ANAES ACP NEWSLETTER

THE COVID-19 EDITION

PANDEMIC MUSINGS FROM THE EDITORIAL TEAM

We live in unprecedented times.

In the short span of a single quarter, the world as we know it has been upended: From birth to death, from consumption to livelihood, even down to the fundamental ways that we connect and collaborate, this is the global healthcare, economic and political crisis of a lifetime. When the dust settles, many things will never be the same again.

In Anaesthesia, we have had to rapidly devise needed adaptations. From the use of teleconsultation for pre-anaesthetic assessments, the deployment of physical protective barriers for swab taking (and extubation), to the planning of new protocols for code responses and resuscitations, we are breathless from the rapidity of these developments.

At the same time, we are also exploring different and even novel methods of education, training through simulation, and managing impacts on how we conduct research and publish.

And all these are happening under the physical strain of PPE, the psychological threat of devastation from a single infected surface (or an asymptomatic friend), and the emotional toll of social isolation.

But in every adversity lies opportunity.

Stripped to the basics, hankering down with only food and water, we quickly appreciate what is simple and essential: Family and friends.

And Wi-Fi.

This is a time to re-examine what has been and think about what should be, business as usual. It is a welcomed pause to evaluate resource, ponder relevance and contemplate compromises. Will we look to our own survival, or can we think about the collective good? In determining what is necessary, will we gain clarity as to what isn't?

Now, more than ever, we need to ask: *What is our raison d'etre?*

It is also an excellent moment to learn about leadership and sacrifice, empathy and courage. In a crisis, you might be surprised who comes to your aid (and to the frontline). We all have a part to play. And like a wise Elve once said: Even the smallest person (or thing) can change the course of the future.

All valuable lessons.

We just need to keep our eyes and our minds open.

For this special issue, we created a cover using a collage of contributed images to symbolise our connected COVID experiences and stories, the now too familiar ZOOM yellow border the distinct mark of our unanticipated collective reality.

We hear from our new ACP Chair, Chai Rick, as he shares about his past, ponders about the present, and articulate his vision for the future of what might a brave new world.

We get in-depth looks at some of the training, clinical innovations, and research outputs happening across the ACP in response to COVID-19.

We will also hear from the COVID Queen herself and stories about staring deep into COVID airways.

And we reflect on how lessons from SARS will inform our responses to the present.

To all those who have contributed stories, images, and valuable time, the team wants to sincerely thank you.

And we hope that the ACP will come through on the other side of COVID-19 safer and stronger.

Till then, May Safety be Forever in Your Favour!

(Due to the clinical nature of this issue, it will be in limited distribution)

Siow Yew Nam
Editor In-Chief

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HERALDING A BRAVE NEW WORLD

10 QUESTIONS WITH PROF SOH CHAI RICK

BY DR LUCY DAVIES, SHARP

Prof Soh was previously the Director of the Hyperbaric and Diving Medicine Centre, Director of the Surgical Intensive Care Unit at SGH, Deputy Vice Chair for Education in the Anaesthesiology and Perioperative Sciences Academic Clinical Programme (ACP), subsequently Head of Anaesthesiology and now, Chair of the ACP. He is also known fondly in the department for his love of karaoke and his poker face - while he listens to you intently, those who have worked with him attest they can never be sure what he is thinking, until he surprises them by breaking into a smile. Lucy Davies (LD) asked him more about how he got to where he is, how he's been easing into the role of ACP chair, how to keep the work life balance, and how he personally has been faring thus far with COVID-19. (Note: these being COVID-19 times, all interviewing was done by phone and email! No cross campus rules were broken for this interview.)

***LD**: How did you choose anesthesiology as a specialty?*

SCR: There were many things about anaesthesiology, which appealed to me, but the one that stood out was the culture of teaching. It wasn't just the one on one coaching, but the willingness of the senior anaesthesiologist to impart their knowledge and skills to the junior. Not too long ago, it was not unusual for even a first posting medical officer to be performing most of the tasks required in a typical case! That has been a strength of our specialty and you see this reflected in the number of education leaders in our midst.

