

Abstract no. 1

Prevalence of Chronic Microvascular Complications and their Associated Risk Factors among Type II Diabetic Patients in the Diabetic Clinic at Thawung Hospital, Lopburi Province 2012-2014

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Background and Rationale: Recently, countries around the world focus on the management of chronic diseases. Due to lifestyle changes, patients in Thailand have increased since 2013. They have died from Diabetes 9,647 in total. Controlling blood sugar levels of diabetics are considered very important because if you cannot control blood sugar levels, it will result in complications in organs. Thawung Hospital, Lopburi found that patients were admitted with diabetes a priority in a number of 679 people in 2012, 1,026 people in 2013 and 1,082 people in 2014, but the studies of complications from diabetes is not clear yet.

Objectives: To determine prevalence of chronic microvascular complications and explore the relationship between factors associated with chronic microvascular complications among type II diabetic patients in the diabetic clinic at Thawung Hospital, Lopburi province 2012-2014.

Methods: Analytical cross- sectional study using secondary data from a database of type II diabetic patients in the diabetic clinic at Thawung Hospital, Lopburi province 2012-2014. A total of 1,509 cases, data analysis is performed using multiple logistic regression and presented the results with the prevalence rate ratio or odds ratio at the confidence level of 95% (p-value < 0.05) by using descriptive information and the results of laboratory tests involving the tracking of patient treatment. The measurement of individual parameters to meet the requirements of indicators was based on guidelines for diabetes year 2011. The results of chronic microvascular complications were measured by the diagnosis by the doctor that was recorded in the medical records of patients and were presented the prevalence of chronic microvascular complications each year.

Results: From the study of population with diabetes type II all 1,509 cases found that chronic microvascular complications was total of 300 cases, representing 19.9% classified as diabetic nephropathy 169 cases, diabetic neuropathy 90 cases and diabetic retinopathy 40 cases considered which was 11.2%, 6.0 and 2.8 respectively. Factors associated with chronic microvascular complications with statistical significance were age between 70-79 years (OR = 3.62, 95%CI: 1.06-12.42), older or equal to 80 years (OR =

4.22, 95%CI: 1.10-16.27), levels of creatinine (OR = 2.89, 95%CI: 1.84-4.54), GFR between 30-59 mL/min/1.73 m² (OR = 1.86, 95%CI: 1.26-2.72) and GFR between 15-29 mL/min/1.73 m² (OR = 5.05, 95%CI: 2.30-11.09). If classified as a type of complication. Factors associated with diabetic nephropathy was gender (OR = 1.77, 95%CI: 1.17-2.68). Factors related to the diabetic neuropathy were HDL levels (OR = 2.12, 95%CI: 1.17-3.84) and GFR 60-89 mL/min/1.73 m² (OR = 2.01, 95%CI: 1.01-3.67). The factors associated with diabetic retinopathy were creatinine levels (OR = 3.79, 95%CI: 1.53-9.42) and GFR 15-29 mL/min/1.73 m² (OR = 8.93, 95%CI: 2.06-38.71).

Conclusion: The prevalence of chronic microvascular complications in patients with diabetes type II in the diabetic clinic at Thawung Hospital, Lopburi province year 2012-2014 accounted for 19.9%. Complications were classified by diabetic nephropathy, diabetic neuropathy and diabetic retinopathy of 11.2%, 6.0 and 2.8, respectively. Age, creatinine levels and GFR were major risk factors in the occurrence of chronic microvascular complications. Age was a risk factor for chronic microvascular complications overall, while sex is a major risk factor in the occurrence of diabetic nephropathy. HDL and GFR were factors that were associated with the occurrence of complications of diabetic neuropathy. Furthermore, creatinine level and GFR were factors associated with diabetic retinopathy statistically significant. Seeing that Thawung Hospital should have a policy on the treatment of diabetes to help reduce complications for patients who received services for example standard complications screening, the campaign of behavior change proactively, encouragement to prescribe ACEI or ARB and Statins in patients without contraindications to the use of such drugs and so on.

Abstract no. 2

The Study of Media Usage Behaviors and the Relationship between Selected Factors and Internet Literacy Ability of Nursing Students, The Royal Thai Army Nursing College

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Introduction: Nowadays, the internet has become an important factor in our daily life, and we have known that the internet has both advantages and disadvantages which related to the behaviors of the internet usage, the consequence are problems which are crucial especially, in children and youth who lack experience therefore the internet literacies are needed. Nursing students of the Royal Thai Army Nursing College are in the limited condition in using internet this may have less perception or experience of using internet than world organization. It may affect the media behaviors and ability to internet media literacy.

Objective: The purpose of this study was 1) To examine the behaviors of media usage. 2) To study the ability of internet. 3) The relationship between selected factors and internet literacy ability. 4) To compare the difference between level of class and media literacy. 5) The media usage risk behaviors.

Research Design: The study was survey researches relate both quantitative data and qualitative data.

Material and Method: Subjects consisted of 180 nursing students of the Royal Thai Army Nursing College, who were selected by stratified random sampling method. The instruments were 5 Likert's scale survey, the questionnaire which were tested for content validity and reliability, Chronbach's alpha were .97, the open ended interview questionnaire. Statistics used to analyze the data were frequencies, percentage, mean, standard deviation, one way ANOVA, Pearson's product moment correlation coefficients. And content analysis.

Research Finding: Result most subjects were female, mean age was 19 years old, GPAX between 2.51 - 3.00 the media usage behaviors of the sample were at high level, and the ability of the internet literacy are at highest level. Ages and GPAX were not related with the ability of the internet literacy, but the media usage behavior was positively related to the ability of the internet literacy at a statistically significant level ($r = .47$, $p < 0.01$). The ANOVA results revealed the statistically significant difference of the internet literacy of nursing students who had different school years ($F = 4.93$, $p < 0.01$). The qualitative

results revealed which were meaning and important of ability of the internet literacy. The method of analysis. The effect of the internet user. As the media creator, how to prevent the effect to the public. The security method of private information. The guidance and the suggestion to promote the internet literacy. And realizing to the private right.

Keywords: ● *Literacy* ● *Nursing students* ● *Internet usage behaviors* ● *Selective factors*

Abstract no. 3**The Study of Associated Factors of Hypoglycemia at Emergency****Department in Sanam Chai Khet Hospital, Chachoengsao**

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Background: Blood sugar means glucose that is the most important energy source of body especially the brain which uses only glucose. When glucose is more metabolized than absorbed the glucose level will be lowed that called “hypoglycemia”. Malouf, Brust, Hart and Frief find the patient with hypoglycemia who comes to emergency department have mortality rate 10% and permanent brain damage 3%. The study in Bhumibol Adulyadej Hospital show the 360 patients with hypoglycemia who came to Emergency Department were diabetic patient 345 (95.83%) and the rest, 15 patients (4.17%) are nondiabetics. USA Mayo clinic study show that 1,020 diabetic patients were questioned about hypoglycemia. Among these, 625 (61.7%) reported any hypoglycemia, and 76 (7.5%) reported severe hypoglycemia. After 5 years, patients who reported severe hypoglycemia had 3.4-fold higher mortality compared with those who reported mild/no hypoglycemia. Thus this research purposes the doctor in the Emergency Department cans find cause, initial manage and follow up the hypoglycemia.

Objective: To identified associated risk factor of hypoglycemic patient at Emergency Department in Sanam Chai Khet Hospital, Chachoengsao.

Study Design: Analytic Case-control study.

Materials and Methods: One hundred sixty-six patients who had been in Emergency Department in Sanam Chai Khet Hospital, Chachoengsao since 1 April 2011 and 15 June 2015 were randomly selected. They were divided into two group 92 hypoglycemic patient and 74 non-hypoglycemic patient. Analyze by SPSS program.

Results: Almost hypoglycemic patients are female 71 (77.2%), age equal or more than 51 years old 78 (84.8%), underlying disease 88 (95.7%) and diabetes mellitus 78 (84.8%). Most of hypoglycemic patient come to emergency department by unconsciousness as a chief complain 17 (39.5%). And secondly, confuse 7 (16.3%). Diabetes is an associated risk factor of hypoglycemic patient at Emergency Department significantly ($p < 0.001$), OD ratio 275.38, confident interval 95% (20.57-3686.58) that analyzed by multiple logistic regression: backward (Wald) use diabetes drug 63 (84.0%) and use insulin 41 (54.7%).

Recommendation: Hypoglycemic patients use insulin 41 (54.7%) that proportion more than other diabetes drug. Thus health care provider should give information about how to use insulin, how to protect hypoglycemia and how to do when patients are hypoglycemia.

Keywords: ● Hypoglycemia

Abstract no. 4

The Study of the Relationship between Behaviors and Postures Using Computers and Physical Disorders Among RTANC Personnel

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Background: Nowadays, computers have been extensively used in various fields of work. Working with a computer for a long period of time can cause a negative health impacts, such as muscle pains (shoulders, neck, back and waist muscles), dizziness of vision and mental stress. RTANC staffs who have worked with a computer for years are caused health impacts. The researchers, as nursing students has concerned about the problems. They, therefore discover the present study in order to help promote proper ways of using a computers for a healthy working life, and to prevent and reduce the risks of the abnormal symptoms caused by improper behaviors of using a computer. As the result, RTANC personnel will be able to work happily and efficiently.

Objective: To study the relationship between the behaviors and postures of using computer and physical disorders among RTANC personnel.

Research Design: The Correlation descriptive research. The researchers collected the data from RTANC personnel 141 persons since August to September 2015 by purposive sampling according to the inclusion criteria.

Materials and Methods: A self- administered questionnaire adapted from the Wilawan ChaiKaenet al.'s (2010) was used to gather data. It consisted of personal information, behaviors and postures of using a computer, and the abnormal symptoms that effect to their health. The reliability of the questionnaire was 0.7. The collected data were analyzed by using frequencies, percentage, mean, and standard deviations. The Odd Ratio was used to analyze the correlation of the study.

Results: The result showed that most of the RTANC staffs (70%) have the proper behaviors and postures in using computer, however abnormal symptoms were found to happen in some parts of the samples' bodies. In the period of three month before answering the questionnaire, there found the pain from using a computer mostly appeared at shoulders (69.3%), neck (64.6%), shoulder blades (60%), eyes and upper back (53.8%), and head (52.3%) respectively. Similarly the pain highly happened in shoulders (53.8%), shoulder blades (49.2%), eyes (41.5%), neck (40%), and upper back (38.5%), respectively in the period of seven days before administering the questionnaire. It was insignificantly found the correlation between

the behavior and postures in using a computer and physical disorders.

Conclusions: According to the results of the study, most of the RTANC personnel have a good behavior and proper postures in using a computer. Even though behavior and postures in using a computer did not have impact on physical disorders, awareness of having good behavior and proper postures and self-care and health education were still necessary for RTANC personnel to avoid having pain where can lead to physical disorders.

Keywords: ● *Postures of using computers* ● *Physical-disorder* ● *Computerized usage*
● *RTANC personnel*

Abstract no. 5

The Study of Factors and Perspective of Pregnant Women Who Visited for Antenatal Care at Gestational Age of Over 12 Weeks in Pattananikom Hospital, Lopburi Province, Thailand

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Background: Antenatal care (ANC) provides health care both the mother and the fetus by promoting health and observing complications throughout pregnancy. WHO and the Department of Health have instructed that the mother should at least come for 5 ANCs with the 1st ANC in the 1st trimester (12 weeks and under) to decrease complications and mortality rate of both the mother and the child. However, understanding and perspective of ANC are not so well known and the epidemiological data about the mother who came for her 1st ANC above 12 weeks are limited especially in the rural communities of Thailand.

Objectives: To identify the prevalence and risk factors associated with Late ANC among pregnant women in Thai rural community, and also to study about their perspective to ANC.

Methods: This is a cross-sectional survey, which uses the information from the Pattananikom Hospital's data base to achieve pregnant women's medical records to obtain the associated factors of the pregnant women who came for her 1st ANC at the gestational age of over 12 weeks. The study population included all of 526 pregnant women who came for her 1st ANC at Pattananikom Hospital during 1 January 2014 and 24 June 2015. Also, pregnant women who came for her 1st ANC during 14 July 2015 and 22 July 2015 which was 15 people were in-depth interviewed by the researchers to obtain all of their perspective toward ANC.

Results: The prevalence of pregnant women who came late for ANC was 52.7% equal to 277 people. Mean age was 24.96 years. 23.2% were teenage pregnancy. Thai women accounted for 81.4%, while other nationalities were 18.6% in a ratio of 4.38:1. Mostly was 1st parity which was 41.3%. The significance associated factors are teenage pregnancy and nationality, we found that other nationalities but Thailand seem to have a protective factor against pregnant women who came for her 1st ANC at gestational age of over 12 weeks. Problems of both the pregnant women who came early and late for ANC were identified,

such as hospital charges, health care rights, transportation, occupation and caregiver. But the difference was that the pregnant women who came late for her 1st ANC saw that her problems was more important than to come for ANC. For teenage pregnancy, we founded that the factors that determined whether the teenagers will come late or early was their caregiver's perspective to ANC.

