

PANATTA created a new gym machine aimed to efficiently train the glutes muscles, we introduce the innovative Master Gluteus. This exclusive machine considers the extension of the hip via the rear thrust of the feet, in order to train all the power muscles of the lower limb.

The Master Gluteus machine is used on all fours, simulating “the kick of the mule” in a mono lateral version, through- out an appropriate and adjustable footboard platform; that is in order to guarantee an optimal position and right posture for the users.



Worldwide Fitness Company

MASTER GLUTEUS

KINESIOLOGY OF THE LOWER LIMB MOVEMENT

The main pivot of the lower limb is the hip that articulates the femur head on the pelvis with the called “coxo-femoral” articulation, allowing the tight to perform different movements by using the action of several muscles. Among these the Gluteus Maximus that, as well as being one of the biggest and most powerful muscle of the body, characterizes the aesthetics of the buttocks and those of the hips.



MUSCULAR ANATOMY OF THE GLUTEUS MUSCLES

The back and side part of the pelvis are made of three bands of muscles: Gluteus Minimum, Gluteus Medium, Gluteus Maximus, that cover the buttocks on different levels: deep, medium and superficial.

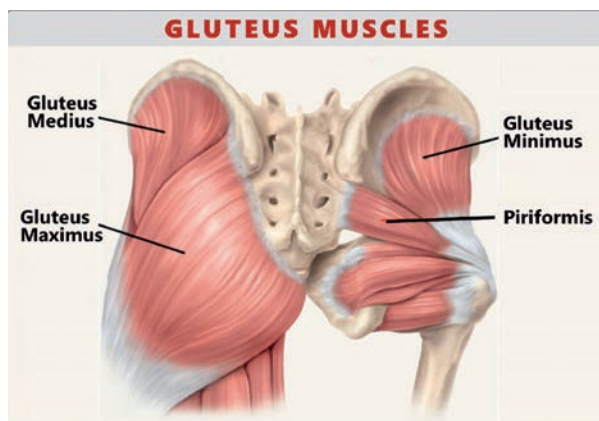
The gluteus maximus crosses the hip joint and partly joins the tibial band ileus (through its superficial bands) creating an anatomical link and indirectly connecting with the knee joint.

GLUTEUS MAXIMUS ACTIVATION

Extends the femur over the hip bone with an external rotation of the hip and contributes to the abduction of the thigh together with the Gluteus Minimum and Medium. In the bilateral contraction the pelvis extends over the hips and takes part in the retroversion of the same pelvis.

MAIN FUNCTIONS AND PRACTICE

The action of the gluteus maximus becomes important with the application of significant loads against the power generated by the fibers (50% at fast contraction types 2A and 2B); for this reason, it becomes active during the extension and forced of the femur, as well as when walking; but, above all, when running and jumping.



TECHNICAL FEATURES OF THE “MASTER GLUTEUS”

The originality of the Master Gluteus lies in the ability to adjust the thrust movement on three different angles with a sliding column (patented device), that enables work on three different trajectories for a multiple neuro-muscular impulse on the lower limb muscles and, particularly, on the Gluteus Maximus.

POSITION 1 (80° column inclination)

The rear thrust of the limb is performed along a inclined trajectory, almost vertical, to facilitate the specific action of the Gluteus with a partial contribution of the hamstring muscles and of the Quadriceps.



POSITION 2

(column inclination 62,5°)

The rear thrust of the limb is performed along an intermediate trajectory. In this the action of the gluteus maximus takes aid from the hamstring muscles and partly from the Quadriceps to support the extension of the femur.



POSITION 3

(column inclination 45°)

The rear thrust of the limb, is performed along a trajectory inclined at an angle of 45°, that activates the Gluteus with a relevant contribution of the hamstring and a better engagement of the Quadriceps. The final result is the extension of the knee.



**MUSCULAR
ACTIVITY ANALYSIS
(ELECTROMIOGRAPHY)**

The analysis of muscles activation through the electromyography instrument (EMG), that was performed in the Panatta Lab clarified the importance of the Master Gluteus on the muscle fibers of the same gluteus, femoral biceps and quadriceps. It was shown that the different inclination activates the Gluteus Maximus, that responds with a bigger engagement increasing the involvement scale from the lower to the higher position (fig. 1).

