

SELF EVALUATION USING THE OVERHEAD SQUAT

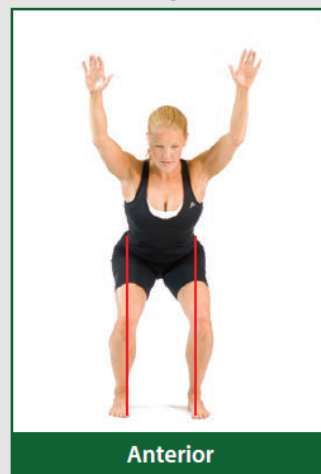
*Testing mobility and strength of:
Calves / Feet - Knees - Hips - Pelvis - Low back
- Upper back - Shoulders - Scapula*



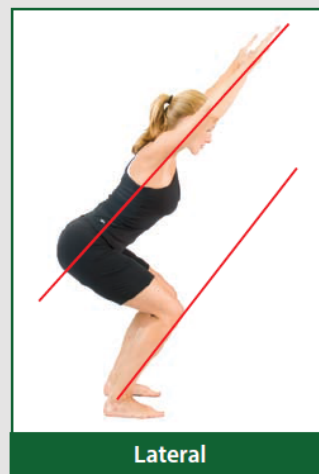
PROPER OVERHEAD SQUATS

Test control and stability
Flexibility through multiple
regions
Core strength
Balance
Pelvic Stability
Neuromuscular control
Symmetry

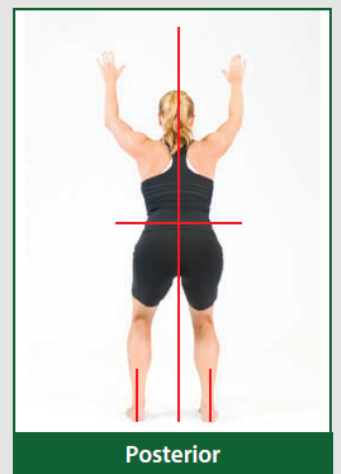
Overhead Squat Views



Anterior



Lateral



Posterior

DONE CORRECTLY

Feet flat on the floor
Knees do not cross front of toes
Buttocks can get lower than knees
Low back can extend / arch
Upper back can extend
Scapula are mobile
Shoulders can open to allow
hands to be directly over head
Chin is flat
Eyes looking forward



DISCLAIMER

These exercises are general and are not patient specific. They are intended to give ideas across all experience levels. Please use caution and understand that some may not be appropriate for you.

If you have a spinal injury, degeneration, arthritis or any condition that compromises or limits the integrity of your spine and/or discs, please use caution when trying these exercises. If you feel they are too advanced for you, please do not try them.

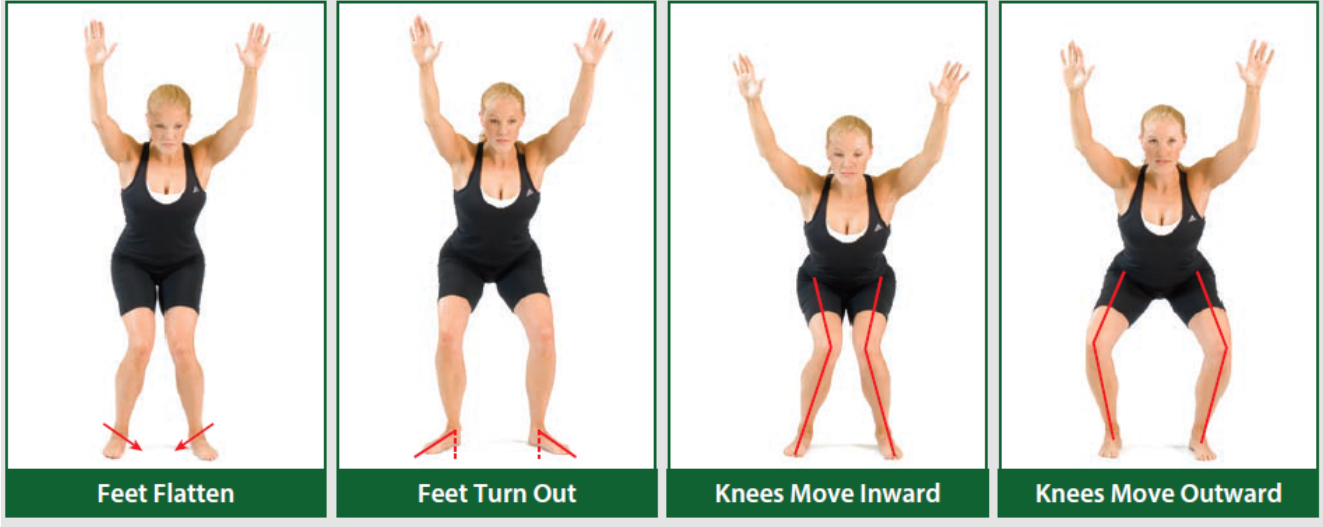
If you have questions regarding which exercises may be right for you, please consult your physical therapist.

