

Busting Myths with Research: Your "Hip Anatomy" is not unique, and it does not affect "Squat Foot Placement."

The Brookbush Institute explains the research on hip morphology, squat foot placement, and makes a better recommendation for improving squat form.

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[Brookbush Institute - Squat Foot Placement: Unique Hip Anatomy and Squat Form](#)



There is no research to demonstrate that changing squat foot position will increase performance or decrease injury risk, for the few individuals who exhibit significantly different hip morphology."

Dr. Brent Brookbush, CEO of Brookbush Institute

Squat Stance Myth Busting:

Modifying foot position or stance width during a barbell squat to compensate for "unique hip anatomy" is actually a pretty weird idea. Most individuals have similar, or at least proportional bone structures. It seems to be a logical leap to jump from the hip joint to addressing foot positioning (skipping the knee). And, what happened to addressing mobility (e.g. reduced knee extension, hip flexion, and/or ankle dorsiflexion), muscle activation (e.g. gluteus medius activity, tibialis anterior activity, etc.),

and/or strength issues of the primary muscles worked (e.g. gluteus maximus, quadriceps, and soleus strength). It is unclear why any personal trainer, strength coach, or clinical professional would want to jump to conclusions regarding hip morphology and squat form. And, this concept has implications for most lower-extremity strength exercises, including back-loaded squat foot placement, low bar squat foot placement, leg press foot placement, hack squat variations, smith machine squat, sumo squats, leg press, etc. Once you have had a chance to read the full article, we think you might agree that the foot placement angle for most lower extremity exercises should be toes forward, feet hip to shoulder width, and that discomfort in this position is not evidence of structural issues, is not serious, but may be a sign that optimizing performance will include additional mobility or corrective exercise techniques.

Hip Anatomy and Foot Position Summary:

- Normally Distributed: Research suggests that variations in hip anatomy are normally distributed, and could be plotted on a "bell curve". That is, the gross majority of individuals

exhibit bone shape, angles, and alignment, that are within a relatively small range of variation.

- Little to No Correlation: There may be no correlation between hip morphology and foot placement. In fact, it is likely that other structural angles compensate for normal variations in hip morphology during development.

- A Logical Error: Excessive hip retroversion and excessive hip anteversion cannot both be addressed by the same recommendation (feet wider and/or feet turned out). Further, if the standard deviation in hip anteversion is about 10°, how does anyone justify 20 - 50° of feet turn out during squats?

- A Functional Anatomy Error: Feet turn out is not hip external rotation, it is tibia (knee) external rotation.

- Correlated with Pain, Dysfunction, and Injury: Research demonstrates that feet turn out and knees wide (functional varus) are correlated with pain, dysfunction, and/or a higher risk of injury.

- A Better Solution: Before accepting small imperfections in movement as evidence of permanent, life-long, structural abnormalities, it may be recommended that these very addressable and common issues (e.g. feet turn out, knees bow in, etc.) are targeted with a "corrective exercise" or "movement prep" routine. Research has demonstrated that corrective exercise can improve alignment, and performance and reduce the risk of injury.

- Our Recommendation is Simple. Perform a movement assessment (like the Overhead Squat Assessment), address the issues you identify with corrective exercise, and then modify squat form, if necessary, based on comfort or performance needs. Chances are that addressing issues with corrective exercise noted during a movement assessment will greatly reduce the amount of compensation necessary to feel comfortable during a squat.

For the complete article and a sample movement preparation program, check out: [Squat From, Hip Anatomy, and Foot Placement](https://brookbushinstitute.com/articles/unique-hip-anatomy-foot-placement-squat-form)

Selected Citations (Full annotated bibliography included in the article linked above)

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MYTH BUSTING

Hip Anatomy Likely Has *Nothing* to do with Foot Placement During a Squat

From the Article:
"Unique Hip Anatomy, Foot Placement, and Squat Form"



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Corrective Exercise Improves Performance

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