# ERS Annual Congress 2013
## Conference Review

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## In this review:



**Abbreviations used in this issue**

**COPD** = chronic obstructive pulmonary disease
**CV** = cardiovascular
**IPF** = idiopathic pulmonary fibrosis
**PPI** = proton-pump inhibitor
**RCT** = randomised controlled trial
**TB** = tuberculosis

# Welcome to this review of the European Respiratory Society (ERS) Annual Congress 2013.

What a kaleidoscope of research, enthusiasm and professionalism it has been – the largest respiratory scientific congress, held in Barcelona in September 2013. The ERS is embracing its leadership role and is assuming an international responsibility.

The research presented was generally of high standard and as diverse as the accents were colourful. Behind this vibrant face, new research dimensions are evolving. While evidence-based medicine has led the way away from 'eminence'-based medicine, it also has limitations. Every RCT will have to set clear inclusion and exclusion criteria, often creating a patient cohort that matches 5% of our real-life patients. The Wellington group presented a well-cited poster reporting that 50% of the patients treated with tiotropium would have been excluded from the UPLIFT study.

RCTs together with research exploring the biological plausibility of treatments will remain a cornerstone, and large databases from international societies like the ERS are likely to lead us as clinicians and possibly enable us to work towards personalised medicine. A great example is the TB-NET collaboration, which is synthesising data from clinicians treating TB; noticeably it has received no significant funding. However, it addressed questions that matter like which γ-interferon assay performs better, how we treat children with TB and is noticing a probable 50% protective effect of BCG (Bacillus Calmette-Guérin) vaccine.

A Spanish group actually examined the funding source in research focussed on smoking cessation. More than 90% came from government organisations and societies. Public research funding continues to play a crucial role. Personally, I'd like to acknowledge NZ funding for continued medical education, which allows my colleagues and me to stay in touch with the international respiratory community. Hopefully you will enjoy the selection of ten abstracts. Any feedback, comments and discussion are welcome as always.

Kind regards


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## Using social media to change medical practice - The Breakfast at Glenfield Music Video

**Authors**: Mukherjee T et al.


**Summary**: Audit results from 58 healthcare professionals, which showed that only 62% were aware of their hospital's asthma management guidelines and only 45% used them, prompted revision of the guidelines and the development of a music video designed to improve acute asthma management. The video consisted of the guidelines translated into memorable lyrics to the tune of a famous song, and it was released on YouTube. The video was viewed extensively, and was hosted on other organisations' websites within days of its launch. A re-audit at 3 months showed that guideline awareness had improved to 100%, with statistically significant improvements in all aspects of asthma management knowledge, especially chest x-ray indication and target oxygen saturation.


**Comment**: This could have been just another audit noticing that asthma guidelines are hardly known and poorly adhered to. And yes, the authors did close the audit loop and showed an improvement to close to 100% in knowledge of the asthma guidelines, including crucial aspects. This abstract is the lead abstract for this Conference Review, because it symbolises much of what the ERS was about: clinically relevant research, pertinent outcomes and innovative interventions. The chosen 'educational intervention' was to transform the asthma guidelines into a musical. **Bottom line: dare to be entertained/educated on asthma guidelines for 3 minutes (http://www.youtube.com/watch?v=qj0PEn79Cuw).**

***Reference: ERS 2013; Session 359: Abstract 3503***

http://www.ers-education.org/events/annual-congress.aspx?idParent=125399

## Mapping of COPD guideline adherence in primary care: an observational study in Belgium and Luxembourg

**Authors**: Vincken W et al.

**Summary**: This one-visit, cross-sectional, noninterventional study of 160 primary care physicians treating 1132 patients with recently diagnosed COPD and a mean of 2.6 comorbidities found that the rate of self-reported compliance with guidelines was 83%, appropriate step-up treatment was 89% and systematic screening for cardiac insufficiency, osteoporosis and depression were 57%, 21% and 8%, respectively. Only just over half of the physicians questioned were actually performing spirometry for diagnosing COPD, and often for prebronchodilation testing. Spirometry was only used as the basis of half the COPD diagnoses, and mostly during second-line care. Only 5% of patients had spirometry values required for COPD staging recorded, but 86% of these provided the correct definition of exacerbations, of which 44%, 60% and 81% were managed with systemic corticosteroids, antibiotics and/or mucolytics, respectively, and 6% required hospitalisation. Nearly all patients (96%) were recommended a smoking cessation programme, 7% entered pulmonary rehabilitation, and 84% and 72% received influenza and pneumococcal vaccines, respectively.

