# ABSTRACTS

## Predictors of childhood food allergy: significance and implications.

*Al-Hammadi S, Zoubeidi T, Al-Maskari F.*
*Asian Pac J Allergy Immunol. 2011 Dec;29(4):313-7.*

**BACKGROUND:** Food allergy is common in children, and its occurrence is strongly associated with other allergies including anaphylaxis. Both genetic (e.g., CD14, STAT6, IL-10, SPINK5, and FOXP3 genes) and environmental (e.g., early exposure to highly allergic food) factors appear to contribute to food allergy.
**METHOD:** Cross-sectional study involved children in public primary schools in Al-Ain city (United Arab Emirates). 660 students from the chosen classes were provided with 35 questions to be answered by their parents with a response rate 60.2%. The objective of the study was to determine predictors for food allergy in children.
**RESULT:** Significant associations were found between childhood food allergy and a history of personal allergy (atopic dermatitis, asthma or allergic rhino-conjunctivitis) or immediate family members with food allergy or other allergic diseases. The best predictors for childhood food allergy were a personal history of asthma ($p < 0.001$), a personal history of atopic dermatitis ($p < 0.001$), a paternal history of atopic dermatitis ($p = 0.005$) and a paternal history of allergic rhino-conjunctivitis ($p = 0.012$).
**DISCUSSION:** These results are consistent with the notion that "various forms of allergy, including childhood food allergy are hereditarily coupled". Thus, predicting childhood food allergy provides an opportunity to prevent or ameliorate the symptoms.

## Asthma control, quality of life and successful sputum induction.

Majewski S, Cichocki P, Stępnicka-Bindemann M, Górski P.
Arch Med Sci. 2011 Oct;7(5):840-3. Epub 2011 Nov 8.

**INTRODUCTION:** Induced sputum is widely used in clinical practice and scientific studies. This technique has become enormously useful in assessment of airway inflammation. However, some asthmatics are unable to expectorate sputum of sufficient quality and quantity necessary for further processing, therefore not providing reliable results. This research study aimed to examine whether asthma control and asthma quality of life influence the results of sputum induction*.*
**MATERIAL AND METHODS***:* Forty-seven adult subjects, current non-smokers with symptomatic asthma, were studied. All participants underwent clinical assessment, skin prick testing, spirometry and sputum induction. Before sputum induction, subjects were asked to fill in the Mini Asthma Quality of Life Questionnaire (Mini AQLQ) and Asthma Control Questionnaire (ACQ).
**RESULTS:** Twenty-nine (62%) subjects produced sputum eligible for processing. This group had a significantly lower ACQ score (0.83 ±0.65 vs. 1.37 ±0.77; p = 0.02), higher Mini AQLQ total score (5.67 ±0.99 vs. 4.86 ±1.07; p = 0.011), higher Mini AQLQ symptoms domain score (5.54 ±1.13 vs. 4.63 ±1.24; p = 0.013) and higher Mini AQLQ activity limitations domain score (6.08 ±0.92 vs. 5.07 ±1.37; p= 0.014). The noted differences between groups of patients were not only statistically but were clinically important*.*
**CONCLUSIONS:** The study results suggest that successful sputum induction may be expected in patients with better asthma control and better quality of life.

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## Study of depressed mood and quality of life in asthma patients in Tehran using the 28-item general health questionnaire.

*Tafti SF, Cheraghvandi A, Safa M, Eragh DF, Mokri B, Talischi F.*
*East Mediterr Health J. 2011 Nov;17(11):838-42.*

The prevalence of depression among the general population has been estimated as up to 50% and even higher among asthmatics. The aim of this cross-sectional study was to evaluate the prevalence of depressed mood among asthma patients (n = 280) attending a pulmonary clinic in Tehran and compare it with measures of severity of asthma and of health and well-being. The prevalence of depression symptoms on the 28-item general health questionnaire (GHQ-28) was 65.4%. Patients' individual scores on the GHQ-28 were significantly correlated with the number of asthma medications used, frequency of visits to the pulmonary clinic and frequency of hospitalizations for asthma, but not with FEV1. A significant correlation was found between patients' total scores on the GHQ-28 and total and subscale scores on the Saint George respiratory questionnaire. The GHQ-28 may be useful for screening for asthma patients who need more attention and therapeutic intervention for psychiatric disorders.

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**Effect of long-term treatment with rituximab on pulmonary function and skin fibrosis in patients with diffuse systemic sclerosis.**

*Daoussis D, Liossis SN, Tsamandas AC, Kalogeropoulou C, Paliogianni F, Sirinian C, Yiannopoulos G, Andonopoulos AP.*

*Clin Exp Rheumatol. 2011 Dec 21. [Epub ahead of print]*

**OBJECTIVES***:* To assess the safety and efficacy of long-term treatment with rituximab (RTX) in patients with systemic sclerosis (SSc).

