



# SOAP

Society for Obstetric  
Anesthesia and Perinatology

# NEWSLETTER

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## President's Message

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### *A Welcoming Message from your New Incoming and Immediate Past Presidents*

Dear SOAP members,

This year has been like no other before it. As a nation, we have been humbled as the SARS-CoV-2 virus is ravaging our communities, exposing the fragility, constraints and injustices of our health, financial and social systems. We have seen the limitations of our “just-in-time” supply chain, the gaps in preparedness, and the difference between our lofty rhetoric of quality care for all versus our persisting daily inequalities, especially for Black and Hispanic mothers.



Yet with this humility we have found our ingenuity and resolve. As the pandemic changes every aspect of our life, each one of us has tirelessly organized and delivered care to our many patients in need. Working together within SOAP we have authored the [\*“Interim considerations for obstetric care related to COVID-19”\*](#) and created a [\*Toolkit\*](#) that is utilized worldwide. Our nearly 1000 member-strong society is proving to be the leader for medical advice, quality research and the beacon for providing compassionate, safe and equitable care. Our partnerships with interdisciplinary organizations (e.g. AGOG, SMFM) have continued to grow as we join forces to optimize maternal and neonatal outcomes.

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The pandemic has also shown us that our effectiveness as a professional society depends on personal engagement. Despite the turmoil, you worked closely with us this year to redesign our governance structure, to increase your representation on the SOAP Board of Directors and to facilitate your participation in SOAP-wide projects. The chairs of our major (“docking”) committees have now been elevated to serve on the Board of Directors. Key SOAP subcommittees and Special Interest Groups (SIGs), an exciting additional group platform, will facilitate broader community participation. COVID has shown us the need to collaborate on a wide-scale and create the necessary crowd-intelligence to solve the problems of tomorrow. Maternal morbidity, mortality and neonatal outcomes, COVID-related or not, mental health, substance abuse, social-determinants of health and racism are all interconnected, and we cannot expect to solve one without the other.

The current environment gives us a unique opportunity to reconsider the way we connect and interact as a community. We are now better than ever prepared for live virtual gatherings\* and frequent electronic communications; **not social-distancing, but physical-distancing with social solidarity.** We are looking forward to brainstorming with all of you about how we can best prepare ourselves for the post-pandemic world.

We are genuinely excited to build the tomorrow with each of you. Your engagement will contribute to our collective

success, and we cannot wait to work with you towards **‘raising the standard for every woman everywhere’.**

Please reach out immediately with your thoughts and inspirations.

This will be an amazing year,

**Ruthi** ([rl262@cumc.columbia.edu](mailto:rl262@cumc.columbia.edu)) and  
**Lisa** ([lleffert@mgh.harvard.edu](mailto:lleffert@mgh.harvard.edu))

**\*Upcoming Scheduled Events Include:**

- **September 1, 2020** – Digital Syllabus Available!
- **September 10, 2020** – Gertie Marx Research Competition Presentations
- **September 15, 2020** – Refresher Courses Available Online
- **September 17, 2020** – Best Clinical Science and Basic Science Abstract Presentations
- **September 24, 2020** – Ten Best Case Reports Panel
- **October 15, 2020** – Gerard W. Ostheimer – What’s New in Obstetric Anesthesia? Lecture
- **October 22, 2020** – Gerard W. Ostheimer – What’s New in Obstetric Anesthesia? Lecture Part 2 (tentative)

## Editor’s Corner

***Kathleen A. Smith, MD, FASA***  
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Greetings SOAP members! I would like to welcome the new fellows who have recently become a part of our SOAP community, and congratulations to this year’s fellowship graduates. You have become part of a very dedicated, caring and innovative group of physicians. I am always grateful for this community and our shared knowledge, but especially during the SARS CoV-2 pandemic.

I hope you enjoy this edition of the SOAP newsletter, which features two excellent articles about keeping ourselves safe during the pandemic, and anticoagulation for parturients infected with COVID-19. If there are topics you wish to see in future newsletters, please bring them to a committee member or send me an email. [Kathleen\\_a\\_smith@med.unc.edu](mailto:Kathleen_a_smith@med.unc.edu). Take care of yourselves!

