

Chiropractor Report

24Hr Synchronous Operator Chair

Evaluated by:

Robert Bateman BSc DC DCHA

Doctor of Chiropractic

Spinal Health Specialist

1. Product Overview

The Ergo 24 Hour Task Chair is a high-back mesh operator chair with integrated lumbar support, synchronous tilt, adjustable headrest, and height-adjustable arms. It is designed for users undertaking prolonged desk-based work and aims to reduce spinal loading, improve postural tolerance, and minimise upper limb and lower limb strain.

2. Feature-by-Feature Ergonomic Analysis

2.1 High Back Mesh Backrest

Function / Design

- Full-length mesh backrest providing contact from the pelvis up to the upper thoracic region.
- Breathable mesh material to limit heat build-up during extended use.

Ergonomic / Clinical Impact

- Supports the natural curves of the spine, helping the user maintain a more neutral sitting posture rather than slumping through the mid-back.
- Reduces muscular effort in the spinal extensors, shoulders, and neck muscles, which can help decrease fatigue and discomfort over the course of the working day.
- By improving spinal alignment and reducing sustained muscular loading, it may lower the risk of developing or aggravating repetitive strain-type symptoms in the neck and upper back.

2.2 Adjustable Lumbar Support

Function / Design

- Built-in lumbar support that can be moved and/or adjusted in depth to match the user's lumbar curve and preference.

Ergonomic / Clinical Impact

- Allows the user to position the lumbar support to sit into the small of the back, promoting a more natural lumbar lordosis.
- Particularly beneficial for users with a history of lower back pain, disc problems, or stiffness, as it can reduce flexion loading through the lumbar spine.
- Personalisation of the support improves comfort tolerance over longer periods and encourages the user to sit back into the chair rather than perch forward.

2.3 Moulded Large Seat Cushion

Function / Design

- Generously dimensioned, moulded seat pan offering even weight distribution across the buttocks and thighs.
- Front edge shaped with a gentle “waterfall” profile.

Ergonomic / Clinical Impact

- Helps maintain the pelvis in a more neutral position rather than allowing it to roll backwards, which in turn supports improved spinal posture.
- The contoured surface spreads pressure more evenly, decreasing localised pressure points that can contribute to numbness or discomfort.
- The waterfall front reduces compression under the thighs and behind the knees, supporting healthier blood flow in the lower limbs and helping to reduce the risk of circulation-related issues, including an increased risk of deep vein thrombosis (DVT) in susceptible individuals.

2.4 Synchronous Tilting Mechanism

Function / Design

- Backrest and seat move together in a coordinated ratio when the user reclines.
- Multiple lockable positions allow the user to choose and vary their recline angle.

Ergonomic / Clinical Impact

- Encourages regular postural change rather than holding a fixed, static sitting position, which is associated with increased spinal and muscular loading.
- Dynamic movement assists in maintaining blood flow around the lumbar spine, pelvis, and hips and gently recruits postural muscles, helping to prevent stiffness.
- Movement at the knee and hip joints activates the “muscle pump” in the legs, which can support venous return and further reduce the likelihood of DVT in those sitting for long periods.

- Being able to lock into different recline positions allows users to select a posture that best suits the task (e.g. more upright for typing, slightly reclined for reading), reducing cumulative strain on the spine.

2.5 Height and Tilt Adjustable Headrest

Function / Design

- Headrest with both vertical height and angle adjustments to align with different user statures and preferred head positions.

Ergonomic / Clinical Impact

- When correctly adjusted, it supports the weight of the head, reducing sustained loading on the cervical spine and upper trapezius muscles.
- Can help reduce or prevent neck and shoulder tension associated with forward head posture, especially during prolonged screen work.
- May contribute to a reduction in tension-type headaches, migraines triggered by neck strain, and recurrent shoulder discomfort in users prone to these complaints.

2.6 Manual Tilt Tension Control

Function / Design

- User-adjustable control that alters the resistance of the recline mechanism.

Ergonomic / Clinical Impact

- Allows the recline force to be tuned to the user's body weight and preference, so movement feels supported rather than unstable or too restricted.
- Promotes confident use of the dynamic tilt function, encouraging regular movement and postural shifts, which is preferable to rigid, static sitting.
- Smooth, well-matched tilt tension reduces sudden or uncontrolled movements that might otherwise cause discomfort or irritation to already sensitive backs.

2.7 Height Adjustable Arms

Function / Design

- Armrests can be raised or lowered to suit different user heights and desk setups.

Ergonomic / Clinical Impact

- Properly adjusted armrests help support the forearms, offloading the shoulders and neck and

reducing upper trapezius overactivity.

- Reduces strain on the elbow and wrist by preventing excessive reaching or elevation of the shoulders during keyboard and mouse use.
- Can assist in preventing or alleviating conditions such as lateral epicondylitis (tennis elbow) and shoulder tendinopathy when combined with appropriate workstation setup and task management.

3. Overall Ergonomic Evaluation

The Ergo 24 Hour Task Chair provides a broad range of adjustments that allow it to be tailored to individual users and a variety of workstation environments. When set up correctly as part of a holistic workstation assessment (including desk height, monitor position, keyboard/mouse placement, and work-break patterns), the chair:

- Promotes neutral spinal alignment and reduces lumbar and cervical loading.
- Supports dynamic sitting and improved circulation.
- Helps limit cumulative strain in the neck, shoulders, back, and upper limbs during prolonged computer-based work.

It is suitable for most office users, particularly those spending extended periods at a desk or with a history of musculoskeletal discomfort, provided it is accompanied by appropriate user training on adjustment and good working habits.

