Integrated Resistance Training
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Integrated Resistance Training

Introduction

The world of performance enhancement, athletic reconditioning, and personal training is changing drastically. Athletes and clients demand to be bigger, faster, stronger, and leaner than ever before. To stay on the cutting edge of fitness, performance enhancement, and injury prevention, health and fitness professionals must follow a comprehensive, systematic approach to training. The approach must develop all the components necessary to achieve physical, physiological, and performance improvements, including functional strength, neuromuscular efficiency, functional flexibility, metabolic efficiency, and nutritional efficiency. Accordingly, this course focuses on current concepts in resistance (strength) training to provide health and fitness professionals with the fundamental tools necessary to design an integrated training program.

Section I. Training Principles
Section II. Types of Strength
Section III. Systems of Resistance Training
Section IV. Chapter Summary

References

Training improves a variety of performance and health related variables. Improvements in performance adaptations include increases in strength, power, endurance, flexibility, speed, agility, and neuromuscular control.

The health-related benefits that occur from training include improved cardiovascular efficiency, beneficial endocrine and serum lipid adaptations, increased lean body mass, decreased body fat, increased metabolic efficiency, increased tissue tensile strength, increased bone density, and decreased physiological stress.
Figure 1 – Health Related Benefits from Resistance Training

- Improved Cardiovascular Efficiency
- Beneficial Endocrine and Serum Lipid Adaptations
- Increased Lean Body Mass
- Decreased Body Fat
- Increased Metabolic Efficiency
- Increased Tissue Tensile Strength
- Increased Bone Density
- Decreased Physiological Stress

With these performance and health adaptations as incentives, it is important to design an integrated training program that improves a client's overall health, wellness, and performance.\textsuperscript{1,2,4,12,22,29,30,31,32}
Section I. Training Principles

There are several important strength-training principles that the health and fitness professional must understand. These principles include the principles of overload, variation, specificity, individualization, and progression.1,4,32,33

The Principle of Overload

The principle of overload involves providing the appropriate training stimulus to elicit optimum physical, physiological, and performance adaptations.1,3,5,34,35,36,37 A well-designed, integrated training program imposes demands on the human movement system that force progressive adaptation.1 The human movement system responds to the demands imposed during training (Specific Adaptations to Imposed Demands, or the SAID principle) with specific adaptations.1,3,4,32,34,35,37,38,39,40,41,42 The overload can occur through acute variable manipulations, including volume (repetitions, sets), intensity, contraction velocity, muscle action, rest interval, training frequency, plane of motion, exercise selection, and exercise order.43,44,45,46

Figure 2 – Overload Variables

- Volume (Repetitions, Sets)
- Intensity
- Contraction Velocity
- Muscle Action
- Rest Interval
- Training Frequency
- Plane of Motion
- Exercise Selection
- Exercise Order

The Principle of Variation

Planned variations in an integrated training program are essential because they enable continuous adaptations to occur over a training period and prevent injury.12,43,44,47,48,49,50,51,52 Planned integrated training programs lead to superior physical, physiological, and performance improvements compared to a nonperiodized training program.1,3,4,5,32,34,35,37,42,43,44,45,46,52,53,54,55,56,57,58,59,60,61,62,63,64,65 Specific combinations of volume and intensity produce specific training adaptations (high volume = cellular changes; high intensity = neural
adaptations). A planned integrated training program with progressive and systematic acute variable variation produces long-term, consistent adaptations and prevents overtraining and injury.¹

**Training Variation** is an important training principle that can have a strong influence on specific training adaptations.¹,⁴,⁶,⁸,³²,⁶⁶ Choosing the appropriate training variables has a significant impact on the results of the training program.³,⁵,³⁴,³⁷,⁶⁰ Several researchers have suggested that higher training volumes produce greater cellular adaptations.²⁴,²⁵,⁵³,⁶⁷ Hakkinen,⁸ Sale,¹⁶,¹⁸,¹⁹ and others¹⁷,⁶⁸ suggest that high-intensity/high-speed, low-volume training produces optimum neural adaptations (increased rate of force production, increased rate coding, increased motor unit synchronization, decreased neural inhibition, etc.). However, Hakkinen⁸ also states that prolonged training periods with relatively high training intensity and low training volume result in tissue overload, neural fatigue, and, eventually, overtraining. Therefore, appropriate training variation must be a key component in the design of an integrated training program.¹²,³²,₄₄,₄₉,₅₀,₅₁,₅₂,₅₈,₆₉

