

Greetings from ACP Chair



Dear all,

Last year we embarked on an effort to establish a Senior Resident Talent Development Award. This award was made possible through the generous donations of our alumni, who believe in giving back to our fraternity and hope that the younger generations will do the same when it is their turn.

Heartiest congratulations to Xin Fang, our first awardee for the senior resident talent development award. Xin Fang will be attending the ACGME Chief Residents Leadership Course followed by 1 week exposure at Duke Anaesthesiology on the non-clinical aspects of being a successful academic clinician. The research arm has had a successful and exciting year. The number of research publications continue to rise and perhaps, more importantly, the number of high impact publications is on the upward trend. Congratulations to Diana Chan, Hairil and Wan Ling who were successful in receiving NMRC awards. We are beginning to see the returns on our investment in research administrative and financial support.

A heartfelt thanks goes out to Boon Leng for his generous donation of \$30000 to purchase tables at biennial SingHealth Duke-NUS Gala dinner which is slated for 14th September. This will be the last year where the donations for the Gala dinner will be double matched with funds from SingHealth Fund and Government. There are still tables for purchase and the funds raised would be useful for us to drive the impactful initiatives for our patients and faculty.

Ruban Poopalalingam

Words from ACP Vice Chair (Research)



Welcome to 2019! ANAES ACP research has been very busy and productive with many research advancements. This newsletter edition, we summarise the pertinent achievements in research at our centres. It is heartening that most of the research funding is at the National Level and demonstrates our competitiveness in securing research grants.

We also dive down to the research done at the ground level. In the pursuit of developing research talents, SHARP has also incorporated research elective at senior residency level. We hear the voices of those

who have taken up the challenge of integrating research in their residency. Obviously, research is a team effort and we want to recognise the clinical research coordinators and research executive that assist research within our ACP. I am sure a lot of us know Agnes and Annette. Let's hear how they help clinicians to achieve the research goals.

ANAES ACP research collaborated with SHARP to investigate the barriers and needs of residents in taking up research during residency training. This stems from feedback during the ACP retreat 2017. We have published our findings and the brief is found in this newsletter.

The pursuit of Academic Medicine is never ending and we hope to engage everyone in this journey to advance patient care.

Sng Ban Leong

Congratulations!



Leong Xin Fang

ANAES ACP Senior Resident Talent Development Award 2018



May Mok

AM•EI Education Grant 2018. Project title: Developing an effective inter-professional training model for the palliative community care team



Shariq Ali Khan

US Patent 15/776,776 for Drug Delivery apparatus and system, methods of forming and operating the same



Tsai Fung Chen

CGH Research Grant. Project title: Continuous Positive Airway Pressure Therapy via Conventional CPAP Face Mask versus High Flow Nasal Cannula in OSA patients on the first post-operative night – A Pilot Study

Highlights of 2018 Research

2018 was a fulfilling year in research in the ACP.



Diana Chan, Consultant, Department of Pain Medicine, SGH

As a whole, the ACP researchers secured a total of **\$1,025,700** in funding. We congratulate Diana Chan on being awarded the NMRC Research Training Fellowship (Quantum: \$475,500), Hairil Rizal and Leong Wan Ling on being awarded NMRC's Clinician Investigator Salary Support Programme (Quantum: \$120,000 each award).

78 articles were published by the faculty and residents in the ACP. We continue to strive to be a world key opinion leader in our respective fields. Some key articles to highlight are:

Obstetric Anaesthesia	Automated mandatory bolus versus basal infusion for maintenance of epidural analgesia in labour. Cochrane Database Systematic Review
	Hyperbaric vs. isobaric bupivacaine for spinal anaesthesia for elective caesarean section: a Cochrane systematic review. Anaesthesia
Paediatric Anaesthesia	Parental perception on the effects of early exposure to anaesthesia on neurodevelopment. Anaesthesia
	Randomized Controlled Trial of Dexmedetomidine Sedation versus General Anaesthesia for Inguinal Hernia Surgery on Peri-operative Outcomes in Infants. (DEGA Study). British Journal of Anaesthesia
	Non-invasive Measurement of Heart Rate and Respiratory Rate for Perioperative Infants. IEEE Journal of Lightwave Technology
Clinical Trial	Adding a PECS II block for proximal arm arteriovenous access - a randomised study. Acta Anaesthesiologica Scandinavica
	Comparing adductor canal block with local infiltration analgesia in total knee arthroplasty: A prospective, blinded and randomized clinical trial. Journal of Clinical Anaesthesia
	A randomised, controlled trial comparing adductor canal block and femoral nerve block for knee arthroplasty. Singapore Medical Journal
	A bench study comparing Scalpel-Bougie technique versus Cannula-to-Melker technique for emergency cricothyroidotomy in a porcine model. Korean Journal of Anesthesiology.
Perioperative medicine	Preoperative red cell distribution width and 30-day mortality in older patients undergoing non-cardiac surgery: a retrospective cohort observational study. Scientific Reports
	Preoperative anemia, functional outcomes and quality of life after hip fracture surgery. Journal of American Geriatrics Society

