

NEWSLETTER Surge On

MAJOR NEWS:

NOVEL TRAINING TOOLS FOR ONCOPLASTIC BREAST SURGERY

02

REACHING OUT
FOR GLOBAL
HEALTH

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A JOURNEY
OF DISCOVERY

REACHING OUT FOR GLOBAL HEALTH

“I was appointed the Director of the SingHealth Duke-NUS Global Health Institute (SDGHI) and Group Director of SingHealth International Collaboration Office (ICO) on 1 January 2021. With the unique expertise and resources of these two units, we are confident that our academic medical centre will go from strength to strength in advancing our global health mission. By working with our regional partners, we can build resilience in our local health systems and make a sustainable impact on global health equity beyond our borders.”

Learning from crisis

The importance of global health is only too obvious now with countries worldwide grappling with the COVID-19 outbreak. At the height of the COVID-19 pandemic in Singapore, we had to avoid overwhelming our country's healthcare system by moving the battlefield from the hospitals to the community. Healthcare professionals from every one of our SingHealth institutions were brought to the frontlines at the Community Care Facilities to take care of migrant workers who had tested positive for COVID-19.



Assoc Prof Tan Hiang Khoon

Academic Chairman, Surgery ACP; Director, SingHealth Duke-NUS Global Health Institute; Group Director, International Collaboration Office, SingHealth

This crisis tested our staff and system's resilience and highlights the importance of a coordinated global approach to healthcare challenges. We cannot secure our population's health if parts of our society do not have equitable access to health. Advancing health equity through health-system collaboration within and across borders is central to the global health mission.

Giving and receiving

Global health is not limited to humanitarian missions in times of crisis. Over the years, the SingHealth surgical community has built strong partnerships with our counterparts in the region, allowing for sharing of ideas and best practices.

Through the tutorship of master surgeons, Dr Angkoon Anuwong in Thailand and Dr Tran Ngoc Luong in Vietnam, we have adopted innovative techniques to perform minimally-invasive thyroid surgery in Singapore. These approaches are now offered as safe and viable options to our local patients. This is only one example of the many areas of excellent practice in health systems in the region. While we reach out to support health systems in the region, we must not forget that

engaging beyond our borders also presents us with opportunities to innovate and provide better care for our patients.

Beyond COVID-19

That is not to say that we overlook the difficulties of healthcare in low-resource settings. The number of deaths today due to the lack of access to safe and affordable surgery is greater than the combined loss of lives due to tuberculosis, malaria, and HIV. To overcome this clear and present challenge, our surgical community must work with our regional partners to facilitate clinical skillset transfer and health-system enhancement.

COVID-19 has overwhelmed even countries with advanced health systems. In countries with low health-system capacity, the pandemic has accentuated inequities in access to care ranging from ICU beds to vaccines. The ripples of COVID-19 will continue to be felt long after the pandemic as we begin to assess its longer-term impact on people's livelihoods and mental well-being.

Collaboration and mutual support between our surgical community and our counterparts in the region will ensure that we get through this pandemic and close the gaps in access to surgery. We must leverage on our collective strength and expertise. SDGHI and ICO are here to support all efforts to advance the global health mission towards stronger and more resilient health systems for all.



A JOURNEY OF DISCOVERY



I enjoy my core clinical work as a surgeon in Breast Surgery at Sengkang General Hospital (SKH) and the Outram campus. I also like being a clinician-plus—over the years, I have broadened my skills in administration, paid it forward in teaching, and enriched my learning through research.

A new journey

I started my journey in SKH in 2012 as Co-Director of the Specialist Outpatient Services. I spent many days and nights discussing and designing the Medical Centre with the SKH team.



Assoc Prof Tan Kiat Tee, Benita

Chairman, Division of Ambulatory & Outpatient Care, Sengkang General Hospital; Adjunct Assistant Professor, NUS Yong Loo Lin School of Medicine; Adjunct Associate Professor, Duke-NUS Medical School, and Content Expert, Clinical Teacher and Clinical Practice Facilitator, Lee Kong Chian School of Medicine, NTU

Having the space and freedom to plan a new hospital was exciting and satisfying. With a 'blank canvas' to work on, we could focus on patient journeys and build co-locating care facilities. The experience provided me with vital insight into how our physical planning and day-to-day operations impact patients, and our healthcare staff carrying out their duties.

For example, siting services within walking distance of each other offers patients convenience while helping us optimise workflow. A patient who needs to see a hand surgeon can easily access related services such as rehabilitation and radiology nearby. In fact, our SKH Breast Centre has received favourable feedback from patients for its co-location with Breast Imaging. It has been heart-warming to learn that patients appreciate our focus on patient care in our planning.

