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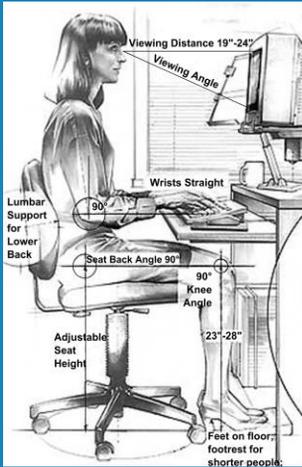


## Health and Safety

For the free video please see  
<http://itfreetraining.com/ap/1a10>

In this video from ITFreeTraining, I will look at general health and safety when it comes to working in the computer industry. In your IT career, you may find yourself working in many different industries including factories. It is important when you work in hazardous areas that you work safely.

# IT Health and Safety



Office ergonomics



Manual handling

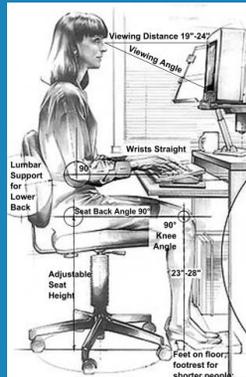


Emergency procedures

0:17 In this video, I will look at three different areas of IT health and safety. These are; office ergonomics, manual handling, and general emergency procedures. When you start working in IT, there is a good chance that you will be working in some sort of office environment and it helps to be aware of these areas for your own safety and you never know... it may save your life one day.

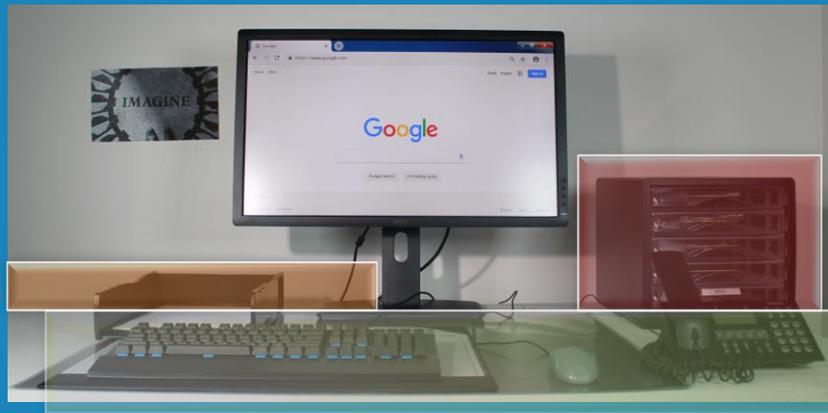
# Office Ergonomics

- Design of equipment to fit the human body
  - Reduces errors/Increase productivity, safety and comfort



0:42 First, I will look at office ergonomics. Ergonomics is the design of equipment to fit the human body. By doing this, it reduces errors and increases productivity, safety and comfort. Most offices nowadays are designed around ergonomic principals. You may, however, find that if you do contractor work, you may be given the spare chair that has been sitting in the storage room for the last few years. Also, ergonomic equipment is dependent on how much money the employer is willing to spend. For example, you can spend \$100 on a chair or over \$1000 quite easily. However, no matter what the budget, there are some things you can do to increase your productivity.

# Table Layout



Medium use

High use items closest to you

Low use

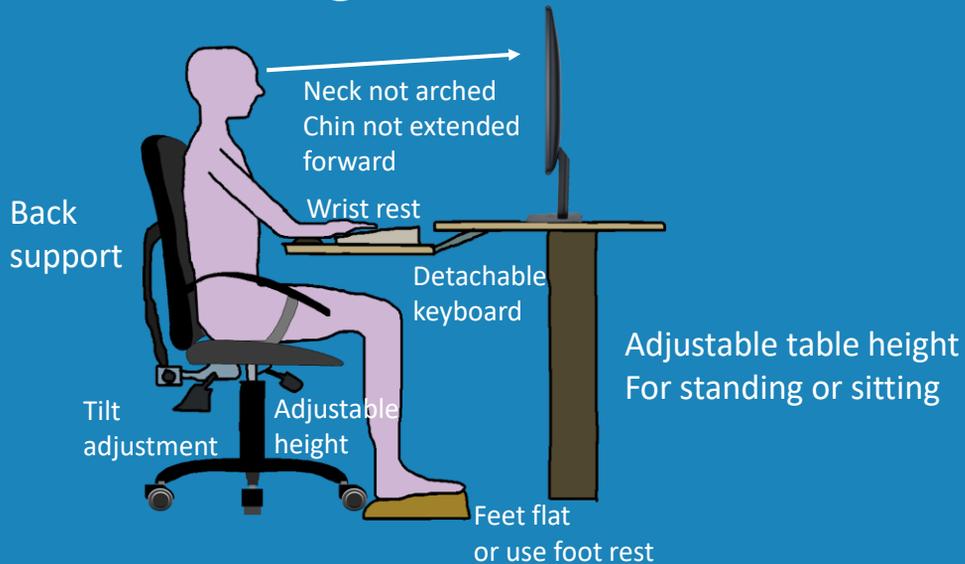
1:27 Without spending any money, one of the simplest ways you can make your work area more ergonomic is simply by being smart about where you place things on your desk. If I take an example of a work area... First, you should place anything that you use all the time closest to you.

