages from aluminum cans (soda pop and beer)
- food cooked in aluminum cookware
- use of aluminum-containing antacids
- use of anti-perspirants
- drinking water (aluminum is frequently added to municipal water)
- baking powders
- drying agents in salt and other products
- processed cheese
- bleached flour
- fluoridated water increases leaching of aluminum from aluminum pots and pans

Today children are often born with elevated aluminum that is passed from mother to fetus through the placenta.

## DETECTION OF ALUMINUM TOXICITY

There is debate whether blood testing for aluminum has much value. Blood levels definitely do not indicate total body load of aluminum.

Hair aluminum levels appear to correlate well with bone levels of aluminum. Several hair tests may be needed before aluminum is revealed on the test. This is because the aluminum may be tightly bound within body tissues, and several months on a nutrition program may be required to mobilize the aluminum.

## HOW ALUMINUM AFFECTS HEALTH

**Nervous System** - in animal studies, aluminum blocks the action potential or electrical discharge of nerve cells, reducing nervous system activity. Aluminum also inhibits important enzymes in the brain (Na-K-ATPase and hexokinase). Aluminum may also inhibit uptake of important chemicals by nerve cells (dopamine, norepinephrine, and 5-hydroxytryptamine).

**Behavioral Effects** - dementia resulting from kidney dialysis related to aluminum toxicity causes memory loss, loss of coordination, confusion and disorientation.

**Digestive System** - aluminum reduces intestinal activity, and by doing so can cause colic.

## POSSIBLE CONDITIONS ASSOCIATED WITH ALUMINUM TOXICITY

Early symptoms of aluminum toxicity include: flatulence, headaches, colic, dryness of skin and mucous membranes, tendency for colds, burning pain in head relieved by food, heartburn and an aversion to meat.

Later symptoms include paralytic muscular conditions, loss of memory and mental confusion.

**OTHER POSSIBLE CONDITIONS ASSOCIATED WITH ALUMINUM TOXICITY**

Alzheimer's disease  
amyotrophic lateral sclerosis  
anemia  
hemolysis, leukocytosis, porphyria  
colitis  
dental cavities  
dementia dialactica

hypoparathyroidism  
kidney dysfunction  
liver dysfunction  
neuromuscular disorders  
osteomalacia  
Parkinson's disease  
peptic ulcer