***LD**: How did you delve into your subspecialty interests hyperbaric and ICU?*

SCR: As an anaesthesiology registrar (now referred to as senior resident) in the ICU, there were constant reminders about how little I really knew about the specialty. Care was a lot more fragmented in those days and it wasn't unusual for multiple specialists, for example, a cardiologist, a renal physician and a pulmonologist to be involved in the day to day decisions about ventilator settings, fluid and drug orders. This increased the probability for conflict as each specialist had a different opinion about the priorities of care. I could not comprehend the basis of many of these opinions and coupled with the stark reality that 1 out of 4 ICU patients would die in hospital, I wasn't confident managing the critically ill patient. The choice to undergo intensive care specialty training was primarily driven by my need for self-efficacy.

The door into the world of hyperbaric and diving medicine was opened following a phone call from my then HOD A/Prof Lim Boon Leng in 2006. The idea of setting up the centre was mooted by Dr Edwin Low (then Director Medical Board, SGH) and the hospital was searching for someone to lead the SGH unit. My ICU fellowship at the Alfred Hospital provided me with the opportunity to be involved with the care of the critically ill patient undergoing hyperbaric oxygen therapy as their chamber was located next to the ICU. I had witnessed first-hand how the treatment had helped patients and wanted to be part of the team that would build the capability in SGH.

It would be very remiss for me not to mention the other half of the story. In my journey, numerous people selflessly shared their knowledge, taught their skills, provided me the opportunities, overlooked my mistakes and gave me the feedback that allowed me to grow. Collectively this made me gravitate towards things that catered to my strengths and over time served as my career compass.

***LD**: How have the challenges in your career thus far that you have encountered, influenced you?*

SCR: Challenges have been my source of frustration as well as happiness. The psychologist Mihaly Csikszentmihalyi's psychological concept of flow probably describes how challenges have influenced me. It is said that we learn best when it is linked with an emotional experience. Challenges provided me with many key lessons in life, not just from how they evoke intense emotions but also because they gave me opportunities to meet and work with many smart, capable and inspirational

***LD**: How does it feel to be the new ACP chair? Are there any challenges that you have had to deal with thus far?*

SCR: There are new objectives and new teams which requires a redirection of my focus. The opportunities to hit new peaks is exciting but I am also anxious about the impact of the challenges of the rapidly evolving healthcare landscape on our ACP.

***LD**: How do you think your own experience with specialist training in the early part of your career has shaped and prepared you for your current role as ACP chair?*

SRC: The ACP Chair appointment requires the application of many skills and knowledge and more importantly it requires a clear understanding and belief in the mission of the ACP. My early training gave me knowledge and technical skills. The non-technical skills came later. Finally, I believe that the most valuable lesson from those years working with different colleagues from different departments and hospitals was to answer the question – what is the raison d'etre of anaesthesiology?

***LD**: Finding balance is a challenge that we all face. Share with us how you manage work, family commitments and personal life?*

SCR: Juggling everything is always hard and the ball that you don't want to drop is family. There are 16 awake hours in a day, and there will always be a need to make tradeoffs. That's what CCA (co-curricular activities) in school teaches you, how to juggle the competing demands in a way that allows you to make the greatest difference in all the areas in your life, be it your family, self, work and friends.

***LD**: We hear you enjoy a good session of karaoke – what is your go to song (and why!)*

SCR: Firstly, don't believe everything that you hear. (Dare we imagine a smile here?) But my classic would be Gym Class Heroes the fighter. It's also great for driving and those long boring runs.

***LD**: What was the best piece of advice you received from a mentor/colleague, and what advice would you give out in turn?*

SCR: That's a tough question as I've received so much good advice from so many of my mentors over the years. I will probably say that the best advice were the exhortations to try again after my failures (and there are many). Those simple words conveyed many things but most important it helped me to move on. So if at first you do not succeed, try again.

