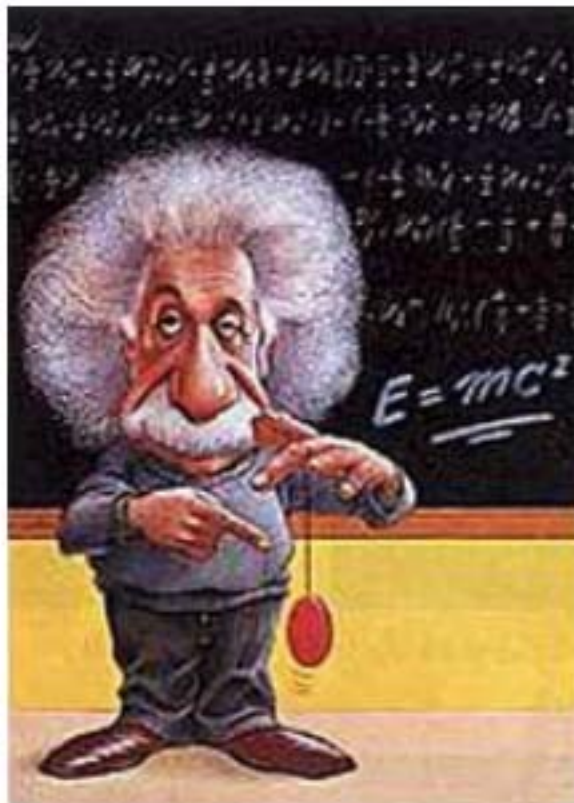


Analyses some research conducted which is relevant to the intent of the major project.

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DISCOVERIES MADE  
DISCOVERIES MADE  
DUE TO  
DUE TO  
RESEARCH  
RESEARCH



# DISCOVERIES FROM RESEARCH...

- From researching several books and internet sites I have discovered that when the table top slides over the back to become the back part of the seat/bench, it can't be sitting at any angle because of health and safety issues concerning posture and the spine. Here are several techniques to help someone who gets back pains when sitting and the proper angle at which their back should be arched in.

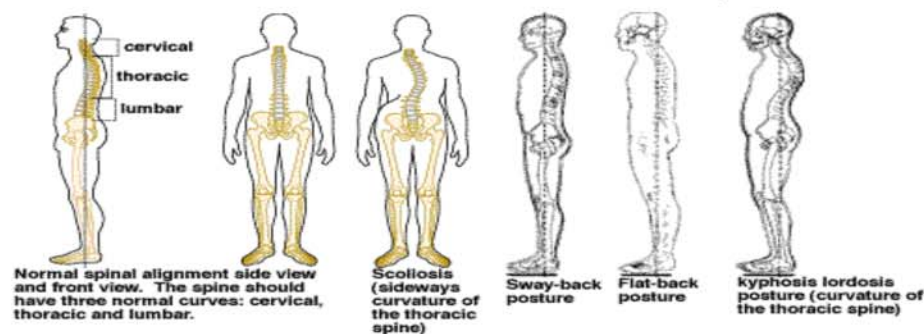
<http://www.clevelandclinic.org>

## **What is good posture?**

Posture is the position in which you hold your body upright against gravity while standing, sitting or lying down. Good posture involves training your body to stand, walk, sit and lie in positions where the least strain is placed on supporting muscles and ligaments during movement or weight-bearing activities. Proper posture:

- Keeps bones and joints in the correct alignment so that muscles are being used properly.
- Helps decrease the abnormal wearing of joint surfaces that could result in arthritis.
- Decreases the stress on the ligaments holding the joints of the spine together.

- Prevents the spine from becoming fixed in abnormal positions.
- Prevents fatigue because muscles are being used more efficiently, allowing the body to use less energy.
- Prevents strain or overuse problems.
- Prevents backache and muscular pain.



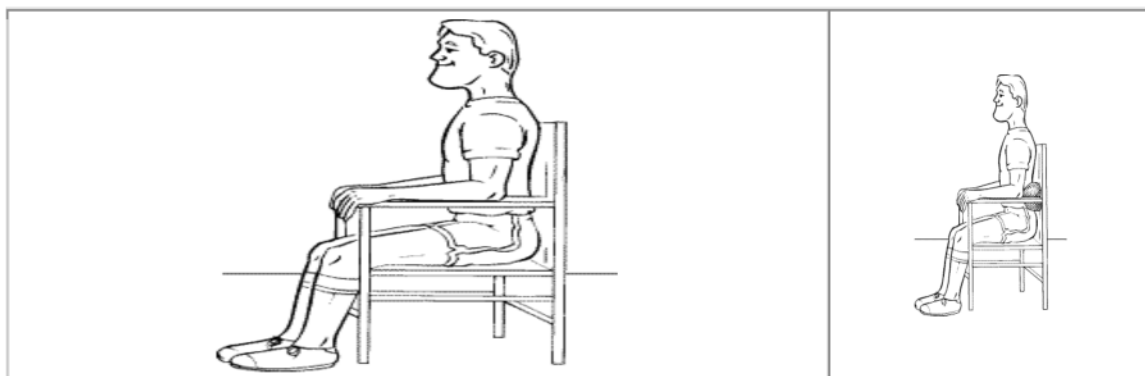
## Correct sitting position

1. Sit up with your back straight and your shoulders back. Your buttocks should touch the back of your chair.
2. All three normal back curves should be present while sitting. A small, rolled-up towel or a lumbar roll can be used to help you maintain the normal curves in your back.

