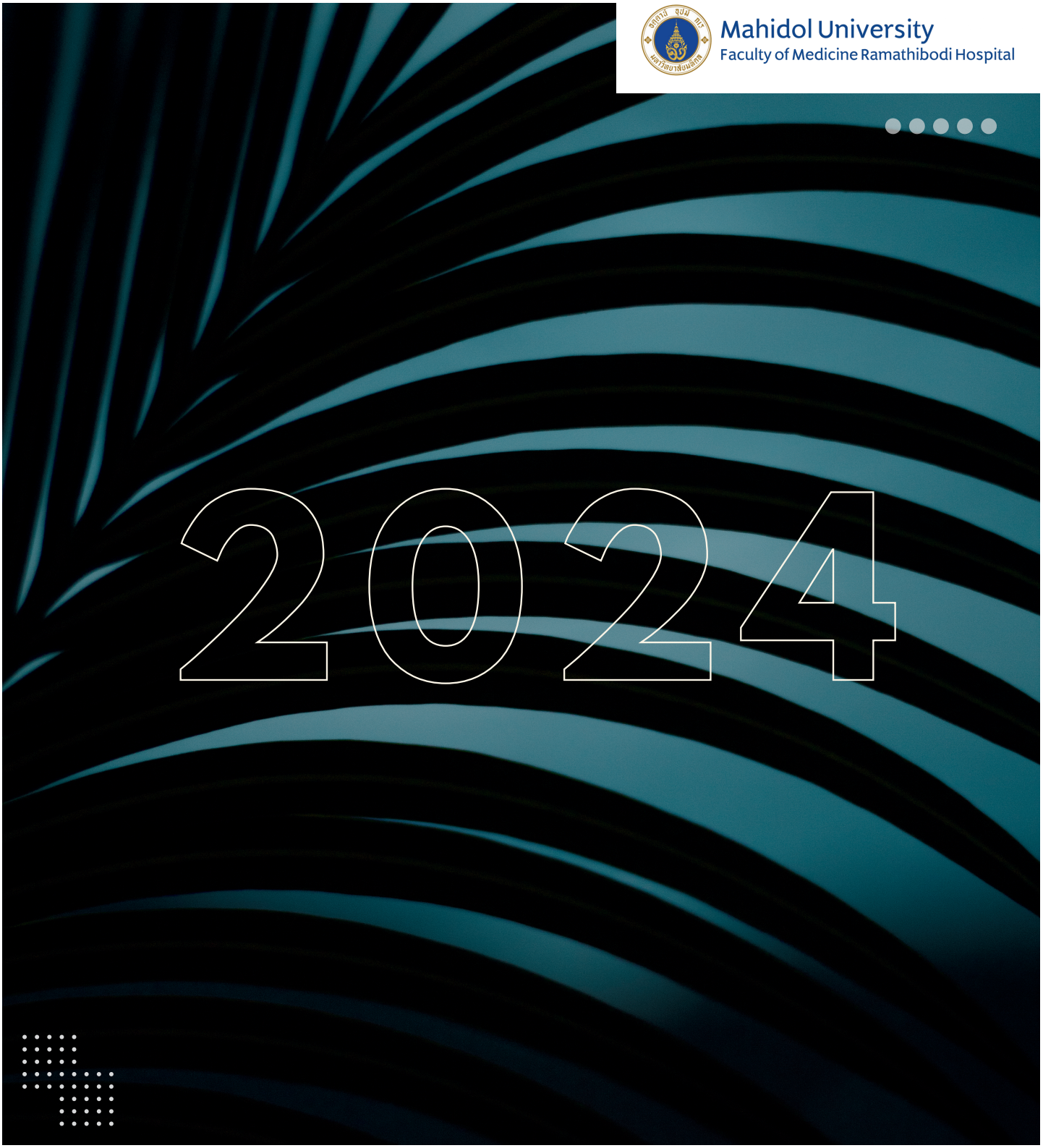


Mahidol University
Faculty of Medicine Ramathibodi Hospital

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# TABLE OF CONTENTS

# INTRODUCTION

งานวิจัยแพทย์ประจำบ้าน ถือเป็นส่วนหนึ่งของการอบรมเป็นแพทย์ผู้เชี่ยวชาญในศัลยศาสตร์สาขาต่างๆ ด้วยเหตุผลตรงไปตรงมาว่า การเป็นผู้เชี่ยวชาญในความรู้สาขาใดก็ตาม ย่อมรวมไปถึงการมีความสามารถผลิตความรู้ใหม่ในสาขานั้นๆด้วย และการทำวิจัยก็คือการผลิตความรู้ใหม่ในแง่มุมของวิทยาศาสตร์ นั่นเอง

แต่การทำวิจัย เป็นมากไปกว่ากิจกรรมที่ทำขึ้นเพื่อตอบสนองข้อกำหนดของหลักสูตรฝึกอบรมผู้ที่ทำวิจัยอย่างจริงจังอาจมีมุมมองหรือโลกทัศน์ที่เปลี่ยนไปหรือแตกต่างไปจากคนปกติได้ เนื่องเพราะการทำวิจัยจะเน้นให้ผู้อบรม เข้าใจถึงประโยชน์และคุณค่าที่แท้จริงของงานวิจัย เข้าถึงข้อจำกัดต่างๆของขั้นตอนการผลิตความรู้ใหม่ มีประสบการณ์ในการทบทวนความรู้ที่มีอยู่ในปัจจุบัน ที่เกี่ยวข้องกับศาสตร์หนึ่งๆ ทำให้ทราบถึงขอบเขตของความรู้ที่มีอยู่ และดังนั้นจึงทราบถึงความไม่รู้ของวิชาการที่เกี่ยวข้อง ว่าลึกและกว้างเพียงใด การประกอบวิชาชีพของผู้อบรม จะเป็นไปอย่างระมัดระวัง เพราะจะไม่ไว้ใจหรือเชื่อคำกล่าวที่ไม่มีหลักฐานสนับสนุนเพียงพอ โดยประเมินได้ว่าหลักฐานที่อ้างถึงนั้น อาจไม่มีน้ำหนักแต่อย่างใด

ในทางปฏิบัติ ผลประโยชน์ที่ได้จากงานวิจัยที่ทำสำเร็จลุล่วงอย่างงดงาม นอกเหนือจากประโยชน์ในแง่การปรับเปลี่ยนโลกทัศน์แล้ว ยังนำไปสู่ความภาคภูมิใจของผู้อบรม ที่ได้รู้ว่าตนมีส่วนร่วมในการพัฒนาวิชาชีพไม่ว่าจะเล็กน้อย (หรือยิ่งใหญ่) เพียงใด อาจนำไปสู่การตีพิมพ์เผยแพร่ผลงาน ที่จะจารึกชื่อของตนไว้เป็นเวลานานตราบที่โลกของเครือข่ายอิเล็กทรอนิกส์ยังคงมีอยู่ เป็นที่ชื่นชมของลูกหลานและเหลน หรืออย่างน้อยที่สุด ก็ใช้เป็นพื้นฐานของการเลื่อนเงินเดือนในอนาคต การตีพิมพ์ผลงานนั้น ถือว่าเป็นจุดจบของการเริ่มต้นชีวิตของงานวิจัยชิ้นหนึ่งๆ ถ้าหากไม่มีการตีพิมพ์ ก็ต้องถือว่างานวิจัยได้ตายไปแล้วตั้งแต่คลอด

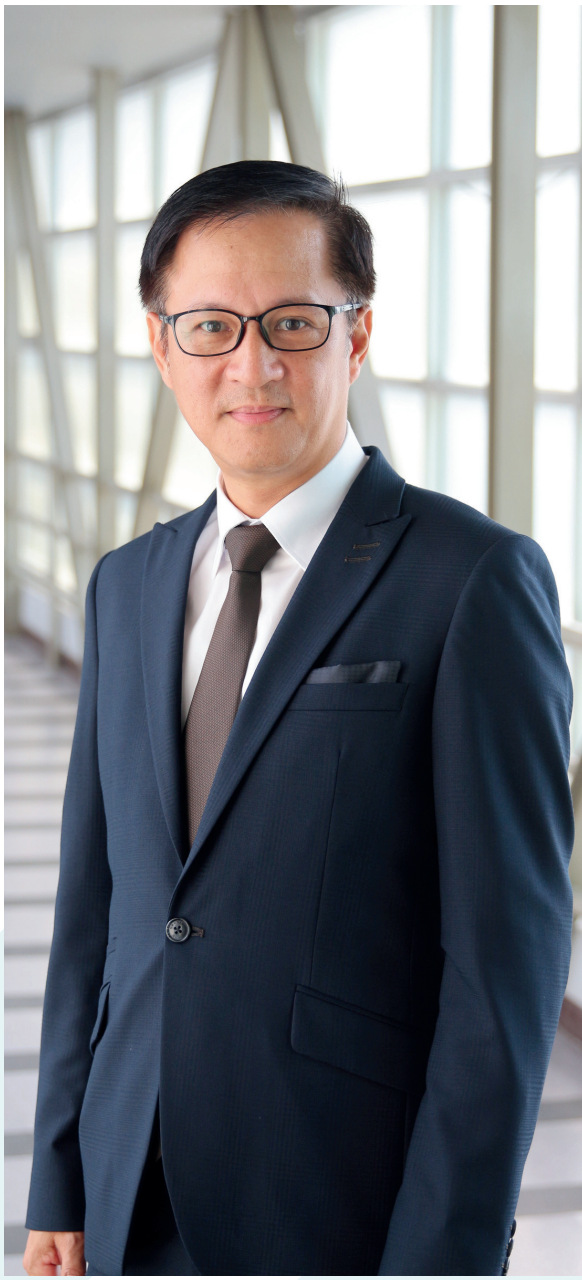
งานวิจัยของแพทย์ประจำบ้าน ภาควิชาศัลยศาสตร์ คณะแพทยศาสตร์โรงพยาบาลรามาธิบดี มีคุณภาพอยู่ในชั้นแนวหน้าของสถาบันฝึกอบรมทั้งประเทศ เป็นที่ภาคภูมิใจของภาควิชาและคณะฯ ทั้งนี้เป็นเพราะความอุตสาหะวิริยะ และความกระตือรือร้นของแพทย์ประจำบ้านทุกคน แต่ที่ขาดเสียมิได้ ก็คือการสนับสนุน ความร่วมมือ และความยินยอมของอาจารย์ในภาควิชาฯทุกท่าน ที่ให้การวิจัยดังกล่าวเกิดขึ้นได้ และในหลายกรณีให้แพทย์ประจำบ้านเข้าร่วมโครงการวิจัยของอาจารย์เอง อีกทั้งยังกำกับดูแล และสั่งสอนวิธีการวิจัยให้แก่แพทย์ประจำบ้านเป็นอย่างดี จึงต้องขอขอบคุณแพทย์ประจำบ้านและขอบพระคุณอาจารย์ในภาควิชาฯทุกท่าน ที่ทำให้งานวิจัยของแพทย์ประจำบ้านในแต่ละปีจบลงได้ และประสบความสำเร็จอย่างสูง จนปรากฏเป็นผลงานที่นำเสนอในหนังสือเล่มนี้