Conclusion: The prevalence of pregnant women who came late for her 1st ANC was 52.7%. Teenage pregnancy was the associated factors of late ANC, with a protective factor of other nationalities but Thailand. For their perspective, they did not see the major priority and advantages of ANC including the teenager's caregivers which promotes the pregnant women to come late for her 1st ANC.

Keywords: ● *Late antenatal care (ANC)*

Abstract no. 6

The Relationship between Patient Safety Management and Quality of Nursing Services Perceived by Professional Nurses at Phramongkutklao Hospital

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Introduction: To complete the duty of the nurses is not only to take care patients about the disease's symptoms. But also must encompass both of these. Nurses must have critical thinking and analyzing the problems and literally needs of the patients. In addition, the heart of safety is to prevent mistakes in patient care. As a result, the quality of nursing services can provide and create patients' confidence that they will receive the good service which high safety which can respond the satisfaction of the physical, mental, emotional and social included with the professional knowledge is based on principles and met quality standards.

Objective: To study and evaluate the patient safety management and the level of the quality of nursing services as well as the relationship between the patient safety management and the quality of service as perceived by professional nurses. Based on the recognition of professional nurses at Phramongkutklao Hospital.

Research Format: Correlational Descriptive Research.

Materials and Methods: The sample used in this study were 164 vocation nurses at Phramongkutklao Hospital. Collected data by questionnaires which are analyzed by using descriptive statistics and Pearson product moment correlation.

Results: The results showed that the patient safety management based on the recognition of professional nurses at Phramongkutklao Hospital are following. Firstly, the average of overall rating is very high ($M = 4.53$, $SD = .32$). The average overall score of nursing quality service as perceived by Phramongkutklao's nurses is the highest ($M = 4.71$, $SD = .47$). For the safety handling of patients is a positive correlation with the quality of nursing services, based on the recognition of professional nurses at Phramongkutklao Hospital is high level of significance statistic. ($r = .728$, $p < .001$)

Review Summary and Analysis: Patient safety is the major of quality in nursing care and foundation of confidence and trust of patients to the health system. Creating a system to manage the safety of patient as well. It is essential that health personnel at all level must be awareness and push forward for implementation of performance based components of patient safety management lead to the result of nursing service standardly.

Keywords: ● Patient safety management ● Quality of nursing services perceived by professional nurses

Abstract no. 7**Associated Factor of Acute Asthmatic Attack among Asthmatic Patients in Asthma Clinic Pattananikom Hospital, Lopburi Province**

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Background: At present, it is undeniable that asthma affects to our daily life and it will be much more in the future. This disease is very common, as a health problem in Thailand and the world because it affects directly to the patients' quality of life. The study of risk factors of acute asthmatic attack can cause the possibility of risk factors avoidance, the better quality of life of the patient, and significant reduction of the cost of medical treatment in our country.

Objectives: To study the relationship of the factors that stimulates acute asthmatic attack.

Study Design: Descriptive and Analytic Cross- sectional study.

Methodology: A descriptive study and analytic cross- sectional study was performed to 358 asthma patients who come to asthma clinic in Pattananikom Hospital, Lopburi province by questionnaire which was performed in asthma clinic of Pattananikom hospital.

Result: From this study, associated factors which cause acute asthmatic attack are age, body mass index, and drugs used to treat. Patients who are younger are less likely to have recurrent symptoms than the older. The patients with less body mass index are more likely to have recurrent symptoms than the patients with normal body mass index. And another factor is drug used to treat (Seretide/ Seretide+Theophylline/Seretide+Theophylline+Prednisolone) which has the greater effect of increasing the recurrent symptoms.

Conclusion: This research determined the risk factors which cause acute asthmatic attack in Pattananikom Hospital Lopburi province. This is going to be beneficial information to find out how to prevent the recurrence of acute asthmatic attack. The study found that age can affect the recurrence of acute asthmatic attack. Patients who are younger are more likely to have recurrent symptoms. The patients with less body mass index are more likely to have recurrent symptoms than the patients with normal body mass index.

Keywords: ● Asthma ● Risk factor ● Community ● Exacerbation

Abstract no. 8

The Perceptions and Expectations of Nursing Students to the Student Development Activities in the Royal Thai Army Nursing College

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Introduction: Nowadays, Thailand has developed the quality of education to encourage and improve the student knowledge by having a complete physical, mental and intellectual capacity to be able to apply in the future with academic knowledge. Office of the Higher Education Commission is the main institution of development, which creates 6 ways of the standard qualification in the higher education known as TQF (Thai Qualifications Framework). In order to produce nurses with 6 desire characteristics, The Royal Thai Army Nursing College should improve students' skills by developing activities which requires students' participation. Thus, one part of the success might be from the complete perceptions and expectations of the students of the Royal Thai Army Nursing College to the student development activities. Therefore, the researchers interested to study about the perceptions and expectations of the nursing students towards the student development activities in the Royal Thai Army Nursing College to use the results to improve the Royal Thai Army Nursing College student development activities in order to produce nurses that have the 6 desire characteristics of TQF.

Objective: The purposes of this research were: To study and compare the perceptions and expectations of the nursing student to student development activities in the Royal Thai Army Nursing College.

Research Design: Survey Research

Material and Method: The stratified random sampling was used in this research to study 150 nursing students comprising the 2nd, 3rd and 4th year nursing student in the Royal Thai Army Nursing College. The researcher developed questionnaires of perceptions and expectations to the student development activities. Three experts approved it. Also verification of 30 people of stratified random sampling. The acknowledged of Cronbach's Alpha Coefficient rates of perceptions, expectations and over all were 0.955, 0.978 and 0.973 respectively, analyzed by descriptive statistic, frequency, percentage, average, standard deviation, consequently and analysis of variance (ANOVA) was used for data analysis.

Research Finding: The highest score of the perceptions was the 2nd year nursing student at a high level and the senior year was the minimum at a high level ($X = 4.10$, S.D. = 0.51). The lowest score the perceptions was the 4th year nursing student at a high level ($X = 3.78$, S.D. = 0.50). All of the expectations average score were at a high level with mean score of 4.24 (S.D. = 0.42), 4.23 (S.D. = 0.50) and 4.09 (S.D. = 0.48). The research found that perceptions to the student development activities in the Royal Thai Army Nursing College had statistically significant difference of 0.05 between 2nd year nursing student and 4th year nursing student when the pair found in sophomore and senior years are different. Nosignificant difference were found on the expectations

Review and Summary: The perceptions of nursing students to student development activities in the Royal Thai Army Nursing College were all at high level. However, there is a difference between 2nd year nursing student and 4th year nursing student due to learning responsibilities. Therefore, the perceptions to the student development activities decrease. The expectations of nursing students of the Royal Thai Army Nursing College to student development activities were not different because the nursing students in each year have been trained in the same manner. This leads to the graduate attributes desired behavior is in the same way. Therefore, perceptions and expectations in the students' development activities should be improve to promote the students' participation and have the evaluation after the activities for future enhancement.

Keywords: ● *Perceptions* ● *Expectations* ● *The student development activities*
 ● *Nursing students in the Royal Thai Army Nursing College*

Abstract no. 9

Incidence and Risk Factors of Readmission for a COPD Exacerbation within 28 Days in Thaluang Hospital, Thaluang District, Lopburi Province 2015

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Background: COPD patients who have exacerbations results in worsening of lung function and quality of life. Moreover, it also increase morbidity, mortality and healthcare expenditure. If prevention and treatment is not adequate, exacerbation and readmission may occur rapidly.

Objectives: To evaluate incidence and risk factors of readmission for COPD exacerbation within 28 days in Thaluang Hospital, Thaluang District, Lopburi Province 2015.

Study design: Retrospective Cohort Study.

Materials and Methods: Collect secondary data of all COPD patients who admitted in Thaluang Hospital, Thaluang District, Lopburi Province in 2015 from hospital database and analyze by descriptive statistics and inferential statistics.

Results: Incidence of readmission to hospital for COPD exacerbation within 28 days in Thaluang Hospital, Thaluang District, Lopburi Province in 2015 is 34.3%. Age, hypertension and multiple admissions with COPD exacerbation (more than 3 times) in 2014 are related to readmission for COPD exacerbation within 28 days, significantly ($p < 0.05$).

Conclusions and Recommendations: Incidence of readmission for COPD exacerbation within 28 days in Thaluang Hospital, Thaluang District, Lopburi Province 2015 increased from 2014 by 14.3%. There are 31.3% of patients who still smoke cigarettes. And there are patients who received inadequate treatment such as Inhaled corticosteroid and Influenza vaccine. Risk factors of readmission for COPD exacerbation within 28 days are age (Adjusted odds ratio = 1.18) and multiple admissions with COPD exacerbation (more than 3 times) in 2014 (Adjusted odds ratio = 222.14). Hypertension is a protective factor (Adjusted odds ratio = 0.10) that results from hypertensive patients tends to follow-up more frequently.

Recommendations: The hospital should improve and plan to follow up patients with chronic obstructive pulmonary disease to ensure that patients receive adequate treatment.

Keywords: ● COPD ● Exacerbation ● Readmission within 28 days after discharge

Abstract no. 10**The 21st Century Learning Skills as Perceived by Nursing Students at The Royal Thai Army Nursing College**

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Introduction: The Century where constantly changed is the 21st century. The technology, communication and learning methods are more advance, Thai students are more independent in developing their skills. The principles of the 21st century learning skills are 3R7C. 3R composed of reading, writing and arithmetic. 7C composed of critical Thinking and Problem solving, creativity and innovation, cross-cultural understanding collaboration, teamwork and leadership communications, information and media literacy, computing and ICT literacy, career and learning skills.

Objective: To study the 21st century learning skill as perceived by nursing students at the Royal Thai Army Nursing College.

Research design: Descriptive research.

Materials and Methods: One-hundred-eighty stratified random sampling was used in this study. There were 3 parts of questionnaire such as demographic data, the 21st century learning skills and open-ended questions. The questionnaire was approved by 3 experts and reliability of the 21st century learning skills was 0.95. Mean and standard deviation were used for data analysis.

Results: Relationship and self-understanding skill among nursing students was in a high level ($X = 4.03$, S.D = 0.39). The study also found that the news and information technology skill ($X = 3.90$, S.D = 0.38) and critical thinking and problem solving skill ($X = 3.86$, S.D = 0.38) respectively were in high level. The activities that the majority of Army nursing students prefer in developing the 21st century learning skill was the relationship and self-understanding skill such as group activity or group participation.

Conclusion: The 21st century learning skill score of army nursing students was in high level. The highest skill score was the relationship and self-understanding skill, followed by the news and information technology skill and the critical thinking and problem solving skill respectively. The 21st century learning skill that Army nursing student want to develop was also the relationship and self-understanding skill.

Keywords: ● 21st century learning skills ● Army nursing student

Abstract no. 11

Prevalence and Characteristics of Non-urgent Utilization of Emergency Service in a Primary Care Hospital, Pattananikom District, Lopburi Province, Thailand

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Background: Emergency services are places which true accidents and emergency cases should be attended effectively and rapidly. However, nowadays there are increasing numbers of non-urgent patients which may reduce the quality and effectiveness of emergency services. Therefore, data which could provide us with more information should be studied.

Methodology: The study comprised quantitative and qualitative techniques. Quantitative approach using a Cross-sectional analytic study. The qualitative technique was performed by doing an in-depth interview. The enrolled population was grouped into 2 groups, urgency and non-urgency by using the criteria from Australian triage scale (ATS) 2013 modified with the Emergency severity index (ESI), the criteria which is used in Pattananikom Hospital.

Results: Prevalence of non-urgent utilization of emergency service of is 80%. Multivariate analysis analyzed by Binary logistic regression analysis shows that male sex, duration to the hospital less than 20 minutes, never had this symptom before are significantly risk factors. The significantly protective factors are the patients that have underlying diseases. After collecting the questionnaires and doing in-depth interview we found an important associated factor that is patient's knowledge and experience.

Conclusion: Even though this area is occupied with lots of medical service, there are still numbers of non-urgent utilization of emergency service increasing each year. After collecting the questionnaires and doing in-depth interview we found important associated factors that is patient's knowledge and experiences. Patients should aware in listening and know how to care for themselves, first aid for themselves and public health services should be promoted to improve the understanding of patients and its quality in order to lower the number of patients coming to the emergency department in unsuitable ways.

