

## SAMPLE CHAPTER

### Chapter Two – The Office Body!

**T**his book is aimed at Office workers. However, the fact is, it is not just Office workers who develop an ‘Office Derrière’! Research shows<sup>1</sup> that any prolonged sitting or lying down creates a compression in the buttock muscles no matter who the person is. It's true that men are far less likely to experience the problem as they do not have the female pattern of storing excess fat on the thighs, hips and buttocks, or the female hormones that support a large bottom, but men can develop this issue in some circumstances.

The original research<sup>2</sup> on these problems was actually conducted on bed ridden patients and people in wheelchairs in order to find exercise solutions for people who had their mobility compromised by injury and illness.

It was found that immobile patients gained 50% more fat in the lower regions plus shrinkage of muscle tissue in the same areas. It was later discovered<sup>3</sup> that the problem wasn't confined to immobile patients, but anyone who spent a large proportion of their time sitting down with a restricted blood flow and compression of the buttocks, such as office workers.

**'...IMMOBILE PATIENTS GAINED 50% MORE FAT IN THE LOWER BODY.'**

But wait, this isn't the full story. There is another 'derriere building' mechanism at play. Fat burning enzymes<sup>4</sup> in your lower body are restricted by almost 100% should you remain seated for an hour or more! In other words your metabolism virtually goes to sleep when you sit down for an hour. With all these separate mechanisms at work to build fat on the lower body, it is no wonder that so many people struggle to slim down.

The good news is, there is a solution to these problems which I will outline in subsequent Chapters.

### 'Office Derrière!'

There are millions of women around the world who work in offices or work places that require them to remain seated for long periods of time. Many of these women workout on a daily basis, some run for fitness, some play sport and others frequent gyms. Even so, the slim proportionate bottom and thighs that they desire still eludes them. Why is it that conventional types of exercise fail to rid these women of a large bottom? Because it is the eight hours of sitting and compressing the muscles and fat compartments that causes a fifty percent increase in bottom fat content.

It is the<sup>5</sup> constant pressure of body weight exerted upon the buttocks from sitting that stretches the muscle cells causing preadipocyte cells to turn into fat cells and increasing the levels of fat. This occurs in only 2 weeks! In 4 weeks the buttocks gain 50% increases in fat levels!<sup>6</sup>

**'...IN FOUR WEEKS THE BUTTOCKS GAIN FIFTY PERCENT INCREASES IN FAT LEVELS.'**

Over only a short period of time fat cells are forced in between the stretched buttock and thigh muscle fibres with an effect of expanding the size of the persons bottom.



Figure 1 Illustration of stretched muscle fibre and fat within a steak

But this is not the whole story. What we also know is that fat cells reproduce at a faster rate when exposed to the type of mechanical stretching that sitting for long periods exerts on lower body muscle.

So there are five mechanisms here at work causing areas that are sat upon for long periods to physically alter;

- **The restriction of Fat burning Enzymes in the lower body.** This stops the metabolism burning excess fat within one hour of sitting.
- **The Stretching and Shrinkage of Muscle Fibres of the thighs and buttocks.** Within just 2 weeks of sitting for long periods lower body muscles stretch and shrink due to the compression from body weight and posture.
- **Fat cells are forced in between the muscle fibre of the buttocks.** The compression of body weight on the buttock muscles forces Fat Cells in between muscle fibres gaining 50% more fat storage in just 4 weeks of sitting for long periods.

- **Increase in efficiency of fat cell formation.** Within 4 weeks of sitting, preadipocyte cells of the buttocks become more efficient in turning into fat cells so the office worker gains fat more quickly.
- **Blood flow restricts causing an increased risk of Deep Vein Thrombosis.** Posture and compression of thighs cause restricted blood flow to the extremities dramatically increasing the possibility of getting DVT. Over 30,000 office workers are admitted to hospital per year with 'Office DVT'. *More about this later.*

### **So what is the solution?..**

As we've seen, the processes that are responsible for increased thigh and bottom fat due to sitting for long periods are instigated in only two weeks. An office worker only has to sit for one hour to immediately reduce fat burning processes of the lower body!

The main solution is simply to become more mobile. You'll need to be aiming at moving **every twenty minutes**. Of course it is not always possible to get out of the office environment especially if you work in a call centre and are tied to your phone for long shifts. However, it is often possible to stand up whilst on the phone. It is also usually possible to walk to the water machine, go to the toilets, walk to the fax machine or filing cabinet or even go to speak to a colleague, face –to-face rather than by phone. But that's not all. Office workers need to get the blood circulating in their lower body by keeping their metabolisms active. That means stretching the thigh, calf and buttock muscles.

**...AIM AT MOVING EVERY TWENTY MINUTES IN ORDER TO GET FAT BURNING ENZYMES WORKING.**

I know this may seem impractical at first but I have devised, in subsequent Chapters, discreet exercises and stretches that you can do with minimum disruption. Depending on your environment some will be useful, others may be impractical for you. That's OK, you choose what works for you.

## Office Belly

As a general rule women tend to gain fat on their lower bodies more easily than men. This is due to their 'Female Hormones' (Particularly Oestrogen) causing female fat patterns (thighs and bottom fat). Men tend to gain fat around the midsection and belly. However, this changes later in life when women can start to gain fat around their midsection just like men. Usually due to hormonal changes caused by the Menopause.

In more recent years these patterns have begun to change as we've seen a trend towards women also gaining belly fat. This is due to the changes in our culture of social drinking hence, increases in the amount of alcohol that many women have started to consume over the last few decades. This not only increases the calorific intake but puts stress on the Liver causing fat to be stored on the midsection. Alcohol also increases the predominately male hormone Testosterone causing women to adopt male type fat patterns like belly fat. incidentally, this also causes women to become more hairy. Have you notice how many more beauty shops offering hair removal are popping up in your area recently?!

