

Statistical Analysis of Method Comparison studies

This short course will be given by Bendix Carstensen, Senior Statistician at Steno Diabetes Center and Claus Ekstrøm, Associate Professor at the University of Copenhagen (Dept. of basic sciences and environment, Life).

It will be based mainly on material from the book by Bendix Carstensen: Comparing Clinical Measurement Methods: A Practical Guide, Wiley, 2010, ISBN 978-0-470-69423-7.

Course programme

This short course aims at giving a precise and statistically formally based exposition of the classical methods used for comparison of clinical measurement methods using differences between single measurements by two different methods (Bland-Altman plots). Moreover, this will be used as basis for an extension of the statistical models to more general scenarios with replicate measurements, non-constant bias and random raters.

The course format is lectures and practicals. Participants are required to bring their own laptop with R installed.

Wednesday 28th September 2011

09:00 – 09:30	Registration coffee
09:30 – 10:15	Lecture (BxC): Measurement: Repeatability, reproducibility. Comparing two methods without replicates. Comparing methods with replicate measurements.
10:15 – 10:35	Break
10:35 – 12:45	Practical: Plotting data, Bland-Altman-plot, limits of agreement. Wide and long representation of data. Analysis using means and using single replicates. Comparing the two approaches.
12:45 – 13:45	Lunch
13:45 – 14:20	Lecture (BxC): A general model for analysis of method comparison studies: A practical approach to analysis and reporting.
14:20 – 14:55	Lecture (CEk): Extension of the general model to accommodate many raters from a population.
14:55 – 15:15	Break
15:15 – 16:45	Practical: Practical use of the methods introduced: Using the MethComp package to analyze method comparison studies with different exchangeability structure, and method/rater composition.