**The Principle of Specificity**

The degree of physical, physiological, and performance adaptation that occurs during training is strongly related to the mechanical specificity (kinematic and kinetic), neuromuscular specificity (motor unit synchronization, rate coding, motor unit recruitment, rate of force production) and metabolic specificity (bioenergetic continuum) of the training program.⁴,⁵,¹₁,¹₄,¹₅,¹₈,³₄,³₅,⁴₀,⁴₁,⁵₉,⁷₀,⁷₁,⁷₂,₇₃,₇₄,₇₅,₇₆,₇₇,₇₈,₇₉,₈₀,₈₁,₈₂,₈₃,₈₄,₈₅,₈₆,₈₇,₈₈,₈₉,⁹₀,⁹₁,⁹₂,⁹₃,⁹₄,⁹₅,⁹₆,⁹₇,⁹₉ The more similar the exercise is to the actual activity (movement speed, rate of force production, movement pattern specificity, bioenergetic specificity, postural specificity, etc.), the greater the Transfer-of-Training Effect.⁸,¹₇,¹₈,¹₉,⁶⁸,₉₀,₉₉ The basic mechanics of the training exercise should be as similar as possible to the individual’s performance. This is referred to as Dynamic Correspondence.⁶₀,₉₁,₉₂ The Optimum Performance Training™ (OPT™) model discussed in the following chapter focuses on multiplanar, proprioceptive training that mimics activity-specific functional movement patterns.

**Figure 3 – Types of Specificity**

<table>
<thead>
<tr>
<th>Mechanical</th>
<th>Neuromuscular</th>
<th>Metabolic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kinematic and Kinetic</td>
<td>Motor Unit Synchronization</td>
<td>Bioenergetic Continuum</td>
</tr>
<tr>
<td></td>
<td>Rate Coding</td>
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<td></td>
<td>Motor Unit Recruitment</td>
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<tr>
<td></td>
<td>Rate of Force Production</td>
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</tr>
</tbody>
</table>
Figure 4 – Transfer of Training Effect

TRANSFER OF TRAINING EFFECT (DYNAMIC CORRESPONDENCE)

- Movement Speed
- Rate of Force Production
- Movement Pattern
- Bioenergetic
- Posture
- Contraction Modes

**Contraction Velocity Specificity:** High-velocity training (speed strength)\(^{33,60}\) is necessary to make significant alterations in the velocity end of the force-velocity curve.\(^{8,75,100,101}\) In most functional activities, the rate of force production is more important than peak force production. The rate of force production (starting strength) is more effectively established with dynamic explosive movements than heavy weight training.\(^{8,75,100,102,103}\)

**Movement Pattern Specificity:** Studies prove that the magnitude of the transfer-of-training effect (dynamic correspondence) of the measured maximum strength gain depends on the similarity between the training program and the activity for which the individual is training.\(^{8,16,17,99}\) Research demonstrates improved functional ability with movement specific training.\(^{71,99,104,105}\) The health and fitness professional must remember that all functional movements involve acceleration, deceleration, and stabilization in all three planes of motion and require proprioceptive feedback from all mechanoreceptors in the kinetic chain. This is the rationale for multiplanar (sagittal, frontal, and transverse), multidimensional (stabilization, strength, power), proprioceptively enriched (multisensory environment) training that progressively and systematically manipulates all of the acute training variables. This type of training is part of the functional paradigm on which the NASM OPT™ model is based.

**The Principle of Individualization**

When designing an integrated training program, the health and fitness professional must consider the individual’s age, general medical history, injury history, training background, work capacity, recoverability, structural integrity, and training goals.\(^{34,37,60}\)
Each individual will respond to a program that is specifically designed to address his or her individual goals. 

**Figure 5 – Principle of Individualization**

- Age
- General Medical History
- Injury History
- Training Background
- Work Capacity
- Recoverability
- Structural Integrity
- Training Goals

**The Principle of Progression**

An integrated training program must be systematic, activity specific, and progressive to optimally create the appropriate training adaptation. Adhering to specific guidelines ensures consistent, injury-free progression. An integrated training program follows the functional paradigm described in Figure 6. Designing an integrated training program requires the health and fitness professional to understand many interconnected training concepts. An appreciation of the interdependence of the acute variables is critical when designing a program.