**METHODS:** Eight patients with SSc-associated interstitial lung disease (ILD) received 4 cycles of RTX and had a follow-up of 2 years. Lung involvement was assessed by pulmonary function tests and chest HRCT. Skin involvement was assessed both clinically and histologically.

**RESULTS:** We found a linear improvement of lung function and skin thickening over the 2 years of RTX treatment. There was a significant increase of FVC at 2 years compared to baseline (mean ± SEM: 77.13±7.13 vs. 68.13±6.96, respectively, $p<0.0001$). Similarly, DLco increased significantly at 2 years compared to baseline (mean ± SEM: 63.13±7.65 vs. 52.25±7.32, respectively, $p<0.001$). Skin thickening, assessed with the MRSS, improved significantly at 2 years compared to baseline (mean ± SEM: 4.87±0.83 vs. 13.5±2.42, respectively, $p<0.0001$). A reduction in myofibroblast score was seen histologically following RTX treatment.

**CONCLUSIONS:** Our results indicate that long-term treatment with RTX may favourably affect lung function and skin fibrosis in patients with SSc. Larger scale, multicentre, randomised, controlled studies are needed to further explore the efficacy of RTX in SSc.

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**Lung transplant for interstitial lung disease: outcomes before and after implementation of the united network for organ sharing lung allocation scoring system.**

*De Oliveira NC, Osaki S, Maloney J, Cornwell RD, Meyer KC.*

*Eur J Cardiothorac Surg. 2011 Dec 14. [Epub ahead of print]*

**OBJECTIVES:** This study was undertaken to evaluate whether the adoption of the united network for organ sharing lung allocation score (LAS) was associated with significant changes in lung transplantation (LTX) outcomes for patients with interstitial lung disease (ILD) who underwent LTX at the University of Wisconsin Hospital and Clinics.

**METHODS:** Outcomes for 107 consecutive patients with various forms of ILD who underwent LTX between January 1993 and March 2009 were examined. Patients transplanted following the implementation of the LAS system (LAS, n = 56) were compared with those transplanted prior to LAS implementation (pre-LAS, n = 51) for whom LAS scores were calculated.

**RESULTS:** Patients with idiopathic pulmonary fibrosis (IPF) comprised the majority of patients with ILD. Recipients transplanted after the implementation of the LAS were significantly older (pre-LAS: 50.4 vs. LAS: 56.7 years, $P < 0.01$), required more supplemental oxygen (3 vs. 5 l/min, $P < 0.01$) and displayed lower cardiac index values (3.1 vs. 2.6 l/m(2), $P < 0.01$). The estimated LAS was significantly increased from 38.3

(pre-LAS) to 43.3 (LAS), P < 0.01. However, waiting time decreased from 266 to 78 days (P < 0.01). The rate of bilateral vs. single LTX was lower (35 vs. 16%, P = 0.02) for the post-LAS group. Cold ischaemic time was shorter in the post-LAS group (434 vs. 299 min, P < 0.01), and the length of hospital stay decreased from 24 to 11 days (P < 0.01). Hospital mortality (11 vs. 7%, P = 0.51) and post-transplant survival did not differ between the groups.

**CONCLUSIONS:** Post-transplant outcomes for patients with ILD or the subset of recipients with IPF were not adversely affected by the implementation of the LAS.

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## Comparison of oxygenation among different supplemental oxygen methods during flexible bronchoscopy in infants.

*Soong WJ, Lee YS, Tsao PC, Yang CF, Jeng MJ.*
*J Chin Med Assoc. 2011 Dec; 74(12):556-60*.

**BACKGROUND:** Supplemental oxygen ($O_2$) is mandatory during flexible bronchoscopy (FB) in infants, but there are limited studies that deal with the efficacy of different $O_2$ delivery methods. This study aims to compare the oxyhemoglobin saturation in infants during FB among three different $O_2$ delivery methods, as measured by pulse oximeter ($SpO_2$).

**METHODS:** A prospective study enrolled infants with two criteria: (1) less than 2 years old; and (2) needing FB examination. All infants received intravenous sedation and topical anesthesia. They were randomly placed into the following three groups: (1) nasal cannula (NC; 0.5 L/kg/min); (2) nasal prongs with continuous positive airway pressure (NP-CPAP; 5-10 L/min, pressure 5 $cmH_2O$); and (3) nasopharyngeal catheter (NPC; 0.3-0.5 L/kg/min). Sp $O_2$, heart rate, blood pressure and respiratory rate were measured and compared at different stages: (1) prior to the FB (baseline); the FB tip at (2) the nose tip; (3) the pharynx; (4) the carina and (5) 30 minutes after the FB.