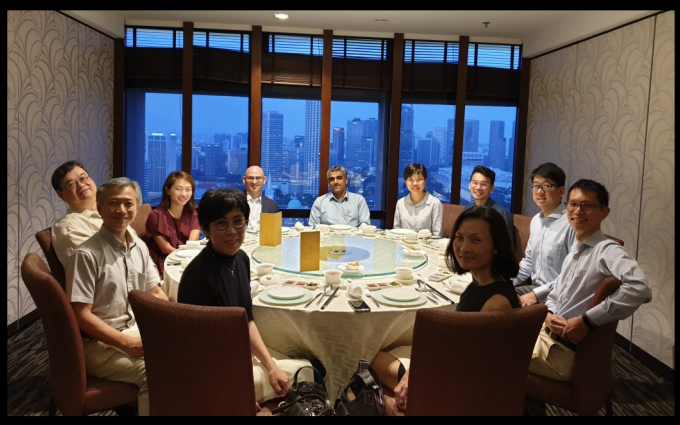
***LD**: Almost immediately after becoming ACP chair we have suddenly gone into epidemic mode, how has COVID-19 impacted you thus far and are there any particular experiences or memorable incidents that it has evoked from the SARS period?*

SCR: I was on fellowship training overseas during SARS and do not bear the battle scars of that war. As for COVID 19, I suspect it's effect on me is similar to many people in our healthcare sector. It has made daily work much harder and it is a sobering reminder about how unforgiving our work environment can be, and this can be stressful. It has reinforced my need for maintaining personal discipline and continual concentration. What has helped me keep going is hearing the stories of those who are working on the frontlines of the crisis, the people screening patients in the emergency department and working with patients in the isolation wards. It is a humbling experience.

***LD**: So what's next for the ACP? Are there changes you foresee yourself wanting to make?*

SCR: I believe there is an expectation that leaders make changes. There is always something that can be improved, and our competitive environment is always changing. The ability to change and capitalize on these new opportunities is central to the ability of the ACP to not only survive but to thrive. When I stop making changes it would signal the time for me to move on and hand the reins to someone else!

With that we would like to thank Prof Soh and congratulate him on his appointment as Chair of our ACP, Anaesthesiology and Perioperative Sciences.



"So if at first you do not succeed, try again."

DEVELOPMENT OF A COVID-19 OPERATING THEATRE IN CGH

BY DR AGNES HUANG, CGH

There are no negative pressure Operating Theatres in CGH. We had to come up with a new set of protocols and guidelines on where and how to provide surgery should a patient with COVID-19 turn up at our door. Because CGH is a major trauma centre and the only tertiary hospital in the East, we were especially worried about cases that would require emergency surgery whereby there was insufficient time to ascertain if a patient had COVID-19.

We decided to set up the COVID OT in a remote OT at the day surgery bank, away from the main operating theatres. This allowed the creation of distance and barriers to isolate for the protection of other patients and healthcare workers. With the help of the surgeons and nursing staff, we put together a workflow that included preoperative, intraoperative and postoperative aspects to ensure that the potential or confirmed COVID-19 patient would be able to undergo surgery safely and that the healthcare staff and environment would be minimally exposed. We ran multidisciplinary simulations to test out the workflow and processes, and in the process all the staff participating got first hand training in a simulated environment to experience potential problems before actual COVID—19 patients. In addition, we created a screening questionnaire to aid in detecting potential infectious patients so that they can be diverted to the COVID OT with all the precautions thus ensuring the safety of all healthcare workers involved.

PREOPERATIVE ASSESSMENT USING TELEMEDICINE FOR PEDIATRIC PATIENTS

BY DR JOSEPHINE TAN, KKH

Historically, many paediatric patients were admitted the day before surgery and besides having a preop review by the anaesthetist, our anaesthesia nurses would also see the patients in the ward to talk about anaesthesia and show them some related equipment like the face mask and show pictures of what to expect in OT.

