

Push

Progressions to Develop the Push

1. Press up on knees:

Start: Hands shoulder width apart, with the athlete resting on their knees. Cue them to screw their hands into the floor, so that the crease of their elbow is facing forward. This ensures that throughout the press up their arms stay close to their side, removing excessive pressure from the glenohumeral joint. (Batbayar et al., 2015)

Descent: Keeping their arms close to their side, elbows' pointing backwards, the athlete wants to descend until their chest is just off the floor, falling onto their hands. A neutral spine should be maintained throughout.

Ascent: Push firmly through the hands and pivot at the knees return to the start position maintaining a neutral spine.

2. Full press up descent, knees on the floor for the ascent:

Start: Hands are shoulder width apart with hands screwed into the floor. Shoulders and hips should be the same height, with hips tucked, cue them to imagine looking at a belt buckle.

Descent: Lower the chest all the way to the floor, keeping the arms close to the side and elbows' pointing backwards.

Ascent: Place knees on floor, keep hips tucked and return to the starting position.

3. Full press up with pause on the floor to reset:

Start: See progression 2.

Descent: See progression 2.

Ascent: Get athletes to take their hands off the floor for a split second. This allows them to reset their position and do a self-check. Once reset return to the start position by pushing firmly through the palms of the hand into the floor, maintain a neutral spine by looking at the belt buckle.

4. Full Press Up:

Start: See progression 2.

Descent: See progression 2.

Ascent: Once the chest has touched the floor, return to the start position maintaining a neutral spine.

5. Explosive kneeling press up:

Start: See progression 1.

Descent: See progression 1.

Ascent: Explosively push through the palms, pivoting at the knees, attempting to push the body as high as possible.

6. Explosive press up:

Start: See progression 2.

Descent: See progression 2.

Ascent: Keeping their feet on the floor, explosively push through the hands, to get off the floor.

Challenge - can the athlete clap before landing. Can the athlete perform a superman press up by getting their feet off the floor?

Press Up Alternatives

Tennis Ball Exercises/ Medicine Ball

1. Push Pass:

Using a tennis ball or medicine ball, the athlete can pass the ball from chest height to a partner or against a wall. The pass should be initiated by extending the elbows, keeping long arms until the point of release at full elbow extension. More power can be added by taking a step, jumping forward, or performing it on knees and falling forward.

Challenge - place a target either a height on a wall or a distance out in front. You can make an element of competition by providing multiple targets each with a score, highest score wins.

2. Single Arm Push:

By performing the action on one arm you isolate individual limbs, adding difficulty. To get power on the throw rotate around the transverse plane.

Resistance Band Exercises

1. Paloff Press:

Start: Stood or kneeling, with hips tucked under the body, and core braced by drawing the belly button in and forcing the diaphragm down.

Push: Fully extend the elbows to the end R.O.M, keeping the core braced, once at the end R.O.M return to the starting position.

2. Partnered Paloffs

Start: See progression 1. Partners face in opposite directions.

Push: See progression 1.

Pull

Progressions to Develop the Pull

1. Resistance Band Pull

Start: Standing tall or kneeling, hips tucked, core braced. The resistance band should be wrapped around an object or held by a partner. The athlete should hold the band with a neutral or prone grip, at arm's length away.

Movement: The movement is initiated by drawing the elbows back; cue the athlete to feel the squeeze of the shoulder blades. Once the band has been pulled to the chest the athlete should feel as though they could hold a pen between their shoulder blades. At this point allow the band to be returned slowly to the start position.

2. Single Arm Pull

Start: See progression 1. Hold the band in one hand with hips facing forward.

Movement: The movement is similar to progression 1, with some rotation around the transverse plane allowed.

Challenge - In partners, hold opposite ends of the resistance band and see who can win a tug of war.

3. Resistance Band High Pull

Start: Stand on the resistance band with feet shoulder width apart.

The band should be held in a prone grip.

Movement: Initiate the movement by drawing the elbows up, keeping the knuckles facing the floor during the movement. Once the elbows reach shoulder height, return to the start position.

1. Bent Over Row

Start: Stand on the resistance band with feet shoulder width apart, holding the resistance band with a prone grip. Athletes should then put a slight bend into their knees and sit backwards, hinging at the hips until there is a 45 - 90o bend in the hips.