ท้ายที่สุด ที่สำคัญไม่ยิ่งหย่อนกว่ากัน ก็คือ การสนับสนุนของท่านหัวหน้าภาควิชาศัลยศาสตร์ รองศาสตราจารย์นายแพทย์เฉลิมพงษ์ ฉัตรดอกไม้ไพร ที่เห็นความสำคัญของงานวิจัยของภาควิชามาตลอด และอดีตหัวหน้าภาควิชาศัลยศาสตร์ ศาสตราจารย์นายแพทย์กฤษฎา รัตนโอฬาร อาจารย์นายแพทย์สาธิต กรเณศ และศาสตราจารย์นายแพทย์วชิร คชการ ที่ให้งานวิจัยเป็นหนึ่งในเป้าหมายหลักสำหรับงานพัฒนาของภาควิชาฯ โดยให้การสนับสนุน และให้กำลังใจแก่ผู้เขียนและคณะกรรมการสนับสนุนงานวิจัย ตลอดเวลาที่ทำงานสนับสนุนการวิจัยให้แก่ภาควิชาฯ

รองศาสตราจารย์ภาณุวัฒน์ เลิศสิทธิชัย
ผู้แทนคณะกรรมการสนับสนุนงานวิจัยภาควิชาศัลยศาสตร์

# WELCOME MESSAGE

## สารจากหัวหน้าภาควิชาศัลยศาสตร์



การทำวิจัยและนวัตกรรมเป็นสิ่งที่มีความสำคัญอย่างยิ่งในกระบวนการการรักษาพยาบาลในผู้ป่วยศัลยกรรม

การรักษาผ่าตัดผู้ป่วยศัลยกรรมมีความสำคัญดังที่ทราบกันอยู่แล้ว การเรียน การสอน การฝึกอบรม ก็ยิ่งมีความสำคัญและเกิดประโยชน์ในวงกว้าง แต่การทำวิจัยและสร้างนวัตกรรมยิ่งเกิดประโยชน์ในวงกว้างมหาศาลไม่ใช่เพียงแค่คนไข้คนต่อคน หากแต่เป็นประโยชน์ต่อการวิวัฒนาการทางการแพทย์และเทคโนโลยีในสากล

กระบวนการทำงานวิจัยจึงมีความสำคัญและถูกบรรจุในหลักสูตร ทุกหลักสูตรของศัลยศาสตร์เพื่อให้เป็นความรู้และทักษะของแพทย์ประจำบ้านและแพทย์ประจำบ้านต่อยอด การนำเสนอองค์ความรู้จากการศึกษาวิจัยจึงเป็นอีกกระบวนการหนึ่งที่สำคัญที่จะต่อยอดความรู้สู่ผู้อื่น เพื่อให้เกิดการนำไปใช้ได้จริงและหากจะมีการตีพิมพ์ในวารสารทางการแพทย์นานาชาติจะเป็นประโยชน์สูงสุด

รองศาสตราจารย์ นายแพทย์เฉลิมพงษ์ ฉัตรดอกไม้ไพร
หัวหน้าภาควิชาศัลยศาสตร์
มีนาคม 2567

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ภาควิชาศัลยศาสตร์ ที่จบการฝึกอบรม ปีการศึกษา 2566

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### อนุสาขาศัลยศาสตร์หลอดเลือด

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| นายแพทย์ฉันทวิทย์ | ชำนาญ | โรงพยาบาลระยอง |
| นายแพทย์ศตวรรษ | จึงธีรพานิช | อิสระ |
| นายแพทย์พลชัย | มาลัยพรพงศ์ | โรงพยาบาลสมุทรสาคร |

### อนุสาขาศัลยศาสตร์เต้านมและต่อมไร้ท่อ

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| แพทย์หญิงบุษกร | ศรีพลากร | โรงพยาบาลเจ้าพระยาอภัยภูเบศร์ |
| แพทย์หญิงจุฬารัตน์ | ดวงแก้ว | คณะแพทยศาสตร์ มหาวิทยาลัยเชียงใหม่ |

### อนุสาขาผ่าตัดผ่านการส่องกล้องศัลยศาสตร์ทั่วไป

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| นายแพทย์ รัตนเกียรติ | พงษ์รัตนกูล | โรงพยาบาลค่ายสุรสีห์ |
| แพทย์หญิงอิสรวดี | จงกิตติรักษ์ | อิสระ |

# CONFERENCE SCHEDULE

## 21 MARCH, 2024

Athasit Vejjajiva Room, Queen Sirikit Medical Center,
Faculty of Medicine Ramathibodi Hospital

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| 07.30 - 08.00 | Registration | |
| 08.00 - 08.10 | Open ceremony By Head of Surgery Dept. | |
| 08.10 - 08.20 | Incidence of complicated appendicitis during the COVID-19 pandemic: A systematic review and meta-analysis. | นพ.อับดุลญับบาร์ กริยา<br>Gen |
| 08.20 - 08.30 | A randomized controlled trial of effect of transcutaneous electrical nerve stimulation in reduction of post-operative pain in open midline abdominal surgery after general anesthesia. | พญ.อริชยา กู้ศักดิ์สถาพร<br>Gen |
| 08.30 - 08.40 | Relationship of lateral nasal osteotomy and inferior nasal turbinate. Is Webster's triangle still important? | พญ.อัจฉรา เศรษฐจินดาเลิศ<br>Plastic |
| 08.40 - 08.50 | Randomized controlled trials of efficacy of mosapride on recovery of intestinal motility after elective colorectal cancer surgery. | พญ.เบญสิตา แสงสว่าง<br>Gen |
| 08.50 - 09.00 | External validation of colorectal cancer scoring system for diagnosis colorectal cancer. | พญ.ชนากานต์ ศรีบางพลีน้อย<br>Gen |
| 09.00 - 09.10 | Leveraging computer vision for reliable measurement of lumbosacral spinopelvic parameters: a comparative study | นพ.ชยุตม์ พฤกษ์งามพันธ์<br>Neuro |
| 09.10 - 09.20 | Evaluation of risk factor for breakthrough infection in pediatric patients with primary vesicoureteral reflux. | พญ.ชมเพลิน วิรเศรณี<br>Uro |
| 09.20 - 09.30 | Relationship between abnormal nipple discharge and ductal abnormality from breast ultrasonography and nipple areola complex involvement in breast cancer | นพ.กัญจน์ พลายชุม<br>Gen |
| 09.30 - 09.40 | A comparative study of video-assisted thoracoscopic versus median sternotomy thymectomy in myasthenia gravis. | นพ.กิตติพศ พีระพัฒนะพงษ์<br>CVT |
| 09.40 - 09.50 | Evaluate the recurrence risk factors in the patient after the surgical repair of vesicovaginal fistula. | นพ.ไกรพิชญ์ อุดมสมบัติมีชัย<br>Uro |
| 09.50 - 10.00 | Efficacy of quilting sutures technique in female-to-male top surgery mastectomy | พญ.นวทิพย์ รัตนทิพา<br>Plastic |

# CONFERENCE SCHEDULE

21 MARCH, 2024

Athasit Vejjajiva Room, Queen Sirikit Medical Center,
Faculty of Medicine Ramathibodi Hospital

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| 10.00 - 10.10 | A novel preoperative nomogram to predict pathological stage and lymph node involvement of prostate cancer in Thailand. | นพ.ณัฐดนัย ธรรมศักดิ์สิทธิ์<br>Uro |
| 10.10 - 10.20 | Comparative analysis of primary palatoplasty techniques in Ramathibodi hospital: Evaluating secondary palatoplasty rates and associating factors in a ten-year retrospective study | พญ.ปภาวี สันติดำรงกุล<br>Plastic |
| 10.20 - 10.30 | A comparative study of conventional aortic replacement and mini-J sternotomy | พญ.พลอย ใจทอง<br>CVT |
| 10.30 - 10.40 | Cost-effectiveness of early oral feeding compared with conventional oral feeding after gastrointestinal surgery. | นพ.พงศกร ทันตวิวัฒนานนท์<br>Gen |
| 10.40 - 10.50 | Comparison of extraperitoneal laparoscopic and robotic-assisted extraperitoneal laparoscopic prostatectomy in localized prostate cancer. | นพ.ปริชญะ สวนจันทร์<br>Uro |
| 10.50 - 11.00 | Comparing 4.8 fr and 6 fr ureteral stents in terms of urological complications linked to kidney transplantation using a prospective randomized controlled trial | นพ.รัชชานนท์ วงศ์ตรีรัตนชัย<br>Uro |
| 11.00 - 11.10 | Effects of supine and reverse trendelenburg positions on Central Venous Pressure (CVP) during hepatectomy: A prospective randomized controlled trial. | พญ.รติมา วังสว่าง<br>Gen |
| 11.10 - 11.20 | The management and outcomes of surgical sepsis in limiting resource during COVID-19 pandamic. | นพ.สิทธิณัฐ สุระประเสริฐ<br>Gen |
| 11.20 - 11.30 | Factors associated liver recovery after hepatic resection, A retrospective study. | พญ.สมหฤทัย ทองคำเภา<br>Gen |
| 11.30 - 11.40 | Comparison postoperative brain volume loss in intracranial arteriovenous malformations: traditional versus hybrid operation | พญ.สรวีย์ ปกิจเฟื่องฟู<br>Neuro |
| 11.40 - 11.50 | Factors associated with pediatric liver transplant waiting list outcomes: when the PELD score isn't everything. | พญ.ธนภรณ์ พวงสูงเนิน<br>Ped |
| 11.50 - 12.00 | An external validation of Ramathibodi appendicitis score (Rama-AS) in diagnosis of acute appendicitis. | พญ.ธันยพร วิศิษฎ์พรอนันต์<br>Gen |

# CONFERENCE SCHEDULE

## 21 MARCH, 2024

Athasit Vejjajiva Room, Queen Sirikit Medical Center,
Faculty of Medicine Ramathibodi Hospital

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| 12.00 - 12.10 | Breast animation between dual-plane 1 and dual-plane 4 implant-based breast augmentation: A comparative study | พญ.ธิราณี ประพฤติกิจ<br>Plastic |
| 12.10 - 12.20 | Survival outcomes and recurrent pattern in patients with esophageal squamous cell carcinoma undergoing trimodality versus definitive chemo-radio therapy. | พญ.วิชญาพร สังวัง<br>Gen |
| 12.20 - 12.30 | Retrospective comparative study of reoperative rates and surgical outcomes between Anterior Cervical Discectomy with Fusion and Posterior Cervical Foraminotomy at Ramathibodi Hospital | นพ.วรมรรค แสนสุโพธิ์<br>Neuro |
| 12.30 - 12.40 | A comparative prospective cohort study of venous thromboembolism (VTE) prophylaxis between rivaroxaban and enoxaparin in colorectal cancer surgery. | พญ.ยุภาพร หงษ์ทอง<br>Gen |
| 12.40 - 12.50 | Comparison surgical safety of long lateral mass screws to conventional lateral mass screws using a 3D-printed cervical model | นพ.อัฐพล ชีวรุ่งโรจน์<br>F1-Spine |
| 12.50 - 13.00 | Comparison of forearm edema after loop forearm arteriovenous graft between intraoperative transcutaneous triamcinolone acetonide injection and no injection | นพ.ฉันทวิทย์ ชำนาญ<br>F2-Vascular |
| 13.00 - 13.10 | Feasibility of BrachioBasilic Transposition AVF (BBTAVF) as the Hemodialysis access in ESRD patient; A retrospective study in Ramathibodi hospital | นพ.พลชัย มาลัยพรพงศ์<br>F2-Vascular |
| 13.10 - 13.20 | Using Carbon dioxide–assisted endovascular aortic aneurysm repair ($CO_2$-assisted EVAR) to preserve renal function, comparing with Iodinated contrast angiography | นพ.ศตวรรษ จึงธีรพานิช<br>F2-Vascular |
| 13.20 - 14.30 | ปิดการประชุมฯ และรับประทานอาหารกลางวัน | |

# ABSTRACT

## “Incidence of complicated appendicitis during the COVID-19 pandemic: A systematic review and meta-analysis”

Abduljubbar Kariya, MD.