MOVEMENT CHECK

More details on muscle groups to work on mobility, flexibility and strength



Overhead Squat Compensations, Anterior View



FEET FLATTEN

Overactive Muscles:
 Peroneal complex
 Lateral gastrocnemius
 Bicep femoris
 TFL

Underactive Muscles:
 Anterior tibialis
 Posterior tibialis
 Medial gastrocnemius
 Gluteus medius

Possible injuries:
 Plantar fasciitis
 Achilles' tendinopathy
 Medial tibial stress syndrome
 Ankle sprains
 Patellar tendinopathy (jumper's knee)

FEET TURN OUT

Overactive Muscles:
 Soleus
 Lateral gastrocnemius
 Bicep femoris (short head)
 TFL

Underactive Muscles:
 Medial gastrocnemius
 Medial hamstring complex
 Gluteus maximus & medius
 Gracilis
 Popliteus
 Sartorius

Possible injuries:
 Plantar fasciitis
 Achilles' tendinopathy
 Medial tibial stress syndrome
 Ankle sprains
 Patellar tendinopathy (jumper's knee)

KNEES INWARD

Overactive Muscles:
 Adductor complex
 Bicep femoris (short head)
 TFL
 Lateral gastrocnemius
 Vastus lateralis

Underactive Muscles:
 Medial hamstring complex
 Medial gastrocnemius
 Gluteus maximus & medius
 Vastus medialis oblique
 Anterior tibialis
 Posterior tibialis

Possible injuries:
 Patellar tendinopathy (jumper's knees)
 Patellofemoral syndrome
 ACL injury
 ITB tendonitis

KNEES OUTWARD

Overactive Muscles:
 Piriformis
 Bicep femoris
 TFL
 Gluteus minimus & medius

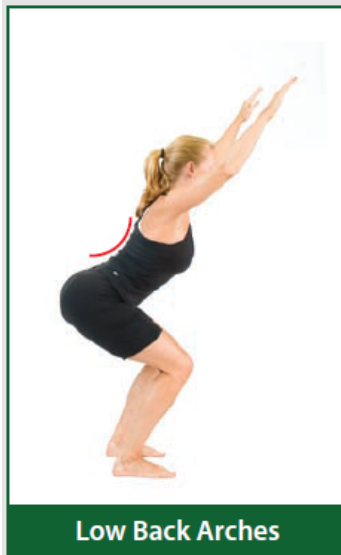
Underactive Muscles:
 Adductor complex
 Medial hamstring
 Gluteus Maximus

Possible injuries:
 Hamstring, quad and groin strain
 Low back pain

WEBSITE

<https://www.thefitnesstraineracademy.org/blog/the-overhead-squat-assessment/>

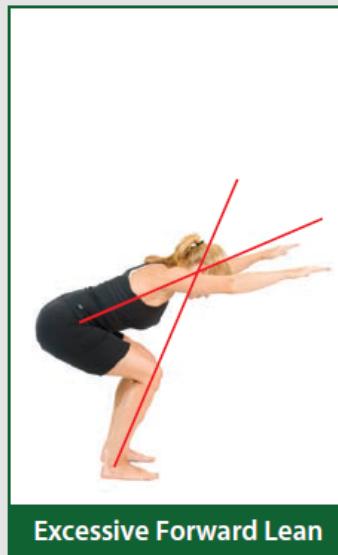
Overhead Squat Compensations, Lateral View



Low Back Arches



Low Back Rounds



Excessive Forward Lean



Arms Fall Forward

LOW BACK ARCHES

Overactive Muscles:
Hip flexor complex
Erector spinae
Latissimus dorsi

Underactive Muscles:
Gluteus maximus
Hamstrings
Intrinsic core stabilizers
Hip flexor complex
Latissimus dorsi

Possible injuries:
Hamstring, quad and groin strain
Low back pain

LOW BACK ROUNDS

Overactive Muscles:
Hamstrings
Adductor magnus
Rectus abdominis
External obliques

Underactive Muscles:
Gluteus maximus
Erector spinae
Intrinsic core stabilizers
Hip flexor complex
Latissimus dorsi

Possible injuries:
Hamstring, quad and groin strain
Low back pain

EXCESS FORWARD LEAN

Overactive Muscles:
Soleus
Gastrocnemius
Hip flexor complex
Piriformis
Abdominal complex (rectus abdominis, external oblique)

