

# **Ergonomic Seating, Furniture & Accessories**

## **for the modern office**

**Improving wellbeing and productivity**



**Practical solutions for the busy office**

## KOS Ergonomic Solutions Ltd.

*Specialists in Back Care Chairs*



*Seamus Kennedy*

### The Company

A 100% Irish owned company, founded in 1991. Since 1999 KOS focused solely on providing practical solutions that enable individuals to work safely, comfortably and productively. We take a two pronged approach helping with both prevention and rehabilitation.

At KOS, we continuously update our offering to ensure we have the latest, most innovative, cost-effective, but above all posture improving range of products. We provide ergonomic workplace solutions which help clients increase comfort, prevent injuries, reduce absenteeism, increase productivity and comply with Health and Safety (H&S) obligations.

We work closely with ergonomists, medical and H&S professionals to ensure fast return to work. We find early intervention is best to avoid long term absences. We frequently provide presentations and training on the latest and most effective posture improving products available.

Our expertise is our knowledge of the most appropriate products and their application in the workplace.

### We provide the complete solution

Our consultants are trained in ergonomics and are qualified workstation assessors and seating assessors.

We provide tailor made solutions for companies to ensure all areas of the problem are solved. For example, with seating, installation and onsite setup is available to ensure equipment is set up correctly. which is essential when someone has a back problem. The user is then trained to use the chair and educated on how to prevent and avoid further aggravation of their problem.

### Free consultation for employees

Appointments can be arranged with a trained consultant at our KOS showrooms. Here the client will be assessed and advised of the best action to take. The client will be able to try out the individual products and helped to choose the best combination for their particular needs.

**DUBLIN:**  
Westland Row,  
Dublin 2

**TIPPERARY:**  
Holycross,  
Thurles,  
Co. Tipperary

Call to arrange an appointment:

01 6110 200

0504 43341

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Helping to diagnose the most appropriate solutions to workplace problems.

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# KOS Ergonomic Solutions

## Assessment Pack

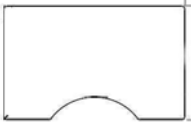



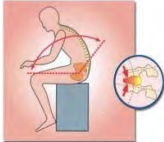











Helping to diagnose the most appropriate solutions  
to workplace problems.

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# Causes of Discomfort to the Lower & Upper Back





Problem	Possible Solutions			
Desk too High	 <a href="#"><u>Adjustable Footrests</u></a>	 <a href="#"><u>Extra High Footrests.</u></a>	 <a href="#"><u>Height Adj. Tables</u></a>	
Desk too Low	 <a href="#"><u>Desk Risers</u></a>	 <a href="#"><u>Height Adjustable Desks</u></a>	 <a href="#"><u>Height Adjustable Frame for Existing Table Top</u></a>	
Stooped working position	 <a href="#"><u>Adjustable Monitor Arm</u></a>	 <a href="#"><u>Multiple Monitors</u></a>	 <a href="#"><u>Adjustable Footrests</u></a>	 <a href="#"><u>Copyholder Writing Slope</u></a>
	 <a href="#"><u>Laptop Pack</u></a>	 <a href="#"><u>Desk Risers</u></a>	 <a href="#"><u>Writing Slope</u></a>	 <a href="#"><u>Easy Access Accessories</u></a>
	 <a href="#"><u>Monitor Stand.</u></a>			

# Causes of Discomfort to the Lower & Upper Back



Problem	Possible Solutions			
<p>Constantly reaching too far</p>	 <p><a href="#"><u>Table Top Shape</u></a></p>	 <p><a href="#"><u>Copyholder Writing Slope</u></a></p>	 <p><a href="#"><u>Roller Mouse</u></a></p>	 <p><a href="#"><u>Mini Keyboard</u></a></p>
<p>Unsuitable Chair</p>  	 <p><a href="#"><u>Adjustable Chair</u></a></p>	 <p>Chairs for Small People</p>	 <p>Chairs for Large People</p>	 <p><a href="#"><u>24*7 Controll Room Chairs</u></a></p>
<p>Industrial Environment</p>	 <p><a href="#"><u>Clean room Chairs</u></a></p>	 <p><a href="#"><u>Ind Chairs</u></a></p>	 <p><a href="#"><u>ESD Chairs</u></a></p>	<p>Chairs with excellent Lumbar Support</p>
<p>Standing for long periods</p> <p>Standing with no leg room</p>	 <p>Anti Fatigue Matting</p>	 <p><a href="#"><u>Standing Rest</u></a></p>	 <p><a href="#"><u>Saddles</u></a></p>	

# Causes of Discomfort to the Lower & Upper Back


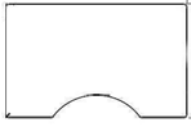
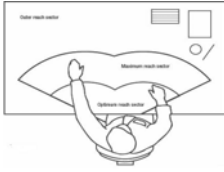









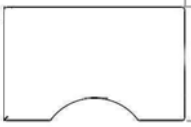

Problem	Possible Solutions
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<p>Other- Scoliosis  Coccyx Pain</p>	<div>  <p>Custom Made Chairs</p> </div> <div>  <p>Chairs with Coccyx Cut Out</p> </div> <div>  <p><u>Alternative Support</u></p> </div> <div>  <p><u>Kneeling Chair</u></p> </div>
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## Ideal Solution to Severe Back Problems


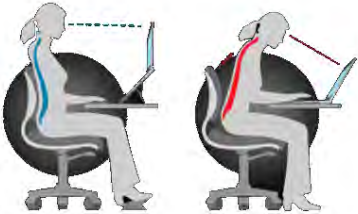



 <p><u>Correctly fitting Ergonomic Chair</u></p>	 <p><u>Height Adjustable Desk (Sit Stand)</u></p>
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# Causes of Discomfort to the Neck

Problem	Possible Solutions
<p>A) Cradling the telephone between the head and the shoulder</p> <p>B) Phone system placement incorrect. (Receptionist)</p>	  <p>A) <a href="#">Telephone Headset</a></p> <p><a href="#">Table Top Shape</a></p>
<p>The documents you're working from are too low (or too far to the side).</p> 	    <p><a href="#">In line Copyholders</a></p> <p><a href="#">Copyholder Writing Slope</a></p> <p><a href="#">Flexible Document Holders</a></p> <p><a href="#">Table Top Shape</a></p>
<p>Does the work desk allow for a flexible arrangement of the screen, keyboard, documents and related equipment?</p>	   <p><a href="#">Adjustable Monitor Arm</a></p> <p><a href="#">In line Copyholders</a></p> <p><a href="#">Copyholder Writing Slope</a></p>
<p>Bad posture due to combination of keyboard work, reading and writing</p>	    <p><a href="#">Copyholder Writing Slope</a></p> <p><a href="#">Flexible Document Holders</a></p> <p><a href="#">Table Top Shape</a></p> <p><a href="#">Height &amp; Depth Adj. Armrests</a></p>










