Supplementary Material 1

Douglas Bag Collection

A mouthpiece connected to a two-way, non-rebreathing valve (model 2730, Hans Rudolph, Kansas City, Missouri), was used to collect gas samples, analysed for concentrations of oxygen and carbon dioxide using a paramagnetic and infrared transducers, respectively (Sevomex 5200S, Crowborough, East Sussex, UK). Sensors were turned on 30 min prior to a two-point calibration (zero: 100% nitrogen; span: 16.93% oxygen and 5.04% carbon dioxide) using certified gases (BOC Industrial Gases, Linde AG, Munich, Germany).

Ambient temperature, humidity and barometric pressure (using a Fortin barometer; F.D. and company, Watford, UK) were recorded, and expired gas samples were corrected to standard temperature and pressure (dry). Volume and temperature of expired gas samples were determined using a dry gas meter (Harvard Apparatus, Edenbridge, Kent, UK) and thermistor (model 810-080, ETI, Worthing, UK), respectively, during gas evacuation. Calibration of the dry gas meter was regularly performed with a 3-L syringe (Series 5530, Hans-Rudolph Inc, Kansas City, Missouri, USA).