

Effect of Postural Strap on the Relief of Work-related Muscle Pain: A Pilot Study

Gabriel H.H. Chan ^{a*}, Kit-lun Yick ^b, S.P. Ng ^a, Manton M.H. Leung ^a, Hermit W.M. Tang ^a, Lewis S.H. Mok ^a, Y.S. Ho ^b, Ada Yu ^c, Simon C.W. Wong ^a

^a *Hong Kong Community College, The Hong Kong Polytechnic University, Hung Hom, Hong Kong*

^b *Institute of Textiles and Clothing, The Hong Kong Polytechnic University, Hung Hom, Hong Kong*

^c *Atech Health Specialists Ltd, Central, Hong Kong*

Co-operative partners



INSTITUTE OF TEXTILES & CLOTHING
紡織及製衣學系

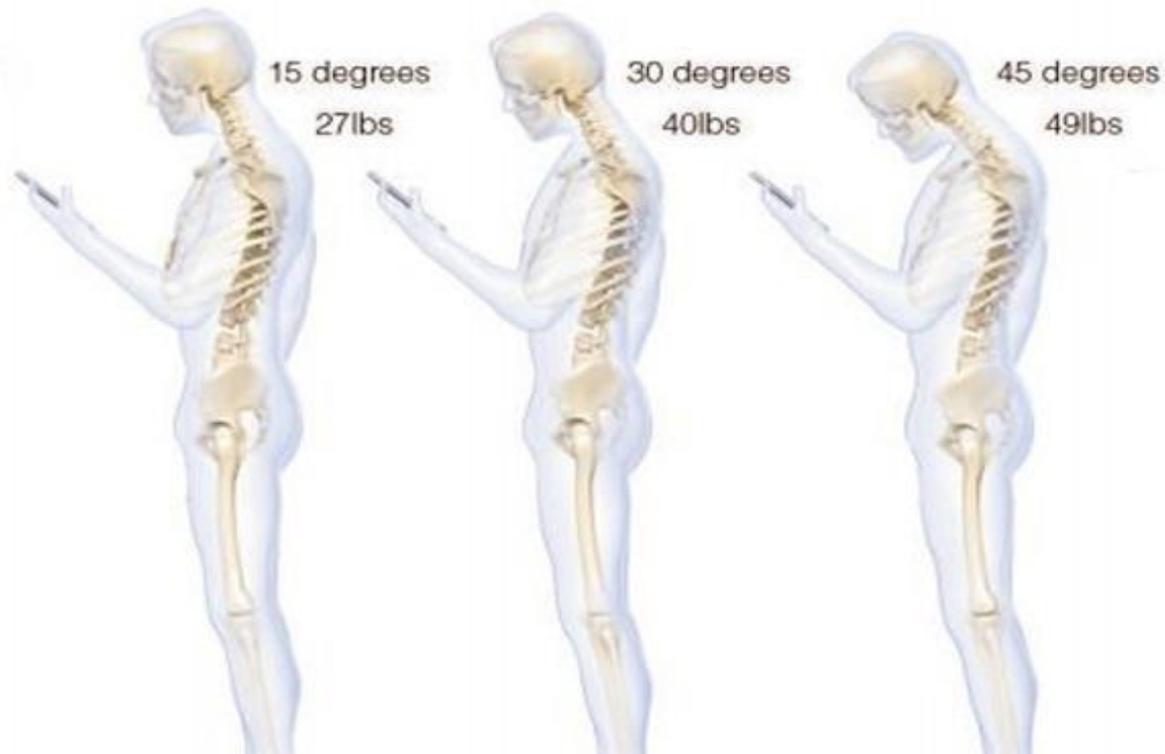


THE HONG KONG
POLYTECHNIC UNIVERSITY
香港理工大學

COLLEGE OF PROFESSIONAL AND
CONTINUING EDUCATION
專業及持續教育學院



Poor posture of smart phone users – persistent forward head posture puts compressive loads upon the upper thoracic vertebra



Original design of postural strap



New design of postural strap



Modification

- Less tension and more comfortable to wear
- If the posture is not good, tension will be generated from the rubber band (cross)
- Adjustable length in arm

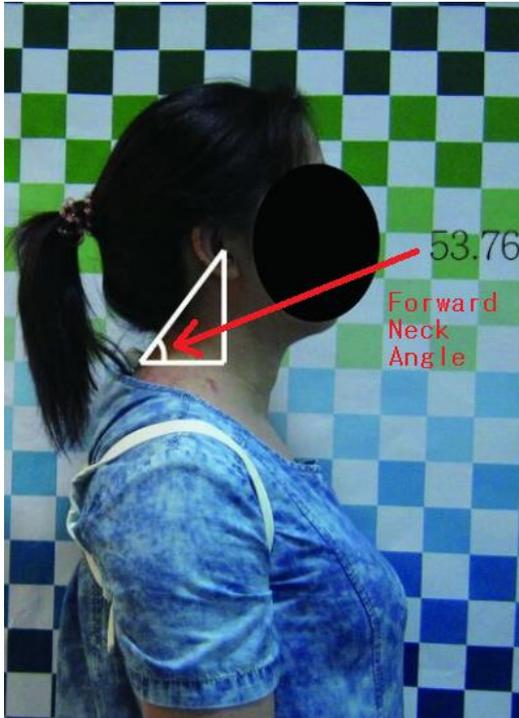
Experiment

- Selection criteria:
 - Experience fatigue, stiffness, tenderness or pain in the neck and shoulder regions

Subjects' background

- 34 subjects were successfully recruited
- 7 males and 27 females
- Mean of age of the group is 41.1 ± 11.7 years old
- They have worn the postural strap for at least 20 days

Results



Forward neck angles were measured (taking the average of 5 pictures)

- Only two of the subjects have the forward angles which fell beyond the normal range 49° to 59°

Survey results

- 44.4% of the subjects found that the pain is less than before
- Pain scale:
 - Before : 3.74/10
 - After: 2.41/10
- $P < 0.05$

Future studies

- Development of an apps for calculation as we found very time consuming of using Adobe Illustrator for searching the angles
- May find targets with angles which fell beyond the normal range 49° to 59°

Acknowledgement

This project is supported by CPCE research fund.