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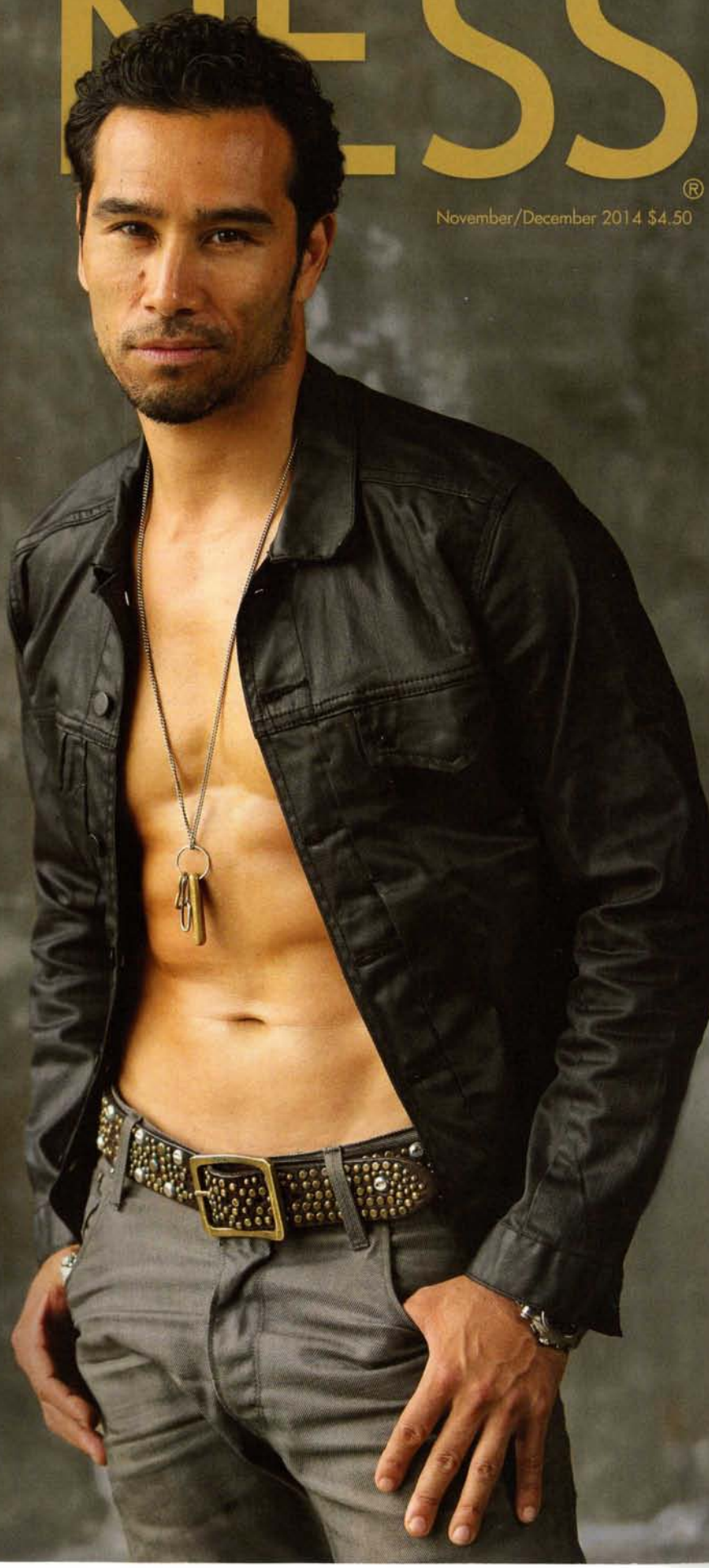

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AF Q&A

BY MATT BRZYCKI

WHAT EFFECT DOES GRIP WIDTH HAVE DURING THE LAT PULL-DOWN?

Most fitness enthusiasts include some type of lat pull-down in their strength training workouts. The lat pull-down engages a large amount of muscle mass in the torso, most notably the latissimus dorsi (the "lats"), biceps and forearms.

When the exercise is done with a bar attachment from a high pulley, a number of hand positions of varying widths is possible. According to gym lore, "wide grip equals wide lats." But does this perception match reality?

Researchers in Norway had 15 subjects (average age 24) randomly perform the lat pull-down with a pronated grip of three different widths: narrow, medium and wide (which was 1.0, 1.5 and 2.0 times the biacromial distance, respectively). In each case, the subjects used the most weight that they could lift six times.

In general, the three grips produced similar muscle activation. Though not statistically significant, the medium grip—essentially hands placed slightly wider than shoulder-width apart—produced greater muscle activity throughout the concentric and eccentric phases. Interestingly, due to greater biomechanical leverage, the subjects were able to use 4% more resistance with the medium and narrow grips in comparison to the wide grip.

DOES HIGH-INTENSITY INTERVAL TRAINING HAVE ANY EFFECTS ON APPETITE AFTER A WORKOUT?

One of the most popular types of activity is high-intensity interval training (HIIT). With HIIT, periods (intervals) of very brief and intense exertion are alternated with recovery periods.

The seeds for HIIT were planted in 1996 with the publication of a study by Dr. Izumi Tabata. Since this study, additional research has found that HIIT can produce outstanding benefits in aerobic and anaerobic fitness.

Besides the physiological outcomes from HIIT, another area that has been investigated is post-workout appetite. In one study, Australian researchers randomly assigned 17 overweight, inactive men (average age 30) to complete four different conditions, each for 30 minutes: (1) continuous, moderate-intensity effort; (2) HIIT that alternated 60 seconds of high-intensity effort with 240 seconds of low-intensity effort; (3) HIIT that alternated 15 seconds of very high-intensity effort with low-intensity effort; and (4) rest in the supine position. The mechanical work that was done during the three exercise protocols was the same.

After doing HIIT, the subjects consumed fewer calories than after the continuous and resting conditions.

DOES EXERCISING WITH A HYPOXIC MASK REALLY WORK?

Many highly competitive athletes elect to do some of their training at elevations above 5,000 feet. At higher altitudes, the oxygen content of the air is the same as at lower altitudes—about 21%—but the partial pressure of oxygen is lower. And it's this lower pressure that improves the oxygen-carrying capacity of the blood. It's thought that "living high" gives athletes a physiological advantage at lower altitudes, especially in sports and activities that require endurance.

Higher altitudes can be simulated in altitude (or hypoxic) tents or rooms and hypobaric chambers. In an attempt to accomplish the same thing, a recent practice among fitness enthusiasts is to exercise while wearing what's known as a hypoxic (or an elevation) training mask, which resembles a gas mask.

Although wearing a mask while exercising will certainly make it more difficult to breathe, this doesn't simulate altitude since the mask doesn't influence the partial pressure of oxygen that would be found at higher elevations. In addition, exercising with the mask for short periods of time can't compare to actually living at altitude for daysor weeks.

Bottom line: Wear masks for trick-or-treating, not training.

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