Advanced Technology from Bioness
Motivates Your Patients and Maximizes Outcomes

- Clinical evidence suggests that the H200 Wireless System may significantly improve hand function.[1,5]
- The H200 Wireless System integrates easily into your patient's daily life, allowing for increased therapy time in and out of the clinic.
- Integration into daily life increases patient compliance and improves patient outcomes.

H200 Wireless System Components

1. Orthosis
   - Wireless, lightweight, and comfortable, providing consistent electrode contact over desired muscles
   - Provides reproducible electrode placement for ease of use
   - Incorporates flexion, extension, and opposition of the thumb, allowing for true function training and use
2. Small Handheld Control Unit
   - Communicates wirelessly with the system and the Clinician's Programmer

For More Information,
Contact Your Local Representative

855.902.5252 | BionessMedical.com/H200

References: 1. Ring H, Rosenthal N. Controlled study of neuroprosthetic functional electrical stimulation in sub-acute post-stroke rehabilitation. *J Rehabil Med.* 2005;37(1):32-6. doi:10.1080/16501970410035387 **2.** Alon G, McBride K, Ring H. Improving selected hand functions using a noninvasive neuroprosthesis in persons with chronic stroke. *J Stroke Cereb Dis.* 2002;11(2):99-106. doi:https://doi.org/10.1053/jscd.2002.127107 **3.** Alon G, Levitt AF, McCarthy PA. Functional electrical stimulation enhancement of upper extremity functional recovery during stroke rehabilitation: a pilot study. *Neurorehabil Neural Repair.* 2007;21(3):207-15. doi:10.1177/1545968306297871 **4.** Page SJ, Levin L, Hermann V, Dunning K, Levine P. Longer versus shorter daily durations of electrical stimulation during task-specific practice in moderately impaired stroke. *Arch Phys Med Rehabil.* 2012;93(2):200-6. doi:10.1016/j.apmr.2011.09.016 **5.** Alon G, Sunnerhagen KS, Geurts AC, and Ohry A. A home-based, self-administered stimulation program to improve selected hand functions of chronic Stroke. *NeuroRehabilitation.* 2003;18(3):215-25. doi:10.3233/NRE-2003-18306

Indication for Use: The H200 Wireless System is an electrical stimulation device indicated for the following uses:

Functional Electrical Stimulation (FES)
- Improvement of hand function and active range of motion in patients with hemiplegia due to stroke or upper limb paralysis due to C5 spinal cord injury.

NeuroMuscular Electrical Stimulation (NMES)
- Maintenance and/or increase of hand range of motion
- Prevention and/or retardation of disuse atrophy
- Increase in local blood circulation
- Reduction of muscle spasm
- Re-education of muscles.

The H200 Wireless System is contraindicated in patients with a demand-type cardiac pacemaker, defibrillator or any electrical implant. Do not use the system on a forearm or hand where metallic implant is directly underneath the electrodes, a cancerous lesion is present or suspected, or on an arm with regional disorder (e.g., fracture or dislocation) which could be adversely affected by motion from the stimulation. Use caution in patients with diagnosed or suspected cardiac problems or epilepsy.

Full prescribing information can be found in product labeling or at https://bionessmedical.com/h200/safety-information/.

Help Your Patients Grasp Life

Functional Electrical Stimulation (FES) Can Restore Upper Extremity Function[1,5]

bioness®

Technology That Enhances Therapy and Maximizes Function

The H200 Wireless System is used by patients to perform therapeutic and task specific activities to improve lost hand function as a result of:[1,2]

- Stroke
- Spinal cord injury
- Traumatic brain injury

Benefits of Functional Electrical Stimulation (FES) in Upper Extremity Rehabilitation

- Improved ability to perform activities of daily living[3]
- Reduced muscle spasticity[1]
- Improved volitional movement of the hand and wrist[1,3]
- Reeducation of muscles over time

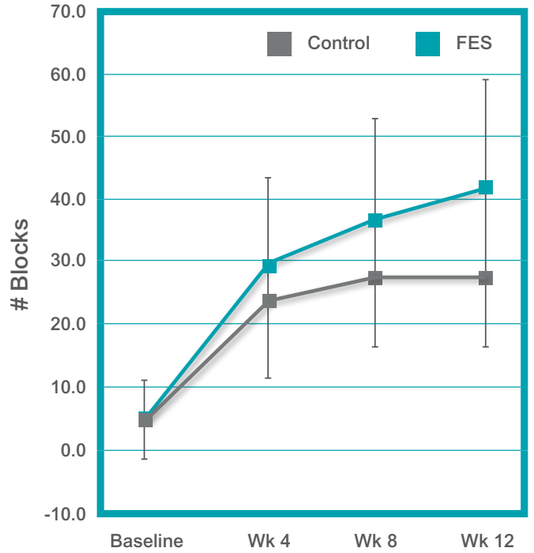
FES may also reduce or prevent secondary complications in patients and help maintain or increase range of motion, increase local blood circulation, and prevent or retard muscle disuse atrophy.