In Medical Technology, the EPIVA epidural pump system by Women's Anaesthesia team is successfully implemented for routine labour epidural analgesia administration and also used as the delivery system in the NMRC Clinical Trials Grant trial COLEUS (Collaborative Outcomes with Labour Epidural Use Study). The research team continues to advance in medical technology with focus on automated spinal landmark identification with NHIC Innovation to Develop Grant with NUS Engineering and industry collaboration. The Paediatric Anaesthesia team's project I-MOVE on intelligent solution to moving patients with special needs reached Provisional Intellectual Property Filing stage in January. The project has been funded by National Research Foundation. The National Health Technology Challenge Finalist 2018 Award was given to PING: an intuitive interactive platform for efficient and comprehensive patient engagement in peri-operative communication experience between healthcare staff and parents/caregivers/patients. The project was a collaboration between Paediatric Anaesthesia and the KKH Day surgery nurses.

A major milestone was accomplished in Health Services Research: after 3 years of hard work, the comprehensive Anaesthesia Database (i.e. eHINTS Anaesthesia Subject Area) in SGH has been completed and gone live in December 2018. The Anaesthesia Subject Area allows users with appropriate access to query, save, organize and export results seamlessly to excel or advanced statistical software (like SPSS) for in-depth analysis. That concluded a spectacular year for ANAES ACP researchers.

SHARP Research Elective Journey

Fully Engage in The Research Process



By T Suhitharan, Consultant, Department of Surgical Intensive Care, SGH

The option to choose an elective module during our residency training opened up some unbounded possibilities and a platform to experience something different than our routine clinical rotations. I took this opportunity and opted to do a 4 months elective rotation at KK Women's Anaesthesia. My objective for this elective was to immerse in a rich, mentored research environment and to gain opportunities to fully engage in the research process, from writing the proposal to collecting the data to disseminating and publishing the research results.

The elective rotation at KKH consists of a mixture clinical training, research and education.

The major difference between an obstetric anaesthetic SR posting versus a research elective SR posting was the elaborated research curriculum consisting of didactic lectures on different research methodologies, paper critic sessions and weekly-protected time to do the research work.

I was fortunate to work with Ban Leong. While I was working in WAN during my third year obstetric anaesthesia rotation, Ban Leong encouraged me to start a retrospective study on labour analgesics and psychological factors associated with the development of postpartum depression. Completing this study was a good opening for me to explore the research field and hone my skills during my research electives. Ban Leong

guided me in data analysis, drafting of manuscript and the process of publication and this work was accepted and published in a neuropsychiatric journal – “Neuropsychiatric Disease and Treatment”.

All this experience not only enlightened me on research skills, but also helped to do well in the paper critic part of the anaesthesia exit exam.

The Confidence to Embark on Future Research



By John Lee, Service Senior Resident, SingHealth Anaesthesiology Residency Program

During Senior Residency, we have 8 months of electives where we can explore our interests in the various anaesthesia subspecialties. Having an interest in obstetric anaesthesia and yet also wanting to have an experience of research, I decided to spend 4 months doing a research elective in KKH Women's Anaesthesia.

Prior to the start of the elective, I met up with Ban Leong and we decided on the goals of the elective as well as the research that I would be involved in. During this elective, I did mainly clinical work but also had days allocated solely for research. The main research during my elective was a retrospective cohort study where we developed and validated a predictive risk factor model for epidural re-siting in women undergoing labour epidural analgesia, which I worked together with Ban Leong as well as his statistician (Ms Rehena Ganguly) and Senior Lead Research Coordinator (Dr Han Nianlin). In this model, we found that

a higher incidence of breakthrough pain, increasing age, an increased pain score post-epidural insertion and the inability to obtain the spinal component in the combined spinal-epidural technique were predictive of epidural catheter re-siting. This research was subsequently published in an anaesthesia journal shortly after the end of my elective. Throughout the entire process of data collection, analysis and writing of the manuscript, I was guided by Ban Leong and his team. Being new to the field of research, this would not have been possible without their expertise and guidance.

