

# Complete evidence-based exercise database by muscle group

This comprehensive database contains **100+ exercises** organized by muscle group, each with difficulty ratings, equipment requirements, and targeted muscle heads based on EMG research and Jeff Nippard's recommendations. The exercises span all skill levels and equipment options, making this ideal for building customizable workout programs.

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## Chest exercises

The pectoralis major has distinct upper (clavicular) and lower (sternal/costal) fiber regions that respond differently to pressing angles. EMG research from Rodríguez-Ridao et al. (2020) confirms that **30° incline produces maximum upper chest activation**, while flat and decline variations emphasize the mid and lower portions. ([PubMed Central](#)) ([nih](#))

### Upper chest (clavicular head)

Exercise	Difficulty	Equipment	Target	Research Notes
Incline Barbell Bench Press	Medium	Barbell, Bench, Squat Rack	Upper pec, anterior deltoid, triceps	<b>Nippard A-tier;</b> EMG peaks at 30° incline (~30% MVIC)
Incline Dumbbell Press	Medium	Dumbbells, Bench	Upper pec, anterior deltoid, triceps	<b>Nippard A-tier;</b> deeper stretch than barbell at 15-30°
Low-to-High Cable Fly	Easy	Cables	Upper pec, anterior deltoid	Follows clavicular fiber direction; constant tension ( <a href="#">Gymshark Central</a> )
Incline Dumbbell Fly	Easy	Dumbbells, Bench	Upper pec	Isolation emphasizing stretched position ( <a href="#">Swolverine</a> )
Seated Cable Fly (Low Position)	Easy	Cables, Bench	Upper pec	<b>Nippard S-tier;</b> eliminates balance, maximizes pec tension ( <a href="#">Fitness Volt</a> )
Incline Smith Machine Press	Medium	Machines, Bench	Upper pec, anterior deltoid, triceps	<b>Nippard A-tier;</b> safe failure training ( <a href="#">barbend</a> )
Reverse-Grip Bench Press	Hard	Barbell, Bench, Squat Rack	Upper pec, triceps	Supinated grip activates clavicular head on flat bench ( <a href="#">Untapped Supplement</a> )
Landmine Press	Medium	Barbell	Upper pec, anterior deltoid	Arc pattern aligns with upper chest fibers ( <a href="#">BOXROX</a> )

### Mid chest (sternal head)

Exercise	Difficulty	Equipment	Target	Research Notes
Machine Chest Press	Easy	Machines	Mid pec, anterior deltoid, triceps	<b>Nippard S-tier #1;</b> deep stretch, smooth resistance, easy progression (Fitness Volt barbend)
Flat Barbell Bench Press	Medium	Barbell, Bench, Squat Rack	All pec regions, triceps	ACE study: most effective overall chest exercise (nih)
Flat Dumbbell Press	Medium	Dumbbells, Bench	Mid pec, triceps	<b>Nippard A-tier;</b> superior ROM vs barbell (barbend)
Seated Cable Fly (Mid Position)	Easy	Cables, Bench	Mid pec	<b>Nippard S-tier</b> isolation; constant tension throughout (Fitness Volt barbend)
Pec Deck Machine	Easy	Machines	Mid pec	ACE study: <b>98% activation</b> vs bench press (ACE)
Cable Crossover (Mid Height)	Easy	Cables	Mid pec	ACE study: 93% activation; excellent stretch (ACE)
Flat Dumbbell Fly	Easy	Dumbbells, Bench	Mid pec	<b>Nippard A-tier;</b> emphasizes stretch (barbend)
Push-Ups (Standard)	Easy	Bodyweight	Mid pec, triceps, anterior deltoid	Comparable activation to bench at similar intensity
Deficit Push-Ups	Medium	Bodyweight, Bench	Mid pec, triceps	Hands elevated for deeper pec stretch

