



Physical Therapy Gloves For Muscle Rehabilitation In Rheumatoid Arthritis

Nantita Noirit¹, Praewa Mankhong¹ and Phloenchit Kittiyongwiwat¹ *

¹Princess Chulabhorn Science High School Satun, Chalung, Mueang Satun, Satun , 91140 Thailand

*E-mail: pccst@pccst.ac.th

Abstract

This project aims to develop a rehabilitation therapy glove for muscle function recovery in patients with rheumatoid arthritis. Rheumatoid arthritis primarily affects the joints, particularly in the hands and fingers, causing pain and discomfort. Patients often experience limited mobility due to pain, which impacts daily activities such as reduced grip strength and finger stiffness. The proposed rehabilitation therapy glove is equipped with small motors that control finger movements through a web-based application, enabling effective interaction between the therapist and patient. All treatment data is automatically recorded in the web application, which displays the progress and trends of the patient's physical therapy treatment. Additionally, a point accumulation system is integrated to provide motivation for consistent daily practice. The design and development of this glove aims to enable rheumatoid arthritis patients to conduct physical therapy independently and conveniently, reducing the need for frequent hospital visits. This approach helps save both time and costs while ensuring consistent treatment, improving the chances of effective muscle function recovery. The adjustable intensity levels enhance treatment accuracy and safety. Continuous monitoring of treatment data enables physicians to develop personalized treatment plans for each patient and contributes to more modern and accessible healthcare solutions for all.

Keywords: Rheumatoid Arthritis, Hand Physical Therapy, Arthritis, Glove