

Award in Office Ergonomics

The importance of movement and exercise for the office workers

26 April 2022

The Importance of Exercise



- Physical activity and exercise on a regular basis can help you stay healthy, energetic, and independent as you age.
- Exercise is important in preventing health problems such as heart disease and stroke.
- Physical activity and exercise can help to lower stress and anxiety, enhance happy chemicals, promote self-confidence, boost brain function, improve memory, and strengthen our muscles and bones.
- It also aids in the prevention and treatment of heart disease, obesity, blood sugar fluctuations, cardiovascular disease, and cancer (Elmagd, 2016)

<https://www.researchgate.net/publication/306118434> Benefits need and importance of daily exercise

Restrictions imposed on the body by working at a desk

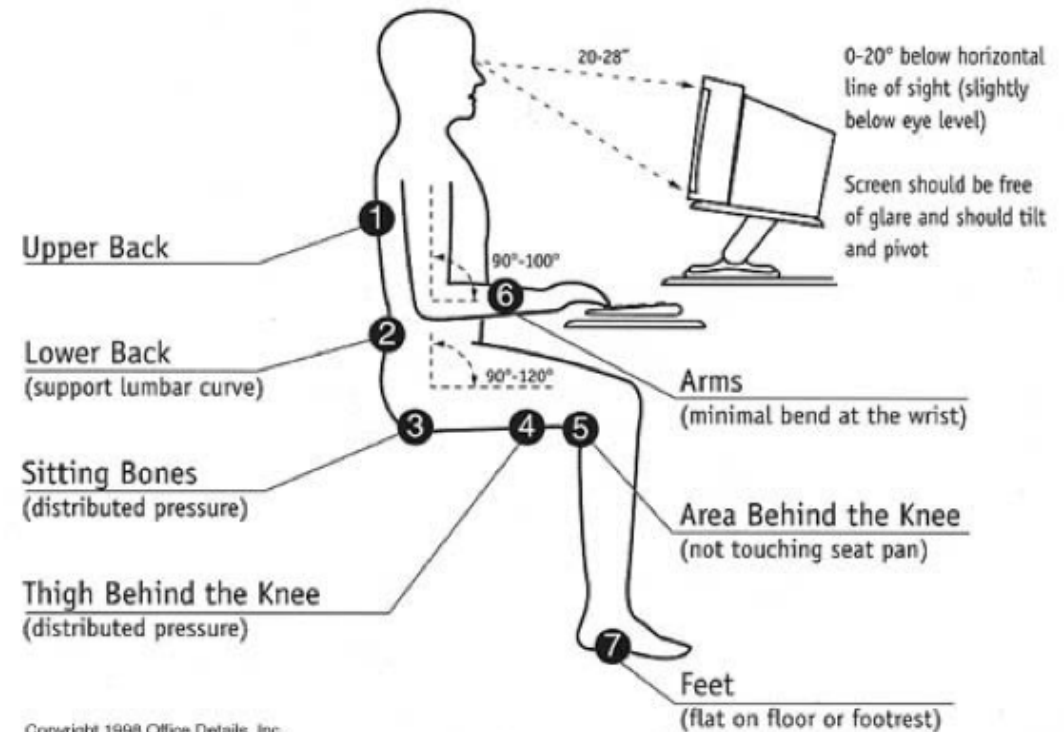
- Many researchers suggest that working on lengthy periods of time on a desk causes improper postures and a high risk of injury.
- There are several facts of evidence outlining a variety of risk factors that might lead to work-related musculoskeletal disorders, such as repetitive strain injuries, awkward posture, forceful exertion, and a static posture.
- Prolonged sitting in a static posture causes pain in the neck, back, shoulder, and wrist, as well as prolapsed intervertebral discs, visual fatigue, and mental stress (Dubey, 2019)
- <https://www.youtube.com/watch?v=x12GnuV9Qgw>



The importance of maintaining a good posture

- Good posture is important to your overall health and offers a variety of benefits including reduced back pain, increased energy, and greater confidence.
- Having good posture is important to your overall health, as it can help you avoid muscle tension, pain, fatigue, and many other common ailments and medical conditions.

https://www.researchgate.net/publication/306118434_Benefits_need_and_importance_of_daily_exercise



5 Benefits of maintaining a good posture

1.) Improved breathing

- Poor posture has a negative impact on your capacity to breathe deeply and fully fill your lungs.
- Slouching shortens the muscles at the front of your body, limiting your capacity to completely inhale. Standing tall can boost your ability to take in oxygen by as much as 30%.