Items like a keyboard and mouse go without saying. If you use the telephone a lot, you should consider having that close to you.

Medium use items should be placed next. These are items that you do not use all the time, but still should not be placed too far away. An example of one of these may be your in-tray. You take documents in and out of the tray throughout the day, but not all the time.

Following these are the low-use items. These are items like reference materials. These reference materials don't need to be close to you since they do not get used that often. For example, these items could be placed on shelves or drawers in your desk.

# Sitting and Position



2:25 I will next look at where you are sitting and your position. In some cases, you will have an adjustable table. The height is generally adjustable so you can either be sitting or standing. If you are lucky enough to have one of these tables, it is good practice to spend some of the day standing rather than all day sitting. Standing for a little while gives you some exercise. If you spend all day sitting in the one position this is not good for your muscles.

The next point to consider, whether sitting or standing, is the angle of your eyes to the monitor. When looking at the monitor, your neck should not be arched and your chin not extended forward. It used to be based more on the angle of the eyes to the monitor, however with monitors being so many different sizes (and particularly with large monitors), it really depends on what part of the monitor you are looking at. As long as your neck is not arched or chin forward you should be fine.

Some desks will have a detachable section to put the keyboard in. This can allow for more comfort. Whether the desk has it or not, make sure your arms are in a position so that the shoulders are relaxed and symmetrical. Your hands should be above your elbows and not on a downward angle. If your shoulders are having to hold your weight, this will cause them to become tired later in the day.

Some keyboards will have a wrist rest or you can purchase one separately. The wrist rest helps prevent the muscles in your arms getting tired holding your wrist over the keyboard.

There is an endless amount of office chairs out there, all at different prices. The important thing to look for is back support. If you are spending a lot of time sitting on the chair, you need to support your back. If the curved area of your back is not supported, you can develop back problems.

The next common feature of the chair will be adjustable height. This is particularly important if you cannot change the height of the desk. You should adjust this so that you are comfortable. This is particularly important because, if your chair is too high or too low, this can cause problems in other areas like shoulders and neck.

Some chairs may also have a tilt adjustment. Generally, this will adjust the angle of the chair. This should be adjusted so you are sitting up straight, but if work is slow or you are on night shift and you are not too busy, you may want to change the angle a bit to make yourself more comfortable.

The next point to consider is keeping your feet flat on the ground. If you find that your feet cannot reach the ground, use a foot rest. The last point to remember is to get up or do some exercises every so often. If you sit in the same place for too long, this can cause you problems.

# Dual Monitors



Both in front



Most used in front

5:09 If you have dual monitors, where you place them will depend on how you work. If you use both monitors equally, place them in front of you. If you use one monitor most of the time and the other occasionally, place the most used monitor in front of you and the other off to the side.

Some businesses may give you the option of a large monitor or two smaller monitors. It is really up to you which you prefer. Generally, it is recommended to use multiple monitors of the same size, but sometimes this is not possible.

I personally use three monitors. My main monitor is directly in front of me. The other two are to the left and right. The two additional monitors are only used for referencing material. My main monitor which I use to do most of the work is directly in front of me. For me this works well, but it is all about what works for you.

# Laptops



Long use bad for shoulders and back

Use docking station

Use monitor/keyboard/mouse

Or improvise

6:04 If you are using a laptop, if you place it on the desk you will find that you will be hunched over the laptop. This is bad for your shoulders and back as it puts you in an unnatural position. Sometimes you won't be able to avoid it, but in the long term you want to minimize this.

