

Power Training Using Dumbbells

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As we all know, the benefits of Olympic style exercises are probably the single best mode of training to develop power for just about any athlete, sport, or activity imaginable. The benefits of this type of training include: Injury prevention, increased performance, core stability, explosive power, speed of movements, balance, coordination, kinesthetic awareness, sport specificity, and good use of time as a total body exercise. These are but a few of the advantages; there are numerous other qualities that can be developed with this type of training mode as well.¹

At the Air Force Academy we rely heavily on this type of training, especially with our football program, as well as with many other sports where the above-mentioned attributes are required for favorable outcomes on the field of play. At the Academy we place a major emphasis on training sports movements, not just muscle groups or exercises that are tested to demonstrate "strength." Our major focus is to develop **athletes**, not weightlifters. With this in mind, we believe that the ability to develop power is extremely important but developing great balance and coordination is just as important to our athletes' performance and success.

With this in mind we get to the emphasis of this article concerning Dumbbell Olympic Exercises and its benefits with relation to power development and athleticism. Performing these exercises with dumbbells adds another dimension to our training program with some specific advantages including: greater balance and coordination requirements as compared to barbell training, variety of training, greater specificity of training with the ability of unilateral movements, greater muscular control and kinesthetic awareness, increased recruitment of stabilizing muscles enhancing joint

stability, greater ranges of motion, and can be safer than some of the other exercises available just to name a few.² This is why we place such an emphasis on dumbbell training in our program design.

In the article we will use several exercises to accomplish this goal of not only developing power but athleticism as well. The three main exercises are Dumbbell Cleans, Dumbbell Snatch, and Dumbbell Jerks. Then we will take these three exercises and build upon them to emphasize not only power development but also greater increases in balance, coordination, athleticism, and sport specificity. These exercises include Dumbbell Alternate Clean, Dumbbell Alternate Foot Alternate Snatch, and Dumbbell Alternate Foot Alternate Jerk. I will explain how to successfully perform these exercises with an emphasis on proper technique and common mistakes that occur during execution.

The exercises are broken down into three distinct phases: the start position, execution phase, and catch phase. Each phase emphasizes proper positioning, technique, and coaching keys as well as common mistakes to avoid while teaching the exercises. There will also be pictures showing proper—or sometimes improper—positioning associated with these exercises. An important point to note when teaching Olympic style lifts is that exercise technique is paramount. Hopefully, you will be able to take these exercises and apply them to your programs for not only greater power development but increased athleticism as well.

We do most of these lifts from the hang position or the floor just as with barbells—with the exception of performing Dumbbell Jerks, which start with the dumbbells on top of the shoulders. When performing dumbbell lifts from the hang position we place the handle of the dumbbell at kneecap level (**See Figure 1**). When performing dumbbell lifts from the floor position, the handle of the dumbbell is placed at the mid shin level just as it would be using a barbell (**See Figure 2**). I like to have the dumbbells positioned at the side of the knee or shin instead of in front where the barbell would be. This makes it much easier to perform the exercise correctly as well as making it safer to get in the catch position.

Dumbbell Cleans

Start Position: See Figures 1 & 2

1. Feet should be in a good jumping position (narrow jumping width apart).
2. Sit the hips back in a $\frac{1}{2}$ - $\frac{1}{4}$ squat position, DO NOT bend the knees (they will naturally bend by emphasizing sitting the hips back).
3. Shins should be perpendicular to the floor.
4. Back should be straight and flat (with a natural dip in the lower back), and head up.
5. The shoulders should be positioned slightly in front of the kneecaps (same as when using a barbell).
6. The hands (dumbbells) should be on the side of the knees or shins.
7. This should put the athlete in a good jumping position to start the lift. **See Figures 1 and 2.**

Execution Phase: See Figure 3

1. Lift dumbbells explosively in a jumping motion by extending the hip, knee, and ankle joints.
2. At the end of the jump be sure to shrug the shoulders as well.
3. The dumbbells should stay close to the body and slide along the rib cage while keeping the face of the dumbbells parallel with the mirror.
4. Elbows should be kept high above the wrists.
5. This should allow the dumbbells to reach maximum height. The armpit is the desired height. **See Figure 3.**

Catch Phase: See Figures 4 & 5

1. As you start the downward motion into the catch position you should begin to rotate the elbows around and under the dumbbells.
2. Catch the dumbbells on the shoulders while lifting the elbows as high as possible (You should be able to see the point of the elbows in the mirror). **See Figure 4.**
3. Also during descent you should be sitting the hips backwards in a squatting motion to assist in catching the dumbbells under control.
4. Do not allow the knees to bend forward during the catch which will cause you to catch the dumbbells with elbows down and in a toe squatting position which will put undue stress on the patellar tendon. (Most of the weight should be on your heels). **See Figure 5.**
5. Once you are in a full squatting position, elbows high, good balance and under control, extend hips and knees to stand fully erect and complete the lift.



