

The Impacts of Wrist Wrap Type and Sex on Bench Press Muscular Strength and Power

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ABSTRACT

While wrist wraps have become increasingly prevalent in both competitive and recreational demographics, their posited ability to augment bench press performance by enhanced wrist stability still remains unclear. **PURPOSE:** To determine the effect of varying wrap styles on bench-specific muscular strength and associated power, as well as quantitative and subjective differences between sexes.

METHODS: Eighteen resistance trained males and females (9M/9F; 24±4y; 176±33cm; 80±15kg) visited the laboratory on three separate occasions in randomized, crossover, and counterbalanced design to sport either a flexible wrist wrap (FW), stiff wrap (SW), or a no wrap control (NW) condition. All participants underwent a bench press one-repetition maximum (1RM) test and linear position transducer-derived peak power and velocity assessments. Furthermore, subjective stability (SS) and discomfort (SD) were determined promptly following 1RM attempts. Bench press performance and sex-collapsed subjective variables were analyzed using a two-way (condition x sex) mixed model ANOVA with repeated measures and a nonparametric Friedman's ANOVA, respectively. Both analyses were performed at a $p < .05$ significance level. **RESULTS:** Analyses failed to detect any main condition or interaction effects for bench press 1RM, however, a statistically significant main sex effect was observed ($p < .001$; $\eta_p^2 = .597$) favoring males relative to females ($p < .001$; 114±22kg vs 68±16kg). Both peak power and velocity failed to reveal any significant main condition or sex effects, nor any interactions. Nonparametric assessments further revealed significant wrist wrap condition effects for both SS ($p < .001$; Kendall's $W = .628$) and SD ($p < .001$; Kendall's $W = .935$), whereby NW was statistically more comfortable ($p < .001$) than either wrap condition, without any difference between DW and SW ($p > .05$). **CONCLUSION:** Although wrist wraps did not significantly alter bench press-specific strength and power, participants nonetheless perceived wrist wraps as subjectively more stable irrespective of increased discomfort.

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