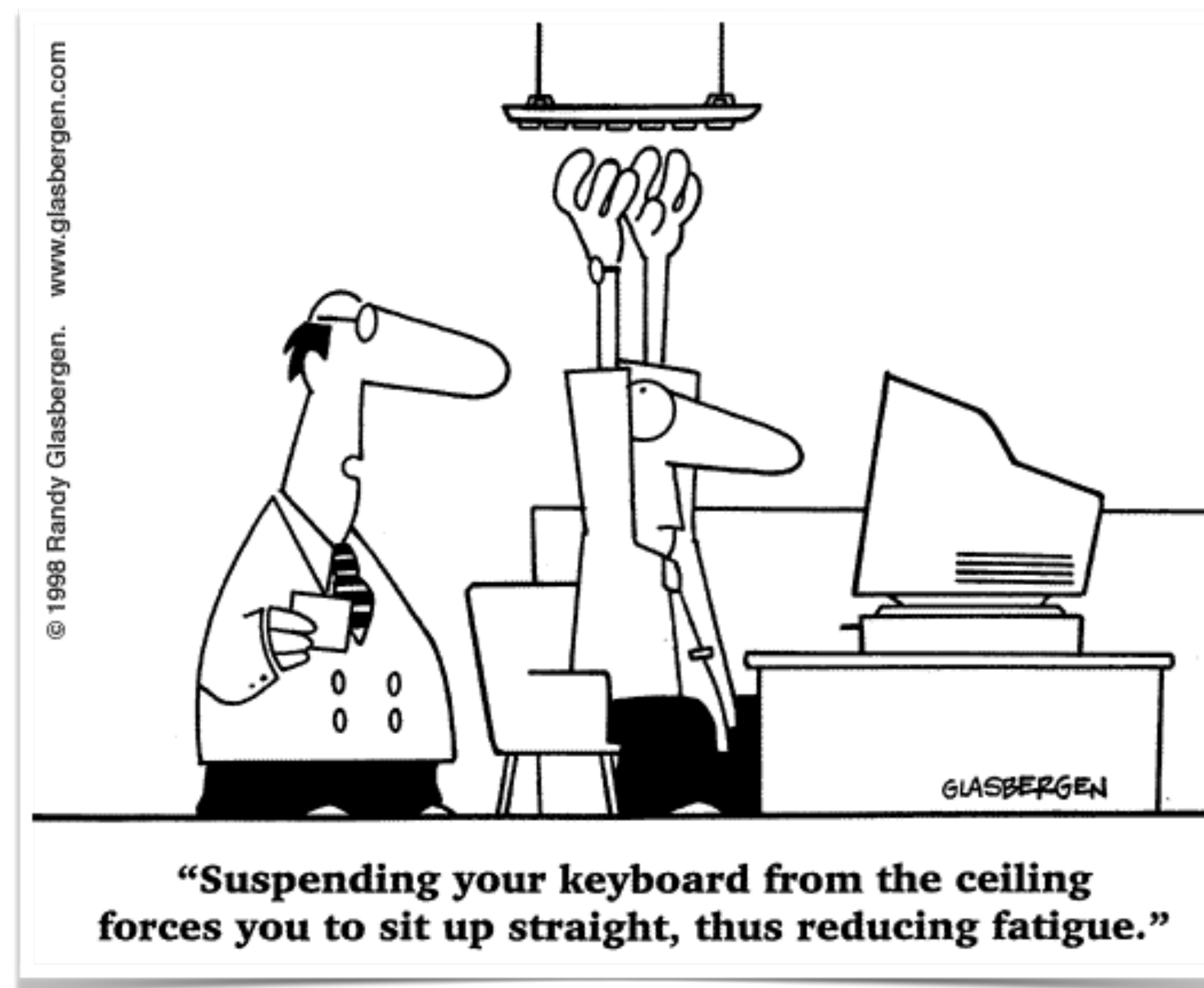# Ergonomics, Health & Safety

Chapter 10

What is Ergonomics?

The study of **human beings** in relationship to their working environment <u>and</u> the engineering of that environment for **comfort, efficiency and safety.**

© 1998 Randy Glasbergen. www.glasbergen.com

GLASBERGEN

"Suspending your keyboard from the ceiling forces you to sit up straight, thus reducing fatigue."