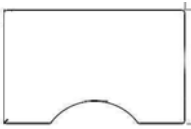








# Causes of Discomfort to the Neck

Problem	Possible Solutions
<p>The monitor is not at the right height, or is too far to the side</p>	<div>  <p><a href="#"><u>Adjustable Monitor Arm</u></a></p> </div> <div>  <p><a href="#"><u>Monitor Stand.</u></a></p> </div> <div>  <p><a href="#"><u>Twin Monitor Arms</u></a></p> </div> <div>  <p><a href="#"><u>Multiple Monitors</u></a></p> </div>
<p><b><u>Laptop Users</u></b></p> <p>Bad posture in mobile laptop users</p> <div>  </div> <p>Monitor height and depth wrong for office based laptop users</p>	<p><b><u>Mobile Laptop Users</u></b></p> <div>  <p><a href="#"><u>Ergo Slim Laptop Pack</u></a></p> </div> <div>  <p><a href="#"><u>Ergo P Laptop Pack</u></a></p> </div> <div>  <p><a href="#"><u>Fold Laptop Stand</u></a></p> </div> <div>  <p><a href="#"><u>Ergo Q Laptop Stand</u></a></p> </div> <p><b><u>Desktop Laptop Users</u></b></p> <div>  <p><a href="#"><u>Ergo T Laptop Stand with optional docking Station</u></a></p> </div> <div>  <p><a href="#"><u>Laptop Stand with USB Hub</u></a></p> </div> <div>  <p>A) <a href="#"><u>Under Desk Laptop holder</u></a> +</p> </div> <div>  <p>B) <a href="#"><u>Flexible Under Desk Laptop Holder</u></a> +</p> </div> <div>  <p>A) or B) + <a href="#"><u>Adjustable Monitor Arm</u></a></p> </div>



















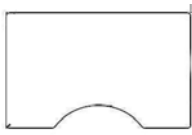

# Causes of Discomfort to the Neck

Problem	Possible Solutions
Bad Posture when using the mouse	    <a href="#"><u>Ergonomic Mice</u></a> <a href="#"><u>Roller Mouse</u></a> <a href="#"><u>Left Handed Keyboard</u></a> <a href="#"><u>Mini Keyboard</u></a>
The chair is too far away from the keyboard (or the back of the chair is tilted too far back)	   <a href="#"><u>Chair Castors</u></a> <a href="#"><u>Adjustable Chair</u></a> <a href="#"><u>Height &amp; Depth Adj. Armrests</u></a>
Insufficient desk depth	    <a href="#"><u>Forearm Support</u></a> <a href="#"><u>Desk Extension</u></a> <a href="#"><u>Table Top Shape</u></a> <a href="#"><u>Adjustable Monitor Arm</u></a>
Desk is too high or too low	   <a href="#"><u>Desk Risers</u></a> <a href="#"><u>Height Adjustable Desks</u></a> <a href="#"><u>Height Adjustable Frame for Existing Table Top</u></a>
Other: Whiplash Arthritis	  <a href="#"><u>Whiplash Office Chair</u></a> <a href="#"><u>Ergorest Forearm Supports</u></a>





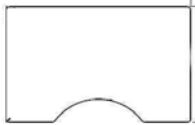









# Causes of Discomfort to the Head and Eyes

Problem	Possible Solutions
<p>Monitor is too low</p> <p>Monitor is too close</p> <p>Has the screen got a swivel and tilt feature</p> <p>Is a platform needed to increase the height of the screen</p>	    <p><a href="#"><u>Adjustable Monitor Arm</u></a>      <a href="#"><u>Monitor Stand.</u></a>      <a href="#"><u>Twin Monitor Arms</u></a>      <a href="#"><u>Multiple Monitors</u></a></p>
<p>Glare or reflection on the screen is causing eyestrain</p> <p>Is the screen free from reflective glare that may cause discomfort</p>	  <p><a href="#"><u>Anti Glare Hood</u></a>      <a href="#"><u>Desk Lamp</u></a></p>
<p>There's inadequate lighting or too much lighting</p>	  <p><a href="#"><u>KOS LED Desktop Light</u></a>      <a href="#"><u>Non Flicker Task Light</u></a></p>
<p>Other :</p> <p>Eyesight problems</p> <p>Headaches</p>	   <p><a href="#"><u>High Contrast Keyboard</u></a>      <a href="#"><u>Copyholder Writing Slope</u></a>      <a href="#"><u>Writing Slope</u></a></p>















# Causes of Discomfort to the Shoulder and Upper Arm

Problem	Possible Solutions
The mouse is too high, to the side, or too far away	<div>  <p><a href="#"><u>Ortho Mouse</u></a> </p> </div> <div>  <p><a href="#"><u>Evoluent Mouse</u></a> </p> </div> <div>  <p><a href="#"><u>Roller Mouse</u></a> </p> </div> <div>  <p><a href="#"><u>Mini Keyboard</u></a> </p> </div> <div>  <p><a href="#"><u>Left Handed Keyboard</u></a> </p> </div> <div>  <p><a href="#"><u>Wrist Rest Tray</u></a> </p> </div>
The keyboard is too low/high/far away	<div>  <p><a href="#"><u>Mini Keyboard</u></a> </p> </div> <div>  <p><a href="#"><u>Split Keyboard</u></a> </p> </div> <div>  <p><a href="#"><u>Flexible Keyboard</u></a> </p> </div> <div>  <p><a href="#"><u>Left Handed Keyboard</u></a> </p> </div>
The person is not maintaining good posture	<div>  <p><a href="#"><u>Adjustable Footrests</u></a> </p> </div> <div>  <p><a href="#"><u>Desk Risers</u></a> </p> </div> <div>  <p><a href="#"><u>Copyholder Writing Slope</u></a> </p> </div> <div>  <p><a href="#"><u>Writing Slope</u></a> </p> </div> <div>  <p><a href="#"><u>Adjustable Monitor Arm</u></a> </p> </div> <div>  <p><a href="#"><u>Monitor Stand</u></a> </p> </div> <div>  <p><a href="#"><u>Table Top Shape</u></a> </p> </div> <div>  <p><a href="#"><u>Height Adj. Tables</u></a> </p> </div>