Keywords: ● *Non-urgent utilization of emergency services* ● *Emergency services*
● *Prevalence* ● *Qualitative study*

Abstract no. 12

Level of Happiness among Soldiers of a Thai Medical Battalion

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Background: Soldiers have to work in life-threatening situations and get stress. Some studies have shown that the stress prevalence among Thai soldiers with border duties was 20%. Happy workplace is the process, recommended by the Thai Health Promotion Foundation (ThaiHealth), for creating well-being at work in eight dimensions, i.e., happy spirit, happy relax, happy family, happy society, happy brain, happy body, happy money and happy work. The happiness level can be determined by happinometer, a tool developed by Mahidol University and ThaiHealth.

Objective: To determine level of Happiness in eight dimensions among soldiers of a Thai medical battalion.

Methods: The cross sectional descriptive study was conducted, using mail surveys among soldiers of the Medical battalion. The data were collected and analyzed by the personnel of the Third Medical Battalion for the level of happiness in each dimension and the average by using the on-line happinometer.

Results: There were 75 soldiers participating in this study with the response rate of 87.20%. Most of them were very happy (46.67%) and the second majority of them were happy (45.33%). The soldiers were happy in all aspects of happy workplace. Happy soul was the highest (68.58%), happy money was the lowest (46.88%) and the average level of happiness was 58.94%.

Conclusion: Most of soldiers were very happy. The soldiers were happy in all aspects of happy workplace. Happy soul was the highest, happy money was the lowest and the average level of happiness was happy.

Keywords: ● Soldiers ● Happiness ● Happinometer

Abstract no. 13**60-day Survival Rate Under Treatment of Acute Type A Aortic Dissection by Transapical Aortic Cannulation Technique****Surakarn Saraithong¹, Phunlerd Piyaraj², Oshima Susumu³, Shin Yamamoto³**¹Royal Thai Army Medical Field School, The Royal Thai Army Medical Department; ²Department of Parasitology, Phramongkutklo College of Medicine, Bangkok, Thailand; ³Kawasaki Aortic Center, Kawasaki Saiwai Hospital, Kawasaki, Japan

Introduction: Acute Type A Aortic Dissection consists of several techniques of cardiopulmonary bypass (CPB) for aortic cannulation. The most important of all aortic cannulation sites is perfusion into the true lumen.

Objective: The aim of this study was to show a technique and the results of 60-day survival rate under treatment of Acute Type A Aortic Dissection by Transapical Aortic Cannulation Technique.

Materials and Methods: The data has been investigated through 12 years surgery experience since June 2003 in Acute Type A Acute Aortic Dissection by Transapical Aortic Cannulation Technique. This study was approved and reviewed by the ethical committee of the Kawasaki Saiwai Hospital, Kawasaki, Japan.

Statistical Analysis: Cox proportional hazard regression was employed to analyze risk ratio, and Kaplan Meier curve was used to estimate the survival time.

Results: The study population (N = 309) was investigated for survival analysis. The person-time was 6,363.50 person/months. We found that, the death outcome was 29 persons (9.38%). The mortality rate was 4.55/1,000 person/months (95%CI: 3.17-6.56/1,000 person-month)

Conclusion: Risk factors influencing the survival rate in Acute Type A Aortic Dissection included sex, Coronary Artery Disease (CAD), Preoperative Deterioration, Total Arch Replacement, CPB technique using only DHCA (Deep Hypothermic Circulatory Arrest), DHCA with RCP (Retrograde Cerebral Perfusion) and DHCA with SCP (Antegrade Selective Cerebral Perfusion). The enlargement of Ascending Aortic diameter and Proximal Descending Aorta diameter increased the death rate by 11% and 18%, respectively. Each time the diameter expanded 1 mm, and the operation time extended 1 minute, the death rate was increased by 1%.

Keywords: ● Acute type A aortic dissection ● Transapical aortic cannulation technique
● Deep hypothermic circulatory arrest

Abstract no. 14

Accuracy of A Terminal-Restriction Fragment Length Polymorphism (T-RFLP) Method to Characterize Oral Fungi

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Background: Terminal-restriction fragment length polymorphism (T-RFLP) method has been widely used for study profiling of microbial community, however, have some limitations and have never been studies in oral fungi. It is important to evaluate the accuracy of this method as a tool for investigating the oral fungal community.

Objective: To evaluate accuracy of T-RFLP with quantitative PCR (qPCR) for characterize oral fungi.

Methodology: DNA was harvested from medically important fungi commonly found in the oral cavity: *Candida albicans*, *Cryptococcus neoformans*, *Aspergillus fumigatus* and *Fusarium* spp. cultures. *Cryptococcus*, *Aspergillus* and *Fusarium* DNA were mixed, and 10-fold dilutions of *Candida* specific DNA were added to the DNA mixtures to represent fungal community models with differential *Candida* abundance. Species-specific DNA and total fungal DNA was estimated by T-RFLP and SYBR qPCR. For T-RFLP, mixtures were amplified using pan-fungal fluorescent-labeled primers specific to ITS regions and analyzed after digestion with *MspI* or *HaeIII*. For qPCR, mixtures were amplified using species-specific and pan-fungal primers, and analyzed. Based on the weight of *C. albicans* genomic DNA, seven dilutions of *Candida*-specific targets in fungal community models, corresponding to 10^0 to 10^6 copies, were tested.

Results: Detection by qPCR was accurate when the abundance of *Candida*-specific targets was between 10^2 to 10^6 copies, whereas the range for T-RFLP detection was between 10^5 to 10^6 copies. *Candida*-specific T-RF proportion in DNA mixtures appeared to be underestimated by 10-fold. *Aspergillus*-specific T-RF product was absent from the fungal community model suggesting that the T-RFLP method, or the pan-fungal primers, may have bias against *Aspergillus* detection.

Conclusion: T-RFLP is advantageous for the detection of unknown fungal community, with accuracy when targets are highly abundant. However, it may have bias in the detection of some fungi. The species-specific qPCR assay is then required to validate the detection and target abundance.

Keywords: ● Terminal-restriction fragment length polymorphism ● T-RFLP ● Oral fungi ● Accuracy
● *Candida albicans*

Abstract no. 15**Outcomes of Single Versus Multi-level Gastrosoleus or Achilles Tendon Lengthening Techniques: A Comparative Study**

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Background: Single level gastrocnemius or Achilles tendon lengthening including open, percutaneous, and endoscopic techniques are considered standard techniques for the treatment of equinus contracture. However, patients with severe equinus contracture require multi-level of lengthening using combined procedures to achieve adequate ankle dorsiflexion. However, there has been no comparative study to demonstrate clinical outcomes and complications between single versus multiple levels of gastrocnemius or Achilles tendon lengthening techniques.

Materials and Methods: Retrospective chart review of 646 consecutive patients (676 feet) diagnosed with ankle equinus contracture and underwent single level of gastrocnemius or Achilles tendon lengthening techniques (610 patients/640 feet) including open Valpius or Strayer (VSO) 200 patients/206 feet, Baumann 38 patients/38 feet, percutaneous triple hemisections (Hoke) 52 patients/52 feet, endoscopic gastrocnemius recession (EGR) (320 patients/344feet), and multi-level using combined techniques 36 patients/36 feet between January 2006 and June 2013 were conducted. The minimum follow up to be included in the study was 6 months in all groups (mean, 23.9 months; range, 6 to 90 months for open VSO; mean, 24.0 months; range, 6 to 44 months for Baumann procedure mean, 27.5 months; range, 6 to 81 months for Hoke procedure, mean, 17.6 months range, 12 to 53 months for endoscopic technique, and mean, mean, 38.9 months range, 6 to 96 months for combined techniques). Primary outcomes included Foot Function Index (FFI); pain, disability, activity limitation, and total score, Short Form-36 (SF-36); physical and mental component scores, Visual Analogue Scale, ankle dorsiflexion. Secondary outcomes included operative time and complications. Pre- and post-operative functional outcome scores were obtained and compared using Wilcoxon Rank Sum Test, and Chi-square Test.

Results: All techniques demonstrated significant improvement in FFI, SF-36, VAS, and ankle dorsiflexion (all p-value < 0.001). Multi-level of lengthening demonstrated significantly longer operative time than Hoke technique (p-value = 0.000) but the means improvement of ankle dorsiflexion intraoperatively and at final post-operative visit were significantly greater than all single level techniques (p-value = 0.001). The ankle dorsiflexion of multi-level at final post-operative visit was significantly lesser than endoscopic technique

(p-value = 0.002) but was comparable with other single level lengthening. Weakness of plantarflexion and calf muscle atrophy was significantly higher in multi-level than all single level techniques (p-value < 0.05) while the rupture of the Achilles tendon was significant higher in single Hoke technique (p-value = 0.03). Sural nerve dysesthesia was higher in multi-level but this did not reach statistical significance while other complications were similar between groups.

Conclusion: Both single and multi-level techniques for gastrocnemius or Achilles tendon lengthening demonstrated significant improvement in outcomes as measured with the FFI, SF-36, VAS, and ankle dorsiflexion for treatment of tightness of gastrocnemius and gastrosoleus muscle. Hoke is fastest procedure but significant rupture rate of Achilles tendon. Multi-level lengthening resulted in significant improvement of ankle dorsiflexion intraoperatively and at final post-operative visit with significant decrease Achilles tendon rupture rate but led to higher sural nerve dysesthesia, significant weakness of plantarflexion, and calf muscle atrophy.

Level of Evidence: Level III, Retrospective study.

Keywords: ● *Single level of gastrosoleus lengthening* ● *Multi-level gastrocnemius lengthening*
 ● *Achilles tendon lengthening* ● *Functional outcomes and complications*

Abstract no. 16

The Prevalence of Protein-energy Wasting and Associated Factors in Children with End-stage Renal Disease on Continuous Ambulatory Peritoneal Dialysis at Phramongkutklao Hospital

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Background: Protein-energy wasting (PEW) is a maladaptive response causing decrease in muscle and fat mass (wasting) in patients with chronic kidney disease (CKD). It is associated with morbidity and mortality in both adult and pediatric CKD patients, as well as growth failure in children.

Objectives: To study the prevalence and associated factors of PEW in pediatric ESRD patients on continuous ambulatory peritoneal dialysis (CAPD) at Phramongkutklao Hospital.

Methods: The study was conducted in ESRD patients under 18 years of age undergoing CAPD at Phramongkutklao hospital between April 1st - December 31st, 2014. Data collection, anthropometry, body composition measurement with multi-frequency bioelectrical impedance analysis were obtained, as well as samples of blood, urine and PD-effluent for biochemistry. Daily energy and protein intake were calculated from a 3-day dietary record.

Results: There were 17 participants in the study. The median age was 12 years old. The prevalence of PEW was 29.4% and the median age was 7.41 years old which was younger than one of those without PEW. About socioeconomic status, 30% of patients had total monthly family income of below 8,000 Baht. Seventeen-point-six per cent of patients were still in school. The majority of patients in PEW group needed help in operating CAPD from their guardians. There were statistical differences in single-parenting and low-income issues between groups, whereas no differences were found concerning anemia, inflammation, electrolytes, urinary protein loss and dietary intake.

Conclusion: PEW contributes to poorer prognosis in both adult and children with CKD. Growth and nutritional assessment along with routine follow-up is important in caring for children with CKD. Socioeconomy and education are challenging issues that need awareness and collaborative solution.

Keywords: ● Protein-energy wasting (PEW) ● Chronic kidney disease in children ● Growth failure

Abstract no. 17**Antimicrobial Susceptibility of *Streptococcus pneumoniae* from Tertiary Care Hospitals in Bangkok Thailand 2008-2013****Suwanpakdee D¹, Foster AN¹, Tanyaharn S², Chongthaleong A³ and Jacobs MR¹**¹Department of Pathology, Case Western Reserve University and University Hospitals Case Medical Center, Cleveland, OH, USA;²Department of Microbiology, Phramongkutklao College of Medicine; ³Department of Microbiology, Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand

Background: *Streptococcus pneumoniae* is a common cause of community acquired infections, including acute otitis media, acute sinusitis, pneumonia, bacteremia and meningitis. Antimicrobial agents are important for effective treatment of these infections in both inpatient and outpatient settings. Increasing antimicrobial resistance in pneumococci around the world is a key factor limiting the efficacy of antimicrobial treatment.

Objective: To evaluate the susceptibility of *Streptococcus pneumoniae* to parenteral and oral antimicrobial agents in a Thai population to determine optimal antimicrobial agents for treatment of pneumococcal infections in both inpatient and outpatient settings.

Methods: The surveillance study was conducted in 2 tertiary hospitals in Bangkok, Thailand between 2008 and 2013. All of clinical pneumococcal isolates were collected and tested for in vitro susceptibility to 11 antimicrobial agents by broth microdilution according to Clinical and Laboratory Standards Institute (CLSI) procedures.