Ambulatory & Outpatient Care is a new division at SKH, unique to our hospital. Since I became Chairman of the division in July 2020, I have been working with the Operations team in the Medical Centre to review outpatient services and workload, improve

protocols and systems to optimise clinic utilisation and manpower efficiency, and help departments as they develop new services. I also oversee the Departments of Ear, Nose & Throat, Orthopaedics, Psychiatry, Dentistry Occupational Health and Paediatrics.

Importance of a great team

SKH will continue its gradual opening of services. The patient profile and expectations at SKH are a little different from SGH as we see young and well-educated residents of Punggol and Sengkang towns, as well as the very old, given the high density of nursing homes in the area. Hence, we need to model our services to meet the referrals we get and extend services along the healthcare continuum, particularly in ambulatory and outpatient care, so that we can return the care of these patients to the community.

I strongly believe teamwork is crucial for successful healthcare, in fact, for anything we do. I feel that it is equally important for us to have joy at work. Staff wellbeing is important in delivering good healthcare to the patients we care for.

We are fortunate to have a great team at SKH who is energetic, innovative and positive. I hope to be able to continue to improve and grow our services with the team. I am very encouraged and glad that my journey of discovery in my management role has been a very enjoyable one.

FY 20 SURGERY ACP ACHIEVEMENTS

MISSION

The primary mission in Surgery ACP is to grow and develop Academic Surgery

ACP Programme Grant Funding Participation Trends (FY2018 – H1FY2020)

Active participation in ACP Programme Grants



ACP Programme Grant Applications	ALL ACP	SURG ACP / ALL ACP (%)	ALL ACP Successful(%)	SURG ACP Successful / ALL ACP Successful(%)
All Types	267	39 (15%)	94 (35%)	15 (16%)
Education Support	46	4 (9%)	24 (52%)	3 (13%)
Research Support (include NCCS)	67	7 (10%)	26 (39%)	5 (19%)
Global Health	10	2 (20%)	1 (10%)	1 (100%)
Clinical Innovation Support	64	14 (22%)	26 (41%)	4 (15%)
COVID-19 Innovation Grant	80	12 (15%)	17 (21%)	2 (12%)

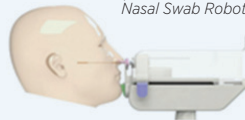
Research Achievement

Embracing Innovation in the time of COVID-19

The COVID-19 pandemic presented new opportunities to develop novel technologies in the past year. Clinicians from Surgery ACP have been involved in collaborations, to design, build, and deploy smart solutions to improve patient care and experience during the pandemic.

One invention is **SwabBot** – a robot developed to conduct faster and more comfortable COVID-19 swabbing.

First fully patient controlled Nasal Swab Robot



The project, led by Principal Investigator Dr Rena Dharmawan (HNS, SGH & NCCS), was initiated by a diverse group of clinicians from numerous specialties in NCCS, SGH and Duke-NUS, in collaboration with BioBot Surgical. The robot helps to address the limitations of manual nasal swabbing, reduces swabbers' risk of exposure to the virus and provides a safe and comfortable experience for patients.

Other Surgery ACP clinicians involved were A/Prof Tan Ngian Chye (HNS, SGH & NCCS), Dr Siti Radhiziah Binte Sudirman (ENT-HNS, SGH & NCCS) and Dr Tay Hsien Ts'ung (VAS, SGH & NCCS).



SG SHIELD in action

Another invention is the **SG SHIELD**. Conceptualised by a multidisciplinary team of clinicians from SGH Departments of Otolaryngology – Head & Neck Surgery (Dr Siti Radhiziah Binte Sudirman), Urology (A/Prof Henry Ho), and clinical innovation engineers from Medical Technology Office (MTO), this shield was designed to block healthcare workers from droplet deposition that patients may cough out during throat swabs.

Postgraduate Achievement

Providing support for Programme Continuity amidst COVID-19

- All residents achieved required rotation exposure
- No resident delayed in progression/promotion
- Maintained operative logs despite elective OT slowdown
- Developed new capability for national cross-SI online teaching

A plan for enhanced learners' clinical performance with our GS E-Learning Project

- Developed 12 e-modules for residents and MOs rotated to General Surgery, SKH
- E-learning platform; Reduced faculty fatigue
- Jul 2019 → Jan 2020 → Oct 2020 (3rd batch in progress)