Since then, we have moved to same day admits and many patients miss the opportunity to have the same experience since PAC do not have enough slots.

We also note that for parents with kids who could benefit from a regional technique, they were often not given enough time to think through and consider since the anaesthetist review is 15 minutes before the start of the surgery in the OT.

To give parents a chance to be better informed before they sign the anaesthesia consent and allow parents to properly prepare their child before surgery, we mooted the idea of virtual PAC for medically stable patients (we cannot perform medical examination).

We have started our virtual PAC service which is going well.

We hope to develop this VPAC in the near future to include children with autism as these children often have issues with travel and new environment.

Now with the COVID-19 developments, our work to develop VPAC has become very relevant.

We are also following up with our patients and parents for feedback on the new platform of communication.

SARS VS COVID-19 IN SGH: A REFLECTION

BY A/PROF CHAN YEW WENG, SGH

We interviewed A/Prof Chan Yew Weng for his thoughts on how the SGH anaesthesiologist community fared during the SARS outbreak in 2003 and how far we have come since then to face the challenge of the current COVID-19 pandemic today.

***ACP**: Do you remember how it was like during SARS?*

CYW: It was in April 2003 that SGH received the 1st case of SARS. We know very little about the disease except that it can spread easily through the air and can cause serious pneumonia and death.
Initially the department of anaesthesia and surgical intensive care continued to support the elective and emergency surgical load perioperatively without much knowledge about SARS or changes to our routine work.
As more cases were admitted to SGH, we were trained to use the N95 masks and goggles to protect ourselves from getting infected from this unknown viral and deadly infection. Initially our nurses and allied health personnel were given minimal personal protection equipment except for surgical gloves to assist in diagnostic and therapeutic procedures . Hand washing was emphasised but surgical masks were not provided to frontline nursing and allied health staff resulting in fear and anxiety amongst them. Service with a smile was the motto of the day, and patients cannot see one's smile with the wearing of the mask. We, the Doctors provided much team leadership and counselling to allay their fears till surgical masks became mandatory.

***ACP**: What were some of the challenges then?*

CYW: To prevent the whole department from shutting down when one of us became infected with SARS, we divided the department into 3 teams - active , passive and reserve to ensure the sustainability of the department's work. Clinical work was not so sub-specialised then as we covered both intensive care and theatre work when we were on active call. All elective surgeries had to be cancelled to support this manpower strategy. A few of our staff were asked to be seconded to TTSH (the Center for managing SARS patients) to support their work. Many of us were working alone with little interaction and communication between staff due to strict distancing protocols, at work, rest or having meals.

***ACP:** Any key differences between the situation now and then? Any positive experience ?*

CYW: We are now more prepared to handle COVID-19 because of the lessons learnt from SARS. Communication using WhatsApp and ZOOM allow staff to be updated with directives daily. Frontline staff in the department easily bounce ideas and engaged with innovative solutions to their daily work. SG-SAFE is an example of their creative work.
Besides our excellent clinical teamwork, the Division continues with many academic activities (with publications related to COVID-19 and web-based CME and medical student curriculum delivery). High morale and peer support amongst our staff remain our strength today.

***ACP**: Despite the tough time right now, what are some of the bright moments you have noticed?*

CYW: The sharing of latest gossips, jokes , food and shopping promotions through WhatsApp does keep this period of circuit breaker bearable.

***ACP**: What keeps you going in a crisis like this?*

CYW: To know that the Division will become stronger and more united when this pandemic is over.

SWAB ASSURANCE FOR EVERYONE (SG-SAFE)

Since January, our Emergency department colleagues have been at the frontline battling the surge in attendance due to the Covid-19 pandemic. Throat swabs of suspected patients from the community are taken in a designated fever area. Due to the rapid increase in the number of patients seen in the community, concerns regarding PPE wastage and the need for conservation have surfaced. As the pandemic situation worsens and more countries start to implement border restrictions, our ability to maintain a steady supply of personal protective equipment may be compromised.