Results: A total of 174 clinical isolates were tested. Among the isolates, 53.5% were from respiratory sources, 39% from blood and 7.5% from other sources. Penicillin MICs for 50 and 90% of the isolates were 1 and 4 µg/mL, respectively, with 79.9% susceptible to penicillin G for non-meningeal infections and 20.1% for meningeal infections and for penicillin V. While 92.0% of isolates were susceptible to ceftriaxone for non-meningeal infections, only 43.1% were susceptible for meningeal infections. Cefuroxime had poor activity for both oral and parenteral formulations (30.5-33.9% susceptible), while ceftaroline and levofloxacin were active against all isolates (100% susceptible). Amoxicillin and amoxicillin-clavulanate were the most active oral b-lactams (92.0% susceptible). Only 31.1% of isolates were susceptible to azithromycin, 59.2% to clindamycin, 20.1% to trimethoprim-sulfamethoxazole and 33.9% to cefdinir.

Conclusions: A high prevalence of *S. pneumoniae* resistant to many classes of antimicrobial agents was found in this collection of Thai isolates, particularly for the parenteral agents tested for meningeal infections and many of the oral agents. For non-meningeal infections, penicillin G, ceftriaxone, ceftaroline and levofloxacin were the most active agents tested, while amoxicillin, amoxicillin-clavulanate and levofloxacin were the most active oral agents tested.

Abstract no. 18**Identifying Semiological subtypes in Temporal Peri-Sylvian Epilepsies**

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Introduction: Previous studies have attempted to analyze the electro-clinical correlations in temporal lobe epilepsy. However, the boundaries of the so-called “temporal lobe seizures” semiology are imprecise. In fact, dense anatomic-functional interconnections between medial temporal and peri-sylvian regions are involved in temporal seizure spread so that distinction between temporal and perisylvian ictal semiology can be difficult to assess. A better understanding of ictal manifestations underlying network would help to improve presurgical localization.

Objective: To analyze anatomic-electro-clinical correlations by using visual analysis of Stereoelectroencephalography (SEEG) in Temporal Peri-sylvian epilepsies.

Methods: We reviewed the patients with temporal peri-sylvian epilepsies who had been explored with SEEG followed by resective epilepsy surgery at Cleveland Clinic between January 2010 to December 2014. Patients were classified into three subtypes according to the anatomic origin of the ictal patterns: Medial temporal (MT; amygdala, hippocampus, Rhinal cortex (ento + perirhinal), parahippocampal cortex), Temporal PeriSylvian (T-PS; MT +Superior temporal gyrus (STG), Opercular cortices, Insula), PeriSylvian (PS; STG, Opercular cortices, Insula). The patients who had no ictal recording during intracranial monitoring, no electrodes sampling in peri-sylvian regions and less than 6 months follow up were excluded.

Results: A total of 120 SEEG-recorded seizures in 30 patients were analyzed. Patients were classified into three subtypes: Medial temporal (MT, n = 13), Temporal PeriSylvian (T-PS, n = 2) and PeriSylvian (PS, n = 15). The MT subtype is characterized by an initial motionless, delayed loss of contact, delayed oroalimentary and gestural automatisms, delayed tonic and dystonic posturing. Electrical onset preceded clinical onset by a longer duration in MT subtype (mean, 19.6 seconds) than in PS subtype (mean, 9.8 seconds). The PS subtype is characterized by an initial somatosensory and/or auditory aura, an initial face grimacing, vocalization, autonomic manifestations and frequent secondary generalizations. The MT-PS subtype is characterized by an initial stereotyped axial movement like pure PS subtype and delayed oroalimentary and gestural automatisms like pure MT subtype.

Conclusions: Differences in clinical semiology between seizures with temporal onset and seizures with peri-sylvian onset are demonstrated. A large part of clinical signs classically attributed to mesial temporal involvement are actually generated by spread to perisylvian areas, that explains why the distinction can be often difficult. The semiology assigned to perisylvian onset share similarities, with a shorter onset delay and more intense motor and autonomic manifestations.

Abstract no. 19

Mechanical Insufflation-exsufflation vs. Conventional Chest Physiotherapy for the Treatment of Respiratory Tract Infections in Children with Cerebral Palsy

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Background: Cough mechanism is often impaired in children with cerebral palsy (CP), accounting for high prevalence of pneumonia and atelectasis requiring prolonged hospitalization. Conventional chest physiotherapy (CPT) is a current technique recommended at the onset of lower respiratory infections (LRI) in CP. Previous studies have demonstrated the usefulness of the mechanical insufflation-exsufflation (MI-E) in children with neuromuscular disease. To date, there has been no study of MI-E in CP.

Objective: To compare the efficacy in reducing hospital stay and improvement of atelectasis between MI-E and CPT in CP with LRI.

Methods and Materials: This study is a randomized controlled trial. CP patient, age 6 months-18 years, admitted for LRI and/or atelectasis at King Chulalongkorn Memorial Hospital between June 1st, 2014 to March 31st, 2015 were recruited. Pneumothorax, severe pneumonia, active tuberculosis and shock were excluded. Patients were randomized into MI-E or CPT group. MI-E group received MI-E 3 therapies/day and CPT group received CPT 1 therapy/day. Vital signs per protocol and chest X-ray as needed were recorded.

Results: There were 22 patients (n = 22) enrolled in the study, 11 in MI-E and 11 in CPT group. Demographic data were comparable in both groups (p > 0.05). The length of hospital stay was similar in both groups (MI-E 4-24 days vs. CPT 6-42 days, p = 0.146). There were 17 patients with atelectasis (MI-E (n = 9) vs. CPT (n = 8), p > 0.05). In this group, MI-E had shortened therapy time when compared to CPT (2.9 ± 0.8 days vs. 3.8 ± 0.6 days; p = 0.012). No complications were observed.

Conclusions: MI-E is proven beneficial in shortening the duration of airway clearance in patients with CP presenting with LRI and atelectasis. MI-E is a safe and efficient intervention for airway clearance.

Abstract no. 20**A Comparison between Y-type Platelet Transfusion Set and Conventional Set for the Increment of Platelets, a Randomized Controlled Trial****Pannathorn Tangkongpanich¹, Kannadit Prayongratana² and Pitipat Jamnarnvej³**¹Department of Medicine; ²Division of Hematology, Department of Medicine; ³Division of Blood Bank, Department of Pathology, Phramongkutklao College of Medicine

Introduction: Platelets play major role in primary hemostasis which platelet plug formation is the important material to interact with endothelial cell and connective tissue resulting in immediately stop the bleeding from injured site. Platelet transfusion is particularly important for patients with thrombocytopenia or platelet dysfunction; however, the increasing of demand of platelet products has been outweigh of the growing in number of donors. This has been the reason of the deficient of platelet products. We developed this innovative platelet transfusion set in order to make the transfusion of platelet more effective than the conventional one.

Objective: To compare the increment of platelets by using the newly developed Y-type platelet set to the conventional one.

Research Methodology: We conducted a single-blinded randomized controlled trial in patients requiring platelets transfusion in Phramongkutklao Hospital between July 2014 and September 2015. Patients were randomly assigned to receive platelets via either the newly developed set or the conventional one. These two groups use the same material and the same manufactured company.

Results: Three hundred seventy patients were enrolled to these two group equally (185 patients each). The median of corrected count increment were 12,500 (range; 4166.7-25,833) and 10,000 (range; 1,666.7-22,500) respectively ($p = 0.004$). The main complications in these two groups were not significantly different. The incidence of post-transfusion fever were 2.2% and 0.54% respectively ($p = 0.372$), volume overload were not found in the experimental arm compared to 1.08% in conventional arm ($p = 0.499$).

Conclusion: The CCI in patients who receive platelets via Y-type transfusion set is significantly higher than that of conventional set indicating that the newly developed set is more effective than the conventional one. The complication were not different in these two groups.

Keywords: ● Platelet transfusion ● Y-type platelet transfusion set ● Conventional transfusion set

Abstract no. 21

The Efficacy of Transdermal Nicotine Patches for Post-operative Pain Relief in Arthroscopic Shoulder Surgical Patients at Phramongkutklao Hospital

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Background: Previous human studies suggested that perioperative nicotine administration was associated with a reduction in pain scores and opioid consumption in visceral pain control, but current data do not evidence a role in postoperative somatic pain analgesia. We hypothesized that the application of a 7 mg transdermal nicotine patches (TDN) would result in postoperative pain score reduction and decrease postoperative morphine requirements in patients undergoing arthroscopic shoulder surgery, which represents postoperative somatic pain.

Objective: To study the efficacy of TDN patches for postoperative pain relief by assessing Numerical Rating Scale (NRS) scores and consumption of morphine.

Methods: Patients undergoing elective arthroscopic shoulder surgery were enrolled in this prospective, double-blind, placebo-controlled study. Patients were randomly assigned to receive a patch of 7 mg nicotine or placebo applied at abdomen before induction of anesthesia and remaining for 24 hours after surgery. The anesthetic technique was standardized and identical in both groups. Postoperative assessments included NRS scores and IV patient-controlled analgesia morphine consumption at PACU arrival, 1 hour and 24 hour postoperatively.

Results: Forty four patients were included in the analysis: 21 in the placebo group and 23 in the nicotine group. The groups did not differ significantly with respect to age, weight, height, gender, underlying disease, smoking history, duration of surgery and intraoperative fentanyl utilization between groups received. There were no significant difference in NRS pain scores since PACU arrival between controlled and treatment group. The significance reduction in pain scores at 1 hour and 24 hour postoperatively were found in both groups ($p < 0.001$). Postoperative pain scores and patient-controlled morphine usage at PACU arrival, 1 hour and 24 hour after surgery did not differ between the two groups.

Conclusions: Administration of a 7 mg transdermal nicotine patch during perioperative elective arthroscopic shoulder surgery was a statistically insignificant reduction in pain scores and cumulative morphine consumption at 1 hour and 24 hours.

Keywords: ● *Transdermal nicotine patch* ● *Postoperative pain control* ● *Multimodal analgesia*
● *Arthroscopic shoulder surgery*

Abstract no. 22

Efficacy and Safety of Hepatitis B vaccination in Rheumatoid Arthritis Patients Receiving Disease-Modifying Anti-Rheumatic Drugs and/or Biologics Therapy

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Background: Hepatitis B vaccination is recommended for rheumatoid arthritis (RA) patients in many international guideline. However, the efficacy and safety of hepatitis vaccination in RA patients are not clearly established.

Objectives: To assess the efficacy and safety of Hepatitis B vaccination in rheumatoid arthritis patients receiving conventional and/or biological disease-modifying anti-rheumatic Drugs (csDMARDs and/or bDMARDs).

Methods: A prospective, open-label study. For efficacy assessment. Forty-six RA patients (33 patients received only csDMARDs, 13 patients received both csDMARDs and bDMARDs) and 9 healthy age- and sex-matched controls were vaccinated with 20 g recombinant hepatitis B vaccine (EuVax B[®]) at weeks 0, 4 and 24. All patients had negative results for hepatitis B surface antigen, hepatitis B core antibody, and hepatitis B surface antibody (anti-HBs). Anti-HBs levels were measured eight weeks after the last dose of vaccination. For safety assessment. Clinical assessment including swollen joint count, tender joint count, patient global assessment, erythrocyte sedimentation rate and DAS 28 score were recorded at weeks 0, 4 and 28 compared between 46 RA patients who received hepatitis B vaccination and 47 treatment-matched RA patients who did not receive hepatitis B vaccination. Treatment related adverse events were recorded at each visit. This study was approved by ethic committee and institutional review board.

Results: Seroprotection rate was significantly lower in RA patients receiving bDMARDs than healthy controls (50% vs 100%; $p = 0.02$) and tended to be lower in RA patients receiving csDMARDs than healthy controls (70% vs 100%; $p = 0.09$). There was no difference in any clinical assessments between RA patients who received hepatitis B vaccination and RA patient who did not receive hepatitis B vaccination regardless of type of DMARDs received. No serious adverse events were observed.

Conclusion: Hepatitis B vaccination is safe in RA but DMARDs, especially bDMARDs, impaired immunogenic response. Hepatitis B vaccines should be considered for RA patients before bDMARDs treatment.

Abstract no. 23

Effect of Temperature Setting of Humidifier on Water Condensate in Ventilator Circuit and Airway Pressure in the Lungs: Non-invasive Ventilation in Newborn Manikin Model

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Background: Recommendation for temperature setting of humidifier when using non-invasive ventilation in newborn infants has been changed from low range (32-34°C) to high range (37°C) with the goal to deliver warm inspiratory air close to core temperature to the lungs since 2013. However, there is no evidence comparing benefit and hazard between the two settings.

Objective: To compare the effects of two temperature settings of humidifier during non-invasive ventilation on nasopharyngeal temperature, water condensate and airway pressure in a newborn manikin.

