

Pattern of change in core muscles thickness during active straight leg raise test & prone hip extension test

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**Background:** Cross section thickness of core muscles (CM) muscles such as internal oblique (IO), external oblique (EO), transverse abdominis (TrA) and lumbar multifidus (LM) was strongly associated with low back pain. Active straight-leg raise test (ASLR) and prone hip extension (PHE) tests were commonly used as assessments in low back pain. This study aimed to investigate the changes in core muscle thickness during ASLR and PHE using real time ultrasonography (RTUS). This study was conducted to understand the clinical reasoning behind the contemporary practice of using ASLR and PHE test as clinical tests to assess lumbo pelvic stability.

**Methods:** A total of 33 healthy subjects (17 males and 16 females) were recruited from an orthopaedic department of University hospital. The subjects were instructed to lift their legs for about 20 cms from the bed while performing ASLR and PHE. The cross-section thicknesses of the LM and (IO, EO, and TA) were measured using RTUS during PHE and ASLR. The changes in CM thickness of the limb that performed ASLR & PHE were compared with the resting limb on the contra lateral side by paired t test.

**Results:** There were significant increase in the thickness of the CM (IO, EO and TA) on the limb that performed ASLR when compared with the resting limb on the contra lateral side ( $p < 0.05$ ).

**Conclusion:** The pattern of change in cross sectional thickness of CM indicated that IO, EO, TA increased in size significantly on the limb that was lifted during ASLR test. This finding supports that CM are involved during ASLR and explains the clinical reasoning for using ASLR test to assess lumbo pelvic stability.

<http://dx.doi.org/10.1016/j.hkpj.2013.01.027>

Prevalence of overweight and obesity in patients with knee osteoarthritis: A cross-sectional study

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**Background and purpose:** Previous studies reported inconsistent results concerning the association between Body Mass Index (BMI), Knee Osteoarthritis (OA) and other demographic risk factors. The objective of this study were: (1) to investigate the prevalence of overweight and obesity among patients with knee OA and (2) to examine the relationship between BMI and their socio-demographic factors such as age, gender and race among knee OA.

**Methods:** 140 OA knee subjects which comprised of all three races such as Malay, Chinese and Indian (114 female and 26 male) aged between 40-78 years with mean  $\pm$  SD age of  $58.7 \pm 8.951$ , were recruited over a year from a government hospital. Subjects diagnosed with unilateral or bilateral knee OA, independent or required minimal aid in walking are included and those who underwent knee surgery are excluded. Data was collected using a health information questionnaire which consisted of demographic and anthropometric details. Descriptive and inferential statistics such as Chi-square tests were used to analyze the data.

**Results:** The results of the study showed the overall prevalence rates of overweight and obesity were 55.7% and 25.7% respectively among OA knee patients. Among OA knee patients, the prevalence of overweight (51.3%) and obesity (38.9%) with in BMI was higher among Malay females.

**Conclusion:** This study has showed that the prevalence of overweight and obesity was fairly high among OA knee population especially among Malay female patients. The implication of this study finding calls the health care providers to take appropriate health strategies to combat obesity and to prevent early OA knee in this population.

<http://dx.doi.org/10.1016/j.hkpj.2013.01.028>

The use of cues in simple sequential bimanual finger tapping task in normal population

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**Background and purpose:** External cues are used as an intervention strategy in rehabilitation of some neurological diseases, such as Parkinson's disease. Evidence from rhythmic external cues, such as a sound or lines on ground, has shown that it will improve functional performance or play a role as an external trigger to initiate movement. Visual mental imagery is the process of retrieving perceptual information from long-term memory and generating an intrinsic image without seeing the actual visual stimuli. Combining the two concepts, if the external cues can be raised intrinsically, this might be useful for clinical application. The current study aims to investigate the effectiveness of imaged cues in normal population, and the influence of aging on the cueing effect. Once we understand the effectiveness of external and imagined cues in normal population, and it can be further applied to patients. The aim of current study is to investigate the effectiveness of the internalization of external visual cues by a computerized bimanual finger tapping task in a young group and a normal elderly group.

**Methods:** The current study adopted a 2x3 mixed design (between-group factor: aging and within-group factor: cueing type). A total 54 normal subjects was recruited in this study, 34 in young adult group ( $M=21.38$  years,  $SD=1.07$ ) and 20 in aged group ( $M=65.1$  years,  $SD=8.01$ ). A tapping task with four varied sequences with three taps, was conducted under three different conditions, no cue, external visual cue and internal visual cue through mental imagery. Both of the groups performed the tapping movement under all three conditions. In the external cueing condition, subjects were required to perform each tapping according to a visual cue, whereas in the internal cueing condition, subjects were required to form a mental image of the visual cue which they saw in previous condition and made the tapping movement according to the mental image. The reaction time and accuracy were recorded and used for comparison among different condition within group and between groups. All subjects were assessed using two self-administrated questionnaires, including Vividness Visual Imagery Questionnaire and Self-rating vividness questionnaire, to evaluate their capacity of visual mental imagery. Two-way ANOVA was used to determine the effect between groups.