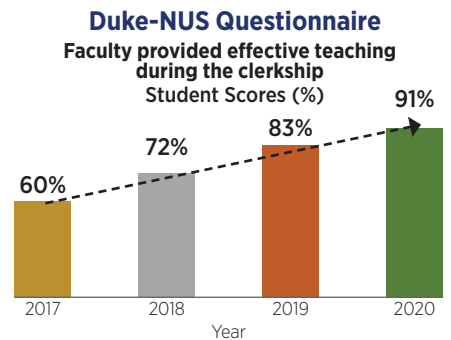
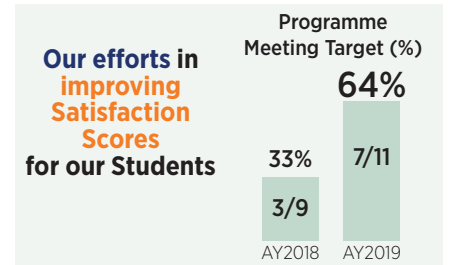
Achievements

- 100% pass rate for all learners
- "Met/Exceeded Expectations": 97% → 100%
- "Yes, will recommend to others": 97% → 100%
- Iterative improvement based on feedback

Undergraduate Achievement

Ensure quality of teaching amidst COVID-19

- Partnered closely with medical schools and MOH on contingency plans during DORSCON Orange
- Implemented curriculum and assessment changes to adapt to Covid-19
 - Smaller posting groups to adhere safe distancing measures
 - Innovative learnings: virtual platform teachings



Faculty Affairs & PD Achievement

Surgery ACP - Allied Health Professionals Membership

Encourage, facilitate and support AHPs in "inter-professional collaborative" practices, research and education in Surgery ACP



Assoc Prof Ong Hwee Kuan
AM Lead, Allied Health (SGH)

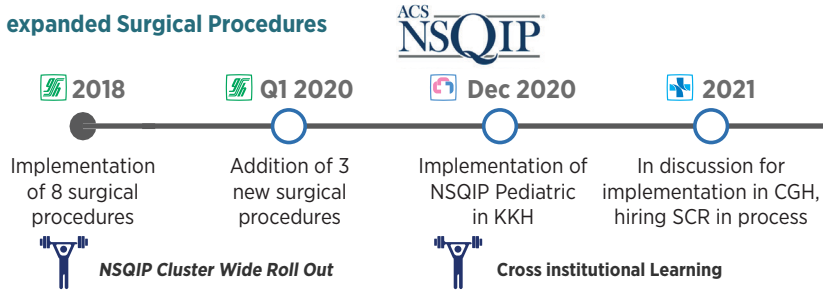
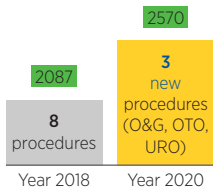
22 applications, across all institutions, were endorsed by SACP Council in Jul 2020



13 Projects with Allied Health (FY18-20)

Clinical Innovation Achievement

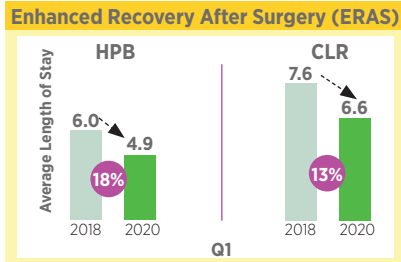
1 Plan for better care with expanded Surgical Procedures



First step to national roll-out -NTFGH engaged us in an exploratory meeting in Dec20.

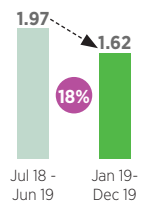
2 Improve surgical outcomes of patients

467 days reduction in Length of Stay with early implementation and intervention of ERAS to HPB& CLR (Yr2019)



3 Risk stratified international benchmarking

Odds Ratio (the lower the better)



Drop in odds of occurrence of recurrent laryngeal nerve injury in H&N and ENT

- Exemplary** Compared to average NSQIP hospitals
- Whipple Pancreatectomy readmission
 - Colorect ventilator > 48 Hrs
 - Colorect ROR

- Area of Opportunity**
- HPB-linked pneumonia
 - Nephrectomy LOS
 - Bariatric Readmission

Philanthropy Achievement

1 Professorships in Duke-NUS



Goh Hak Su Professorship in Colorectal Surgery

- Recruit and Recognize
- Provide Excellence in Education
- To honour Professor Goh Hak Su



Foo Keong Tatt Professorship in Urology Fund

- Recruitment of exceptional researchers and teachers
- Achieve peaks of excellence in research, education and practice
- To honour Professor Foo Keong Tatt

2 Nursing, Allied Health, Ancillary and Admin Surgical (NAS) Fund



Reached the target of raising **\$300,000**

- To deepen their knowledge and skills by attending courses/conferences
- To develop and nurture them into high quality healthcare professionals
- Improve quality of care in patients and cater to Singapore's ageing population

3 Response and Outcome Analysis of Tertiary Surgical Unit in Asia



Completed Phase 1



In-depth interviews/questionnaire surveys were conducted with **surgical leaders** in selected hospitals from **10 low-to-middle-income countries in Asia**.