Abduljubbar Kariya,[1] Chonlada Krutsri,[2*] Pongsasit Singhatas,[2] Preeda Sumritpradit,[2] Tharin Thampongsa,[2] Panuwat Lertsitthichai,[3] and Napaphat Phoprom[3]

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[2] *Division of Trauma, Acute Care Surgery, and Surgical Critical Care, Department of Surgery, Faculty of Medicine, Ramathibodi Hospital, Mahidol University, Bangkok, Thailand*

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**Introduction**

Measures taken to prevent the spread of coronavirus disease 2019 (COVID-19) slow surgical processes, and patients are avoiding presenting at emergency departments during the outbreak because of fears of contracting the contagious disease. To analyze the rate of complicated appendicitis before and during the COVID-19 pandemic

**Methods**

We systematically reviewed the PubMed and SCOPUS databases for articles published from 2000 to 2021. Including the retrospective review data collected from our hospital of patients aged ≥18 years old who were diagnosed with acute appendicitis. The primary outcome of complicated appendicitis incidence was compared between before and during the COVID-19 pandemic period. We performed a meta-analysis using a random-effects model analysis.

**Results**

A total 3559 patients were included for meta-analysis. The overall rate of complicated appendicitis was significantly higher during the pandemic (relative risk, 1.55; 95% confidence interval [CI], 1.26–1.89). The time from onset of symptoms to hospitalisation was 0.41 h longer during the pandemic, which was not significantly different (standardized mean difference, 0.41, 95% CI, –0.03 to 1.11). The operating time during the pandemic was significantly shorter than that before the pandemic (83.45 min and 71.65 min, p = 0.01).

**Conclusion**

There are correlation between the pandemic and severity of acute appendicitis. The higher rate of complicated appendicitis in the pandemic indicates that patients require timely medical attention and appropriate treatment despite fears of contracting disease.

**Keywords:** Complicated appendicitis, COVID-19, SAR-CoV-2, Acute appendicitis, Perforated appendicitis, Uncomplicated appendicitis

# ABSTRACT

"A randomized controlled trial of effect of transcutaneous electrical nerve stimulation in reduction of post-operative pain in open midline abdominal surgery after general anesthesia."

Arichaya Koosaksathaporn, MD

Arichaya Koosaksathaporn, MD.[1*], Goragoch Gesprasert MD.[2], Pongsasit Singhathas MD.[3], Tharin Thampongsa MD.[3], Chonlada Krutsri MD.[3], Visarat Palitnonkiat MD.[3]

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**Background:** Cytokine is stormly released after major surgery and stimulates inflammatory response. Finally, it damages cells and causes in postoperative pain. Many patients have insufficient pain relief despite the use of multiple pain modalities and lead to several pathophysiological effects. TENs is one of many modalities of pain reliever. However, TENs isn't commonly used for post-operative abdominal surgery.

**Objectives:** The aim of the study is to analyse whether TENs can be another modality of pain reliever for patients who underwent abdominal surgery

**Materials and Methods:** A single center randomized controlled trial was studied in Ramathibodi tertiary hospital. A total of 137 patients scheduled for elective major abdominal surgery during 1st July 2021 – 30th November 2022 were included. They were randomly in intervention group (TENs) and placebo group.

**Results:** A total of 137 patients underwent open abdominal surgery, TENs group included 69 patients and non intervention group included 68 patients. Patient characteristics was similar in two groups, except the age. The mean age was different between two groups, 65 in TENs vs 60 years old non intervention group, p value 0.009. Post-operative Morphine used was significantly higher in TENs group, 16 mg. (12,29) in TENs group vs. 15 mg. (8,24) in placebo group, with P-value 0.007. Similary, post operative pain score was significantly higher in interventional group at postoperative 28 hr. (TENs group pain score 4 (2,5) vs Placebo group pain score 2 (0,4), P-value=0.022), 40 hr. (TENs group pain score 2 (0,4) vs Placebo group pain score 1 (0,4), P-value=0.037), and 48 hr. (TENs group pain score 2 (0,5) vs Placebo group pain score 0.5 (0,3), P-value=0.007), but not significantly different at other postoperative period.

**Conclusions:** We didn't find that TENs is a modality of choices for relieve post-operative abdominal surgical pain. However, there are many limitations in this study. Large multicenter RCT is need for concluded the benefit of TENs.

**Keywords:** TENs, Transcutaneous electrical nerve stimulation, Postoperative pain, Open midline abdominal surgery

# ABSTRACT

"Relationship of lateral nasal osteotomy and inferior nasal turbinate. Is Webster's triangle still important?"

Atchara Setthajindalert, MD

Atchara Setthajindalert, MD**, Padcha Tunlayadechanont, MD*, Thiti Tantitham, MD**

*Division of Neuroimaging, Department of Diagnostic and Therapeutic Radiology, Ramathibodi Hospital, Mahidol University, Bangkok, Thailand

** Division of Plastic and Maxillofacial Surgery, Department of Surgery, Ramathibodi Hospital, Mahidol University, Bangkok, Thailand

**Background:** Nasal characteristics in East Asians exhibit significant diversity compared to Caucasians, often necessitating rhinoplasty with nasal osteotomy. Lateral nasal osteotomy is a preferred procedure, typically performed in a high-to-low fashion to avoid harm to Webster's triangle. However, some articles suggest this technique is unnecessary. This study aimed to examine the distance between the low-to-low lateral osteotomy line and the anterior inferior nasal turbinate in Thai adult rhinoplasty, quantitatively analyzing data from CT scans

**Methods:** A retrospective analysis was conducted on 81 Thai adult patients who underwent CT paranasal sinus scans. Data were collected from January 2019 to May 2020 at Ramathibodi Hospital. The primary outcome was the average distance between the inferior nasal turbinate and the low-to-low lateral nasal osteotomy path. Secondary outcomes included the relationship between the distance from the inferior nasal turbinate to the low-to-low lateral nasal osteotomy path and other nasal characteristics, as well as a factor to predict the distance from the inferior nasal turbinate to the low-to-low lateral nasal osteotomy path based on other variables.

**Results:** The average distance between the inferior nasal turbinate and the low-to-low lateral nasal osteotomy path was 7.04 ± 3.17 mm on the right and 6.46 ± 3.03 mm on the left. There was a negative correlation between the distance between the inferior nasal turbinate to the low-to-low lateral nasal osteotomy path and rhinion-nasal tip distance ($r = -0.35$, $p < 0.001$). The equation of the regression line for this relationship is: The distance between the inferior nasal turbinate and the low-to-low lateral nasal osteotomy path = 9.60 + (-0.35 × rhinion-nasal tip distance).

**Conclusions:** The average distance between the inferior nasal turbinate and the low-to-low lateral nasal osteotomy path in this study was 7.04 ± 3.17 mm on the right and 6.46 ± 3.03 mm on the left. Rhinion-nasal tip distance was a factor that affected this distance. However, further research is needed to validate these values in a larger population and application in clinical study.

**Keywords:** Webster's triangle, osteotomy, rhinoplasty, anterior nasal turbinate

# ABSTRACT

## Randomized Controlled trial of Efficacy of Mosapride on Recovery of Intestinal Motility after Elective Colorectal Cancer Surgery

Bensita Saengsawang, MD

Saengsawang B., Thampongsa T., Supsamutchai C., Wilasrusmee C., Jirasiritham J., Panmeechao P., Palitnonkiat V., Poprom N., Choikrua P., Suriwan C.

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**Introduction:** Postoperative ileus, is one of the most common causes of prolonged hospital stays after abdominal surgery which cause from physiologic hypomotility of the gastrointestinal tract occurring immediately after abdominal surgery. Multi-modal approach to the resolution of postoperative ileus includes ERAS protocol such as opioid minimization, early ambulation, intake of prokinetic drug. Mosapride citrate (mosapride) is known to promote gastrointestinal motility. The objective of this study is to evaluate the effects of mosapride on postoperative ileus and postoperative gastrointestinal motility in patients undergoing elective open and laparoscopic colorectal surgery.

**Methods:** The study was approved by ethics committee of the Faculty of Medicine Ramathibodi Hospital Mahidol University (Ref. Number COA.MURA2021/328, ClinicalTrials.gov Identifier: NCT04905147). Forty-four colorectal cancer patients, undergoing open and laparoscopic colorectal surgery in Ramathibodi Hospital during July 2021-August 2022, were randomly assigned to a mosapride group or control group. The mosapride group received 15 mg of mosapride by enteric route with 50 ml of water three times a day, starting on postoperative day 1. The control group received 15 mg of placebo drug with 50 ml of water at the same time. Postoperative time to the first passage of flatus and the first bowel movement were evaluated by one investigator with triple blind study. Time to step diet, length of postoperative hospital stays, and adverse effects were also evaluated in secondary outcomes.

**Results:** All forty four patients were include, twenty-three in control group and twenty-one in mosapride group. There were no statistically significance differences between mean age and type of surgery (laparoscopic or open) in two group ($P>0.05$). Time to first bowel movement and time to passage of flatus after operation were significantly shorter in the mosapride group than the control group (26 vs 50 hours, $P=0.004$ and 40 vs 70 hours, $P=0.003$, respectively). Time to step diet (soft diet) was also shorter in the mosapride group (90 vs 132 hours, $P=0.004$). Time to defecate was less in mosapride group than control group (80 vs 120 hours, $P <0.001$). Length of hospital stay was significantly shorter in patients receiving mosapride (7 vs 10 days, $P=0.004$).

**Conclusion:** This study demonstrated the efficacy of mosapride when administered to patients who underwent elective colorectal surgery. Mosapride significantly enhance recovery of gastrointestinal motility and shorter length of hospital stay with no significant adverse effects.

