

# STANDING BARBELL MILITARY PRESS

## COMPOUND MOVEMENT

### SET UP /PREPARATION

The Barbell Military Press is a strength movement in its purest form, as such it requires a good, careful and stable set up.

Use a power-rack with lifting hooks to set your barbell up at chest height, so you can easily lift the bar into the front racked position before ensuring you have stable footing when preparing for this exercise. Don't clean a barbell up to train the military press where possible.

Dip just under the barbell when it is racked and grasp the barbell roughly one hands-span wider than shoulder width, using your legs to lift the barbell out of the rack – ensure you keep the barbell at neck/chin height at its lowest point, this will require you to be locking the arms at that level and not allowing the front shoulder to relax off, causing you to press from a much lower, rotated position.

Step firmly backward and bring both feet in line with one another, shoulder width apart with an upright back, using your glutes, abs and upper back to maintain your standing position.

### EXECUTION

Being well braced in the above-mentioned position, grasp the bar firmly, pushing upward and outward through the palms of your hands, extending at the shoulders and elbows, keeping the wrists as firmly in-line as possible.

You may need to tilt your head and upper body back slightly to allow the bar to travel upwards and past your face to complete the movement, try to avoid too much backward lean, as this creates the temptation to involve too much of the chest in what should be a strict movement.

As the bar passes your forehead, if you have had to tilt back slightly, push your head through, below the bar to ensure lockout is above the head and your shoulders are kept in their strongest position.

Despite this being a shoulder and upper body movement, the nature of this means that you will find you have to use your core, gluteal muscles and upper back to maintain the posture, often people straining on heavy military presses feel tightness in their glutes as they fight to stay upright.

### MOVEMENT



### MUSCULAR ANATOMY

- PRIMARY MOVERS  
Deltoids, Triceps
- SECONDARY MOVERS  
Pectorals
- ANTAGONISTS  
Biceps, Latissimus Dorsi

### EQUIPMENT REQUIRED

Strictly speaking, a Military Press always uses a barbell pressed from just above the front rack position, with the deltoid engaged under tension, free standing with the feet firmly planted and shoulder width apart.

The Military press only requires minimal equipment for a maximal effect, but all overhead presses provide very similar benefits in general, other kit you could use may be...

1. Football bars, with neutral grip handles
2. Dumbbells or Kettlebells (greater difficulty free standing)
3. Blocks, logs and other awkward objects – Note: these awkward objects require a different technique that encourages a backward lean and pressure on the low-back

## NOTES

### ESTIMATING 1 REP MAXES AND WEIGHT PRESCRIPTIONS

Programming a lift that a client hasn't performed before or isn't already quite adept at can be difficult, choosing the correct weight for the right repetition range is tricky.

As with many variants on exercises, there are some small correlations between strength of one movement and another, the back squat and front squat is a good example, in this instance, the bench press and the overhead press appear to be similarly linked, given the muscles used for each movement.

Del & Kwan-lung et al (2), provide an insight into this with research into the Bench press, compared to other upper body accessory movements, one of which was the dumbbell shoulder press.

Whilst not exactly replicating the Barbell Military press, their data can be used as a very solid guideline.

The nature of a Barbell press would be that a greater load should be useable, so these numbers generated by the research equation would likely be conservative and a safe, effective starting weight for a novice client to build confidence with

When comparing a 6rm bench press appears to be around Bench press load - 0.42 (+5.84kg) +/- 6-8%

This means a bench press 6rm of 100kg, could see a 6rm of an overhead press of around 45k-50g

Equation	Mean Difference (actual load- Predicted load)	Mean percentage error
Bench Press (0.42) + 5.84kg	.29kg	7.05%

Using this equation would be a simple and sensible way to chose a weight based off of one of the most commonly performed exercises in the gym.

### THE OVERHEAD PRESS – INFRONT OR BEHIND THE HEAD?

Pulling and pressing movements to the front or back of the head have been argued for decades amongst lifters, both have been used by numerous lifters with no issue.

However, there are real considerations and research that reinforce the correct choice for your client.

Research into behind or in front of the head pressing has largely focused on range of motion and spinal posture, data by McKean & Burkett (1) looked at males and females in their mid to late twenties, across a variety of active populations lifting up to a 3 rep maximum.

Pressing to the front of the head often begins with the spine in a lordotic position, whilst pressing behind the head push a lifter into a more kyphotic position and far less thoracic extension. The thoracic spine remains extended throughout the press in this instance, the ability to maintain a more stable spinal posture appears to be linked to core strength.

External rotation of the shoulders is inevitable during behind the head pressing.

Through magnetic imaging and 3d modeling research (1) it appears that pressing to the front or rear appears to be safe in individuals with acceptable unloaded ranges of motion, with strengthened core muscular structure, provided the strength exists to maintain posture.

Weakness in the core or lacking natural range of motion likely leads to pain, injury and deterioration of exercise prematurely through excessively exaggerating the lordotic or kyphotic positioning of the spine.

In these instances, you would be better suited to a fully supported pressing movement and postural training before progressing to loaded military press performed standing.



Testing being performed, to monitor spinal movement, shoulder range of motion and muscle recruitment in unsupported, overhead barbell pressing in research by McKean & Burkett

## REFERENCES

1. McKean, M.R. & Burkett, B.J. (2015) Overhead shoulder press - In-front of the head or behind the head? Journal of Sport and Health Science. [Online] 4 (3), Elsevier Ltd, 250–257. Available from: doi:10.1016/j.jshs.2013.11.007.
2. Del P., W., Kwan-Lung, N., Tse, M.A. & Smith, A.W. (2013) Using Bench Press Load to Predict Upper Body Exercise Loads in Physically Active Individuals. Journal of Sports Science & Medicine. [Online] 12 (1), 38–43