How To Squat

For Hypertrophy and Performance

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Objectives:

- The best grip width for squats
- The best depth for squats
- The best stance width for squats
- The best torso angle for squats

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Squats for Who?

- NOT Powerlifters

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Powerlifting	Strength training
	
Fitting yourself to lifts based on what the sport requires	Fitting lifts to you based on what your body requires
Moving loads dictated by the sport	Loading movements dictated by human anatomy and biomechanics
Focusing on mastering certain lifts	Focusing on mastering your body and your environment
Focusing on competition, not health	Focusing on long-term health and performance

Different Goals = Different Training

The Purpose of a Powerlifting Program	The Purpose of a Strength Program
To master specific exercises.	To build an all-around stronger, healthier, and more adaptable body.

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The Best Grip Width for Squats

The Starting Strength Grip?

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Showing Waller and Schwarzenegger proper squat technique at Gold's Venice, circa 1973

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How to find Your best grip

- Grab the barbell with about two fist widths between your thumb and the outside of your shoulder.
- Experiment from there to see what feels best to you.

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Comfort and Security = Your Best Grip

- It doesn’t feel like it putting your shoulders in an awkward position, and
- You’re able to control the bar without feeling like your arms are holding it up

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The Best Squat Depth:

It’s Not What You Think

For Hypertrophy…

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For Athletic Performance…

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Quarter Squats Are Great for Athletes!

"Quarter squats offer significantly greater transfer to improvements in sprinting and jumping ability when compared to full squats" (1).

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Quarter Squats vs Depth Squats

- Quarter squat showed the greatest transfer to vertical jump (0.53), with half squat next (0.28), and full depth squats showing the least amount of transfer (0.06).

- For 40-yard sprinting quarter squats showed the greatest transfer
- (-0.41) with half squats second (-0.20) and full depth squats (-0.09) again showing the lest transfer. (1)

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Depth Squats Are Insufficient

- On average, athletes were able to squat 30-45% more weight in a quarter squat compared to a full depth squat.

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Cool Study!!!

- Compared the results from a group that trained with only 6 sets of full-range-of-motion squats to a group that did 3 sets of full-ROM, and 3 sets of heavy partial squats focusing on the top-half of the range of motion.
- Both groups trained twice per week. (2)

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The Results!!!

- The group that did the combination of full range of motion and partial range of motion reps saw superior results in maximal strength.
- Those who did both partial and full range squats made 3.1% better gains in 1RM squat strength and made 4.7% better gains in their partial squat 1RM. (2)

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The Best Squat Stance

The normal anatomical variations of the hip joint determine that foot width and position is very individual.

3 Stances To Try

1. Traditional squat stance with your feet roughly shoulder width and toes fairly straight.
2. Feet slightly wider than shoulder width and toes slightly turned
3. Feet about 5 inches wider than shoulder width and toes turned out about 45-degrees.

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The Best Stance for Your Hip Structure

- People with a hip *external* rotation limitation may do better with a more parallel stance.
- People with a hip *internal* rotation limitation may do best squatting with a more externally rotated foot position and a wider stance.
- Someone with zero hip limitations have the option of mixing up their stances for training variety.

