THE NEED TO SIT SLIGHTLY RECLINED

THERE ARE THREE MAIN PROBLEMS ASSOCIATED WITH EXTENDED PERIODS OF SITTING, BASED ON SCIENTIFIC EVIDENCE AND RESEARCH

Ξ The effect of back inclination on pressures on the lumbar spine.
Ξ The effect of lumbar support on the pressures on the lumbar spine.
Ξ The effect of seat pressure and its association with back inclination and lumbar support.

ERGONOMISTS AND OTHER HEALTHCARE PROFESSIONALS ACKNOWLEDGE THAT THE FOLLOWING 3 KEY ELEMENTS PREVENT – AND RELIEVE – BACK PAIN:

Ξ A total contact back-support system.
Ξ A seat which allows good pressure distribution
Ξ A mechanism which facilitates for correct positioning; ideally one which is slightly reclined.

The current Worksafe Victoria “Officewise – A Guide to Health & Safety in the Office” refers to “A slight backwards tilt of the backrest” as being the preferred positioning for ergonomic seating. This is because the “force on the lower back is reduced.”

CHART A.
Highlights the effect of different positions on the load of the lumbar disk. As can be seen when the back is relaxed, there is the least amount of pressure on the lumbar region.

CHART B.
Indicates that muscle activity in the back decreases significantly, the further the back is positioned past 90°.

CHART C.
Explores the effect of increasing back inclination, allied with increased lumbar support, and highlights the dramatic reduction of pressure on the lumbar spine when both are combined together.

Mean values of normalised disc pressures with different activities whilst seated. Distance between seat and table surface, 28cm. The centre of the backrest was located at the level of L4-S. Disc pressure is reduced when the back is relaxed/reclined.

The relationship between the quantified EMG-signal, measured in uV and the backrest inclination (degrees) in the sitting posture. Muscle activity in the back is reduced; the further past 90° the back is inclined.

The relation between interdiscal pressure (dp), backrest inclination (degrees), and the amount of lumbar support (cm). Disc pressure reduces increasingly, the greater the recline and the greater the lumbar support.

OTHER REFERENCES TO NOTE:
THE NEED TO SIT SLIGHTLY RECLINED

- Back Slightly Reclined
- Elbows Close To Body
- Backrest Supporting Lower Back
- Adjustable Swivel Levers
- Top of Monitor at Eye Level
- Monitor Roughly Arm's Length Away
- Minimal Bend at Wrists
- Document Holder
- Front of Seat Not Pressing On Back Of Knees
- Feet Resting on Footrest or Flat on Ground

90°-120°