### Lower chest (costal fibers)

Exercise	Difficulty	Equipment	Target	Research Notes
Chest Dips	Medium	Bodyweight	Lower pec, triceps	<b>Nippard A-tier;</b> 30-45° forward lean maximizes lower pec (BOXROX)
Weighted Dips	Hard	Bodyweight	Lower pec, triceps	Deep stretch induces high mechanical tension (BOXROX)
Decline Barbell Bench Press	Medium	Barbell, Bench, Squat Rack	Lower pec, triceps	Higher lower sternal activation vs flat (Schoenfeld 2016) (BOXROX)
Decline Dumbbell Press	Medium	Dumbbells, Bench	Lower pec, triceps	Greater ROM than barbell; 15-30° decline optimal (BOXROX)
High-to-Low Cable Fly	Easy	Cables	Lower pec (costal)	Follows lower fiber direction; constant tension (ATHLEAN-X)
Decline Push-Ups	Easy	Bodyweight, Bench	Lower pec, triceps	Feet elevated changes angle to bias lower chest (BetterMe)
Decline Dumbbell Fly	Easy	Dumbbells, Bench	Lower pec	Isolation at decline for lower sternal fibers (Swolverine)
Dip Machine (Assisted)	Easy	Machines	Lower pec, triceps	Adjustable assistance for beginners (Gymshark Central)

## Arm exercises

The biceps has two heads responding to arm position: (Men's Health) **arms behind body stretch the long head** (Built with Science) (outer peak), while **arms in front emphasize the short head** (Boostcamp App) (inner width). (Community Strength Austin) The triceps long head is the largest (~50% of mass) and uniquely crosses the shoulder, requiring overhead movements for full development. (BarBend) (StrengthLog)

### Biceps: short head exercises

Exercise	Difficulty	Equipment	Target	Research Notes
Preacher Curl (45°)	Medium	Barbell/ Dumbbells, Bench	Short head emphasis	Nippard S-tier; 2023 study shows better distal bicep growth (ResearchGate) (BarBend)
Concentration Curl	Easy	Dumbbells, Bench	Short head, overall biceps	ACE #1 for biceps activation; minimizes cheating (ACE Fitness)
Wide-Grip Barbell Curl	Easy	Barbell	Short head emphasis	Wide grip reduces long head involvement (Hevy)
Wide-Grip Cable Curl	Easy	Cables	Short head emphasis	Constant tension throughout ROM
Spider Curl	Medium	Dumbbells/ Barbell, Bench	Short head emphasis	Chest-supported; prevents momentum (SOLE FITNESS)
EZ Bar Curl (Wide Grip)	Easy	Barbell (EZ)	Short head emphasis	Marcolin 2018: higher activation than DB curls (NCBI)
Machine Preacher Curl	Easy	Machines	Short head emphasis	Easy on joints; perfect isolation for beginners (Community Strength Austin)
No Money Curl	Medium	Dumbbells	Short head emphasis	External rotation targets inner bicep (ATHLEAN-X)

### Biceps: long head exercises

Exercise	Difficulty	Equipment	Target	Research Notes
Bayesian Cable Curl (Face Away)	Medium	Cables	Long head maximum stretch	<b>Nippard S-tier #1;</b> arms behind body, maximum stretch
Incline Dumbbell Curl	Medium	Dumbbells, Bench	Long head emphasis	<b>Nippard A-tier;</b> shoulder hyperextension stretches long head (Community Strength Austin)
Drag Curl	Medium	Barbell, Dumbbells	Long head emphasis	Elbows pull back behind body during curl
Hammer Curl	Easy	Dumbbells	Long head, brachialis	Best for biceps "peak"; neutral grip (MyoMax Performance)
Chin-Up	Hard	Pull-up Bar	Long head (secondary), lats	<b>Nippard B-tier;</b> compound back/biceps
Lying Flat Bench Curl	Medium	Dumbbells, Bench	Long head improved stretch	Better bottom tension than incline per Nippard
Narrow-Grip EZ Bar Curl	Easy	Barbell (EZ)	Long head emphasis	Keep elbows from moving forward
Overhead Cable Curl	Medium	Cables	Long head, peak development	More effective long head bias than conventional curls

