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motivation
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Focus on muscles

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fact sheet

There are three main types of muscles in the body: visceral, cardiac and skeletal. All of these muscles can be further sub-classified. The only muscle that is affected by exercise and has relevance for beauty and weight loss is skeletal muscle.

Basically, each muscle in your body contains two types of muscle fibres—the so-called red and white fibres. Red fibres are adapted to provide sustained contraction that does not fatigue very easily. These fibres are present in a high proportion in your postural muscles, such as the calf muscle and the quadriceps muscle in the front of your thigh. Red fibres are the main muscle fibres that are exercised when you walk, jog, run or do aerobic-type exercise. Whereas the white fibres are designed for fast, short and strong contraction such as lifting weights, which is an anaerobic-type exercise. There are over 600 skeletal muscles in the body and they comprise up to 40 per cent of your body weight.

From an anatomical point of view, beauty has many aspects including your weight, curves and skin. The prime purpose of muscles is movement; however they are also important because they provide many of the curves in the body that people find attractive. They also consume energy and therefore aid in weight loss. You will discover in my book, *Healthy Intentions: make it a habit* that beauty, weight loss and muscle development are intimately associated. This can be seen in competitive body-builders. Before competitions they go into an intense training regiment, including strict food restrictions to reduce the body fat so that the muscles are more defined. This is because fat tends to fill in between muscle groups; thereby making the muscles less distinct.

There are a few facts that are universal when talking about beauty. The first is symmetry, which is a vital factor when considering beauty. This goes for many aspects of the human body; in particular for muscles. When considering your weight training, you should always aim for symmetrical muscle

development. It is therefore important to develop your upper and lower body muscles as well as right and left sides equally. From a weight-loss point of view, bigger muscle groups will burn more energy than smaller groups. People that start their training tend to focus on the upper body, such as biceps and pectoralis muscles. The largest muscle groups; however are actually in the legs and include muscles such as quadriceps femoris and the gluteus maximus.

A few facts that are important to consider when trying to develop your muscles. Almost all skeletal muscles in the body are paired. When performing a movement there is a minimum of two muscles groups that will act in that movement. If only one muscle group is moving then the movement would be very jerky and unstable. This is related to both the way nerves innervate muscles and simple mechanics. The second muscle group stabilises the movement and makes the movement smooth. An example of this is when you flex your arm, both the flexor group of muscles (biceps, brachialis and coracobrachialis) and the extensor group (triceps) will be contracting.

Muscles work on joints and there are several types of joints. Some joints such as the elbow joint move only in one plane for flexion and extension, other joints such as the shoulder, move in multiple planes. The shoulder joint is the most mobile joint in the body. Muscles influence movements by the way that they are attached to bones. By changing the position of the bones, different muscles may be recruited to perform the same movement. It is therefore important when performing muscle exercises focused at a specific muscle group, to keep the correct position and body posture.

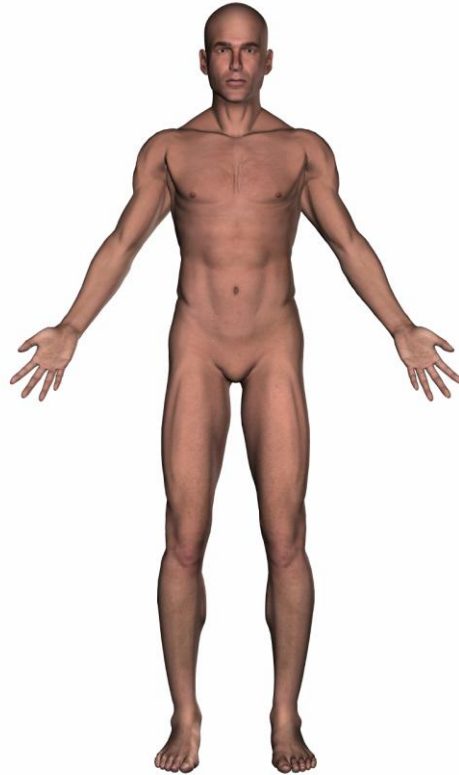
When reading about exercise it is important to understand what different terms mean. The following is a description of the correct anatomical definitions of all the movements of the body, which is also the way they are described in my book.