Methods: We conducted an experimental model by applying nasal intermittent positive pressure ventilation in a newborn manikin with artificial lungs. Conventional ventilation was set at peak inspiratory pressure (PIP) and positive end expiratory pressure (PEEP) of 15 and 5 cmH₂O, respectively. The temperature of humidifier was set at high range or low range. We measured nasopharyngeal temperature of the manikin, water condensate in ventilator circuit and airway pressure (PIP and PEEP) in artificial lungs at 0, 8 and 16 hours after starting ventilation. The experiments were conducted 3 times for each temperature setting of humidifier.

Statistical Analysis: We compared nasopharyngeal temperature of the manikin, water condensate in ventilator circuit and airway pressure in artificial lungs between the two settings of humidifier temperature by using unpaired t-test or Mann Whitney test as appropriate.

Results: Nasopharyngeal temperature with humidifier temperature setting at high range was significantly higher than that at low range (34.44 ± 0.24 vs $32.22 \pm 0.20^\circ\text{C}$ respectively, $p < 0.001$). At 16 hours after starting ventilation, volume of water condensate in ventilator circuit with high range setting was significantly more than that with low range setting (41.70 ± 0.12 vs 2.53 ± 0.15 mL, $p < 0.001$). At 16 hours, PIP and PEEP when setting humidifier temperature at high range (11.91 ± 1.49 and 3.97 ± 0.54 cmH₂O) were significantly lower than when setting at low range (13.67 ± 0.41 and 4.56 ± 0.11 cmH₂O), $p = 0.008$ and 0.011 , respectively.

Conclusion: When using non-invasive ventilation, setting humidifier temperature at higher range results in more physiologic nasopharyngeal temperature. However, this setting produces substantial water condensate resulting in significantly decreased airway pressure in the lungs. Therefore, water drainage should be emphasized as an important respiratory care during providing non-invasive ventilation with high range of humidifier temperature in neonates.

Keywords: ● Humidifier ● Non-invasive ventilation ● Neonate

Abstract no. 24**Comparison of Sublingual and Vaginal Misoprostol for Cervical Ripening before Curettage: A Randomized Controlled Trial****Sukanya Chamnan and Suttida Intharaburan***Department of Obstetrics and Gynecology, Phramongkutklao Hospital*

Objective: To compare the effectiveness and side effects of misoprostol as a cervical ripening agent through two different routes of administration before curettage.

Materials and Methods: The study employed a hospital based prospective randomized controlled trial. A total of 70 patients were simple random divided in two groups for 400 micrograms sublingual and vaginal administration. The drug was administered 6 hours before dilatation and curettage or fractional curettage. Efficacy was assessed on cervical dilatation achieved, pain score and vaginal blood loss. The tolerable limit was noted based on side effects.

Results: The sublingual group had significantly more cervical dilatation than the vaginal group (median cervical dilatation 7 mm vs. 5 mm, $p < 0.001$). Significantly less pain scores (VAS) in sublingual group than vaginal group (3.3 vs. 4.8, $p < 0.001$). Postoperative vaginal blood loss in the sublingual group was significantly greater than the vaginal group (20 mL vs. 10 mL, $p < 0.001$). Other side effects such as fever, chill, nausea, vomiting and diarrhea did not differ in both groups.

Conclusion: Sublingual misoprostol could be more effective for cervical dilatation, but presents greater postoperative vaginal blood loss than vaginal route.

Keywords: ● *Misoprostol* ● *Cervical dilatation* ● *Local anesthesia*

Abstract no. 25

The Comparative Outcome of Postoperative Sinus Surgery between Dexamethasone with Normal Saline Nasal Irrigation and Normal Saline Nasal Irrigation

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Background: Intranasal steroid play an important role in the postoperative endoscopic sinus surgery(ESS) of patient with chronic rhinosinusitis (CRS). Irrigation may offer improved delivery at higher volume to the paranasal sinuses than intranasal spray preparation.

Objective: To compare the outcome of postoperative sinus surgery between dexamethasone with normal saline nasal irrigation and normal saline nasal irrigation.

Methodology: Patient with CRS or postoperative sinus surgery were randomized in 2 groups: 1.dexamethasone with normal saline nasal irrigation group 2 normal saline nasal irrigation group. All of these were underwent history taking to assess nasal symptom score and Lund Kennedy endoscopy score at week 1, 2, 4.

Results: Twenty participant were enrolled, eleven were study group and nine were control group. The dexamethasone with normal saline nasal irrigation group and normal saline nasal irrigation group had nasal symptom score that was significantly improvement at week 4. But when compared between both groups show no statistical significant difference in nasal symptom score and endoscopy score.

Conclusion : Dexamethasone with normal saline nasal irrigation in the postoperative management of patients with CRS had nasal symptom score improvement after treatment but not difference when compared with normal saline nasal irrigation group.

Keywords: ● *Postoperative sinus surgery* ● *CRS* ● *Dexamethasone* ● *Nasal symptoms score*
● *Endoscopy score*

Abstract no. 26**Effect of Topical Application of Aloe Vera in Split Thickness Skin Graft Donor Site: Double Blinded, Randomized Placebo-controlled Trial Study****Monlada Supawan and Chairat Burusapat**

Background: Split-thickness skin graft (STSG) donor site dressing has many methods. Aloe vera is useful for first and second degree burns and pharmacological actions included anti-inflammatory, antibacterial and hypoglycemic effects. However, effect of Aloe vera in STSG donor site has never been established.

Methods: Prospective double-blinded, randomized placebo-controlled trial was conducted. Twenty-four donor sites of STSG from 12 patients from February to September 2015 were included. Demographic data were collected. The donor sites were randomly assigned equally into 2 groups; aloe vera and control group. Daily dressing protocol of aloe vera and placebo(1% glycerine) was blinded in both patients and attended physician. Effect of aloe vera was evaluated in rate of completed epithelialization and 0-100 mm, visual analogue scale (VAS), of pain scale on dressing by second physician.

Result: Ten males and 2 females (mean age 48 years, 24-82 years) were included. The mean surface area of donor site is 73.16 cm². Time to completed epithelialization in aloe vera group and control group were 11.5 ± 1.45 days and 13.67 ± 1.61days, respectively. Statistic significance was found between rate of completed epithelialization in aloe vera and control groups, $p < 0.001$. The mean VAS in aloe vera group was 17.18 ± 13.17 mm and control group was 18.63 ± 11.2 mm. No statistic significance was found between VAS of pain between both group, $p = 0.131$. No infectious complication and allergic reactions in both group.

Conclusion: Aloe vera gel dressing is demonstrated the acceleration of healing of STSG donor site.

Abstract no. 27**Effects of Sertraline and Loratadine on Uremic Pruritus in Hemodialysis Patients: A Randomized Controlled Trial****Aphirak Pussawiro, Wisal Tongpoung, Thananut Bangchuad and Amnart Chaiprasert***Division of Nephrology, Department of Medicine, Phramongkutklao Hospital; Division of Nephrology, Department of Medicine, Fort Suranari Hospital*

Background: Uremic pruritus is a very common and unpleasant symptom in chronic hemodialysis patient. Conventional treatment with antihistamine is often ineffective. Sertraline, a selective serotonin reuptake inhibitor, may be effective in uremic pruritus.

Methods: Hemodialysis patients with uremic pruritus visual analogue scale (VAS) ≥ 50 were enrolled in a crossover, double-blinded, randomized controlled trial. They were randomly assigned to the treatment with sertraline (50 mg/day) or loratadine (10 mg/day) for 4 weeks and then to the reverse treatment after 2-week washout period. Severity of pruritus was evaluated by using VAS. All possible adverse events were carefully monitored.

Results: A total of 242 hemodialysis patients were screened and 29 patients were eligible to the study protocol. Three patients were withdrawn due to adverse events and 7 patients were lost follow-up. Nineteen patients completed the crossover study for effectiveness evaluation. Mean age was 62.7 (SD 8.8) years and mean baseline VAS was 64.7 (SD20.1). The reduction of mean VAS were 34.7 (SD 24.2) and 22.9 (SD 35.8) during sertraline and loratadine treatment respectively; with the difference of 11.79, 95%CI: 2.59-20.98; $p = 0.015$. Among all 29 eligible patients; adverse events were observed in 6 (20%) and 11 (38%) patients during sertraline and loratadine treatment respectively. The most common adverse events of sertraline were somnolence and dizziness causing withdrawal from the study in one patient.

Conclusion: Sertraline is more effective and has less adverse events than loratadine for treating uremic pruritus in chronic hemodialysis patients.

Keywords: ● Sertraline ● Loratadine ● Uremic pruritus ● Hemodialysis

Abstract no. 28**Effectiveness of Internet-based Additional Approach to Reduce Pain in Patients With non Specific Low Back Pain****Supannida Poosiri and Wipoo Kumnerdee***Department of Physical Medicine and Rehabilitation, Phramongkutklao Hospital*

Objectives: To evaluate the effectiveness of internet-based additional approach to reduce pain in patients with non specific low back pain.

Study Design: This study is a prospective, randomized, single-blind controlled study.

Setting: Department of Physical Medicine and Rehabilitation, Phramongkutklao Hospital.

Subjects: One-hundred-ten participants with were recruited at Physical Medicine and Rehabilitation OPD, Phramongkutklao Hospital between April 2014 and October 2014.

Methods: Categorized the participants by stratified randomization into 2 groups. Both groups had standard treatment of low back pain such as medication, exercise, physical therapy, ergonomics education or acupuncture from physiatrist. Only intervention group was permitted to enter website (www.pmkclinic.com). Both groups were evaluate the level of pain by Visual Analog Scale (VAS), the disability condition by Roland Morris Disability Questionnaire (RMO), the awareness of self capacity by Self Efficacy (SE). The evaluation has been carried out through all dimensions since the beginning of research, 3 months and 6 months afterwards.

Results: Of 110 randomised participants, 102 completed the study and 110 were analysed in the intent-to treat population. Average age 37.59 ± 12.91 years old. Experiment group's VAS score reduced and became lower than the control group's score with statistical significance at 6 months (3.22 ± 1.86 vs 4.76 ± 1.88 ; $p < 0.01$). RMO scores in experiment group reduced greater than those of control group with statistical significance at 3 months (4.49 ± 3.09 vs 6.39 ± 3.39) and 6 months (3.35 ± 2.35 vs 5.74 ± 3.17). SE scores of experiment group increased with statistical significance more than those of control group at 6 months (32.23 ± 2.16 vs 30.02 ± 2.74 ; $p < 0.01$)

Conclusion: The internet based additional approach intervention are effective decrease in pain, improve disability score and assist patients with managing non specific low back pain. Additional support may be needed to ensure continuing improvements.

Keywords: ● *Non specific low back pain* ● *Internet*

Abstract no. 29

Anthropometric Facial Analysis of the Most Beautiful Women: Comparative Study between Miss Universe and Miss Universe Thailand

Pattariya Lekdaeng and Chairat Burusapat

Background: Advances in surgical technique and widespread of cosmetic surgery develop the incredible result of facial morphology. Beautiful facial attraction has been changed with time. The standard references of Anthropometric facial proportion were analyzed from previous normal population but the modern facial proportion of the most beautiful women is unavailable and never been achieved.

Objective: To analyze the facial proportion of the most beautiful women with guarantee the appearance by the first rank position from beauty competition in our country and international.

Methods: Retrospective review of facial proportion of Miss Universe and Miss Universe Thailand during 2000- 2014 was conducted. Thirty beautiful women from 15 Miss Universe and 15 Miss Universe Thailand were included in this study and search from the internet. Nineteen dominant points of facial proportion were identified and analysis proportionate differentiations. Comparison of facial proportion between Miss Universe, Miss Universe Thailand and standard reference were performed.

Results: Overall, nine facial proportions between Miss Universe and standard references were found statistical significance ($p < 0.05$). Eight facial proportions between Miss Universe Thailand and standard references were found statistical significances ($p < 0.05$). In these, 6 facial proportions in both Miss Universe and Miss Universe Thailand compared with standard references were found statistical significance included the lower half facial height proportion, eye width proportion, length between lateral eye margin to helix, nasofrontal angle, interala distance and lower lip height proportion ($p < 0.05$). Oral width proportion, lower lip height proportion and chin projection were remaining 3 statistical significance facial proportions between Miss Universe and standard references ($p < 0.05$). Tip projection of nose and the lower lip height proportion were remaining statistical significance facial proportion between Miss Universe Thailand and standard reference ($p < 0.05$). Five facial proportions between Miss Universe and Miss Universe Thailand were found statistical significance included facial height proportion, eye width proportion, length between the lateral eye margin to helix and tip projection of nose ($p < 0.05$).

Conclusion: Beautiful facial anthropometry demonstrated the shorter lower face, eye width and lower lip height proportion, wider nasofrontal angle and longer interala distance than the previous standard facial proportion. Modern Anthropometric facial proportion of the most beautiful women is the guideline for surgery.