**Figure 6 – NASM’s Progressive Training Principles**

1. Develop proper muscle balance
2. Correct all kinetic chain imbalances
3. Develop proper structural integrity of the kinetic chain before activity specific training
4. Establish optimum multi-planar postural control
5. Develop optimum levels of stabilization strength, core strength, and neuromuscular efficiency prior to extremity strength, prime mover strength, or explosive power
6. Establish optimum levels of activity specific functional strength, neuromuscular efficiency, reactive neuromuscular control and power
Section II. Types of Strength

Strength is the ability of the neuromuscular system to produce internal tension and exert resistance against an external force. Strength is an essential component of all performance enhancement programs. Traditional training programs develop absolute strength in individual muscles, emphasizing one plane of motion, and often utilizing linear machines. Since all muscles function eccentrically, isometrically, and concentrically in all three planes of motion, an integrated training program should utilize a multidimensional/multiplanar training approach that uses the entire muscle contraction spectrum and velocity contraction spectrum. Strength can be delineated into several categories, each defined by the contraction velocity and emphasis on the neuromuscular system. The basic types of strength include limit strength, strength endurance, maximal strength, speed strength, relative strength, stabilization strength, optimal strength, and functional strength.

Figure 7 – Types of Strength

- Limit
- Maximal
- Relative
- Optimal
- Endurance
- Speed
- Stabilization
- Functional

**Limit Strength** is the maximum force that muscles can produce in a single contraction. Most individuals do not come close to utilizing their potential limit strength. Neural inhibition — secondary to muscle imbalances, joint dysfunctions, and lack of neuromuscular efficiency — decreases an individual’s ability to access his or her potential limit strength. Improving motor unit recruitment and dynamic joint stabilization can approach limit strength most effectively. This can be achieved by following a comprehensive integrated training program.

**Maximal Strength** is the maximum force that an individual’s muscle can produce in a single voluntary effort, regardless of the rate of force production. This is limited by neuromuscular inhibition. Lack of intramuscular coordination and intermuscular coordination decreases motor unit synchronization, motor unit recruitment, and rate coding. This decreases force production. There are three types of muscular contractions: concentric, isometric, and eccentric. During a concentric muscle contraction, the muscle
shortens to produce force and accelerate movement. During an isometric muscle contraction, the muscle develops tension without shortening (producing) or lengthening (reducing). Isometric force provides optimum levels of stabilization strength. This helps maintain normal joint arthrokinematics, length-tension relationships, and force-couple relationships. During an eccentric contraction, the muscle lengthens to reduce force and decelerate movement.

Maximum strength can be improved through neuromuscular stabilization training. Neuromuscular stabilization training improves intramuscular coordination and intermuscular coordination. Intramuscular coordination is the ability of the neuromuscular system to allow optimum levels of motor unit recruitment and motor unit synchronization, allowing high levels of force production, stabilization, and force reduction. Intermuscular coordination is the ability of the neuromuscular system to allow agonists, antagonists, stabilizers, and neutralizers to work synergistically in an integrated, multiplanar environment. This leads to decreased Golgi tendon organ inhibition, decreased antagonistic inhibition, increased dynamic joint stabilization, and increased neuromuscular efficiency.\textsuperscript{4,5,33,34,37,60}

**Figure 8 – Intramuscular and Intermuscular Coordination**

<table>
<thead>
<tr>
<th><strong>INTRAMUSCULAR COORDINATION</strong></th>
<th>is the ability of the neuromuscular system to allow optimum levels of motor unit recruitment and motor unit synchronization, allowing high levels of force production, stabilization, and force reduction.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>INTERMUSCULAR COORDINATION</strong></td>
<td>is the ability of the neuromuscular system to allow agonists, antagonists, stabilizers, and neutralizers to work synergistically in an integrated, multiplanar environment.</td>
</tr>
</tbody>
</table>