# Patient Safety Committee: Our Safety is Patient Safety

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As the COVID-19 pandemic has spread throughout the country, obstetric anesthesiologists have found themselves in challenging territory. Unable to cancel or postpone cases, OB anesthesiologists and their colleagues on the labor floor have continued to serve their patients while having to navigate the uncertainty and anxiety over even basic facts about how the SARS CoV-2 virus is transmitted. Under these conditions, provider safety has become a critical aspect of patient care. Here, we share some of our specific experiences in how we prioritized provider safety.

## Testing Strategy

**Sharon Abramovitz, MD**

New York City was an epicenter for the coronavirus disease 2019 (COVID-19) pandemic.

With the first cases identified in early March, pregnant patients were screened for symptoms, travel history or contact with sick individuals. Those meeting these criteria were designated a person under investigation (PUI) and tested using a nasopharyngeal (NP) reverse transcriptase polymerase chain reaction (RT-PCR) test for SARS-CoV-2.

These criteria were quickly found to be inadequate. As the recognized constellation of potential symptoms evolved (fever, cough, shortness of breath, fatigue, myalgia, headache, loss of taste or smell, rhinorrhea, chills, diarrhea), it was noted that some of these symptoms overlap with those of pregnancy and labor. Additionally, it was found that a high proportion of asymptomatic pregnant patients admitted to NYC hospitals were testing positive for COVID-19,<sup>1</sup> with one study across our hospital system finding that more than 75% of positive tests were in asymptomatic individuals.<sup>2</sup>

On March 22<sup>nd</sup>, we began universal testing of pregnant patients on admission. Initially, our microbiology laboratory used the Roche SARS-CoV-2 RT-PCR NP swab test with a turn-around time (TOT) between 6-8 hours. By mid-April, we switched to the more rapid Cepheid PCR test (TOT 1-2 hours). Since both tests received emergency use authorization from

the FDA, no clinical trials were initially performed to establish diagnostic sensitivity or specificity parameters. We have also remained aware that PCR tests for the SARS-CoV-2 virus can suffer from false negative results due to inadequate specimen collection. Even where specimen collection is adequate, false negatives can result if patients are early in the incubation period and can test positive many days later.

## Personal Protective Equipment (PPE) for Procedures and the Operating Room

**Laurence E Ring, MD**

Limited testing and protective resources as well as developing science led to a frequent changing of recommendations of appropriate PPE, which, in fact, are still changing, even as cases in New York City are at a nadir. Amongst the most useful policies we developed is rooted in the idea that all patients (and visitors, and even other practitioners) are positive until proven negative, hence policies around maintaining social distancing and universal masking of everyone present within the hospital. When considering procedural PPE, patients who are either known COVID+ or COVID status unknown are grouped together, with the possibility of an aerosolizing event during an interaction determining the specifics. Because aerosolizing events are unlikely during the placement of neuraxial labor analgesia, only droplet and contact isolation protocols are followed (eye protection, surgical mask, gown). For any operating room case, no

*Patient Safety Committee continued on next page*

matter the anesthesia plan, aerosolizing events (endotracheal intubation and vomiting especially) are considered more likely and so airborne precautions are added. This includes an N95 respirator as well as an impervious gown. It is stressed that proper application of appropriate PPE should be prioritized before engaging in patient care, even in emergencies.

### **Visitor Policies**

#### ***Laura E. Kaufman, MD***

While the Midwest was not initially heavily affected by the pandemic, our case numbers have increased over the summer months. Visitation for pregnant patients is allowed but limited, both for the purposes of contact tracing within the hospital and limiting hospital traffic in general. Parturients may designate a single support person to be with them antenatally and during their postpartum stay. The support person is required to undergo screening upon entering the hospital, consisting of standard screening symptom questions and temperature check. All visitors must wear masks in the hospital. If the mask is removed for eating or drinking, the visitor must maintain at least a six-foot distance from hospital staff. Extraordinary exceptions for additional visitors are considered on a case by case basis. Parturients whose fetuses have poor prognoses may request the presence of additional family or siblings. No support person who screens positive initially or develops symptoms while at the hospital may enter or remain on the unit. No COVID+ or PUI patients may have a support person on the unit or in the operating room, to preserve PPE and focus staffing attention on the patient.