Abstract no. 30**Hemostatic Efficacy of Chitosan Gel Containing Extracts of *Chromolaena Odorata* Leaves: Clinical Study Phase I and II****Tantawan Prasopa¹, Suhtee Panichkul², Niti Matheesiriwat¹ and Wanpredee Tansaynee¹**¹Department of Trauma and Emergency Medicine; ²Department of Obstetrics and Gynecology, Phramongkutklao Hospital

Introduction: In general, accidental can causes wound and bleeding, but by using standard dressing cannot stop bleeding as good enough. Recent study showed the developed hemostatic chitosan gel contains the crude extracted of *Chromolaena odorata* Leaves, which is transform to biopolymer after apply at bleeding site. The study result in animal showed medicinal properties in rapid antihemorrhage action.

Objective: This study aimed to determine the allergic reaction and hemostatic efficacy of chitosan gel containing extracts of *Chromolaena odorata* leaves in humans.

Research Design: Experimental development.

Methods: This study was divided into 2 Phases. Phase I, determination to the allergic reaction in 40 volunteers. Phase II, studying about hemostatic efficacy in 18 patients who were performed debridement procedure. Patients were randomized into 2 groups by simple random: group A was a control group, patients received standard dressing and group B was an intervention group, patients received chitosan gel containing extracts of *Chromolaena odorata* leaves in the step of dressing. Compared each group in gauze's weight increased by blood absorbed. Data were analyzed by using Wilcoxon Sign Ranks Test.

Results: Phase I: the result showed that there were minor rash in 10% of volunteers then disappear in 30 minutes, there was no severe allergic reaction in this study. In Phase II: the result showed gauze's weight increased by blood absorbed in group A was 4.4 ± 2.9 grams, group B was 1.1 ± 0.6 grams which was statistically significant ($p = 0.008$) that means in an intervention group could stop bleeding better than a control group. Followed up all the patients in day 1 and 7, there were not statistically different in healing ($p = 0.082$), infection rate ($p = 0.471$) and allergic reaction (N/A) between 2 groups.

Conclusion: Chitosan Gel Containing Extracts of *Chromolaena odorata* Leaves is not cause of severe allergic reaction in human. Its hemostatic Efficacy is better than standard dressing.

Keywords: ● *Chromolaena odorata* Leaves ● Chitosan Gel ● Hemostatic, wound

Abstract no. 31**Using the Depth Gauge to Measure the Mean Value of Proximal Tibia Cortical Bone Depth in Thai Population for Applying in Intraosseous Infusion****Manita Saythanprom, Arun Sawasdipong, Niti Matheesiriwat and Porncharn Saitongdee***Department of Trauma and Emergency Medicine, Phramongkutklao Hospital*

Background: Intraosseous access in critically ill patients after failure to access peripheral vein, is an essential procedure. The intraosseous route is a practical option because of safety, rapid application and minimal interrupted in CPR. Intraosseous puncture, needle tip must be placed in medullary space. Consequently, average proximal tibia cortical thickness measurements required to minimize errors and complications.

Objective: We aim to determine proximal tibia cortical bone thickness among Thai adults population.

Method: Cross sectional cadavers base study.

Result: Fifty cadavers were included in this study. Average left and right proximal tibia cortical bone thickness in male and female were 3.63 ± 0.62 mm, 3.66 ± 0.65 mm, 3.20 ± 0.63 mm and 3.19 ± 0.61 mm respectively. Among age less than 60 years, average cortical bone thickness at left and right proximal tibia were 4.00 ± 0.71 mm and 3.75 ± 0.71 mm respectively.

Conclusion: The average value of cortical thickness at proximal tibia in male and female cadaver were 3.64 ± 0.64 mm and 3.20 ± 0.062 mm respectively. We observed the thickness of cortical bone decreased varies according to the increased age, specifically when comparing between age less than 60 year-old and more than 60 year-old. There is no significant difference between mean value of cortical thickness at left and right proximal tibia.

Keywords: ● *Intraosseous infusion* ● *Proximal tibia cortical bone thickness*

Abstract no. 32**Carcinoma in Benign Thyroid Nodule Which not Responding to Thyroid Hormone Suppressive Therapy, the Paradigm Shift of Treatment****Nattaya Kumaratat and Pariyanan Jarujinda***Department of Otolaryngology, Phramongkutklao Hospital*

Background: The role of thyroid hormone suppressive therapy for benign thyroid nodule is controversial. Previous studies recommended surgically treated for nonresponsive cases in hormonal therapy. But recent many standard guidelines (ATA and NCCN) recommend close observation until there is evidence of nodule growth, and therefore the FNA should be repeated.

Objective: To determine the prevalence of carcinoma in benign thyroid nodule which not responding to thyroid hormone suppressive therapy regardless of size change, and to evaluate associated factors that predict malignancy.

Methodology: Retrospective and prospective review of clinical records and histopathology of 252 patients surgically treated for benign thyroid nodule. The enrolled cases were selected only for patients who not responding to thyroid hormone suppressive therapy at Phramongkutklao Hospital, from July 2010 to June 2015.

Results: The prevalence of carcinoma in benign thyroid nodule which not responding to thyroid hormone suppressive therapy was 13.9 %. This was higher than the reference in the recent guidelines that suggested for observation. Papillary thyroid carcinoma is the most common, followed by papillary thyroid microcarcinoma. According to multivariate logistic regression model, solid nodule (OR 5.02, 95%CI: 1.46-17.23, $p = 0.010$), cervical lymphadenopathy (OR 7.83, 95%CI: 2.04-30.04, $p = 0.003$) and microcalcification (OR 38.34, 95%CI: 5.70-257.75, $p < 0.001$) are independent predictors for malignancy.

Conclusion: The prevalence of carcinoma in benign thyroid nodule which not responding to thyroid hormone suppressive therapy was higher than the standard guidelines reference. This may be a new paradigm shift of treatment for surgical consideration in benign thyroid nodule that not response to conventional hormonal therapy. The higher risk for malignancy includes solid nodule, cervical lymphadenopathy and microcalcification.

Keywords: ● *Thyroid nodule* ● *Thyroid hormone suppressive therapy* ● *Multivariate logistic regression*

Abstract no. 33**Psychosocial Factors for Relapse in Alcohol Dependence Patients Receiving Phramongkutklao Model Rehabilitation****Ake Asawarojpong, Pichai Saengchanchai and Thawatchai Leelahanaj***Psychiatry and Neurology Division, Phramongkutklao Hospital*

Background: Alcohol dependence is the important problem. Although psychosocial treatments are efficacy, there are relapsers after treatments. Studying about psychosocial factors may be useful for the treatment program development.

Objective: This research is to study psychosocial factors those may influence the alcoholic patients, were received Phramongkutklao model rehabilitation, to turn relapse and assess outcomes of the program.

Method: The researchers used the 33-item questionnaire, specifically designed for study of factors association to relapse, to collect data of the participants. Simple random sampling was used. The time-course was run at start to end-up the program, then prospective data were collected at 1,3 and 6-month follow-up. The factors association to relapse were analysed. There were comparison in self-efficacy coping style and priority of alcohol drinking outcomes before and after received the program.

Result: Thirty-five participants were relapsers (51.5%). The associated factors for relapse by crude odd ratio were history of the previous alcohol cut down by other interventions and drunk driving. The only drunk driving was associated factor for relapse by adjusted odd ratio.

Conclusion: Drunk driving may be associated factors for relapse in alcohol dependence patients, hence there should be further study in this topic. After received the program, there were higher level of self-efficacy in the participants. However the overall outcomes were shown reversely due to some limitations. The researchers suggested that the personnel skill training and selective criteria to receive the program development may improve outcomes.

Keywords: ● *Psychosocial factors* ● *Relapse* ● *Alcohol* ● *Alcoholic patient*
● *Rehabilitation* ● *Phramongkutklao model*

Abstract no. 34

Pediatric Radiation Dose Level from 64 Slices MDCT in Abdomen after Using New Pediatric CT Scanning Protocol at Phramongkutklao Hospital

Kaywalin Sutthipong, Suthiporn Kampunnip, Supakajee Saengruang-Orn and Suvicha Kampunnip

Department of Radiology, Phramongkutklao Hospital

Background: The introduction of MDCT has increased the utilization of pediatric CT along with concerns for lifetime risk for radiation-induced cancer.

Objective: According to the previous pediatric radiation dose study in abdominal CT scanning in Phramongkutklao Hospital, which were above the preliminary Thailand dose survey and the diagnostic reference levels (DRLs) regarding to ICRP recommendation. This work aims at assessing the pediatric radiation dose in abdominal CT scanning after applying radiation dose reduction strategy by using new pediatric abdominal CT scanning protocol.

Methodology: A descriptive study of CT dosimetry in pediatric patient (< 15 years) who undergone abdominal MDCT in Phramongkutklao Hospital by using New pediatric abdominal CT scanning protocol was performed. Dose length product (DLP) was recorded and categorized into four age groups : < 1 year, 1-< 5 years, 5-< 10 years and 10-< 15 years. Range, mean, and third quartile values were compared with the previous Phramongkutklao radiation dose study and also compared with the preliminary Thailand dose survey and the DRLs regarding to ICRP recommendation.

Results and Discussion: Per age groups, the third quartile values for pediatric abdominal radiation dose in terms of DLP: 125.6, 228.0, 305.6 and 381.0 mGy.cm, respectively, which were lower than the previous Phramongkutklao radiation dose data and also below the preliminary Thailand dose survey and the DRLs according to ICRP recommendation. Applying dose reduction strategy in terms of indications of scan, appropriated phase of scan (only venous phase contrast) and reduction of adjustable scan parameters such as tube current (mA), tube voltage (kVp) and scan length were seen in New pediatric abdominal CT scanning protocol.

Conclusion: The pediatric radiation dose form abdominal MDCT by using New pediatric abdominal CT scanning protocol were lower than the previous Phramongkutklao radiation dose study and still below the preliminary Thailand dose survey and the DRLs regarding to ICRP recommendation, in addition acceptable image quality.

Keywords: ● *Pediatric MDCT* ● *Radiation dose* ● *DLP* ● *DRLs*

Abstract no. 35**Clinical and Laboratory Factors for Differentiate between Necrotizing Fasciitis and Non-Necrotizing Soft Tissue Infection****Nichaphat Phancharoenkit and Pisake Boontham***Department of surgery, Phramongkutklao College of Medicine*

Background: Necrotizing fasciitis (NF) is a fatal disease with high morbidity and mortality. Early and adequately surgical debridement is the most important principle therapy for NF. However, to distinguish NF from non-necrotizing soft tissue infection (NNSTI) is difficult, due to the lack of specific sign and symptom in most of patients. So, this study was conduct for comparison clinical and laboratory data between NF and non-necrotizing soft tissue infection.

Methods: Retrospective chart review of 601 medical records with ICD10 diagnosis of NF and NNSTI, of patients who were admitted in Phramongkutklao Hospital from January 2006 to May 2015, were conducted. Comparison of clinical and laboratories data between groups was analyzed. Also, microbiology, antibiotic, outcome and complication were analyzed.

Results: Total of 297 medical records were fulfilled inclusion criteria. There were 93 NF and 201 NNSTI. Comparing between the two groups, shorter duration of onset, more co-morbidity with DM, present with fever, more bleb and skin necrosis were significantly found in NF group. Moreover, higher pulse rate at first presentation, higher white blood cell count, neutrophil percentage, band form percentage, BUN and creatinine level and lower albumin level at presentation were also found in the NF group. Interestingly, in this study sodium level in the NF group was higher than NNSTI group, significantly, even though mean sodium of both groups were hyponatremia (124.13 ± 36.12 vs 127.24 ± 24 , $p < 0.001$). Complication, namely, acute kidney injury (40.9%), septic shock (32.3%), respiratory failure (28%), heart failure (14%) and DIC (16.1%) were significantly found in NF group ($p < 0.001$). Amputation rate in the NF group was 15.1%. Mortality rate were 3.5% and 22.6% in NNSTI and NF, respectively ($p < 0.001$). Most common pathogen of the NF were *Staphylococcus aureus* and *Streptococcus group A*.

Conclusion: NF is a potential limb and life threatening condition. Early recognition and differentiation from NNSTI are important. With clinical and laboratory value between the two group, might help surgeons in patient evaluation. Further, diagnosis needs high index of clinical suspicious.

Abstract no. 36

Comparing Growth, Infection and Feeding Habits of Formula-fed Infants Starting Complementary Feeding between Four to Six Months of Age with Those Starting after Six Months of Age

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Objective: To evaluate whether formula-fed infants starting complementary feeding between four to six months of age have the same growth, number of infection episodes, and feeding habits as those starting complementary feeding after six months of age.

