

Case Study



Prior Exercise Experience

Former cyclist who has remained healthy through his 94-years.



Member Concern:

Member can no longer cycle and he feels as if aging is starting to take a toll.

Demographic:

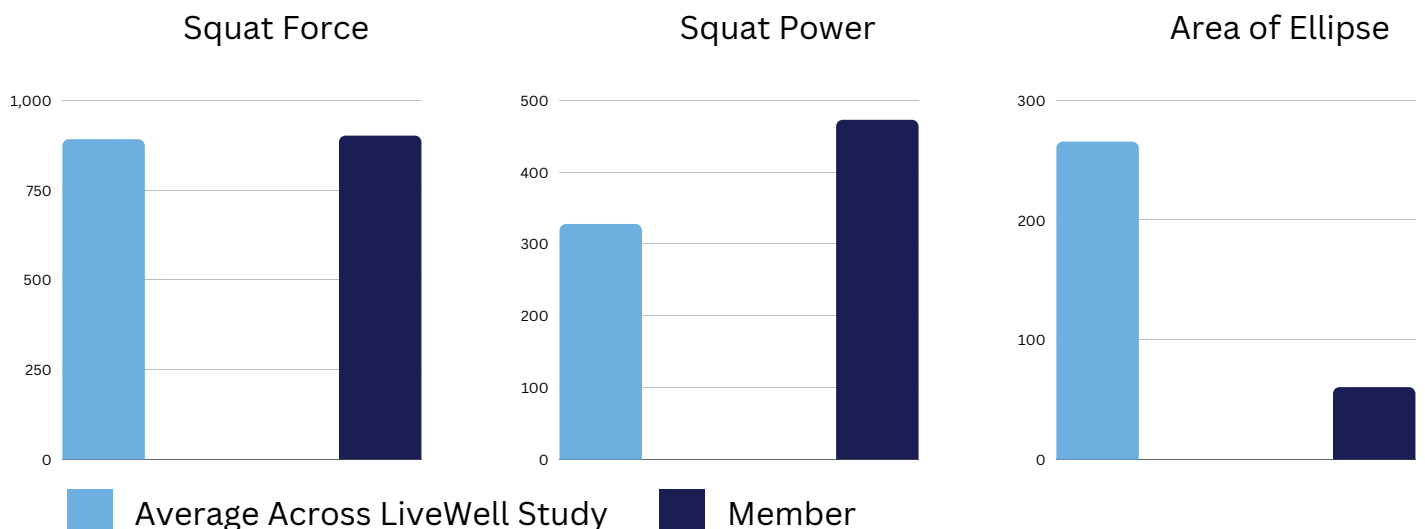
94-year old gentleman residing within an independent living community.

Member Goals:

Member wishes to remain independent

Upon initial evaluation, this 94-year old gentleman shocked the entire team at LiveWell Health. He was in tremendous shape, and everything that would normally be expected of a member had to be progressed further due to his ease of completion.

Shown below are force, power and balance measurements that show this member is well beyond the norms for his age.



Unfortunately, after a few months with our team, this member became ill. At first there was little concern as he was in tremendous shape, but being 94-years old always poses a risk for serious threat. While in the hospital, our member contracted *Clostridioides difficile* (C-diff), a condition that can lead to sepsis which ultimately has the power to be lethal.

Thankfully, this particular member pulled through, but it wasn't until he spent multiple weeks in the hospital only to be readmitted for the same thing for 11 additional days. Upon discharge from the hospital this member wanted nothing more than to get back to his exercise routine.

We expected there to be some loss due to the extended stay in the hospital, but what we saw was far more than expected. This member received regular physical and occupational therapy in the hospital, but the extended time in the bed proved to be very detrimental.

Below are the changes that were shown pre and post hospitalization.

