



*Abstract*

## **Chinese National health standards for occupational exposure to cadmium and diagnostic criteria of occupational chronic cadmium poisoning**

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In order to protect the health of the workers, a series of national health standards and diagnostic criteria of occupational disease have been established and issued by the Ministry of Health in China.

The followings are the national health standards for occupational exposure to cadmium and diagnostic criteria of occupational chronic cadmium poisoning:

1. National health standards for occupational exposure to cadmium: The permissible cadmium concentrations – TWA of  $0.01 \text{ mg/m}^3$  and – STEL of  $0.02 \text{ mg/m}^3$  are recommended as the occupational exposure limit for cadmium and compounds in the workplace. The urine cadmium level of  $5 \text{ } \mu\text{g/g}$  creatinine and blood cadmium level of  $5 \text{ } \mu\text{g/L}$  are recommended as the biological limit values for occupational exposure to cadmium and compounds.

2. The diagnostic criteria of occupational chronic cadmium poisoning:

2.1 Suspected cases:

The urine cadmium concentrations in exposed subjects are greater than  $5 \text{ } \mu\text{g/g}$  creatinine at least twice, but proteinuria cannot be detected.

2.2 Chronic mild toxicity:

In addition to high levels of urine cadmium, there may be symptoms such as dizziness, fatigue and anosmia. The diagnosis can be made by the presence of any one of the following items after excluding the effects of extrarenal factors.

a. Concentration of  $\beta_2$ -microglobulin in urine is greater than  $1000 \text{ } \mu\text{g/g}$  creatinine;

b. Concentration of retinol-binding protein in urine is greater than  $1000 \text{ } \mu\text{g/g}$  creatinine.

2.3 Chronic severe toxicity:

The disease develops renal insufficiency with or without osteoporosis/osteomalacia in addition to the above manifestations of renal damage.