This elective has exceed my expectations—it has been an enriching experience as it has given me an idea of the entire process of research and has also allowed me to hone my skills at manuscript writing. Although this single experience would not make me an expert in the research field, however, this would give me the confidence to embark on further research, of course, still with the guidance of a mentor. For juniors that are considering embarking on research, I would strongly encourage you to consider a research elective during your Senior Residency. Four months is too short a duration for a project, so you should be prepared to spend time before and after the elective on your research. This experience would definitely be fulfilling and would prove to be useful in the future!

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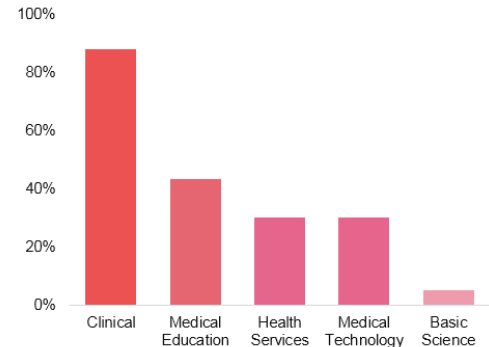
SHARP Residents' Research Interest, Obstacles and Needs

AREA OF RESEARCH INTEREST

During the ACP Retreat 2017, we received feedback from the SingHealth Anaesthesiology Residency Program residents that there were many challenges to residents in doing research and they needed more support. In November and December 2017, we conducted an online survey to explore research interest, barriers and resources needed by anesthesia residents.



indicated some level of interest in research



MAIN OBSTACLES



Lack of time (balance clinical duties and research) (83.1%)

Lack of institutional support (57.7%)



67 of the 79 residents (84.8%) in the Program responded with 58 (73.4%) completing the survey.

Some of the key findings from the survey have been summarized here.

These findings have been published in the Indian Journal of Anaesthesia in an article entitled "Interest and experience of anaesthesiology residents in doing research during residency training", Vol 63 (1), 42-48. The investigators are Ha Truong, Jason Chan, Leong Wan Ling, Rehena Sultana, Darren Koh and Sng Ban Leong. The article can be accessed (with internet connection) [here](#).

HELPFUL SUPPORTS

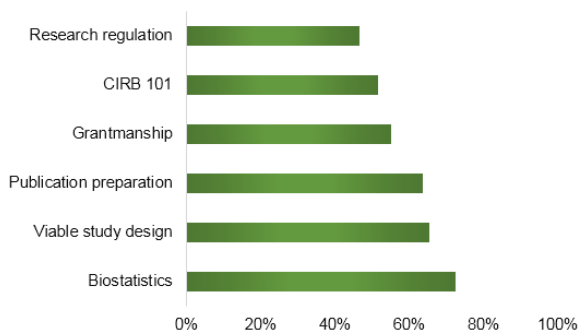


★ Protected time for research

★ Departmental research manpower support

★ Mentorship

USEFUL TRAINING TOPIC



The authors thank the residents for their valuable contribution, the SHARP team for administrative support and A/Prof Soh Chai Rick for his kind advice.

Available Research Support

Administrators

Research administrators are not just people who ensure the operational aspect of research but also help to make the research team stronger and cohesive. They are compassionate and possess thorough knowledge of the clinical research landscape. Many of them have utmost commitment in giving their best in engaging patients to contribute to the success in research to benefit healthcare and medicine. We spoke to 2 research administrators to understand more about their work.

Agnes Teo

Senior Research Coordinator,
Department of Women's Anaesthesia,
KKH

Agnes is a familiar face in WAN. Started working as a research nurse in WAN in 2009, she has been with the department for almost 10 years.



ACP: What are your main research duties?

Agnes: My main duties involve assisting clinicians in department

research study administrative work and

study activities. These could range from the early stage of study start-up planning that covers financial budget planning, to purchasing of equipment & consumables required for studies and the later part of study such as monitoring and progress report. I facilitate Service Agreements between the department and external parties. I also help the clinicians with CIRB applications, renewal and amendment. I handle all the financial aspect of on-going research studies, liaising with the KK Research Centre and Finance department for billing, reimbursement and financial grant reports. Besides these administrative tasks, I also do screening of potential study subjects, and training nursing and medical staff in using study equipment and devices.

Annette Tan

Executive (Research), Division of Anaesthesiology and Perioperative Medicine, (DivA), SGH

ACP: When did you start working in research in DivA?

Annette: I started working in



SGH DivA since November 2016. Although it has only been a relatively short 2-year period, opportunities to work with and learn from our clinicians have allowed me to pick up and hone invaluable skills that help me in my daily work and responsibilities.

ACP: What do you do to help the clinicians in their research projects?

Annette: I provide our clinicians with research administrative support. To name a few – Clinicians can approach me if they require assistance with IRB applications, grant applications, research agreements, procurement of consumables to setting up of REDCap databases, etc. I also keep track of our division's research outcomes for reporting purposes.