# ABSTRACT

## External validation of colorectal cancer scoring system for diagnosis colorectal cancer

Chanakarn Sribangpleenoi, MD

Chanakarn Sribangpleenoi, Asst.Prof. Jakrapan Jirasiritham

*Department of Surgery, Faculty of Medicine Ramathibodi Hospital, Mahidol University, Bangkok, Thailand*

**Introduction:** Colorectal cancer is the third most common cause of death for worldwide. The incidence rate of colorectal cancer is most common cancer in female than male. Risk factors of colorectal cancer were age, gender, obesity, family history of colorectal cancer, history of inflammatory bowel disease, diabetes, hypertension, exercise, dyslipidemia, alcohol consumption, smoking, bleeding per rectum, weight loss, and abdominal pain. The gold standard for colorectal cancer diagnosis is colonoscopy but colonoscopy is not available in all setting in Thailand. Moreover, colonoscopy is the invasive procedure with high risk of complications and increased the cost of the patients. Surgical treatment of early-stage colorectal cancer affects favorable prognosiswith increased survival rate of the patients. From those reason of the limitation of access to the colonoscopy, especially, in rural area. The screening system might effective with harmless and low cost for those area. However, there was published the screening of colorectal cancer scoring system based on risk parameters without any validation. Therefore, we aim to external validation with explored the performance of the colorectal cancer screening scoring system for generalized the scoring system to all setting.

**Methods:** The cohort study was performed between January 2020 to October 2023 at Department of Surgery, Ramathibodi hospital, Mahidol University. The data was collected from electronic medical record. The student t-test and chi-square test was applied where appropriated. Logistic regression was used in model selection step with p-value < 0.1 and final model confirmation step was applied multiple logistic regression with p-value < 0.05. The performance of colorectal scoring system was reported by receiver operating characteristic curve (ROC curve) with calibration plot.

**Results:** Two hundred patients were received colonoscopy and included to the study. Among them, 100 patients were diagnosed with colorectal cancer and 100 patients were non-cancer. The characteristic of included patients were age, gender, abdominal pain, bleeding per rectum, weight loss, family history of colorectal cancer, exercise, LDL level and HDL level. The performance of external validation phase using ROC curve of colorectal cancer scoring system can predict colorectal cancer was lower about 69.48% (95%CI; 62.26%, 76.69%) than the derivative phase about 85.15% (95%CI; 80.32%, 89.98%) with statistical significant (p-value<0.001). The calibration plot was balanced among 2 data phases of derived and external validation phases.

**Conclusion:** The colonoscopy is still the gold standard procedure to diagnosis of colorectal cancer with high sensitivity and specificity. However, the colorectal cancer screening scoring systemmay use to screening colorectal cancer when colonoscopy is unavailable with acceptable performance.

**Keywords:** colorectal cancer, colorectal cancer screening, colonoscopy, colorectal cancer scoring system, colorectal cancer screening scoring system

# ABSTRACT

## “Leveraging Computer Vision for Reliable Measurement of Lumbosacral Spinopelvic Parameters: A Comparative Study”

Chayut Prunkngarmpun, MD

Chayut Prunkngarmpun, MD., Sorayouth Chumnanvej, MD., Ph.D
*Division of Neurosurgery, Department of Surgery, Ramathibodi Hospital, Mahidol University, Bangkok, Thailand*

**Introduction**
Understanding the lumbosacral spinopelvic parameters is critical for the assessment and surgical management of several spinal disorders including spondylolisthesis, scoliosis, and spondylosis. These parameters influence spinal biomechanics and help to determine surgical intervention in these disorders. Traditional manual methods of evaluation are time-consuming and are subject to inter-rater variability. Despite the growing usage of these characteristics in both surgical and research settings, the present literature is restricted in terms of raw data and practical data collection. In this study, we compare computer vision technology with traditional manual assessments for the measurement of some key spinopelvic parameters.

**Methods**
A total of 200 adult individuals underwent preoperative spinopelvic parameter measurements, as part of a protocol-driven investigation into the identification of spinopelvic insufficiency in the setting of degenerative lumbosacral stenosis. Measurements were performed using both traditional manual methods, as well as with computer vision-based software. Lumbar lordosis, sacral slope, pelvic tilt, and pelvic incidence were the key parameters compared. All traditional measurements were performed by a single surgeon. Statistical analysis using Bland Altman analysis assessed the level of agreement between the two measurement approaches by estimating the mean difference and constructing limits of agreement.

**Results**
Bland-Altman agreement testing found the 2 measurement approaches to be consistently within 10-20 degrees of each other for all spinopelvic parameters. There is a good agreement between the two methods and the computer vision in this present study appears to be comparable to the traditional manual assessments. However, the 95% confidence interval is broader than anticipated.

**Conclusion**
This present study demonstrates the potential of computer vision technology which may enhance the efficiency of the evaluation of spinopelvic parameters in the clinical and research setting. It is established not only agrees with human measurements but also lays the path for far more accurate and efficient methods of determining spinal biomechanics, faster diagnoses, and better preoperative, intraoperative, and postoperative management.

# ABSTRACT

## “Evaluation of Risk factor for breakthrough infection in pediatric patients with primary vesicoureteral reflux”

Chomplern Wiraseranee , MD

Wiraseranee C., Sirisreetreerux P.

*Division of Urology, Department of Surgery, Faculty of medicine. Ramathibodi hospital, Mahidol University, Bangkok, Thailand*

**Introduction:** Vesicoureteral reflux is one of the cause of urinary tract infection in children. Antibiotic prophylaxis is essential for the pediatrics patients with vesicoureteral reflux to reducethe chance of urinary tract infection. However, some of these patients who received the prophylactic drug encountered breakthrough urinary tract infection, leading to escalated in serious morbidity such as renal damaging.
Hence, these evaluation of risk factor for breakthrough infection provided the invaluable informations to help physician, parents and patients aware and avoid the hazardous factors to reduce a chance of renal scarring.

**Objective:** The aim of this study was to identify the risk factors for breakthrough urinary tract infection in children with vesicoureteral reflux using antibiotic prophylaxis

**Material and Method:** The medical recordsof 238 pediatricspatient (133 boys and 105 girls) with Vesicoureteral reflux grade1-5 who used prophylactic antibiotics in Ramathibodi hospital were reviewed retrospectively. Parameters for analysis comprised presentation, gender, age, weight, height, BMI,VUR grade, laterality, type of antibiotics prophylaxis, times of urinary tract infection before receiving antibiotics prophylaxis, Drug compliance, serum BUN and Creatinine level, presence of abnormal renal scan by Dimercapto-succinic acid. The data was examined by univariate/multivariate analysis to identify the factors for breakthrough infection

**Results :** Breakthrough urinary tract infection occurred in 86 children, 42 boys(48.8%) and 44 girls(51.2%). On the univariate analysis, The factors that significantly correlated with breakthrough infection werepoor drug compliance ($p=0.044$). abnormal renal scan at midpole($p=0.027$) or upper pole($p<0.05$). bowel and bladder symptom($p=0.012$) especially constipation and delay voiding and the times of urinary tract infection before receiving antibiotics prophylaxis ($p=0.013$). Moreover, the increase in the number of times of urinary tract infection before receiving antibiotics prophylaxis by one time rose the chance of breakthrough infection to 1.44 times (95%CI 1.08-1.92, $p<0.05$).On multivariate analysis, Bowel bladder symptom was independent risk factor for breakthrough infection(OR 3.07,95%CI 1.21-7.77, $p<0.018$)

**Conclusion:** For vesicoureteral reflux patient receiving antibiotics prophylaxis, bowel bladder symptom was an independent risk factor for breakthrough infection. Thus, the patient with these symptom should be concerned as a high risk patient for breakthrough urinary tract infection.

# ABSTRACT

Kan Plaichum, MD

## Relationship between abnormal nipple discharge and ductal abnormality from breast ultrasonography and nipple areola complex involvement in breast cancer

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[4] *Faculty of Public Health, Chiang Mai University, Chiang Mai, Thailand.*

**Background:** Mastectomy specimens of patient with abnormal nipple discharge found NAC involvement 16-29.4%. Ductal dilatation from US in breast cancer found NAC involvement 6.67%. No recommendation for or against surgical management in patient with those presentations

**Objective:** To identify relationship between clinical and radiological findings and nipple areolar complex(NAC) involvement in female breast cancer

**Methods:** Female patients with breast cancer undergoing mastectomy, specimens including the nipple, during 2021-2023 in Ramathibodi hospital were reviewed retrospectively. Clinical presentation, pathological report and imaging findings both mammography and ultrasonography were compared between cases with and without NAC involvement by cancer

**Results:** in total, 286 from 300 patients were included in the analysis, 298 mastectomy specimens. 41 of 298 had NAC involvement. Clinically present of abnormal nipple discharge was not associated with NAC involvement (OR 0.29[0.085], p=0.059). Neither ultrasonographic findings of ductal dilatation nor associated duct extension from tumor were associated with NAC involvement

**Conclusion:** incidence of NAC involvement in female breast cancer in Ramathibodi hospital from 2021-2023 is 16.07%. Clinically present of abnormal nipple discharge is associated with NAC involvement but without statistical significance (OR=3.33[0.095-11.638], p=0.059). Neitherultrasonographic findings of ductal dilatation nor associated duct extension are associated with NAC involvement. But we found that architectural distortion from MMG, shorter tumor nipple distance, larger tumor size, multifocal tumor from US is associated with NAC involvement. We also found NAC involvement association in larger tumor size, presence of LVI and higher pathological stage from histopathology

**Keywords:** Abnormal nipple discharge, breast cancer, ductal dilatation, nipple areola complex involvement, pathologic nipple discharge

# ABSTRACT

## A Comparative Study of Video-Assisted Thoracoscopic Surgery Versus Median Sternotomy Thymectomy in Myasthenia Gravis

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**Background:** Thymectomy is a standard treatment for myasthenia gravis (MG) patients. Although there are different approaches for thymectomy available, the standard approach is still known as a median sternotomy. Currently, the video-assisted thoracoscopic (VATS) approach is increasing in popularity. It has shown benefits in less blood loss, less postoperative pain, and improvement of recovery after surgery. However, there are still controversies in the outcomes of these two approaches.

**Objective:** To compare perioperative and neurological outcomes of thymectomy between the median sternotomy approach and the VATS approach.

**Materials and Methods:** One hundred twenty-three patients underwent thymectomy between January 1, 2012 and December 30, 2020 and were enrolled in the present retrospective study. They were classified into two groups depending on the approach of the surgery. The perioperative and neurological outcomes were analyzed and compared between the two groups. The analyses were performed using students' t-test, Mann-Whitney test, chi-square, or Fisher's exact test.

**Results:** There were 72 patients in the median sternotomy group and 51 patients in the VATS group, and no death in both groups. There were also no significant differences between the two groups regarding surgical time, postoperative pain, postoperative complications, and neurological outcomes. Intraoperative blood loss, intercostal drainage volume and duration, and length of hospital stay were significantly less in the VATS group. Complete remission was significantly higher in VATS group. The median follows up time was significantly longer in the median sternotomy group.

