

how long should i rest between sets if my goal is muscle mass?

in order for muscle fibers to grow in size, they need to be stimulated to increase the cross-sectional area of the muscle. this is called muscular hypertrophy.

typically for bodybuilders, the increase in muscle size is the most important factor, compared with strength, endurance, and fat loss. bodybuilders are judged in their sport based on size, muscle symmetry, and definition.

even if you aren't a bodybuilder, many fitness enthusiasts want to enhance muscle size to achieve a certain look.

if your goal is aesthetic, you'd benefit from hypertrophy training. this type of training typically leads to higher lactic acid and blood lactate levels, which are associated with an increase in muscle work performed.

in hypertrophy training, the objective is to overload the muscles and cause temporary trauma to the muscle fibers so that they are stimulated to grow and increase their cross-sectional area.

typically, there is very little difference between the loads handled for those wanting to induce hypertrophy and those wishing to solely increase strength. these loads typically range from 50%–90% of your 1 rep max.

however, the biggest difference in training for muscle size versus strength is in rest between sets. studies have found that to induce muscle hypertrophy, optimal rest intervals are between 30–90 seconds (3, 4trusted source).

summary

muscle hypertrophy is best achieved with moderate rest between sets, such as 30–90 seconds.

how long should i rest between sets if my goal is maximizing strength and power?

muscular strength is the ability to produce force to move a weight.

in weightlifting, muscular strength is often tested via a 1 rep max, which involves successfully moving the maximal amount of weight through the entire range of motion for 1 rep.

powerlifting uses three exercises to determine the strongest person. they include the bench press, the squat, and the deadlift. powerlifters have three attempts for each exercise to move the maximal amount of weight they can.

when building strength, there is less emphasis on muscle size and more emphasis on maximal force production, or power. adequate rest between sets helps to maintain a high level of force production for the next set.

thus, typical rest periods for increasing strength are between 2–5 minutes, which research shows to be optimal for strength development. however, researchers note that this may vary depending on age, fiber type, and genetics (3trusted source).

summary

strength can be maximized by rest intervals between 2–5 minutes in duration. this allows the muscles to recover enough to produce a comparable amount of force for the next set.

how long should i rest between sets if my goal is endurance?

muscular endurance is the ability to perform repetitions of an exercise over a period of time using a submaximal amount of weight, usually 40%–60% of 1 rep max.

according to research, the optimal rest period for increasing muscular endurance is less than 2 minutes. however, rest intervals can be as short as 20 seconds and still provide benefit, if endurance is your goal (5).

the national strength and conditioning association recommends 30-second rest intervals between sets to improve muscular endurance. this was part of a linear, periodized program consisting of muscular endurance, hypertrophy, strength, and power (6).

muscular endurance programs are typically done with short rest intervals either between sets of the same exercise or via a circuit training program. there are also programs such as high intensity interval training (hiit) that are beneficial to achieve muscular endurance.

summary

muscular endurance training typically involves short rest periods between 20–60 seconds. in this type of training, a higher volume of reps is performed with a lower amount of weight.

how long should i rest between sets if my goal is weight loss?

resistance training can positively affect body composition. however, it's important to remember that pairing a nutritious diet with resistance training is most important for weight loss. this ensures that calories consumed are less than calories expended.

both strength and hypertrophy training have been shown to aid caloric expenditure; the rest interval duration isn't as big a factor.

hiit training has also been shown to positively affect weight loss when compared with moderate intensity continuous training. the two had similar effects on whole body fat loss and waist circumference. but hiit training took about 40% less time to complete (7trusted source).

resistance training and hiit resistance and cardiovascular training have shown similar positive benefits on weight loss when paired with diet modifications. the rest between sets doesn't have as much influence as being consistent and making lifestyle changes over time.

summary

resistance training can be beneficial for weight loss when paired with dietary modifications. in addition, it can help maintain lean body mass during weight loss.

how long should i rest between sets if i'm new to weightlifting?

novice weightlifters are those who are new to weightlifting or have been lifting for less than 6 months. within those first few months, most novices are getting used to the feeling of resistance training and mastering the form and mechanics to perform safely.

one study found that the greatest benefit for untrained individuals was 60–120-second rest intervals between sets. the goal is to allow you to recover enough in order to perform the next set with good form (8trusted source).

as you progress in your training, you can adjust your objectives and rest intervals to focus on more specific resistance goals, but your initial program should provide a good base of skill.

summary

novice weightlifters typically benefit from 60–120 seconds of rest between sets. they may change the rest interval depending on their goals as their training progresses.

how long should i rest between sets if i'm trying to perfect my form?

proper biomechanics increase your movement efficiency and decrease your risk of injury. how long it takes to perfect your form is relative and varies depending on the exercise.

for example, olympic-style weightlifting focuses on skilled movement with rapid speed of performance. conversely, the amount of complex movement in a bench press is much less and requires less coordination of multiple body parts.

nevertheless, when trying to perfect your form, you should focus on a lighter training load — in other words, less weight. recovery should be enough to allow your body to undertake the movement again with good mechanics.

typically a 1–2-minute rest interval will allow adequate recovery. still, you can focus on form while promoting muscular breakdown to induce improvement.

summary

many people can perfect their form and progress in their training program with 1–2 minutes of rest between sets.

the bottom line

when working toward your strength goals, force production and training volume are important, but so is rest between sets.

rest between sets should allow enough recovery to reintroduce the stimulus while maintaining good form. depending on your goals, you can shorten or lengthen your rest intervals for the best result.