**RESULTS:** A total of 75 infants, with 25 infants per group, were enrolled during a 2-year period. There were no significant differences in basic characteristics and baseline Sp $O_2$. After the designated $O_2$ was delivered, Sp $O_2$ decreased significantly ($p<0.05$) when the FB tip was advanced from the nostril to the pharynx, and further decreased ($p<0.01$) when at the carina in all groups, especially in the NC group. After FB, Sp $O_2$ returned to baseline levels in all three groups. The NC group had the lowest $SpO_2$ at the pharynx ($p<0.01$) and carina ($p<0.01$). The NP-CPAP and NPC groups had better $SpO_2$.

CONCLUSION: Supplemental $O_2$ via NPC is a simple and cost-effective method to maintain good $SpO_2$ during FB examination of infants.

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## Inter-observer reproducibility of 15 tests used for predicting difficult intubation.

*Adamus M, Jor O, Vavreckova T, Hrabalek L, Zapletalova J, Gabrhelik T. et Al*
*Biomed Pap Med Fac Univ Palacky Olomouc Czech Repub. 2011 Sep;155(3):275-81.*

**Aim:** To determine the inter-observer reproducibility of 15 tests used for predicting difficult tracheal intubation (DI).

**Material and methods:** Following local ethics committee approval and informed consent, 101 volunteers were examined by two assessors using 15 tests for predicting DI. The two assessors who were blinded to the results of the other, examined each volunteer independently. Cohen's kappa (κ) or first-order agreement coefficient (AC1) was used to measure agreement between assessor ratings on a qualitative scale. Agreement between two quantitative outcomes was described using the intra class correlation coefficient (ICC) and Pearson's (PCC) or Spearman's (SCC) correlation coefficients. The following interpretation of the coefficients was used: poor (< 0.20), fair (0.21-0.40), satisfactory (0.41-0.60), good (0.61-0.80), and excellent (0.81-1.00). **Results:** Respective coefficients of inter-rater agreement and correlation coefficients were determined for the following parameters: pathologies associated with DI (κ=0.662, AC1=0.990), clinical impression (κ=-0.013, AC1=0.969), modified Mallampati test (κ=0.503, AC1=0.861), upper lip bite test (κ=0.370, AC1=0.897), temporo-mandibular joint movement (κ=0.088, AC1=0.797), max. anteroflexion of C-spine (ICC=0.136, SCC=0.391), max. retroflexion of C-spine (ICC=0.020, SCC=0.284), mandibular length (ICC=0.301, SCC=0.553), neck circumference (ICC=0.832, SCC=0.928), hyo-mental distance (ICC=0.378, SCC=0.472), thyro-mental distance (ICC=-0.002, PCC=0.265), sternomental distance (ICC=0.674, PCC=0.815), and finally, inter-incisor gap (ICC=0.695, PCC=0.785). Two tests (positive history of DI and retrogenia), were excluded from calculation because no positive cases were found.
**Conclusion:** Best inter-rater agreement was found for the assessment of neck circumference while the highest discrepancies between raters were in goniometrically-measured mobility of the C-spine. Many of the pre-operative airway tests had only fair inter-observer reproducibility. This may be one reason why models for predicting difficult intubation are not universally reliable.

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## Factors related to tobacco use among middle school students in China.

*Qing Y, Termsirikulchai L, Vatanasomboon P, Sujirarat D, Tanasugarn C, Kengganpanich M. Southeast Asian J Trop Med Public Health. 2011 Sep;42(5):1249-61.*

The objectives of this study were to determine the status of tobacco use among middle school students in China, and to identify factors related to tobacco use. The study was conducted in December 2009. An ecological model was used to formulate the conceptual framework of the study. Three thousand two hundred twenty-one middle school students aged 12-17 years were selected by three stage stratified cluster sampling. Data were collected by self-completed questionnaires and interviews. The prevalence of current smoking was 10.6%; 16.2% among males and 4.3% among females. The prevalence of ever having smoked was 19.7%, 25.3% among males and 13.4% among females. Zero point seven percent of middle school students used other forms of smoked tobacco products other than cigarettes. Multinomial logistical regression analysis found gender, age, knowledge, attitude, life skills, self-concept, parental smoking, friends smoking, friend’s attitudes toward smoking, peer pressure, family rules, availability of cigarettes, tobacco-free school environment, smoking intervention program, community tobacco control activities, and tobacco control policies had significant associations with smoking behavior. Structural equation modeling (SEM)

analysis found intrapersonal factors had direct relationships with smoking behavior among smoking middle school students. Interpersonal factors, organizational factors and policies had indirect relationships with smoking behavior, and through intrapersonal factors affected smoker behavior among middle school smoking students.

