

# Vehicle Ergonomics

## Best Practice Guide

Best Practice Guide 2007



# Introduction

About 80% of us will experience back pain at some stage in our lives. A number of work and leisure activities can contribute to back pain, but if you spend long hours driving, you may suffer from prolonged discomfort or pain in your back.

Sitting in the same position for long hours gripping the steering wheel and being exposed to vibration from the road can contribute to the wear and tear on your back, but there are things you can do to reduce your chances of suffering from back pain.

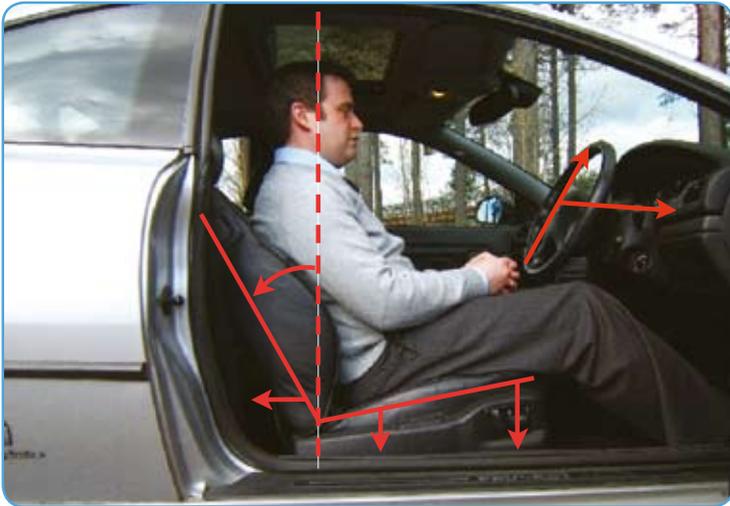
- Vary your work activities as much as possible during the day. Swap between the roles of driver and comms officer so that your posture changes. Try not to keep the same role for more than four hours.
- Take a break from driving every couple of hours.
- Make sure you get out of the vehicle as often as possible, move about and carry out small stretches if you can. Do not carry out any sudden intense physical activity (such as lifting, bending or stretching) without warming up first.
- Make small adjustments to your driving position every couple of hours.
- Follow the posture guide on the following pages to make sure you are sitting correctly.

*With thanks to Professor Mark Porter and his Design and Technology team at Loughborough University. Mark has 30 years experience of working in vehicle ergonomics for manufacturers, suppliers, occupational health professionals and drivers.*

# Driving Posture Guide

Start with the initial set up position, where adjustable:

- Steering wheel fully up and fully forward.
- Seat height at its lowest.
- Cushion tilted so that front edge is in lowest position.
- Back rest approximately 30 degrees reclined from vertical.
- Lumbar adjustment backed off.
- Seat fully rearwards.



**1** Raise the seat as high as is comfortable to improve your vision of the road.

- Check you have adequate clearance from the roof.
- Ensure you have maximum vision of the road.



**2** Move the seat forwards until you can easily fully depress the clutch pedal and the accelerator pedal.

- Adjust the seat height as necessary to give good pedal control.



**3** Adjust cushion tilt angle so that the thighs are supported along the length of the cushion.

- Avoid pressure behind the knee.



**4** Adjust the backrest so it provides continuous support along the length of the back and is in contact up to shoulder height.

- Avoid reclining the seat too far as this can cause excessive forwards bending of the head and neck and you may feel your thighs sliding forwards on the cushion.



**5** Adjust the lumbar support to give even pressure along the length of the backrest.

- Ensure lumbar support fits your back, is comfortable with no pressure points or gaps.



**6** Adjust the steering wheel rearwards and downwards for easy reach.

- Check for clearance with thighs and knees when using pedals.
- Ensure display panel is in full view and not obstructed.



- 7 Adjust the head restraint to ensure the risk of injury is reduced in the event of a car accident.



- 8 Adjust the rear view and side mirrors ensuring that they can be used without excessive straining of the neck or upper body.

*Repeat 1-8 and fine tune as necessary*

Be aware that many vehicles will not allow you as much flexibility of driving posture as you may wish. Particular vehicles may cause you to adopt a coping posture. For example, limited headroom forces a reclined posture, making reach to the steering wheel a problem. This leads to excessive forward bending of the head and neck and a slouched posture.

The Highways Agency is investigating the ergonomics of HATO vehicles, but if you find that you experience discomfort when driving please raise the issue with your supervisor or health and safety representative.

*For more information please visit the Driving Ergonomics website: [www.drivingergonomics.com](http://www.drivingergonomics.com)*

**Got a question or comment?**

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