Material and Method: This was a prospective, observational cohort study. The calculated sample size was 20 infants for each observation group: one with infants starting complementary feeding between four to six months of age, and the other with infants starting after six months of age. Healthy 4-month-old, formula-fed infants were enrolled into either group according to their parents' decision of feeding. Initial demographic data were collected. Both groups were evaluated for their growth (weight, length, and head circumference) at approximately 12 months of age, and infection episodes (respiratory and gastrointestinal infections) at approximately 9, 12, and 15 months of age. Their feeding habits at 12 and 15 months of age were also evaluated.

Results: There were 41 infants enrolled into the study: 21 in the 4-to-6-month group and 20 in the after-6-month group. No difference in growth rates was detected. The infection episodes were also comparable except for respiratory infection during 10 to 12 months of age, which was more frequent in the after-6-month group. At 12 months of age, percentage of bottle feeding, night feeding, and easy food acceptance were not different, but the 4-to-6-month group had more picky eaters. At 15 months of age, the after-6-month group had less bottle feeding and easier food acceptance.

Conclusion: Age of complementary feeding initiation had no effects on infants' growth and infection rates. However, some feeding habits of infants starting complementary feeding at different age were not the same. Whether the differences were results of their age of complementary feeding initiation remains unclear.

Keywords: ● *Infant nutrition* ● *Complementary feeding*

Abstract no. 37**Successful Rate of Adrenal Venous Sampling (AVS) in Primary Aldosteronism at Phramongkutklao Hospital****Paiboon Kuhaphensaeng, Chutcharn Kongphanich and Supakajee Saengruang-Orn***Department of Radiology, Phramongkutklao Hospital*

Background: Secondary hypertension from the cause of primary aldosteronism has higher risk of cardiovascular complication than essential hypertension. Imaging study of the computed tomography (CT) or magnetic resonance imaging (MRI) cannot be identified aldosterone overproduction from the adrenal gland. Therefore, an adrenal venous sampling (AVS) procedure has important for determining the cause of primary aldosteronism which result in proper management and treatment.

Objective: The goal of this study was to result of the successful rate of adrenal venous sampling (AVS) procedure in primary aldosteronism at Phramongkutklao Hospital.

Material and Methods: A descriptive study from retrospective review data of 14 patients who were definite diagnosed as primary aldosteronism by the endocrinologist and sent for adrenal venous sampling (AVS) procedure at Phramongkutklao Hospital from January 2013 to June 2015.

Results: The successful rate of adrenal venous sampling (AVS) procedure on the right and left adrenal veins is about 92.86% and 78.57%, respectively. Seven patients are managed by laparoscopic adrenalectomy which confirmed the adrenal adenoma by pathological report in all patients. The rest of the patients have managed by long life antihypertensive medication. Also seen concordant of imaging finding (CT & MRI) and clinical diagnosis are about 50%.

Conclusion: The successful rate of adrenal venous sampling (AVS) procedure has well appreciated level resulting in proper for patient management and improved quality of life in some patients.

Keywords: ● *Adrenal venous sampling* ● *Primary aldosteronism*

Abstract no. 38**Pilot Study of Diffusion-weighted MRI Technique in Detection Early Neck Node Metastasis in Head and Neck Cancer Patients****Jianbunjongkit Narit and Burchom Watcharaporn***Department of Otolaryngology, Phramongkutklao Hospital*

Background: More than 650,000 patients worldwide are annually diagnosed with head and neck cancer and nearly 350,000 die from the disease. One of the poorest prognostic factor is lymph node metastasis. Radiology plays an important role in lymph node staging especially in patient with clinically N0. Conventional MRI provides excellent anatomical information, Diffusion weighted imaging (DWI) technique of MRI, provide biophysical mechanism based on the microscopic random translational motion of water molecules in biological tissues and was claimed to be more sensitivity in detection early cancer.

Objective: To study accuracy, sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV) and adverse effect of DWI MRI in detection of early neck node metastasis compare with conventional MRI head and neck cancer patients with clinically N0.

Methodology: Prospective diagnostic study. Thirteen patients diagnosed with head and neck cancer with clinically N0 in Phramongkutklao Hospital having preoperative DWI MRI and conventional MRI with subsequent pathologic proved by neck dissection (20 neck dissections).

Result: Thirteen patients with squamous cell carcinoma in head and neck cancer were enrolled. Mean age is 61.6 year. Seventy-seven percent (10/13) are male, 23% (3/13) are female. Forty-six percent (6/13) are oral cancer, 46% (6/13) are laryngeal cancer, and 8% (1/13) are oropharyngeal cancer. Mean duration time from MRI to surgery is 13.4 days and total number of neck dissection is 20 necks. DWI MRI revealed 75% sensitivity, 88% specificity, 85% PPV, 80%NPV and 82.35% accuracy. None of them had adverse effect from DWI MRI.

Conclusion: Compare to previous study, modern imaging modalities, DWI MRI had no more accuracy than conventional MRI in detection early neck node metastasis in head and neck cancer patients.

Keywords: ● *Diffusion-weighted MRI* ● *Head and neck cancer* ● *Clinically N0 neck*

Abstract no. 39

Intraobserver and Interobserver Reliability of Angular Measurement of Fracture of Extra-articular Base of Thumb Metacarpals among Shaft-Joint Angle Measurement, Mid-Medullary Canal Angle Measurement and Dorsal Cortex-joint Angle Measurement in Cadavers

Kittisak Songthong and Arkaphat Kosiyatrakul

Background: Accurate angulation deformity measurement of extra-articular fracture of base of thumb is difficult due to its saddle-like configuration near trapeziometacarpal joints. Traditionally, mid-medullary canal angle (MMC) measurement is used despite inconsistent anatomical reference. Other measurement methods include shaft-joint angle (SJA) and dorsal cortex-joint angle (DJA) measurement. However, the reliable method for these types of fracture have been yet defined. Thus we aim to evaluate reliability and accuracy of various measurement methods.

Methods: Normal SJA and DJA of the thumb were obtained from the radiographs in 40 normal populations. Eight cadaveric metacarpals were harvested, cut at proximal metaphyseal-diaphyseal junctions and fixed in various standard angles. Radiographs were taken. Subsequently, angular deformity was measured using 3 methods including SJA, DJA and MMC measurement by 3 doctors. Intraobserver and interobserver reliability as well as mean difference from standard values were evaluated.

Results: The normal SJA, DJA and MMC angle were 81.21 ± 3.47 , 80.79 ± 3.5 and 12.79 ± 1.86 degrees, respectively. The SJA and DJA measurement were most reliable with intraclass correlation coefficient (ICC) of 0.998 (0.995-0.999). The interobserver reliability of DJA measurement was most excellent (ICC = 0.999; 0.998-1.000) followed by SJA measurement (ICC = 0.998; 0.993-1.000) and MMC angle measurement (ICC = 0.983; 0.942-0.996). Mean difference from standard values was least in DJA measurement followed by SJA measurement and MMC angle measurement, 4.02 ± 0.45 , 5.21 ± 0.49 and 12.23 ± 0.58 degrees, respectively. However, these three methods are still statistical difference from standard values. ($p < 0.001$)

Conclusions: The DJA measurement is the most reliable and accurate method to identify angulation deformity of extra-articular base of thumb fracture.

Abstract no. 40**Prediction of Arteriovenous Fistula (AVF) and Arteriovenous Graft (AVG) Maturation in End Stage Renal Disease (ESRD) Patients by Duplex Ultrasound Values****Apichat Nganroongruang, Anucha Panoi and Tamrongroj Temudom***Deparment of Surgery, Phramongkutklao Hospital*

Objective: Preoperative duplex ultrasound mapping of veins and arteries has been widely advocated to maximize the creation of native arteriovenous fistula (AVF) for hemodialysis access, but reliable diameter criteria have not been established. We sought to determine patient and anatomic variables predictive of fistula maturation in patients receiving their initial permanent hemodialysis access.

Methods: All patients undergoing dialysis access creation from May 2013 to April 2014 were evaluated. We analyzed fistula type and functional maturation rates based on patient characteristics and findings on physical examination, preoperative vein mapping by duplex ultrasound. Maturation and patency rates were determined by multiple logistic regression analysis. The following factors were analyzed: age, gender, body-mass index (BMI), current medication, fistula site, preoperative duplex vein diameter, diabetes, hyperlipidemia, HTN, prior central catheter placement

Results: From May 2013 to April 2014, 69 vascular access procedures were performed. Native AVF was created in 44 patients (63.7%); 6 patients with wrist radiocephalic AVF (WRCAVF, 8.7%), 35 patients with brachiocephalic AVF (BCAVF, 50.7%) and 3 patients with brachiobasilic AVF (BBAVF, 4.3%). AVG was created in 25 patients (36.3%): 9 patients with forearm AVG (13.1%) and 16 patients with arm AVG (23.2%). All of the patients had adequate follow-up and were included in the analysis. WRCAVF, BCAVF and BBAVF had 83.33%, 88.57%, and 100% maturation rates, respectively. Forearm AVG and arm AVG has 44.44% and 81.25% maturation rates respectively. By multivariate logistic regression analysis, vein diameter was the sole independent predictor of fistula functional maturation that, vein diameter which more than 2.5 mm. in AVF creation and more than 3.6 mm in AVG creation are a good predictor of functional fistula maturation.

Conclusion: In this series of 69 patients undergoing initial hemodialysis access creation, native AVF creation was performed in 44 patients (63.8%) and AVG in 25 patients (36.2%). By multivariate logistic regression analysis, vein diameter which more than 2.6 mm. in AVF creation and more than 3.6 mm in AVG creation are a good predictor of functional fistula maturation.

Abstract no. 41

Relationship between Chest Wall Thickness at Chest Tube Insertion Point and Parts of The Body in Thai Male Population at Phramongkutklao Hospital

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Background: Intercostal Drainage (ICD) was used for drainage the collection in pleural cavity. To insert the chest tube in proper position need to know the patient's chest wall thickness (CWT) that usually estimated manually during ICD insertion. If we could estimate the thickness by measuring external body part, we were able to insert ICD into a proper position rapidly without complications. The objective was to discover relationship between CWT and body parts.

Methods: Ages, height, weight, BMI*, distant between nipples, little finger length and base width, thumb length and base width of 80 male patients were collected as well as the CWT at right fourth intercostal space, anterior axillary line, measuring from PACS** at Trauma wards, Phramongkutklao Hospital from January to July 2015. Across-sectional analytical was used.

Results: Eighty male patients, average age of 66.97 years and average CWT of 2.21 cm were used to evaluated. It was found that statistically significant relationship between CWT and weight ($r = 0.607^*$), BMI ($r = 0.585^*$), distant between nipples ($r = 0.349^*$), little finger base width ($r = 0.336^*$) and thumb base width ($r = 0.232^*$). These relationships were Pearson's correlation. The results also showed significant linear regressions between CWT and BMI, distant between nipples, little finger base width and thumb base width. β value of little finger base width (0.949), however, had the least difference with CWT, indicating little finger base width possibly use for predicting the CWT. The equation of the linear regression between CWT (y) and little finger base width (x) is $y = 0.552 + 0.949 (x)$.

Conclusion: Little finger base width could be used for predicting CWT.

*BMI = Body Mass Index; **PAC = Picture Archiving and Communication System

Abstract no. 42**Breast Conserving Therapy and Quality of Life in Thai Females:
A Mixed Methods Study****Tharin Phenwan¹, Thanarpan Peerawong², Sojirat Supanitwatthana² and Chanon Kongkamol³**¹*Department of Family Medicine, Phramongkutklo Hospital, Bangkok;* ²*Department of Radiology;* ³*Department of Community Medicine, Faculty of Medicine, Prince of Songkla University, Songkhla*

Background: Breast conserving therapy (BCT) is one of the treatments for breast cancer that could preserve women's breast. However, after the treatment, women with breast cancer still had to face changes in their body image and well-being physically and emotionally.

Objectives: To explore factors that influence Quality of Life (QoL) and values of reserved breasts in women with BCT.

Methodology: Sequential mixed methods study. One-hundred-eighteen women from Therapeutic Radiology and Oncology unit of Songklanagarind Hospital from previous study during April 2014 and October 2014 were included for secondary data analysis. Inclusion criteria were women with breast cancer who were at least 18 years old and had received BCT for at least one year. Participants were excluded if they had bilateral breast cancer, recurrent cancer, or distant metastasis. We used participant's characteristics, clinical information, Body Image Scale (BIS), and Functional Assessment of Cancer Therapy with Breast cancer subscale (FACT-B) for the analysis. The BIS was then transformed into presence of body image disturbance (Yes/No). Factors that influence QoL were determined by stepwise multiple linear regression. Forty-one participants were then selected by purposive sampling methods for qualitative analysis. Our female researcher performed the semi-structured interviews with three open-ended questions; 1) What is the meaning of breast in your life?; 2) What is the importance of breast?; 3) How associative between post treatment cosmetic result and your QoL?. Final codes were analysed with thematic analysis along with investigator triangulation methods.

