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# Highlights from this issue

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*The Triumvirate*

## ANTIPODEAN ASTHMA

At what age you start wheezing has an important effect on what happens next. Twenty years ago Fernando Martinez and colleagues described transient early wheezing—children who wheezed in the first 3 years of life but who had stopped by school age.<sup>1</sup> In this month's *Thorax*, Dharmage *et al* describe the long term follow up of a cohort from Tasmania (see page 981). They set a cut off for early or late onset wheezing at 13 years. Over 1300 people completed a follow up questionnaire at 44 years. They found a similar prevalence of early and late onset asthma in middle age (both around 8%). However, early onset of symptoms was associated with more hospital admissions and greater impairment of lung function in middle age.

## COPD AND THE SPIRIT OF VOLTAIRE

Voltaire tells us: “*We are all formed of frailty and error...*” In this issue, Maddocks demonstrate frailty (weight loss, exhaustion, low physical activity, slowness and weakness) in a quarter of people with COPD (see page 988). Participants underwent pulmonary rehabilitation—an 8 week outpatient exercise programme. Frail patients were more likely to drop out. However, of the frail patients who completed the programme, more than half were no longer frail when they finished. Sounds like common sense? Well, as Voltaire said, “*...common sense is not so common...*”

## LOW ANXIETY WITH LOW DOSE CT SCREENING

Uncertainty creates anxiety and so anxiety is an important negative outcome in any screening programme. The UK Lung Cancer Screening Trial randomised 4055 people to low dose CT screening or observation, with questionnaire data on 2855 participants after 2 years (see page 996). Control participants were less likely to be satisfied with their decision to take part and were also more likely to be anxious and depressed. However, the measures of anxiety and depression in both groups were within the normal range.

## EXTREME PREMATURITY, EXERCISE CAPACITY AND RICHARD III.

Richard III claimed to be “*...unfinish'd, sent before my time, Into this breathing world...*” MacLean and colleagues study over 100 children similarly sent before their time into the breathing world (see page 1012). Children born extremely prematurely (<28 weeks gestation) were followed up at around 12 years with spirometry and cardiopulmonary exercise testing. The extreme prematurity group included those with (n=50) and without (n=53) bronchopulmonary dysplasia (BPD). Exercise capacity (VO<sub>2</sub>% predicted) was significantly less in the BPD group, compared to the preterm children without BPD and to controls. Children with BPD are more likely to follow Richard's lead and avoid “*...sportive tricks...*” The authors urge more research to explore the mechanism of exercise limitation.

## INTO THIN AIR...

The perils of hypoxia are most vividly recounted through tales of heroism and disaster upon the most glorious natural wonders in our world. However, you don't need to ascend Mount Everest to encounter tissue hypoxia. Indeed inflammation and hypoxia can turn your lungs into an avalanche of proteases thanks to enhanced degranulation of neutrophils as described by Hoenderdos *et al* (see page 1030). Whilst one may have thought the villain of this story may be HIF, it turns out it ain't necessarily so, and the ugly sisters in this Himalayan pantomime are in fact Akt and PI3K $\gamma$ . So once again ascending into thin air can generate some surprising results!

## BEWARE OF LUNGS BEARING GIFTS

Homer first described how an elite fighting force, led by Odysseus, could hide inside a wooden horse, before being subsumed within the walls of Troy, ultimately leading to its inflammation and destruction. More recently, and relying on experimentation rather than mythology, Soni *et al* (see page 1020) describe the molecular Trojan horses, microvesicles, that are released by macrophages and epithelial cells containing the legendary cytokine

TNF $\alpha$  and lead to alveolar inflammation. This description of exosome mediated acute lung injury begins another chapter in the cytokine odyssey.

## A TROJAN TRANSPLANTED

Following the fall of Troy, Aeneas, a Trojan, found his way to Italy, defeated the host's defence and eventually his progeny founded one of the greatest civilizations of any age. Macrophages have similar properties following lung transplantation. In this issue, Eguiluz-Gracia *et al* show that human monocytes transplanted into mice are able to differentiate into alveolar macrophages (see page 1006). Furthermore following lung transplant, host macrophages are able to populate donor lungs and alveolar macrophages are themselves able to self renew. All these processes lead to stable chimerism between host and donor macrophages. Peaceful co-existence is good news for transplant patients but probably not the stuff of Virgilian poetry.

## RADIATION AVOIDANCE

Ataxia telangiectasia, interferes with DNA repair and affected individuals should avoid ionising radiation, where possible. In one of this month's *Images in Thorax*, Ammendola and colleagues demonstrate a novel approach to diagnosing pneumothorax in a patient with ataxia telangiectasia that avoids radiation (see page 1068).



## REFERENCE

- Martinez FD, Wright AL, Taussig LM, *et al*. Asthma and wheezing in the first six years of life. The Group Health Medical Associates. *N Engl J Med* 1995;332:133–8.