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**Evaluation of respiratory findings in Crimean-Congo hemorrhagic fever.**

*Dogan OT, Engin A, Salk I, Epozturk K, Eren SH, Elaldi N, Bakir M, Dokmetas I, Akkurt I. Southeast Asian J Trop Med Public Health. 2011 Sep;42(5):1100-5.*

Crimean-Congo hemorrhagic fever (CCHF) is a zoonotic disease with a high mortality rate causing viral hemorrhagic fever. We studies the respiratory system findings, demographics, clinical and laboratory findings of patients with CCHF admitted to our hospital. In this retrospective study we evaluated 108 patients with CCHF confirmed by laboratory findings. The charts of all hospitalized patients were reviewed, and the age, sex, occupation, city of residence, history of tick bite or of removing a tick, smoking history, chest X-ray results, outcome and clinical and laboratory findings were recorded for each patient. Sixty of the chest radiographs were read as normal, 33 was read as showing unilateral pathology and fifteen showed bilateral pathology. Seven of the 108 patients died due to severe pulmonary infection and hemorrhage. The frequency of pathological chest radiographs was higher among the CCHF patients who died than among the survivors, but the difference was not significant. Pulmonary parenchyma hemorrhage can occur in CCHF patients with hemoptysis, dyspnea, chest pain and infiltration on chest radiographs and may lead to morality.

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**SKELETAL MUSCLE EFFECTS OF ELECTROSTIMULATION AFTER COPD EXACERBATION: A PILOT STUDY**

*Abdellaoui, C. Préfaut, F. Gouzi, A. Couillard, M. Coisy-Quivy*
*ERJ October 1, 2011 vol. 38 no. 4 781-788*

Muscle dysfunction is a major problem in chronic obstructive pulmonary disease (COPD), particularly after exacerbations. We thus asked whether neuromuscular electrostimulation (NMES) might be directly useful following an acute exacerbation and if such a therapy decreases muscular oxidative stress and/or alters muscle fibre distribution.

A pilot randomised controlled study of NMES lasting 6 weeks was carried out in 15 in-patients (n=9 NMES; n=6 sham) following a COPD exacerbation. Stimulation was delivered to the quadriceps and hamstring muscles (35 Hz). Primary outcomes were quadriceps force and muscle oxidative stress.

At the end of the study, quadriceps force improvement was statistically different between groups (p=0.02), with a significant increase only in the NMES group (median (interquartile range) 10 (4.7–11.5) kg; p=0.01). Changes in the 6-min walking distance were statistically different between groups (p=0.008), with a significant increase in the NMES group (165 (125–203) m; p=0.003). NMES did not lead to higher muscle oxidative stress, as indicated by the decrease in total protein carbonylation (p=0.02) and myosin heavy chain carbonylation (p=0.01) levels. Finally, we observed a significant increase in type I fibre proportion in the NMES group.
Our study shows that following COPD exacerbation, NMES is effective in counteracting muscle dysfunction and decreases muscle oxidative stress.

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**Blinded 12-week comparison of once-daily indacaterol and tiotropium in COPD**

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Two, once daily (*q.d.*) inhaled bronchodilators are available for the treatment of chronic obstructive pulmonary disease (COPD): the $\beta_2$-agonist indacaterol and the anticholinergic tiotropium. This blinded study compared the efficacy of these two agents and assessed their safety and tolerability. Patients with moderate-to-severe COPD were randomised to treatment with indacaterol 150 µg *q.d.* (n=797) or tiotropium 18 µg *q.d.* (n=801) for 12 weeks.

After 12 weeks, the two treatments had similar overall effects on “trough” (24 h post-dose) forced expiratory volume in 1 s. Indacaterol-treated patients had greater improvements in transition dyspnoea index (TDI) total score (least squares means 2.01 *versus* 1.43; p<0.001) and St George’s Respiratory Questionnaire (SGRQ) total score (least squares means 37.1 *versus* 39.2; p<0.001; raw mean change from baseline -5.1 *versus* -3.0), and were significantly more likely to achieve clinically relevant improvements in these end-points (indacaterol *versus* tiotropium odds ratios of 1.49 for TDI and 1.43 for SGRQ, both p<0.001). Adverse events were recorded for 39.7% and 37.2% of patients in the indacaterol and tiotropium treatment groups, respectively. The most frequent adverse events were COPD worsening, cough and nasopharyngitis. Both bronchodilators demonstrated spirometric efficacy. The two treatments were well tolerated with similar adverse event profiles. Compared with tiotropium, indacaterol provided significantly greater improvements in clinical outcomes.

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