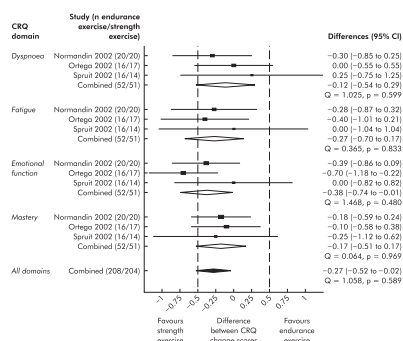


## HOW SHOULD WE TRAIN COPD PATIENTS?

Pulmonary rehabilitation is now an integral part of the management of patients with COPD and improves exercise capacity and health status. However, patients can be provided with physical training in many different ways and there is little information on the optimum training modes. In this issue of *Thorax* Puhan and colleagues evaluate, in a systematic review, the current evidence on different exercise modalities in COPD. They show that strength training provides greater improvements in health status than endurance exercise and conclude that strength training should be routinely incorporated into rehabilitation programmes. Interval exercise during training should work better than continuous exercise, but the evidence in the review for advantages of interval training was poor and no conclusion could be drawn about the relative benefits of these exercise modalities in COPD. There was also insufficient evidence to recommend high intensity exercise, and the authors conclude that further trials are needed to study this aspect in patients with moderate to severe COPD. In his accompanying editorial, Morgan recommends that any further studies of different training modes need to incorporate appropriate outcome assessments such as activities of daily living.

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Results from three trials in which the CRQ was used to compare strength exercise with endurance exercise

## CPAP IN MILD SLEEP APNOEA

Nasal continuous positive airways pressure (CPAP) has been shown to be effective in patients with severe obstructive sleep apnoea (OSA), although the role of CPAP in patients with mild OSA is still uncertain. In previous studies of patients with mild OSA compliance with therapy may have been an issue, and various strategies including humidification can improve patient acceptance and tolerance of CPAP. In this issue Marshall and colleagues describe a randomised crossover study of humidified CPAP in patients with an apnoea hypopnoea index of 5–30/hour and thus mild OSA. The results showed that humidified CPAP improved subjective sleepiness but not other outcomes such as reaction times, quality of life, or mood. The authors suggest that CPAP should not be routinely used in mild OSA except as a trial where patients complain of excessive sleepiness.

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## CIRCULATING PROGENITOR CELLS AND LUNG REPAIR

Inflammatory stimuli induce a rapid and large release of inflammatory cells from the bone marrow. In this month's *Thorax*, Yamada and colleagues describe important results on the role of endothelial progenitor cells (EPCs) in lung repair. They found that patients with a diagnosis of pneumonia have significantly increased numbers of circulating EPCs within 1 day of the illness which decrease 8 weeks after treatment. Patients with later fibrotic changes were those with lower numbers of EPCs at the start of the illness. In the accompanying editorial, Doerschuk discusses the mechanisms by which EPCs differentiate and can contribute to lung repair. She stresses the potential importance of these findings in developing new treatments to aid lung repair in both acute and chronic lung disease.

See pages 362 and 410

## PUFA FOR COPD?

Skeletal muscle weakness is one of the systemic manifestations of COPD and any factors that can reduce weakness and improve exercise capacity are important in COPD management. Polyunsaturated fatty acids (PUFA) have been shown to modulate inflammatory pathways and may reduce muscle wasting. Broekhuizen and colleagues report a double blind randomised study of treatment with PUFA or placebo during an 8 week pulmonary rehabilitation programme. The PUFA group showed increased peak exercise capacity and increases in submaximal endurance time. However, no relationships were found between these changes and systemic inflammatory markers. The authors discuss some of the mechanisms that may be involved and conclude that further research is required to sort out the pathways involved and how PUFA interacts with exercise training.

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## REMODELLING IN CHILDHOOD ASTHMA

Airway remodelling was considered to be a relatively late feature of asthma, but there is now some evidence that tissue remodelling is an early feature in childhood asthma. In this issue of *Thorax* Fedorov and colleagues describe early markers of airways disease obtained either post mortem or at bronchoscopy in children aged 5–15 years. The results show thickening of the lamina reticularis in asthmatic children, with collagen deposition and increased expression of epidermal growth factor receptor (EGFR). Thus, early asthma is already associated with epithelial injury and remodelling. Greater understanding of the mechanism associated with remodelling is an important area for further research.

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