Presentation of Test Results: a Demonstration of Interpretive Pitfalls

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The manner in which laboratory data is presented can leave the comprehension of the data open to error, and care should be taken to narrow down the scope of misinterpretation. Even when statistical software or graphing programs are used (such as Microsoft Excel and similar), the automatic handling of the data and resulting graphic display of the information can become rather suspect, if not downright erroneous. In this exercise, laboratory data from respiratory tests forms the basis for some glaring mistakes made not in the gathering of the data, but in the handling and presentation of it. The raw data could be of any type; however in this case the relation between minute volume and peak inhalation air flow is used. It is mainly in the conversion from scatter diagrams to linear graphs or polynomial curves that misrepresentation of the data occurs, whether using manual methods or software processing. Such errors often have absurd consequences, resulting, for instance, in a graph that shows that a dead person would have a minute volume of 10 l/min. It is disturbing to note that however misleading, these types of errors have been commonplace in the scientific literature for a long time, apparently without being queried or even noticed.