### Triceps: lateral and medial head exercises

Exercise	Difficulty	Equipment	Target	Research Notes
Cable Pushdown (Rope)	Easy	Cables	Lateral and medial head	<b>Nippard A-tier;</b> spread rope at bottom for peak contraction (Fitness Volt)
Cable Pushdown (Straight Bar)	Easy	Cables	Lateral and medial head	Close to S-tier; locked-in feel, easy progression (Fitness Volt)
Reverse-Grip Pushdown	Medium	Cables	Medial head emphasis	Underhand grip specifically targets medial head
Close-Grip Bench Press	Medium	Barbell, Bench	All heads, lateral at lockout	<b>Nippard A-tier;</b> compound for raw strength (BarBend)
Diamond Push-Ups	Medium	Bodyweight	Lateral and medial head	Bohler 2011: #1 for triceps EMG activation
Bench Dips	Easy	Bench	Lateral head emphasis	Good for beginners; compound movement (BarBend)
Tricep Kickback (Cable)	Medium	Cables	Lateral and long head	<b>Nippard A-tier;</b> constant cable tension (BarBend)
JM Press	Hard	Barbell, Bench	Lateral head, all heads	Hybrid movement; strength carryover (BarBend)

### Triceps: long head exercises

Exercise	Difficulty	Equipment	Target	Research Notes
Overhead Cable Extension (Straight Bar)	Medium	Cables	Long head emphasis	<b>Nippard S-tier #1</b> ; 2023 study: <b>40% more growth</b> than pushdowns (BarBend)
Skull Crushers (EZ Bar)	Medium	Barbell (EZ), Bench	Long head, all heads	<b>Nippard S-tier</b> ; arc behind head for max stretch (BarBend)
Dumbbell Overhead Extension	Easy	Dumbbells	Long head emphasis	Overhead position maximally stretches long head (BOXROX)
Cable Overhead Extension (Rope)	Medium	Cables	Long head emphasis	<b>Nippard A-tier</b> ; pull apart at end for contraction (BarBend)
Incline Dumbbell Kickback	Medium	Dumbbells, Bench	Long head emphasis	Boehren study: <b>highest long head EMG</b> of 9 exercises
Weighted Dips (Upright)	Hard	Bodyweight	Long head, all heads	<b>Nippard A-tier</b> ; upright torso emphasizes triceps (BarBend)
Katana Cable Extension	Medium	Cables	Long head emphasis	Arms 30-40° forward in scapular plane (BarBend)

## Shoulder exercises

Research consistently shows that **70-90% of shoulder training should focus on medial (side) deltoids**—they create shoulder width. (BarBend) Front deltoids receive substantial work from pressing movements, while rear deltoids are often undertrained (BarBend) despite their importance for shoulder health and aesthetics.

### Front delt (anterior deltoid)

Exercise	Difficulty	Equipment	Target	Research Notes
Machine Shoulder Press	Medium	Machines	Anterior deltoid, medial delt, triceps	<b>Nippard A+ tier #1;</b> (HackMD) safe failure training, consistent tension (HackMD)
Seated Dumbbell Overhead Press	Medium	Dumbbells, Bench	Anterior deltoid, medial delt	<b>Nippard A-tier;</b> go-to without machine access
Standing Barbell Overhead Press	Hard	Barbell, Squat Rack	Anterior deltoid, core	B+ tier; (HackMD) highest neuromuscular activity (Saeterbakken 2013)
Dumbbell Overhead Press (Standing)	Medium	Dumbbells	Anterior deltoid, medial delt	<b>Nippard A-tier;</b> greater ROM than barbell
Arnold Press	Medium	Dumbbells, Bench	Anterior and medial deltoid	Higher anterior AND medial activation than standard press
Incline Bench Press	Medium	Barbell/ Dumbbells, Bench	Upper pec, anterior delt (secondary)	Greatest anterior delt among horizontal pressing (nih)
Front Raise (Dumbbell/Cable)	Easy	Dumbbells/ Cables	Anterior deltoid	D-tier per Nippard; redundant with pressing
Push-Up	Easy	Bodyweight	Anterior deltoid (secondary)	Trains front delts as secondary mover