### **Practitioner Assignments and Opting Out**

#### ***Daniel Katz, MD***

One of the challenges during the COVID-19 pandemic involves how to properly deploy anesthesiologists who constitute a vulnerable population. Vulnerable groups include those who are older or have comorbid conditions, a list of which is distributed and updated by the CDC<sup>3</sup>. Ideally, individuals may confidentially self-identify as vulnerable and be given the opportunity to opt out of front line clinical work. There are a variety of options available for at-risk faculty. If these staff must be deployed, it should be to areas where risk of COVID-19 transmission is lowest, i.e. COVID-19 negative ICUs or operating rooms reserved for documented COVID-19

negative patients. At-risk staff may also provide a variety of valuable services remotely. During the surge, we relied heavily on non-clinical faculty members to perform much of the administrative work that needed to be performed in a rapid manner, for example, writing new policies and protocols, collecting data regarding healthcare worker exposures and joining innovation teams to troubleshoot issues that arose during the crisis period. They had the flexibility to participate in the plethora of meetings and were instrumental in helping to organize data and prepare manuscripts. Most importantly, they were pivotal in collecting anonymous feedback and served as ombudspersons for front line faculty who were either afraid to speak up or were mentally exhausted. Finally, in areas where consultations continued to be required (such as on the labor floor) they were able to provide these services remotely.

### **Mental Health Concerns**

#### ***Laurence E Ring, MD***

The stress and anxiety of having to work under such unprecedented, unpredictable, dispiriting, and, at times, risky conditions, demands an organized, proactive approach to mental health support for practitioners. This begins with major efforts by leadership to ensure that practitioners feel safe, including transparency in work distribution, supply line data and open forums where staff can express their concerns. As each individual will process their experiences differently, varying approaches should be utilized to ensure each individual's mental health is not overlooked. This should include access to confidential counseling, facilitated small group sessions and presentations to the group at large by mental health professionals. Clear pathways should be well publicized for providers in emotional extremis to seek help and remove themselves from clinical duties, if needed.

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# Education Committee: Peripartum Anticoagulation and Anesthesia Management in the COVID-19 Parturient: Our Protocol During the Pandemic

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As many hospitals in NYC, our institution, over the course of 3 months, received a large number of patients affected by the novel severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) more commonly known as COVID-19. The Labor and Delivery (L&D) unit had its share of parturients who had contracted the virus. While we, unfortunately, do not have demographic data yet analyzed, structural inequities as well as extrapolation from what was seen in the general population make it reasonable to expect that Black, Indigenous, Latinx, and disabled pregnant people were disproportionately represented in those patients who tested positive for COVID-19 on our L&D floor<sup>1,2</sup>. During this critical time, Mount Sinai Morningside and West Hospitals developed a set of protocols to address the unique care needs of parturients experiencing COVID-19 symptoms, utilizing important recommendations from The American College of Obstetricians and Gynecologists (ACOG), Society for Obstetric Anesthesia and Perinatology (SOAP), and the National Institutes of Health (NIH), along with preliminary findings from scientific studies<sup>3-5</sup>.

## COVID-19 Infection and Coagulopathy

Emerging data suggest that COVID-19 infection may lead to a prothrombotic state<sup>6-11</sup>. The incidence of venous thromboembolism (VTE) in COVID-19 positive patients ranges anywhere between “1.1% in non-ICU hospital wards to 69% in ICU patients screened with lower extremity ultrasound”<sup>6</sup>. The precise mechanism behind what researchers have termed, COVID-19-associated-coagulopathy (CAC) or thrombo-inflammation, is not yet fully understood. Some theories purport the effect of the virus binding to Angiotensin-Converting Enzyme-2 (ACE-2) vascular receptors, leading to an increase in unbound Angiotensin II (Ang II)<sup>7</sup>. This increase in Ang II results in vasoconstriction, endothelial and platelet activation, and pro-inflammatory cytokine release<sup>7</sup>. Another theory is that direct endothelial injury caused by hyperviscosity seen in COVID-19 disease causes an uncontrolled immunothrombotic response resulting in CAC<sup>9,11</sup>. Even though the full pathophysiology of CAC is still unclear, researchers have found that patients with COVID-19 experience: blood

hyperviscosity, increases in pro-inflammatory cytokine release, platelet activation, fibrin, fibrinogen, and D-dimer<sup>6-11</sup>. A process that is parallel, yet distinct, from disseminated intravascular coagulopathy (DIC) in that COVID-19 patients tend to have less hemorrhagic and more prothrombotic episodes<sup>6,7</sup>.