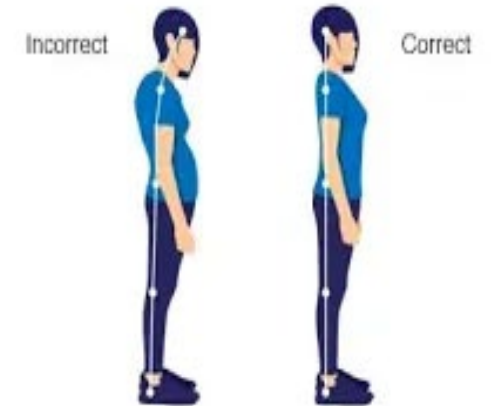
2.) A high level of self-confidence

- When you stand tall, you exude a presence that people notice.
- You exude confidence, assurance, and composure. Slouching and slumping convey a low self-esteem and a gloomy attitude.

6 Benefits of maintaining a good posture

3.) Back pain relief

- Our body is built to stand in a "neutral" stance, with your pelvis, head, and torso all in the same place. Forward head, tilted hips, and abnormally curved spines place extra stress on muscles. And, over time, this pressure can lead to discomfort - most commonly in the back.
- You use the muscles that support your spine properly when you have good posture. Additionally, the bones, joints, ligaments, and other connective tissue all work together to protect your entire back from feeling strained and stressed.
- Standing and sitting with proper posture engages your muscles in the way they were intended, resulting in a more comfortable body - particularly your back.

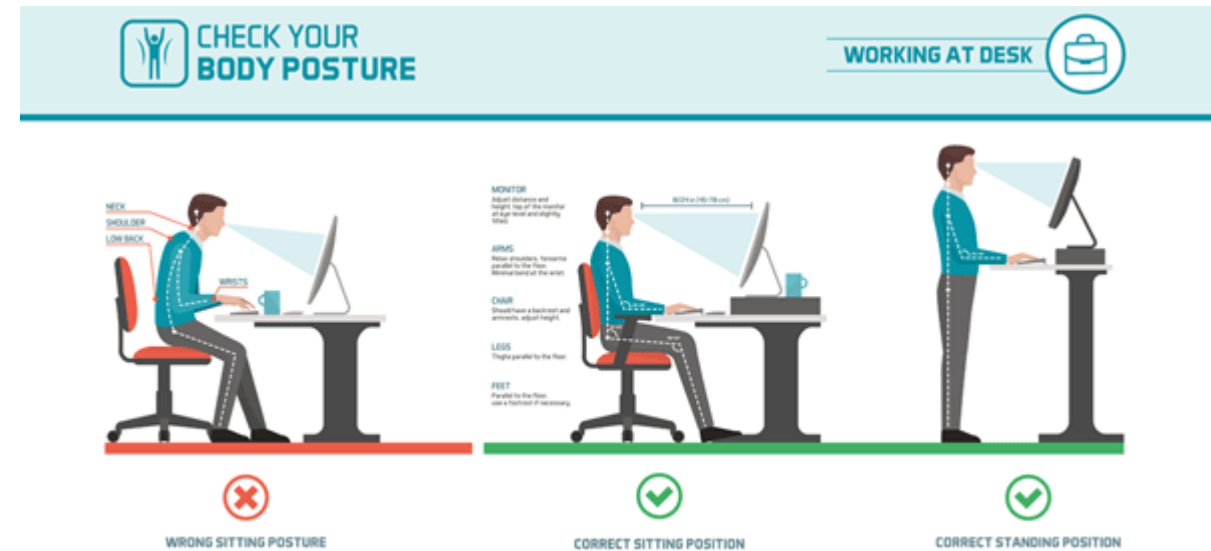


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Benefits of maintaining a good posture

4.) Improved Mood

- Our mood is influenced by your posture.
- Consider how a depressed person appears when slouched and slumped, with hunched shoulders and a dangling head.
- You naturally adopt an upright, open posture when you are comfortable and cheerful.
- Stand up, pull your shoulders back, and lift your face if you're feeling depressed.
- This straightforward action can help you feel more optimistic.