Underactive Muscles:
Anterior tibialis
Gluteus maximus
Erector spinae
Intrinsic core stabilizers (transverse abdominis, multifidus, transversospinalis, internal oblique, pelvic floor muscles)

Possible injuries:
Hamstring, quad and groin strain
Low back pain

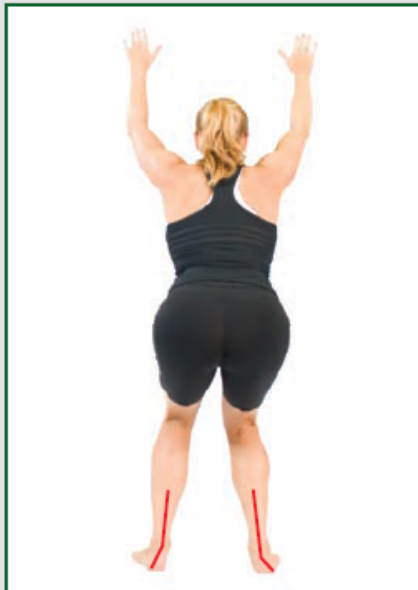
ARMS FORWARD

Overactive Muscles:
Latissimus dorsi
Pectoralis major & minor
Coracobrachialis
Teres major

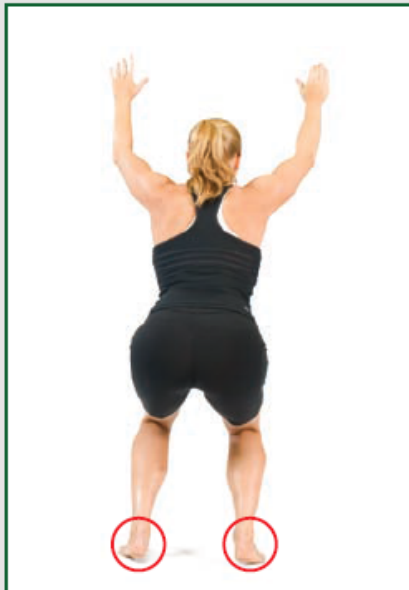
Underactive Muscles:
Mid / low trapezius
Rhomboids
Posterior deltoid
Rotator cuff

Possible injuries:
Headaches
Biceps tendonitis
Shoulder injuries

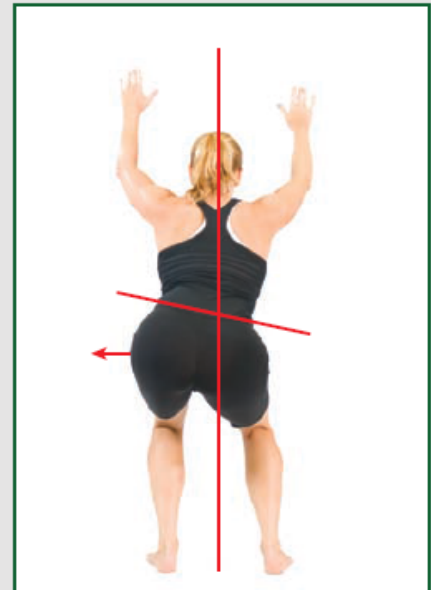
Overhead Squat Compensations, Posterior View



Feet Flatten



Heels Rise Off Floor



Asymmetric Weight Shift

FOOT FLATTEN

Overactive Muscles:
Peroneal complex
Lateral gastrocnemius
Biceps femoris (short head)
TFL

Underactive Muscles:
Anterior tibialis
Posterior tibialis
Medial gastrocnemius
Gluteus medius

Possible injuries:
Plantar fasciitis
Achilles' tendinopathy
Medial tibial stress syndrome
Ankle sprains
Patellar tendinopathy (jumper's knee)
SI joint pain

HEELS RISE

Overactive Muscles:
Soleus

Underactive Muscles:
Anterior tibialis

Possible injuries:
Plantar fasciitis
Achilles' tendinopathy
Medial tibial stress syndrome
Ankle sprains
Patellar tendinopathy (jumper's knee)
SI joint pain

ASYMMETRIC WEIGHT SHIFT

Overactive Muscles:
Adductor complex
TFL (same side of shift)
Gastrocnemius / soleus
Piriformis
Biceps femoris
Gluteus medius (opposite side of shift)

Underactive Muscles:
Gluteus medius (same side of shift)
Anterior tibialis
Adductor complex (opposite side of shift)

Possible injuries:
Plantar fasciitis
Achilles' tendinopathy
Medial tibial stress syndrome
Ankle sprains
Patellar tendinopathy (jumper's knee)
SI joint pain

IF HEELS RISE, ELEVATE HEELS TO GET STRONGER

If elevating your heels corrects your posture, work the areas that it corrects
If elevating heels does not correct your posture, work to improve the hip complex.