**Relative Strength** is the maximum force that an individual can generate per unit of bodyweight, irrespective of the time of force development. Optimum levels of relative strength are required for activities that require an individual to control his or her bodyweight against gravity or external resistance (wrestling, gymnastics, figure skating, rock climbing, hiking, running, martial arts, boxing, etc).\textsuperscript{33,34,60}

**Optimum Strength** is the ideal level of strength that an individual needs to perform functional activities; any further development in maximum strength would not enhance performance. This is activity specific. For example, it takes approximately 0.7 to 0.9 seconds to develop maximum force. During a sprint, an individual has approximately 0.3 to 0.05 seconds to produce force. Therefore, during functional activities, an individual’s maximal strength threshold is not accessed. Furthermore, it makes sense that functional
strength, neuromuscular efficiency, stabilization strength, and rate of force production are as important as — or more important than — developing maximum strength or peak force production in order to enhance performance in most activities.\textsuperscript{33,34,60}

**Strength Endurance** is the ability to produce and maintain force over prolonged periods of time. The ability to overcome gravity, ground reaction forces, and momentum repetitively for long periods of time is vital to prevent injury and allow optimum performance.\textsuperscript{33,34,60}

**Speed Strength** is the ability of the neuromuscular system to produce the greatest possible force in the shortest possible time. Speed strength is a high priority in most functional activities.\textsuperscript{106} There are three types of speed strength: starting strength, explosive strength, and reactive strength.

Starting strength is the ability to produce high levels of force at the beginning of a movement (initial rate of force production). This depends on an individual’s intramuscular and intermuscular coordination.

Explosive strength is the ability to develop a sharp rise in force production once a movement pattern has been initiated (increase in force/time). It is the ability of the neuromuscular system to continue developing high levels of force quickly. Explosive strength is paramount in activities that require an individual to overcome high levels of external resistance.

Reactive strength (elastic strength) is the ability of the neuromuscular system to switch from an eccentric contraction (force reduction) to a concentric contraction (force production) quickly and efficiently. The time between the eccentric contraction and initiation of the concentric contraction is the amortization phase and is highly influenced by neuromuscular efficiency and stabilization strength.\textsuperscript{33,34,60}

**Figure 9 – Speed Strength**

- Starting Strength
- Explosive Strength
- Reactive Strength (Elastic Strength)

**Stabilization Strength** is the ability of the kinetic chain’s stabilizing muscles to provide optimal dynamic joint stabilization and maintain postural equilibrium during functional movements. Optimum stabilization strength allows for optimum recruitment of prime movers, and thus increased force production and force reduction.
Core Strength is the ability of the lumbo-pelvic-hip complex musculature to control an individual's constantly changing center of gravity. High levels of core strength improve segmental stabilization throughout the lumbo-pelvic-hip complex, which improves functional strength and neuromuscular efficiency of the entire kinetic chain.

Integrated Functional Strength is the ability of the neuromuscular system to produce dynamic, multiplanar eccentric, concentric, and isometric stabilization contractions quickly and efficiently during functional movements.

Specific activities require specific types of strength. Each individual must undergo an activity demand analysis profile to determine the specific strength requirements for his or her particular activity. Furthermore, a health and fitness professional must perform a thorough kinetic chain assessment to determine common dysfunctions. The next step is to implement a specific corrective exercise program to address key deficits. Optimum functional strength development requires a program that is multidimensional, multiplanar, proprioceptively enriched, activity specific, and progressive.

Figure 10 – Functional Strength Requirements

OPTIMUM FUNCTIONAL STRENGTH DEVELOPMENT REQUIRES A PROGRAM THAT IS:

- Multidimensional
- Multiplanar
- Proprioceptively Enriched
- Activity Specific
- Progressive

The most important goal of all integrated training programs is to prevent injury and achieve optimum performance. This requires a program that is more integrated than a traditional absolute strength and hypertrophy training program — in other words, the kind of program outlined in OPT™.

It is commonly believed that a specific program will unlock the body's potential. This is true to a certain extent: consistent training with proper variation and adherence to basic training principles will enable the individual to achieve optimum gains in functional performance. The long-term success of any program depends upon the development of an integrated training program.
Section III.
Systems of Resistance Training

Power lifters, Olympic lifters, and bodybuilders originally designed most resistance training programs. These training programs are popular because of marketing or “gym science,” not because they scientifically demonstrate superiority over other programs in bringing about increases in strength, hypertrophy, and function.