In order to make the laptop more usable, use a docking station, external monitor, keyboard and mouse or just improvise. A docking station is a device which the laptop plugs into and allows you to easily use an attached keyboard and mouse. In most cases, a monitor will also be attached to the docking station.

If you don't have a docking station, you can plug an external keyboard and mouse into the laptop. A keyboard and mouse don't cost a lot, so if you visit a site regularly, consider leaving a keyboard and mouse there rather than carrying it around all the time.

If you don't have an external monitor, consider raising the laptop. Use what you can find around the office, but if you can't find anything a few stacks of paper will do the trick. Just raise the laptop using the paper stacks, plug in your keyboard and mouse. It is the cheap ergonomic solution, but a cheap ergonomic solution is better than no ergonomic solution and will help save you from long-term injury.

Now that we have worked out how we are going to sit behind our desk, let's work out how we are going to move everything there.

# Manual Handling

- Force is used to lift, lower, push, pull, carry, move or hold a thing



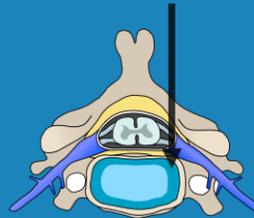
7:32 So, what is manual handling? Manual handling is the force used to lift, lower, push, pull, carry, move or hold a thing. You may be thinking that in IT you don't do a lot of that, but for the entry level technician most likely there will be a lot of setting up of new computers. This involves unpacking, moving and installing computer equipment. If you work in an office with 100 staff with computers, those computers did not get set up themselves and if you're the entry level technician, most likely this will be your job.

# Possible Injuries

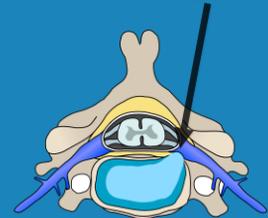


Immediate pain

Poor manual handling technique leads to tears



Results in slipped disc



Accumulative strain  
(Till breaking point)

8:08 Before I look at some points on how to perform manual handling, I will first look at the injuries you may get, so you understand why it is so important.

The first type of injury is an injury that puts you in immediate pain. This is when you perform a manual handling task and you feel immediate pain afterwards as the name suggests. Although it is not good to get these injuries, at least you are getting feedback right away that you need to do something differently. If you find that you are performing a manual handling task and feeling sore afterwards, think about if there is another way you can do it. You may be able to change the way you do the manual handling task or the way you do other tasks around the office to prevent injury.

The next kind of injury is the worst kind of injury because you don't know it is happening until it is too late. This kind is called accumulative strain. Accumulative injuries are small amounts of strain that build up over time until a breaking point is reached.

If you consider the discs in the back. Each disc is separated by cartilage which holds the discs in place. If you use poor manual handling techniques this leads to small tears in the cartilage. This weakens the structure and one day, you may be lifting something, maybe something that does not weigh very much and a disc will come loose. This is referred to as a slipped disc.

I met someone who got a slipped disc as a result of a sneeze. Obviously, the sneeze was not the root cause of the slipped disc, it was the years of poor manual handling. You can see that without proper care of your back, one day something very small may cause you to have a slipped disc. This is very painful and there are no pain receptors in the cartilage of the back, so you won't know there is a problem until it is too late.

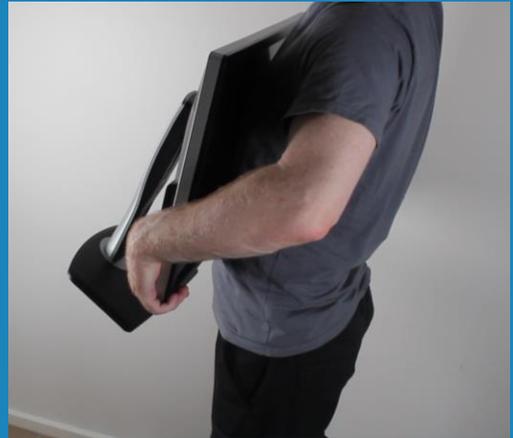
To understand this better, consider this donut is the cartilage around a disc on your back. Potentially, when you perform a manual handling task using poor technique the cartilage is broken. As time goes on, more damage is done. Since there are no nerves in the cartilage you won't be aware that any damage is being done.

Now consider that this black disc is the disc in your back. Since the cartilage has been weakened, it potentially does not take much to break and for the disc to slip out. You may not feel the accumulative damage being done, but you will definitely feel it when the disc slips out. Ask anyone who has had this occur, it is an extremely painful and life changing injury that should be avoided if possible. So how do we go about doing this?

