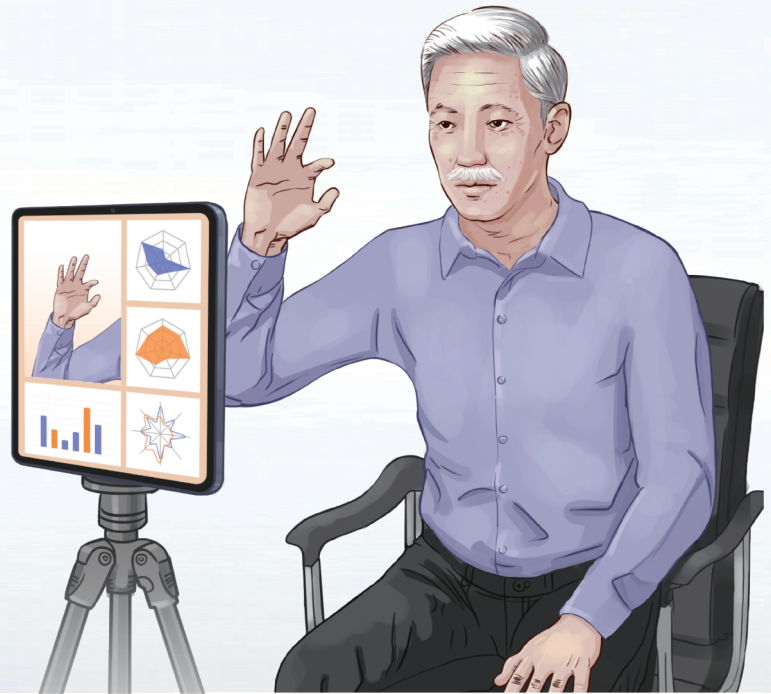


# MoDAS

Movement Dysfunction Assessment Software

Model: NH-DTX-PADM-1.0



## Product Name

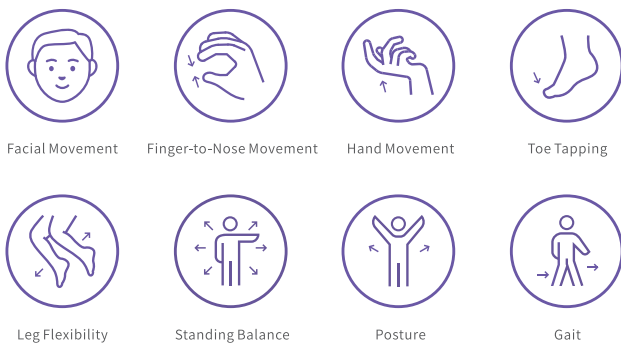
Movement Dysfunction Assessment Software

## Product Overview

This product is a Class II standalone medical device software based on computer vision and convolutional neural network data analysis technology, designed to assist healthcare professionals in assessing movement dysfunction. The software itself does not provide direct diagnostic conclusions.

## Scope of Application

Used in medical institutions, it processes and analyzes video data collected from individuals with potential or existing movement dysfunction, both in static and specific movement states. The software extracts motion characteristic parameters such as facial movement, finger-to-nose movement, hand movement, toe tapping, leg flexibility, standing balance, posture, and gait, and combines them with relevant assessment scales and treatment and medication information to assist in the evaluation of movement dysfunction.



## Applicable Population

Adults with potential or existing movement dysfunction, such as stiffness, tremors, abnormalities in movement speed and amplitude, as well as changes in posture and gait, and those with Parkinson's syndrome manifestations.

## Clinical Research Results

**Qualitative Assessment Results:** MoDAS's computer vision framework reflects the observations of neurologists.

The computer vision recognition results in the video have sufficient clinical reference value.

