

ABSTRACT

Title: Effect of strength training in improving range of movement – a systematic review

Objective: The aim of this diploma thesis is to find answers to research questions in a form of systematic review and to evaluate if strength training has effects on improving range of movement, or if it restricts it or if it doesn't affect it at all. This systematic review also aims to find out how many researchers are inclined to these individual influences of strength training.

Method: The Google scholar, PubMed and Web of Science databases were selected for the study search, in which 140 studies were found on basis of established criteria, which were complemented by 4 studies from other sources, from which 128 were subsequently obtained after removing duplicates. An abstract of these studies was studied, of which 95 studies were unsuitable and were therefore excluded. The remaining 33 studies were further studied and, if they met the criteria of at least one research question, were subsequently included in present review. A total of 18 studies were included in present review, which were further classified into research questions according to additional criteria. For each research question, the studies were evaluated separately and the results of the studies were clearly recorded in a table for subsequent comparison and answering of the research question. Subsequently, a discussion on research questions was conducted, in which the results of the included studies are analyzed and described in more detail.

Results: Performing strength training, which is generally focused on the whole body, leads to an increase in range of hip flexion. Strength training of hamstrings alone will also increase the range of hip flexion, as well as knee extension. If the intensity of the eccentric training is lower, it is necessary to include stretching to increase the range of motion, probably static stretching. Whole-body strength training leads to increase in range of motion of at least 5 observed movements in the included studies. When comparing strength training and stretching, there are only insignificant differences between the results of the two methods. Even in the case of a combination of strength training and stretching, there are no significant differences between the results when compared to strength training alone.

Keywords: strengthening, exercise, resistance training, stretching, flexibility