Benefits of maintaining a good posture

5.) Improved Concentration

- Good posture improves oxygen flow, which has a great effect on your brain. The nutrients that come with enhanced circulation, which is aided by excellent posture, are appreciated by the neurons in your brain.
- Neurons in your brain fire more effectively when they are nurtured, keeping you focused and on task.
- Chiropractic adjustments can help to balance your body and encourage optimal posture.



Different Methods of Exercise

Aerobic exercise:

Provides cardiovascular conditioning.

Anaerobic exercise:

Similar to aerobic exercise but uses a different form of energy

Weight training:

A type of strength training that uses weights for resistance. By creating a stress to the muscles performed with free weights

AMRAP (As Many Round As Possible)

These workouts involve doing as many repetitions of an exercise as possible during a set amount of time, without resting (or with very limited resting).

Emon (Every Minute On The Minute)

The goal is to execute several repetitions (reps) of a specific exercise in under 60 seconds. Then you rest for the remainder of that minute before moving on to the next set.

Tabata

Tabata training breaks a workout down into clearly defined intervals – typically, 20 seconds of a push-it-to-the-limit exercise followed by 10 seconds of rest.

Different forms of stretching and the effects they have on the body

1. Ballistic stretching

Stretching muscle beyond standard stretching techniques, Less soreness than static stretching, and Improve tendon elasticity.

2. Dynamic stretching

Dynamic stretching increases the temperature of your muscles, which helps them move to their full potential.

3. Active stretching

The gentle stimulation of active stretching helps increase blood flow to your muscles.

4. Passive (or relaxed) stretching

Its benefits Extend to people who may not be able to stretch on their own. Passive stretching may also stimulate muscle growth and prevent muscle weakness.

The different forms of stretching and the effects they have on the body.

5. Static stretching

Performed mainly at the end of your workout, once your muscles are warmed up, can help increase the range of motion in any joint you target.

6. Isometric stretching

These stretches mainly target pain relief for lower back pain , knee osteoarthritis, and neck pain

7. PNF stretching

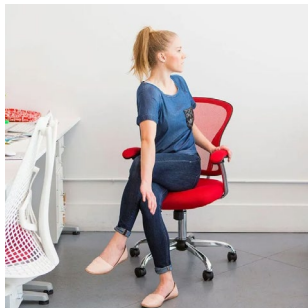
Improve active and passive range of motion. It can be used to supplement daily, static stretching and has been shown to help athletes improve performance and make speedy gains in range of motion. Not only does it increase flexibility, but it can also improve muscular strength.



Stretching that can be done at the Desk



- Stretching will Increase the blood supply and nutrients to your muscles, reduce fatigue, improves your posture, Increases muscle co-ordination and balance whilst preventing muscle strains.
- Stretching warms up the muscles by gently moving them, much like an athlete would.
- <https://www.youtube.com/watch?v=nF1fv-jlgbl>



Resistance Band Exercises

Improves posture:

- Resistance bands can help you lengthen and strengthen the muscles in your chest and shoulders that keep you upright.
- Resistance bands are a versatile way to strengthen your back muscles and combat work-from-home posture. These exercises, in combination with posture readjustments throughout the day, will make a difference in the way you look, but most importantly, in the way you feel.



Resistance Band Exercises

Increase flexibility:

- Sitting at a computer all day can cause our muscles to tighten up, so it's important to take frequent movement breaks and give those muscles some additional care after a hard day at the office.
- Without the use of heavy weights, resistance bands provide just enough push-and-pull to help stretch and develop muscles.
- They support our larger muscles and joints when we move and helps reduce the risk of injury. Resistance bands are often used for rehabilitation.

Resistance Band Exercises



TheraBand exercises Supports Heart Health:

- Resistance exercise is essential for raising good cholesterol (HDL) and lowering bad cholesterol (LDL) in the body.
- Resistance bands, when combined with aerobic exercise, are a simple method to integrate heart-healthy, low-impact activity into your day.
- These physical therapy bands use a variety of colours to indicate the amount of resistance the band provides to the user.
- Many people use these bands, but they are unaware of the colours or the reason for which they were created.