**5,120**

medical professionals' assessment results

**1,024 x 5**

movement videos Randomized physician assessment

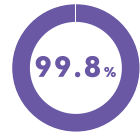
**128 x 8**

patients Movement paradigms



1,024 / 1,024

Enhanced Video Pass Rate\*



5,112 / 5,120

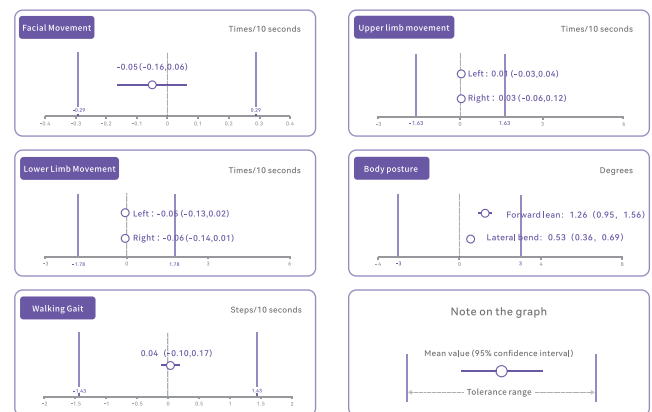
Evaluator Overall Acceptance Rate\*\*

\*Video Pass is defined as a motion assessment video displaying the computer vision framework, which, after being evaluated by five randomly selected evaluators, is considered to have sufficient clinical reference value by at least four evaluators.

\*\*Evaluator Overall Acceptance Rate is defined as the percentage of results deemed to have sufficient clinical reference value for motion assessment video displaying the computer vision framework among all medical professionals' assessment results.

**Quantitative Assessment Results:** The measurements from MoDAS are essentially equivalent to those obtained by neurologists.

Difference analysis between MoDAS measurements and neurologist measurements



## Basic Working Principle

This software uses Android mobile devices with performance requirements to capture and record videos of the human body in static and specific movement states. It provides relevant motion characteristic reference values after analysis and processing with computer vision and convolutional neural network algorithms, assisting healthcare professionals in their evaluations.

## • Product Features

### • Standardized Video Collection:

Collects natural video images of standardized movement paradigms, with recognizable and standardized motion features.

### • Integrated Analysis Interface:

Integrated data analysis interface efficiently presents multidimensional data.

### • Modeling of Motion Features:

Extracts motion features, accurately calculating parameters such as movement frequency, amplitude, and completion time.

### • Quantitative Data Visualization:

Quantitative analysis of movement function parameters, presented intuitively with specific numerical values and graphics.

### • Digitalized Assessment Records:

Digital and informational data recording and processing makes movement characteristic assessment efficient and convenient.

## • Recommended Environment and Video Shooting Requirements

The software recommends a venue space of no less than 5 meters x 3 meters in size, along with a walkway longer than 9 meters, to ensure users can perform the movements required for physician assessment during filming.

### For the best shooting results, the environment should meet the following requirements when using the software:

- Filming should be done in a well-lit area, avoiding backlit shooting;
- The ground should be clean and free of glare, with camera angles adjusted to minimize reflections;
- Unrelated individuals are strictly prohibited from entering the filming area during the shoot.

### The video quality of the software should meet the following requirements:

- The image should be free of shaking and double imaging;
- The image brightness should be sufficient to clearly see the body parts being assessed;
- During movement recording, there should be no other movements interfering with the observation and assessment of the target movement.

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## Software Operating Environment

APP	Item	Specification Requirements
Hardware Environment	CPU	Qualcomm Snapdragon 870 and compatible versions
	Memory	6GB and above
	Hard Disk	128GB and above
	Camera	13MP+5MP
	Resolution	2560 × 1600 (16:10)
Software Environment	Operating System	Android 11 and compatible versions
	Network Conditions	CS architecture, 4G/5G network or equivalent Wi-Fi environment

WEB	Item	Specification Requirements
Operating Environment	Browser	Default system browser (Microsoft Edge version 95.0.1020.53 and compatible versions) or other Chromium-based third-party browsers
	System	Windows 10 Professional Edition, 64-bit and compatible versions
	Network Conditions	BS architecture, internet access

## • Precautions

- The information above is not a complete description of the product and is provided for reference only. For detailed content, please refer to the product manual.
- Contraindications, warnings, software and hardware installation and usage instructions can be found in the product manual.

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