Squat Force: 900 N

Squat Power: 472 N

Area of Ellipse: 60 mm

Squat Force: 297 N

Squat Power: 156 N

Area of Ellipse: 122 mm

↓ 67%

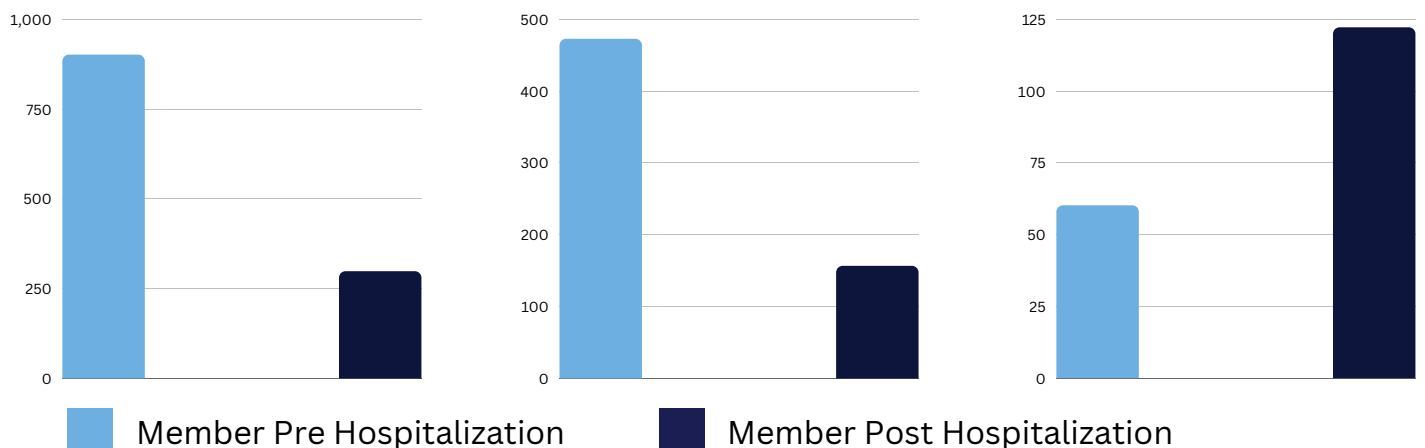
↓ 67%

↓ 103%

Squat Force

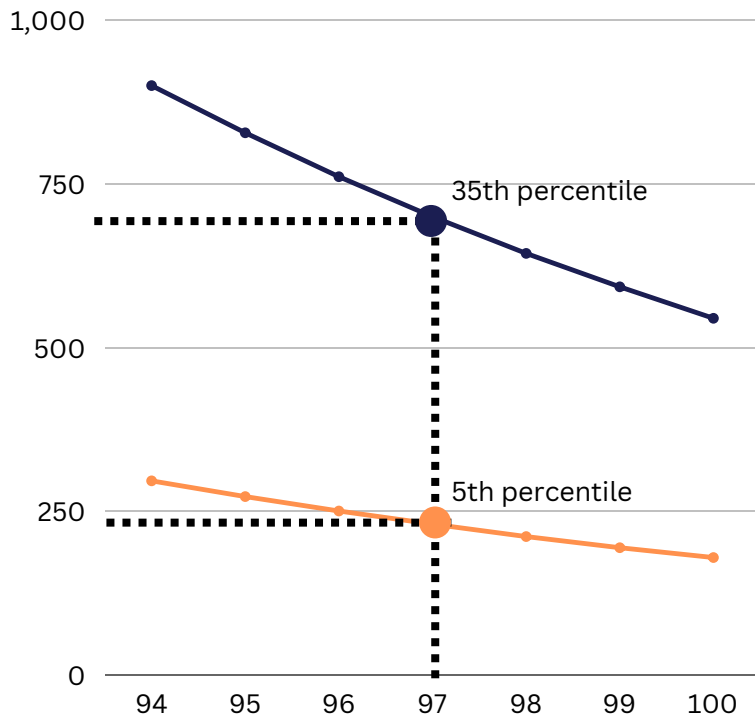
Squat Power

Area of Ellipse



Let's take a look at the trajectories should this illness would not have happened, as well as if this individual chose not to return to exercise following recovery.

Force Trajectory Prehospitalization vs Force Trajectory Post Hospitalization



Let's take this gentleman out to 97-years of age. Generally speaking strength is said to decline at rates of 3-8% per year. Therefore we took the initial test value versus the post hospitalization value until the age of 100. As you can see, there is a stark difference between the two. In fact, at the age of 97, there is a 67% difference. Of course there are a number of factors at play, but this one hospitalization may have potentially altered the remainder of this gentleman's life.

Power Trajectory Prehospitalization vs Power Trajectory Post Hospitalization

Power output is said to play more of a role in quality of life and physical functioning within late ages. Again, this one hospitalization has altered the trajectory. At the age of 97, we again see a 67% difference. This highlights the importance of returning to exercise following a hospitalization. Many believe they will simply get back to their normal well-being. That is simply not the case, the data shown within this simple case study proves it.