Objective facts about the hospital and the surgical department were obtained through close-ended questions in the survey:

- Staff strength, volume and type of surgeries performed** per year and during the COVID-19 period (Until end of 2021)
- Number and duration of surgeons deployed** to manage the COVID-19 situation

Global Surgery Achievement

Global Health Initiative – Pandemic Response

\$S1,000,000 Devising better strategies to tackle the COVID-19 crisis and future pandemics

\$900K: Pandemic Impact and Resilience Fund

1 Response and Outcome Analysis of Tertiary Surgical Unit in Asia (Completed Phase 1, Embarking Phase 2)

To understand the impact of COVID-19 on the outcome of patients and the impact of current policies.

2 The Perspectives and Well-being of Healthcare Workers (HCWs), Migrant Workers and the General Population during COVID-19

To learn about the impact of COVID-19 on the psychological well-being of HCWs and patients.

\$100K: Innovation and Innovative Care Fund

3 Innovation and Innovative Care Fund – Telemedicine Centre

To pilot innovative technologies and novel model of care in our hospitals in the new normal after the COVID-19 crisis.

- Doctor COVID chatbot
- Telepresence robot

SDGHI Global Health Support



Dr Amos Loh

FY20 ACP Programme Grant

Objectives

Promote interest & provide opportunities for global health projects regionally.

Strategic areas

- Communicable diseases
- Non-communicable diseases
- Health systems strengthening

Global Surgery Programme Workshop/Congress Sponsorship (FY2020, Year 2)



'Best of Revascularization' online workshop facilitated by A/Prof Chong Tze Tec

9 vascular surgeons from regional countries (Malaysia, Thailand, Vietnam and Philippines)



18 Sep Basic Laparoscopy workshop

1 paediatric fellow from Pakistan



1 paediatric oncology surgeon from Malaysia

Sponsored Students for Global Surgery Attachments in Sri Lanka



The College of Surgeons of Sri Lanka

19 October 2019 to 7 December 2019
6 January 2020 to 23 January 2020

Sent two Year-3 Duke-NUS students, Julieanne & Zhen Luan to The College of Surgeons of Sri Lanka to conduct global surgery projects.

- focus on safe surgery and disease burden.



High Pass

Keong Si Ying, Julieanne
Class of 2021
Duke-NUS Medical School

Honours

Low Zhen Luan
Class of 2021
Duke-NUS Medical School

Manuscripts submitted to channels of publications

POSTGRADUATE YEAR 1 TRAINING DEPARTMENT SENGKANG GENERAL HOSPITAL GENERAL SURGERY

Associate Professor Chew Min Hoe
Chairman, Division of Surgery, SKH
Senior Consultant, Department of General Surgery, SKH



In the SingHealth RiSE Awards 2020, Sengkang General Hospital's (SKH) Department of General Surgery (GS) won the **Best Postgraduate Year 1 (PGY1) Training Department Award** (May 2019 - April 2020).

This award recognises departments from across all SingHealth institutions that have provided a good foundation for PGY1s to gain confidence and mastery in their clinical skills.



PGY1 forms the first year of postgraduate training after medical school and aims to develop PGY1s to be competent and empathic doctors, equipped with the necessary medical knowledge and clinical skills. A total of 213 PGY1s every year rotate through the GS departments of three SingHealth institutions - Singapore General Hospital (SGH), Changi General Hospital (CGH) and Sengkang General Hospital (SKH) - for a 4-month rotation. During their time in SKH GS, PGY1s also rotate through the Divisions of Urology, Neurosurgery and Plastics.

In 2019, the faculty team at SKH GS comprised Associate Professor Chew Min Hoe, Dr Tan Choon Chieh, Dr Sharmini Su Sivarajah, Dr Lester Ong Wei Lin, Dr Chua Hui Wen, Dr Frederick Koh and Ms G Khasthuri. Dr Tan Choon Chieh, Clinical Core Faculty Member of the SingHealth PGY1 Programme shared that the team's aspiration was to promote a safe and supportive environment for the PGY1s. This included flattening the hierarchy to ensure effective communication across all ranks and working on posting feedback provided by PGY1s to improve the learning experience. The team also adopted the Ministry of Health Holdings' (MOHH) guidelines on duty hours, protected teaching time and utilized the New Innovation system to track PGY1s' compliance in these two areas regularly.

