Are There Gender Differences in Eccentric Strength Responses to Strength Training in the Elderly?

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OBJECTIVES:
Eleven women and 13 men ranging in age from 65-74, were tested to determine whether eccentric strength-(strength when the muscle is lengthening) and concentric strength (strength when the muscle is shortening) respond differently to strength training in older women than in older men. Knee extensor peak torques were measured on each leg before and after a 9 week heavy strength training program on the Keiser K-300 leg extension machine. Each subject only trained one leg, with the other leg measured as a reference control.

RESULTS:
There were increases in eccentric strength peak torque in the trained legs of the older men, but not in women. There was also a trend for increases in eccentric strength in the untrained leg of both men and women. Therefore, the increases in eccentric peak torque in the trained leg of men were not deemed statistically significant. Concentric peak torque increased significantly in the trained leg of both men and women.

SUMMARY:
When the strength of an untrained leg is compared to the strength of the leg undergoing heavy strength training, there are no significant gender differences in eccentric or concentric strength responses in older individuals. Therefore, both older women and men can expect similar responses to strength training of the leg extensors.

KEISER PIECES USED:
Leg extension machine.

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