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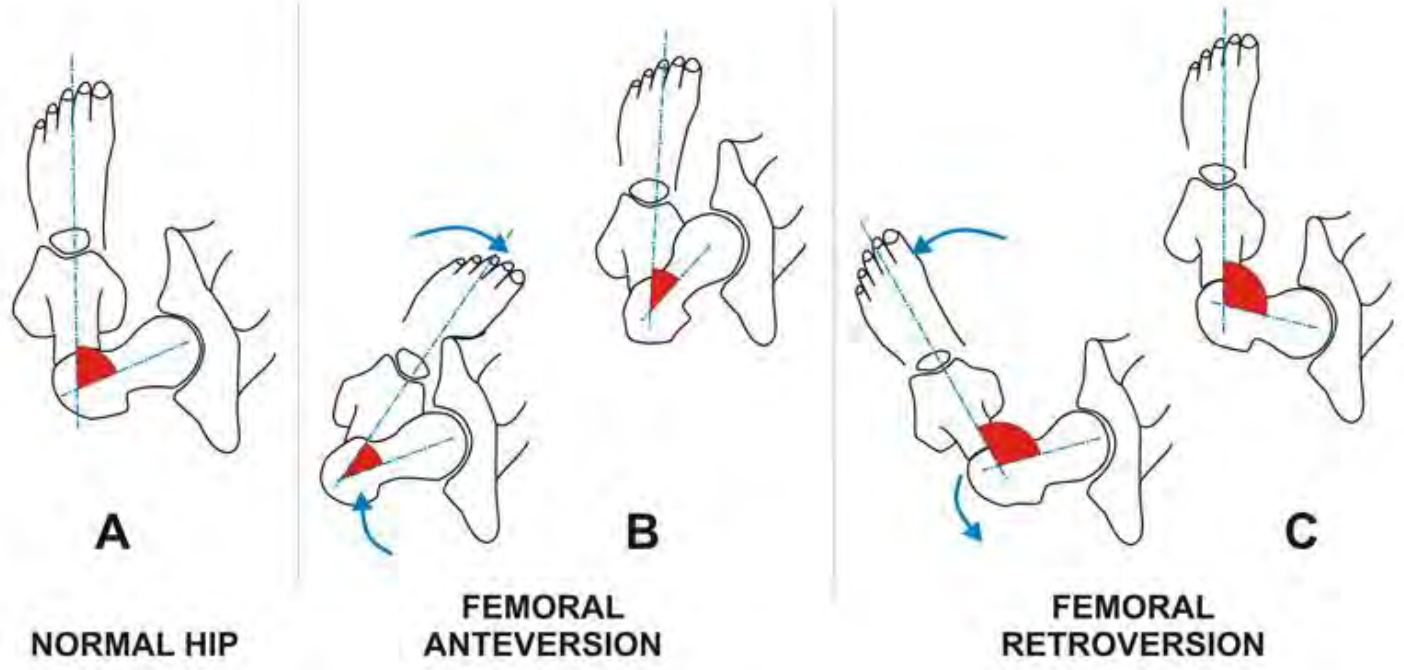
Hip Anteversion vs Retroversion

Ant = open in the front, squeezed in the back.

Ret = open in the back, squeeze in the front.



Comparative Study > Clin Orthop Relat Res. 2015 Apr;473(4):1234-46.
doi: 10.1007/s11999-014-4038-3.

What are the radiographic reference values for acetabular under- and overcoverage?

Moritz Tannast [1], Markus S Hanke, Guoyan Zheng, Simon D Steppacher, Klaus A Siebenrock

Affiliations + expand

PMID: 25384429 PMCID: PMC4353515 DOI: 10.1007/s11999-014-4038-3

Free PMC article

Abstract

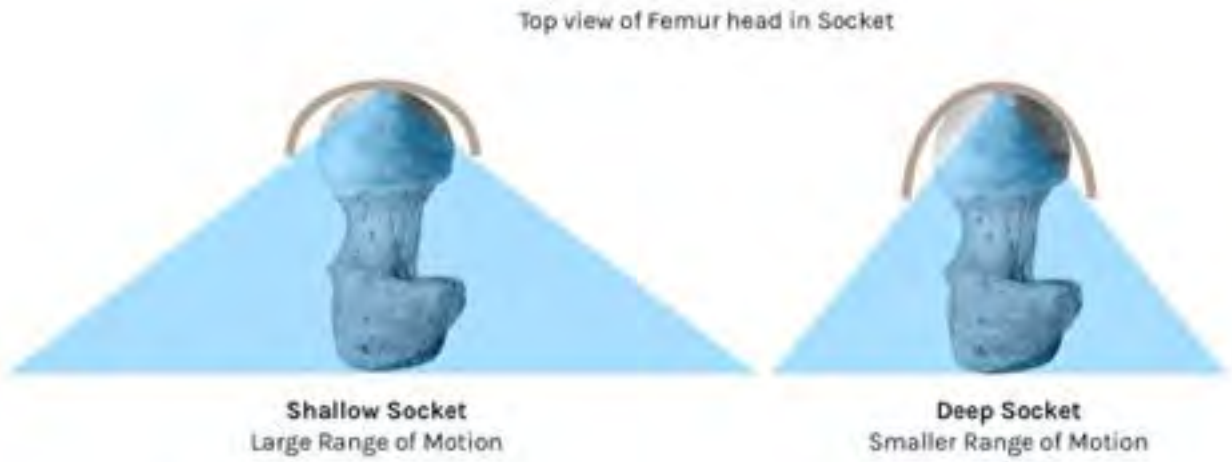
Background: Both acetabular undercoverage (hip dysplasia) and overcoverage (pincer-type femoroacetabular impingement) can result in hip osteoarthritis. In contrast to undercoverage, there is a lack of information on radiographic reference values for excessive acetabular coverage.