**Comment**: Maybe these Belgian/Luxemburg researchers should have also considered producing a video to cover the eight key recommendations of the GOLD guidelines – however, the full guidelines would have been closer to an opera. They reported that only 35% of patients had their diagnosis of COPD confirmed with postbronchodilator spirometry; and many were overtreated with inhaled corticosteroids; i.e. inhaled corticosteroids were offered to patients with an $FEV_1$ >50% predicted. It is encouraging that 96% were offered a smoking cessation programme. **Bottom line: compared with findings from an audit 10 years earlier, more patients had a spirometry-based COPD diagnosis and fewer were treated with long-term prednisone.**

***Reference: ERS 2013; Session 337: Abstract 3297***

http://tinyurl.com/ERS2013-337

## Poor generalisability of UPLIFT findings to clinical practice

**Authors**: Walker S et al.

**Summary**: This audit of 100 consecutive patients who received a prescription for tiotropium on discharge from Wellington Regional Hospital found that 38 of them would have been excluded from the UPLIFT trial due to recent CV or renal comorbidities. It was concluded that the favourable risk-benefit profile associated with tiotropium seen in UPLIFT *"is not generalisable to at least one third of patients"*.

**Comment**: As mentioned above, this Wellington abstract was a hot topic at ERS in 2013. The authors essentially performed an audit on 100 patients discharged from hospital on tiotropium, and then checked if these patients would have been included in the UPLIFT study. They felt that 38% of the patients treated with tiotropium would not have been included because of cardiac or renal comorbidities. **Bottom line: the authors did not demonstrate any harm in their small number of patients; however, this poster illustrated the limitations of RCTs when applied to the 'real-world' clinical setting.**

***Reference: ERS 2013; Session 85: Abstract 750***

http://www.ers-education.org/events/annual-congress.aspx?idParent=125181

## Comparison of cardiovascular safety in a pooled analysis of COPD trials comparing tiotropium with salmeterol

**Authors**: Vogelmeier C et al.

**Summary**: This research pooled data from four RCTs (n=8836) reporting the respective CV adverse event profiles of tiotropium and salmeterol metered dose inhaler; 25.3% of participants had a cardiac disorder and 53.7% were receiving CV medication at baseline. No significant difference was seen between tiotropium and salmeterol for the incidence rates of all-cause mortality (1.74 vs. 2.08 per 100 patient-years; rate ratio 0.84 [95% CI 0.61, 1.16]), fatal major adverse cardiac events (including death unknown; 0.72 vs. 0.92 per 100 patient-years; 0.78 [95% CI 0.47, 1.28]) or serious adverse CV events according to selected major CV diagnoses.

**Comment**: A variety of abstracts contrasted the abstract from the Wellington group. Patients in real life may be different from patients enrolled in trials. Of the 8836 patients enrolled in trials comparing tiotropium with salmeterol, a quarter had a cardiac disorder and more than half were taking cardiac medications. Major adverse cardiac events, including death of unknown cause, were rare and occurred as often as they did in the group treated with salmeterol. **Bottom line: tiotropium is probably safe in the group indicated, although selection bias cannot be excluded with this study design.**

***Reference: ERS 2013; Session 85: Abstract 753***

http://www.ers-education.org/events/annual-congress.aspx?idParent=125181

## Collateral damage: depressive symptoms in the spouses of COPD patients

**Authors**: Tsikika S et al.

**Summary**: Depressive symptoms affecting the spouses of 202 patients with COPD (who had participated in a previous study on depression in COPD) were investigated in this research. It was found that 34.1% of the spouses experienced clinically significant depressive symptoms, and that a correlation existed between the respective BDI (Beck's Depression Inventory) scores of the patients and their spouses ($r=0.422$; $p<0.001$). Significant correlations were also seen between the spouses' BDI scores and the COPD patients' $FEV_1$ ($r= -0.510$; $p<0.001$), number of exacerbations ($r=0.553$; $p<0.001$) and yearly hospitalisations for COPD exacerbations ($r=0.458$; $p<0.001$). The BDI scores were also higher in spouses of patients with severe or very severe (versus mild or moderate) COPD and those with more (versus less) frequent exacerbations.