Optimum gains in strength, neuromuscular efficiency, hypertrophy, and function are achieved by following a systematic, integrated training program and manipulating key training variables. The integrated training model follows a progressive, systematic approach that enables the health and fitness professional to make consistent gains with their clients.

There are many training systems that are currently being utilized. We will review several of the most common training systems used in the health and fitness industry, including the single-set system, circuit-training system, multiple-set system, peripheral heart-action system, pyramid system, tri-set system, superset system, and split-routine system.

![Figure 11 – Training Systems](image)

The Single-Set System

In the single-set system, the individual performs one set of each exercise. The individual usually performs 8 to 12 repetitions of each exercise at a slow, controlled tempo. The single-set system is one of the oldest training methods and is still quite popular with many trainers and strength coaches because of the proposed safety of the system.
Integrated Resistance Training

The Multiple-Set System

The multiple-set system of training consists of two or three warm-up sets of increasing resistance, followed by several sets of the same resistance. This resistance training system has been popular since the 1940s.\(^{36,37,63,107}\)

The Pyramid System

(Light-to-Heavy/Heavy-to-Light System)

This system usually utilizes the triangle approach. In the light-to-heavy system, the individual performs 10 to 12 repetitions with a light load. Resistance is then increased for each set, until the individual can perform 1 to 2 repetitions, usually in 4 to 6 sets. The heavy-to-light system works in the opposite direction. The individual begins with a heavy load for 1 to 2 repetitions then decreases the load and increases the repetitions for 4 to 6 sets.\(^{37}\)

The Superset System

The superset system has evolved into two distinct but similar types of programs. One form of super-setting uses several sets of two exercises for antagonistic muscles. For example, an individual may perform a bench press followed by cable rows (chest/back). The second type of super-setting uses one set of several exercises in rapid succession for the same muscle group or body part. For example, an individual may perform a dumbbell incline press, a ball push-up, and a cable chest press all in succession (chest superset). Both types of super-setting involve sets of 8 to 10 repetitions with no rest between sets or exercises. The superset system is popular among bodybuilders, suggesting the benefit for muscular hypertrophy.\(^{37,48}\)

The Circuit-Training System

Circuit-training programs consist of a series of exercises that an individual performs for 10 to 15 repetitions, one after the other, with minimal rest. For example, an individual may perform a stability ball dumbbell chest press, stability ball dumbbell rows, dumbbell front lunge and press, cable curls standing on an airex pad, triceps pushdowns on a dyna disc, and single-leg squat touchdowns on a ½ foam roll. These exercises should be performed immediately after each other (vertical loading) for 2 to 3 sets of 10 to 15 repetitions. Circuit training is a great training system for those individuals with limited time and for those who want to alter body composition.\(^{34,37,108}\)
The Peripheral Heart-Action System

The peripheral heart-action system is a variation of circuit training. The training session is divided into 2 to 4 sequences, all of which contain different exercises for each body part to be trained. A sequence is 4 to 6 exercises, each for a different body part. The number of exercises per sequence varies with the program’s goal, but normally the individual performs 8 to 12 repetitions per sequence. For example, after performing the first sequence (4 exercises in a row for 8 to 12 repetitions), the individual rests for 30 to 45 seconds, then performs the second sequence and so on. This system is very beneficial for incorporating an integrated, multidimensional program and for altering body composition.37,108

Figure 12 – Peripheral Heart-Action System

<table>
<thead>
<tr>
<th>THE PERIPHERAL HEART-ACTION SYSTEM</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Set 1: Stability</strong></td>
</tr>
<tr>
<td>1. Ball Push-Up</td>
</tr>
<tr>
<td>2. Ball Squat</td>
</tr>
<tr>
<td>3. Single-Leg Cable Row</td>
</tr>
<tr>
<td>4. Lunge to Balance</td>
</tr>
<tr>
<td><strong>Set 2: Strength</strong></td>
</tr>
<tr>
<td>1. Incline DB Press</td>
</tr>
<tr>
<td>2. Leg Press</td>
</tr>
<tr>
<td>3. Lat Pulldown</td>
</tr>
<tr>
<td>4. Barbell Squat</td>
</tr>
<tr>
<td><strong>Set 3: Power</strong></td>
</tr>
<tr>
<td>1. MB Chest Pass</td>
</tr>
<tr>
<td>2. Squat Jump</td>
</tr>
<tr>
<td>3. Woodchop Throw</td>
</tr>
<tr>
<td>4. Power Step-Ups</td>
</tr>
</tbody>
</table>

