EP11 - Evaluation & Exercise System

Ideal for Hand Therapy
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A comprehensive system suitable for hand rehabilitation in all clinical areas as it provides:

- Precise grip and pinch evaluation including standard, sustained and RET tests
- Accurate, speedy ROM measurements
- Comprehensive reports, including ones to analyze progress over time
- Simple data export for audit and research purposes
- Immediate biofeedback
- Sensors to facilitate exercise, excitingly from a flicker of muscle activity – for example, with muscle transfers
- Various tools for work-hardening, resistive exercise from a fingertip to the full upper limb
- Weight-bearing desensitization exercise for pain management programs
- Exciting, gradable, computer-based Activities with simple to complex graphics for inspiring, motivational exercise

EP11 System Includes

Upper Limb Exerciser, Grip Dynamometer and Pinchmeter, small and large Goniometers, Myo-EX and AngleX sensors, ForcePlate, Evaluation Software - with the X4 InterX unit as the USB interface to the computer.

Upper Limb Exerciser

- Includes the Resistance Control Unit and 11 tool handles
- Provides functional, gradable exercise for the Upper Limb from as little as 2° ROM through to a full normal range
- Resistance can be graded for muscle strengthening and work-hardening exercise
- Following ROM assessment exercise is undertaken using the all-inclusive Activities with simple to complex graphics
- The “fun” element maximizes the motivation to exercise, encouraging muscle strengthening & restoration of normal movement patterns
- Programs are highly gradable, so realistic goals can be set and achieved at the patient’s own pace
- Simple to set up and quick to use it is ideal for individual or group therapy sessions throughout the full rehabilitation process
**Hand Kit**

The E-LINK Hand Kit comprises a Dynamometer and Pinchmeter - precision devices that are designed for accuracy, ease and speed of data collection as well as being sensitive to record very small measurements:

- The Dynamometer accurately registers force applied from 0.1 – 90kg/200lb, Pinchmeter 0.1 – 22kg/50lb, measuring in 0.1 increments
- Sensitive to detect very small readings the E-LINK Hand Kit is perfect to use for weak patients with chronic debilitating conditions, such as rheumatoid arthritis, enabling progress to be monitored where there may only be minimal change over time
- Tests include Standard Peak and Sustained force assessment for Grip and Pinch, RET for Grip
- The E-LINK Dynamometer is an industry standard design and the software enables Peak Force Test results to be compared to normative data
- Progress reports are easily generated and utilized as definitive outcome measures
- Data is readily exported for audit and research purposes
- In addition, the Hand Kit is perfect for therapeutic, inspiring exercise immediately following evaluation
- The fun element of the inclusive E-LINK Activities promotes inspiring exercise
- The highly gradable levels of play enable therapeutic goals to be set and achieved for patients of all ages and in every clinical area of rehabilitation
- The E-LINK Hand Kit is the ideal module to quantify and monitor the effectiveness of various interventions for the upper extremity, even in early rehabilitation

**Range of Motion (ROM) Kit**

- The E-LINK ROM Kit consists of a small and a large Goniometer which are designed for accurate and speedy data collection
- This module is invaluable for busy clinical environments and for individual patients in need of a fast assessment to minimize discomfort associated with lengthy evaluations
- The Goniometer is simply placed over a joint and at the single click of a button the reading is entered automatically into the software and seen on the graphic
- ROM test results are viewed immediately following assessment and help focus on the effectiveness of any treatment undertaken
- E-LINK software easily generates progress reports that can be utilized as definitive outcome measures
- E-LINK software also incorporates a powerful export function which is ideally placed for clinical research or audit
**Wired Exercise Kit**

This includes 2 Myo-EX Sensors (one used for a small muscle area and one with flying wires to cover a larger surface area) with 350 medical grade adhesive tapes, earthing strap and 120 pre-gelled electrodes; large and small AngleX sensors with 5 reels medical grade adhesive tape and scissors.