# Causes of Discomfort to the Shoulder and Upper Arm

Problem	Possible Solutions
The person is not maintaining good posture	   <a href="#"><u>Twin Monitor Arms</u></a> <a href="#"><u>Multiple Monitors</u></a> <a href="#"><u>Height &amp; Depth Adj. Armrests</u></a>
Reaching too far to pick up or dial the phone	    <a href="#"><u>Telephone Headset</u></a> <a href="#"><u>Table Top Shape</u></a> <a href="#"><u>Copyholder Writing Slope</u></a> <a href="#"><u>Adjustable Monitor Arm</u></a>
Leaning forward to view the screen	    <a href="#"><u>Adjustable Monitor Arm</u></a> <a href="#"><u>KOS LED Desktop Light</u></a> <a href="#"><u>Non Flicker Task Light</u></a> <a href="#"><u>Height &amp; Depth Adj. Armrests</u></a>
Other:	   <a href="#"><u>Height Width &amp; Depth Adj. Armrests</u></a> <a href="#"><u>Ergorest Forearm Supports</u></a> <a href="#"><u>Forearm Support</u></a>

# Causes of Discomfort to the Elbows

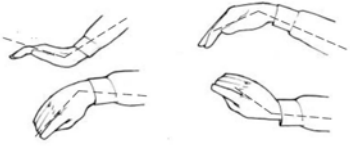





Problem	Possible Solutions
Reaching too far for the mouse	    <a href="#"><u>Mini Keyboard</u></a> <a href="#"><u>Roller Mouse</u></a> <a href="#"><u>Wrist Rest Keyboard Tray</u></a> <a href="#"><u>Left Handed Keyboard</u></a>   <a href="#"><u>WOW Pen Mouse</u></a> <a href="#"><u>Pen Mouse</u></a>
Leaning on the elbows  Is there sufficient space in front of the keyboard to support the hands and arms?	    <a href="#"><u>Combi Forearm Support</u></a> <a href="#"><u>Desk Extension</u></a> <a href="#"><u>Wrist Rest Keyboard Tray</u></a> <a href="#"><u>Wrist Rest K/b or Mouse</u></a>  <a href="#"><u>Height &amp; Depth Adj. Armrests</u></a>
Overusing the mouse, keyboard, or calculator	   <a href="#"><u>Calculator Pad</u></a> <a href="#"><u>Roller Mouse</u></a> <a href="#"><u>Left Handed Keyboard</u></a>

# Causes of Discomfort to the Elbows

Problem	Possible Solutions	
<p>Other:</p> <p>Arthritis</p>	 <p><u><a href="#">Ergorest Forearm Supports</a></u></p>	 <p>Flexible Support Armrest</p>



# Causes of Discomfort to the Wrist and Forearm

Problem	Possible Solutions
<p>Wrists aren't in a neutral position - they're bent up, down, or sideways</p> 	<div>   <a href="#">Ortho Mouse</a> </div> <div>   <a href="#">Roller Mouse</a> </div> <div>   <a href="#">Evoluent Mouse</a> </div> <div>   <a href="#">Semi Vertical</a> </div> <div>   <a href="#">Mini Keyboard</a> </div> <div>   <a href="#">Split Keyboard</a> </div> <div>   <a href="#">Ambidextrous Mouse</a> </div>
<p>The edge of the desk or a hard wrist rest is putting pressure on the palm side of the wrist</p>	<div>   <a href="#">Forearm Support</a> </div> <div>   <a href="#">Wrist Rest Tray</a> </div> <div>   <a href="#">Wrist Rest K/b or Mouse</a> </div> <div>   <a href="#">Mini Wrist Rest</a> </div>
<p>The mouse is not the right size</p>	<div>   <a href="#">Ortho Mouse</a> 6 Hand Sizes available         </div>
<p>Left-handed person using a right-hand mouse</p>	<div>   <a href="#">Lefthand Evoluent Mouse</a> </div> <div>   <a href="#">Roller Mouse</a> </div> <div>   <a href="#">Ambidextrous Mouse</a> </div>
<p>Left-handed person using a right-hand keyboard</p>	<div>   <a href="#">Left Handed Keyboard</a> </div> <div>   <a href="#">Calculator Pad</a> and <a href="#">Mini Keyboard</a> </div> <div>   <a href="#">Mini Keyboard</a> </div>



## Causes of Discomfort to the Wrist and Forearm

Problem	Possible Solutions
<p>Other:</p> <p>Arthritis</p>	<div>  </div> <div> <p><a href="#"><u>Ergorest Forearm Supports</u></a></p> </div> <div>  </div> <div> <p>Flexible Support Armrest</p> </div>

# Causes of Discomfort to the Hands and Fingers

Problem	Possible Solutions			
There's pressure on the wrist or palms	 <a href="#"><u>Combi Forearm Support</u></a>	 <a href="#"><u>Wrist Rest Keyboard Tray</u></a>	 <a href="#"><u>Wrist Rest K/b or Mouse</u></a>	 <a href="#"><u>Ortho Mouse</u></a>
	 <a href="#"><u>Ergorest Forearm Supports</u></a>			
Operating a trackball with only the thumb	 <a href="#"><u>Large Trackball</u></a>	 <a href="#"><u>Ortho Mouse</u></a>	 <a href="#"><u>Roller Mouse</u></a>	
Mouse is not the right shape	 <a href="#"><u>Ortho Mouse</u></a>	 <a href="#"><u>Roller Mouse</u></a>	 <a href="#"><u>Evoluent Mouse</u></a>	 <a href="#"><u>Semi Vertical</u></a>
	 <a href="#"><u>Ambidextrous Mouse</u></a>	 <a href="#"><u>WOW Pen Mouse</u></a>	 <a href="#"><u>Oversized Mouse</u></a>	





