



## Percentage of Maximal Voluntary Isometric Contraction of the Gluteus Maximus during Closed Kinetic Chain Exercise

Exercise	Boren et al., 2011	Reiman et al., 2012	Selkowitz et al., 2013	Macadam et al., 2015	Contreras et al., 2015	Bolga et al., 2016	Average % MVIC
Cross-over Step-up				103.0%			103.0%
Barbell Hip Thrust					69.5/86.7%		78.1%
American Hip Thrust					57.4/89.9%		73.7%
Rotational single-leg Squat				68.0%			68.0%
Skater Squat	66.2%						66.2%
Single-leg Squat	70.7%	59.0%					64.9%
Band Hip Thrust							64.2%
Retro Step-up		59.0%					59.0%
Single-leg Deadlift	58.8%	59.0%					58.9%
Single-leg Mini-Squat		57.0%					57.0%
Lateral Step-up	63.8%			49.6%			56.7%
Transverse Lunge		49.0%		58.0%			53.5%
Standing Hip Abduction (Band at ankle)				52.9%			52.9%
Forward Step-up	54.7%	74.0%	22.8%				50.5%
Standing Hip Abduction with hip and knee flexion (3% BM)				46.0%			46.0%
Standing Hip Abduction (3% BM)				42.0%			42.0%
Sideways Lunge		41.0%					41.0%
Wall Squat		59.0%				18.9%	39.0%
Hip Circumduction; Stable Surface	37.9%						37.9%
Dynamic Leg Swing	33.7%						33.7%
Standing Hip Abduction				31.5%			31.5%
Hip Circumduction; Unstable Surface	28.9%						28.9%
Lunge in neutral trunk position		36.0%	20.1%				28.1%
Standing Hip Abduction with hip and knee flexion				28.0%			28.0%
Side-step			27.4%				27.4%
Lateral Side-step (Hip ER and band at ankle)				27.3%			27.3%
Lateral Lunge				26.5%			26.5%



## Percentage of Maximal Voluntary Isometric Contraction of the Gluteus Maximus during Closed Kinetic Chain Exercise (continued)

Exercise	Boren et al., 2011	Reiman et al., 2012	Selkowitz et al., 2013	Macadam et al., 2015	Contreras et al., 2015	Bolga et al., 2016	Average % MVIC
Lateral Step-up (10% BM)				23.0%			23.0%
Lunge with forward trunk lean		22.0%					22.0%
Pelvic Drop	25.1%			17.0%			21.1%
Lateral Step-up (25% BM)				20.0%			20.0%
Lunge with backward trunk lean		19.0%					19.0%
Hip Hike			17.7%				17.7%
Lateral Side-step (Band at knee)				16.2%			16.2%
Lateral Side-step (Band at ankle)				15.0%			15.0%
Lateral Side-step (Hip IR and band at ankle)				13.0%			13.0%
Squat			12.9%				12.9%
Forward Step-down						10.9%	10.9%
Mini-Squat						10.8%	10.8%
Lateral Step-down						10.3%	10.3%
Lateral Side-step (Band at foot)				8.0%			8.0%
Monster Walk (Band at foot)				6.0%			6.0%
Monster Walk (Band at ankle)				5.0%			5.0%
Monster Walk (Band at knee)				4.0%			4.0%