IF TORSO LEANS FORWARD, PUT HANDS ON HIPS

If putting your hands on your hips corrects your posture, work on the mobility of your upper back / thoracic spine.
If putting your hands on hips does not correct postures, then the upper back is not the issue. Try the overhead squat position in the supine position (lie on your back and do the movement).



Overhead Squat Solutions Table • CES | www.nasm.org | 800.460.6276

View	Checkpoint	Compensation	Probable Overactive Muscles	Probable Underactive Muscles	Example Flexibility Exercise (SMR & Static)	Example Strengthening Exercise
Anterior	Foot	Foot Turns Out	Soleus Lat. Gastrocnemius Bicep Femoris (short head) Tensor Fascia Latae	Med. Gastrocnemius Med. Hamstring Gluteus Medius/Maximus Gracilis Popliteus	Calf Stretch Hamstring Stretch Standing TFL Stretch	Single-leg Balance Reach
	Knee	Moves Inward	Adductor Complex Bicep Femoris (short head) Tensor Fascia Latae Vastus Lateralis Lat. Gastrocnemius	Gluteus Medius/Maximus Vastus Medialis Oblique (VMO) Med. Hamstring Med. Gastrocnemius	Adductor Stretch Hamstring Stretch TFL Stretch Calf Stretch	Lateral Tube Walking Ball Squat w/Abduction Ball Bridge w/Abduction
		Moves Outward	Piriformis, Biceps Femoris Tensor Fascia Latae Gluteus Minimus/ Medius	Adductor Complex Med. Hamstring Gluteus Maximus	Piriformis Stretch, Hamstring Stretch TFL Stretch	Ball Squat w/Adduction Ball Bridge w/Adduction
Lateral	L-P-H-C	Excessive Forward Lean	Soleus Gastrocnemius Hip Flexor Complex Abdominal Complex (rectus abdominus, external oblique)	Anterior Tibialis Gluteus Maximus Erector Spinae	Calf Stretch Hip Flexor Stretch Ball Abdominal Stretch	Ball Squat
		Low Back Arches	Hip Flexor Complex Erector Spinae Latissimus Dorsi	Gluteus Maximus Hamstrings Intrinsic Core Stabilizers (transverse abdominis, multifidus, internal oblique, transversospinalis, pelvic floor muscles)	Hip Flexor Stretch Latissimus Dorsi Stretch Erector Spinae Stretch	Ball Squat Floor Bridge Ball Bridge
		Low Back Rounds	Hamstrings Adductor Magnus Rectus Abdominus External Obliques	Gluteus Maximus Erector Spinae Intrinsic Core Stabilizers (transverse abdominis, multifidus, internal oblique, pelvic floor muscles, transversospinalis)	Hamstring Stretch Adductor Magnus Stretch Ball Abdominal Stretch	Floor Cobra Ball Cobra Ball Back Extension
	Upper Body	Arms Fall Forward	Latissimus Dorsi Pectoralis Major/ Minor Teres Major Coracobrachialis	Mid/Lower Trapezius Rhomboids Rotator Cuff Posterior Deltoid	Latissimus Dorsi Stretch Pec Stretch SMR Thoracic Spine	Floor Cobra Ball Cobra Squat to Row
		Forward Head (pushing/pulling assessment)	Levator Scapula Sternocleidomastoid Scalenes	Deep Cervical Flexors	Levator Scapula Stretch Sternocleidomastoid Stretch Scalene Stretch	Tuck chin, keeping head in neutral position during all exercises
		Shoulder Elevation (pushing/pulling assessment)	Upper Trapezius Sternocleidomastoid Levator Scapulae	Mid/lower Trapezius Rhomboids Rotator Cuff	Upper Trapezius Stretch Sternocleidomastoid Stretch Levator Scapulae Stretch	Floor Cobra Ball Cobra
Posterior	Foot	Foot Flattens	Peroneals Lat. Gastrocnemius Bicep Femoris (short head) Tensor Fascia Latae	Anterior Tibialis Posterior Tibialis Med. Gastrocnemius Gluteus Medius	Peroneal Stretch Calf Stretch Hamstring Stretch Standing TFL Stretch	Single-Leg Balance Reach Single-leg Medial Calf Raise
		Heel Rises	Soleus	Anterior Tibialis	Soleus Stretch	Single-leg Balance Reach Single-leg Squat
	L-P-H-C	Asymmetrical Weight Shift	Adductor Complex Tensor Fascia Latae (same side) Piriformis Bicep Femoris Gluteus Medius (opposite side)	Gluteus Medius (same side) Adductor Complex (opposite side)	Adductor Stretch (same side) Tensor Fascia Latae Stretch Piriformis Stretch Hamstring Stretch (opposite side)	Gluteus Medius (same side) Adductor Complex (opposite side)