Movement: The movement is initiated by drawing the elbows back; cue the athlete to feel the squeeze of the shoulder blades. Once the band has been pulled to the chest the athlete should feel as though they could hold a pen between their shoulder blades. At this point allow the band to be returned slowly to the start position

The exercises done with resistance bands can be progressed further by increasing the resistance of the band, or increasing the resistance through the use of dumbbells, Olympic bars or cable machines.

Lunge



Start position: Stand tall with feet facing forward and shoulder width apart. Take a long step forward, keeping the front foot facing forward and planted firmly on the floor. The back foot should also face forward. Tuck the hips under the body (posterior tilt).

Descent: Slowly lower keeping the lead knee in line with the lead foot, until there is a 90° angle in the front and back knee, the trail leg shin should be parallel with the floor. Weight is evenly distributed between the front foot and ball of the back foot.

Ascent: Forcefully push off the floor by extending the lead knee. Maintain an upright torso position. Bring the lead foot back level with the trail foot and stand up tall.

(Beachle & Earle., 2008)

Progressions to Develop the Lunge

1. Clock face lunges:

Start: See lunge.

Movement: Take a step forward (12 o'clock), slowly lower keeping the lead knee in line with the lead foot, until there is a 90° angle in the front and back knee, the trail leg shin should be parallel with the floor. Weight is evenly distributed between the front foot and ball of the back foot. Forcefully push off the floor by extending the lead knee. Maintain an upright torso position. Bring the lead foot back level with the trail foot and stand up tall.

Take a step to the right with the right foot (3 o'clock), turning the foot to face the direction of travel. Slowly lean over to the right keeping the lead knee in line with the lead foot. Forcefully push off the floor by extending the lead knee. Maintain an upright torso position. Bring the lead foot back level with the trail foot and stand up tall.

Take a step backwards with the right foot (6 o'clock), Tuck the hips under the body (posterior tilt). Slowly lower keeping the lead knee in line with the lead foot, until there is a 90° angle in the front and back knee, the trail leg shin should be parallel with the floor. Weight is evenly distributed between the front foot and ball of the back foot. Forcefully push off the floor by extending the trail knee. Maintain an upright torso position. Bring the trail foot back level with the trail foot and stand up tall. Repeat for left foot.

Take a step to the left with the left foot (9 o'clock), turning the foot to face the direction of travel. Slowly lean over to the left keeping the lead knee in line with the lead foot. Forcefully push off the floor by extending the lead knee. Maintain an upright torso position. Bring the lead foot back level with the trail foot and stand up tall.

2. Rear foot elevated split squat:

Start: Place a pad or towel in front of a bench to provide cushioning for the back knee. Standing in front of the bench and pad/towel, reach one leg back and rest your toes on the bench, this creates a neutral position for your ankle avoiding hyper plantar-flexion which would occur if you rested the top of your foot on the bench. Tuck the hips under the body (posterior tilt) and have an erect torso.

Movement: Slowly lower until the back knee touches the pad/towel, maintaining an erect torso throughout. Once at the bottom forcefully push through the lead foot, extending the knee to return to the start position.

N.B. If this exercise is too difficult, it can be broken down into separate parts. If you start from the bottom position to only work the concentric portion of the lift. This can engrain good form.

3. Front foot elevated split squat:

Start: Have a small platform, either a weight plate, some stacked mats, or a step-up box to place your lead foot on. Have a large enough step so that the position is comfortable. Tuck the hips under the body (posterior tilt) and have an erect torso.

Movement: Slowly lower, keeping the lead knee in line with the lead foot. Once the trail leg shin is parallel with the floor, forcefully push through the lead foot, extending the knee to return to the start position.

4. Split Squat Jump:

Start: See lunge.

Movement: Using the arms, explosively jump up, with the athlete attempting to get as high as possible. The athlete can either swap lead legs in the air or land in the same start position.

(Beachle & Earle., 2008)

Bracing

Progressions to Develop the Brace

1. Lying Core Awareness:

Start: Lie flat on the floor, legs out long and arms by their sides.