The Tri-Set System

The tri-set system is similar to the peripheral heart-action system in that it incorporates groups of exercises. As the name implies, it consists of groups of three exercises for the same body part. Individuals perform the exercises with little or no rest between each exercise, typically performing 2 to 4 sets of each exercise. For example, an individual may perform a dumbbell shoulder press, cable triceps pushdowns, and ball dumbbell triceps extensions for his or her triceps.37

The Split-Routine System

Many bodybuilders and mass-dominant athletes (football, shot put, etc.) use the split-routine system. Bodybuilders must perform many exercises for the same body part to bring about optimum muscular hypertrophy. A typical split routine consists of training chest/shoulders/triceps on Monday and Thursday and back/biceps/legs on Tuesday and Friday. This enables the individual to achieve the desired volume of training in a reasonable period of time.
Section IV. Summary

A well-designed, integrated training program produces optimum levels of strength, neuromuscular control, power, flexibility, endurance, and alterations in body composition. It is important for the health and fitness professional to understand the different types of strength and the different strength-training systems. This enables the health and fitness professional to create an individualized program for a client based on the individual’s functional assessment, activity demands analysis profile, and goals.
Appendix: Integrated Resistance Training Exercises

*Total Body Stabilization Exercises*

- Ball squat curl to press 1
- Ball squat curl to press 2
- Ball squat curl to press 3
- Step up balance curl to press 1
- Step up balance curl to press 2
- Step up balance curl to press 3
Integrated Resistance Training

Lunge, balance curl to press 1
Lunge, balance curl to press 2
Lunge, balance curl to press 3
SL squat curl to press 1
SL squat curl to press 2
SL squat curl to press 3
Integrated Resistance Training

SL Romanian deadlift curl to press 1
SL Romanian deadlift curl to press 2
SL Romanian deadlift curl to press 3
SL Squat to Row 1
SL Squat to Row 2
**Total Body Strength**

Lunge, curl to press 1  
Lunge, curl to press 2  
Lunge, curl to press 3  

Squat to press 1  
Squat to press 2  
Squat to press 3
Integrated Resistance Training

Squat to row 1  Squat to row 2

Deadlift Shrug to Calf Raise 1  Deadlift Shrug to Calf Raise 2
Integrated Resistance Training

Total Body Power

Power clean 1

Power clean 2

Power clean 3

Push-press 1

Push-press 2

DB Snatch 1

DB Snatch 2

DB Snatch 3
Integrated Resistance Training

Chest Stabilization Exercises

- Push Up 1
- Push Up 2
- Ball Push Up – Feet on Ball 1
- Ball Push Up – Feet on Ball 2
- Ball Push Up – Hands on Ball 1
- Ball Push Up – Hands on Ball 2
Integrated Resistance Training

Ball DB Press 1

Ball DB Press 2

Ball DB Press – Alt. Arm

Ball DB Press – One Arm
Integrated Resistance Training

- Cable Chest Press 1
- Cable Chest Press 2
- Cable Chest Press – Alt. Arm
- Cable Chest Press – One Arm
- SL Cable Chest Press – Two Arm
- SL Cable Chest Press – Alt. Arm
- SL Cable Chest Press – One Arm
Chest Strength

DB Chest Press 1

DB Chest Press 2

Incline DB Press 1

Incline DB Press 2

Bench Press 1

Bench Press 2
Integrated Resistance Training

Incline Barbell Press 1

Incline Barbell Press 2

Machine Chest Press 1

Machine Chest Press 2
Integrated Resistance Training

Chest Power

- MB Chest Pass 1
- MB Chest Pass 2
- Rotational Chest Pass 1
- Rotational Chest Pass 2

Back Stabilization

- Ball DB Row 1
- Ball DB Row 2
- Ball DB Row – Alt. Arm
- Ball DB Row – One Arm
Integrated Resistance Training