# Causes of Discomfort to the Hands and Fingers

Problem	Possible Solutions
Extensively clicking the mouse.	   <a href="#"><u>Roller Mouse</u></a> <a href="#"><u>Ambidextrous Mouse</u></a> <a href="#"><u>Ortho Mouse</u></a>
Typing extensively at a 10-key pad or calculator.	   <a href="#"><u>Calculator Pad</u></a> <a href="#"><u>Mini Keyboard</u></a> <a href="#"><u>Split Keyboard</u></a>
Other	 <b>Assistive Technology</b>










# Causes of Discomfort to the Hips, Knees, Feet and Ankles

Problem	Possible Solutions
The chair is too high	   <a href="#"><u>Adjustable Footrests</u></a> <a href="#"><u>Extra High Footrests.</u></a> <a href="#"><u>Height Adj. Tables</u></a>
The CPU is placed under the desk, forcing the feet into an uncomfortable position	  <a href="#"><u>Adjustable CPU Holder</u></a> <a href="#"><u>Easy Access Accessories</u></a>
Not enough leg room for comfortable sitting  Standing at work  Standing on hard surfaces	   <a href="#"><u>Standing Rest</u></a> <a href="#"><u>Saddles</u></a> Anti Fatigue Matting
Seat shape and size are putting pressure on the knees and legs	    <a href="#"><u>Adjustable Chair</u></a> <a href="#"><u>Arthrodesis Chair</u></a> Custom Made Chairs           Different Seat Sizes Available

# Causes of Discomfort to the Hips, Knees, Feet and Ankles

Problem	Possible Solutions
<p>Seat shape and size are putting pressure on the knees, hips and legs</p>	<div>  <p><u>Clean room Chairs</u></p> </div> <div>  <p><u>Ind Chairs</u></p> </div> <div>  <p><u>ESD Chairs</u></p> </div>
<p>Other:</p> <p>Swollen legs or ankles</p> <p>Knee / hip surgery</p>	<div>  <p><u>Leg Rests</u></p> </div> <div>  <p><u>Adjustable Footrests</u></p> </div> <div>  <p><u>Active Footrest</u></p> </div> <div>  <p><u>Active 11 Footrest</u></p> </div>

# Causes of Blood Circulation Problems

Problem	Possible Solutions			
<p>Standing for long periods</p> <p>Standing with no leg room</p>	 <p>Anti Fatigue Matting</p>	 <p><a href="#">Standing Rest</a></p>	 <p><a href="#">Saddles</a></p>	 <p><a href="#">Adjustable Chair</a></p>
<p>Varicose veins</p> <p>Injuries</p>	 <p><a href="#">Active Footrest</a></p>	 <p><a href="#">Active 11 Footrest</a></p>	 <p><a href="#">Adjustable Footrests</a></p>	 <p><a href="#">HM380 Chair</a></p>
	 <p><a href="#">Leg Rests</a></p>			

# Causes of Trips and Falls

## Problem

## Possible Solutions

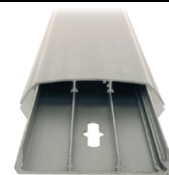
### Trailing Cables



[Cable Tray](#)



[Cable Snake](#)



[Cable Tube](#)



# Specialist Back Care Seating...

## HM CHAIRS — *mobile, dynamic seating with constant support.*

### Upright Position



HM chairs offer **unrestricted movement** when sitting, which means the user can sit upright, stretched out, poised or reclining without touching a single lever.

This makes them ideal for people who split their time between the computer, desk and telephone.

This is made possible by the HM Mechanism which uses three independently moving pivot axles—the seat pan, the rocker action and the backrest.



### HM chairs adapt to suit the user

### Balans Position



The height and depth of the seat pan and the armrests are all adjustable, giving the user **comfort and good support while working.**

The rocker mechanism is also adjustable so the backrest gives support without feeling like the chair is rocking backwards or stiff.

The height of the seat pan can be raised to a level where you can comfortably sit with a straight back.

## HM 380 CHAIR

### Reclining



### HM chairs improve breathing and blood circulation

The HM line allows you to sit stretched out while reclining, with **full support for your spine** and without your feet being lifted off the ground.

This way you open your body and **facilitate breathing and blood circulation.**

### Stretched out

### HM chairs give freedom of movement

HM chairs allow the user to stretch out their body while sitting. The pivot axles tilt the seat pan forward at the same time as the backrest tilts backward.

This gives the user a comfortable position that gives your spine the full support it needs.



**An extra curved neck rest is available with an additional 40mm forward extension for whiplash sufferers.**



# Back care chairs for everyone....

## Ergo Dynamic Chair



The Ergo Dynamic Chair follows a philosophy of dynamic sitting that accommodates every posture ergonomically that maximum body support is ensured.

It has a synchronous mechanism that can be easily adjusted in an optimum way to suit the individual user, supporting the body's neurological points helping to improve your posture.



The Ergo Dynamic chair has a backrest, with built in lumbar support which is height adjustable to suit individual needs.

The back rest has an adjustment area of 7 positions (70 mm) ensuring the back is supported in the area of the 4th and 5th lumbar vertebra.



This excellent office chair also has a weight adjustment feature that ensures optimum support for your back.

The seat slide allows for individual adjustment of the seat area, ensuring both taller and smaller users are fully supported.

### Measurements

**Seat:**  
D: 410 W: 470  
**Seat Height:**  
Min: 410 Max: 510

**Back Rest Height:**  
530mm

**Weight Adjustable:**  
from 45 – 120 kg.

**Arms rest:** Width,  
depth and height



## Variable Balans Kneeling Chair



This Variable Balans Kneeling Chair is designed to promote an open and dynamic sitting position that keeps your spine in its natural "S" position.

Thus relieving pressure from the vertebrae and letting you breathe more deeply and freely

Resulting in a sitting position that puts the least amount of strain on the back.



A classic kneeling chair gives your body the freedom to find its own equilibrium while keeping the back and abdominal muscles working.

The Variable balans® both encourages your body to move and react to every one of its movements.



While sitting, the user is actually strengthening the core muscles of the abdomen and back.

This active sitting prevents tension in the back and shoulders and improves circulation and oxygen levels.

Body and chair, action and reaction, in a cycle of continuous motion that energizes and enlivens your body and mind.

Resulting in greater concentration and creativity.

# Ortho Mouse



An ergonomic mouse to help eliminate RSI associated with computer mouse use.

Can be adjusted to suit different hand sizes.