We are also facing an increasing shortage of nasal swab sticks and we have since moved to throat swabs for testing. One study showed that throat swabs have a lower pick up rate as compared to nasal swabs[1], hence the importance of proper swabbing technique to accurately diagnose COVID-19. Having better protection for health workers, incidence of false negatives and hence false assurance can be reduced.

The team from **SGH Anaesthesiology (Drs Hairil Rizal, Mavis Teo, Antonia Zeng, Tan Zihui, Ong Yee Yian, Deborah Khoo, Claudia Tien and Aaron Lee) together with The Biofactory Pte Ltd** have successfully developed a swab screen (SG-SAFE) that has the following features:

- Clear barrier for visualization
- Light source to visualize oropharynx
- Biosafety level 3 gloves that allow good dexterity ie able to use both hands- tongue depressor and swab
- Protects the Healthcare Worker from droplet +/- aerosol contamination
- Easy to clean
- Mobile and easy to store
- Dual functionality i.e. it can be inverted to contain the patient as well

The first prototype was tested and used on 4th April in the Emergency department. Our colleagues expressed increased confidence for personal safety despite the high number of suspected patients seen daily. Since then, the team has also managed to raise funds to purchase additional 14 units which have been deployed to SGH Staff Clinic, Fever Screening Area at SGH, SKH A&E and offsite locations such as the dormitories.

References:

Yang, Yang Y, Yang M, et al. Evaluating the accuracy of different respiratory specimens in the laboratory diagnosis and monitoring the viral shedding of 2019-nCoV infections. DOI: 10.1101/2020.02.11.20021493.

SIMULATION IN THE COVID-19 OT

BY DR PAMELA CHIA, SHARP

As part of the junior simulation faculty, I had the privilege of observing a few sessions conducted in our dedicated COVID OT. The COVID-19 committee and simulation faculty have worked hard to develop a comprehensive workflow to ensure safe performance of surgery and delivery of anaesthesia to COVID patients and protection of the staff involved. Over the past 2 months, through multiple simulation runs with non-COVID patients, many good practices were put in place and then tested in subsequent sessions. Simulation helped in the development, evaluation and refinement of workflows for COVID and IR OT activations.

An example of part of the workflow includes a team huddle with surgeons, nurses and anaesthetists outside EOT as soon as an EOT chit in a COVID patient has been received to discuss logistical issues such as surgical instruments, table required, specific anaesthesia related equipment and so on. Another example is the creation of a COVID co-ordinator position, someone who is familiar with the specific isolation protocols and workflow peculiar to the COVID OT. Having a well-versed coordinator takes the pressure off the anaesthetic team in this aspect, allowing them to focus on delivering anaesthesia for the patient.

"Having a well-versed coordinator takes the pressure off the anaesthetic team in this aspect, allowing them to focus on delivering anaesthesia for the patient."

One thing you may not have realised we could not live without in the COVID OT is one of our beloved kitchen essentials- cling wrap! The team organised items in the OT, and kept them in induction room if they weren't essential to be in OT during the operation so as to be kept "clean". All other equipment left in OT such as the AIMS monitor, keyboards and computer screen had to be sterilised once the operation was done and were wrapped with cling wrap to assist in cleaning. With each simulation session we did, we found more and more items to cling wrap!

As the great marathoner Eliud Kipchoge, the first person in history to break the 2-hour barrier in marathons said, "I am here because of teamwork". Multi-disciplinary team efforts with fellow nurses, attendants, surgeons and doctors from various subspecialties has enabled us to come together to produce the COVID OT workflow and test it through simulation. Together, we are stronger. #SGUNITED

Our COVID-19 Publications

Preparing for COVID-19 Pandemic: a review of operating room outbreak response measures in a large tertiary hospital in Singapore. J Wong, QY Goh, Z Tan, SA Lie, YC Tay, SY Ng, CR Soh. *Can J Anes* 1-14 2020 Mar 11. Link