Movement: Let the athlete go through anterior and posterior tilt. Allow them to develop an awareness how there is bridge during the anterior tilt and how their backs are pressed flat to the floor during posterior tilt. Once they have developed awareness during the posterior tilt (which can be furthered cued by getting them to imagine looking at a belt buckle), they can fully engage the core by drawing the belly button in and pressing the diaphragm down (cued by breathing out and pushing the ribs to the floor).

2. 4 Point Hold:

Start: Hands are shoulder width apart placed directly under the shoulders. Knees are hip width apart under the hips, with feet tucked so that the athlete's toes are touching the floor. Shoulders and hips should be in line with a neutral spine.

Movement: Press into the floor with the hands and toes. There should be a small gap from the floor to the athlete's shins, with the shins remaining parallel to the floor. Shoulders and hips should still be aligned with a neutral spine. Shoulder blades should be relaxed.

Cue the athlete to breathe as some may hold their breath. Core should be engaged. Return to the start position to finish.

Challenge - Can you hold the position whilst being rocked by a partner?

Challenge - Have two teams, have them in a straight line holding a 4 point hold, roll a ball under them, the last person picks up the ball runs to the front, sets up in a 4 point hold then rolls the ball under so that the new person at the end can do the same. Which team can get to the finish line first?

3. Bear Crawl:

Start: See progression 2.

Movement: See progression 2. Slowly move forward keeping the core braced. Take small movements forward with hands and feet, not rocking the hips. Shoulders and hips should be aligned during the whole movement.

Challenge - Bear Crawl race, put the athletes into partners, have them face in opposite directions with a turning line equal distance away. First one to the line and back wins. Ensure there is still good technique.

4. 4 Point Hold with Arm Reach:

Start: See progression 2.

Movement: See progression 2. Once in the top position the athlete should reach one arm out whilst keeping hips and shoulders level.

5. 4 Point Hold - Superman:

Start: See progression 2.

Movement: See progression 2. At the top position the athlete should reach out with an arm and opposite leg, keeping hips and shoulders level, so that a line could be drawn through wrist, shoulder, hip, knee and ankle. If the athlete can't do this allow them to drop onto their knee for more points of contact on the ground.

6. 4 Point Hold - Resistance Band Pull:

Start: See progression 2.

Movement: See progression 2. Once in the top position have a partner hold a resistance band, or have a resistance band wrapped around an object. Maintaining shoulder and hip alignment pull the band towards the body, and then return to an out stretched arm.

7. Paloff Press:

Start: Stood or kneeling, with hips tucked under the body, and core braced by drawing the belly button in and forcing the diaphragm down.

Movement: Fully extend the elbows to the end R.O.M, keeping the core braced, once at the end R.O.M return to the starting position.

8. Partner Paloff Press:

Start: See progression 7. Partners face in opposite directions.

Movement: See progression 7.

Hip Hinge



Progressions to Develop the Hinge

1. Walk out

Start: See hip hinge

Movement: The athlete should perform a hip hinge, keeping their shoulders drawn back and a large chest. Once their hands can reach the floor they walk themselves out into a press up position, keeping their hips still during the movement. Once in the press up position return to the start position by either walking their hands back to their feet, or feet to their hands.

2. Weighted Hip Hinge - RDL/Good Morning

Start: See Hip Hinge.

Descent: See Hip Hinge

End: See Hip Hinge.

Adding a resistance recruits extra muscle fibres and larger motor units to complete the action.

3. Single leg RDL

Start: The athlete lifts one leg off the floor, transferring all their weight onto one foot and distributing the weight evenly across the foot.

Start: The athlete should stand tall with feet hip width apart and a slight bend in their knees.

Descent: Cue the athlete to have a large chest and neutral spine. Initiate the movement by pushing the gluteals back over their heels and lean towards the floor. Shoulders should be pulled back during the movement to maintain a large chest. Feet should stay flat on the floor, with weight shifting backwards during the descent.

End: The movement finishes when the athlete can no longer maintain a neutral spine/ feels too much of a strain in their hamstrings/ or if their chest is parallel to the floor. They then return to the start position.

To develop this movement get the athlete to stand close to a wall and lean into it, keeping their feet flat on the floor. If their heels come off the floor you know they need to develop their ankle flexibility. As they progress you can move them further back from the wall so that each time they hinge, they are increasing the range of motion they are going through. Continue moving them backwards until they can do a full hip hinge.

