Guide: QbCheck Report Explained

This guide is to help qualified professionals interpret QbCheck patient reports alongside other clinically relevant information, such as a clinical interview and/or standard symptom scales. The test quantitatively measures the three core symptoms of ADHD; hyperactivity, impulsivity and inattention. The addition of this objective data, when compared with an age and sex-matched norm group provides the opportunity for you to enhance diagnostic decision making and manage treatment with greater confidence. The report can be used to show the test-taker visual representations of their symptomology.

The QbCheck report consists of two results pages. The QbCheck results should not be used as a standalone tool and do not provide a diagnostic outcome.

Contents of this guide:

This is a quick reference guide only to accompany training.

For full training:

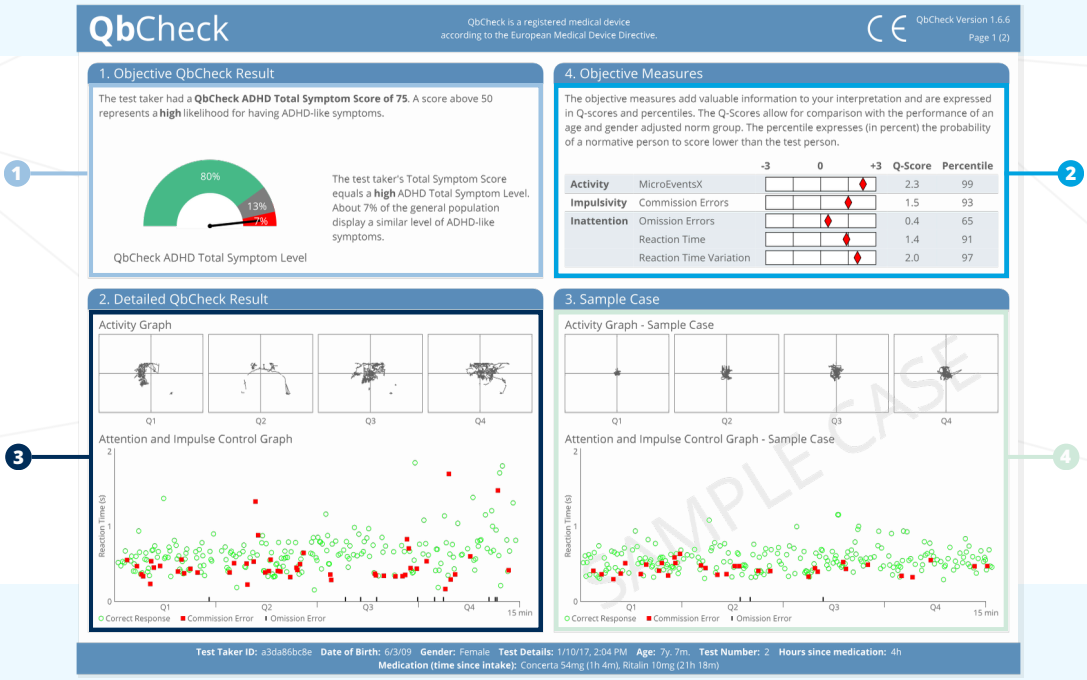
- Access QbTraining via www.qbcheck.com or contact Qbtech via info@qbtech.com.

To request a 1-2-1 clinical support call:

- Call our team on (844) 467-2832 Ext 2

1. Getting started; an overview of the objective results (report page 1)

When interpreting a QbCheck during the assessment of ADHD, please, start by reviewing how the different outcome measures may vary over the duration of the test. This is visualized in the Activity Graph and the Attention and Impulse Control Graph (see section 3). Thereafter, combine this information with an analysis of the ADHD Total Symptom Score and ADHD Total Symptom Level (see section 1) and the individual Q-Scores for the Objective Measures (see section 2).



1. This section provides an ADHD Total Symptom Score and Level, indicating if the test taker presents with typical ADHD symptoms and how this corresponds to the approx. prevalence of ADHD symptoms in the general population. The ADHD Total Symptom Score ranges from 0 to 100, where higher scores indicate higher symptom levels. The ADHD Total Symptom Level is a graphic representation of how the ADHD Total Symptom Score relates to the approximate prevalence of ADHD symptoms in the general population.

2. This section shows you, in scores, how the test taker performed compared to their norm group on activity, impulsivity and inattention. This information helps to establish if and to what extent they resemble or deviate from their peers.

3. These graphs show the test taker's activity levels, attention and impulse control, and if/how these changed over time. Green reflects a correct and red an incorrect response, whilst a black bar reflects a non-response to a target.

4. These graphs represent an age and gender matched individual without a clinical diagnosis of ADHD. By comparing the test taker's graphs to the Sample Case you can see how similar or different they performed compared to a peer.