In the whole, the muscle activity increases when passing from the smaller to the higher inclination, up to the intermediate and ending with the higher. This occurs because of the bigger muscle excursion meaning more work for the joint extensor of the lower limb. Even in the comparison with the exercises in closed kinetics (Leg Press, Squat Machine and Hack Squat) the Master Gluteus keeps being the most suitable for the gluteus muscles and confirms the effect of the major resistance on the last stages of extension (fig. 2).

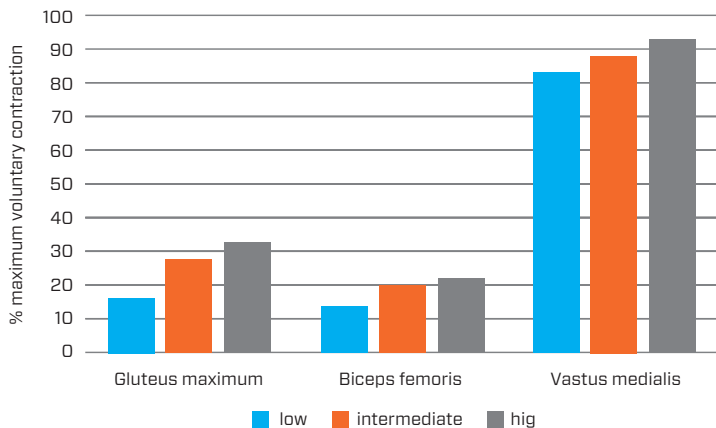


FIGURE 1

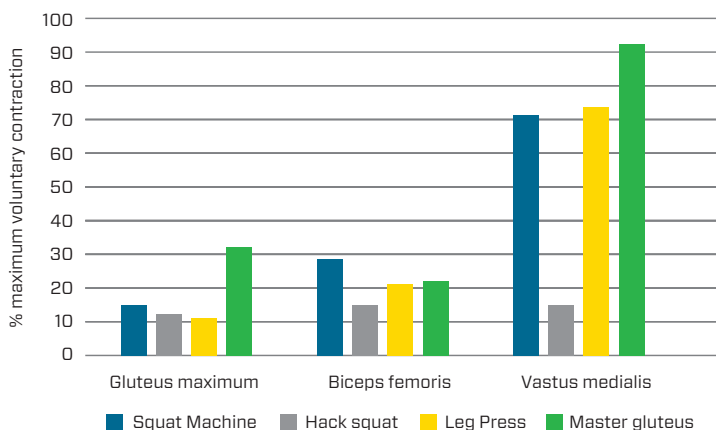


FIGURE 2

**TRAINING PROPOSAL
WITH PANATTA
“MASTER GLUTEUS”**

The Panatta team proposes a particular technique of training, that can be performed exclusively with the Master Gluteus machine and based on the combination of the three positions in sequence, with a triple series of traction of the lower limb:

Starting from position n. 1, with 8 Reps. With high load and speed to activate the fibers 2A and 2B of the Gluteus; after about 3 recovery seconds, we pass to position n. 2 (with the support of another user) going on with the work for others 6-8 Rps. taking the speed of the movement under control; finally, after other 3 recovery seconds it goes to position n. 3 leading to exhaustion the Reps. With a progressively decreasing speed up to the completion of the series.

It is an exercise performed at a “tri-set” speed with the same load of the machine, aimed to obtain a particular focus on the Gluteus Maximus. As it increases the fatigue, with the changed position, it finds the contribution of others auxiliary muscles to completely exhaust the different fibers and produce a great impulse to create this big muscular group. The working protocol, proposed to the Master Gluteus, is made of 3 series in total, alternatively performed for each limb, with working loads that decrease of about a 10-15 % from one series to another.

Biomechanics of the exercise with resistance, edited by Massimiliano Menchi and Matteo Romanazzi.