### Side/lateral delt (medial deltoid)

Exercise	Difficulty	Equipment	Target	Research Notes
Single-Arm Cable Lateral Raise	Easy	Cables	Lateral deltoid	<b>Nippard S+ tier #1;</b> maximum tension in stretched position ( <a href="#">HackMD</a> ) ( <a href="#">LowKickMMA</a> )
Cable Y-Raise	Medium	Cables	Lateral deltoid	<b>Nippard S-tier;</b> both arms, time-efficient ( <a href="#">HackMD</a> ) ( <a href="#">Generation Iron</a> )
Behind-Back Cuffed Cable Lateral Raise	Medium	Cables	Lateral deltoid	<b>Nippard S-tier;</b> tremendous stretch across body ( <a href="#">HackMD</a> )
Cross-Body Cable Lateral Raise	Medium	Cables	Lateral deltoid	Extended ROM for medial delt development ( <a href="#">BarBend</a> )
Lean-In Dumbbell Lateral Raise	Medium	Dumbbells, Bench	Lateral deltoid	<b>Nippard A-tier;</b> tension when stretched ( <a href="#">HackMD</a> ) ( <a href="#">Fitness Volt</a> )
Standing Dumbbell Lateral Raise	Easy	Dumbbells	Lateral deltoid	B-tier; zero tension at bottom but time-efficient ( <a href="#">Generation Iron</a> )
Arnold-Style Side-Lying Raise	Medium	Dumbbells, Bench	Lateral deltoid	<b>Nippard A-tier;</b> good stability and ROM ( <a href="#">HackMD</a> )
Atlantis Standing Machine Lateral Raise	Easy	Machines	Lateral deltoid	<b>Nippard A+ tier;</b> ( <a href="#">HackMD</a> ) smooth, consistent tension ( <a href="#">HackMD</a> )
Upright Row (Cable/Rope)	Medium	Cables/Barbell	Lateral deltoid, upper traps	B-tier; ACE ranked lowest but still effective
45-Degree Incline Row	Medium	Dumbbells, Bench	Medial and posterior deltoid	ACE study: <b>highest medial delt activation</b> ( <a href="#">ACE Fitness</a> )

## Rear delt (posterior deltoid)

Exercise	Difficulty	Equipment	Target	Research Notes
Reverse Cable Crossover	Medium	Cables	Posterior deltoid	<b>Nippard S-tier #1;</b> full ROM, constant tension <a href="#">HackMD</a> <a href="#">Fitness Volt</a>
Reverse Pec Deck	Easy	Machines	Posterior deltoid	<b>Nippard S-tier;</b> sit sideways for deeper stretch <a href="#">HackMD</a> <a href="#">Generation Iron</a>
Lying Incline Rear Delt Fly	Medium	Dumbbells, Bench	Posterior deltoid	Nippard's personal favorite; bigger stretch face-down <a href="#">Men's Fitness</a>
Rope Face Pull (Underhand)	Medium	Cables	Posterior deltoid, external rotators	<b>Nippard A-tier;</b> set rope lower, externally rotate <a href="#">HackMD</a> <a href="#">Fitness Volt</a>
Seated Rear Lateral Raise	Medium	Dumbbells, Bench	Posterior deltoid	ACE study: <b>tied for highest rear delt activation</b> <a href="#">ACE Fitness</a>
45-Degree Incline Row	Medium	Dumbbells, Bench	Posterior and medial deltoid	Excellent multi-purpose; highest activation two categories <a href="#">University of Wisconsin</a>
Bent-Over Reverse Dumbbell Fly	Medium	Dumbbells	Posterior deltoid	B-tier; neutral grip increases activation
Chest-Supported Row	Medium	Dumbbells, Bench	Rear deltoid (secondary), lats	Pull-up variations show greatest compound activation

## Back exercises

The back contains multiple muscle groups requiring different movement patterns. **Vertical pulling** (pulldowns, pull-ups) emphasizes lat width, while **horizontal rowing** builds thickness. The ACE study found bent-over rows activated **3 of 5 back muscles maximally** and ranked second for the remaining two.