Hip Over-coverage:

- Excessive hip socket depth in the front
- Risk of hip impingement (pinched labral cartilage)

Hip Under-coverage:

- A more shallow hip socket
- The hip socket does not adequately cover the femoral head.
- The hip is more mobile, but also unstable and may become painful, develop osteoarthritis



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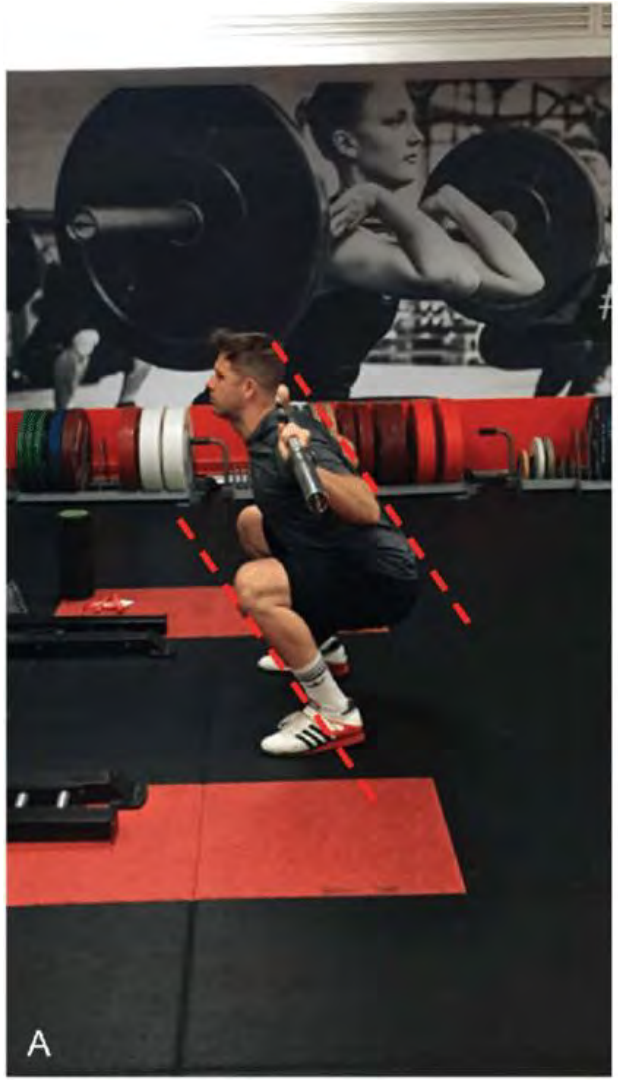
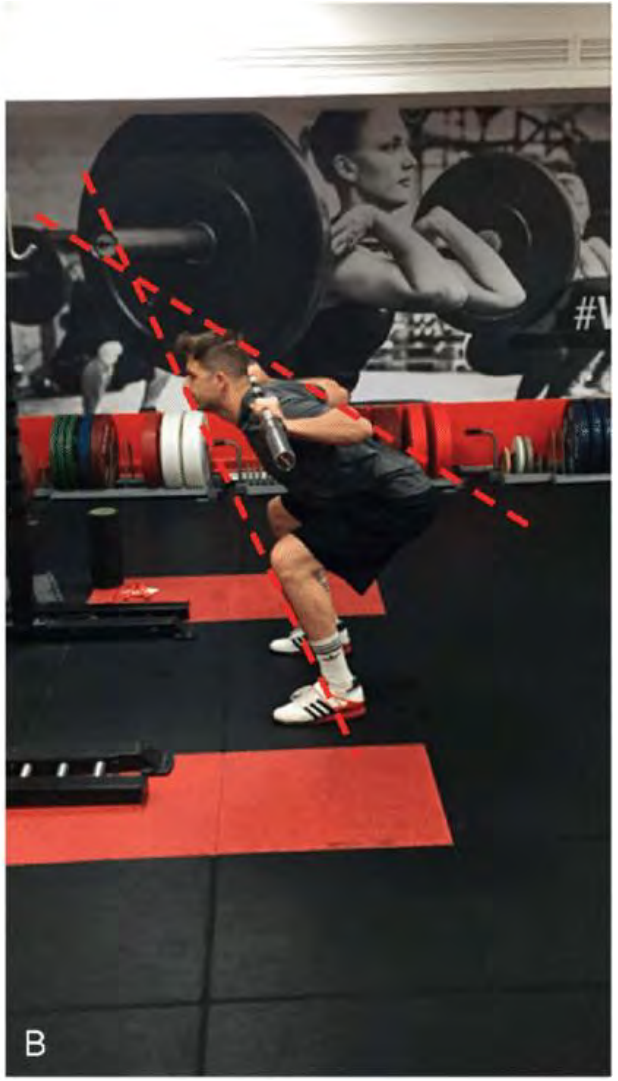
The Best Torso Angle