The OrthoMouse was conceived and developed specifically to **help the body heal and prevent the pain and misery associated with Repetitive Strain Injuries (RSI)** resulting from long term repetitive motion in incorrect positions with improper tools.

The unique form and function of the OrthoMouse preserves the **natural shape and proportions of the hand**, allowing for the total support of the palm while the thumb is opposed to the other fingers.

The hand works and rests in the “Position of Function”. This is the only position, recognized by Orthopedic Professionals worldwide **that supports total musculoskeletal equilibrium**.

It means that the hand, forearm and fingers remain in “passive adaptation” thus allowing prolonged, repetitive tasks without strain and with minimal effort.

**Fatigue-Free! No Strain, No Pain, No Injuries!**

The Ortho Mouse is **6 Mice in 1 Mouse** which helps you adapt the mouse to the size, shape and function of your hand.

The OrthoMouse, aware that not all hands are alike, comes with adaptors that allow you to **select the best fit for your hand** (small, medium and large) and fingers (regular or long).



Fig 1: the hand on the OrthoMouse assumes “the Position of Function”



Nominated for the Ergo Cup Award by the Industrial Engineers Institute of the U.S.

WON THE “WIPO 2010 AWARD FOR BEST INVENTOR

WON THE “EXCELLENCE IN R&D” (PREMIO EDITORS)

# MicroDesk



**Helping to avoid neck and shoulder pain and head problems**

The Microdesk was designed over 10 years ago by a physiotherapist to find a **solution for the reach and twist** associated with **writing and using the computer keyboard** simultaneously.

She developed the MicroDesk to help her patients **avoid presenting with various upper limb dysfunction** and pain symptoms as well as head and neck problems.

**The MicroDesk helps to maintain a relaxed upper body posture whilst writing, reading and typing.**

It is a dual purpose **document holder / writing slope** that creates an **'in line' work space** with complete access to the keyboard and papers – keeping you in a neutral posture as you work.

**Right and left handed users** can rest their writing arm on the gentle **sloped platform for writing**. There is a central lip stopping papers sliding down.

The MicroDesk has an **easy height and slope adjustment** for individual sizing

**Maximises desk space** The MicroDesk helps to utilise the desk space between keyboard and monitor - work at your computer and write 'in line' with **no reaching, twisting or stooping** which cause back pain, neck pain and arm pain.



**Improve posture while increasing productivity by reducing workplace musculoskeletal discomfort.**

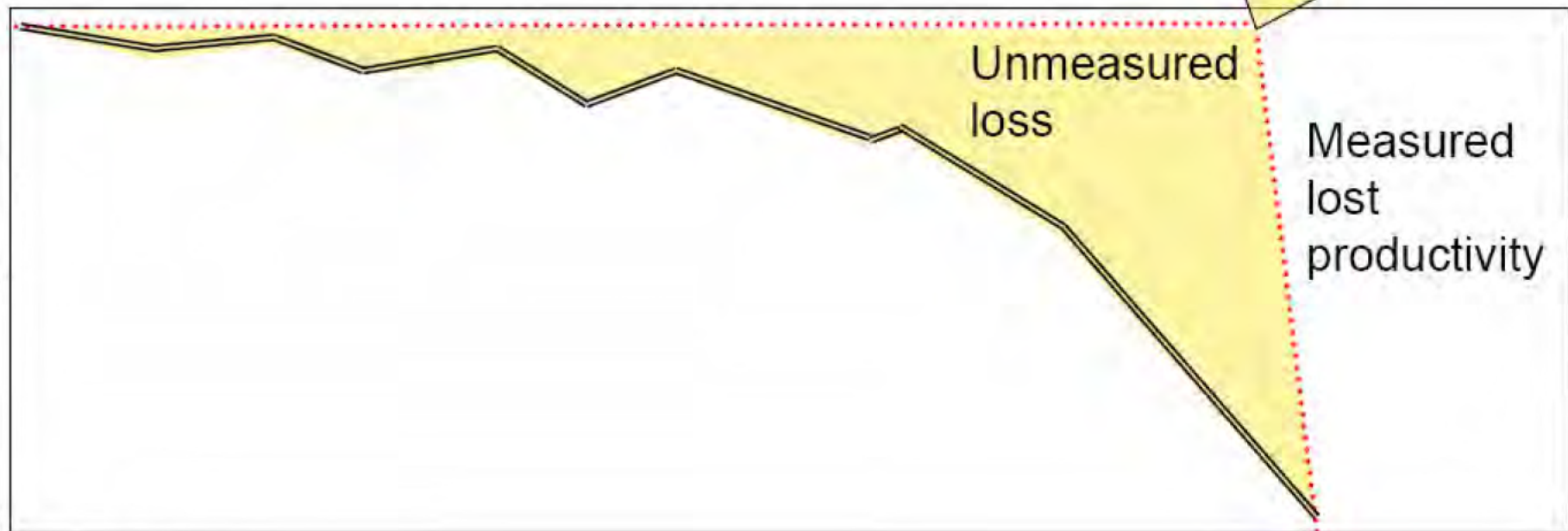


# Presenteeism

**Red** line – perceived productivity before absence

Blue line – actual productivity

Reporting ill

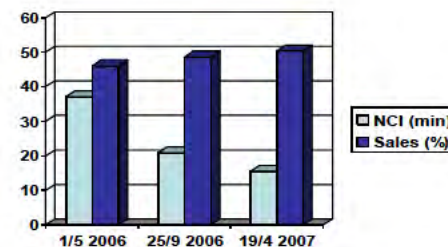


Time >>>

## Results from **AA** study

### Better chairs. Better business.

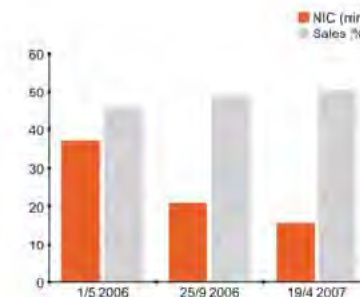
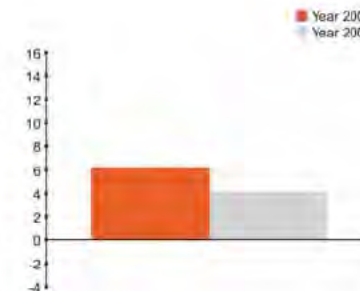
The waiting period for incoming telephone calls (NCI) fell by **58%** while the sales factor for the group as a whole rose by **9.4%**



### Trials at ANWB in Holland show:



Reduces absenteeism by **2 %**  
 Reduces rehabilitation costs.  
 Increases productivity by as much as **10 %**



=

**Improved profitability**



## Dual screen

“Respondents got on task quicker, did the work faster, and got more of the work done with fewer errors in multi-screen configurations than with a single screen.