Dr Tan also attributed this award to the collective effort put in by the GS department, in tandem with the participating surgical specialties. He added that all the seniors in these surgical units had played pivotal roles in looking after both the welfare and training of PGY1s posted to the departments.



NOVEL TRAINING TOOLS FOR ONCOPLASTIC BREAST SURGERY



Clinical Associate Professor Lim Geok Hoon

Head & Senior Consultant, KK Breast Department, KKH

Oncoplastic conserving breast surgery has a steep learning curve and requires hands-on practice. However, recruiting volunteers for teaching purposes is challenging as the breast is an intimate organ.

To overcome this, the KK Women's and Children's Hospital's (KKH) Breast Department has developed a droopy breast model for the purpose of teaching marking in oncoplastic surgery, named the Marking Breast Oncoplastic Surgery Simulator (MBOSS), using the National Additive Manufacturing Innovation Cluster grant. MBOSS (figure 1) was used for teaching in the 5th Singapore Breast Oncoplastic Surgery Symposium (SBOSS) in 2019 and was evaluated to be an effective teaching tool, with the potential to replace volunteers to facilitate the teaching of marking. This evaluation study received financial support from the Academic Medicine Education Institute (AM•EI) grant and was published in Gland surgery in 2020.

To teach the surgical steps following the marking, Virtual Breast Oncoplastic Surgery Simulator (VBOSS), a world first virtual interactive training tool, was invented, utilising the National University of Singapore's (NUS) Teaching Enhancement Grant and was reported in European Journal of Surgical Oncology in 2018. VBOSS (figure 2) was also determined to be an effective teaching tool, with its evaluation results published in the Breast Journal in 2020. Since VBOSS can allow learning at one's own pace virtually, it is particularly useful in times when teaching is disrupted, such as the current COVID-19 pandemic.



Figure 1:

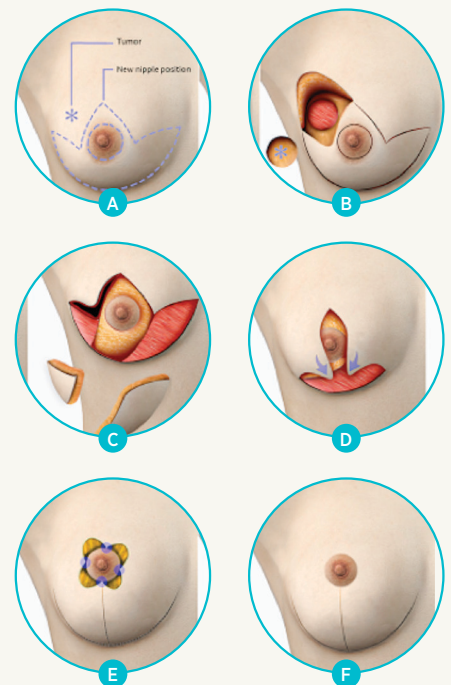


Figure 2:

Figure 1: MBOSS, simulating breast texture, can be maneuvered in the same way as the female breast during the marking, to facilitate teaching.

Figure 2: Illustrations of an example in VBOSS navigating the learner through the sequential steps of incision to skin closure in wise pattern mammoplasty a) marking (dotted line) of incision with tumor in the upper outer quadrant (blue asterisk) b) tumor excised after skin flaps raised (c) preservation of nipple areolar complex (NAC) on superiomedial pedicle with removal of redundant tissue d) defect filled using extension of pedicle e) repositioning of NAC and skin closure f) final operative appearance.

CAREER GUIDANCE AND EXPOSURE IN SURGERY PROGRAMME

Thinking of a surgical career? How well do you learn surgical techniques? Do you really know the training and life of a surgeon?

The Career Guidance and Exposure in Surgery (CGES) Programme (by Associate Professor Chew Peng Chung and Associate Professor Chong Tze Tec), funded by the AM-ETHOS Medical Simulation & Inter-Professional Learning Project Grant from Duke-NUS, aims to provide

medical students with guidance and greater exposure in surgery to enable them to make a more informed career choice.

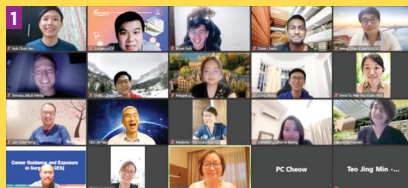
The inaugural programme commenced on 7 November 2020 with 12 Duke-NUS medical students (Year 2 to 4) selected from 24 applicants. Held with the support of the SingHealth Duke-NUS Institute of Medical Simulation (SIMS) and Karl Storz Endoscopy Asia Marketing, it consisted of a series of career talks by the various

surgical subspecialties, surgical skills sessions and surgical skills challenges over a 3-month duration.