Figure 1 (above): Starting from the hang position

Figure 2 (below): Starting from the floor position





Figure 3 (above): Dumbbell Clean - Execution Phase

Figure 4 (below): Dumbbell Clean - Catch Phase (catch the dumbbells on the shoulders while lifting the elbows as high as possible)



Figure 5 (above): Dumbbell Clean - Catch Phase, incorrect form (do not allow the knees to bend forward during the catch, as this will put undue stress on the patellar tendon)

Figure 6 (below): Alternate Dumbbell Clean



Alternate Dumbbell Cleans

With Alternate Dumbbell Cleans, the only difference is to lift and catch one dumbbell at a time instead of lifting both dumbbells at the same time. Alternate between arms with each rep. The uninvolved arm remains at the side during the movement. **See Figure 6, preceding page.**

Dumbbell Split Snatch

Start Position: See Figures 1 & 2

1. Feet should be in a good jumping position (narrow jumping width apart).
2. Sit the hips back in a $\frac{1}{2}$ - $\frac{1}{4}$ squat position, DO NOT bend the knees (they will naturally bend by emphasizing sitting the hips back).
3. Shins should be perpendicular to the floor.
4. Back should be straight and flat (with a natural dip in the lower back), and head up.
5. The shoulders should be positioned slightly in front of the kneecaps (just like with a barbell).
6. The hands (dumbbells) should be on the side of the knees or shins.
7. This should put the athlete in a good jumping position to start the lift. **See Figures 1 and 2.**

Execution Phase: See Figure 3

1. Lift dumbbells explosively in a jumping motion by extending the hip, knee, and ankle joints.
2. At the end of the jump be sure to shrug the shoulders as well.
3. The dumbbells should stay close to the body and slide along the rib cage while keeping the face of the dumbbells parallel with the mirror. **See Figure 3.**
4. Elbows should be kept high above the wrists.
5. This should allow the dumbbells to reach maximum height.

Catch Phase: See Figure 7

1. As you start the downward motion into the catch position you should begin to flex and rotate the elbows under the dumbbells.
2. To catch the dumbbells, make sure elbows are fully extended and locked.
3. During descent you should also be splitting your legs to catch the dumbbells in a lunge or split catch position.
4. Do not allow the front knee to extend past the front of the toes while also trying to allow the knee of the back leg to bend only slightly.

5. Make sure you are in a full lunge position, elbows locked, good balance and under control before you stand back up. Do not allow the dumbbells to push your back leg into a lower bent knee position; try to stick the landing position in full control. **See Figure 7.**

6. To stand up, bring the front leg back until parallel with the back leg, and lower the dumbbell back down to the start position.

7. With every rep remember to alternate the forward leg.

Figure 7: Dumbbell Split Snatch - Catch Phase



Dumbbell Alternate Foot Alternate Snatch

With Dumbbell Alternate Foot Alternate Snatch, the only difference is to lift one arm at a time instead of lifting both arms at the same time. For proper execution you must lift the arm that is the opposite of the leg that is forward in the catch position. The uninvolved arm should remain at the side. This requires much more balance and coordination to perform than the basic dumbbell snatch. Remember to alternate each rep as to which leg is forward and which arm is raised in the catch. **See Figure 8.**



Figure 8: Dumbbell Alternate Foot Alternate Snatch

Dumbbell Jerk

Start Position: See Figures 9 & 10

1. Feet should be in a good jumping position (Narrow jumping width apart).
2. Dumbbells should be resting on the shoulders with elbows in the front and up facing the mirror. **See Figure 9.** You can also hold the dumbbells up by using the standing shoulder press position where elbows are down and the end of the dumbbell is sitting on the shoulders with hands facing forward. **See Figure 10.** This second position is more difficult to maintain with heavy weights.
3. Hips and knees should be slightly bent, ready to dip and jump.



Figure 9: Dumbbell Jerk - Start Position (dumbbells resting on the shoulders with elbows in the front and up facing the mirror)



Figure 10: Dumbbell Jerk - Start Position (standing shoulder press position where elbows are down and the end of the dumbbell is sitting on the shoulders with hands facing forward)

Execution Phase: See Figures 11 & 12

1. While keeping your chest up, you should begin to dip by sitting the hips back and allowing the knees to bend slightly a few inches, not quite into a $\frac{1}{4}$ squat position. **See Figure 11.**
2. Do not allow the athlete to dip by allowing the knees to bend forward. The motion should occur mainly in the hips into a squatting type motion. If the knees go out past the front of the toes, undue stress is placed on the patellar tendon, which is an unnatural jumping position. **See Figure 12.**
3. Once you have reached the bottom of the dip (just a few inches) you must immediately and explosively reverse direction by extending the hip, knee, and ankle joints simultaneously in a jumping motion.