Most striking improvements were;



*-generated 10 percent more production,  
-had 33 percent fewer errors,*

Colvin, J., Tolber, N., Anderson, J.A., 'Productivity and Multi-screen Computer Displays', Rocky Mountain Communication Review, vol. 2:1, 2004, 31-53

## Proper viewing angle



*Viewing angle  $-35^{\circ}$  = productivity +10% compared to angle of  $-0^{\circ}$*

Sommerich, C.M., Joines, M.B., and Psihogios, J.P. , 'Effects of VDT Viewing on User Biomechanics, Comfort, and Preference', *Proceedings of the Human Factors Society 42<sup>nd</sup> Annual Meeting*, 1998, pag. 861-865



## The effect of using a laptopstation compared to using a standard laptop PC on the cervical spine torque, perceived strain and productivity.

Anna Lindblad, Karin Hendriksson-Larsén, Paulien Bongers, 2002, Umeå University, Sweden, and TNO Work and Employment, The Netherlands

### Summary

The objective of this study was to assess the effect of using a laptopstation and a laptop PC and how this difference in work set-up affected the mechanical load on the neck (C7-Th1 segment), the subjective evaluation of strain on the neck and productivity. 10 healthy male students at Umeå University, Sweden with an average of 10 years of PC work experience and an average of 18 months of laptop PC work experience participated in the study. For each research subject measurements were divided into two parts; sitting working using a laptop holder (Ergo-Q, BakkerElkhuizen), and sitting working at a conventional laptop PC. Each part took 4 hours and was scheduled on two consecutive days. Photography and biomechanical analysis was used to calculate the torque at neck. To examine comfort the Borg Scale was used and to assess performance a productivity score was calculated.

The results demonstrated a significant ( $P < 0.05$ ) difference between the two test conditions. Using the laptop holder resulted in

- a 32% decrease in mechanical load (torque) at the C7-Th1 level,
- a 21% greater comfort score and
- a 17% higher productivity score

when compared with the test condition without laptop holder.

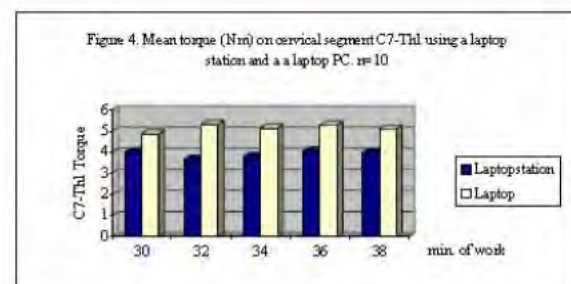
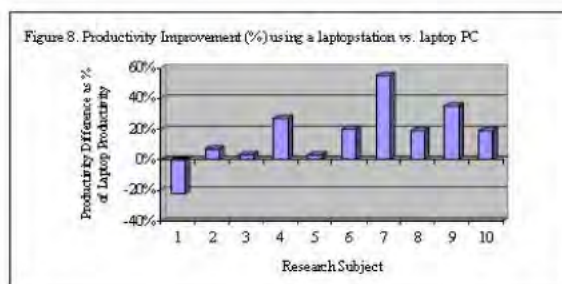
The authors concluded that the results of the study confirm the importance of adjustable work tools that recognize anthropometric differences and biomechanics to meet the needs of individual customers during continuous VDT work.



Figure 2. Test situation A



Figure 3. Test situation B



## CASE STUDY:

# INCREASED PRODUCTIVITY

*Excerpts from: "The Effect of Ergonomic Work Tools on Productivity In Today's Automated Workstation Design" Dr. Marvin J. Dainoff; Center for Ergonomic Research, Miami University (Oxford, Ohio)*  
<http://www.units.muohio.edu/psychology/people/dainofmj.html>.

Traditional routine breaks from prolonged sitting such as retrieving files, faxing and inter-office communicating are today routinely performed at the automated workstation. Consequently, the principle source of productivity in the modern office is the human in front of a PC, resulting in a large percentage of employees' workdays spent sitting in one basic posture in front of the computer.

By enhancing the efficiency (and sense of well being) of the employee sitting in front of the PC, we improve individual and organizational productivity.

The study assessed the effectiveness of periodically standing throughout the day as a means of providing the essential breaks from sitting in prolonged static postures. This would determine whether intermittent standing, while working, relieves fatigue without repetitively departing from the work area or from task accomplishment.

On day one, the subjects were asked to use the adjustable equipment to relieve fatigue while they worked.

On day two, the subjects worked with the same ergonomic work tools; however, they were directed to stand several times throughout the day while working.

On day three, the subjects were given no direction and told to work in whatever manner they choose.

## RESULTS

Over one-third of the subjects (36%) stood on day one. Of those subjects who stood on day one, frequency of standing increased about 40% on day three, after the directed standing of day two. The subjects revealed that the benefits experienced by standing reinforced the action and resulted in an increased rate of standing.

Over half (57%) of the subjects who did not stand on day one stood on day three, after being directed to stand on day two. This further supports the premise that work routines can be modified through positive reinforcement in the experience. In fact, the subjects periodically stood almost 2.5 times more on day three than on day one (147% increase).





"The Non-Standers took an average of 47% more work breaks...and the average duration of each work break was 56% longer than that of the Standers."

Analysis of the duration of each stand-up also supports this conclusion. The average duration of each stand-up increased from day one to day two by 65% and remained essentially the same on day three.

Eighty-two percent (82%) of the subjects had positive comments about standing in terms of providing relief and stated that they would stand in the future if their equipment adjusted to stand up height.

