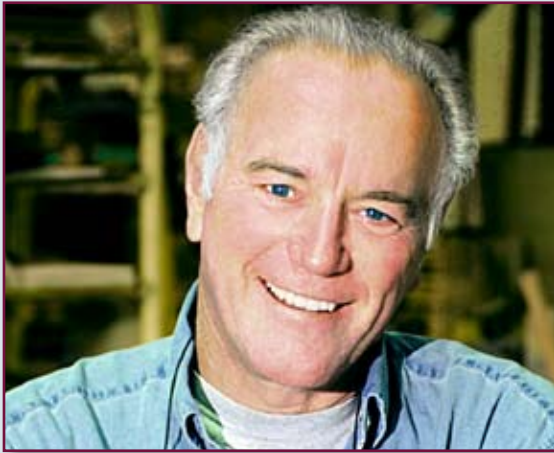


## Identifying Toxicity in Hair...



*Elevations may be due to combinations of the following exposure:*

- Environmental or work-related exposure – i.e., welding, smoke exposure, painting, and printing
- Use of heavy metal-containing products – i.e., hair coloring treatments, artist paints, inks
- Increased intestinal uptake – i.e., chronic digestive problems, malnutrition, or antibiotic use

Since the body is unable to produce essential elements, those that are needed for function must be regularly consumed to make up for daily losses. Sometimes, however, exposure to elements that are needed in only very small amounts (or not at all) may be in excess and can cause toxicity. Measuring the trace element content of hair is a method of screening for possible health threats due to deficiencies or excesses of minerals. Hair reflects a longer interval of time than most tissues and body fluids.

**Hair** has a long history of successful use in detecting chronic exposure to toxic heavy metals in humans and animal models because hair concentrates heavy metals several hundred fold above concentrations found in blood. When any of the toxic heavy metals are elevated in hair, there is reason to investigate the origin of exposure. High levels in hair may reflect early chronic exposure before other signs and symptoms appear.

### *Elements measured:*

Nutrient Elements	Highly Toxic Heavy Metals	Potentially Toxic Elements
Calcium	Arsenic	Aluminum
Cobalt	Cadmium	Barium
Copper	Lead	Boron
Chromium	Mercury	Lithium
Iron		Nickel
Magnesium		Strontium
Manganese		
Molybdenum		
Phosphorus		
Potassium		
Selenium		
Sodium		
Vanadium		
Zinc		

## PATIENT INFORMATION SHEET