

## **Asthma, hypersensitivity pneumonitis and cough**

**0071**

### **Microbiological findings in ultrasonic misting fountains causing humidifier diseases**

*Dirk Koschel<sup>1</sup>, Sabin Handzhiev<sup>2,1</sup>, Gert Höffken<sup>1,3</sup>, Lutz Jatzwauk<sup>4</sup>*

<sup>1</sup>*Fachkrankenhaus Coswig, Department of Respiratory Medicine, Coswig, Germany*

<sup>2</sup>*Universitätsklinikum Krems, Pneumology, Krems, Austria*

<sup>3</sup>*University Hospital Carl Gustav Carus Dresden, Department of Internal Medicine I, Dresden, Germany*

<sup>4</sup>*University Hospital Carl Gustav Carus Dresden, Department of Hospital Infection Control, Dresden, Germany*

*Objectives:* Misting fountains are a new kind of domestic ultrasonic humidifiers and therefore new antigen-sources of humidifier lung.

*Materials and methods:* In order to investigate if ultrasonic misting fountains might provide favourable growth conditions for bacteria, the rise of water temperature was measured as a function of the time of ultrasonic input. Growth curves of *Pseudomonas aeruginosa* were recorded dependent on the use of the ultrasonic unit. Finally, aerosols of ultrasonic misting fountains were investigated for bacteria and endotoxins.

*Results:* Using an ultrasonic misting fountain, the water temperature increased due to the ultrasonic input and increasing growth curves of *Pseudomonas aeruginosa* could be demonstrated. In the aerosols of ultrasonic misting fountains vital bacteria and endotoxins were detected.

*Conclusions:* We were able to demonstrate the importance of the ultrasonic unit in misting fountains for bacterial growth in humidifier water and we were able to detect bacteria and endotoxins in the aerosols.humidifier