Figure 11 (above): Dumbbell Jerk - Execution Phase (chest up, hips back and knees bent slightly)

Figure 12 (below): Dumbbell Jerk - Execution Phase (incorrect form)



- Allow the arms to extend up into a locked out position while dropping under the bar into the catch position. (Remember: the triple extension motion, not the arms, is what raises the dumbbell. The arms are used only to catch the dumbbell and not to push it.)
- To stand up bring the front leg backward until parallel with the back leg and lower the dumbbell back down to the start position.
- With every rep remember to alternate the forward leg.

Catch Phase: See Figure 13

- After reaching full jumping height, you must immediately get into the catch position during descent.
- To catch the dumbbells make sure elbows are fully extended and locked.
- During descent you should also be splitting your legs to catch the dumbbell in a lunge or split catch position.
- Do not allow the knee of the front leg to extend past the front of the toes while also trying to allow the knee of the back leg to bend only slightly.
- Make sure you are in a full lunge position, elbows locked, good balance and under control before you stand back up. (Do not allow the dumbbells to push you into a lower bent knee position; try to stick the landing position in full control). **See Figure 13.**

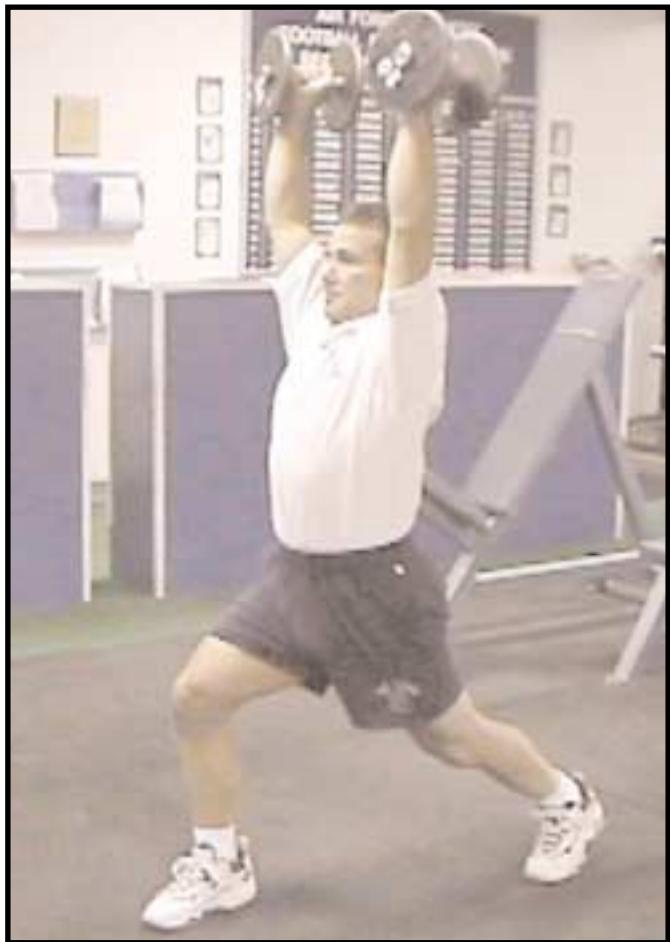


Figure 13: Dumbbell Jerk - Catch Phase

Dumbbell Alternate Foot Alternate Jerk

With Dumbbell Alternate Foot Alternate Jerk, the only difference is to raise one arm up at a time instead of driving both arms up at the same time. For proper execution you must lift the arm that is the opposite of the leg that is forward in the catch position. The uninvolved arm should remain at shoulder height. This requires much more balance and coordination to perform than the basic dumbbell jerk. Remember to alternate each rep as to which leg is forward and which arm is raised in the catch. **See Figure 14.**



Figure 14: Dumbbell Alternate Foot Alternate Jerk

Conclusion

In closing, I think the benefits of performing dumbbell Olympic exercises is a very effective training method for almost any athlete or sport. The ability to generate power with these exercises is tremendous. With the more advanced dumbbell exercises, you have the ability to improve an athlete's balance, coordination, and athleticism as well. I think that if you give these exercises a chance within your program design you will not be sorry.

References

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2. Hedrick, A. Dumbbell Training for Football at the U.S. Air Force Academy. *NSCA Journal* 20(6):34-39. 1998

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Peter Melanson, MS, CSCS is the Assistant Strength/Conditioning Coach at the United States Air Force Academy. He received a Bachelor's Degree in Health and Fitness from Springfield College, Springfield, MA, and an Master's Degree in Human Performance from the University of Tennessee, Knoxville, TN. Peter has been a presenter at various conferences, and has served as a fitness expert for ABC TV's Knoxville affiliate. Before joining the staff at the Air Force Academy, he worked as a strength coach at the US Olympic Training Center in Colorado Springs, CO and for the New York Jets (NFL). Peter is a Certified Strength and Conditioning Specialist (CSCS) through the NSCA.