**Conclusion:** The VATS approach for thymectomy had shown good outcomes, which were not inferior to the median sternotomy approach.

**Keywords:** VATS Thymectomy; MG; Thymoma; Thymectomy; Minimally invasive thymectomy; Myasthenia gravis; Left VATS thymectomy; Subxiphoid VATS thymectomy; Anterior mediastinal tumor; Anterior mediastinal mass

# ABSTRACT

## Recurrence risk factors after Surgical Repair of Vesicovaginal fistula

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**Objective:** One of the major complications of vesicovaginal fistula (VVF) surgery is recurrent fistula formation. We evaluated the recurrence risk factors after VVF repair.

**Methods:** This retrospective study was performed at Ramathibodi Hospital. Data were collected for patients who underwent VVF surgery from January 1969 to December 2020. The potential risk factors were analyzed by univariate and multivariate analyses using a Cox regression model. Independent risk factors were expressed as hazard ratios with 95% confidence intervals.

**Results:** Among the 81 patients who underwent VVF surgery, repair was successful in 48 patients, and 33 patients developed VVF recurrence. Univariate analysis revealed that the VVF recurrence was significantly associated with the use of an interposition flap (six-times higher recurrence risk without an interposition flap), postoperative urinary tract infection (three-times higher recurrence risk if present), route of repair (two-times higher recurrence risk for the transvaginal approach), and surgeon experience (two-times higher recurrence risk for less experienced surgeons). Age, body mass index, and VVF cause, size, number, and location were not significant VVF recurrence risk factors.

**Conclusion:** Successful surgical repair of VVF requires careful evaluation of various factors, namely the use of an interposition flap, postoperative UTI, route of repair, and surgeon experience. In all patients with multiple risk factors for recurrence, we recommend the use of an interposition flap to improve outcomes.

**Keywords:** vesicovaginal fistula, recurrence, risk factor, surgical repair

# ABSTRACT

## Efficacy of Quilting Sutures Technique in Female-to-Male Top Surgery Mastectomy

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**Background:** The large raw surfaces area between subcutaneous tissue and breast tissue in Female-to-Male Top Surgery Mastectomy can leak fluid causing seroma formation. There has been reported the surgical technique of quilting sutures to obliterate dead space after removing the breast tissue, so the need for a subcutaneous drain may be avoided.

**Methods:** This prospective randomized controlled trial was conducted of all patients presenting from April 2022 to November 2023 by single surgeon for female-to-male top surgery mastectomy. After the mastectomy was performed, one side of chest wall was closed using quilting sutures technique whereas the other side was closed using conventional technique. The serum drainage of both sides was recorded and compared.

**Results:** Ten patients were enrolled in this study. The incision types were included of inferior peri-areolar incision for 60% of patients and transverse incision for 40% of patients. The quilting technique was performed at the right side for 60% of patients and the left side for 40% of patients. The median breast volume was 201.5 g at the right side and 208.0 g at the left side. The median maximum drain volume of the quilting technique side was 130.5 ml compared to 131 ml of the conventional technique side without a statistically significant (P-value = 0.956). And also, the postoperative pain scale of the quilting technique side was 2 compared to 3 of the conventional technique side without a statistically significant (P-value = 0.640). There was no incidence of seroma or hematoma.

**Conclusions:** The quilting sutures technique in Female-to-male top surgery mastectomy for dead space closure has no benefits over the conventional sutures technique in terms of wound drainage. And also, there is no association between both of the wound closure techniques and postoperative pain.

**Keywords:** Quilting suture, female-to-male mastectomy, serum drainage, postoperative pain

# ABSTRACT

## “A novel preoperative nomogram to predict pathological stage and lymph node involvement of prostate cancer in Thailand”

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**Introduction:** Prostate cancer nomograms are widely used to differentiate pathologic stages via preoperative characteristics. However, the incidence and progression of prostate cancer can vary by ethnicity and geographical location. Currently, there are no prostate cancer nomograms that have been developed specifically for Thailand

**Objective:** The aim of this study was to create a new nomogram for the prediction of the final pathological stage and lymph node involvement of prostate cancer prior to radical prostatectomy (RP) in Thai patients.

**Material and methods:** From January 2011 to December 2020, we collected data from 1303 Thai patients underwent RP for prostate cancer at Ramathibodi Hospital. Individual nomograms were created to predict the pathological stage (organ-confined disease (OC), extraprostatic extension (EPE), seminal vesicle invasion (SVI), and lymph node involvement (LNI) based on logistic regression analysis, with predicted probabilities and 95% confidence intervals for the model, using serum prostate-specific antigen (PSA), clinical stage, and biopsy Gleason score (GS).

R**esults:** 645 patients met the inclusion and exclusion criteria. Serum PSA, clinical stage, and the biopsy grade group contributed significantly to the prediction of the pathological stage in the univariate analysis ($p < 0.005$). Combining all three variables enhanced the precision of thenew nomogram. For logistic models predicting OC, EPE, SVI, and LNI, the area under the receiver operating characteristics curves were 0.735, 0.727, 0.765 and 0.864, respectively.

**Conclusion:** This new nomogram has been simplified into a table format for clinicians to conveniently utilize for counselling and to assess the necessity of pelvic lymph node dissectionin Thailand.

**Keywords:** Prostate cancer, Nomograms, pathologic stage, Patin table, Lymph node involvement, Thailand.

# ABSTRACT

## Comparative analysis of primary Palatoplasty techniques in Ramathibodi hospital: evaluating secondary Palatoplasty rates and associating factors in a ten-year retrospective study

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**Background:** This study compares three primary palatoplasty techniques—Intravelar Veloplasty (IVV), Sommerlad's Microscopic Intravelar Veloplasty (Microscopic IVV), and Furlow's Double Opposing Z-Plasty Palatoplasty (Furlow's palatoplasty)—to evaluate the rates of secondary palatoplasty and associated factors over a ten-year period.

**Methods:** A retrospective analysis was conducted on 130 patients who underwent primary palatoplasty between 2006 and 2016, with follow-up until 2023. The study assessed the occurrence of secondary palatoplasty and the incidence of posteriorly located oronasal fistula (Posterior ONF) and velopharyngeal insufficiency (VPI), prompting secondary surgery.

**Results:** The overall incidence of secondary palatoplasty was 39.2%. The Microscopic IVV group had the highest rate of secondary surgeries at 54.4%, followed by the IVV group at 23.5%. No secondary palatoplasties were reported in the Furlow's palatoplasty group. Univariate analysis did not identify significant predictors for secondary palatoplasty among patient demographics or primary surgery details.

**Conclusion:** Furlow's palatoplasty demonstrated superior outcomes with no cases of secondary palatoplasty, suggesting its effectiveness in reducing the need for additional surgeries. The study highlights the importance of primary palatoplasty technique selection to minimize secondary interventions.

# ABSTRACT

## A comparative study of conventional aortic replacement and mini-J median sternotomy

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**Background:** Aortic valve replacement (AVR) has developed into an operation that carries very little risk and yield excellent outcomes. Conventional AVR has proofed to be safe with low operative mortality overtime. With increasingly of minimally invasive surgery, MiniJ sternotomy was performed more often and also yield a safe outcome as conventional AVR. The proposed benefits of miniJ AVR was smaller scar, less trauma, less pain, decrease transfusion requirement, better cosmetic result and sternum stability with equivalent efficacy. Therefore we sought to evaluate the outcomes of mini-J AVR performed at a single centers, Ramathibodi Hospital, Thailand.

**Objective:** To compare the mortality and morbidity of conventional AVR and Mini-J AVR. And also compare the post operative blood loss, blood transfusion, pain, bleeding postoperatively.

**Methods:** from 1st January 2008 - 31st December 2021, There were 96 selected patients, who underwent Aortic valve replacement operation, were enrolled to this retrospective study. They were classified into two group depends on the approach of the surgery.The preoperative perioperative data and postoperative outcomes were analysed and compared between two groups. The analysis was performed using student's T-test, Mann-Whitney test, Chi-square or Fisher's exact test.

**Results:** There were 66 patients in conventional sternotomy group and 30 patients in mini-J AVR group. There was 1 death in conventional groups. 3 stokes in conventional group. No death or stroke in Mini-J AVR group. Blood loss after the operation was lower in mini-J AVR group, however ratio of blood component transfusion is similar. There were no significant differences between two groups in surgical time, aortic valve size, postoperative pain, postoperative complications.

**Conclusion:** The mini-J AVR is as effective as conventional AVR with less blood loss postoperative.

# ABSTRACT

## “Cost-Effectiveness of Early Oral Feeding Compared with Conventional Oral Feeding after Gastrointestinal Surgery”

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**Background:** Gastrointestinal surgery is a common procedure in all healthcare facilities. One aspect is initiating postoperative nutrition in patients undergone surgery. There are two approaches to considering of initiating postoperative nutrition which including conventional method and ERAS protocol.Although, ERAS protocol has better effectiveness with high cost compared with conventional. Therefore, we aimed to compare the cost-effectiveness of early oral feeding with conventional feeding in patients who undergone gastrointestinal surgery based on hospital perspective.

**Methods:** A retrospective cohort study was performed. The data were retrieved from the electronic medical record from 1 January 2020 to 12 May 2020. The direct medical cost were explored from hospital billing with the Incremental Cost-Effectiveness Ratio (ICER) was estimated

**Results:** A total of 146 patients met the inclusion criteria, 19.9% patients in the early oral feeding group and 80.1% patients in conventional feeding group. The median time to start eating for the early oral feeding group was 18 hours, while the conventional feeding group was 60 hours. The overall complications for the early oral feeding group and conventional group were 27.6% and 23.1%, respectively.The ICER for the entire patient group is 338,466.67 THB per overall complication, and for the Lower GI surgery subgroup is 107,690.84 THB per overall complication.

**Conclusions:** Comparing the early oral feeding group to the conventional group, there was spend high costs to achieve a better outcome for one person. Therefore, the decision making should be concern for the worthiness.

**Keywords:** Early feeding, Conventional feeding, gastrointestinal surgery, Cost effectiveness

# ABSTRACT

## Comparison of Perioperative and Pathological Outcomes of Extraperitoneal Laparoscopic Prostatectomy and Robotic-Assisted Extraperitoneal Laparoscopic Prostatectomy in Localized Prostate Cancer: A Retrospective Study Based on Patient Risk Classification

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**Background:** Prostate cancer is the most common cancer in men worldwide, and surgical removal of the prostate gland is a well-established treatment option for localized disease. Laparoscopic prostatectomy has gained popularity in recent years due to its minimally invasive approach and improved outcomes compared to open surgery. Extraperitoneal laparoscopic prostatectomy (EPLP) is a technique that has been shown to offer advantages such as reduced blood loss, shorter hospital stays, and faster recovery compared to traditional open prostatectomy. Robotic-assisted extraperitoneal laparoscopic prostatectomy (RAEPLP) is a newer technique that has been developed to overcome some of the limitations of EPLP, but its superiority over EPLP in terms of perioperative and pathological outcomes remains unclear.

