

Barbell Back Squat

High-bar technique



Left to right: start, lowering, bottom. See page 2 for the steps.

Muscles worked

Main muscles

- Quadriceps: extend the knees.
- Gluteus maximus: extends the hips.

Supporting muscles

- Adductor magnus: assists hip extension.
- Hamstrings: assist the movement; they are not the main training target.

The trunk, gluteus medius, and calf muscles support posture and balance.

What makes it useful

A compound movement for the thighs and glutes. The high-bar position on the upper trapezius generally allows a more upright torso. A natural forward lean varies with body proportions.

Before you start

Practise bodyweight squats first, then use a light, controllable load. Set hooks low enough to unrack without rising onto your toes. Set safety bars just below the planned bottom bar position; check with a light bar.

Movement & technique

Use a light load. Move with control.

1

Set up

Rest the bar on your upper trapezius, clear of your neck. Grip evenly to steady it. Stand to unrack, take a short walkout, and set feet around shoulder width with toes slightly out.

2

Lower with control

Inhale and brace your abdomen. Bend hips and knees together. Keep your heel and the bases of your big and little toes grounded. Let knees follow your toes.

3

Choose your depth

Stop at a pain-free depth with stable feet and a neutral spine. Do not force depth by rounding your back or lifting your heels. Change direction without bouncing.

4

Stand up

Press through your whole feet. Raise chest and hips together, exhaling gradually as you extend hips and knees. Finish tall without leaning backward.

Form reminders

- Hands steady the bar; do not try to lift it with your arms.
- Keep knees aligned with toes and maintain all three foot contacts.
- For light loads, keep breathing; avoid prolonged breath holding. Reset at the top.
- Reduce load or depth if your back rounds, heels lift, or control deteriorates.

Finish safely

Check both hooks and rerack securely. Stop for pain or dizziness. If you are new to barbells, have a qualified coach check your setup and safety-bar use.

References

ACE - Back Squat

NASM - Squat Biomechanics

NSCA - Exercise Technique

NASM - Squats & Deadlifts

NSCA - Lifting Guidelines

Kubo et al. (2019) - EJAP