### Upper back (traps, rhomboids)

Exercise	Difficulty	Equipment	Target	Research Notes
I-Y-T Raises (Prone)	Medium	Dumbbells, Bench	Middle and lower traps, rhomboids	ACE study: <b>greatest lower trap activation</b> of all exercises
Face Pulls (Omni-Direction)	Easy	Cables	Middle traps, rear delts, rhomboids	<b>Nippard S-tier</b> ; vary height each set
Bent-Over Row (Wide Grip)	Hard	Barbell	Middle traps, rhomboids, lats	ACE: <b>best overall back exercise</b>
Chest-Supported Row (Wide, High Pull)	Medium	Machines/ Dumbbells, Bench	Middle traps, rhomboids, rear delts	<b>Nippard S+ tier #1 back exercise</b>
Inverted Row	Medium	Pull-up Bar, Squat Rack	Middle traps, rhomboids, lats	Greater mid-trap EMG than pulldowns
Seated Cable Row (Wide Grip)	Easy	Cables	Middle traps, rhomboids, lats	Highest mid-trap activation in EMG research
Barbell Shrugs	Easy	Barbell/Dumbbells	Upper trapezius	Classic trap builder; add scapular retraction
Cable Shrugs	Easy	Cables	Upper and middle trapezius	Better fiber alignment per Nippard
Cable Y-Raise	Medium	Cables	Lower trapezius, serratus	<b>Nippard S-tier</b> for lower traps
Reverse Pec Deck	Easy	Machines	Rear delts, middle traps	<b>Nippard S-tier</b> ; smooth resistance

### Mid back: lats (*latissimus dorsi*)

Exercise	Difficulty	Equipment	Target	Research Notes
Pull-Ups (Overhand)	Hard	Pull-up Bar	Upper lats, teres major, biceps	EMG: <b>highest lat activation</b> of any exercise
Chin-Ups (Underhand)	Hard	Pull-up Bar	Lats (especially lower), biceps	Virtually identical lat activation to pull-ups
Lat Pulldown (Medium Grip)	Easy	Machines	Lats, teres major, biceps	<b>Nippard S-tier</b> ; smooth, excellent stretch
Single-Arm Lat Pulldown (Kneeling)	Medium	Cables	Lats, teres major	<b>Nippard S-tier</b> ; greater ROM, corrects imbalances
Chest-Supported Row (Neutral Grip)	Medium	Machines/ Dumbbells, Bench	Lats, rhomboids, teres major	<b>Nippard S+ tier</b> ; eliminates cheating
Seated Cable Row (Close Grip)	Easy	Cables	Lats, lower lats, rhomboids	<b>Nippard S-tier</b> ; protracted scapulae = higher lat activation
Single-Arm Dumbbell Row	Medium	Dumbbells, Bench	Lats, rhomboids, rear delts	<b>Nippard A-tier</b> ; elbow close = more lat emphasis
Bent-Over Row (Underhand)	Hard	Barbell	Lats, lower lats, biceps	Slightly more lat activation than overhand
Straight-Arm Pulldown	Medium	Cables	Lats (isolation)	Isolates lats without bicep involvement
Dumbbell Pullover (Bottom-Half)	Medium	Dumbbells, Bench	Lats (stretched position)	<b>Nippard A-tier</b> ; stay in stretched position only
Kroc Row	Hard	Dumbbells	Lats, rhomboids, grip	<b>Nippard A-tier</b> ; controlled momentum

## Lower back (erector spinae)

Exercise	Difficulty	Equipment	Target	Research Notes
Conventional Deadlift	Hard	Barbell	Erector spinae (isometric), glutes, hamstrings	C-tier for back hypertrophy; excellent for strength
Romanian Deadlift	Medium	Barbell/ Dumbbells	Erector spinae, hamstrings, glutes	Constant tension on erectors through hinge
45-Degree Back Extension	Medium	Machines	Erector spinae, glutes, hamstrings	77-82% MVC activation; full ROM
Prone Lumbar Extension	Hard	Bench, Dumbbells	Lumbar multifidus, longissimus	PubMed: <b>92%+ MVIC</b> in lower back muscles
Good Mornings	Hard	Barbell	Erector spinae, hamstrings, glutes	Excellent for endurance and strength
Superman Hold	Easy	Bodyweight	Erector spinae, glutes, rhomboids	77-82% MVC; great for beginners
Bird Dog	Easy	Bodyweight	Erector spinae, multifidus, core	Evidence-based rehab exercise; anti-rotation
Glute Bridge	Easy	Bodyweight	Erector spinae (secondary), glutes	AAOS spine conditioning exercise
Jefferson Curl	Hard	Barbell	Erector spinae through flexion	Advanced; builds mobility through full range

