

MAXIMAL EXPIRATORY FLOW RATES IN SOUTH INDIAN SPORTSMEN

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The maximal Expiratory Flow Volume (MEFV) loop is superior to peak expiratory Flow Rate (PFR) and Forced Expiratory Volume in one second (FEV_1) in that it describes total information during Forced Vital Capacity (FVC) test. MEFV loop was utilised to identify ventilatory adaptation in lungs of sportsmen. Twenty non-smoking sportsmen who were active participants in athletics at inter-university and interstate level were selected for the study. After a thorough clinical examination MEFV loop was recorded in the sitting posture using a computerised (P. K. Morgan (U.K.) pulmonary function test equipment and x-y recorder. When the results were analysed, it was found that mean PFR was 7.89 ± 0.29 L/S and flow rates of air at 25 % (V max 25 %) 50 % (V max 50%) and 75% of FVC were 7.12 ± 0.29 L/S, 5.18 ± 0.27 L/S and 2.87 ± 0.24 L/S respectively. Mean Forced Mid Flow (FMF) was 5.09 ± 0.24 L/S. When compared to the predicted values of our laboratory, the mean percentage predicted values of these parameters were as follows : PFR=102.5%, $v_{max} 25\% = 107.0\%$, $v_{mx} 50\% = 110.7\%$, $v_{max} 75\% = 134.2\%$ and FMF 114.2 %. It is evident from these results that sportsmen have increasingly higher flow rates at terminal part of FVC curve. Mean Flow Volume Loop drawn for the sportsman fails on the right side of the predicted normal curve, indicating thereby that the airways are patent even at every low lung volumes to let the air flow out at faster rate. This may be due to adaptation to habitual ventilatory training on the air ways, especially small airways, in sportsmen.