- 2 Caminati AA, Bianchi R, Cassandro R, *et al.* Walking distance on 6-MWT is a prognostic factor in idiopathic pulmonary fibrosis. *Respir Med* 2009; 103: 117–123.
- <sup>3</sup> Lederer DJ, Arcasoy SM, Wilt JS, *et al.* Six-minute-walk distance predicts waiting list survival in idiopathic pulmonary fibrosis. *Am J Respir Crit Care Med* 2006; 174: 659–664.
- 4 Mura M, Porretta MA, Bargagli E, *et al.* Predicting survival in newly diagnosed idiopathic pulmonary fibrosis: a 3-year prospective study. *Eur Respir J* 2012; 40: 101–109.
- 5 Enright PL, Sherrill DL. Reference equations for the six-minute walk in healthy adults. *Am J Respir Crit Care Med* 1998; 158: 1384–1387.
- 6 Wells AU, Desai SR, Rubens MB, *et al.* Idiopathic pulmonary fibrosis: a composite physiologic index derived from disease extent observed by computed tomography. *Am J Respir Crit Care Med* 2003; 167: 962–969.

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## From the authors:

We thank M. Mura for reminding us of the study published in the *European Respiratory Journal (ERJ)* in 2012 that confirmed the increasing importance of the 6-min walk test (6MWT) in the evaluation and prediction of outcome in patients suffering from idiopathic pulmonary fibrosis (IPF) [1]. In this prospective study by MURA *et al.* [1], of factors that predicted survival in 70 patients with newly diagnosed IPF, the major 6MWT findings were that the 6-min walk distance (6MWD) % predicted, but not 6MWD defined as metres walked, was independently associated with 3-year survival, and that a receiver operating characteristic-based cut-off of 72% pred 6MWD best differentiated probable outcome.

By contrast, our data recently reported in the *ERJ* showed that both baseline and especially 24-week change in 6MWD, defined as metres walked, were independent predictors of outcome [2]. In our study we did not explore 6MWD % predicted because of the reference equation concerns, referred to by M. Mura. Reference equations from healthy population-based samples using standardised 6MWT methods are not yet available [3]. The study by MURA *et al.* [1] used the equations that were derived from a study of 173 healthy females and 117 healthy males from Tuscon, AZ, USA [4] and, therefore, are possibly not representative of the Italian individuals who participated in their study. Given that our study included 748 patients who had enrolled in a clinical trial in 81 centres in seven European countries, the USA and Canada, we felt that it would not be appropriate to derive percent predicted values based on data from a single state in the USA. The highlights of our study were that 6MWD provided a prediction of mortality that was independent of other indices previously reported by us [5], and that the addition of 6MWD to the clinical prediction model improves model discrimination compared with the original model [2].

The findings of the study reported by MURA *et al.* [1], combined with those of our own recent study [2], provide compelling evidence supporting the utility of 6MWD in both clinical practise and in designing endpoints for clinical trials of novel therapy, and reinforce the data from several earlier studies that showed favourable performance characteristics of 6MWD in patients with IPF [6–8]. Recently, this index of evaluation has appeared to have fallen out of favour but the complementary positive data provided by our study and that of MURA *et al.* [1] support the use of the 6MWT as a future end-point. To abandon an index prematurely would do a disservice to our patients if added value due to its continued use to predict probable outcome accrued, which would in turn be of value when considering the initiation of, or change in, therapy and the timing of referral for lung transplantation.



## @ERSpublications

6MWD provides prediction of mortality in IPF independent of other indices previously reported to predict IPF outcome http://ow.ly/tirmb

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## References

- Mura M, Porretta MA, Bargagli E, et al. Predicting survival in newly diagnosed idiopathic pulmonary fibrosis: a 3-year prospective study. Eur Respir J 2012; 40: 101–109.
- 2 du Bois RM, Albera C, Bradford WZ, *et al.* 6-minute walk distance is an independent predictor of mortality in patients with idiopathic pulmonary fibrosis. *Eur Respir J* 2014; 43: 1421–1429.

- 3 ATS Committee on Proficiency Standards for Clinical Pulmonary Function Laboratories. American Thoracic Society Statement: guidelines for the six-minute walk test. Am J Respir Crit Care Med 2002; 166: 111-117.
- Enright PL, Sherrill DL. Reference equations for the six-minute walk in healthy adults. Am J Respir Crit Care Med 4 1998; 158: 1384-1387.
- 5 du Bois RM, Weycker D, Albera C, et al. Ascertainment of individual risk of mortality in patients with idiopathic pulmonary fibrosis. *Am J Respir Crit Care Med* 2011; 184: 459–466. du Bois RM, Weycker D, Albera C, *et al.* Six-minute-walk test in idiopathic pulmonary fibrosis: test validation and
- 6 minimal clinically important difference. Am J Respir Crit Care Med 2011; 183: 1231-1237.
- Nathan SD, Albera C, du Bois RM, et al. 6-minute walk test in patients with idiopathic pulmonary fibrosis (IPF): confirmation of the minimal clinically important difference. Eur Respir J 2012; 40: Suppl. 56, 665s.
- 8 Nathan SD, du Bois RM, Albera C, et al. 6-minute walk test in patients with idiopathic pulmonary fibrosis: confirmation of test performance characteristics. Am J Respir Crit Care Med 2013; 187: A2360.

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