Resistance Band Exercises

Increases circulation:

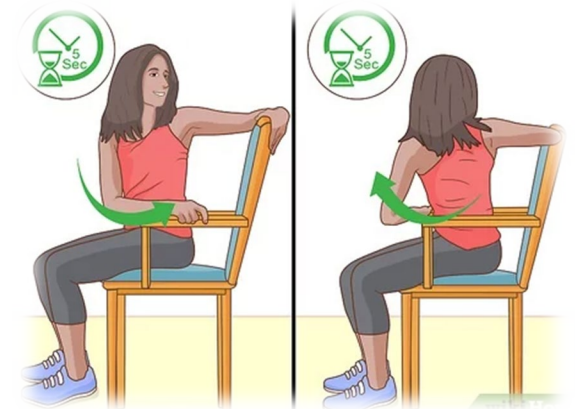
- Prolonged sitting lowers circulation, particularly in the legs.
- Proper blood and oxygen flow allows your heart, lungs, and muscles to function effectively.
- Resistance bands are an excellent method to get your heart rate up without exerting too much effort.
- <https://www.youtube.com/watch?v=yDkNE2Z7XOI>



Exercise at the Desk

- Oblique twists

Oblique twists are a type of resistance training that can help you strengthen and define your core muscles.



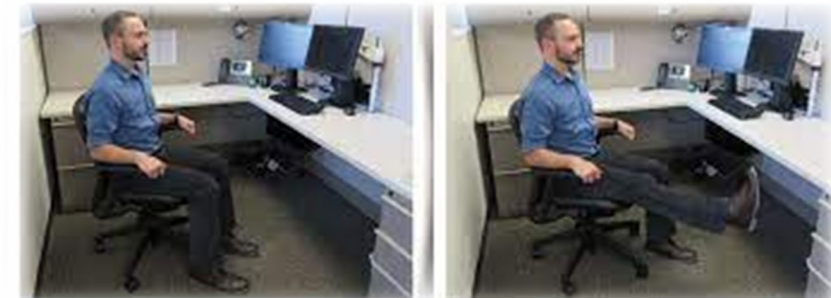
- Seated bicycles

The bicycle crunch is excellent for activating your core.



- Leg Lifts

A simple leg raise can improve blood flow, strengthen leg and core muscles, lower the risk of muscular atrophy, and boost energy levels.



Exercise at the Desk

- Glute squeeze

This movement aids in gaining strength, endurance, and power.



- Seated knee to chest

Corrects Muscle Imbalances, Promotes Good Posture, Increases Mobility, Improves Circulation, and it is also beneficial to Relieve Stress.



- Seated flutter kicks

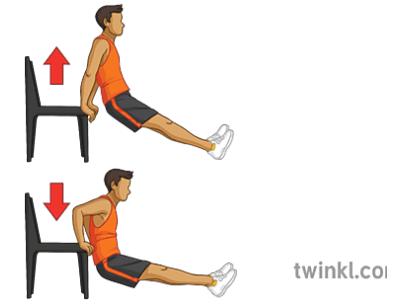
Flutter kicks are a core-strengthening exercise that targets the lower rectus abdominal muscles as well as the hip flexors.



Exercise at the office

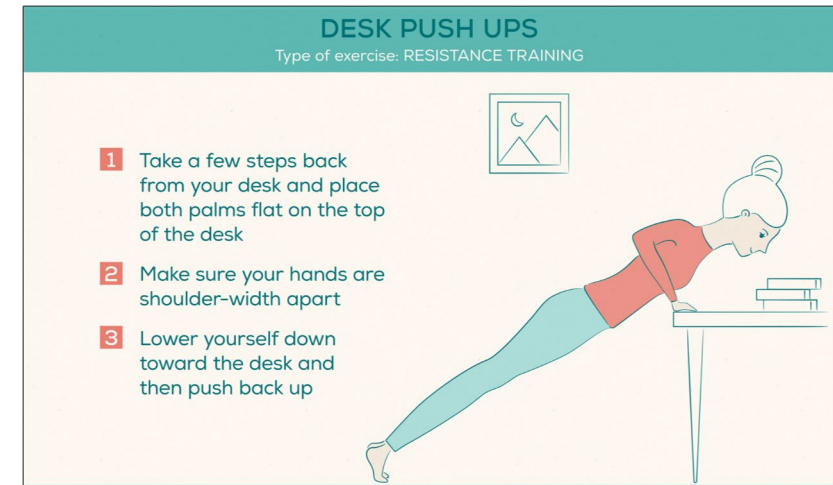
- Chair Triceps dips

They strengthen the upper body, and increase the range of motion of the body. This particular exercise has been proven to be highly effective in building up the strength of the triceps, the shoulders, and the arms.



