

The Effects of Sumo Gluteal Squeezes versus Frog Pumps on Broad Jump Distance and Gluteal Girth

Nathan Gillman, Whitney Lampe, Araceli Madrigal, Samantha Mulvaney,
Josh Pearson

Faculty: BJ Lehecka

Department of Physical Therapy, College of Health Professions

INTRODUCTION: Gluteal function is important for activities of daily living and athletic performance. Sufficient gluteal power appears vital to the prevention of lower extremity injuries and to maximization of athletic performance. Moreover, gluteal hypertrophy is considered aesthetically pleasing and can be accomplished with gluteal training. Minimal research exists about specific exercises to increase gluteal hypertrophy or power.

PURPOSE: The purpose of this study was to determine the effects of standing sumo gluteal squeezes compared to frog pumps on broad jump distance, a measure of gluteal power, and gluteal girth.

METHODS: University students ($n = 31$; age range 18-40 years) were randomly assigned to perform either frog pumps (supine with the feet together pushing into a bridge position) or sumo gluteal squeezes (standing with the feet slightly beyond shoulder length apart and pointed outwards at a 45-degree angle). Participants performed 100 repetitions daily for the first three days, 150 repetitions for the next four days, and 200 repetitions for the remaining seven weeks during an eight-week intervention. Participants' circumferential gluteal girth and broad jump distance were tested before and after the intervention.

RESULTS: A statistically significant difference was observed in the frog pump group for broad jump distance. The average increase was 7.82 ± 10.46 cm ($p = 0.001$). No statistically significant difference existed in the sumo gluteal squeeze group for broad jump distance after the eight weeks of intervention (average increase 1.58 ± 9.84 cm; $p = 0.339$). Gluteal girth increases were statistically significant for both the frog pump group (2.36 ± 2.52 cm; $p = 0.000$) and gluteal squeeze group (2.43 ± 2.16 cm; $p = 0.004$). The outcome measurements demonstrated high reliability (ICC = 0.979-0.997).

CONCLUSION: This study highlights the effects of two targeted hip exercises. The prescription of sumo gluteal squeezes and frog pumps may be a conservative approach for gluteal hypertrophy to avoid surgical gluteal augmentation. These results provide clinicians with convenient and effective exercise protocols for rehabilitation and athletic purposes, specifically for sports involving jumping activities. Further research is needed to determine whether these exercises provide other benefits, and if other populations experience similar effects as the university students in this study.