## Leg exercises

EMG and hypertrophy research reveals important findings: **seated leg curls produce 1.5x more hamstring growth** than lying curls due to the lengthened position. For glutes, a 2023 study found hip thrusts and squats produce **equal hypertrophy** despite hip thrusts showing 2x higher EMG. (Mennohenselmans) Deep squats (140°) significantly increase glute and adductor growth. (Stronger by Science)

### Quadriceps

Exercise	Difficulty	Equipment	Target	Research Notes
Barbell Back Squat	Medium	Barbell, Squat Rack	All four quad heads, glutes	<b>Nippard S-tier;</b> 2022 study confirms growth in all quad muscles
Barbell Front Squat	Hard	Barbell, Squat Rack	All quad heads (rectus femoris emphasis)	<b>Nippard S-tier;</b> upright torso shifts tension to quads
Hack Squat	Medium	Machines	All quad heads	<b>Nippard S-tier;</b> "brilliant quad builder"
Pendulum Squat	Medium	Machines	All quad heads	<b>Nippard S-tier;</b> natural arc motion
Smith Machine Squat	Medium	Machines	All quad heads	<b>Nippard S-tier;</b> safe failure training HackMD
Leg Extension	Easy	Machines	Rectus femoris, vastus lateralis/medialis	<b>Nippard S-tier;</b> all four heads engaged
Bulgarian Split Squat	Hard	Dumbbells, Bench	Vastus lateralis/medialis, rectus femoris	<b>Nippard A-tier;</b> deep unilateral stretch
45-Degree Leg Press	Medium	Machines	Vastus lateralis/medialis/intermedius	<b>Nippard A-tier;</b> narrow stance biases quads
Goblet Squat	Easy	Dumbbells	All quad heads	Similar to front squat; excellent for beginners
Reverse Nordic Curl	Hard	Bodyweight	All quad heads (rectus femoris emphasis)	<b>Nippard A-tier;</b> deepest quad stretch possible Fitness Volt
Sissy Squat	Hard	Cables/ Bodyweight	Rectus femoris, vastus medialis	High stretch; knees forward strengthens knees
Walking Lunges (Short Steps)	Medium	Dumbbells/ Barbell	Quadriceps	B-tier for quads; shorter steps = more quad

## Hamstrings

Exercise	Difficulty	Equipment	Target	Research Notes
Seated Leg Curl	Easy	Machines	Biceps femoris, semitendinosus, semimembranosus	2021 study: <b>1.5x more growth</b> than lying curl
Romanian Deadlift	Medium	Barbell/ Dumbbells	Biceps femoris, semitendinosus, semimembranosus	McAllister 2014: greatest semitendinosus activation ( <a href="#">University of Wisconsin</a> )
Nordic Hamstring Curl	Hard	Bodyweight	Biceps femoris, semitendinosus	<b>Highest EMG rise rate</b> (1091.8 nEMG/s); injury prevention ( <a href="#">PubMed</a> <a href="#">PubMed Central</a> )
Glute-Ham Raise	Hard	Machines	Biceps femoris, semitendinosus, glutes	Best overall hamstring activation (McAllister) ( <a href="#">University of Wisconsin</a> )
Lying/Prone Leg Curl	Easy	Machines	Biceps femoris (primary), semitendinosus	Equal BF and ST activation; baseline exercise ( <a href="#">ACE Fitness</a> )
Stiff-Leg Deadlift	Medium	Barbell/ Dumbbells	All hamstring muscles	Upper-inside hamstring emphasis ( <a href="#">Breaking Muscle</a> )
Single-Leg RDL	Hard	Dumbbells	Hamstrings, glute medius	Balance challenge; corrects imbalances ( <a href="#">Gymshark Central</a> )
Stability Ball Hamstring Curl	Medium	Bodyweight	Semitendinosus (primary), biceps femoris	ACE: higher semitendinosus than prone curl ( <a href="#">ACE Fitness</a> )
Good Mornings	Medium	Barbell	Biceps femoris, semitendinosus, erectors	B-tier; good RDL alternative