If you have a problem with belly fat specifically rather than overall weight problems then your Liver function might be at fault. This is especially true for men who drink more than the recommended amount of Alcohol.

Belly fat is also linked to Stress<sup>7</sup> particularly work related Stress. This is because stress causes increases in levels of Cortisol. Small amounts of Cortisol are important in allowing your body to function correctly during short episodes of stress. The problem arises when you begin to experience long term stress and a relaxation response is not followed to counter the negative effects. This is often the case with people exposed to work related stress.

The problems of long term stress and abdominal fat are escalated in people who are more prone to secreting higher levels of Cortisol during stress. They tend to eat more food, especially Carbohydrates than those who secrete less Cortisol. So you can see that stress has several ways that increase belly fat.

### Getting Enough Sleep

Surprisingly sleep also has an impact on the size of ones belly. Studies show that people who get 6 to 7 hours sleep per night gain less belly fat over a five year period than those who slept fewer or more than 6 to 7 hours per night<sup>8</sup>.

### Office Liver

Most people know that the Kidneys are responsible for filtering blood but they are also responsible for processing the water going through the body. When the Kidneys don't get enough water to function, the Liver is called in to help.

The liver is also the organ partly responsible for metabolising fat. If your Liver is under pressure taking care of other functions such as helping the Kidneys process water, it cannot burn fat efficiently.

This is why you shouldn't ignore thirst especially if you work in an office with air conditioning as these are often the source of dehydration.

As stated earlier another source of dehydration is excessive alcohol which in turn causes a '*beer belly*'. The alcohol puts a strain on the Liver causing it to reduce its ability to process fat, in this case stomach fat.

For a healthy Liver and to reduce Belly Fat, reduce Alcohol intake and keep hydrated. Also if you do drink considerable amounts of Alcohol consider taking Milk Thistle supplements. These are used by the Medical establishment for those with Liver problems. it is one of the few known supplements that helps keep a Liver healthy and even regenerate. Of course, if you have concerns with any issues see a Doctor!

### **BLUEBERRIES DECREASE BELLY FAT BY 77%**

One other tip for losing the belly is to eat Blueberries. Not only are they one of the best super foods for good health and an excellent antioxidant, research conducted by Tufts University in the United States of America found that Catechins in Blueberries activate fat burning genes within abdominal fat cells, increasing belly fat loss by 77 percent.

### **Office Thighs**

'Office Thighs' are of course almost inseparable from an 'Office Derrière'! Unfortunately 'Office Thighs' are slaves to the effects of an 'Office Derrière.' 'Office Thighs' are mainly a result of a knock-on effect from the mechanical stretching of buttock muscles from prolonged sitting. The increases in fat cell

production from buttock fat spreads to the thighs. In addition, the reduced circulation from inactivity reduces fat burning enzymes in the thighs as well as the bottom and reduces the metabolism.

Again the answer is to reduce the amount of time sitting to less than an hour, movement every 20 minutes is recommended and increasing the blood flow to the extremities through movement or desk exercises.

### Office Circulation (& DVT)

Most people consider Deep Vein Thrombosis to be an Airplane travellers complaint, which is true in the vast majority of cases. However, many of the criteria in airplane travel DVT also lends itself to the office worker.

The reasons are the same. The legs are low whilst sitting in an office chair (as opposed to raised such as lying in a bed). The leg veins are restricted by the chairs edge behind the knees causing restricted blood flow.

In addition, as we've already discovered, the air conditioning in many offices causes dehydration, this is especially true when working in-excess of six hours per shift.

**'A THIRD OF PATIENTS ADMITTED TO HOSPITAL WITH DVT WERE OFFICE WORKERS. 'CALL-CENTRE WORKERS & IT PROFESSIONALS WERE AT THE TOP OF THE LIST!'**

A large derrière might be your immediate concern however, this type of prolonged sitting can potentially cause a blood clot in the leg veins resulting in the clot travelling through to the heart and possibly causing a heart attack.

Even more worryingly, women are much more at risk if they are overweight and/or taking birth control pills.



To put things into perspective, DVT affects about 100,000 people and kills up to 1,000 people annually in the UK alone. As I've already said, you'd be forgiven if you'd initially think that most of these patients are air passengers and the risk of DVT from an office chair is relatively low. However, one study<sup>9</sup> found that a third of patients admitted to hospital with DVT were office workers who had spent hours at a desk. Unsurprisingly call-centre workers and IT professionals were at the top of the list.

The good news is; solutions are simple. Office activity, office exercises (using specific types of movements) and a chair designed with 'human factors' in mind.

Before we look at those here are a few additional elements one might wish to avoid in order to keep the lower body healthy.

### **Avoid:**

- Crossing your legs for more than a few minutes. This will avoid the restriction of blood flow to the feet.  
Crossing the legs also increases your blood pressure by restricting blood flow to the legs which forces the blood up towards the chest putting extra 'strain' on the heart.
- Wearing restrictive clothing, shoes or garments such as knee braces or banded stockings or socks that are tight.
- Sleeping upright in a chair. Lying horizontally is best for circulation.

## **POTENTIAL HURDLES**

Some of the illustrations in the book are unique - I can source a few of the exercise photos from stock photo websites however, I'd have to use different

models for different poses - which not look good in the book. Therefore, to keep continuity and to have all of the exercises illustrated by the same model I'd have to hire a model. This also means studio hire, a photographer and a photo editor.