⚠️Computer Hazards⚠️

Hazards to Your Health

What Is Ergonomics?

Ergonomics is the science of designing equipment to be comfortable, efficient, and safe for humans. It’s an important topic for those who use computers on a daily basis. Some of the physical hazards associated with computer usage include eye strain, neck and shoulder pain, carpal tunnel syndrome, and back pain. These conditions can be caused by poor posture, prolonged sitting, and repetitive motions, among other factors. It's important to take breaks, adjust posture and workstation layout, and use proper equipment, such as ergonomic chairs and keyboards, to minimize the risk of injury. Regular exercise and stretching can also help alleviate muscle tension and improve overall physical health.

Repetitive Strain Injury (RSI)

RSI is a type of injury that can occur from performing repetitive movements for extended periods. An RSI can cause pain, numbness, or weakness in the affected area. If you experience any of these symptoms, take a break from whatever you’re doing. The most common type of RSI is **carpal tunnel syndrome**, which affects the hands and wrists.

You can prevent RSI by avoiding repetitive movements and taking breaks to stretch and rest. Maintaining good posture is also important. Keep your feet flat and sit all the way back in your chair, letting the backrest support your back. Avoid slouching. Keep your shoulders relaxed and keep your wrists in a neutral position, not bent at an awkward angle. Keep your screen at eye level or slightly below eye level, and at an arm's length distance from your face. Ergonomic equipment, such as a chair and keyboard, can also help prevent RSI. Adjust your workstation to make it more comfortable for your body.

Treatment for RSI typically involves resting the affected area, physical therapy, and medication to reduce pain and inflammation. In more severe cases, surgery may be necessary. It's important to seek medical attention if you experience symptoms of RSI, as early treatment can prevent the injury from becoming worse.

Digital Eye Strain ("Computer Vision Syndrome")

Computer vision syndrome, also known as digital eye strain, is a condition that results from prolonged use of electronic devices such as computer screens, smartphones, and tablets. Symptoms include eye discomfort, headaches, blurred vision, dry eyes, and muscle fatigue after computer use.

A good way to prevent eye strain is to follow the **20-20-20 rule**: every 20 minutes, take a 20-second break and look at something 20 feet away. You should also adjust the brightness levels of your screen, and stay at least an arm's length away from your screen. Remember to blink frequently.

Hazards to Your Hardware

Electrical Surges

Electrical surges are sudden spikes in voltage that can harm your computer. They often happen during thunderstorms or power outages. A **surge protector** will help prevent these spikes from damaging your computer. It diverts extra voltage away from your computer. It's also a good idea to unplug your computer during thunderstorms.

It also helps to keep your computer clean, since dust can make it more vulnerable to surges. If you have an **uninterruptible power supply** (UPS), it can help you safely shut down during power issues. If a surge does damage your computer, you might need to repair or replace parts, restore data from a backup, or check your insurance for coverage.

Using the Wrong Charger

It is **not** a good idea to use a different laptop charger than the one that came with your laptop, as it may not provide the correct amount of power and voltage, which can fry your laptop's battery and other components. If the original charger that came with your laptop is lost or broken, the best thing to do is buy an exact replacement charger from the manufacturer. If you're not sure about the type of charger you need, ask a professional. It's not worth the risk.

Liquid

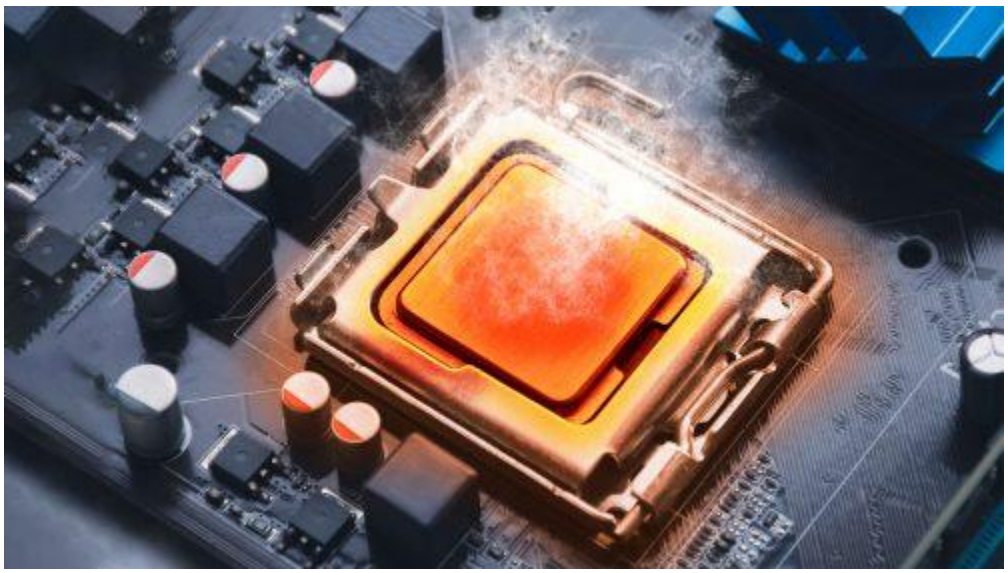
Water, or any other liquid, can cause a short circuit or corrosion. If your computer or phone gets wet, you should turn it off immediately and unplug it from the power source. Next, remove any peripherals or external devices connected to the device, such as USB drives or charging cables. If the liquid was just plain water, you can try to dry the device by placing it in a bag of uncooked rice (or any other desiccant) for 24-48 hours. The rice will absorb the moisture from the device. This won't *fix* any damage that was done but it will help prevent further damage.