## Glutes

Exercise	Difficulty	Equipment	Target	Research Notes
Barbell Hip Thrust	Medium	Barbell, Bench	Gluteus maximus (all regions)	<b>Nippard A-tier;</b> 2x EMG vs squat; <a href="#">PubMed</a> equal hypertrophy
Walking Lunges (Long Steps)	Medium	Dumbbells/ Barbell	Gluteus maximus, medius	<b>Nippard S-tier;</b> lean 30° forward for max glute
Machine Hip Abduction	Easy	Machines	Gluteus medius, minimus	<b>Nippard S-tier</b> for upper glutes; lean 30° forward
Step-Ups	Medium	Bench, Dumbbells	Gluteus maximus, medius, minimus	Systematic review: <b>highest GMax activation</b> <a href="#">PubMed Central</a> <a href="#">Peloton</a>
Deep Back Squat	Medium	Barbell, Squat Rack	Gluteus maximus, medius, adductors	<b>Nippard A-tier;</b> 140° depth increases glute growth 65%
Cable Kickback	Medium	Cables	Gluteus maximus (upper), medius	<b>Nippard A-tier;</b> kick up and out diagonally <a href="#">BarBend</a>
Bulgarian Split Squat	Hard	Dumbbells, Bench	Gluteus maximus, medius	Very high GMax activation (systematic review) <a href="#">PubMed Central</a>
Machine Hip Thrust	Medium	Machines	Gluteus maximus (mid-glutes)	<b>Nippard A-tier;</b> minimizes setup time
Single-Leg Hip Thrust	Medium	Bench	Gluteus maximus, medius, minimus	Unilateral; addresses imbalances
Glute Bridge	Easy	Bodyweight/ Dumbbells	Gluteus maximus (mid-region)	B-tier; great for beginners <a href="#">The Barbell Physio</a>
Cable Pull-Through	Medium	Cables	Gluteus maximus, hamstrings	Band tension increases at lockout <a href="#">The Barbell Physio</a>
Side-Lying Hip Abduction	Easy	Bodyweight	Gluteus medius, minimus	JOSPT: <b>best gluteus medius exercise</b> <a href="#">Journal of Orthopaedic &amp; Sport...</a>
Lateral Band Walks	Easy	Bodyweight	Gluteus medius, minimus	Excellent warmup; functional activation <a href="#">Gymshark Central</a>
Reverse Lunge	Medium	Dumbbells/ Barbell	Gluteus maximus, quads, hamstrings	Better glute emphasis than forward lunges

## Equipment reference guide

For users building workouts with specific equipment constraints:

**Bodyweight only:** Push-ups, dips, chin-ups, pull-ups, diamond push-ups, Nordic curls, reverse Nordic curls, Superman, bird dog, glute bridges, side-lying hip abductions, inverted rows, decline push-ups

**Dumbbells + Bench:** Incline press variations, dumbbell rows, Bulgarian split squats, Romanian deadlifts, concentration curls, incline curls, lying tricep extensions, lateral raises, rear delt flys, hip thrusts, step-ups

**Cables:** All fly variations, face pulls, lat pulldowns, pushdowns, overhead extensions, lateral raises, kickbacks, pull-throughs, straight-arm pulldowns

**Barbell + Rack:** Squats, deadlifts, bench press, overhead press, bent-over rows, good mornings, barbell curls, skull crushers

**Machines:** Chest press, pec deck, leg press, hack squat, leg extension, leg curl, lat pulldown, cable row, shoulder press, hip abduction

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## Key programming principles from research

**Stretch-focused training:** Exercises that challenge muscles in lengthened positions produce superior hypertrophy. This explains why seated leg curls beat lying curls (1.5x growth), overhead tricep extensions beat pushdowns (40% more growth), and incline curls outperform concentration curls for long head development.

**Compound foundation, isolation refinement:** Build workouts around S-tier compound movements (squats, rows, presses) then add targeted isolation work for lagging areas or specific muscle heads.

**Equipment substitutions:** When swapping exercises, match the movement pattern and muscle position. Replace incline barbell press with incline dumbbell press or low-to-high cable fly—all target upper chest in similar positions. Replace leg extensions with sissy squats or reverse Nordics for quad isolation.

**Difficulty progression:** Start beginners with machine and cable exercises (controlled movement paths, easy load adjustment), progress to free weights as technique improves, and reserve advanced bodyweight movements (Nordic curls, weighted dips, pistol squats) for experienced lifters.