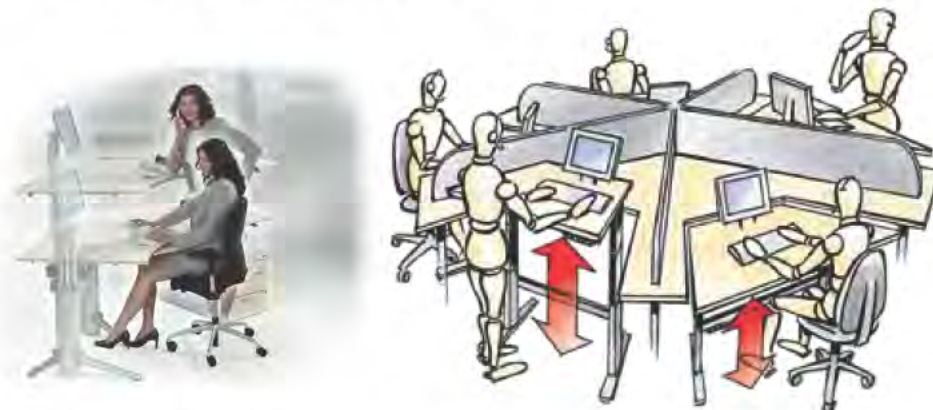
### INCREASED PRODUCTIVITY

Analysis of this data provides strong evidence that intermittent standing increases productivity through a reduction in work break time; through fewer and shorter breaks throughout the day. These results demonstrated that standing while working at the

automated workstation (stand-up working breaks from sitting) can substitute for the traditional work break (away from the work area).

The Non-standers took an average of 47% more work breaks, over the three days, than the Standers, and the average duration of each work break was 56% longer than that of the Standers. The effect on productivity is apparent as the Non-Standers took over twice as much total time on work breaks as the Standers did during the three days. On day three alone, which reflects a three-day cumulative effect of this data entry work effort, Non-Standers spent almost four times longer on breaks than Standers (288% increase in break time).

"There is strong evidence that intermittent standing increases productivity."



### INCREASED USABILITY

Part One of the study identified specific characteristics in the actuation of ergonomic work tools that encourage regular adjusting. Analysis of the study provided the basis for an expanded definition of usability and the features required to promote regular adjustments (postural changes) throughout the workday. In this context, usability is defined as:

- A minimum number of individual steps required for operation of controls
- The ability to make the adjustment with one hand
- The ability to make the adjustment rapidly
- Keeping the adjustment mechanisms in close proximity to the keying position
- Keeping the adjustment mechanisms visible from the keying position

### **Testimonial - Sarah Carry, UCD**

"Since first contacting KOS Ergonomic Solutions in 2010, I have found their service reliable and efficient, combining excellent customer service and product expertise with a range of ergonomic solutions. Both their administrative and technical staff are courteous, efficient and easy to deal with. KOS always offer valuable advice taking account of the specific needs in each individual case and a flexible service including a trial use period on their chairs. I can happily recommend their services to others."

### **Testimonial - Eileen Hannon, Stryker**

"KOS Ergonomic Solutions has supplied us with chairs for our Beading Room which have been very beneficial to the safety and comfort of our employees working in this area. These chairs are used 14-18 hours a day and help our employees to maintain good posture when working. We would/will use the services of KOS again in the future."

### **Testimonial - Alison Minter, PayPal**

"Just wanted to say thank you for the quick and efficient service over the last year. It's been a pleasure dealing with you and I would highly recommend KOS to anyone. I look forward to more of the same in 2012"

### **Testimonial - Karol Fitzgerald, Athlone Institute of Technology**

"As I informed you previously to my numerous back problems, resulting from fracturing a couple of vertebra in my lower back a number of years ago. This later caused discs to slip, trapping nerves leaving me in extreme discomfort when sitting for long periods.

After using your chair, the result to date is as follows, the sciatica that I experienced before has diminished, and stiffness from getting up from sitting for long periods has disappeared. The support the chair offers for an individual shaped like myself is impressive. The fact that the chair can be personalized for each user and the number of articulations/adjustments available for different tasks while sitting at the desk really brings the whole thing together.

I would highly recommend this chair over all the others that I looked at. I found that chairs in the same price bracket did not offer support to my entire back and again left me stooped at my desk."

### **Testimonial from Irene, Chartered Physiotherapist and Ergonomist**

"Following a fall from a bicycle I sustained a T10 (mid back) wedge fracture with no nerve damage. I also reinjured my neck having sustained a whiplash injury some 20 years previously. Three months later I was back to work on a modified return to work programme, rolled out over a 12-16 week period. Critical to this was an ergonomic assessment, involving KOS Ergonomic Solutions, prior to returning to work. The use of the HM380 chair, roller mouse pro2 key and micro desk have ensured that I was not only able to return to work early but more importantly that I am continuing to recover and am almost pain free some 11 months post injury. My job involves significant periods of sitting at a computer, with some desk work (80 per cent of the time).

When I returned to work I was only able to tolerate 2 hours of sitting at a stretch, even when using an ergonomic chair. The HM380 chair, by enabling me to sit comfortably in a correct posture, with easy access to a variety of supported movement positions as the body signals, has helped me significantly in tolerating all my normal duties. This includes long working days as necessary, long distance car rides for work and the usual lifting and carrying of loads with reasonable care.

KOS Ergonomic Solutions, in combination with a modified early return to work programme and a progressive strength/endurance building regime, has been critical in ensuring a very positive, affordable and sustainable outcome for me and my employer. "

### **Testimonial – Don Faller, Athlone Institute of Technology**

"The new office chair has made a big difference. Between it and the physiotherapy sessions I have had, the upper back-pain has disappeared."



## **KOS Testimonials from Occupational Health Professionals**

### **Annette Shanahan, Specialist Chartered Physiotherapist/Physical Therapist**

"We at Abbey Physio and HealthcareDirect have worked very effectively and on many occasions with Seamus and the team at Kos Ergonomics when seeking solutions and resolving work-related musculoskeletal dysfunction in the Irish workforce. We have had very positive outcomes particularly in sourcing optimal seating for workers who have been off work with neck, upper limb and lower back pain. Chairs are sourced internationally, are of excellent quality and durability and are ergonomically designed. We have had patients return to work as a result of provision of an optimal chair, ranging from cases where they sustained multiple injuries in road traffic accidents, to persons with chronic low back pain, arising for various reasons from poor posture, being post pregnancy or secondary to abdominal surgery.