Not Usually “Tight Ankles”





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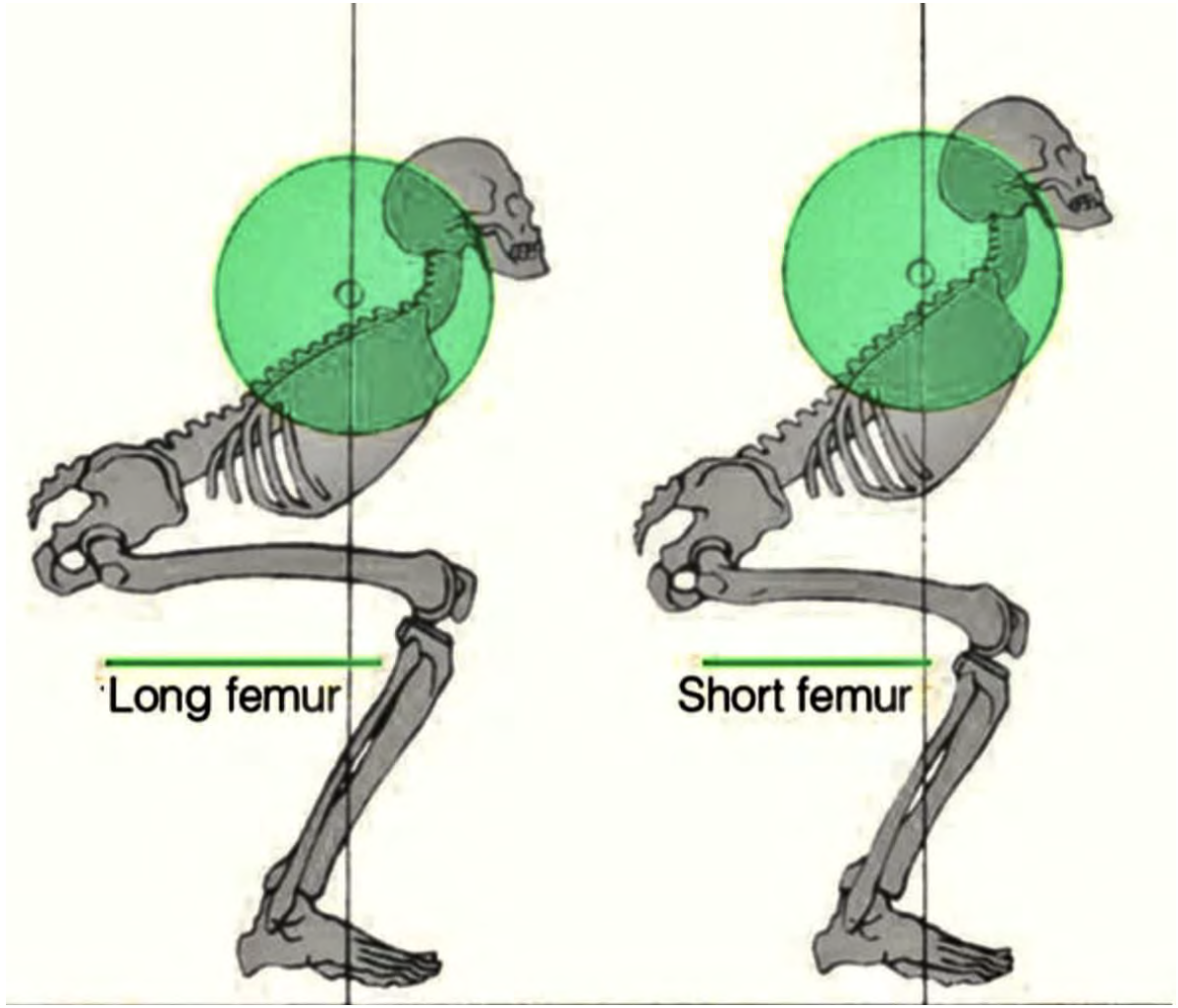
Structure Determines Function



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Your height and body proportions are far more impactful on your squat form than flexibility measures.

