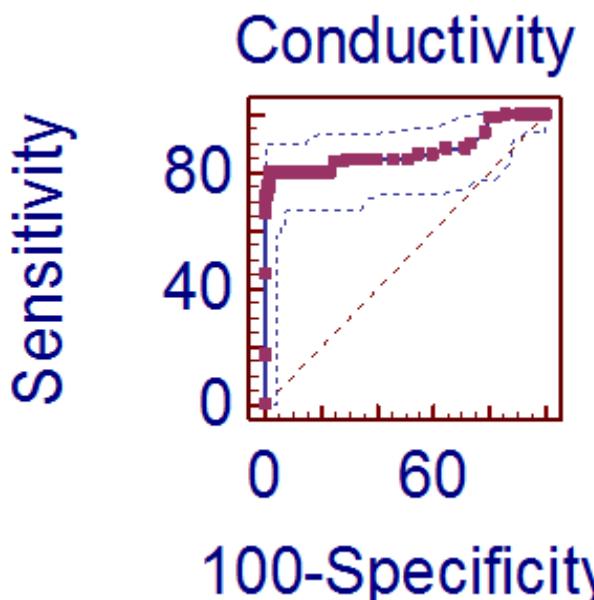


**ES Complex clinical investigation ADHD screening test: Specificity and sensitivity**

**Dr. Frederique Caudal, Pediatrics New marker using the bioimpedance technology in Attention Deficit/Hyperactivity Disorder (ADHD) Children screening in adjunct to the conventional diagnostic methods. Caudal 2007 (France)**



Variable	Conductivity
Classification variable	Diagnosis
Sample size	202
Positive group : Diagnosis = 1	80
Negative group : Diagnosis = 0	122
Disease prevalence (%)	39.6
Area under the ROC curve (AUC)	0.876
Standard Error <sup>a</sup>	0.0305
95% Confidence Interval <sup>b</sup>	0.823 to 0.918
z statistic	12.349
Significance level P (Area=0.5)	<0.0001

<sup>a</sup> DeLong et al, 1988

<sup>b</sup> Binomial exact

The conductivity measurements of the pathway of the forehead electrodes have a specificity of 98% and a sensitivity of 80% with a cut off > 7.4 $\mu$ Si and P< 0.0001.

**Miscellaneous References for ADHD Children screening using the ES Complex parameters**

1. Luman M, Oosterlaan J, Hyde C, van Meel CS, Sergeant JA. Heart rate and reinforcement sensitivity in ADHD. *J Child Psychol Psychiatry*. 2007 Sep;48 (9):890-8.
2. Norbert Börger, Jaap van Der Meere, Arjen Ronner, Ed Alberts, Reint Geuze and Hans Bogte. Heart Rate Variability and Sustained Attention in ADHD Children. *Journal of Abnormal Child Psychology* Volume 27, Number 1, 25-33, 1999
3. Ingrid Tonhajzerova, Igor Ondrejka, Pavol Adamik, Radovan Hraby, Michal Javorka, Zuzana Trunkvalterova, Daniela Mokra, Kamil Javorka. Changes in the cardiac autonomic regulation in children with attention deficit hyperactivity disorder. *Indian Journal of Medical Research*, July, 2009
4. Desman C, Petermann F, Hampel P. Deficit in response inhibition in children with attention deficit/hyperactivity disorder (ADHD): impact of motivation? *Child Neuropsychol*. 2008 Nov; 14(6):483-503.