- Desk push-ups

This exercise works the pectoral muscles in your chest and the triceps.



- Calf raises

Calf raises can promote ankle stability and mobility.



Exercise at the office

- Squats

This particular movement strengthens the lower extremities. Squats reduce your chances of injuring your knees and ankles. As you exercise, the movement strengthens your tendons, bones, and ligaments around the leg muscles.



- Lunges

Lunges increase muscle mass to build up strength and tone your body, especially your core, butt, and legs. Improving your appearance isn't the main benefit of shaping up your body, as you'll also improve your posture and range of motion.



ANATOMY OF A PERFECT WALL SIT



- Wall sit

The wall sit exercise activates muscle groups throughout your lower body, including your quadriceps, glutes, hamstrings, and calves. Wall sits can increase your muscular endurance.

Exercise at the office

Focus: High Intensity Interval Training

- Burpees

This combination exercise strengthens the heart and lungs, improve blood flow, lower risk of heart disease and diabetes, lower blood pressure, cholesterol levels, and improved brain function.

How to do Burpees



- Mountain climbers

Mountain climbers target many major muscle groups, including the core, lower back, hamstrings and glutes.



- Jump squats

Jump squats increase your explosive power, improve upper and lower body strength, and burn calories faster than regular squats.



Exercise at the office

Focus: High Intensity Interval Training

- Jumping lunges

Jumping lunges are an effective leg exercise for strengthening the primary muscle groups in your lower body, including your hip flexors, glutes, calves, hamstrings, and quads.



- Jumping jacks

Jumping jacks work all the major muscles in the lower body, strengthening your glutes, hamstrings, quads, hips, calves, and shins.



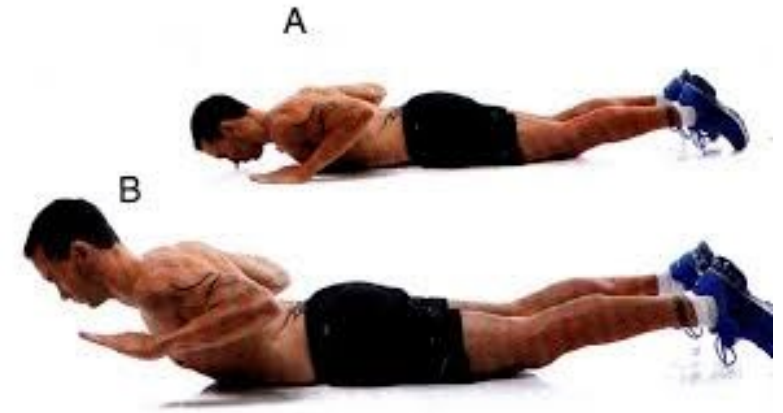
Exercises recommended at work

- Back extensions

Performing the back extension exercise will increase your ability to coordinate movement through your lower back. Other improvements include a stronger back and a back that has more endurance. Overall, these positives lead to better overall back posture, important for the prevention of back injury.

- Single leg Deadlift

The single-leg deadlift is a simple yet effective exercise for simultaneously strengthening and toning the glute muscles and enhances balance.



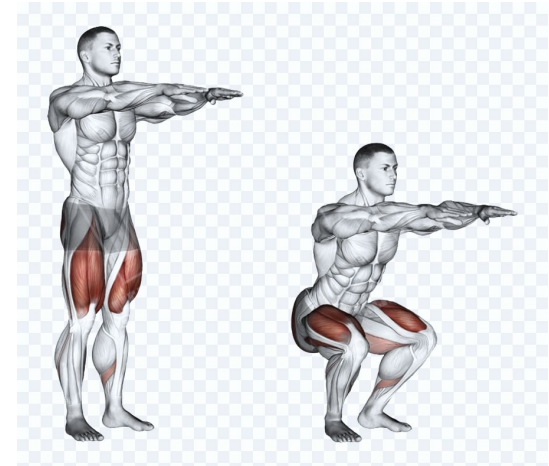
Exercises recommended at work

- Squats

lower your chances of injuring your knees and ankles. As you exercise, the movement strengthens your tendons, bones, and ligaments around the leg muscles. It takes some of the weight off your knees and ankles.