**Comment**: In the June issue of Respiratory Research Review this year, we reviewed a Greek study reporting on longer admissions and worse outcomes in patients with COPD and depression. This same group presented this intriguing research interviewing the spouses of patients admitted with COPD. About a third reported depressive symptoms; they were related to the severity of the illness and the number of hospitalisations. The spouses of patients frequently admitted with COPD showed more severe depressive symptoms. **Bottom line: COPD has a major impact on the partner. We need to consider offering spouses support, evaluation and possible treatment.**

***Reference: ERS 2013; Session 489: Abstract 5097***

http://www.ers-education.org/events/annual-congress.aspx?idParent=125521

## Improving physical activity in patients with severe COPD with urban walking circuits

**Authors**: Pleguezuelos E et al.

**Summary**: This study randomised 83 patients with COPD to an exercise programme of urban walking circuits or usual care after they had undergone a 12-week rehabilitation programme; follow-up was 9 months. Compared with usual care, the urban circuit exercise programme was associated with significant increases in mean daily physical activity (38 vs. 10.8 minutes; $p<0.001$) and mean days walked per week (1.41 vs. 0.89 days; $p<0.001$). Moreover, a significant positive correlation was seen between 6-minute walk test results and minutes walked per day in the circuit exercise group, but not the usual care group. A control group of 54 patients who did not participate in the rehabilitation programme exhibited significant decreases in exercise capacity and physical activity during follow-up.

**Comment**: Personally, I was most encouraged by the sessions on exercise and COPD. It is likely that pedometer- and questionnaire-based tools will soon become clinical tools we can rely on when assessing, prescribing and monitoring exercise. In the meantime, patients who participate in rehabilitation classes improve; however, they don't continue exercise. A research group from our host city Barcelona presented a beautifully conducted study by designing rehabilitation programmes including the local urban landscape. **Bottom line: including environmental 'natural' exercise circuits was stimulating for patients and led to retaining physical activity months after completion of the formal programme.**

***Reference: ERS 2013; Session 144: Abstract 1475***

http://www.ers-education.org/events/annual-congress.aspx?idParent=125234

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### Independent commentary by Associate Professor Lutz Beckert.

Associate Professor Lutz Beckert is the Head of Department of Medicine of the University of Otago, Christchurch. He is also a Respiratory Physician at Canterbury District Health Board with particular clinical interests in Interstitial Lung Disease, Pulmonary Artery Hypertension, Respiratory Physiology and Venous Thrombembolic Disease. Lutz is happy to be contacted to discuss research ideas either as a sounding board or considering future collaborations.

## Maternal anxiety and adolescent asthma: children of twin design suggest familial effects

**Authors**: Havland I et al.

**Summary**: These researchers explored the association between anxiety in 1691 mothers and asthma in their adolescent offspring using data from TOSS (the Twin and Offspring Study of Sweden). Maternal anxiety was significantly associated with mother-reported adolescent asthma (odds ratio 2.02 [CI 1.15, 3.55]), and maternal somatic anxiety and psychic anxiety were significantly associated with self-reported breathlessness in the adolescents (1.74 [1.04, 2.91] and 1.74 [1.05, 2.86], respectively). No significant association was seen between maternal anxiety and increased risk of asthma diagnosis or medication. Children-of-twins analyses suggested that the association was due to familial confounding.