- Here's how to find a good sitting position when you're not using a back support or lumbar roll:
  - Sit at the end of your chair and slouch completely.
  - Draw yourself up and accentuate the curve of your back as far as possible. Hold for a few seconds.

- Release the position slightly (about 10 degrees). This is a good sitting posture.

- 3.** Distribute your body weight evenly on both hips.
- 4.** Bend your knees at a right angle. Keep your knees even with or slightly higher than your hips. (Use a foot rest or stool if necessary). Your legs should not be crossed.
- 5.** Keep your feet flat on the floor.
- 6.** Try to avoid sitting in the same position for more than 30 minutes.
- 7.** At work, adjust your chair height and work station so you can sit up close to your work and tilt it up at you. Rest your elbows and arms on your chair or desk, keeping your shoulders relaxed.
- 8.** When sitting in a chair that rolls and pivots, don't twist at the waist while sitting. Instead, turn your whole body.
- 9.** When standing up from the sitting position, move to the front of the seat of your chair. Stand up by straightening your legs. Avoid bending forward at your waist. Immediately stretch your back by doing 10 standing backbends.



## **Correct sitting position without lumbar support (left) and with lumbar support (right).**

*It is ok to assume other sitting positions for short periods of time, but most of your sitting time should be spent as described above so there is minimal stress on your spine.*

### OBSERVATIONS

When your thigh is at a 60 degree angle to the floor, you feel no discomfort and can breathe freely. When you hold your thigh parallel to the floor (at a 90 degree angle to your torso), you can immediately feel your pelvis pulling under, straining your lower back. You are unable to breathe freely in this position because your lung capacity is reduced. Although slouching seems to relieve the strain on your back, it shapes your spine into a letter C, reversing your lumbar curve and weakening your skeletal alignment. When you try to breathe deeply in this position, you find again, that your lung capacity is diminished. The inability to breathe freely and deeply is the surest sign of tension in your body.

- Since there is going to be a T.V placed on top of the table when it is not being used as a back rest, it would be appropriate to research the best ways and

methods to view the television. Here are a couple of common questions that may be asked when viewing T.V.

## **Your Eyes & Vision: TV & Vision**

Eye care experts generally agree: Watching television will not harm your eyes or vision if the TV room is lit properly and if you follow a few viewing tips. In fact, there is usually less strain involved in TV viewing than in doing close work such as sewing or reading. But TV watching for long stretches of time can leave your eyes fatigued.

### **What are the best conditions for TV viewing?**

A normally lit room, suitable for general activities, is best. Excessively bright lighting tends to reduce contrast on the screen and "wash out" the picture. No lights should be placed where glare or reflections will be seen in or near the television screen. Strongly coloured lighting should not be used and surroundings should be neutral in colour.

### **Is it all right to watch television in a dark room?**

This situation is not ideal. When the room is totally dark, the contrast between the television screen and the surrounding area is too great for comfortable and efficient vision. When the room is softly illuminated, undesirable high contrast is kept to a minimum.

**Is it better to adjust the television set to room lighting or room lighting to the set?** Adapt the set's brightness and contrast to room lighting -- not room lighting to the set -- after the room lights have been turned on.

**Is it all right to wear sunglasses while watching television?** Generally, no. Sunglasses may shut out too much light for good vision. If worn when not needed, they tend to make it difficult for the viewer to adapt promptly to normal light levels. If you are bothered by brightness, consult with an eye care practitioner about the possible need for lenses more appropriate to TV viewing.

**Possible difficulties with TV viewing**

**Children sometimes sit close to the set. Does this hurt their eyes?** While close-up viewing is certainly not recommended, it is generally not harmful. It is best to watch television from a distance of at least five times the width of the picture. Picture details will appear sharper and better defined and the television lines and defects will be less apparent. If your child persists in watching television from a short distance, have his or her vision checked. Nearsighted (myopic) children like to sit close to the screen.

**What does it mean if the eyes water or if there is other visual discomfort while watching television?**

It could indicate a problem that needs professional attention. Some viewers, especially those over 50

years old, may find relief with special glasses for television viewing. Discomfort could also indicate that the drainage passages which drain tears from the eyes into the nose are partially blocked and require examination.

**What about color television for viewers with color vision deficiencies?** Color deficiency (i.e. colour blindness) is generally not a barrier to enjoying colour television. However, viewers with colour deficiencies may disagree with others as to the "proper" color adjustment. A colour TV picture properly adjusted for most people may appear too green to a protanomalous (weak red) observer, or too red to a deuteranomalous (weak green) viewer. When the set is adjusted to "correct" its colour, the resulting picture is usually unsatisfactorily tinted for other viewers. Viewers who are severely color deficient, the so-called "red blind" or "green blind," will see little or no difference in widely different colour mixtures, and will not be bothered by most colour adjustment

### **TV viewing tips:**

- Make sure your television set is properly installed and the antenna properly adjusted.
- Place the set to avoid glare and reflections from lamps, windows and other bright sources.
- Adjust brightness and contrast controls to individual and/or viewer's taste and comfort.
- Have the set at approximately eye level. Avoid



having to look up or down at the picture.

- Avoid staring at the screen for lengthy periods. Briefly look away from the picture, around the room or out the window.
- Wear lenses prescribed for vision correction, if advised to do so by your eye care practitioner.
- View from a distance at least five times the width of the television screen.