Preparedness is essential for malaria-endemic regions during the COVID-19 pandemic. J Wang, C Xu, YK Wong, **Y He**, AA Adegnika, P G Kremsner, S Agnandji, A A Sall, Z Liang, Chen Q, Fu LL, Jiang TL, S Krishna, Y Tu. *The Lancet* 2020 Mar 16. Link

COVID-19 in gastroenterology: a clinical perspective. Ong J, Young BE, **Ong S**. *Gut*. 2020 Mar 20 Link

Practical considerations for performing regional anesthesia: lessons learned from the COVID-19 pandemic. Lie SA, Wong SW, Wong LT, Wong TGL, Chong SY. *Can J Anaesth* 2020 Mar 24:1-8. Link

Practical considerations in the anaesthetic management of patients during a COVID-19 epidemic. Ong S, Tan TK. *Anaesthesia* 2020 Mar 27. Link

Response *and* Operating Room Preparation for the COVID-19 Outbreak: A Perspective from the National Heart Centre Singapore. **Z Tan, PHY Phoon, LA Zeng, Fu J**, Lim XT, TE Tan, **KWT Loh, Goh MH**. *J Cardio Thorac Anes* 2020 Mar *29*. Link

The COVID-19 Pandemic: Effects on Low and Middle-Income Countries. **Bong CL**, Brasher C, Chikumba E, McDougall R, Mellin-Olsen J, Enright A. *Anesth Analg*. 2020 Apr 1. Link

Caution and clarity required in the use of chloroquine for COVID-19. YK Wong, J Yang, **Y He**. *Lancet Rheumatology* , 2020 Apr 2. Link

COVID-19 in Singapore and Malaysia: Rising to the Challenges of Orthopaedic Practice in an Evolving Pandemic. Tay K, Kamaru T, Lok WY, Mansor M, Li X, **Wong J**, Saw A. *Malaysian Orthopaedic Journal* 2020 Apr 6: Vol 14, No 2. Link

Resilience of the restructured obstetric anaesthesia training program during the COVID-19 outbreak in Singapore. JSE Lee, JJI Chan, F Ithnin, RWL Goy, BL Sng. *Int J Obstet Anesth* 2020 Apr 11. Link

Reducing droplet spread during airway manipulation: lessons from COVID-19 pandemic in Singapore. Au Yong PS, Chen X. *Brit J Anaes* 2020 Apr 15. Link

Considerations and strategies in the organisation of obstetric anaesthesia care during the 2019 COVID-19 outbreak in Singapore. JSE Lee, RWL Goy, BL Sng, E Lew. *Int J Obstet Anesth* 2020 Apr 20. Link

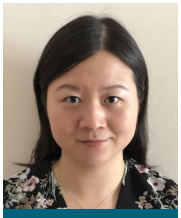
Opioid reduction strategies are important for laparotomies during the covid-19 outbreak. Au Yong PSA, Chan DXH. *Reg Anesth Pain Med* 2020 Apr 27. Link

Announcements

Congratulations to the following ACP members on their new grants!

Awardee	Grant
Dr Hairil Rizal Abdullah	NMRC Research Training Fellowship
Dr Tan Chin Wen / A Prof Sng Ban Leong	KK AM Research Start-Up Grant
A Prof Raymond Goy	ACP Programme Funding—Education Support
Yeam Cheng Teng / A Prof Sng Ban Leong	SingHealth Medical Student Development Award—Travel
Dr Hairil Rizal Abdullah	SingHealth Duke-NUS AM Special Request for Urgent COVID-19 Research Funding
Dr Goh Qing Yuan	SingHealth Duke-NUS AM Special Request for Urgent COVID-19 Research Funding

Congratulations to the following SHARP graduants

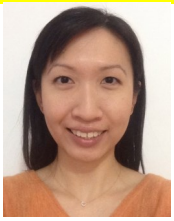


DR HE YING-KE

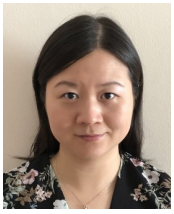
DR CHEN JINGHUI

DR SIOW WEI SHYAN

We welcome our new ACP members!



