

Conditioning for strength and human performance

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**ASSIGN
BUSTER**

Variable resistance devices were developed to change the point of application of the load on the weight stack to increase the amount of resistance that the lifter needs to overcome. Examples of variable resistance devices are the universal variable resistance machine, Nautilus and the Hammerstrength range of equipment (Chandler and Brown). While variable resistance machines have seat and lever adjustments, many do not adequately accommodate women and smaller adults. Incorrect alignment changes the strength curve of the exercise, thereby diminishing the variable resistance benefits.

Accommodating resistance devices uses resistance that varies based on the force generated by the person performing the activity. The Cybex Orthotron is an example of an accommodating resistance device because it controls the speed of the motion and provides accommodating resistance through the use of hydraulics (Thomas and Kotecki). Another example is the Biodex. Other examples of accommodating resistance devices are aquatic equipment, rowing machine, stepper.

Static resistance devices like the handgrip use sustained slow-movement activity involving small muscle groups against high resistance (Fiebach, Barker, and Burton).