The participants shared that the career talks (Photo 1) were very informative and were useful in helping them determine their future career choices. They also indicated that the surgical skills sessions (Photo 2) provided them with useful hands-on opportunities on the various instruments and basic procedures, which they were only previously able to observe the surgeons perform as medical students. After the surgical skills sessions, the students were put to the test through a series of challenges (Photo 3) which included suturing, knot tying and laparoscopic skills.

The Surgery Academic Clinical Programme (ACP) hopes to expand this programme to the students of all three medical schools in Singapore in 2021 and to continue engaging those who are interested in pursuing surgical careers.

For more information on the Career Guidance and Exposure in Surgery (CGES) Programme, please contact Surgery ACP Education Office

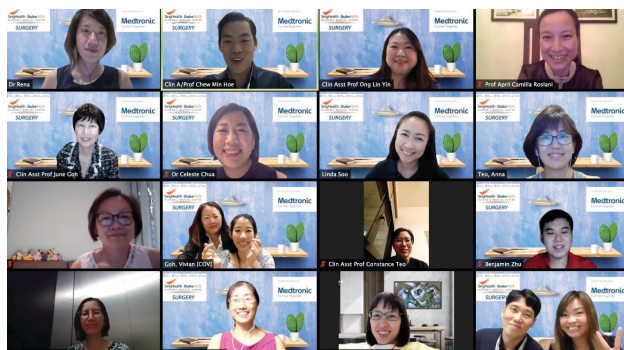


1. Online career talk sessions by various sub-specialties on Wednesday evenings
2. Surgical skills sessions on Saturday mornings
3. Students practicing on suturing, knot tying and laparoscopic skills before the Challenge (23 Jan 2021)
4. Winners of the Surgical Skills Challenge (From L to R: Wong Choon Kit Louis, Teo Jing Min James - Overall Best, Tu Wen Hui Irene) with A/Prof Chew Peng Chung (second from left).

SINGHEALTH DUKE-NUS SURGERY ACADEMIC CLINICAL PROGRAMME - WOMEN IN SURGERY WEBINAR

On 23 October 2020, the Surgery Academic Clinical Programme (ACP), in collaboration with Medtronic, organised the inaugural Women in Surgery webinar. The 2-hour session was chaired by Associate Professor Chew Min Hoe and Assistant Professor Ong Lin Yin. It was attended by 112 specialists, including medical students from Singapore, Malaysia and Brunei. The webinar offered valuable insights and a thought-provoking panel discussion. The three plenary sessions included overseas

speakers and our own local SingHealth surgeons. We were honoured to have Professor April Camilla Roslani from University of Malaya, Malaysia as our keynote speaker. The series of inspiring talks was followed by an engaging panel discussion, which served as a platform for pertinent issues relating to female surgeons in SingHealth to be raised. The panel comprised five surgeons from across SingHealth institutions, as well as Ms Jennifer Cho, Vice President (South East Asia Cluster 1) from Medtronic, who provided a wide breadth of perspectives.



Professor Roslani's keynote presentation on "A Gendered Understanding of Occupational Health Hazards for Surgeons" emphasised the need to adopt a gender-based approach for ergonomics, medical devices, and work

safety programmes. The second plenary session saw Associate Professor Low Yee sharing her inspirational journey of balancing her surgical career, family and bringing up her children. Our third speaker, Dr Rena Dharmawan, provided interesting insights on her successful career as a surgeon and entrepreneur, who co-founded three Singapore-based Medical/Health Technology start-ups and some of the collaborations she had made in pursuit of innovation in surgery.

The attendees indicated in their feedback that the "sharing was open and eye-opening" and that it was "good to hear honest sharing and struggles, as well as how the speaker and panelists have overcome challenges so that we can work together towards a better surgical culture and community". The webinar has left them inspired and aware of channels through which they can reach out for support.

The Faculty Affairs and Professional Development (FAPD) Office in the Surgery ACP is committed to the vision of "An Engaged, Motivated and Happy Workforce" and look forward to the next webinar session to help identify and understand the faculty's needs and implement solutions to help make their career journey a more fulfilling one.