Start Rehabilitation Early

Clinical evidence shows use of the H200 benefits patients 0-3 months post injury[3]

Alon showed that a 12-week, task-specific training protocol incorporating FES resulted in better functional recovery of the upper extremity in stroke survivors with little to no hand movement than task-specific training alone (n=15).

- Subjects practiced one hour per day, 5 days/week as inpatients and, after discharge, continued with one hour per day, 5 days/week at home, unsupervised.
- All patients demonstrated improvement in hand function at 12 weeks, with significant differences between the control (non-H200) and H200 groups (p=0.049).



(Pre- and post-testing were done without the device.)

Increase Dosage to Maximize Function Outcomes

Longer repetitive practice produces significant benefits[4]

A duration-based study of electrical stimulation by Page concluded that with 120 minutes per day of repetitive task-specific practice augmented with electrical stimulation, patients exhibited large, consistent upper extremity motor changes, even years after their strokes.

Percent Improvement (Pre-test vs Post-test)		
Measure	Average of HEP,* 30 & 60 Minute Programs	2 Hours Use of H200
Fugl-Meyer	6.3%	15.5% (P<0.0007)
Arm Mobility Test	7.5%	14.9% (P<0.0002)

(Pre- and post-testing were done without the device.)

*Home Exercise Program

Patients 3-6 months post-injury see compelling benefits with home use[1]

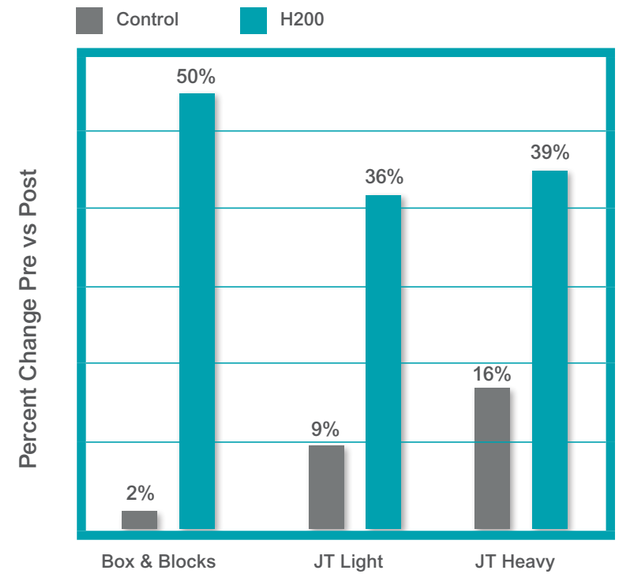
A sub-acute study by Ring assessed daily use of the H200 System and showed significantly improved outcomes vs a control group (n=22).

- Six-week home-based program resulted in significant reduction in spasticity throughout the upper extremity and active range of motion in the shoulder and wrist ($p<0.05$).
- In individuals with partial active motion of the hand, greater functional recovery of the upper extremity was demonstrated by statistically significant differences in four functional hand tests.†

Type I: Patients with no active voluntary motion at the fingers and wrist (n=10)

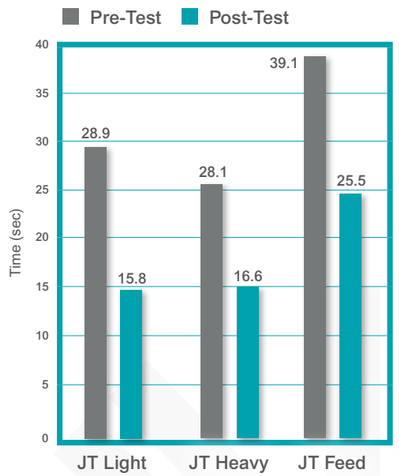
Type II: Patients with partial active voluntary range of motion (n=12)

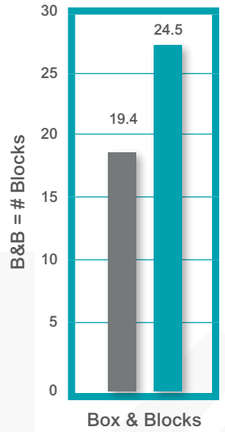
Type II Patient Outcomes



†JT Simulated Eating hand test data not available from manuscript.
(Pre- and post-testing were done without the device.)

Significant Functional Gains Can Be Made in People with Older CNS Injuries





(Pre- and post-testing were done without the device.)

Daily home use improves hand function in the chronic patient population[5]

A study by Alon tested the efficacy of a home-based H200 program in chronic stroke subjects and showed statistically significant improvements in functional outcomes (n=77).

- A five-week, home-based training program that combined H200 use with exercise ~90 minutes per day showed significant improvements in functional outcomes post-test vs baseline ($p<0.01$).
- Mean time since stroke = 3.3 years.

H200 WIRELESS®