

## **A method for assessment of one dimension of dysfunctional breathing: distribution of breathing movement**

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There are several ways to operationalize the concept of dysfunctional breathing. One of them is the pattern of breathing movement, in particular the relative contribution of chest and abdomen. In this paper an easy and practical method is introduced to assess the distribution of breathing movement manually. It consists of an estimation of the area of sideways expansion during inhalation by placing the hands on both sides of the lower ribs at the backside of the body. The subject is sitting comfortably and the experimenter is sitting behind. The assessment is quantified by indicating in a semicircle the part that participates in sideways motion.

Interrater reliability is measured during two sets of manoeuvres: in 12 subjects during normal breathing, high breathing and after audible exhalation and in 6 subjects in an easy, a bit slum posture and sitting upright. Reliabilities range from 0.75 - 0.98. As expected, both the upright posture and breathing 'high' result in an upward shift of the distribution.

In a two-year follow-up of a clinical trial of breathing therapy in cardiac patients, the experimental group demonstrated more participation of the lower part of the body, both during quiet breathing and during 'deep' breathing. Case histories will be shown to demonstrate the utility in clinical practice and theoretical issues will be discussed.

Dr J van Dixhoorn

Centre for Breathing Therapy

F van Blankenheimstraat 10

3817 AG Amersfoort, The Netherlands

[vdixhoorn@euronet.nl](mailto:vdixhoorn@euronet.nl)