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The One-Rep Machine

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Written by [kylestack](#) on 7/29/2011 12:50 AM

Athletes now have the ability to find their one-rep maximum in a particular weight training exercise without actually lifting a weight. A device called [bioDensity](#) enables the user to find his/her max by using resistance formed by the machine rather than pushing or pulling a weight stack. It wouldn't surprise me if this is the device sports teams use to create a baseline of strength for athletes in their injury rehabilitation programs. One team is already doing that.



The NBA's Phoenix Suns have purchased bioDensity, which looks like one of those old universal machines that are in practically every weight room. Four exercises can be performed on it – chest press, leg press, core pull and a vertical lift, which is similar to a deadlift.

Rather than push or pull a weight stack, the user pushes or pulls against the tension created by each device. I'll use the leg press as an example. The user pushes against the leg press platform, driving back his seat until he reaches the maximum amount of weight he can "push". Each exercise station has a screen which shows the amount of force, in pounds, produced by the user. It also gives a historical list of the users' maximum weight produced in each exercise, for comparative analysis.

Joe Koehler, bioDensity's Director of Operations, told me the device was originally geared toward the elderly, who use it to build bone mass. He said bioDensity will evolve to identify each athlete's maximum strength in certain exercises.

Suns athletic trainer Aaron Nelson told me he'll use bioDensity to pre-test players' upper and lower body strength. That will create a baseline to use when the players are in injury rehabilitation. That way, he'll know how closely a player is to regaining strength in several fundamental areas.

It's an intriguing concept. An athlete's injury rehabilitation program would become more efficient by knowing where his maximum strength is in a chest press or leg press.

That bioDensity is intended as a one-rep measurement of strength might confuse people, though. It's ingrained in us to think of exercises as being measured in multiple reps. Yet if bioDensity's niche is in creating a baseline of strength for athletes during their injury rehab process, I can see college and professional sports teams using this on a consistent basis.

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