

S3-1.4

Aspects of the Estimation Methods to the Medical Rehabilitation Field.

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The purpose of rehabilitation is to restore some or all of the patient's physical, sensory, and mental capabilities that were lost due to injury, illness, or disease. Rehabilitation includes assisting the patient to compensate for deficits that cannot be reversed medically. It is prescribed after many types of injury, illness, or disease, including amputations, arthritis, cancer, cardiac disease, neurological problems, orthopedic injuries, spinal cord injuries, stroke, traumatic brain injuries. Physical therapy helps the patient restore the use of muscles, bones, and the nervous system through the use of heat, cold, massage, whirlpool baths, ultrasound, exercise, and other techniques. The paper proposes some monitoring devices specific for the estimation of the rehabilitation procedures.

The authors present, a specific glove with microsensors for microforce determination which is produced with the fingers for the dynamic estimations.

Our research study includes:

1. Anatomical and physiological study of the upper limbs. Specific mechanical demands.
2. Theoretical models on biomechanical demands
 - 2.1 Geometric and static model
 - 2.2 Kinetic model
 - 2.3 Dynamic model
3. Identification of microsensors and systems of microsensors for monitoring the evaluations done after the medical rehabilitation procedures.
4. Experimental models of microsensors and systems of microsensors.