Dr Maureen Cheng
Department of Anaesthesiology
SGH



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Dr Andrew Roscoe
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Dr Siow Wei Shyan
Department of Anaesthesia & Surgical Intensive Care
CGH

Dr Anusha Kannan
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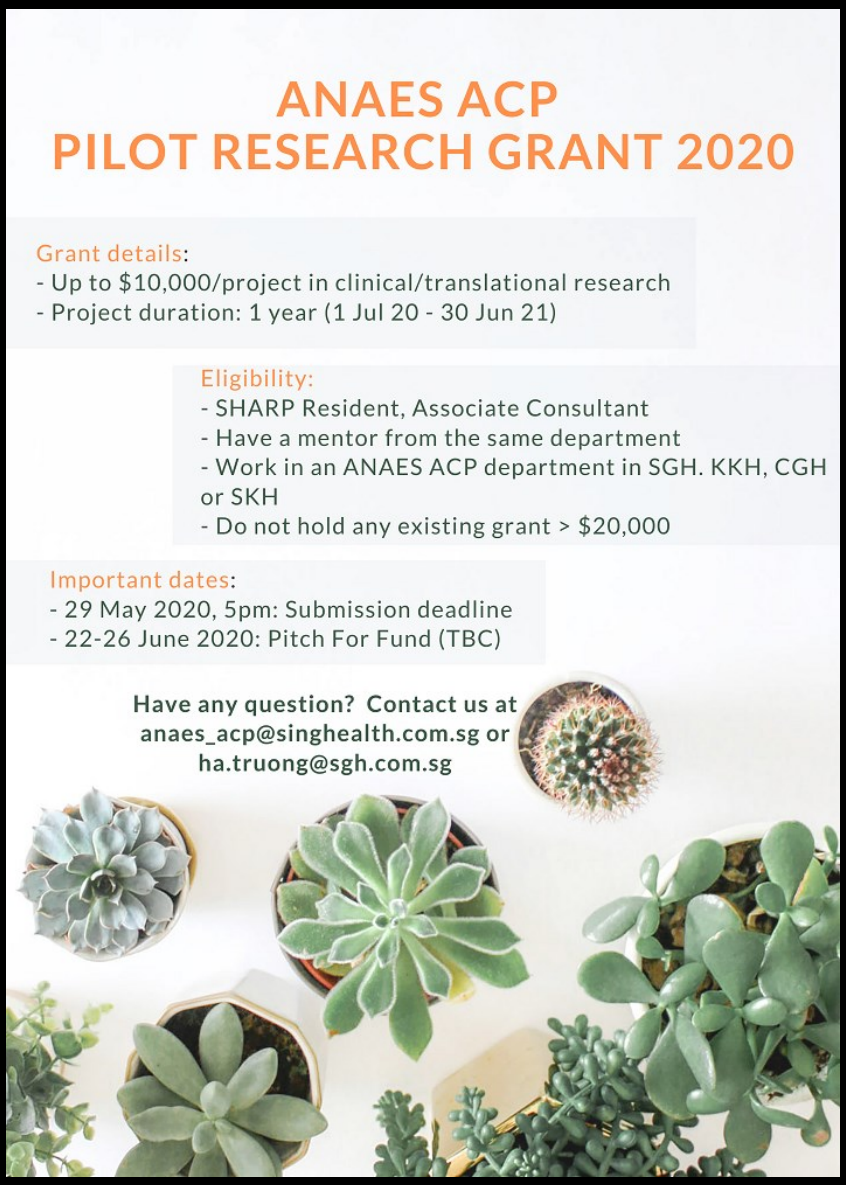
SGH

Dr Melody Long
Department of Paediatric Anaesthesia
KKH

On-goings



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