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BENEFITS OF 'THE BIG 3' COMPOUND MOVEMENTS

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"The Big Three" compound movements—squats, deadlifts, and bench presses—are foundational exercises in strength training. These movements are not only pivotal for building muscle mass and strength but also have a profound impact on overall health and longevity. This whitepaper explores the sciencebased benefits of these exercises (i.e. no "bro-science"), their practical applications in daily life, and how they contribute to a

prolonged health-span as we age.



SQUATS

Squats are unparalleled for developing lower body strength. They engage major muscle groups, including the quadriceps, hamstrings, glutes, and lower back.

Muscle Hypertrophy and Strength: Squats promote muscle growth and strength, essential for maintaining mobility and stability as we age.

Bone Density: Weight-bearing exercises like squats help increase bone density, reducing the risk of osteoporosis.

Improved Metabolism: By engaging large muscle groups, squats boost metabolic rate, aiding in weight management.

PROPER EXECUTION

- Setup: Stand with feet shoulder-width apart, toes slightly pointed out.
- 2. Keep your knees in line with your toes, and avoid letting them cave inward. Engage your core throughout the movement.
- 3. Movement: Lower your body by bending at the knees and hips, keeping your back straight and chest up. Descend until your thighs are parallel to the ground, then push through your heels to return to standing.

Tip: Use a loop band around your lower thights above your knees to focus on keeping your knees aligned with your middle toes.



DEADLIFTS

Deadlifts are a comprehensive movement that targets the entire posterior kinetic chain, including the back, glutes, and hamstrings.

Posture Improvement: Strengthening the back muscles helps in maintaining good posture, reducing the risk of back pain and injuries.

Functional Strength: Deadlifts mimic real-life lifting scenarios, enhancing functional strength for daily activities.

Hormonal Benefits: This exercise stimulates a pronounced release of growth hormone and testosterone, which are vital for muscle repair and growth (again, no "bro-science" here).

PROPER EXECUTION

- 1. Setup: Stand with feet hip-width apart, with the barbell over the midfoot.
- 2. Movement: Bend at the hips and knees to grasp the bar, keeping your back flat. Lift the bar by extending your hips and knees simultaneously, keeping the bar close to your body. Squeeze your glutes and shoulder blades at the top. Lower the bar back down with controlled movement.

Tips: Keep your spine neutral and engage your core. Avoid rounding your back to prevent injury.



BENCH PRESSES

The bench press primarily targets the pectoral muscles, triceps, and shoulders.

Upper Body Strength: Essential for various pushing movements in daily life.

Core Stability: Engaging the core during the bench press helps improve stability and balance.

Cardiovascular Health: Strength training, including bench presses, has been linked to improved cardiovascular health.

PROPER EXECUTION

- 1. Setup: Lie on a bench with your feet flat and firm on the ground.

 Grasp the barbell with hands slightly wider than shoulder-width apart.
- 2. Movement: Lower the bar to your chest, ending with your elbows at a 45-degree angle. Press the bar back up to the starting position.

Tips: Keep your shoulder blades retracted and maintain a slight arch in your lower back. Engage your core to stabilize your body and press your feet into the ground as an anchor.



PRACTICAL APPLICATION TO REAL LIFE



The Big Three movements have direct correlations to everyday activities:

- Squats: Mimic the motion of sitting and standing, essential for independent living.
- Deadlifts: Reflect bending and lifting motions, crucial for tasks like lifting groceries or moving furniture.
- Bench Presses: Simulate pushing movements, important for actions such as opening heavy doors or pushing a cart.



PROLONGING HEALTH SPAN



- Regularly performing compound movements can significantly contribute to a longer, healthier life.
- Maintaining Muscle Mass: Sarcopenia, the loss of muscle mass with age, can be mitigated through resistance training.
- Enhancing Mobility and Flexibility:
 Compound movements improve joint health and flexibility and contribute to bone-mineral density, reducing the risk of falls and injuries.
- Boosting Mental Health: Exercise has been shown to improve mood, cognitive function, and reduce the risk of depression through neuromodulators such as BDNF (Brain-Derived Neurotrophic Factor).

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