We have been able to identify solutions to many ergonomic problems with help and expertise from Seamus, for example, where the solutions to the problem was to design a workstation with height adjustability, in order to meet the needs of varied heights in the workforce. Similarly, we have advised provision of mobility in footrests, provision of microdesks to facilitate off screen work while at a VDU workstation and this has been very beneficial for many workers with posture related pain and stiffness. We have conducted audits in multinational companies to ensure optimal suitability of the office environment and Seamus and Kos have provided the requested alternative office furniture to meet the needs identified, in a cost-effective and timely manner. We have often been complimented for having engaged Kos in the process by our client companies."

### **Imelda O'Leary, Senior Ergonomist. EHA**

"I am a Senior Ergonomist with EHA for the past 4 years. Based on Ergonomic Assessments which I have carried out in various National and Multinational Facilities during this period, I have had extensive dealings with KOS with regard to Ergonomic Solutions.

I have always found KOS staff to be very familiar with, and knowledgeable in, the field of Ergonomics. They are always happy to liaise, and to provide appropriate solutions and suggestions to Ergonomic issues. Their implementation of Ergonomic chairs and accessories has aided in the correction of posture in many workplaces, which has provided significant relief of Ergonomic issues.

KOS specialises in providing genuine ergonomic solutions, they allow trials of their products, and provide set up support as required. Their expertise is in their knowledge of the products and their suitability to individual needs and different environments, taking all external factors into consideration.

As a result of their assistance and input, they have helped to reduce, and, in some cases, eradicate, potential scenarios which would, no doubt, have negatively affected productivity and increased absenteeism levels."

### **Kathleen Treanor RGN, BNS, MIRM, MSc in Health Ergonomics**

"I Kathleen Treanor have worked collaboratively with KOS and Seamus Kennedy since 2000. We have worked together with many organisations both public and private, to provide professional ergonomic solutions for various staff. The solutions varied from staff returning to work following surgery, staff in the workplace with repetitive injuries, staff with back and neck injuries, solutions includes changing workstation set up providing suitable chairs and desks.

Seamus Kennedy has many years experience providing ergonomic solution and this experience and understanding of the problems, which he possesses allows for an effective solution to be implemented. I have no hesitation in recommending KOS as a provider of Ergonomic Solutions Should you have any queries please do not hesitate to contact me"

### **Padraic O'Flynn, Chartered Ergonomist M.Sc.,B.Sc., CMIOSH, MIES,**

"Since 2006, working as a chartered ergonomist with KOS Ergonomic solutions has greatly contributed to an early and safe return to work mainly for staff and where necessary students of the institute. These early and tailored interventions have reduced frequent causes of sickness and absence, saved costs of employing temporary staff and provides a more stable working environment. "

### **Eileen Murphy, Chartered Physiotherapist Lecturer in Sports Medicine in TCD.**

"I recommend patients to KOS. They have experience and expertise with ergonomic solutions for patients with particular problems. When they sell a chair, they ensure that the chair is fitted correctly to the patient's biomechanics and also assess the user's workspace and advise on set-up to reduce the risk of injury."

### **Multi-National Medical Devices Manufacturer**

An employee suffered severe recurring back pain which resulted in difficulty in concentration and sick leave. Her condition necessitated the constant use of pain killers. She attended a pain specialist in her local hospital. The hospital OT asked a KOS Ergonomic Solutions consultant to accompany her on a site inspection. Poor posture in the work area was identified as a major contributing factor. KOS Ergonomic Solutions provided an ESD compliant back care chair and adapted it to suit the work bench height, which was quite high.

KOS contacted the employee recently, approximately six months after the chair was fitted and put in place for her. Her comments are as follows: "The chair has great lumbar support and I don't slouch like before. I am off all tablets and it is a vast improvement overall."

The OT has given permission to be contacted in relation to this case

### **Large Financial Organisation**

The onsite ergonomist and occupational therapist in a large financial organisation consults with KOS, whenever a back problem or repetitive strain injuries are identified in an employee. KOS assesses each individual case and works with the ergonomist to recommend the most appropriate solution. In the case of seating, a KOS qualified consultant fits the seat to the user, trains the user on using the chair to their best advantage. This process has seen a significant effect in reduced absenteeism.

Where computer related injuries existed, changing the workplace setup, and introducing suitable ergonomic products has helped with neck and shoulder pain completely disappearing in many cases.

### **Busy Currency Dealer with back and neck pain and fatigue**

A currency dealer working 12 hour days, suffered recurring back and neck pain and afternoon tiredness. A KOS consultant observed his work practises. He used different screens which were randomly situated resulting in awkward neck movements. He was very tall and used a standard desk. This caused him to stoop forward.

KOS installed an appropriate back care chair for his size and an electric height adjustable desk, which allowed him to stand at work frequently and when sitting, the desk was adjustable to the correct height. A monitor arm which could accommodate six monitors was also installed to help reduce the neck twisting.

His posture improved. He reported an immediate improvement in back and neck pain, increased energy levels and the afternoon tiredness disappeared.

### **Big Four Accountancy Firm tackles neck pain due to laptop use**

Many employees use laptops in the office and when on external calls. Neck and shoulder pain was a common complaint. The cause of the problem is that the laptops cannot be adjusted; you either have the screen at the right height and distance for the user or the keyboard, never both. It is impossible to achieve an ergonomic posture. KOS were asked to supply a laptop pack – a laptop stand and mini keyboard. Trials using laptop packs have shown a 32% decrease in the amount of tension force placed on the neck, 21% increase in comfort and a 17% increase in productivity.

### **Medical Professional in Extreme Pain**

A Medical Professional who needed frequent surgery for pain relief was referred to KOS by her Occupational Therapist. Considerable time was spent fitting her to the most supportive, best fitting chair to suit her job and health requirements. It was important to remove all unnecessary strain. Her chair was set up to her weight and height, so as she could be perfectly balanced, promoting movement and active sitting. A RollerMouse which reduced shoulder and neck pain and telephone head set was also introduced. She found she could work pain free again.

Her employer purchased her a chair and the ergonomic accessories for her workplace. It worked out so successfully that the client herself also purchased the same solution for her office at home.

# Ergonomic Seating, Furniture & Accessories

**KOS Backstore**  
**Westland Row**  
**Dublin 2**

**Phone:** 01 611 0200  
**Email:** [sales@kos.ie](mailto:sales@kos.ie)  
**Website:** [www.kos.ie](http://www.kos.ie)



**KOS Ergonomic Solutions Ltd.**  
**Tobin's Cross**  
**Holycross**  
**Thurles**  
**Co Tipperary**

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**Practical solutions for the busy office**



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