Do not use a hairdryer or any other type of heat source to dry your device, as the heat can cause more damage. Also, don't turn on the device until you are sure it's completely dry, as doing so could cause a short circuit and further damage.

If your device was damaged by a liquid other than water, or if it was submerged in water for an extended period of time, it's probably best to take it to a professional repair service as soon as possible. They will have the equipment and expertise to properly dry and repair your device.

Heat and Cold

If a computer gets too hot, it can cause components like the CPU or graphics card to malfunction, and in extreme cases, can even cause permanent damage. Symptoms of overheating may include slow performance, unexpected shutdowns, or the fan running extra loudly.



Excessive cold isn’t as dangerous as excessive heat, but it can still cause problems. It can lead to water condensation inside the machine, which is bad news. Cold can also affect the physical parts of your computer, making them contract and possibly break. Extreme cold will also affect a laptop battery’s efficiency.

Keep your computer in a cool, dry place; avoid exposing your computer to direct sunlight or placing it in an area where it can get excessively hot. Also make sure the vents on your computer are not blocked by clothing or other objects, as this can prevent proper airflow and cause overheating. Don't leave your laptop in a car on a hot day or in a cold garage during the winter.

Magnets

Magnets will harm certain components of a computer, particularly those that rely on magnetic fields to function properly. These include hard disk drives, speakers, and credit card readers.

If a magnet comes too close to a hard disk drive, it can disrupt the magnetic fields that allow the drive to read and write data, potentially causing data loss or hardware failure.

Physical Shock

Dropping your computer can break important parts and cause data loss. Be careful when moving your computer and don't place it on unstable surfaces. If you drop it, turn it off, unplug it, and check for visible damage. Turn it back on to see if it's acting strangely and, if so, get it professionally repaired. Consider using protective cases or shock-absorbing materials for added safety.

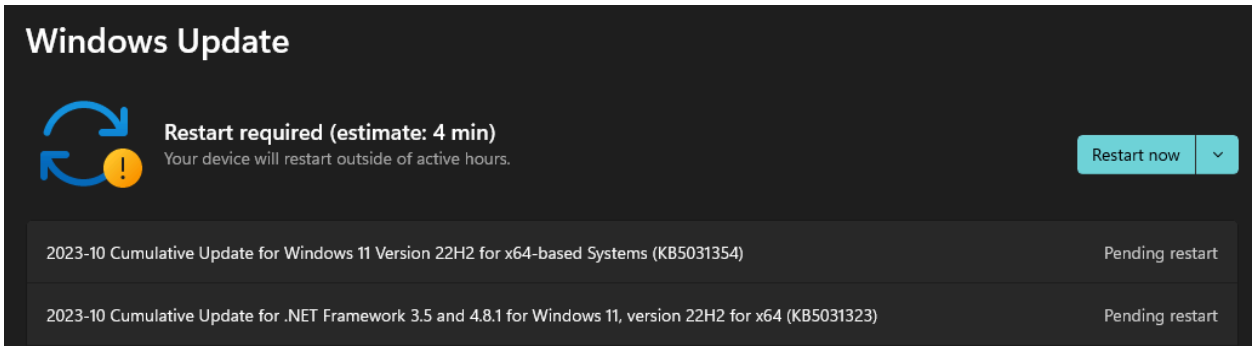
Hazards to Your Data

Malware and Viruses

Malware (“malicious software”) is an umbrella term for any program designed with bad intent. The purpose of malware is usually to steal your sensitive information or corrupt your files. **Viruses** are a type of malware that can spread from one computer to another. Malware can come in many forms, such as downloadable .exe files or as code embedded in websites.

To protect against these threats, regularly check your OS for security updates. Avoid downloading suspicious files from unknown sources and be cautious when clicking on links, especially ones you receive in emails from unknown senders.

Watch: What Kinds of Files Can Be Viruses?



Phishing Scams

Phishing scams usually come in the form of deceptive emails or messages that try to trick you into revealing personal information. Always verify the source before sharing any personal details. Using two-factor authentication can add an extra layer of security. If you think you've been scammed, change your passwords and report the incident to your service provider and the company being impersonated.

Hard Drive Failure

Your computer's hard drive can fail due to age, wear and tear, or environmental conditions, putting your data at risk. Signs of a failing hard drive include frequent crashes, corrupted files, and slow performance. To protect your data, regularly back it up to an external drive or via cloud storage. Keep your computer in a cool, dry place and run disk checks to catch issues before they become major problems.

Data Recovery Options

If you lose data, you might have a few ways to get it back. Specialized data recovery software can sometimes retrieve deleted or corrupted files. These include programs like Recuva and Stellar Data Recovery.

For more severe issues, like a mechanically failed hard drive, you might need to resort to professional data recovery services. But if you've been backing up your data to an external drive or the cloud, you won't have anything to worry about. A good rule of thumb to stick by is, "**if it isn't backed up, it doesn't exist**." If it's important to you, back it up!