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The Real Story Behind the Exercise You Love to Hate: the Burpee

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NEW YORK — Maybe you remember it from your high school gym class, or maybe your trainer or boot camp instructor makes you do it in high intensity circuits, but most fitness-minded people are familiar in some way with the deceptively difficult-yet-simple exercise known as the squat thrust — or the Burpee.

Start by standing tall, squat down low, shift your weight to your hands and jump your feet back to a plank — the starting position for a push-up — then jump your feet forward again between your hands, and stand back up.

String a few of these together and feel your heart rate soar and every major muscle group activate.

The Burpee is a popular staple in many of today's most challenging workouts, from CrossFit to boot camps to sports performance and triathlon training. For even the fittest folks, it's a dreaded and highly effective way to build strength, stamina and coordination.

As a personal trainer and holistic fitness fanatic, I know and use this move regularly, but my connection to it is far more personal.

My paternal grandfather, Royal H. Burpee, invented it.

"Goog," as he was known to me, created the movement as the centerpiece of his PhD thesis in Applied Physiology from Columbia Teacher's College in 1939. The lone remaining copy of his published thesis, which details how and why he devised the unique and powerful combination of movements, sits on a shelf at Generations Fitness, my health and fitness studio.

Family folklore holds that "Nana Ella," Goog's wife and my grandmother, dutifully typed and retyped each draft of the 150-page manuscript, complaining bitterly all the while. Nana always said recreating the abundance of charts and tables on her typewriter was far more challenging than doing the exercise itself.

Having read the book myself, I can report that it's a dry and technical tome, fascinating only from the perspective of a serious student of exercise science. But pride in the recognition Goog received for having created such a widely used exercise has always been part of our family culture and played a significant role in my own passion for fitness as well as my choice for the name of my business, [Generations Fitness](#).

Recently, my friend Mike Allen celebrated at the finish line of his first Iron Man Triathlon in Lake Placid, N.Y., by doing three Burpees, flaunting his respectable reserves of strength and endurance. When his coach posted a video of the finish line display on Facebook, Mike, aware that my maiden name is Burpee, but unaware of my bloodline connection to the move, posted it on my wall.

He thought I'd get a kick out of seeing him finish the big event with a move that shared my namesake, not knowing that I knew more about the move than he did. When I filled Mike in on the history of the move and my relationship with its creator, he was flabbergasted and couldn't wait to share the information with his coach, Ron Gordon, who uses the move daily as part of the training regimen he inflicts on his clients at CrossFit in Rochester, N.Y.

I wonder what Goog would think of today's CrossFit athletes — [the 5-week long CrossFit Games are televised on ESPN](#) — who have created all kinds of Burpee hybrid moves and events to boggle the mind and confront the body.

The basic CrossFit version of the Burpee contains a push-up in the middle and a jump at the end, but even that modification is not nearly challenging enough for most of the CrossFit set.

Search for Burpee and you'll find videos of [Burpee back flips \(one Burpee, one back flip\)](#), a [Burpee mile \(one Burpee, one broad jump for a mile\)](#), and myriad workouts made up of Burpees and dead lifts, Burpees and overhead presses, and countless other creative combinations that would surely stun Goog if he saw them today.

Some CrossFit locations even use the Burpee penalty to keep their members following gym rules. If one member leaves equipment out or arrives late to class, the whole group has to do 25 Burpees. The coach who implemented the new rule says he and his staff chose Burpees over other exercises because of their reputation.

One CrossFit center even incorporated the [Burpee into a drinking game](#) at a community fundraiser. Participants race against each other to guzzle a beer and complete 30 Burpees. The beer must stay down for at least one full minute after the last Burpee. I'm pretty sure Goog would not have approved of that application of his exercise.

Goog's purpose in creating the exercise was not to find the most dastardly combination of calisthenics with which to torment us in our pursuit of a strong, balanced body: it was to create a quick and simple way to assess a subject's fitness level. In the late 1930s, at a time when exercise science was a fledgling field and assessing fitness levels of the non-athletic, average person was not yet of interest to most physiologists, Goog was a fitness-assessment pioneer. As executive director at a New York City YMCA, he was interested in finding a way to quickly measure new members' fitness levels.

What makes the move so unique and demanding? According to Goog's book, it's the quick positional shift required when going from a vertical stand, to a horizontal position, and back up to a stand that taxes the heart's ability to pump blood effectively to accommodate the working muscles. Goog's test involved measuring the subject's resting heart rate when standing, as well as the change in resting heart rate from lying down to standing and then timing the subject as they did the move four times and measuring the time it took for the heart rate to return to its resting rate after the exercise.

Timing was crucial to the story in another way, too. The U.S. entered World War II soon after publication and the Army and Navy needed a quick and simple way to assess the physical fitness of new recruits. They adopted Goog's move but modified the test to the number of "front leaning rests" — the military's original euphemism for the movement — performed in 20 seconds and one minute, respectively.

In a foreword to the revised 1946 version of his book "Seven Quickly Administered Tests of Physical Capacity," Goog says: "The military modification is strenuous. It is suitable for men who have had a previous medical examination and are known to be free from cardio-vascular disturbance. For others the standard form, i.e. the time required to perform four standard exercises is recommended."

A recent event at the Open Division of the CrossFit Games was completing as many Burpees as possible in seven minutes. Top scores ranged from 120 to 150.

I think Goog would be proud and astonished that the Burpee is still going strong.

Check out [DNAinfo.com's](#) slideshow to see Sheryl Dluginski demonstrate how to complete a perfect Burpee, and a variation on the Burpee.



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