ACP: Do you have any message to the clinicians?

Annette: Thank you to all whom have supported research in SGH DivA in one way or another. It is with your help and timely responses that we are able to accomplish new heights in research year by year.

Please feel free to contact me if you require any form of research support. I will always be happy to help!

SGH Division of Anaesthesiology and Perioperative Medicine Research Committee

SGH DivA's Research Committee, headed by Sophia Chew as the Director of Research, seeks to encourage and enhance research within the Division. Over the years, the committee has built their research capabilities, available resources and acts as a platform for the division researchers to seek guidance and request for research support in aspects such as:

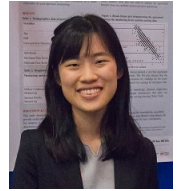
- Research Manpower
- Research Time
- Research Funding
- Review of Grants and IRB application
- Research data requests
- Creation and Design of REDCap databases
- Study Design
- Study Audits
- Statistical Analysis

The committee holds monthly research meetings and has in place comprehensive workflows for the submission and review of research support requests. These monthly research meetings additionally act as a platform for the division researchers to gather and exchange ideas. Research awards, in recognition of the division researchers' publications and research productivity, have also been implemented and awarded yearly during the division's annual retreat. All researchers, regardless of the support you require, may approach SGH DivA's friendly research admin team or any of the research committee members.

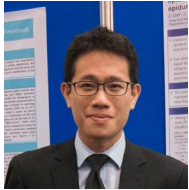
Medical Student Fellowship 2018

Chia Xintian, Year 3, Duke-NUS Medical School

“The AM-ETHOS Medical Student Fellowship has enabled me to work on a research project supervised by A/Prof Sng Ban Leong in KK Women’s and Children’s Hospital. It has been a great learning opportunity for me to gain insights into the research projects and the clinical practice of Anaesthesiology. Through the research experience, I have been inspired by how ingenuity and dedication can make tangible impact in clinical work. This fellowship is indeed one of the highlights of my medical school experience, which aligns with my career aspirations in Anaesthesiology and provides for valuable professional development.”



Goh Zhaohan, Year 3, Duke-NUS Medical School



“I am drawn both to the field of Anaesthesia and the promise that clinical research holds for the improvement of patient care and outcomes. The encouraging and fruitful experience with my Research Year mentors, Prof Alex Sia and A/Prof Sng Ban Leong, continues to affirm this. Under their guidance, my Research Year project investigates the effects of two different forms of labour epidural maintenance (conventional patient-controlled epidural analgesia (PCEA) and KK Women’s and Children’s Hospital’s novel variable frequency automated mandatory bolus (VAMB) technique) on the adverse outcomes of motor block and instrumental delivery. The AM-ETHOS Duke-NUS Medical Student Fellowship has allowed

me to continue carrying out my Research Year project with confidence, lending further support to my time with my mentors. It has thereby enriched a key opportunity for my learning and growth, for which I am grateful.”

ANAES ACP SIMS Simulation Educators Training (SIMS SET)

27 & 28 April 2019 (Sat & Sun) | 8.00am to 5.30pm Academia, Level 2, L2-T1

INTRODUCTION

The two-day SIMS SET faculty workshop is customised for ANAES ACP and is open to all aspiring educators, faculty, residents and nurses who are interested in designing and running high quality simulation-based programs. Participants work in small groups with close instructor interaction and will have the opportunity to conduct a simulation exercise followed by debrief.

OUTLINE

- Familiarisation of participants with the simulation manikin & environment
- Roles of the simulation instructor
- Designing & running of scenarios
- Utilising effective debriefing techniques
-

REGISTRATION

Click [HERE](#) to register by 12 April 2019 (internet access required)

For enquiries, email: anaes_acp@singhealth.com.sg
CME will be awarded (Application in progress)

Qualitative Research Workshop

4 & 11 May 2019 (Sat) | 9.00am to 4.00pm, Academia

INTRODUCTION

ANAES ACP is collaborating with National Healthcare Group (NHG) Education, HOMER (Health Outcomes and Medical Education Research) and AM.EI to offer a two-day programme in basic qualitative research designed for healthcare professionals who are interested to embark on qualitative research. Participants will have opportunity to learn the basic elements needed to get started on a qualitative research study and participate in one.

OUTLINE

- Research project proposal presentations
- Overview of qualitative research process
- Introduction to qualitative methodological approaches
- Practical tips on writing IRB application
- Hands-on activities
-

REGISTRATION

Click [HERE](#) to register (internet access required)

For enquiries, email: anaes_acp@singhealth.com.sg

Note: Registration fee for both workshops is fully sponsored by ANAES ACP.