Results: Ninety percent of them had early stage breast cancer with post-completed BCT for the average of 2.7 years. The 46.6% of the participants had body image disturbance. The median of BIS score and FACT-B score were 2 (IQR = 10) and 130 (IQR = 39), respectively. In the univariate regression analysis, only the age more than 50 years and the presence of body image disturbance were significant factors that influenced the QoL. As for the value of reserved breasts, two themes emerged; conserved breast is an essential part of participants' life and also the representation of their womanhood; the importance of breast is relational with age.

Conclusions: The body image had influence to QoL in post BCT participants. The reserved breasts are essential part of participants' life, had positive impact that lead to their better body image.

Keywords: ● *Mixed methods* ● *Body image* ● *Quality of life* ● *Breast conserving therapy*
● *Qualitative research*

Abstract no. 43

A Biomechanical Performance of the Doubled-suture Nice Knot

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Background: Suture tying is an essential skill in both open and arthroscopic surgery. The Nice knot has recently been described to be used for the bone fixation. This knot has the special characteristics of doubled-over strand of suture and adjustable tensioning process. However, the biomechanic study of this knot is still lacking.

Purpose: To evaluate biomechanical properties of the doubled-suture Nice knot.

Study Design: Controlled laboratory study.

Methods: The Nice knots were compared with the square knot and Duncan sliding knot for the loop and knot security. Twenty loops of each knot configuration were created using No.2 Fiberwire (Arthrex, Naples, FL, USA) and tested with a material testing machine (ElectroPuls™ E1000, materials testing system, Instron, England). In order to assess the loop security, all samples were loaded with a 7 N preload. The knot security was subsequently evaluated by determining the response to load to failure and to cyclic loading. Ten loops of each knot were loaded to failure at a crosshead speed of 1 mm/s. Maximum force to failure and mode of failure were recorded. The rest were subjected for the cyclic load testing with the force from 7 N to 30 N at frequency of 1 Hz for 1,000 cycles. The elongation at 50th cycle and 1,000th cycle were measured. The data were analyzed by independent t-test.

Results: The Nice knot provides equal loop security to that of the square and Duncan knots (p-value < 0.05). The load to failure of the Nice knot is 223.64 ± 86.85 N, square knot is 88.65 ± 18.76 N and Duncan knot is 89.98 ± 21.5 N. All loops were failed by breakage at the suture substance. The cyclic loading test demonstrated the superior performance of Nice knot compared with the square and Duncan knots at the 50th and 1,000th cycle (p-value < 0.05)

Conclusions: The doubled-suture Nice knot provides the good knot security. This knot is able to withstand a 2.5 times greater load than the original single strand knots.

Abstract no. 44

Predictive Factors of Non-sentinel Lymph Node in Metastasis Sentinel Lymph Node Breast Cancer

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Objective: Axillary lymph node dissection in metastasis sentinel lymph node breast cancer patient, this procedure has several complications. We sought predictive factors of non-sentinel lymph node in metastasis sentinel lymph node. To decrease unnecessary axillary lymph node dissection procedure.

Methods: All patients undergoing sentinel lymph node dissection that prove shown metastasis breast cancer by frozen section and undergoing to axillary lymph node dissection from Jan 2009 to June 2015 were evaluated. We analyzed factor effect to additional axillary lymph node metastasis in metastasis sentinel lymph node. The following factors were analyzed: age, lymphovascular invasion (LVI), extranodal capsular invasion, size of primary breast cancer, size of metastasis sentinel lymph node, NOS breast cancer grading, primary breast cancer estrogen, progesterone, Ki67, HER-2 status, and number of metastasis sentinel lymph nodes.

Results: From Jan 2009 to June 2015, 110 axillary lymph node dissection was done in metastasis sentinel lymph node. Axillary lymph node dissection content was evaluated for metastasis in permanent pathology. Non-metastasis axillary lymph node in 55 patients (50%) and metastasis axillary lymph node in 55 patients (50%). Factor effect to metastasis axillary lymph node were included in positive LVI (p-value = 0.001, Crude Odds Ratio = 3.783, 95%CI: 1.687-8.482), positive extranodal capsular invasion (p-value = 0.002, Crude Odds Ratio = 3.716, 95%CI: 1.62-8.522), NOS tumor grade II (p-value = 0.008, Crude Odds Ratio = 4.608, 95%CI: 1.503-14.129), NOS tumor grade III (p-value = 0.007, Crude Odds Ratio = 5.400, 95%CI: 1.577-18.492), lymph node size 1.01-2.00 cm (p-value = 0.002, Crude Odds Ratio = 9.69, 95%CI: 2.349-39.971), each increased number of metastasis sentinel lymph node (p-value = 0.003, Crude Odds Ratio = 2.265, 95%CI: 1.326-3.87) and HER-2 3+ staining (p-value = 0.001, Crude Odds Ratio = 10.476, 95%CI: 2.619-41.901). Factor not effect to metastasis axillary lymph node include in age, ER status, PR status, Ki67 status and primary breast cancer size.

Conclusion: Factor effect to additional axillary lymph node metastasis in metastasis sentinel lymph node breast cancer include in LVI, extranodal capsular invasion, NOS grade II-III, LN size 1.01-2.00 cm, each increased number of metastasis sentinel lymph node and HER-2 3+ staining; that necessary for axillary lymph node dissection.

Abstract no. 45

Efficacy of Furosemide for Prevention of Volume Overload in Children with Transfusion-dependent Thalassemia at Phramongkutklao Hospital

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Background: Anemia is a common condition in Thailand. Patients with severe symptoms must be treated by blood transfusion regularly every 3-4 weeks, making they have more risk to have complications from blood transfusion than patients with common conditions such as iron overload, complications caused by exposure to blood component, high blood pressure, seizures, or severe intracranial bleeding after blood transfusion. In some institutions, furosemide was used to reduce excess water in patients with volume overload condition. In Phramongkutklao Hospital, there's no pattern to use furosemide in Thalassemic patients. So it's questionable in the role of furosemide to prevent volume overload, hypertension, seizures, or intracranial bleeding after a blood transfusion.

Objective:

- 1) To study the differences of volume status in patients by using NT-proBNP before and after receive blood transfusion in thalassemic patients who receive furosemide before and after blood transfusion.
- 2) To study the developed of severe hypertension after receive blood transfusion in thalassemic patients who receive furosemide before and after blood transfusion.
- 3) To study the symptoms of headache or abnormal perception after receive blood transfusion in Thalassemic patients who receive furosemide before and after blood transfusion.
- 4) To study the number of hemoglobin before and after giving blood transfusion in thalassemic patient.

Study Design: Randomized, opened-label, pre / post, crossover trial.

Poppulation: Thalassemic patients in hematologic clinic at Phramongkutklao Hospital, who received blood transfusion regularly, from two or more times, from 1st Apr 2014 to 31 Oct 2014; between the ages of 1 year - 25 years. Patients who disapproved to enter the study by their parents, patients with contra-indication of using furosemide, high blood pressure, seizures, intracranial bleeding, patients who routinely used diuretics and anti-platelets drugs were excluded from the study.

Methods: Researchers obtained blood for CBC, NT-proBNP, cross and group matching one hour before blood transfusion. Patients were divided into two groups by randomized lock. The first group is the

group that received furosemide before their first blood transfusion, and they will receive furosemide after their next blood transfusion. Another group will receive furosemide after their first blood transfusion and they will receive furosemide before their next blood transfusion. The interval between first and second blood transfusion is in 3-16 weeks, and after giving blood transfusion, they will follow CBC and NT-proBNP

Result: Pending

Conclusion: Pending

Abstract no. 46**Complications from Prolonged Wound Drainage after Kidney Transplantation****Jakrapong Wittayaphairot, Satit Siriboonyarit and Nopporn Choeipan***Division of Urology, Department of Surgery, Phramongkutklao Hospital*

Problems: Prolonged wound drainage after kidney transplantation is could be important risk factor for wound complication. Prolonged wound drainage in asymptomatic lymphocele for unnecessary case is increase morbidity and length of hospital stay. Drain placement after kidney transplantation is standard. Drain is removed when drainage fluid decrease. Lymphatic leakage is one of problems that prolonged drainage placement.

Objectives: To study wound complications following prolonged wound drainage compared with non-prolonged wound drainage after kidney transplantation in setting of asymptomatic lymphocele.

Material and Method: A retrospective chart review was performed of consecutive 89% at time of Kidney transplantation.kidney transplantation [CDKT 47.19%, LRKT 52.81%] was perform between January 2004 and July 2014.

Results: Incidence of post transplant lymphocele was 7.87%. In asymptomatic post transplant lymphocele; prolonged wound drainage was increase wound complication statistic significantly compared with non-prolonged drainage [66.7% vs 33.3% respectively].

Conclusion: Prolonged wound drainage in asymptomatic lymphocele is increase wound complications and length of hospital stay.early removal drain for unnecessary case could be good surgical wound outcome.

Keywords: ● *Post transplant lymphocele* ● *Wound complication*

Abstract no. 47**Comparative Study of Oberlin II Operation and Reverse Pattern in the Treatment of Upper Brachial Plexus Injury****Sripadet Pichate and Luenam Suriya***Department of Orthopaedic, Pramongkutklao Hospital*

Background: The transfer of partial ulnar nerve to innervate the biceps and median nerve to brachialis muscles, so called "Oberlin II operation (OB II)", is the standard procedure to restore the elbow flexion in upper brachial plexus injury. The reverse pattern, using median nerve for biceps and ulnar nerve for brachialis, has been also periodically described in the literature. The purpose of the present prospective study was to compare the clinical outcomes and donor deficit between these surgical techniques.

Methods: The patients with an upper nerve-root brachial plexus injury treated with the OB II and the reverse pattern from 2012 to 2014 were included in the study which minimum follow-up of 12 months. The mechanism and severity of injury, time to surgery were analyzed. The elbow flexion with forearm in neutral rotation and supination, grip and pinch strength, and sensory of donor nerve distributions was assessed preoperatively and every 3 months postoperatively. The British Medical Research Council (MRC) grading system, angle of elbow flexion, and electromyography (EMG) were used to evaluate the recovery of elbow flexion. Once the elbow flexion had reached to MRC grade 4-5, the strength was compared to the contralateral side.

Results: Fifteen patients were operated (7 of OB II, 8 of reverse pattern). No difference in the patient's age, severity of the injury and time to surgery between two groups. At the 6 months follow-up, MRC grade of the elbow flexion with forearm supination in the reverse pattern group was greater than in OB II group but not statistically significance ($p = 0.097$). No significant difference was found between groups with the neutral forearm rotation ($p = 0.249$). At the 12 months follow-up, the strength of elbow flexion with neutral forearm rotation was greater in the reverse pattern group than in OB II group ($p = 0.028$). No difference was found with forearm supination ($p = 0.320$). Hand grip and pinch strength were similar ($p = 0.105$, $p = 0.562$, respectively). No sensory deficit along the donor nerve distributions was found in both groups.

Discussion: Both OBII and reverse pattern provided the similar favorable clinical outcomes without donor deficit in 12-month follow-up but the strength of the brachialis muscle was greater in reverse pattern). The motor recovery of biceps muscle trends to be earlier in the reverse pattern.

Conclusion: The reverse pattern of OBII can be used as a standard treatment in the upper brachial plexus injury.

Abstract no. 48**Tuberculosis Treatment with Smartphone Medical Apps. Reminders a Protocol of a Randomised Control Study****Kingpeth Promthong and Anan Wattanatham***Pulmonary and Critical Care Unit, Department of Medicine, Phramongkutklao Hospital*

Background: People with active tuberculosis (TB) require six months of treatment. Some people find it difficult to complete treatment. Thailand's implementation of the Directly Observed Treatment, Short course (DOTS) strategy to increase tuberculosis (TB) control program efficacy has not achieved the World Health Organization (WHO) TB key targets.

Objectives: To investigate the effectiveness of using a Smartphone medical application reminders to Treatment outcomes were given a completion rates at 6 months and The sputum AFB conversion rate at 2 month.

Methods: This is a blinded, randomised controlled study in TB clinic Phramongkutklao Hospital Bangkok. We defined two TB control models in the study. Patients in Model 1 were treated with a conventional DOTS strategy and in Model 2, patients were treated the same as Model method 1 but were given TB reminder application on Mobile phone. Treatment outcomes were given as completion rates at 6 months. The sputum conversion rate at 2 month were evaluated

Results: The TB reminder application on Mobile phone could facilitate patient TB. complete rates treatment TB and sputum conversion rate at 2 month was 93.75%, 93.75% in Model 2 and 75%, 71.875 in Model 1 the difference was significant $p = 0.039$, $p = 0.043$

Conclusion: The key lessons from this study are Using a TB reminder application on Mobile phone helped improved treatment of patients with TB by reminding them to take their medicine. Increased the complete rate and sputum conversion rate at 2-month and may have been a factor in improving TB treatment success