ARTICLE PUBLISHED IN *CELL* FROM THE NMRC TRANSLATION-CLINICAL RESEARCH FLAGSHIP PROGRAM IN LIVER CANCER (PI: PROF PIERCE CHOW)

ONCO-FETAL REPROGRAMMING OF ENDOTHELIAL CELLS DRIVES IMMUNOSUPPRESSIVE MACROPHAGES IN HEPATOCELLULAR CARCINOMA



Prof Pierce Chow
Vice Chair (Research),
Surgery ACP
Senior Consultant,
Hepato-pancreato-
biliary and Transplant
Surgery, SGH & NCCS
Principal Investigator
of NMRC TCR Flagship
Programme in Liver
Cancer, was
co-corresponding author
of a study published
in *Cell*.

This study, published on 24 September 2020 in the high impact journal *CELL* (JIF 38.6), has identified a pivotal “fetal-like” reprogramming of the tumor ecosystem in human hepatocellular carcinoma (HCC), whereby liver cancer cells masqueraded as fetal cells to escape detection from the body’s immune system. This discovery provides insights into processes that drive cancer development not previously described and suggests novel therapeutic strategies in the fight against cancer.

The findings were possible because we sampled multiple sites within surgically resected HCC and the observations would have been missed if surgically resected HCC were not available. In this multi-institution study involving the National Cancer Centre Singapore (NCCS), Singapore General Hospital (SGH), National University Hospital (NUH), KKH, Genome Institute of Singapore (GIS) and Singapore Immunology Network (SigN), we employed cutting-edge technology (single-cell sequencing) to extensively characterize the cellular landscape of human liver from development to disease. Analysis of ~212,000 cells representing human fetal, HCC, and mouse liver revealed remarkable fetal-like reprogramming of the tumor microenvironment. Specifically, the HCC ecosystem displayed features reminiscent of fetal development, including re-emergence of fetal-associated endothelial cells (PLVAP/VEGFR2) and fetal-like (FOLR2) tumor-associated macrophages. In a cross-species comparative analysis, we discovered remarkable similarity between mouse embryonic, fetal-liver, and tumor macrophages. Spatial transcriptomics further revealed a shared onco-fetal ecosystem between fetal liver and HCC. Furthermore, gene regulatory analysis, spatial transcriptomics, and in vitro functional assays implicated VEGF and NOTCH signaling in maintaining onco-fetal ecosystem. Taken together, we reported a shared immunosuppressive onco-fetal ecosystem in fetal liver and HCC. Our results unravel a previously unexplored onco-fetal reprogramming of the tumor ecosystem, provide novel targets for therapeutic interventions in HCC and open avenues for identifying similar paradigms in other cancers and disease.

Prof Chow remarked, “This study opens new opportunities to develop better treatment for patients and highlights the important role surgeons play in biomedical breakthroughs.”

PMID: 32976798 | DOI: 10.1016/j.cell.2020.08.040

DSSO RESOURCE CENTER & PANEL OF MENTORS

The Division of Surgery & Surgical Oncology (DSSO) Research Resource Center was recently established to grow and develop research in DSSO. The Resource Center provides information such as grants available, JIF and Thomson Reuters Top 20% Journals, and information on creating H-index and ORCID. These resources will be available to Surgery ACP Faculty as well.

Mentors are available to provide guidance and support to faculty members in their research such as grant applications, and to nurture them into Clinician Scientists/Innovators/Investigators.

These are the mentors:



Prof Pierce Chow

Hepato-pancreato-biliary and
Transplant Surgery, DSSO, SGH & NCCS



Prof Narayanan Gopalakrishna Iyer

Head & Neck Surgery, DSSO, SGH & NCCS



Assoc Prof Lim Chwee Ming

Otorhinolaryngology – Head & Neck
Surgery, DSSO, SGH & NCCS



Assoc Prof Ang Beng Ti

Neurosurgery, DSSO, SGH & NCCS



Dr Nicole Keong

Neurosurgery, DSSO, SGH & NCCS

More information regarding the Resource Center can be found in DSSO Infopedia and Surgery ACP AMC Website

Link to DSSO Research Infopedia: <http://infopedia/SGH/Divisions/DivSurgery/Pages/Research-Office.aspx>

Link to Surgery ACP AMC Website: <https://www.singhealthdukenus.com.sg/acp/surgery>

THE ESTABLISHMENT OF GOH HAK SU PROFESSORSHIP IN COLORECTAL SURGERY

As one of the leading colorectal surgeons in Singapore, Professor Goh Hak Su is recognised as the Father of Colorectal Surgery. In 1989, Professor Goh established the Department of Colorectal Surgery at the SGH, the first of its kind in the region. Heading the Department and as a Senior Consultant, he built a centre of excellence for clinical work, teaching and research and trained many colorectal surgeons for Singapore and the region. With his significant contributions, SGH's Department of Colorectal Surgery remains a premier colorectal centre with an international reputation in clinical work, teaching and research.

