STEADYS-STEP/LAB

3D System for Clinical Gait Analysis

- 10 minutes for clinical gait analysis
- User-friendly interface. One button to provide gait assessment
- Gait parameters and EMG recording by the same device
- Synchronous video recording
- Configurations for clinical application and research

Neurosoft

STEADYS.
GAIT ANALYSIS FROM SIMPLE SCREENING TO A COMPREHENSIVE EXAM

Gait analysis using three-dimensional (3D) systems is currently the gold standard for the measurement of gait parameters including spatiotemporal, kinematic and EMG.
Such information is crucial when considering a rehabilitation approach or for clinical decision making.

Steadys has various configurations to fit your needs and goals. You can get a system for simple 2-minute gait screening or an expert one for a deep clinical gait analysis.

APPLICATION

- ✔ **Neurology**
  after stroke, cerebral or spinal cord injuries, multiple sclerosis (MS), cerebral palsy (CP), Parkinson disease (PD), etc.
- ✔ **Trauma, orthopedics, etc.**
  after trauma, amputation, endoprosthetic replacement of the lower extremity joints (joint implant), scoliosis surgery, etc.
- ✔ **Geriatrics**
  reduction of fall risk

- ✔ **Research**

The core of the system, Neurosens inertial measurement unit (IMU) sensors are used to record the gait parameters. These miniature watch-sized electronic devices are positioned on the patient's shank (and/or back) and record acceleration and angular velocity by three axes (ensured by built-in 3D gyroscope and 3D accelerometer) as well as EMG data from two differential channels.

You can use 2 to 12 sensors depending on your clinical purposes. It allows analyzing up to 25 gait parameters (temporal, spatial, kinematic) and EMG data from up to 24 muscles!

Smart algorithm based on deep neural networks **automatically and accurately measures gait parameters and identifies deviations in real time.**

All-in-one. Acquisition of gait parameters and EMG is done with one IMU sensor.

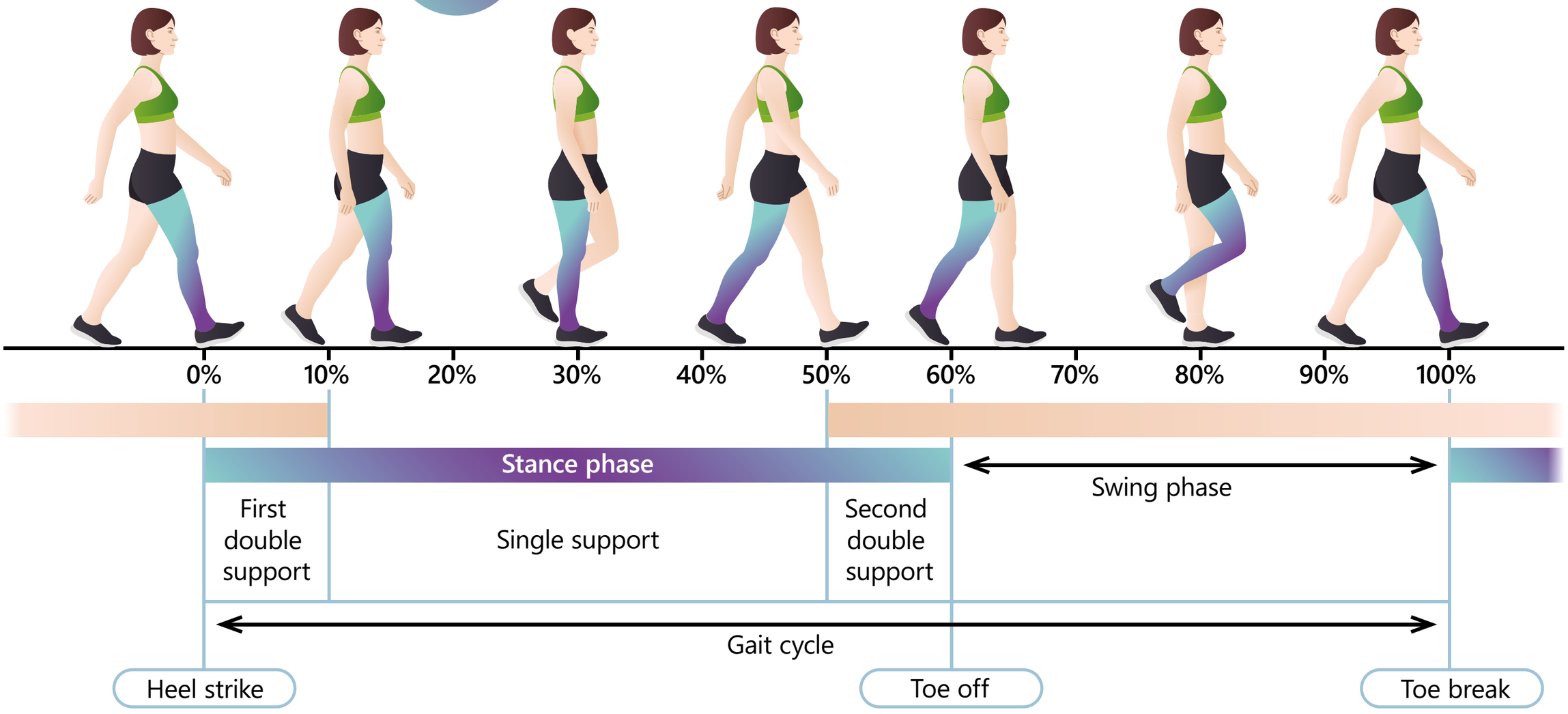
Fe

The signal acquisition is not affected by the surrounding metal constructions.

Wi Fi

The data exchange with computer software is done via Wi-Fi.

MORE THAN 25 GAIT PARAMETER ASSESSMENT



Temporal parameters

- Gait cycle
- Cadence
- Gait phases
- Gait rhythm

Spatial parameters

- Stride length
- Gait speed
- Foot clearance
- Circumduction

EMG parameters

- Curve RMS EMG
- RMS EMG amplitude
- RMS EMG maximum

Kinematic

Hip, knee and ankle joints:

- Flexion/extension curve
- Flexion/extension amplitude
- Maximum extension phase
- Maximum flexion phase

Pelvis:

- Sagittal flexion/extension amplitude
- Frontal flexion/extension amplitude
- Rotation amplitude

10 MINUTES FROM THE FIRST STEP TO THE REPORT

The assessment of gait parameters can be done either using a treadmill or on the floor.

10

The exam usually lasts not more than 10 minutes.

You can observe the gait assessment in real time and stop or restart it when necessary.

1

Position the IMU sensors on a patient and place the EMG electrodes. Run the software and enter the patient's data.

2

To assess the gait parameters, ask the patient to make several steps. At that, the software records the gait parameters, compares them with the reference values and highlights the abnormal values.

3

Upon the assessment completion, the software generates the report that includes all gait parameters compared with the reference values.

ACCESSORIES

Charging station

Charges up to 6 sensors simultaneously.

Elastic straps with sensor mounts

The delivery set includes the sensor mounts and elastic straps 20 cm to 1 m long to fix the sensors securely both on children or adults of different body constitution.

Electrodes and cables for EMG acquisition

We supply high-quality disposable adhesive electrodes for EMG acquisition. The cable length can be chosen depending on the patient's constitution to prevent cable tangling and to reduce the signal noise.

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