**Results:** The aged group demonstrated a significant longer reaction time in all three conditions compared to the young group, especially under the internal cue condition ( $p < 0.05$ ). Compared with no cue condition, higher accuracy rate was found under internal cued condition in both groups ( $p < 0.05$ ).

**Conclusion:** The performance of finger tapping task under varied cueing condition is affected by aging, and elderly demonstrates prolonged reaction time when compared to the young group. The imaged cueing strategy can improve accuracy in finger tapping tasks, and this is similar with external visual cueing condition. This mental visual imagery of specific cues might be beneficial for those who need some external cues to improve their performance. The internal cueing strategy may be an alternative strategy for external cueing, but this needs to further examine in patients populations.

<http://dx.doi.org/10.1016/j.hkpj.2013.01.029>

Complications influence ambulation in patients undergoing extrapleural pneumonectomy

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**Background and purpose:** There are few reports about ambulation of malignant mesothelioma patients undergoing extrapleural pneumonectomy (EPP), which is highly invasive. In this study we investigate the started-day of ambulation in several cases of EPP.

**Methods:** We retrospectively extracted seven patients aged  $60.4 \pm 8.2$  years undergoing EPP between January and December 2011. Critical paths of respiratory resection in perioperative course were used. Patients performed respiratory muscle stretch, incentive spirometer and aerobic exercise, and learned the importance of rehabilitation to avoid complications. From the medical records we investigated perioperative factors, the presence or absence of respiratory and cardiovascular diseases and the start date of walking.

**Results:** Post-operative day (POD) at which the patients began to take a 30-meter walk was extended by the presence of cardiovascular and respiratory complications. After EPP, 4 patients ( $59.2 \pm 10.9$  years) with cardiovascular complications and 2 patients ( $67.5 \pm 0.5$  years) with respiratory complications began to take a 30-meter walk on POD  $7.3 \pm 3.0$  and  $5.0 \pm 3.0$ , respectively. One patient (68 years) with both complications began to take a 30-meter walk on POD 8. Two patients without complication ( $58.5 \pm 1.5$  years) began to take a 30-meter walk on POD  $4.0 \pm 1.0$ .

**Conclusion:** Complications are common after EPP, which tends to delay the start of ambulation. In particular, considering that cardiovascular complications affect ambulation, rehabilitation program and its performance criteria after EPP need to be established.

<http://dx.doi.org/10.1016/j.hkpj.2013.01.030>

Level of awareness and the extent of implementation of the community-based rehabilitation program of Mariano Marcos state university

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**Background and purpose:** MMSU recognized the importance of extending benefits to persons with disabilities through the establishment of its Community-Based Rehabilitation Program (CBRP). The CBRP is geared towards the improvement of gross motor functions of PWDs especially those of the lower economic strata and far-flung areas. This study aimed to evaluate the effectiveness of the CBRP in the delivery of its services since its implementation in 2007. Further, it aimed to present descriptions of the stakeholders' experience, identify factors that may contribute to its growth and success, and offer implementation suggestions.

**Methods:** The descriptive research design was used. The respondents were CBRP stakeholders like PWDs ( $n=40$ ), barangay health workers ( $n=32$ ), and health care providers ( $n=10$ ) that were totally enumerated, as well as, community people from Batac City ( $n=55$ ) that were purposively sampled. Validated questionnaires were used for each set of respondents. The parts were: I-profile, II-level of awareness, satisfaction, and effectiveness, and III-implementation suggestions. Descriptive statistics like frequency and percentage were used to analyze and interpret the data.

**Results:** Majority of the PWDs have recovered from their condition and improved their function (50%). Majority of the BHWs were very satisfied with the transfers and therapeutic exercises classes conducted to them (65.63%). Majority of the community people were aware of the implementation of the CBRP within their community (52.73%). Majority of the HCPs found CBRP effective in improving function and condition of the PWDs, imparting skills, knowledge and attitudes to the BHWs, and raising the level of awareness among community people (60%).

**Conclusion:** The CBRP is effective in the delivery of its services.

<http://dx.doi.org/10.1016/j.hkpj.2013.01.031>

Working conditions and occupational safety and health hazards of women fire fighters and law enforcers in Ilocos Norte

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**Background and purpose:** As women go into male-dominated occupations like firefighting and law enforcement, they meet new hazards which may either change or add to their existing occupational experience. Women's occupational safety and health issues and their effects in their multiple roles in the society are poorly understood and are being neglected. Thus, there is a need to properly understand the underlying safety and health hazards present in their workplace and the effect of these to them. The objectives of this study were: (1) to determine the working conditions, occupational safety and health hazards among women law enforcers and firefighters, and (2) to determine the relationships between the variables.