Because of the increasing incidence of colorectal cancer in Singapore, Professor Goh established the first computerized medical record for colorectal cancer in SGH, a colorectal cancer tissue bank, a dedicated molecular biology laboratory and a Polyposis Registry. He also started an anorectal physiology laboratory and founded the Society of Colorectal Surgeons Singapore. For his work on colorectal cancer, he was awarded the **Singapore Science and Technology Medal in 1985**.



Prof Goh Hak Su

Professor Goh had extensive publications in peer-reviewed journals and contributed chapters in textbooks on colorectal surgery and colorectal cancer. He had also lectured worldwide and impacted students locally and internationally. He was honoured with the Galloway Gold Medal and Memorial Lecture in Singapore, the Joint Royal College of Surgeons (Edinburgh) and Academy of Medicine (Singapore) Lecture in Edinburgh, the Edward Wilson Lecture in Sydney, the Harry Bacon Oration in Jodhpur, and the WG Smith Lecture in Perth.

Although he is now practicing as a private colorectal surgeon in the Goh Hak Su Colon & Rectal Centre at Gleneagles Medical Centre, Singapore. Professor Goh continues to teach and contribute as a Visiting Consultant to SGH's Department of Colorectal Surgery and NUS's Division of Colorectal Surgery. Currently, he is also an Adjunct Associate Professor in the Department of Surgery, Yong Loo Lin School of Medicine in NUS.

Renowned for his passion in education and contributions towards the field of colorectal surgery in Singapore,

we have raised a total of
\$S\$3.2
million
to establish the
Professorship



He or she who gives
receives more in return”

the Goh Hak Su Professorship was established in honour of his efforts and success. With the philanthropic support from donors such as Professor Goh, his colleagues, friends and patients, we have raised a **total of \$S\$3.2 million** to establish the Professorship. The Professorship strives to recruit and recognize the finest scientists and clinicians to create a strong framework for cutting-edge research and innovation. It also plans to provide **excellence in education** for young surgeons and work towards the establishment of an internationally renowned fellowship centre. The aim is to identify, study and help solve emerging colorectal problems in Singapore and to nurture, inspire and train current and future colorectal surgeons with dedication, skills and innovative ideas for the benefit of our patients.

NATIONAL MEDICAL RESEARCH COUNCIL (NMRC) AWARD WINNERS

NMRC oversees the development and advancement of medical research in Singapore. NMRC's mission is to promote excellence in translational and clinical research, nurture a vibrant research community of clinicians and enhance knowledge translation for better health and economic outcomes.

These awards and programmes recognise clinician scientists and researchers for their outstanding achievements and contributions, in transforming medicine and improving patient care for Singapore and beyond.

(NMRC awards from Nov 2018 – Nov 2019 grant call cycles)



Prof Narayanan Gopalakrishna Iyer

Senior Consultant, Department of Head & Neck Surgery, SGH & NCCS

Clinician Scientist Award – Senior Investigator (CSA-SI)



Assoc Prof Lim Chwee Ming

Senior Consultant, Senior Consultant, Department of Otorhinolaryngology – Head & Neck Surgery, SGH & NCCS

Clinician Scientist Award – Investigator (CSA-INV)



Dr Ng Tze Kiat

Senior Consultant, Senior Consultant, Department of Urology, SGH & NCCS

Clinician Innovator Development Award



Dr Vanessa Tan Yee Jueen

Consultant, Department of Otorhinolaryngology – Head & Neck Surgery, SGH & NCCS

MOH Healthcare Research Scholarship – Master of Clinical Investigation (MCI) Programme



Dr Tan Yu Guang

Senior Resident, Department of Urology, SGH & NCCS

MOH Healthcare Research Scholarship – Master of Clinical Investigation (MCI) Programme

GS RESIDENCY, EX-PD FAREWELL

The residents planned for a mini farewell for Former Programme Director, General Surgery Residency Assoc Prof Tan Ngian Chye, presenting him with a customised cake and a pen as tokens of appreciation for his contributions to their training.

The programme would like to thank Assoc Prof Tan for the support and guidance that he has rendered during his term as General Surgery Residency Programme Director.



NEW PROGRAMME DIRECTORS



**PROFESSOR
CHUNG YAW FUI ALEXANDER**
Programme Director, Surgery-in-General



**ASSISTANT PROFESSOR
TEO JIN YAO**
Programme Director, General Surgery



**ASSISTANT PROFESSOR
GAN HWEI LI VALERIE**
Programme Director, Urology