2. How to interpret the objective results (report page 1)

		-3 0 +3	Q-Score	Percentile
Activity	MicroEventsX	2	2.3	99
Impulsivity	Commission Errors	3	1.5	93
Inattention	Omission Errors	4	0.4	65
	Reaction Time	5	1.4	91
	Reaction Time Variation	6	2.0	97
		1		

Q-score cut offs	
Q-score	**Interpretation**
1.5 or higher	Atypical
1.1 to 1.4	Slightly atypical
-1.0 to -1.0	Normal performance
-1.4 to -1.1	Better than normal performance
-1.5 or lower	Extreme performance

1 **Q-Scores.** The Q-score allows for a comparison with the age and gender (biological sex) adjusted norm group. One Q-score is equivalent to one standard deviation and a result within the interval of -1 to +1 Q-score is considered to be a normal performance.Q-scores outside of the normative range should be considered for clinical relevance

2 **MicroEventsX.** These occur when the tracking algorithm detects a position change of the test taker's head larger than one millimeter on the x-axis since the last MicroEventsX. Movements of less than one millimeter on the x-axis are not registered as a MicroEventsX. A higher MicroEventsX Q-Score indicates a higher degree of activity. MicroEventsX quantifies how active the participant is (i.e., the amplitude).

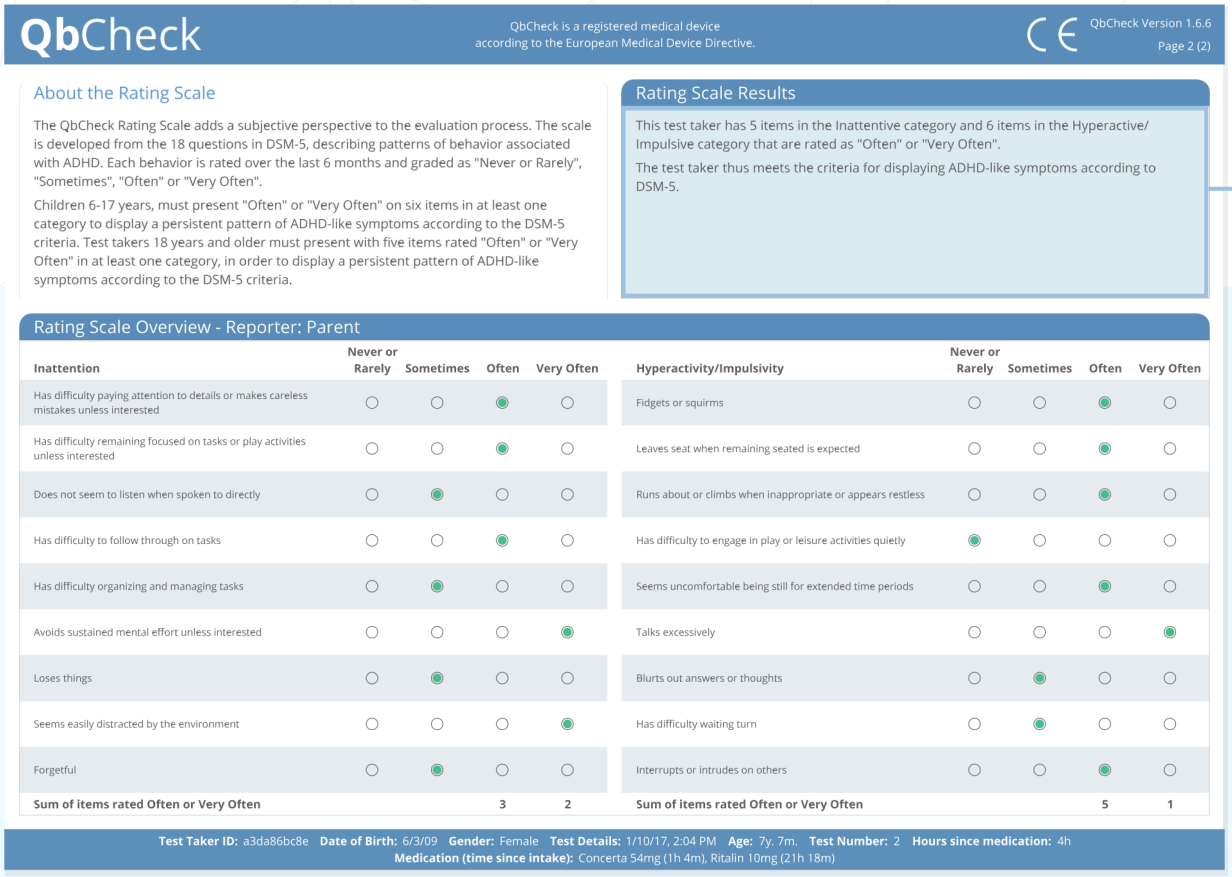
3 **Commission Error.** These occur when a response is registered to a non-target stimulus (i.e., the spacebar is pressed when it should not have been pressed). A Commission Error is plotted on the y-axis on the 'Attention and Impulse Control Graph' as a red square at the height corresponding to the reaction time and is indicated along the x-axis at the time into the test when the response was made. Commission Errors measure impulsive behavior and are believed to result from the anticipatory or incomplete processing of the stimulus. A higher Q-Score indicates a higher degree of impulsive behavior.

