

## **9.12 A Comparison of the ERS 1993 and GLI 2012 Reference Equations for Spirometry in a Waterford Cohort of Patients**

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This study compared two different sets of reference equations for spirometry: the European Coal and Steel Community (ECSC) 1993 update and the Global Lung Function Initiative (GLI) 2012 reference equations for spirometry to investigate if there is an impact on disease classification. Retrospective spirometry data was collected from 250 subjects from the University Hospital Waterford patient database over an eight month period, subdivided by gender and grouped by age, with five age categories ranging from 36 to 85 years of age with 25 males and 25 females in each category. Predicted values and LLNs for FEV<sub>1</sub>, FVC, and FEV<sub>1</sub>/FVC ratio were then calculated using both sets of reference equations. The values were then analysed for each subject and was noted as correctly classified or misclassified. Under the ECSC reference values, 11.20% of male subjects and 7.20% of female subjects were misclassified using the FEV<sub>1</sub>/FVC ratio (18.4% of patients were misclassified as having disease). In subjects aged 56 to 85, there was a 24-30% rate of misclassification. We propose that GLI reference equations are universally adopted to standardise Spirometry testing in Ireland.

***Conflict of Interest:*** None to declare