The Goals of Ergonomics

- To make the work **more comfortable**

- To improve workers productivities

- To improve both health and safety

When the working environments are well designed (ergonomically correct) employees will be:

- happier & healthier

- produce better work

- quit job less frequently

If the working environments are **poorly designed (ergonomically incorrect)** <u>and</u> using a computer over a long period of time, it can cause many types of illnesses/injuries to the employees, e.g:

- Repetitive strain injury (RSI)

- Eyes disorders

- Back & shoulder pain, etc

Repetitive Strain Injury (RSI)

RSI is a type of injury caused by repeated movement

E.g. a worker who perform the **same tasks** repeatedly over a long period of time such as, keyboard **operators (**>167 keystrokes per min can puts the operators at risk)

Some **preventive** measures:

- Keep typing speed at a reasonable level

- take regular breaks from repetitive tasks (This is to give your body a rest)
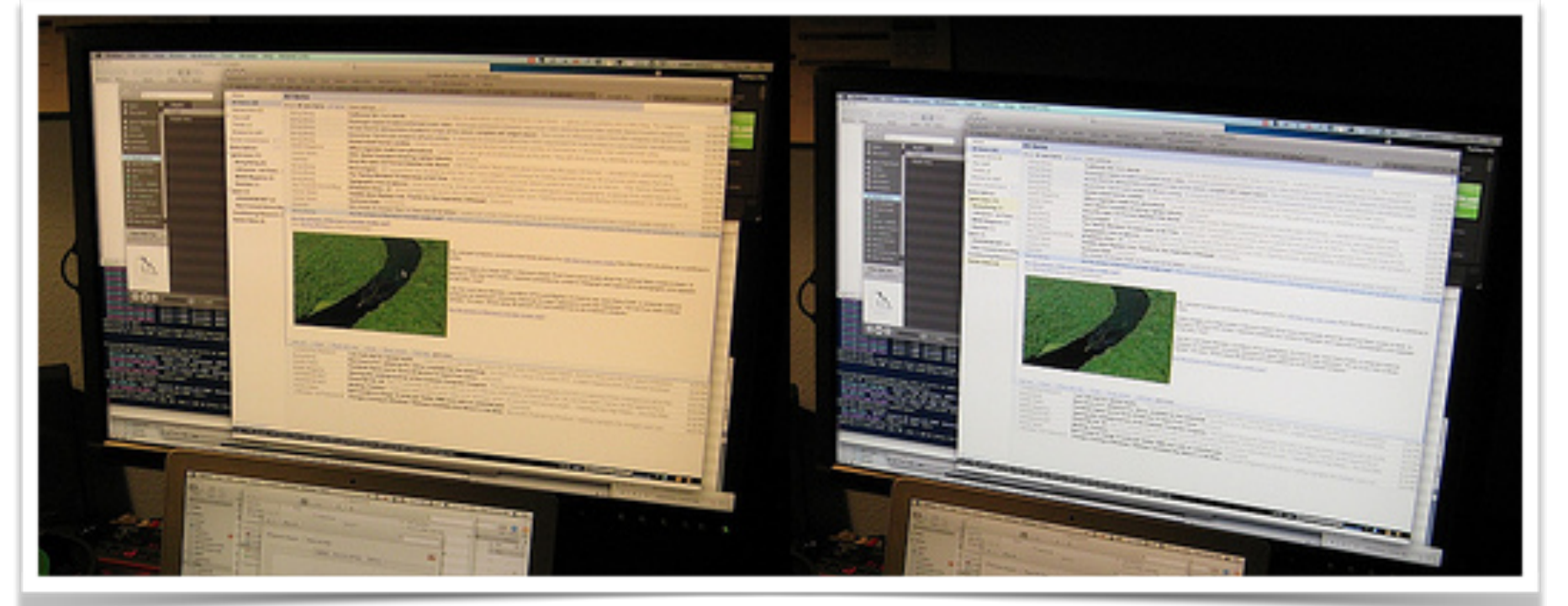
- Consider job re-design
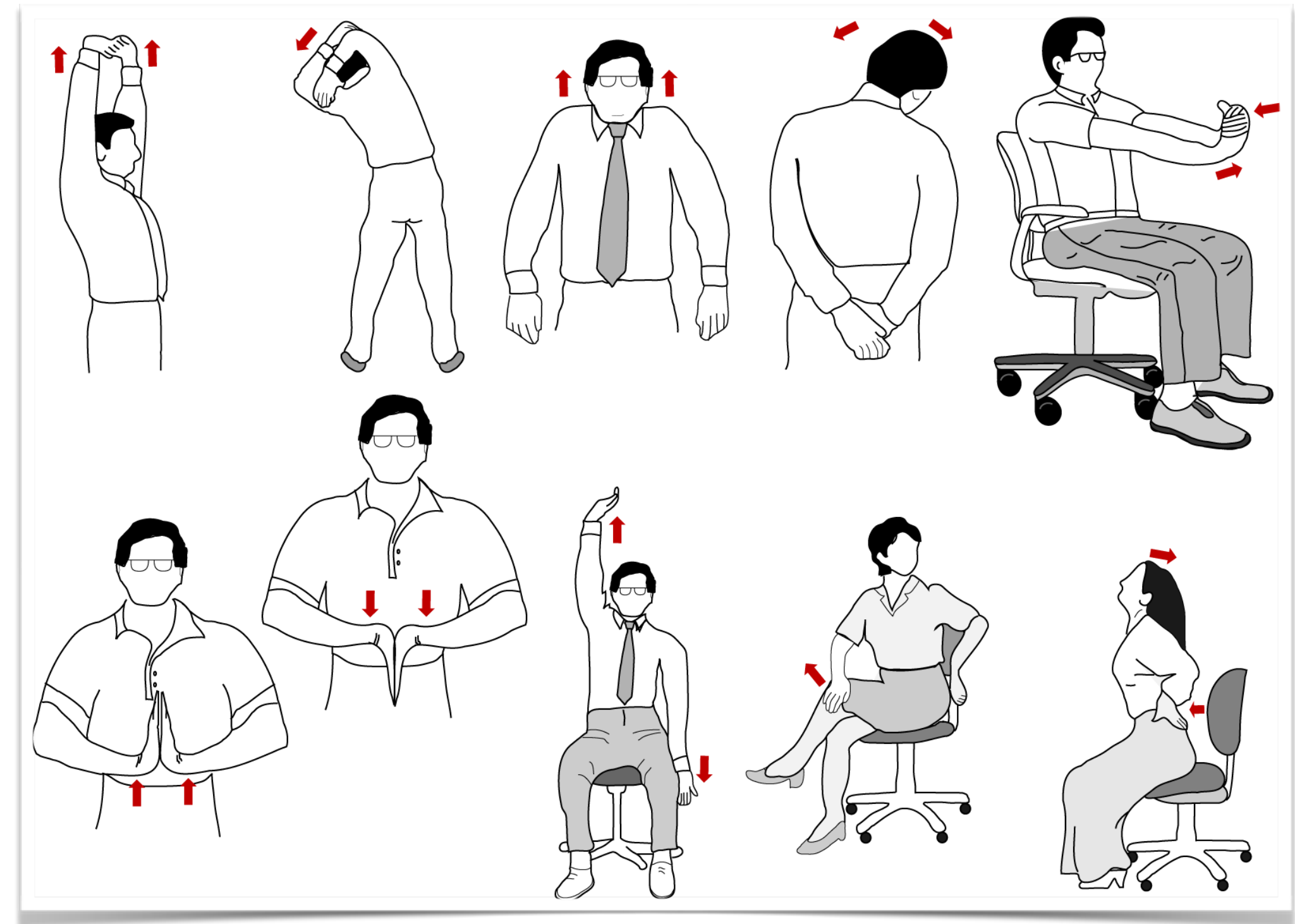
Eye Disorders