Challenge - How far can you stand from your partner before you can no longer give them a bow high five?

Descent: See Hip Hinge. Hips should stay pointing to the floor. Cue your athletes to draw a straight line through their ankle, hip and head.

End: See Hip Hinge.

If the athletes are struggling, you can regress them and progress them using a wall. By using the wall you can increase or decrease the range of motion they are working through.

Challenge - How many tennis ball bounces can you do in a single leg RDL before you lose balance/ good posture?

Challenge - How many people can you get to do a synchronised single leg RDL

4. Weighted Single Leg RDL

Start: See progression 2.

Descent: See progression 2.

End: See progression 2.

5. Add speed and movement

This movement can be made as sport specific as you want. I.e. for a footballer you can get them to hinge on one leg and volley at a target. For swimmers this would be a tuck and explode, mimicking a tumble turn

Start: Standing tall, feet shoulder width apart, toes positioned on a clock face at 10 and 2.

Descent: Flex at knees with slight forward trunk lean. Hips are pushed backwards, as if sitting on a chair. Contrary to popular belief knees can come past toes. Feet remain flat glued to the floor, with the weight transferring to the back of the foot as they descend. Push body weight through the outside of the shoe (not the inside) as this will prevent knee valgus (turning in).

Ascent: Once the athlete has reached a 90° knee angle, or their bum is below their knees, the athlete can return to the starting position. Ensure the athlete has a tall chest the whole time. A good way to cue this is to tell the athlete to have a big chest and present the badge on their clothing (nike/adidas/club logo) to the room not the floor.

End: The squat ends when the athlete returns to the start position.

(Yule., 2005)

What Depth Should I Squat to?

The deeper the squat the better as the gluteus maximus becomes more active the deeper you squat (Caterisna et., 2002). This muscle is a key hip extensor and therefore plays an important role in one of the most common sporting movements.

Progressions to Develop the Squat

1. Progressive Descent and Ascent:

Start: See squat.

Descent: See squat.

Ascent: See squat

Increase time under tension by getting the athletes to pair up and throw a ball to each other, as they catch the ball they squat deeper, after a set number of catches get them to come back to starting position, i.e. 3 catches down & 3 catches up.

2. Goblet squats:

Start: See squat. Hold a dumbbell, kettlebell or medicine ball to the chest or in-between the legs with long arms.

Descent: See squat

Ascent: See squat.

3. Squat Jumps:

Before performing squat jumps ensure that the athlete has good jumping and landing mechanics to avoid injury.

Start: See squat

Descent: See squat

Ascent: Explosively push through the floor and perform a triple extension of the ankle, hip and knee, attempting to jump as high off the floor as possible. Keep the legs long and don't tuck.

Landing: Land with the balls of the feet, rolling back onto flat feet. Knees should bend as they land to soften the impact, knees should stay in line with toes and avoid knee valgus.

4. Low Squat – Rock – Stand:

Start: See squat.

Descent: Squat down as low as they can, forcing their knees out slightly wider than usual to create the space to get to the floor.

Roll: Once they can get no deeper let them roll back slightly on a mat

Stand: From the roll, place feet shoulder width apart, with their glutes up against their heels. Force should be applied equally through the feet so that they can stand up and return to the start position.

Single Leg Variations

1. Single leg stand:

Start: Have the athlete sit on a box, with one foot on the floor.

Ascent: Force should be distributed across the foot as they stand. There should be a slight trunk lean over the leg as they stand up. Draw the shoulders back to have a big chest.

Descent: Initially have the athlete double leg squat back down to the box. As they get better, have them attempt a single leg squat back down to the box. Follow the same coaching progressions as the squat but have the weight transferred onto a single leg.

2. Single leg step down:

Start: Stood on the edge of a box with one leg off.

Descent: Sit back on their heels, slowly lowering their leg to the floor, there should be a slight forward trunk lean. They should hit the floor with their heel.

Ascent: Press through the foot on the box, maintaining a neutral spine and balance, returning the start position.

3. Single leg squat:

Start: Stood on one foot, with weight evenly distributed. Neutral spine.

Descent: See squat.

Ascent: See squat.