You will note that I have been very specific when it comes to describing the individual muscles. In many books, websites and training guides there is only a limited focus on the basics of muscles and most focus on describing different exercises. I will focus on both, but if you know the exact mechanics of the muscle group you are trying to exercise you will easily understand how the exercise should be correctly performed.

The anatomical human

All terms that refer to movements of the body are in reference to the anatomical position of the body, which is as follows:

- Standing erect
- Arms by side of body
- Palms facing forward
- Legs together
- Toes straight ahead



This anatomical position is adopted worldwide. All definitions of movement of the body refer back to this position so there is no confusion as to what is meant. If at any stage you are unsure what is meant by a movement, refer back to the above list and it will become clear.

Body movements

This section provides an explanation of all the basic movements of the body. Some movements that you will do in your exercise regiment will be a combination of these movements. Always think of the anatomical position of the body as described above when considering a movement. All movements are performed by muscles; however the muscles can be working in groups to bend parts of the body such as bending forward (bowing) i.e. flexing, or the muscles can be moving two bones in relation to each other such as flexing the arm.

Many muscle act over more than two joints and will therefore produce movements of more than one joint. The majority of action is usually in assisting one movement but in certain positions they will assist other movements. There are many ways of grouping different muscles together. As this guide mainly aims at training and weight loss, I have group muscles together according to their main movements. This will make it easier to develop exercise regiments that target specific regions. Only terms that are used in this guide are explained in the following list:

Flexion: decreasing an angle or bending.

Extension: increasing an angle or straitening.

Abduction: moving away from the body in the coronal plane. The coronal or frontal plane is the plane that divides the body from side to side.

Adduction: moving towards the body, this is opposite to abduction.

Eversion: moving the sole of the foot away from the midline.

Inversion: moving the sole of the foot towards the midline.

Pronation: rotation the hand so that the thumb moves in towards the body.

Supination: rotating the hand so that the thumb moves away from the body.

Resistance training

There are multiple ways of providing resistance training to develop your muscles. As with all activities, there are positive and negative aspects of all these approaches. I find it best to try to combine all of them as this provides the best all rounded approach. When performing your exercises it is best to try to always be standing up if possible. This will keep your core muscles activated and you will burn more energy and therefore have a better weight loss result. As explained in my book, resistance training is only part of the bigger picture when trying to loose weight. By using a wide range of techniques you can give yourself a better chance of success and you may find that it is more fun to exercise when not performing the same movements all the time.

When performing resistance training it is important to cycle your exercises. Do not work the same muscle group for several exercise sessions in a row. When you are performing resistance training there is a small degree of damage to the muscle. The body responds to this by increasing the size of the muscle, which is what you want. If you do not let the body heal properly between sessions, then you will not get the desired effect and in fact may even cause permanent damage.

Free Weights

Pros:

- Free weight combines the best aspects of many of the approaches.
- Provides you with almost limitless possibilities.
- Can be done in many position and therefore you can activate your core muscles as well as the muscle that you are focusing on to boost your results.

Cons:

- Needs proper instruction in the correct positions and how to perform the exercises; it can therefore be difficult as a beginner. This is one benefit of having a personal trainer assisting you initially.

Your body as the weight

Pros:

- Many exercises possible, such as sit-ups, push-ups, pull-ups. Working on the medi-ball.
- Activates multiple muscles simultaneously, thereby boosting your results.
- Good for general fitness and flexibility.
- Good for your core stability and strength.

Cons:

- May be difficult to perform initially if overweight.
- Not usually possible to focus on single muscle groups.

Machines

Pros:

- Excellent for beginners as instructions are usually provided with the machine and the machine forces user to perform the correct movement.
- Many weights possible.
- Good for isolating different muscle groups.

Cons:

- Usually performed sitting down. And therefore does not activate core body areas.
- Not so good for flexibility.

Conclusion

This guide aims to provide you with knowledge of the different muscle groups and how they work including interesting facts on cosmetic enhancements. It can be used as an initial guide to starting your training, or as a reference for fine tuning your exercise.