Ankle Restriction is Overrated!

- Height, tibial length, and femur length account for 77.8% of the variances someone not being able to maintain complete foot contact when squatting to parallel (6).

- Ankle dorsiflexion only accounts for 6.9% of the variance in people having their heels start to lift of the ground or their feet start to roll in when reaching parallel in a squat.

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Squats for Tall People

- Tall people with relatively short torsos appear to have greater difficulty maintaining foot contact when squatting to parallel than do shorter subjects with relatively long torsos (6).

Research measured over 1000 adult limbs

- The average ratio of femoral length to tibial length was 1.28 to 1, because the ranges differences they found were between 1.16 and 1.39 to 1 ratio (5).

- If your femur is around 16 to 28% longer than your tibia, it's likely you don't have a longer than average femur.
- If your femur is more than 28% longer than your tibia, it's more likely that you have a long femur.

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Practical Advice

If someone is within or below the average Femorotibial Ratio, but leans forward when squatting, they'll more likely benefit from doing some exercises aimed at improving ankle dorsiflexion range motion.

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Heel-raised squats aren’t bad

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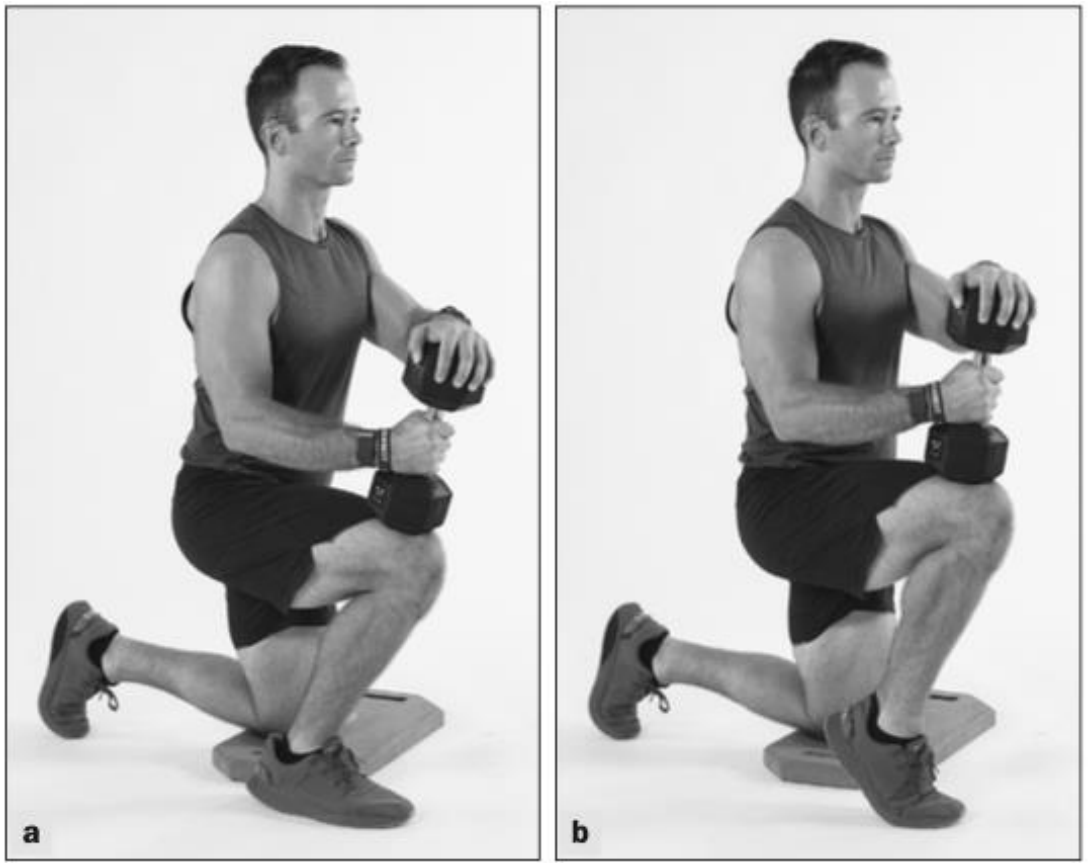
The 2 Best New Calf Exercises

For Better Ankle Mobility



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Ways to Connect

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