### Myo-EX

- Uses surface EMG for inspirational exercise.
- Sensor is quick and easy to apply on clean, dry skin using double-sided medical tape.
- The precision sensor is designed to give superb quality of signal and can excitingly detect as little as 3-4 microvolts of electrical activity – perfect to use even where there is no visible joint movement.
- Full scale reaches up to 3000 microvolts for working with larger muscles.
- As a muscle contracts the Myo-EX sensor uses the electrical activity that is generated for the patient to control movement of objects in E-LINK Activities.
- Myo-EX provides immediate biofeedback, maximising the patient’s motivation to exercise.
- In order to succeed in the game, the patient is focusing effort on a smooth, efficient and co-ordinated movement rather than recruiting possible compensatory ones.
- Myo-EX encourages muscle strengthening and restoration of normal movement patterns.

### AngleX

- Simply attached close to the joint to be exercised the AngleX sensor responds to active movement against gravity for the small DIP through to the larger shoulder joints.
- Engaging E-LINK Activities serve as a distraction from joint weakness/discomfort and provide the motivation for repetitive, targeted exercise.
- The smaller sensor is very lightweight and ideal for exercising each joint of the hand – perfect for patients with rheumatoid arthritis – and the larger sensor is used for the forearm, elbow and shoulder.
- Following assessment of active ROM, exercise is encouraged by using various E-LINK Activities for stretching to the end of range or controlling movement throughout the range.
- AngleX exercise is perfect for reinforcing normal movement patterns and discouraging compensatory ones.
**Single ForcePlate**

The ForcePlate registers weight as little as 0.1kg/lb. to 100kg (220lbs). It is perfectly designed for upper extremity weight-bearing exercise, accepting even the light touch of one finger to full weight bearing on one limb. It is the ideal device for:

- Light touch/short duration desensitization exercise in pain management programs
- Full weight loading for strengthening joints and encouraging specific movement patterns
- Controlled purposeful activity whilst minimizing joint loading - invaluable for patients with arthritis and other conditions where low force on the joints is desirable
- Immediately following assessment of applied force the patient can undertake exercise. Movement of objects in the activity modules is controlled by the application and relaxation of force within an achievable range
- The Activities are highly gradable and motivate the patient to exercise further and longer, thus addressing functional therapeutic goals

**Upper Extremity Evaluation Software**

This module contains tests to document manually collected data for the upper extremity in a standardized format.

The test sequence lists all available tests in the system and permits the clinician to set up several sequences of tests to be considered for a determined clinical protocol. The clinician can then move through each screen in a consistent manner and enter the appropriate data where needed.

Test screens include Amputation, Coverage/Cosmesis, Sensation Tests, Pain, Oedema, Manual Muscle Test, Dexterity and Provocative Tests, Outcome Measures, Activities of Daily Living, Other Tests.

**InterX Unit**

The X4 InterX Unit functions as the intelligent interface to connect the E-LINK evaluation and exercise modules to the computer via the USB port.

- It uses the mains power supply and a cable connects the X4 to a USB port on the computer
- Up to 4 devices may be connected simultaneously to the front ports allowing the user to easily and quickly switch devices during an evaluation or exercise session
- The X4 InterX Unit can be left connected to a Desktop computer
- Ideal for a static workstation where E-LINK is to be used in one area

**Activities**

E-LINK takes well proven concepts and utilizes a computer environment to create a comprehensive system for functional exercise. Activities with simple graphics are appropriate for patients with neurological conditions, whereas Activities with exciting complex graphics are challenging for patients in hand therapy and spinal injury units.
Clinical Applications

- Hospital and Community
- Orthopedics
- Stroke Units
- Neurological Rehabilitation
- Burns & Plastics
- Pediatrics
- Educational Facilities
- Private Practices
- Sports Injury
- Amputee Services
- Spinal Injury Units
- Hand Clinics

More information on the use of E-LINK equipment for various clinical applications can be viewed on our website:

- Hand Therapy: biometricsltd.com/hand-therapy
- Medical Evaluation: biometricsltd.com/medical-eval
- Stroke Rehab: biometricsltd.com/stroke
- Pediatric Rehabilitation: biometricsltd.com/pediatrics
- Neuro Rehabilitation: biometricsltd.com/neuro
- Spinal Cord Injury Rehabilitation: biometricsltd.com/spinal

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