**Objective:** The aim of this study is to compare the perioperative and pathological outcomes of RAEPLP versus EPLP in the treatment of localized prostate cancer, based on patient risk classification.

**Methods:** We retrospectively reviewed the medical records of 178 patients with prostate cancer who underwent minimally invasive surgery techniques, including 125 EPLP and 53 RAEPLP procedures, between January 2010 and December 2021 at Ramathibodi Hospital. Patient risk was classified according to the National Comprehensive Cancer Network (NCCN) Guidelines for 2022. Demographic, perioperative, and pathological data were collected, and the differences in outcomes between EPLP and RAEPLP in each risk classification were assessed using chi-square, Fisher's exact tests, and logistic regression.

**Results:** RAEPLP had longer operative times and more intraoperative blood loss compared to EPLP (mean operative time: 265 min vs. 180 min, $p<0.005$; mean estimated blood loss: 500 mL vs. 300 mL). However, there was no significant difference in positive surgical margins between the two techniques in all risk classifications (adjusted odds ratio 1.16, 95% confidence interval 0.728). Patients who underwent RAEPLP had similar outcomes to those who underwent EPLP in terms of blood transfusion rate, adjacent organ injury, postoperative complications, and length of hospital stay.

**Conclusion:** Minimally invasive surgery techniques, including EPLP and RAEPLP, appear to be safe and effective treatments for localized prostate cancer. While RAEPLP has longer operative times and more intraoperative blood loss, it can provide similar outcomes to EPLP in terms of positive surgical margins, postoperative complications, and length of hospital stay. However, the additional time required for robotic docking and creating space for the operative field should be considered.

**Abbreviations:** EBL: estimated blood loss; LOS: length of hospital stay; PSM: positive surgical margin; EPLP: extraperitoneal laparoscopic prostatectomy; RAEPLP: robotic-assisted extraperitoneal laparoscopic prostatectomy; MIS: minimally invasive surgery

# ABSTRACT

## Comparing 4.8 Fr and 6 Fr Ureteral Stents in Terms of Urological Complications Linked to Kidney Transplantation Using a Prospective Randomized Controlled Trial

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**Introduction:** Kidney transplantation (KT) is considered the gold standard treatment for end-stage kidney disease. Prophylactic ureteric stenting in KT reduces major urological complications. However, at present, there is no consensus on the ideal size of ureteral stents.

**Objectives:** To determine the optimal size for stents in this clinical setting.

**Material and Methods:** We prospectively recruited 70 patients who were undergoing KT between February and December 2021 and randomly assigned them to either the 4.8 Fr or the 6 Fr ureteral stent groups with a 1:1 ratio. Basic characteristics, postoperative adverse events within three months of transplantation, and answers to the ureteral stent symptom questionnaire (USSQ) were collected and analyzed.

**Results:** The findings demonstrated that the use of a 4.8 Fr during the ureteroneocystostomy step was not inferior to that of a 6 Fr in terms of urinary leakage (11.4% vs. 2.9%, p = 0.164) anastomotic stricture (2.9% vs. 0%, p = 0.314), and postoperative urinary tract infection (28.6% vs. 20.0%, p = 0.403). Furthermore, the USSQ scores for urinary symptoms were generally comparable.

**Conclusion:** Based on the evidence from the present study, implanting a 4.8 Fr ureteral stent was not inferior to using a 6 Fr stent in patients who had undergone KT in terms of anastomotic adverse events, though it improved stent-related symptoms.

# ABSTRACT

## Effects of Supine and Reverse Trendelenburg Positions on Central Venous Pressure (CVP) During Hepatectomy: A Prospective Randomized Controlled Trial

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**Background:** Hepatectomy is an operation which has potentially significant blood loss. The low central venous pressure (CVP) technique has been accepted as a method to minimize blood loss during hepatectomy. From previous studies, reverse Trendelenburg position decreased CVP, however, no randomized control study has compared the effectiveness of these techniques in terms of reducing CVPand decreasing blood loss.

**Objectives:** This randomized controlled trial study aimed to demonstrate the benefit of reverse Trendelenburg position with reference to the lowering of CVP and blood loss compared to the supine position during hepatectomy

**Methods:** After approval of TCTR20210614001, the patients who underwent open hepatectomy were randomized into two groups, the supine position and the reverse Trendelenburg position groups. The primary outcome was CVP during liver resection and secondary outcome was blood loss and rate of blood transfusion.

**Results:** The 112 patients undergoing open hepatectomy between March 2021 to October 2023 were randomized into two groups. The 57 patients received the supine position while reverse Trendelenburg position was applied to 55 patients. There were no differences between the two groups in terms of patient characteristics. CVP after reverse Trendelenburg position decreased 1.6±2.6 cmH2O (p=0.000) at 5 minutes after position adjustment. However, CVP at 15-120 minutes after reverse Trendelenburg position was not significantly different from the supine position group. There was no significant difference in blood loss and rate of blood transfusion during hepatectomy between two groups.

**Conclusion:** This study demonstrated the benefit of the reverse Trendelenburg position which reduced CVP at only first 5 minutes after position adjustment but no significant difference regarding the blood loss was found.

**Keywords:** low central venous pressure, position, hepatectomy, reverse Trendelenburg, blood loss, blood transfusion.

# ABSTRACT

## The Management and Outcomes of Surgical Sepsis in Limiting Resource during COVID-19 Pandemic

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**Background:** Sepsis is a life-threatening organ dysfunction caused by the dysregulated host response to infection. Surgical sepsis is a form of sepsis that requires source control. Treating surgical sepsis patients during the COVID-19 pandemic presented several limitations, particularly in terms of source control.

**Objective:** The study aims to evaluate the management of surgical sepsis patients at Ramathibodi hospital by comparing outcomes before and during the COVID-19 pandemic.

**Materials and Methods:** Retrospective analysis was conducted on patients diagnosed with sepsis in the Department of Surgery at Ramathibodi Hospital from May 2019 to April 2021. Patients were divided into two groups: Group A comprises patients diagnosed with sepsis before the COVID-19 pandemic (May 2019 to April 2020), and Group B consists of patients diagnosed with sepsis during the pandemic (May 2020 to April 2021). Surgical sepsis patients were analyzed to ascertain the mortality rate and conduct multivariate analysis to demonstrate the association of exposure variables with the mortality rate in this group.

**Results:** Two hundred and ninety patients were included, with 145 diagnosed with sepsis in both Group A and Group B. Among them, 49 in Group A and 68 Group B were classified as surgical sepsis. The mortality rate for surgical sepsis patients in Group A and Group B were 26.53% and 33.82%, respectively. The study shows no significant difference between the two groups regarding mortality (p=0.399). Multivariable analysis revealed that surgical sepsis patients who were either not admitted to ICU or admitted less than 15 days had a lower mortality rate (Adjusted OR, 0.01 and 0.12, respectively) (p<0.001).

**Conclusion:** The limited resources during COVID-19 do not appear to impact the mortality rate of surgical sepsis patients. However, it is crucial to acknowledge that there may be other potential confounding factors that cannot be controlled. The mortality rate may differ in contexts different from this study.

**Keywords:** COVID-19; Surgical sepsis; Source control

# ABSTRACT

## Factors associated liver recovery after hepatic resection, A retrospective study

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**Background:** Post hepatectomy liver failure (PHLF) remains one of the most serious complications after liver resection. Transaminase levels are measured as markers of hepatocellular injury and have been proposed as early predictors for liver recovery after liver resection. We aimto investigate factors that associated with liver recovery after hepatectomy.

**Methods:** Clinical data of all patients who underwent liver resection at Ramathibodi Hospital from January 2015 to July 2022 were retrospectively collected. Patients' characteristics intraoperative records, post operative laboratory data (serum AST, ALT, Bilirubin on POD 1 to POD7), and hydrocortisone drug used, post operative complication and infection were analyzed to find the association with liver recovery.

**Results:** A total of 699 patients were included. In total, there were 582 (83.2%) had liver recovery. Transaminase levels were peak on the first 24 hour, and decreased after POD3. Factors which were associated with liver recovery were serum AST, ALT, Bilirubin levels, operative time, and clamp time (p = 0.000). Comorbidity (Liver cirrhosis, HBV and HCV infection), hydrocortisone drug used were independent factors for liver recovery.

**Conclusion:** Post operative transaminase levels and serum bilirubin are associated factors of liver recovery after hepatic resection. For patients with lower serum AST and ALT, early liver recovery could be predicted.

# ABSTRACT

## “Comparison postoperative brain volume loss in intracranial arteriovenous malformations: traditional versus hybrid operation”

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**Background:** Hybrid operation on intracranial arteriovenous malformations (AVMs) utilizing both microsurgical resection and real-time intraoperative cerebral angiography to improve the surgical precision upon its nidus and may reduce unnecessary brain parenchymal loss which may foreshadow lesser complication and even help neurosurgeons achieving complete Intracranial AVMs resection. The current literature review still lacks strong experimental studies regarding the subject

**Objective:** To compare postoperative brain volume loss between traditional and hybrid operation in patients with unruptured intracranial AVMs.

**Materials and Methods:** Twenty-five unruptured intracranial AVM patients treated with microsurgical resection from September 2011 to December 2023 at Ramathibodi Hospital were retrospectively reviewed. With the evaluation scheduled at perioperative period and 3-months follow-up visit. Patient demographic data, AVMs grading using Spetzler-Martin (SM) grading system, surgical characteristics, and imaging parameters were gathered and furnished. The parenchymal volumetric calculation was measured by medical imaging informatics program (Velocity 4.0 softwareÒ, Varian Medical Systems Inc., California, USA)

**Results:** Postoperative brain volume loss was 4.3 cm3 (IQR 3.2-7.9) in the traditional groups and 5.5 cm3 (IQR 3.3-8.6) in the hybrid groups, also without statistical significance (p-value = 0.381). Surgical cavity volume showed a median of 8 cm3 (IQR 5-14) in the traditional groups (n=14) and 14.6 cm3 (IQR 7.0-23.5) in the hybrid groups (n=11). Portraying a trend toward more complex and larger AVMs volume selection in hybrid groups with no statistical significance (p-value = 0.125). There was no residual AVMs nidus in both groups which inferred complete resection could be achieved in both groups. There was post-operative complication in hybrid groups (n=7, 63.6%) and traditional groups (n=2, 14.3%) (p-value = 0.011), however, only 3 of 7 cases in hybrid groups retaining some neurological deficits whereas all cases in traditional groups were fully recovered.

**Conclusion:** There was no statistically significant difference in postoperative brain volume loss between traditional and hybrid groups at 3-months post-operation. However, it highlights significant distinctions in SM grading system, showing a tendency to use traditional operation for lower-grade AVMs and hybrid operation for higher-grade AVMs or those with larger nidus volumes. This indicates a tailored approach to treatment based on AVMs characteristics.

