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بسم الله الرحمن الرحيم



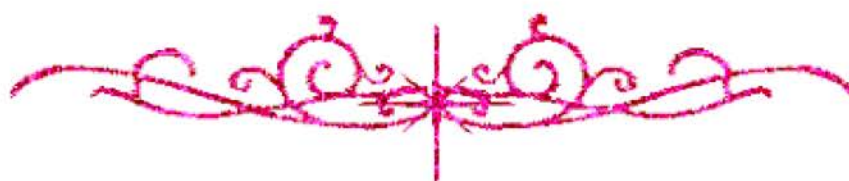
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شبكة المعلومات الجامعية



شبكة المعلومات الجامعية التوثيق الالكتروني والميكرو فيلم



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جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

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نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
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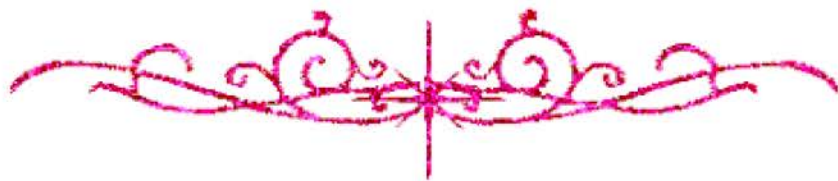
بعض الوثائق الأصلية تالفة



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لم ترد بالأصل



BIRYU

Computer Mouse Position as a Determinant of Posture and Muscular Load in Normal Subjects

By

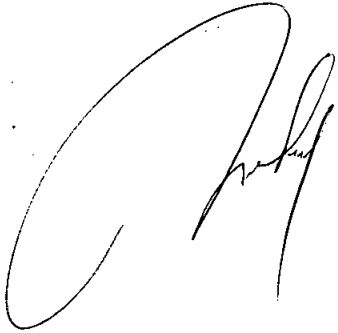
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A Thesis Submitted to Basic Science Department in partial fulfillment of the
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2004

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DEDICATION

To *My parents*, who gave every thing to me. To *My husband*, for his sacrifices and continuous help. For the precious time *my brother* spent with me. To *My lovely girl, Raneem, and my sweat boy, Mohammed*, the best gift of **Allah**. For every one of my family and my friends who gave me support. To the soul of every Moslem scarified his life to support **ISLAM**.

ACKNOWLEDGEMENTS

First and above all, I would like to kneel to thank *Allah*, the most compassionates, the most merciful, for the guidance, support and mercy.

First and foremost, I would like to thank Professor. **Dr. Mohsen M. El-Sayyad**. Professor of Physical Therapy and Director of Motion Analysis Lab., Basic Science Department, Faculty of Physical Therapy Cairo University. I would like to express my sincere gratitude for his advice, and for the extensive time he spent guiding me to finish this thesis. Without his constant encouragement and enthusiastic approach this work would not have ended fruitfully.

I would like to thank **Dr. Samy Abd El Samad**, Assistant Professor of Physical Therapy. Basic Science Department, Faculty of Physical Therapy, Cairo University for his great assistance especially at the early beginning of my thesis. His directions and guidance were always up to point.

I would like to thank **Dr. Maher A. El-Kabalawy**. Assistant Professor of Physical Therapy. Basic Science Department, Faculty of Physical Therapy. Cairo University, for his instructions and guidance to finish this thesis.

Warmest thanks go to **Dr. Hanan Hosny**, Assistant Professor of Neurophysiology, Faculty of Medicine, Cairo University. For the sincere advises and precious time she gave me to complete this work. Her supportive and understanding attitude in guiding me in the practical part of the thesis, which made the measurement process easy.

Special thanks for **Dr. Aml Youssef**, Lecturer of Physical Therapy. Department of Gynecology and Obstetrics, Faculty of Physical Therapy, Cairo University. For her great help to understand the practical points in Motion Analysis Lab, which allows me to finish my clinical part easily.

Thanks to my Colleague **Aliaa M. Rehan**, Assistant Lecturer, Department of Physical Therapy for Musculoskeletal Disorders. , Faculty of Physical Therapy, Cairo University. For her great help in my clinical part in the Motion Analysis Lab.

Thanks for every volunteer participated in this work, for the time and effort he spent.

Computer Mouse Position as A Determinant of Posture and Muscular Load in Normal Subject, Dalia Mohammed Mosaad; Supervisors, Prof. Dr. Mohsen M. El-Sayyad, Dr. Samy Naseef, and Dr. Maher A. El-Kabalawy. Basic Science Department, Cairo University, 2004 (Master Degree).

Abstract

Background Computer mouse become an integral part of office work. The number of studies examined the impact of mouse use on musculoskeletal health is limited. **The purpose** of this study was to compare kinematics of the right upper extremity and the electromyographic activities of upper, lower trapezii, and anterior deltoid muscles in two different computer mouse positions. **Subjects:** Thirty subjects (15 males, and 15 females), mean age was (22.16 ± 10.92). They were assigned in one group. They assumed one position for fifteen minutes (The traditional one) and then take a recording. After that they assumed the second position (The modified one) for other 15 minutes and take other recording. The recording includes, EMG registered from each selected muscle and capturing of the subject's posture by Infrared cameras. **Results:** There was a statistically significant decrease in the right upper extremities angles in the modified position except for the wrist ulnar deviation which increase significantly in this position. There was also significant decrease in muscular activities in this position except for lower trapezius. Positive correlation in this position between upper trapezius and shoulder abduction was found. **Discussion and conclusion:** Modified mouse position decreased most upper extremity angles and the muscular load over the upper, lower trapezius and anterior deltoid muscles and so it is recommended to be used in computer workstations in different fields.

Keywords: Computer mouse, Ergonomics, EMG, Three-dimensional analysis of motion.

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