



# Abstract Presentation of HKSPR in Taiwan of Annual Meeting of the Society of Pediatric Pulmonology

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## **H1N1 infection in PICU: Hong Kong experience**

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Novel H1N1 swine - origin influenza virus (2009) has led to a worldwide pandemic. It is a triple/quadruple reassortment virus and replicates significantly in lung tissue leading to pneumonia. Many of those severely affected are previous young fit adult. Pregnancy and obesity are risk factors aside those associated with seasonal influenza. Though majority of children suffer from mild illness in this pandemic, some of these children develop significant complications and are required intensive care support.

In Hong Kong, surveillance data revealed that the incidence of pandemic (H1N1) 2009 reached the peak in late September 2009. Though a lot of children contracted the disease, only a small number of these children required PICU admission.

In the talk, epidemiology and pathogenesis of the influenza virus are briefly discussed. The demographic characteristics, clinical features and outcomes in severe cases of H1N1 admitted to PICU in Hong Kong are reviewed and compared with other studies. The critical care management of these patients and problems encountered for preparation of the pandemics and management of some of these patients are discussed.

## **Asthma treatment and monitoring: The future directions**

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Asthma is the most common chronic respiratory disorder affecting an increasing number of children.

Despite the advances in the understanding of the molecule genetics and pathophysiology of asthma, a large percentage of patients still suffer from significant morbidity. Many epidemiology studies in different parts of the world consistently documented sub-optimal control in asthmatics across different degrees of severity. Many international, regional and national professional societies have produced and endorsed various guidelines for the management of asthma in order to reduce the morbidity and mortality in their regions or localities. Perhaps the GINA guideline is the most widely known and widely distributed in different countries. The assessment of severity has been the focus in the past but recent focus has shifted to the assessment of control. However, the tools for assessment of control remain limited. With better understanding of the various phenotypes of asthma, guidelines are gradually being modified to accommodate the emerging new knowledge of this common disease. Although asthma is more common in developed countries, the prevalence of asthma is increasing rapidly in developing countries. To facilitate assessment of asthma control, different methods of non-invasive monitoring have been developed to reveal the degree of airway inflammation accurately. These methods include the assessment of exhaled nitric oxide, analyses of induced sputum samples as well as the assessment of inflammatory markers in exhaled breath condensate. Establishment of ethic and sex-specific normal reference values and prospective evaluation to confirm the utility of these tools are needed before they can be adopted in everyday clinical care of asthmatic patients. The future challenges are further understanding of the natural history and gene-environmental interaction in the manifestations of different asthma phenotypes as well as development of more accurate laboratory assessment of control which helps to guide individualized therapy of asthma. With the proper understanding of how different genes interact with the various environmental factors leading to asthma, possible preventive strategies can be developed of ultimate solution – primary prevention of asthma.