**Methods:** A descriptive-correlational design and purposive sampling were used. A total of 8 firefighters and 42 law officers from Ilocos Norte participated in this study. To gather data, previously used Workplace Violence Assessment Questionnaire from Education Safety Association and Basic Occupational Health Questionnaire from Foundation for Quality in Occupational Health were adapted. Descriptive statistics and Pearson's correlation were used for data analysis.

**Results:** For the firefighters, there are significant relationships between job design with overwork (0.34,  $p<0.05$ ); work relations with musculoskeletal disorders (-0.58,  $p<0.01$ ) and overwork (-0.62,  $p<0.01$ ). Relationships between workplace violence with job design (-0.417,  $p<0.01$ ), management and colleagues support (-0.538,  $p<0.01$ ), and work relations (-0.339,  $p<0.05$ ) are found. Also, physical safety are correlated with work relations (-0.377,  $p<0.01$ ), and job security, rewards and incentives (0.50,  $p<0.05$ ). For the firefighters, significant correlation between job security, rewards and incentives with psychological stress (0.71,  $p<0.05$ ) was found.

**Conclusion:** Occupational safety and health hazards prevailed slightly in the workplace of women law enforcers and firefighters. Health programs should be formulated and implemented for the safety, health and well-being of the women workers.

<http://dx.doi.org/10.1016/j.hkpj.2013.01.032>

Working conditions and occupational safety and health hazards of women security guards and engineers in Ilocos Norte

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**Background and purpose:** Security guards and engineers are nontraditional occupations where women comprise 25% or less of total employment. Evidence shows that women entering male-dominated jobs have encountered negative reactions and harassment and faced specific types of stressors in the sex-segregated workplaces of blue collar jobs, engineering, law enforcement, and other areas. Thus, this study determined the working conditions, occupational safety and health hazards among the respondents and the relationships between these variables.

**Methods:** A descriptive-correlational research design was used. There were 22 security guards and 20 engineers from Ilocos Norte were purposively sampled. Questionnaires used in previous researches such as Workplace Violence Assessment Questionnaire from Education Safety Association and Basic Occupational Health Questionnaire from Foundation for Quality in Occupational Health were adapted. Descriptive statistics and Pearson's correlation were used to determine the relationships between the variables of interest.

**Results:** As seen among security guards, there are significant relationships between work relations with psychological stress (-0.402,  $p<0.05$ ), management and colleague support with musculoskeletal disorders (-0.40,  $p<0.05$ ), and hostile environment with psychological stress (0.514,  $p<0.01$ ). For the engineers, significant relationships exist between physical environment with psychological stress (-0.723,  $p<0.01$ ) and musculoskeletal disorders (-0.695,  $p<0.05$ ); job content with psychological stress (0.469,  $p<0.05$ ); management and colleague support with musculoskeletal disorders (-0.474,  $p<0.05$ ); work relations with psychological stress (-0.413,  $p<0.01$ ) and musculoskeletal disorders (-0.397,  $p<0.05$ ); and hostile environment with musculoskeletal disorders (0.733,  $p<0.01$ ).

**Conclusion:** Occupational safety and health hazards are minimal in the workplace of women engineers and security guards. Assessment guides pertaining to good working conditions and occupational safety and health should be provided by the employers to their workers which should be done periodically.

<http://dx.doi.org/10.1016/j.hkpj.2013.01.033>

Compliance of selected food establishments in Caloocan city with the Philippine accessibility law (BP 344)

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**Background and purpose:** Batas Pambansa 344, otherwise known as The Philippine Accessibility Law, is an Act to enhance the mobility of disabled persons by requiring certain buildings, institutions, establishments, and public utilities, to install facilities and other devices. Food establishments are one of, if not the most, frequently visited public buildings, even by people with disabilities (PWD). However, the degree of compliance of these facilities to BP 344 has not been well-documented. This study aims to determine the compliance of selected food establishments with BP 344.

**Methods:** This is a descriptive type of research. The three fast food chain establishments, compliant with permit to operate and certificate of building occupancy issued by City Mayor's Office, were recruited for this study. The selection was based on their location to the largest main thoroughfare in Caloocan City (along Epifanio Delos Santos Avenue also known as EDSA), which made them very accessible to public in general. The selected food establishments approved and authorized the researchers to conduct further assessment on their compliance to BP 344. A checklist instrument was developed, patterned after B.P. 344 and its Amended Implementing Rules and Regulations under the Category II-Group E2 Classification of Building by use of occupancy concerning commercial and industrial restaurants, bars, cafeteria and the like. The compliance was measured using a rating scale of 2.34 to 3.00 as *compliant* (complied with most of the features/ requirements), 1.67 to 2.33 as *partial compliant* (complied with some of the features/requirements or provided modifications to