Active Hand
Rehabilitation Solution

RAPAEL

SMART KIDS

NEOFECT

RAPAEL SMART REHAB SOLUTION

RAPAEL
SMART KIDS

Real-time Biofeedback Device

Cutting-edge sensor technology
Lightweight, Ergonomic design
Wireless connection

RAPAEL
SMART
REHAB
PLATFORM

Game-like Exercises

ADL-related tasks
Intensive, repetitive, task-oriented training
Learning Schedule algorithm

Data Visualization

Biomechanical evaluation(eg. PROM, AROM)
Monitoring training progress

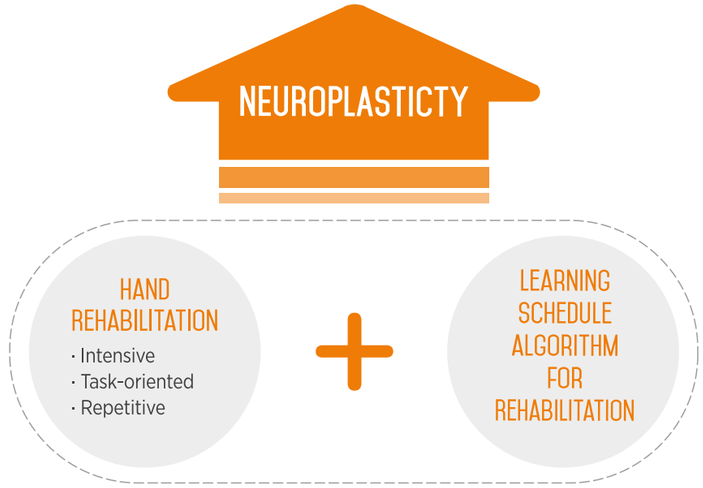
SMART REHABILITATION SOLUTION

RAPAEL Smart Rehabilitation Solution is designed to induce neuroplasticity for hand function of patient with brain injuries.

When it comes to central nervous system disorders, the most effective type of rehabilitation is intensive, task-oriented, and repetitive. In terms of person's brain development, plasticity increases most quickly during the years after birth; after that, brain development and improvement gradually decrease. Therefore, the brain functions of a child recovery faster than an adult after brain complications. Furthermore, a variety of tasks promotes maintenance and habit-formation of recently mastered exercise techniques, by encouraging interaction between the brain and spine.

THE CONCEPT OF SMART KIDS

Smart Kids is a rehabilitation training apparatus utilizing cutting edge sensors for children with developmental disabilities related to central nervous system disorders, muscular nervous system complications, etc. Children with developmental challenges face difficulties when experiencing absolutely necessary and meaningful activities (play activities, learning activities and activities of daily life). For children with developmental disabilities, repetitive learning plays an important role in improving motor learning and neuroplasticity. By offering a variety of contents that excite children, Smart Kids makes long-term hand training possible for children. Furthermore, motor learning of necessary movements in the developmental stage is accelerated by offering repetitive task-oriented motion training. Thanks to the Learning schedule algorithm, Smart Kids hand rehabilitation content creates an incentive for rehabilitation and allows rehabilitation management by offering custom tasks, real-time visual and auditory feedback, and objective training results.

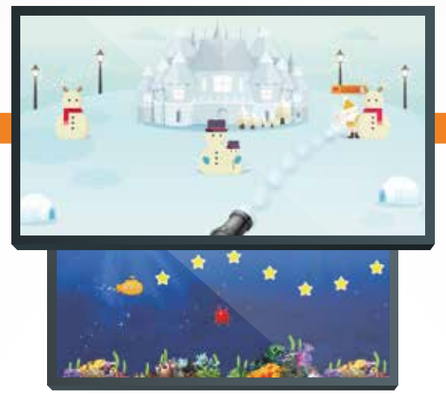


RAPAEL SMART REHAB PLATFORM

FOREARM SUPINATION / PRONATION

WRIST FLEXION / EXTENSION

WRIST RADIAL / ULNAR DEVIATION



EVALUATION

Lower arm / wrist range of motion (ROM) evaluation and movement analysis is possible with RAPAEL Smart Kids. This ROM score, measured through evaluations, is used to create a Learning schedule algorithm patient by patient.

GAME-LIKE EXERCISES

RAPAEL Smart Platform offers a variety of motion-task training related to play activities, learning exercises, and activities of daily life. These activities take into consideration clinical effectiveness as well as fun elements. The Learning schedule algorithm offers an appropriate level of difficulty, allowing patients to continually challenge themselves.

GAME RESULT

A patient can easily interpret his or her own performance right after completing each session of exercise through user-friendly interface and numeric scores for further motivation.

PERFORMANCE RESULT & REPORT FOR PRINTING

Performance result shows patient's current state, exercise progress and improvement by analyzing AROM value measured while exercising.

KEY FEATURES

1 LIGHTWEIGHT

67g

2 ERGONOMIC DESIGN

Designed for a wide-range of forearm/wrist movements
Easy wearing even for stiff hand

3 ELASTOMER MATERIAL

Easy to clean and disinfect
Form preservation

4 WIRELESS

Bluetooth connection

5 SENSOR TECHNOLOGY

9-axis IMU sensor
· 3-axis (3D) accelerometer: Geocentric location positioning
· 3-axis (3D) gyroscope: Rotation in the x, y, and z planes
· 3-axis (3D) magnetometer: Global location positioning of the North Pole

COMPONENT

- Smart Kids: 1pair (Left / Right)
- Tablet PC: 1ea
- Extra body band: 4ea (SMALL 1pair / LARGE 1pair)
- Extra wrist band: 4ea (SMALL 2ea / LARGE 2ea)
- Charger: 1ea
- Battery: 6ea (AAA)
- Instruction for use: 1ea
- Hard Case: 1ea

RAPAEL

SMART KIDS

We inspire hope

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