



## ISTITUTO SAN BLASIUS Per Medicina Preventiva Applicata S.A.

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### Press Release:

## **Clinical Trial: The Clinical Effects of an Advanced Modular Air Cleaning Systems on Allergic Asthma Sufferers**

**A double-blind study performed over a period of 14 months by the Charité Virchow Klinik, Berlin, and the Hedmark Hospitals Hamar, Norway, investigated the clinical effects of modular air cleaning systems on asthmatic children and adolescents sensitised to dog or cat allergens.**

Between September 1999 and December 2000, the Children's Hospital, Department of Pneumonology and Immunology of the Humboldt University Berlin and the Children's Hospital Hamar, district of Hedmark, Norway, performed a long-term double-blind study investigated the clinical effects of modular air cleaning systems on asthmatic children and adolescents sensitised to dog or cat allergens. The air cleaning systems used for the trial were certified modular air cleaning systems *IQAir Allergen 100* (Manufacturer: INCEN AG, Goldach, Switzerland).

The patients were children and adolescents aged 6 to 17 all suffering from allergic asthma. 35 patients were from Berlin, Germany and 54 patients from Hamar, Norway. In each of the 89 patients' households, one air cleaning system was placed in the living room and one in the patient's bedroom. The study was completed in 81 cases. The patients were divided into 2 groups. One group was treated with air cleaners containing active filters, the other group received air cleaners with sham (placebo) filters. In all patients, cortisone-steroid treatment was maintained during the trial period in accordance with the Ethical Committee's recommendations.

### **Results:**

- The air cleaners with active filters retained a significant amount of airborne pet allergens. The filters were found to contain very high concentrations (> 1000 µg per filter) of Fel d1 (cat allergen) and Can f1 (dog allergen).
- In both Germany and Norway, there was a tendency to stabilisation of the asthma symptoms in patients using IQAir systems with active filters.
- The group with the placebo filters, displayed a tendency to increased bronchial hyper-responsiveness.

### **Comments on the results:**

The results indicate that a stabilisation of the allergic asthma can be achieved with certified modular air cleaners. It is likely that the beneficial effects of the air cleaners could be enhanced further. It has been noted that many systems were not in constant use during the trial period and that compliance varied between different patients.

Air purification measures are recommended to be taken in combination with regular ventilation and careful dust removal from floors and furniture (source capture). While the active air cleaners filtered large quantities of even the smallest of airborne allergens, the heavier dust particles which quickly settle on surfaces are best removed by source capture (e.g. wet mopping). In how far such general hygiene measures were observed in the patients' households was beyond the scope of this study. In individual cases special rules for the keeping of pets may also have contributed to the allergen-avoidance strategy and possibly enhanced the results further. Keeping the complexity of this study in mind, it is not clear whether the best possible coaching of the patients and parents was performed with regard to these factors.

The possibility of a reduction, or even discontinuance of the cortisone-treatment in response to the use of the air cleaning system has to be looked at on a case by case basis. A reduction of medication should only be considered if the importance of the consequent and continuous use of the air cleaning system and strict compliance with source control measures is understood and practised by the patient or parents.

Important data regarding the frequency and duration of use of the active air cleaners by the patients was not systematically gathered in the course of this trial. The findings, however, suggest that there were major differences in how frequently and how long the air cleaners were actually used by individual patients. Detailed data on this subject would have helped to reveal (and disregard) cases where no, or only little improvement in the allergic condition was due to the lack of air cleaner usage.

**In conclusion it can be noted that the use of certified modular air cleaning systems can be an effective means for the control of airborne cat and dog allergens. The study indicates that certified modular air cleaning systems may help to stabilise the condition of allergic asthmatics, i.e. help prevent a deterioration. How effective an air cleaner is in individual cases may depend largely on the frequency of use and general source control measures taken in the patient's household.**