

# Attention Deficit Hyperactivity Disorder in Neurofibromatosis Type 1: Evaluation with a Continuous Performance Test.

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## Abstract

### BACKGROUND AND PURPOSE:

The objective of this study was to determine if the MOXO visual- and vocal-distractors-based continuous performance test distinguishes patients with attention deficit hyperactivity disorder (ADHD) and neurofibromatosis type 1 (NF1) from those without NF1.

### METHODS:

Thirty-five patients (16 males; mean age 9.91 years) attending a multidisciplinary NF1 clinic completed the MOXO test. The findings were compared to 532 healthy age-matched standardized control subjects (285 males) without ADHD.

### RESULTS:

The overall performance in the MOXO test was significantly worse in the NF1 group than in controls ( $p < 0.01$ ), but no group-specific pattern was identified. Impulsivity and hyperactivity were significantly more prominent in males than females ( $p < 0.01$ ). Compared to controls, the NF1 group exhibited significantly more failures to respond to target stimuli in the presence of visual distractors.

### CONCLUSIONS:

MOXO scores are abnormal in patients with NF1, but the test cannot differentiate between NF1 with ADHD characteristics and ADHD. The test highlights sex differences in ADHD characteristics in NF1. Overreactivity to visual distractors may form part of the attention deficit in NF1.