## Should Patients with COVID-19 be on Anticoagulation Therapy?

Regardless of the CAC mechanism, its clinical incidence has real implications for OB anesthesiologists. Since pregnancy is a hypercoagulable state, there is valid concern that CAC could further increase the risk of VTE for parturients. This concern has led national societies such as ACOG, SOAP, and the NIH to offer recommendations, based primarily on expert opinion in anticipation of future evidence-based research.

ACOG recognizes the potential increased risk of coagulopathy yet acknowledges that more evidence is needed before having firm recommendations regarding thromboprophylaxis in COVID-19 pregnant and postpartum patients. However, ACOG also states that it is “reasonable to consider anticoagulation treatment for these patients, particularly if they have severe or critical disease”<sup>3</sup>. In critically ill patients with limited cardiopulmonary reserve, VTE or clot propagation could lead to acute decompensation and life-threatening consequences.

In contrast, the NIH released perhaps a clearer, more specific set of recommendations, also primarily based on expert opinion, due to the lack of evidence-based research on anticoagulation and COVID-19.

*Peripartum Anticoagulation continued on next page*

**Table 1: Mount Sinai West Hospital System’s Anticoagulation Protocol for Parturients with COVID-19**

<b>BMI (Kg/m2)</b>	<30	30-39	>40
<b>Lovenox dosage</b>	40 mg daily	30 mg BID	40 mg BID
<b>Timing to start anticoagulation (AC) after neuraxial placement/catheter removal – NEVER START AC WHILE EPIDURAL IS STILL IN PLACE</b>	<ul style="list-style-type: none"> <li>• <b>4 hours</b> after epidural removal, AND</li> <li>• Minimum of <b>12 hours</b> after neuraxial (including spinal and epidural) placement</li> </ul>		
<b>Length of AC</b>	<ul style="list-style-type: none"> <li>• IF <b>asymptomatic and delivered vaginally</b>, THEN continue AC until patient is <b>discharged home</b></li> <li>• IF <b>asymptomatic</b> status post cesarean delivery, THEN continue AC for 2 weeks postpartum</li> <li>• IF <b>symptomatic</b> status post cesarean delivery or vaginal delivery, THEN continue AC for 2 weeks postpartum</li> </ul>		

“Specific recommendations for pregnant women with COVID-19 include:

- If antithrombotic therapy is prescribed during pregnancy for another indication, this therapy should be continued if the patient receives a diagnosis of COVID-19 (AIII).
- For pregnant patients admitted to the hospital with COVID-19, recommendations for VTE prophylaxis are the same as those for hospitalized nonpregnant patients (AIII).
- Management of anticoagulation therapy during labor and delivery requires specialized care and planning and should be managed similarly in pregnant patients with COVID-19 as other conditions that require anticoagulation in pregnancy (AIII)<sup>5</sup>”

To summarize, ACOG and the NIH recommend following standard anticoagulation guidelines for both COVID-19 negative and positive pregnant or postpartum patients. However, it would also be within reason to initiate anticoagulation therapy for COVID-19 positive parturients if the patient has a more severe disease process.

**Mount Sinai West Hospital System’s Anticoagulation Protocol for Parturients with COVID-19**

To address concern of an increased risk of VTE in parturients with COVID-19, the Mount Sinai Health System Maternal Fetal Medicine (MFM) division in collaboration with the OB Anesthesia division, developed an anticoagulation therapy protocol. The algorithm accounted for asymptomatic and symptomatic patients, mode of delivery (vaginal or cesarean delivery), and patient’s body mass index (BMI). Patients who are asymptomatic and deliver vaginally, are initiated on a weight-based, prophylactic dose of Lovenox starting either 4 hours after epidural catheter removal or at least 12 hours after epidural catheter placement, according to ASRA guidelines. This group of patients will be on this anticoagulation therapy until discharged home. If the patient is status post a cesarean delivery or is symptomatic and delivered vaginally, they are started on anticoagulation therapy that is continued for 2 weeks postpartum (Table 1).

While the benefits from such protocols require more clinical investigation, it is important that the unique clinical

manifestations of COVID-19 are considered and managed by a multidisciplinary team including OB/GYN, Hematology, and OB Anesthesia.

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# Education Committee: Making SOAP the Expert Source for Patients and Providers

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The SOAP education committee has been hard at work to make SOAP a “one-stop-shop” for information on obstetric anesthesiology. In line with current goals, we aim to make SOAP the primary source of reference material for patients and family members, as well as anesthesiology and obstetrical care teams.