4 **Omission Error.** These occur when no response was registered for a target stimulus (i.e., the spacebar was not pressed when it should have been). An Omission Error is plotted on the 'Attention and Impulse Control Graph' as a black line just above the x-axis at the time when the target was overlooked. Omission Errors reflect inattention and an inability to remain focused on the task. A higher Omission Errors Q-Score has been associated with reduced selective attention and deficient arousal.

5 **Reaction Time.** This is the average time it takes for the test taker to press the spacebar after the stimuli have been presented. The Reaction Time is measured only when a correct button press is registered. The reported time is measured in milliseconds. Reaction Time reflects processing and execution. Average response latency is thought to measure the response preparation component of executive functions. A higher Reaction Time Q-score indicates a longer response time.

6 **Reaction Time Variation.** This is the standard deviation of the Reaction Time. Reaction Time Variation provides a measure of the consistency (or inconsistency) of the Reaction Time. A higher Reaction Time Variation Q-Score may reflect differences with sustained attention, forgetfulness and disorganization.

3. Overview of subjective data (report page 2)



QbCheck

QbCheck is a registered medical device according to the European Medical Device Directive.

QbCheck Version 1.6.6
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About the Rating Scale

The QbCheck Rating Scale adds a subjective perspective to the evaluation process. The scale is developed from the 18 questions in DSM-5, describing patterns of behavior associated with ADHD. Each behavior is rated over the last 6 months and graded as "Never or Rarely", "Sometimes", "Often" or "Very Often".

Children 6-17 years, must present "Often" or "Very Often" on six items in at least one category to display a persistent pattern of ADHD-like symptoms according to the DSM-5 criteria. Test takers 18 years and older must present with five items rated "Often" or "Very Often" in at least one category, in order to display a persistent pattern of ADHD-like symptoms according to the DSM-5 criteria.

Rating Scale Results

This test taker has 5 items in the Inattentive category and 6 items in the Hyperactive/Impulsive category that are rated as "Often" or "Very Often".

The test taker thus meets the criteria for displaying ADHD-like symptoms according to DSM-5.

1

Rating Scale Overview - Reporter: Parent

Inattention	Never or Rarely	Sometimes	Often	Very Often	Hyperactivity/Impulsivity	Never or Rarely	Sometimes	Often	Very Often
Has difficulty paying attention to details or makes careless mistakes unless interested	○	○	●	○	Fidgets or squirms	○	○	●	○
Has difficulty remaining focused on tasks or play activities unless interested	○	○	●	○	Leaves seat when remaining seated is expected	○	○	●	○
Does not seem to listen when spoken to directly	○	●	○	○	Runs about or climbs when inappropriate or appears restless	○	○	●	○
Has difficulty to follow through on tasks	○	○	●	○	Has difficulty to engage in play or leisure activities quietly	●	○	○	○
Has difficulty organizing and managing tasks	○	●	○	○	Seems uncomfortable being still for extended time periods	○	○	●	○
Avoids sustained mental effort unless interested	○	○	○	●	Talks excessively	○	○	○	●
Loses things	○	●	○	○	Blurts out answers or thoughts	○	●	○	○
Seems easily distracted by the environment	○	○	○	●	Has difficulty waiting turn	○	●	○	○
Forgetful	○	●	○	○	Interrupts or intrudes on others	○	○	●	○
Sum of items rated Often or Very Often			3	2	**Sum of items rated Often or Very Often**			5	1

Test Taker ID: a3da86bc8e **Date of Birth:** 6/3/09 **Gender:** Female **Test Details:** 1/10/17, 2:04 PM **Age:** 7y. 7m. **Test Number:** 2 **Hours since medication:** 4h
Medication (time since intake): Concerta 54mg (1h 4m), Ritalin 10mg (21h 18m)

1 This section summarises how the Rating Scale has been completed and how this should be interpreted in line with the DSM-5 criteria.

It should be noted that the Rating Scale Results and objective data are calculated separately.

4. Further QbCheck report interpretation tips

- Utilize the Q-Scores and graphical results, not just the Total Symptom Level and Total Symptom Score.
- Consider whether the test taker's ability remains the same or deteriorates over time across the Activity Graph and Attention and Impulse Control Graph.
- Review whether the activity graph indicates any types of distinct movements such as repetitive movements or tics.
- Consider how the objective results compare to the test taker's subjective measures and clinical interview.

Evaluation of treatment effects

When evaluating the effect of a treatment initiative, please ensure that the QbCheck is performed at a time of day when the medication exerts its effect and to always compare the outcomes to a drug-naïve test for the same person.

Treatment effect on the ADHD Total Symptom Score is reflected by a change in likelihood and associated values, where a decrease in values reflects a reduction in ADHD symptoms.
Treatment effect on one or more Objective Measures is considered clinically significant at a Q-score reduction of ≥0.5, where 0.5 is a half standard deviation of the mean.

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