Ball DB Cobra 1
Ball DB Cobra 2
Ball DB Cobra – Alt. Arm
Ball DB Cobra – One Arm
Standing Cable Row 1
Standing Cable Row 2
Standing Cable Row – Alt. Arm
Standing Cable Row – One Arm
Integrated Resistance Training

SL Cable Row 1
SL Cable Row 2
SL Cable Row Alt. Arm
SL Cable Row One Arm

Standing Lat Pulldown 1
Standing Lat Pulldown 2
SL Lat Pulldown 1
SL Lat Pulldown 2
Integrated Resistance Training

Standing DB Row 1  Standing DB Row 2  Standing DB Row – Alt. Arm  Standing DB Row – One Arm

SL DB Row 1  SL DB Row 2  SL DB Row – Alt. Arm  SL DB Row – One Arm

SL Straight Arm Pulldown 1  SL Straight Arm Pulldown 2
Back Strength

Seated Cable Row 1

Seated Cable Row 2

Seated Lat Pulldown 1

Seated Lat Pulldown 2

Pull Up 1

Pull Up 2
Integrated Resistance Training

**Back Power**

- Woodchop Throw 1
- Woodchop Throw 2
- Ball MD Pullover Throw 1
- Ball MD Pullover Throw 2
Shoulder Stabilization Exercises

Ball Scaption 1

Ball Scaption 2

Seated Ball DB Press 1

Seated Ball DB Press 2

Seated Ball DB Press – Alt. Arm

Seated Ball DB Press – One Arm

SL DB Press 1

SL DB Press 2

SL DB Press – Alt. Arm

SL DB Press – One Arm
Integrated Resistance Training

Ball Combo 11 – 3

Ball Combo 11 – 4

SL Scaption 1

SL Scaption 2

SL DB PNF 1

SL DB PNF 2

Shoulder Strength Exercises

Shoulder Press Machine 1

Shoulder Press Machine 2
Integrated Resistance Training

Seated DB Press 1  Seated DB Press 2  Standing DB Scaption 1  Standing DB Scaption 2

Shoulder Power

MB Scoop Toss 1  MB Scoop Toss 2  MB Oblique Toss 1  MB Oblique Toss 2
Bicep Stabilization Exercises

SL DB Curl 1  SL DB Curl 2  SL DB Curl – Alt. Arm  SL DB Curl – One Arm

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SL Barbell Curl 1
SL Barbell Curl 2
SL Cable Curl 1
SL Cable Curl 2

Bicep Strength

Seated DB Curls 1
Seated DB Curls 2
Bicep Curl Machine 1
Bicep Curl Machine 2
Integrated Resistance Training

- Barbell Curl 1
- Barbell Curl 2
- Standing Cable Curls 1
- Standing Cable Curls 2
- Standing DB Curl 1
- Standing DB Curl 2
- Standing Hammer Curl 1
- Standing Hammer Curl 2
Tricep Stabilization Exercises

SL Cable Pressdowns 1

SL Cable Pressdowns 2

Ball DB Extension 1

Ball DB Extension 2

Ball DB Extension – Alt. Arm

Ball DB Extension – One Arm

Ball DB Kickback 1

Ball DB Kickback 2

Ball DB Kickback – Alt. Arm

Ball DB Kickback – One Arm
Tricep Strength

Cable Pressdowns 1
Cable Pressdowns 2

Barbell Extensions 1
Barbell Extensions 2
Integrated Resistance Training

Leg Stabilization Exercises

Ball Squat 1  Ball Squat 2  SL Squat 1  SL Squat 2

SL Squat Touchdown 1  SL Squat Touchdown 2  Step Up to Balance 1  Step Up to Balance 2

Lunge to Balance 1  Lunge to Balance 2  SL Romanian Deadlift 1  SL Romanian Deadlift 2
**Leg Strength Exercises**

- **Leg Press 1**
- **Leg Press 2**
- **Squat 1**
- **Squat 2**
- **Step Ups 1**
- **Step Ups 2**
- **Lunges 1**
- **Lunges 2**
Integrated Resistance Training

Deadlift 1

Deadlift 2

Leg Power

Squat Jumps 1

Squat Jumps 2

Power Step Ups 1

Power Step Ups 2

Butt Kicks 1

Butt Kicks 2

Tuck Jumps 1

Tuck Jumps 2
References


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