**Comment**: Asthma is causing anxiety in caregivers. It has also been reported in epidemiological studies that caregivers' anxiety can cause asthma symptoms in children. An international group led by Swedish authors reported on the outcomes of their TOSS. They confirmed in the children of mothers who had a twin sibling that maternal anxiety was related to asthma symptoms. It was also related to the children's aunts' anxiety levels, making a family trait the most likely explanation. **Bottom line: a likely explanation for a familial association may be personality traits associated with anxiety.**

***Reference: ERS 2013; Session 156: Abstract 1618***

http://tinyurl.com/ERS2013-156

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## Living on a farm protects from allergic rhinitis at school age

**Authors**: Alm B et al.

**Summary**: This prospective, longitudinal study of children from 8176 randomly selected families from western Sweden reported that by age 8 years, 11.3% of the children (61.9% boys) had been medicated for allergic rhinitis within the previous 12 months, with mean age of onset of 5.1 years. A multivariate analysis showed a significant inverse association between living on a farm at age 4.5 years and medication-treated allergic rhinitis at age 8 years (adjusted odds ratio 0.31 [95% CI 0.13, 0.78]), while factors positively associated were parental allergic rhinitis (2.73 [2.12, 3.52]), food allergy in the first year (2.45 [1.61, 3.73]), eczema during the first year (1.97 [1.50, 2.59]), neonatal antibiotic use (1.75 [1.03, 2.97]) and male gender (1.35 [1.05, 1.74]).

**Comment**: This study from Sweden isn't all new to NZ, as this has been reported before; however, it is still reassuring if results are repeated from different researchers from the other side of the world. The Swedish authors reported that in a large birth cohort of more than 8000 families, children with a parental history of allergic rhinitis and with a personal history of food allergies, eczema in the first year and early antibiotic use have an increased risk of having used medications for allergic rhinitis. **Bottom line: growing up on a farm reduced the incidence of allergic rhinitis to about a third.**

***Reference: ERS 2013; Session 156: Abstract 1631***

http://www.ers-education.org/events/annual-congress.aspx?idParent=125246

## Survival in IPF acute exacerbations: the non-steroid approach

**Authors**: Papiris S et al.

**Summary**: These researchers tested the effects of immediate cessation of any immunosuppressants, best supportive care, broad-spectrum antibiotics and thorough evaluation to detect reversible causes of respiratory deterioration (i.e. acute respiratory distress syndrome treatment) in 22 patients hospitalised with deterioration of IPF. The survival rate was 50%, with a significantly lower rate among those who had previously been receiving immunosuppression compared with those who had not (27% vs. 73%; p=0.033). The median duration of survival was 11.5 months.

**Comment**: Immunosuppressive therapy is not recommended for patients with IPF. Some clinicians still use a course of steroids during an exacerbation of IPF. A group of Greek authors presented their data of patients who were enrolled in a different study. In this cohort of 70 patients with an exacerbation of IPF, 3 out of 11 survived when treated with immunosuppressive medications, and 8 out 11 (73%) survived when treated without such medications. **Bottom line: acknowledging that this single-centre study is too small to draw firm conclusions, it raises the possibility of harming patients with immunosuppressive medications during an IPF exacerbation.**

***Reference: ERS 2013; Session 70: Abstract 463***

http://www.ers-education.org/events/annual-congress.aspx?idParent=125166



## Combined pirfenidone, proton pump inhibitor and N-acetylcystein [*sic*] (PINPOINT) in IPF: preliminary results

**Authors**: Chhajed P et al.

**Summary**: The efficacy and tolerability of the combination of pirfenidone 600 mg/day titrated to the highest tolerated dosage (maximum 1800 mg/day), N-acetylcysteine 1800 mg/day and a PPI 40 mg/day was investigated in 54 patients with IPF. The respective outcomes for 30 patients who received the combination from diagnosis and the remaining 24 who had received prior therapies (respective median durations from symptom onset until study treatment of 3 and 13 months, and respective median follow-up periods of 9 and 10 months) included: i) 6 and 5 adverse events; ii) 6 and 4 pirfenidone discontinuations; iii) 5 and 6 acute IPF exacerbations; and iv) 4 and 6 deaths.

**Comment**: At times we are at conferences hoping to glean new information for patients in our care. This poster from Mumbai came close to fulfilling the promise. The authors combined the available evidence on treating IPF, and combined pirfenidone, a PPI and N-acetylcysteine to treat patients with IPF. Unfortunately, this was not in a randomised setting and the numbers from one centre, even though considerable, were not enough to draw a firm conclusion. **Bottom line: combination therapy for IPF was well tolerated and may become standard in the future.**

***Reference: ERS 2013; Session 70: Abstract 479***

http://tinyurl.com/ERS2013-70



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