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## ERGONOMIC APPROACH FOR MUSCULOSKELETAL DISORDERS OF NURSES IN A SURGERY ROOM

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**T**he surgery-room is one of the key medical care locations in hospitals, and the tools and materials are prepared in the operation preparatory room. The people of surgery team are medical doctors, assistants and nurses who often complain about musculoskeletal disorder (MSD) problems. The MSDs originate from multiple factors. In this study, musculoskeletal disorder has been approached by using ergonomic analysis to evaluate risk factors. The objective is to estimate the risks of nurses and to redesign the tool carriage in surgery rooms. The subjects are the nurses at surgery rooms in a university hospital of south of Taiwan. The ergonomics analysis of nurse work was processed in the hospital. Not only professional observation has been done, but also camcorder and camera recorded key activities. The results of ergonomic job analysis and questionnaire show that muscle disorders are very common symptoms of low back; the results of checklist shows that the nurses and assistant people are under high musculoskeletal disorder or injury risk. The recommendations were: 1) to redesign a new carriage to reduce the handling weight of surgery tools for lifting and moving, 2) to redesign the layout of surgery rooms and preparation room should to increase productivity and reduce lifting and moving activities, 3) to provide standing-chairs and to train nurses with valid postures are recommended to decrease nurses' musculoskeletal disorders.

### Biography

Chihwei Lu is an Associate Professor in the Department of Industrial System and Engineering, Chung Yuan Christian University, Taiwan. He is an expert in the fields of ergonomics testing and evaluation, individual research in industrial engineering, human research, musculoskeletal disorders of nurse people, ergonomics, occupational biomechanics, psychology, etc. His publications include, Evaluation of the Indonesian National Standard for elementary school furniture based on children's anthropometry, 2017; Prevalence of urinary tract infections and associated factors among pregnant workers in the electronics industry, 2009; Evaluating work ability and quality of life for clinical nurses in Taiwan, risk factors of adult inpatient fall events, 2005 and many more. He has won many academic and competition awards.

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