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ISSUES AND SOLUTIONS FOR FITNESS FACILITIES

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Sculpting Strength — But Not in Stone

Certifying Managers to Improve Success?

Technology to Entertain & Retain

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Q&A

[BY MATT BRZYCKI]

■ Didn't a meta-analysis show that multiple-set training was superior to single-set training?

A meta-analysis is a scientific way to combine the results of separate studies that examine the same topic. For example, researchers might take data from 20 different studies, each with 50 subjects, and integrate this information into one "study" with 1,000 subjects. While this sounds good, meta-analyses do have limitations. For one, meta-analyses are only valuable if established methodological and statistical guidelines are followed. In addition, the process of selecting which studies are to be included must be free of bias.

There are actually a few meta-analyses that claim multiple-set strength training produced better results than single-set training. However, the meta-analyses had varying degrees of flaws. For example, one meta-analysis inexplicably excluded at least 26 studies that met its selection criteria. In another meta-analysis, 12 of the 16 studies that were examined found no significant differences between multiple-set and single-set training; yet, the meta-analysis somehow concluded that multiple-set training is better than single-set training. Furthermore, the meta-analyses didn't note (or exclude) "outlier studies." These are studies that produced results that, in comparison to other similar studies,

These meta-analyses AREN'T EVIDENCE that multiple-set training is superior to single-set training.

were so fantastic that they're almost unbelievable. Needless to say, including one or two outlier studies can skew the results of a meta-analysis.

Bottom line: These meta-analyses aren't evidence that multiple-set training is superior to single-set training. **FM**

■ Do warm-up strength sets have to be performed prior to a set that's taken to the point of muscular fatigue?

Warm-up sets aren't necessarily needed for the muscles to receive a proper warm-up. From a physiological perspective, an adequate warm-up is one in which the core temperature is increased by 1 degree. If a relatively high number of repetitions are performed, and the weight is lifted in a deliberate, controlled fashion without any explo-

sive or jerking movements, then an individual will actually warm up as the set is performed. If lifters perform a set of 10 repetitions with a speed of movement that's roughly six seconds per repetition, they'll have exercised their muscles for about one minute before they reach muscular fatigue. After one minute of exercising, there's little doubt that they'll be adequately warmed up and prepared — both physiologically and psychologically — to exercise to muscular fatigue.

An exception to this would be someone such as a competitive weightlifter who performs low-repetition sets. Here, one or more warm-up sets should be performed prior to the low-repetition efforts to reduce the risk of injury. **FM**

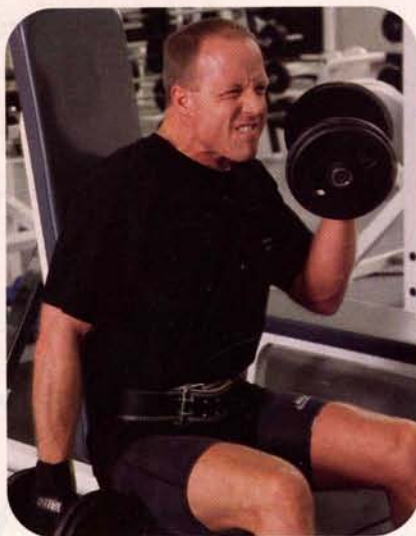
■ When lifting weights, is it a good idea to wear wrist straps on exercises that involve the grip?

Wrist straps are usually made out of cotton, nylon/acrylic or leather. They're about 12 inches in length and about 1 inch in width. While it doesn't sound like a big deal, the use of wrist straps is a serious point of contention. Some fitness authorities and enthusiasts

are adamantly opposed to their use because they think wrist straps provide artificial assistance in holding onto a bar or a dumbbell. Is this a legitimate concern? While wrist straps do offer "artificial assistance," their use is beneficial when performing certain exercises. Consider a lifter who performed 10 repetitions with 60-pound dumbbells on the shoulder shrug. The lifter could have performed several more repetitions, but began to lose his grip. In this case, the lifter didn't adequately work his trapezius, because his gripping muscles were a limiting factor. Or look at it this way: Without wrist straps, the lifter "underworked" his trapezius. Other exercises in which wrist straps may be warranted include the deadlift, chin-up, lat pulldown, seated row, bent-over row and upright row.

Wrist straps shouldn't be used in lieu of performing various exercises to strengthen the forearms, wrists, hands and fingers, such as wrist flexion/extension, pronation/supination and finger flexion. **FM**

Do you have questions that you need answered? Email them to edit@fitnessgmt.com.



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