# Lifting Things



Bend knees. Don't use back



Hold close to chest

10:51 The first thing I will look at is picking up equipment. When picking up equipment, don't bend your back and grab it from the top, instead bend your knees, grab the items as low as possible and lift it using your legs. Once done, hold the item close to your chest. If you hold the item away from your chest, gravity will pull the item downwards and your body will compensate by using your back muscles.

Your legs are the strongest muscles in your body. Put them to good use by holding the item close to the body which will transfer the weight to your legs. Your back is weak in comparison and by using an incorrect technique you risk damaging the cartilage in your back. You won't regret poor technique today, but if you keep doing it, one day it will catch up with you.

# Torso twisting



Turn body rather than torso whenever possible



Repetitive twisting leads to injury

11:39 The next point to look at is, when you pick something up you will need to put it down. If you place the equipment back on the floor use your legs to place the item on the floor. However, if you are putting the item on a table or cupboard, make sure you don't twist your torso whenever possible. Twisting the torso puts additional load on your back. When possible turn your body rather than twisting your torso.

Torso twisting becomes a real problem when your job requires a lot of repetitive torso twisting. If you work in a production area, like getting computers ready, think about how you can lay out the items to reduce torso twisting. It is always better to eliminate a hazard whenever possible rather than reduce it. Sometimes it is just a matter of rearranging your work environment and you can remove at least some hazards.

# Heavy Objects

- Check packages for warning labels
- Use two people when required
- Use mechanical aids whenever possible



12:31 In some cases, you may need to move something that is quite heavy. Check the package to see if it has a warning label on it to indicate that it is heavy. When you start working with servers, some servers and other server equipment can be quite large and heavy. When you come across an item like this, get a second person to help you lift it.

If at all possible, use mechanical aids. Items like trolleys are quite cheap to buy and make it easy to move equipment over longer distances. If your management does not want to purchase them, remind them that two or three computers can fit on a trolley, whereas you can only carry one at a time. This will save the organization money by being more productive. If that fails, mention how much money it could cost the organization if an employee gets a back injury. Hopefully that will convince them that it is a good idea to purchase one.

# Emergency Procedures

- Read emergency procedures
- Raise the alarm
  - Give them your location
- Make the area safe if possible
  - Disconnect power
  - Use fire equipment if trained
- Do what you can that is safe
  - E.g. provide First Aid if trained



13:24

In your organization, particularly larger ones, there will be procedures on just about everything. Some of these come from government regulations and others from internal policy. Your organization should have a set of health and safety procedures which may be part of an employee's induction or handbook. In this case, we will have a general look at emergency procedures.

First of all, read the emergency procedures. These will tell you what you need to do and where to go during an emergency. Somewhere on the floor you are located on there will be a floor plan. This will tell you where you are and more importantly where the nearest fire escape is. Sometimes you will find the emergency response document near this floor plan. One point to remember is that your floor may have multiple fire exits. Depending on the type of emergency, you may need to use a different fire exit. Humans are creatures of habit so, don't automatically use the same door that you came in just because that is what you are used to doing. If there is a hazard in that location, you would need to use a different exit.

When there is an emergency, raise the alarm or have someone else do so. If you do ask someone else to do it, make sure they do. You don't want everyone standing around waiting for an ambulance that no one called.

Your emergency procedures will outline how to raise the alarm, whether you do it directly or notify a security guard or another person. The important point is to give them your location. If they don't know where you are, they cannot send help to you. If you don't know, maybe you're in an unfamiliar building; locate the emergency floor map, it will be close by and that will tell you exactly where you are.

If you are dealing with a hazard, make the area as safe as possible. Without putting yourself at risk, disconnect the power. If someone has been electrocuted and the power is still on and you try and help them you risk getting electrocuted as well.

If there is a fire and you have been trained to do so, use fire equipment to put out the fire. Fires spread very quickly, but if you are quick enough you may be able to put it out. If the fire has already taken hold, just worry about getting yourself out, as the smoke is often more dangerous than the fire.

Lastly, do whatever you can do that is safe to do. So, for example, provide first aid if trained to do so. Just remember that your safety comes first, there is no point trying to help others if you put yourself at risk in the process. Every situation is different, but the main points to remember are safety first, keep calm and do not act rashly.

Thanks for watching this video from ITFreeTraining. I would like to dedicate this video to all the donuts that were lost this year in the making of training videos. Until the next video, thanks for watching.

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