Examples:

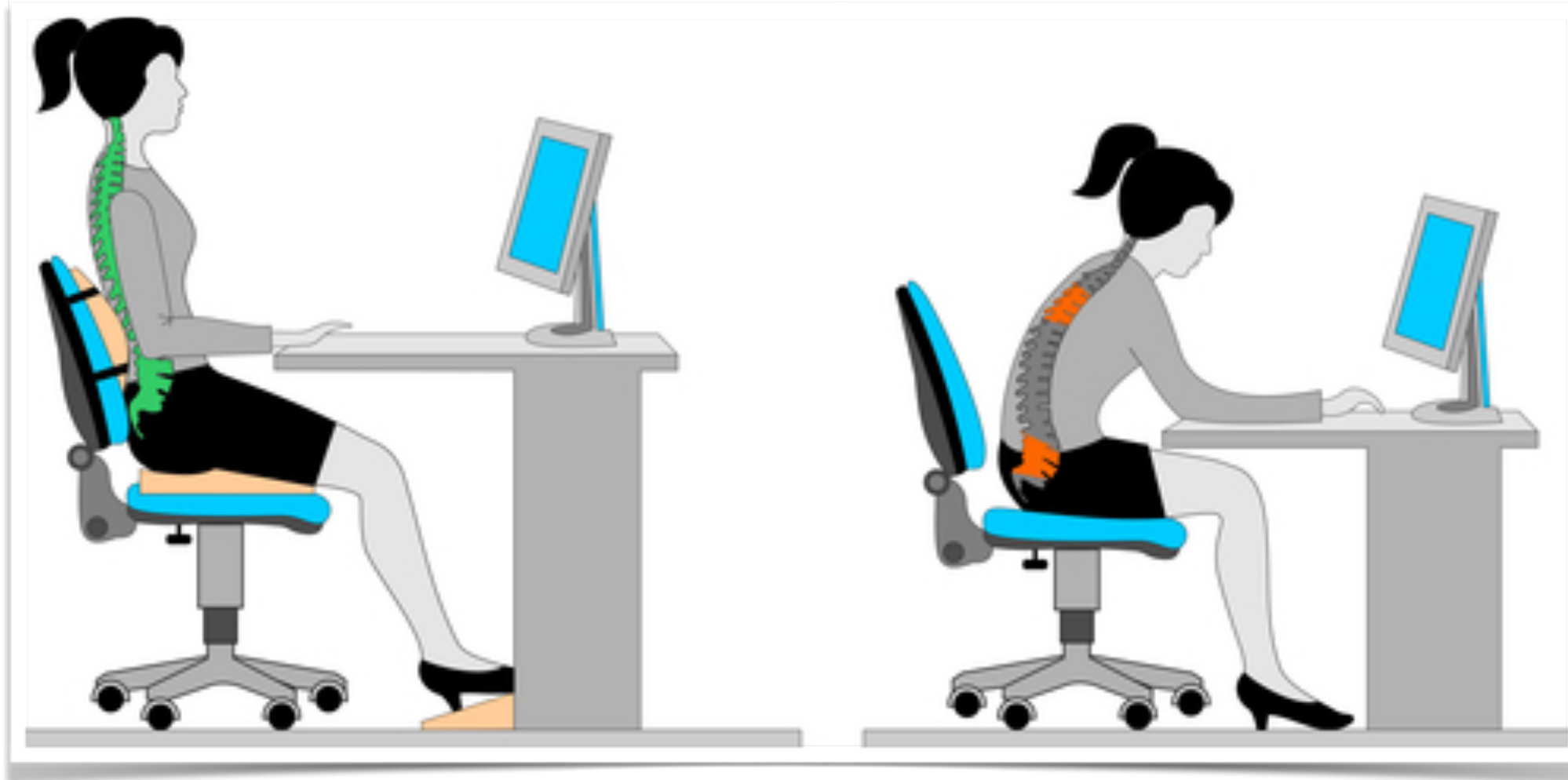- Sore eyes, Blurred vision, Red & watering eyes

Causes of eye disorders

- Poor contrast

- Very small font size

- **Lighting** is too bright/too dull

- There is **flicker** on the screen

- The user is **too close** to the screen

- Focusing on something at a **fixed distance** for a long time

https://justgetflux.com

Back and Shoulder Pain

The Office Environment

Lighting:

- Adequate lighting should be provided (to allow users to perform their tasks without discomfort or eyestrain)

- The more detail the user need to see, the more importnt of lighting.

Noise level

- Noise should be maintained at a comfortable level

- Excessive noise can cause :

    - stress, higher blood pressure, poor concentration

Temperature

- Office temperature should be kept in comfortable range.

- Performance will be affected at extremely high or low temperature.

Working places

- The **top of the <u>screen</u>** should be positioned **at eye level** and at a distance of 18" – 24" from the face.

- Keyboard **should be kept at elbow height** and can be easily moved around the desk so that user can find the most comfortable position. This prevent stress on the wrist

Tables & Chairs

- The seat should be padded for comfort, but firm to maintain a good posture

- There should be enough space under the desk.

- The edges of tables should be smooth and rounded.

⏻ Thank you