

EFFECTIVENESS OF ORTHOPEDIC TEXTILE COMPRESSION BRACES IN SCAR TREATMENT

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The treatment of keloid and hypertrophic scars is a topical issue that receives constant attention in medical practice. During surgery for diseases of the forearm and wrist, even minor injuries to the hand can result in large keloid and hypertrophic scars forming as the wounds heal, which can impair the function of the structures in the hand. To date, no single treatment method or set of rules and standards has been found that would completely cure keloid and hypertrophic scars. Furthermore, existing treatment methods, such as laser scar removal, have a temporary effect, as irritating the skin causes the body to promote keloid regrowth (Era Esthetic, 2020). The aim of the study is to produce and analyze the effectiveness of orthopedic textile compression braces with a silicone component for the treatment of surgical scars after planned operations for diseases of the forearm and wrist. The braces with silicone components are manufactured according to the parameters of the scar (size, volume, color, location). The structure of the compression fabric and the composition of the threads are tailored to the location and parameters of the scar. The braces are designed for long-term use, resistant to fluids secreted by the human body, characterized by hydrophilic and hydrophobic properties, elastic and providing a medically proven pressure therapy effect without restricting body segments, joint mobility, closely following the anatomical contours of the body. The splints are slightly elastic, i.e., up to 10% in the longitudinal direction in one direction of weaving and very elastic up to 200% in the perpendicular/transverse direction of weaving. The study involved 80 patients who underwent elective surgery in the forearm-wrist-hand area, with primary healing of the surgical wound. Two to three weeks had passed between the surgery and inclusion in the study. The patients' surgical wounds were up to 10 centimeters long. The patients were aged between 18 and 70 years. All patients were randomly divided into control and treatment groups. The control (comparison) group received a placebo—an orthopedic textile non-compression braces without an integrated silicone component, while the treatment group received textile compression braces with silicone components according to the size and location of the scar. All study participants were required to attend scar assessments after 1 week, 3 weeks, 3 months, and 6 months. The Vancouver Scar Rating Scale used in the study showed that orthopedic textile compression braces with silicone components are an effective and efficient treatment method for surgical scars after planned surgery for forearm and wrist disorders. The use of orthopedic textile compression braces with silicone components had a significant effect on the scars of the subjects in the treatment group. After 6 months, 100% of the subjects experienced a change in pigmentation, 83% in scar height, 42% in color, and as much as 90% in scar flexibility