- Leg lifts

the leg raise improve the strength and flexibility of your hips and lower back, which is a considerable benefit for anyone who spends a lot of time sitting at a desk.



Sitting on a stability ball

- By replacing your desk chair with a stability ball is an easy way to get some exercise at work.
- Because it lacks back support, it aids in maintaining proper posture and aligning your spine as your body strives to maintain balance on the ball.
- Your abdominal muscles are also working to balance your body, giving you a great low-intensity abdominal muscle workout.



Exercises recommended at work

Use the stairwell

- Whether your office is on the second or sixth floor, using the stairs provides more exercise than utilizing the elevator.
- On your way up or down to the workplace, this helps engage your leg muscles and gives you some extra cardio.
- You may also give yourself a short workout by walking up and down the stairs on a regular basis during your breaks.
- If your office is on the top floor, take the elevator to the midway point and then take the stairs to the lower levels.



Exercises recommended after work

- Yoga

Yoga increases energy levels and boosts employee morale, making them more productive in their work. Also, when your employees are free of any kind of pain or health problems, they will be present more often. And be more attentive, focused, and productive.

- Fitness classes

Physically active people are less likely to take sick days, are more productive, are healthier and have more energy. The benefits of exercising are endless. Therefore, encouraging group fitness classes will not only give you a healthier workforce but a happier workforce.



Exercises recommended after work

- Running

Having a run scheduled after work helps you to look forward to something, especially if it becomes part of a routine to keep fit.

Besides, having the time to run or jog after work helps you destress and feel better about yourself after a long day.

- Swimming

Swimming combines the soothing benefits of the water with the exertion of your body, which should adapt to the aquatic environment (flotation) and move forward despite the strong resistance.



Exercises at the gym (Strength)

Pull ups

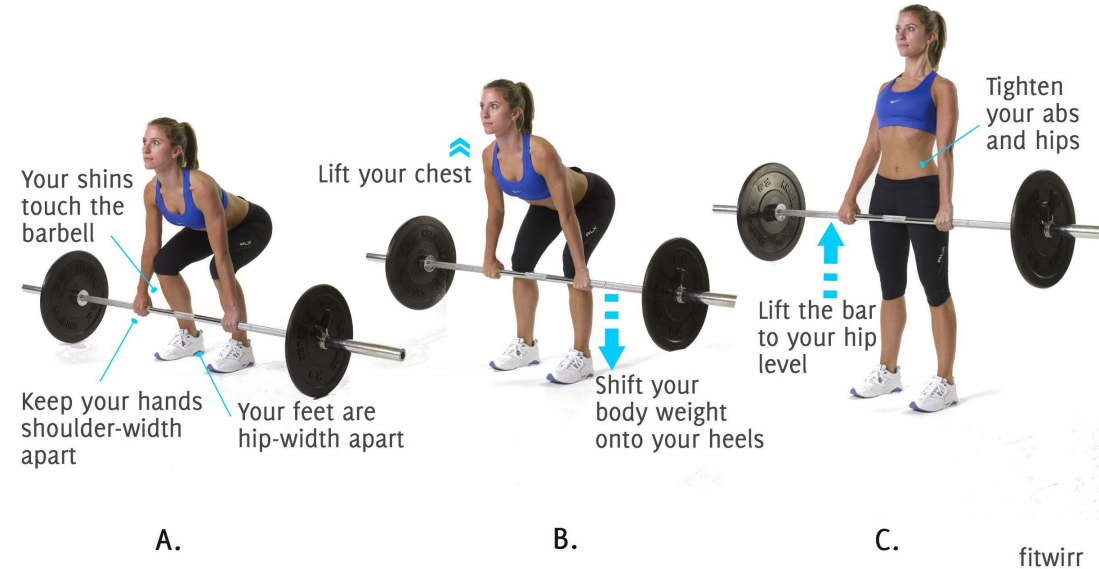
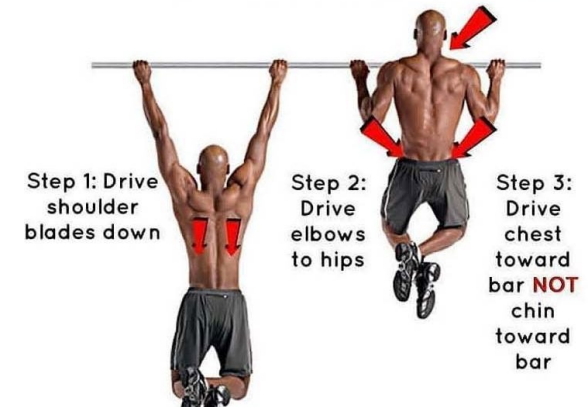
Pull-Ups Strengthen Your Chest, Shoulders, Arms, and Core. This is a great exercise for targeting many of the major muscles in the body just like the deadlifts.