# ABSTRACT

## “Factors associated with pediatric liver transplant waiting list outcomes: when the PELD score isn’t everything”

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**Background:** Pediatric End-stage Liver Disease score (PELD score) has been used as a tool to predict the mortality risk of pediatric end-stage chronic liver disease. However, the accuracy of PELD score in predicting liver transplant waitlist mortality and achieving appropriate priority ranking of allocation is questionable in multiple studies, as the patients on the waiting list can have prolonged stable clinical conditions or life-determined risk of death regardless of their PELD score.

**Objective:** The purpose of this study was to determine the “event-based” risk factor for waitlist mortality in children listed for liver transplantation.

**Methods:** This was a cross-sectional retrospective study. Children aged 3 months to 12 years old with chronic end-stage liver disease who were enlisted from September 2008 to May 2022 at Ramathibodi Hospital liver transplantation program was included. The study analyzed 2 waiting list outcomes (undergoing LT and death on waiting list/too sick to LT) to identify risk factors for waitlist mortality.

**Result:** 253 children enlisted in the liver transplantation program were analyzed. Biliary atresia was the most common primary cause of enrollment (131, 81.8%). The median waitlist time was 281 days (IQR:152,498). The cumulative incidence of waitlist mortality was 33% (n =33) with septicemia as the leading cause of death (16,48.48%) followed by gastrointestinal bleeding (7, 21.21%). In univariable analysis, Cadaveric graft type [OR 7.36 (2.57-21.10) p 0.000], ventilator usage [OR 84.87(10.42-690.72) p<0.001], Septicemia [OR 16(5.76-44.37) p<0.001],fungal infection [OR 18.65(2.08-166.71) p=0.009],multiple drug-resistant bacterial infection [OR 8.05(2.44-26.51) p<0.001],spontaneous bacterial peritonitis [OR 2.86(1.08-7.59) p=0.034],andhepatic encephalopathy [OR 29.23(3.43-249.14) p=0.002] was significantly associated with waitlist mortality. While PELD score at enlist showed no significant difference between 2 groups (18.50 vs 20.79, p=0.128). In multivariable analysis, factors associated with waitlist mortality included ventilator usage (p=0.016), septicemia (p=0.015), fungal infection (p=0.001) and cadaveric graft (p=0.001).

**Conclusion:** Cadaveric graft, ventilator usage, septicemia and fungal infection can be objective parameters which can be utilized to prioritize children awaiting LT whom is at high-risk of waitlist mortality.

**Keywords:** PELD score, liver transplantation, children, waitlist mortality

# ABSTRACT

## An External Validation of Ramathibodi Appendicitis Score (RAMA-AS) in diagnosis of acute appendicitis

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**Introduction:** Acute appendicitis is a common surgical emergency with a wide list of differential diagnoses. Acute appendicitis requires timely diagnosis which can be challenging to inexperienced physicians or in areas with limited resources. Here, we externally validated our Ramathibodi Appendicitis score (RAMA-AS) score to confirm its usefulness in aiding the diagnosis of acute appendicitis.

**Methods:** A retrospective cohort study was conducted at Ramathibodi hospital from January 2019 to December 2023. A total of 457 patients was suspected of having acute appendicitis with 376 eligible patients participating in this study. Symptoms, physical examination, and laboratory results were collected and the diagnosis was confirmed with histology for operated patients and follow-ups for non-operated patients.

**Results:** The Ramathibodi Appendicitis score (RAMA-AS) shows good performance in external validation. The C-statistic was 0.70 (0.69, 0.70) with an estimated O/E ratio of 1.05 (0.87, 1.23). The sensitivity was 15.00% (95%CI; 11.00%, 19.90%), the specificity was 92.70% (95%CI; 86.20%, 96.80%), the positive predictive value was 83.30% (95%CI; 69.80%, 92.50%), and the negative predictive value of 31.10% (95%CI; 26.10%, 36.40%).

**Conclusions:** The Ramathibodi Appendicitis score performed well in external validation and should be a useful diagnostic aid for physicians confronted with possible acute appendicitis.

# ABSTRACT

## Breast Animation between Dual-plane 1 and Dual-plane 4 Implant-based Breast Augmentation: A Comparative Study

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**Background:** Breast animation deformity, characterized by unnatural implant movement during pectoralis muscle contraction, remains a challenge in augmentation surgery. The dual-plane pocket technique was proposed to mitigate this issue but high incidence rates persist. Consequently, a modification technique of dual-plane known as dual-plane 4, which involves more extensive parenchymal-muscle release, has been developed to solve this problem. In this study, the authors compared the clinical outcome in patients who underwent dual-plane 1 versus dual-plane 4 in the setting of primary implant-based breast augmentation.

**Methods:** This prospective observational cohort study analyzed patients who underwent primary breast augmentation using either the dual-plane 1 or dual-plane 4 technique from January 2019 to December 2022. Animation of the breast was documented and assessed by the patients, six plastic surgeons, and six other medical personnel who were not related to plastic surgery. Additionally, the subjective sensation of the nipple-areola complex (NAC) was evaluated concurrently.

**Results:** The study included 62 patients, with 33 undergoing the dual-plane 1 technique and 29 the dual-plane 4 technique. Multivariate analysis revealed 1.27 times more animation in the dual-plane 1 group compared to the dual-plane 4 group (Odds Ratio = 1.27, 95% Confidence Interval 1.01- 1.59; p = 0.038). Postoperative remaining NAC sensation is not different with 85.4% in the dual- plane 1 group and 91.3% in the dual-plane 4 group (p-values = 0.280).

**Conclusion:** The dual-plane 4 technique significantly diminishes the risk of animation deformities without compromising NAC sensation. Meanwhile, the patient might not be concerned about this problem as much as plastic surgeons do.

**Keywords:** Breast animation, Breast augmentation, Dual-plane, Nipple-areola complex (NAC)

# ABSTRACT

## Survival outcomes and recurrent pattern in patients with esophageal squamous cell carcinoma undergoing trimodality versus definitive chemo-radio therapy

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**Background:** Esophageal cancer is the 6th most common cause of cancer death worldwide. Currently, the standard treatment for this cancer is either trimodality treatment (TMT) or definitive chemoradiotherapy (DCRT). Current studies showed that the treatment outcome is comparable between groups in terms of overall survival. While disease-free survival is in favor of TMT, but with the cost of higher rate of complications. Therefore, the best choice of treatment for each patient is still unclear.

**Objective:** To compare the treatment outcome between TMT and DCRT regarding overall survival, disease-free survival, and recurrent pattern.

**Materials & Methods:** Esophageal cancer patients who underwent either TMT or DCRT were retrospectively reviewed. A Chi-square and other proper tests were used for comparing variables. and logistic regression analysis was used to compare between variables. Survival analysis was performed using Kaplan-Meier Survival Curve.

**Results:** 99 patients with esophageal cancer undergoing treatment at Ramathibodi hospital between 1 January 2014 to 31 December 2021 were recruited. Of these, 47 patients (47.4%) underwent TMT, 26 patients underwent DCRT because they refused surgery, and another 26 patients underwent DCRT because of unresectable disease. There was no statistically significant difference between groups regarding overall survival (p =0.3). There was a trend toward better disease-free survival in favor of TMT, but no statistically significant difference was found. The rate of locoregional recurrence in TMT group was significantly lower than the other 2 groups. However, the occurrence of distant metastases after completion of treatment is comparable among 3 groups. Late complication was found significantly in patients undergoing DCRT without complete clinical response.

**Conclusion:** TMT may provide better disease-free survival with lower rate of locoregional recurrence and late complication than DCRT. However, median overall survival is still not significantly different.

**Keywords:** esophageal cancer, trimodality, DCRT, recurrence pattern

# ABSTRACT

## Retrospective comparative study of reoperative rates and surgical outcomes between Anterior Cervical Discectomy with Fusion and Posterior Cervical Foraminotomy at Ramathibodi Hospital

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**Background:** ACDF and PCF are both surgical treatment for cervical radiculopathy. There are advantages and disadvantages relate to both procedures. ACDF may contain risk of anterior neck approach to the spine while PCF is concern by its lack of stabilization and may contribute to higher reoperation rate due to recurrent radiculopathy. There are variations of PCF to reduces these concerns[Open, MIS, Full Endoscopic]. Our study conduct a single-center, single-surgeon retrospective study which includes single level and multilevel operation of both procedures to study the reoperative rate and clinical outcomes between these two.

**Objective:** To compare reoperative rate between ACDF and PCF[MIS] at Ramathibodi Hospital.

**Methods:** Retrospective analytic study. Single-center, single-surgeon study with all the patients in this study had the operation in Ramathibodi Hospital. Total of 140 patients included with 75 in ACDF group and 65 in PCF group. Demographic data, medical records and imaging records related to the operations were review from preoperative visit through the last visit. Quantitative data was summarized as mean and SD or median and range as appropriate. Categorical data was summarized as counts and percentage. Comparison of quantitative variables between treatment groups was done using the independent t-test or the Wilcoxon rank-sum (Mann-Whitney) test as appropriate. Comparison of categorical variables between groups was done using the chi-square test or Fisher's exact test as appropriate. P-values < 0.05 were considered statistically significant. STATA version 14.1 (STATA Corp., TX, USA) was used for all statistical analysis.

**Result:** There is no significant reoperative rate found between ACDF and PCF[p=0.663]. Improvement of clinical radiculopathy is comparable 98.7% in ACDF and 96.9% in PCF[p=0.477]. No significant number of patients with decrease cervical lordosis[p=0.835]. There is significant number of patients with improve lordosis in ACDF group[p=0.007]

**Conclusion:** There is no significant reoperative rate between two operation even with multilevel operations includes. Clinical improvement of radiculopathy and complication rate are comparable in both group. Our study is a single center, single surgeon study with similar number of patient in both groups and includes multilevel operation. This study suggests that PCF is a safe procedure compare to ACDF even with multilevel operation and does not show higher reoperation rate as concern. However, it is still not clear which operation is better for cervical radiculopathy treatment. The choice between ACDF and PCF should consider by factors of pathological etiology and surgeon experience.

**Keywords:** Posterior Cervical Foraminotomy, Anterior Discectomy with Fusion, Reoperative Rates

# ABSTRACT

## A comparative prospective cohort study of venous thromboembolism(VTE) prophylaxis between rivaroxaban and enoxaparin in colorectal cancer surgery

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**Background:** Venous thromboembolism (VTE) is a serious cause of perioperative morbidity and mortality in patient with cancer . Nowadays, daily subcutaneous low molecular weight heparin has been standard treatment for the patients .

**Objective:** The purpose of this study is to compare between DOAC(Rivaroxaban) and Enoxaparin (LMWH) in aspect of efficacy and safety in elective colorectal cancer surgery.