Deadlifts

Deadlifts are highly effective at increasing functional strength due to the activation of your largest lower body muscles. They also train you for the functional activity of safely lifting objects off of the floor, which is a key skill for day-to-day

THE RIGHT WAY TO DO PULL-UPS

WEIGHTASYLOSS.COM



Exercises at the gym (Strength)

- Dumbbell / Barbell Bench press. The **Bench press** can be used to increase strength, improve endurance, and tone the muscles of the upper body, including the chest, arms, and shoulders.
- **Squats** Boost the muscles surrounding your knees and hips is a quick method to reduce your chance of injury when jumping, running, and doing almost any activity.

DUMBBELL PRESS



GREATER CHEST ACTIVATION
GREATER RANGE OF MOTION
IMPROVED MIND-MUSCLE CONTROL

BARBELL PRESS



WORK WITH HEAVIER LOADS
GREAT FOR ATHLETIC PERFORMANCE
MORE TAXING ON YOUR JOINTS

Flat Dumbbell Press (Dumbbell Bench Press)



Step 1

Hold two dumbbells at the sides of the chest such that palms are facing away from you and the upper arm is making an angle of 90 degrees with the forearm



Step 2

Press the DBs up with the help of your chest to lockout position at the top of the movement

—BORN TO WORKOUT—



Barbell Squat



Step 1

Support the barbell on your traps, grab it with both arms, and lift it by pushing your legs while simultaneously straightening your torso



Step 2

Bend your knees and sit back with the hips to gradually lower the bar while maintaining a straight posture

—BORN TO WORKOUT—



Exercises at the gym (Cardiovascular Endurance)

- Cross trainer

The cross trainer uses all of the muscles of the lower leg making it the perfect exercise to strengthen and shape up your legs. The foot pedals also let you pedal backwards which is a great way to also target your glutes. Another great thing about the cross trainer is that you're in control throughout.

- Rowing machine

Rowing is a total-body workout, meaning it will strengthen major muscle groups in your arms, legs, and core and increase cardiovascular endurance. In short, if you consistently use the rowing machine, you'll notice that you'll become stronger and less out of breath. You may even notice some muscle gain.



Related Articles

Exercises at your Desk

<https://hr.williams.edu/files/2014/01/Exercise-at-Your-Desk-Presentation.pdf>

Stretching in the workplace

http://www.emcins.com/Docs/OFILib/AA050000225_20151217.PDF

The Importance of Training and Development in Employee Performance and Evaluation

https://www.researchgate.net/publication/332537797_The_Importance_of_Training_and_Development_in_Employee_Performance_and_Evaluation

Adverse Effects of Prolonged Sitting Behaviour on the General Health of Office Workers

https://www.researchgate.net/publication/320038864_Adverse_Effects_of_Prolonged_Sitting_Behavior_on_the_General_Health_of_Office_Workers



Related Articles

Physical Exercise and Health-Related Quality of Life in Office Workers: A Systematic Review and Meta-Analysis

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Physical Activity for the office workers

https://www.academia.edu/19228934/PHYSICAL_ACTIVITY_OF_OFFICE_WORKERS

Prevention of occupational Back Pain

https://www.researchgate.net/publication/276850234_Prevention_of_occupational_Back_Pain

Prevention of low back pain: basic ergonomics in the workplace and the clinic

https://www.researchgate.net/publication/21677618_Prevention_of_low_back_pain_basic_ergonomics_in_the_workplace_and_the_clinic