**Materials and Methods:** Prospective observation cohort study in colorectal cancer patients that underwent elective major abdominal surgery on Mar 2021 to June 2023 in Ramathibodi hospital,Thailand. The Caprini score is used for risk stratified to VTE prevention. For participants having Caprini score ≥ 5 and used mechanical prophylaxis (Intermittent Pneumatic Compression: IPC) were recruited in this study and completed duration of pharmacological prophylaxis (28 days). We collected data of the participants 3 months postoperatively. The primary outcomes were VTE incidence (Symptomatic DVT and pulmonary emboli) and major bleeding. The secondary outcome was minor bleeding. This study, statistical analysis was STATA version 14 .Wilcoxon signed–rank test was applied in non-normal distributed and T-test in normal distributed . Pearson chi squared test and fisher's exact was for compare the proportions between two or more categorical variables.

**Results:** A total of 70 patients were analyzed. Almost all participants was in ASA classification 1 to 2. The mean preoperative Caprini score was 6.01±0.69 points. The 35 patients (50%) received pharmacological prophylaxis plus mechanical prophylaxis and 35 patients (50%) received only mechanical prophylaxis. 17 participants in former group were prescribed Enoxaparin and 18 participants were prescribed Rivaroxaban. In our study, one patient in only mechanical prophylaxis group was developed DVT at left arm in postoperative day 21: cancer and catheter related thrombosis. There was not found major bleeding event but had minor bleeding in this study; postoperative minor bleeding events in Only IPC, Enoxaparin, Rivaroxaban group were 0, 1(33%), 2(66%) patients respectively (P-value 0.120) . All patients who had minor bleeding were resolved after discontinued the drug within 24 hours and were not given a blood transfusion. The median (range) durations of pharmacological prophylaxis in Enoxaparin and Rivaroxaban were 14(5,28) and 28(28,28) days (P- value 0.036).

**Conclusion:** In colorectal surgery, we should give the mechanical and pharmacological prophylaxis because among these patients were classified as a high risk for VTE. Pharmacological prophylaxis with rivaroxaban was safety as enoxaparin. In addition, receiving oral pharmacologic prophylaxis had more compliance for thromboprophylaxis completion

**Keyword:** colorectal cancer surgery, VTE prophylaxis, rivaroxaban

# ABSTRACT

## “Comparison surgical safety of long lateral mass screws to conventional lateral mass screws using a 3D-printed cervical model”

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**Objective:** To investigate the safety and efficacy of long lateral mass screw fixation compared to the traditional Magerl technique in Thai patients undergoing cervical spine fusion.

**Methods:** A total of 20 Thai patients diagnosed with cervical spondylosis were included in the study, with 10 undergoing long lateral mass screw fixation (LLMS) and 10 undergoing the traditional Magerl technique(TRAD). Three-dimensional (3D) bone models of the cervical spine were created from CT scans. Surgical procedures were simulated on these models, and totaling 160 screws were inserted at each vertebral level (C3-C6) using both technique. Screw insertion length, trajectory, and any injuries to nearby structures were evaluated.

**Results:** There were no significant differences in demographic characteristics between the two groups. LLMS provided significantly longer screw lengths compared to TRAD at all vertebral levels (C3-C6). Despite the longer screws and more superior trajectory, the incidence of vascular and facet injuries was low and not statistically significant(2.6%, p-value >0.999).

**Conclusions:** LLMS appears to be a safe and effective alternative to TRAD for posterior cervical screw fixation in Thai patients. The technique offers greater bony volume purchase and potentially superior pull-out strength. Further research is warranted to confirm these findings and explore additional factors influencing surgical outcomes.

**Keywords:** Cervical spine, lateral mass screw fixation, long lateral mass screw method, Magerl technique, Thai population, safety, efficacy

# ABSTRACT

## Comparison of forearm edema after loop forearm arteriovenous graft between intraoperative transcutaneous triamcinolone acetonide injection and no injection

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**Objective:** The common postoperative complication of arteriovenous graft is forearm edema.

**Method:** Our study design was a randomized controlled trial at Ramathibodi Hospital in Thailand from 1st May 2023 to 30th November 2023. The enrolled patients consulted the vascular surgery unit to create forearm arteriovenous grafts. All patients were randomly to receive 1% lidocaine or 1% lidocaine in addition to a triamcinolone injection. The primary outcome was forearm edema at the 2nd to 6th week postoperatively. The secondary outcomes were postoperative pain, inflammatory area, quality of life, time to cannulation allowance, and complications.

**Result:** The study included 27 participants: 13 in the intervention group and 14 in the control group which completed 6 weeks follow-up. All demographic data were similar. Mean proximal forearm circumferences of intervention and control group at the 2nd(21,21.3; p=0.74) , 4th (19.92,20.57; p=0.54) and 6th week(19.41,19.96; p=0.58) were not statistically different. Mean distal forearm circumferences of intervention and control group at the 2nd (26.38,27.28; p=0.56), 4th(25.23,26.46; p=0.43) and 6th week(24.66,25.25; p=0.65) were not statistically different. Mean postoperative pain score was significantly lower at 2nd(3,7; p<0.001) , 4th(2,5; p=0.007)and 6th week(1,3; p=0.049).The inflammatory area of the intervention group were significantly lower at 2nd(33,70; p=0.001) , 4th(32,101; p<0.001) and 6th week(5,38; p=0.003). The calculated utility score of EQ5D5L was higher in the intervention group at 2nd(1,0.84; p=0.003) , 4th(0.98,0.81; p=0.003) and 6th week(1,0.8; p=0.002).

**Conclusion:** Our study could not to demonstrate that 1% lidocaine, in addition to a triamcinolone injection have a significant difference of postoperative edema as a primary objective but tend to have lower postoperative forearm circumference. In terms of secondary objectives, a significant decrease in postoperative pain and inflammatory area, better significantly of the postoperative QOL with similar graft patency and infection rate were found.

# ABSTRACT

## Feasibility of BrachioBasilic Transposition AVF (BBTAVF) as the Hemodialysis access in ESRD patient; A retrospective study in Ramathibodi hospital

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**Background**

Arteriovenous fistulas (AVFs) are the preferred dialysis access for patients who are candidates for long-term hemodialysis (HD). It is necessary to provide patients with a functioning AVF that allows for efficient HD without complications.It is common practice to begin AVF interventions. Radiocephalic, brachiocephalic, and then brachiobasilic transpositions (BBTs) are preferred in order . BBTAVF is a good option for patients who have unsuitable vessels for radiocephalic or brachiocephalic AVF, or previous distal fistulas with failed maturation or late complications. we aimed to study about time to cannulation BBT-AVFs and investigate risk factors affecting the maturation and patency BBTAVF.

**Method**

We retrospectively analyzed patients who underwent autogenous BBT-AVF operation , using a database query for outpatients and inpatients in a Ramathibodi hospital . The baseline and anatomic features of the patients and their follow up data were recorded. Ethical approval from the hospital's review board was obtained . Inclusion criteria is CKD stage IV ,V who underwent Brachiobasilic arteriovenous fistula ( BBT-AVF ). The primary outcome was rate of BBTAVF actual usage . The secondary outcome were primary patency and risk factor for BBTAVF maturation.

**Results**

A total of 1032 patients who underwent HD access as AVF,AVG and Catheters for HD between January 2018 and September 2023 were investigated. 31 patients underwent Brachiobasilic transposition AVF (BBTAVF), 14 men, 17 women. Mean age 59.70(+54.45) years old. Divided into 2 groups: pre-emptive 8 patients, pre-existing HD access group 23 patients. Diabetes mellitus, hypertension, dyslipidemia and coronary artery disease were not found to affect the AVF maturation (P = .08, P = .456, P = .193 P = .999, ) Pre-exist HD access group, never had a catheter inserted before 1 case (4.35%). Postoperative outcome pre-emptive group , allowed to usage 4 cases (50%) immature 4 cases (50%) pre-existng HD access allowed group to usage 23 cases (100%) . Median time to allowed to usage pre-emptive group 156 days, pre-exist HD access 192 days . Status last follow up pre-emptive group immature 4 cases (50%), patent BBTAVF 2 patients (25%), Thrombosed 2 patients (25%). pre-exist HD access group patent BBTAVF 15 patients (65.22%), Thrombosed 8 patients (34.78%). Median time to reintervention ,Pre-emptive group 15 months, Pre-exist HD access 20 months. Primary patency ,Pre-emptive group patent BBTAVF 6 patients (75%), thrombosed 2 patients (25%). Pre-exist HD access patent 10 patients (43.48) ,thrombosed 13 patients (56.52%) p=0.22

**Conclusion**

Brachiobasilic transposition AVF is the autogenous AVF for the patients who need long term dialysis. One-stage or two-stage BBTAVF can create both pre-emptive group or pre-exist HD access group

# ABSTRACT

> Using Carbon dioxide–assisted endovascular aortic aneurysm repair (CO2-assisted EVAR) to preserve renal function, comparing with Iodinated contrast angiography

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**Objective:** The EVAR operation usually uses iodinated contrast media (ICM), which can cause contrast-induced nephropathy (CIN). Carbon dioxide (CO2) angiography is considered a safe diagnostic alternative. This study aimed to compare whether carbon dioxide angiography during the EVAR can better prevent acute kidney injury than the EVAR using iodinated contrast angiography

**Methods:** The method was Prospective cohort study with historical control. Retrospective data from EVAR using ICM (ICM-EVAR) during January 2021 to December 2022, compared with prospective data from EVAR using CO2 (CO2-EVAR) during July 2023 to December 2023. The primary endpoint was the change of GFR between 1 month after EVAR and before EVAR. The secondary endpoints were radiation dose, fluoroscopic time, operation time, ICM volume, ICU stay, hospital stay, 3-day postoperative IV volume, and ICM-related complications. The patients in both arms were followed up to at least 1 month.

**Results:** In the considered period, 15 CO2-assisted EVAR in the prospective cohort and 51 ICM-EVAR in the retrospective cohort were included. Most clinical characteristics were similar between the two groups, except CO2-EVAR had more complexity (9/15 (60%) vs 16/51 (31.37%), p=0.045). The change of GFR between the two arms was not significantly different, but CO2-EVAR had longer fluoroscopic time (122(±89) vs 58(±48), p=0.02).Analyzing the standard EVAR subgroup, CO2-EVAR had significantly lower ICM volume (25.2±16.7ml vs 66.4±32.7ml, p=0.004), lower 3-day postoperative IV volume (1656±237ml vs 3525±1550ml, p=0.047), shorter ICU stay (1(1-2)day vs 2(1-3)days,p=0.047) and lower operative time(118+35mins vs 187+93mins, p=0.003). And for the complex EVAR subgroup, CO2-EVAR had significantly longer fluoroscopic time(194+31mins vs 98+55mins,p<0.001).

**Conclusions:** The study could not demonstrate that CO2 angiography can preserve renal function better than ICM angiography, however it tends to result in better renal function. The CO2-assisted EVAR had longer fluoroscopic time, due to more equipment and procedures being added. For the subgroup analysis, the CO2-assisted EVAR had more benefit for the standard EVAR, it could decrease amount of ICM volume, lower postoperative IV volume and also ICU stay.

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