The Information for Mothers section on the website is a great place to send expectant mothers and family members to educate themselves about what to expect in labor and delivery. Information is categorized into FAQ’s, videos, pamphlets/flyers, as well as a blog. We hope to expand this section with a “request an expert speaker” option which would allow small community groups to speak directly with a SOAP member.

In the realm of anesthesiology education, our committee manages and creates content for the Provider Education section of the website. Here you can access consensus statements, learning modules, infographics (see figure) as well as explore links to outside resources that have been verified by our team. We are also excited to announce the Simulation of the Month section on the website. This new initiative includes “turn-key” scenarios meant to foster multi-disciplinary in-situ simulation. Come back each month to check out the new scenarios! Additionally, the education committee is working on a new educational module focused around point of care ultrasound (POCUS). This module is designed to educate OB anesthesiologists about the utility of POCUS in obstetric anesthesiology as well as highlight some of the important differences between POCUS findings in pregnancy against non-pregnant patients.

SOAP education committee members have produced a comprehensive series of obstetric anesthesia modules for our obstetric colleagues all of which can be found in the

education section of our society website. These peer-reviewed slideshow presentations can be accessed directly by obstetric providers and are also ideal for instances in which we are called upon to provide education to our obstetrician colleagues within our health care systems. With topics ranging from NPO guidelines and gastric emptying in pregnancy to a description of all forms of neuraxial analgesia, our goal is to ensure that our society is the go-to source for providers as well as patients.

To increase our visibility and voice in the mission to improve outcomes for women and newborns, SOAP members have engaged in multidisciplinary workgroups tasked with creating educational content for patients. One example of these efforts is the Maternal Early Warning Signs (MEWS) group consisting of ACOG members, non-physician stakeholders, and SOAP members. This group has identified warning signs associated with pregnancy-related death, developed a list of associated symptoms and assisted in the development of printable and web-based infographics which will be distributed within the clinical setting and also be posted on the website for the American College of Obstetricians and Gynecologists.

In the years to come, the SOAP education committee will continue to make our society the definitive source for patients and providers seeking accurate, up to date, and evidence-based information related to obstetric anesthesia care.

*Expert Source continued on next page*

# Maternal Mortality: What Can the Obstetric Anesthesiologist Do?

## CARDIOVASCULAR DISEASE



### Quick Stats

- Leading cause of maternal death in the US
- Risk Factors for Mortality: Pre-existing disease, substance misuse, African American race
- 15% of presenting patients have no prior conditions

### What Can We Do?

- Be an active member of the multidisciplinary team in the perinatal period
- Recognize and respond to symptoms
- Explore the utility of point of care TTE for this patient population

## HEMORRHAGE



### Quick Stats

- Defined as cumulative blood loss of at least 1000mL or blood loss accompanied by signs/symptoms of hypovolemia within 24 h following the birth process
- Mortality is often deemed preventable
- Utilization of a structured based team response improves outcomes

### What Can We Do?

- Design and implement a stage based hemorrhage emergency plan with other disciplines
- Provide early and aggressive management
- Examine the effectiveness of quantifying blood loss during hemorrhage

## HYPERTENSIVE DISORDERS



### Quick Stats

- Sixth leading cause of maternal mortality
- Uncontrolled hypertension is the most important risk factor for stroke in patients with preeclampsia
- Hypertensive crisis and failed airways are more common in women with preeclampsia

### What Can We Do?

- Consider developing a Severe Pre-eclampsia-eclampsia Box with emergency medications
- Utilize neuraxial analgesia/anesthesia when possible
- Research the pathophysiologic mechanisms of disorders and their physiologic effects

## VENOUS THROMBOEMBOLISM



### Quick Stats

- Cause specific mortality ratio has increased by 50% over the past 20 years
- DVT is 15 times more likely to occur in the postpartum period than in pregnancy
- Thromboprophylaxis is the most important modifiable strategy to reduce death

### What Can We Do?

- Collaborate with care team to develop strategies for prophylaxis that do not impede the utility of neuraxial analgesia/anesthesia
- Provide invasive monitoring and critical care support when needed
- Investigate the effects of anticoagulants in the perinatal and post-partum patient

## ANESTHESIA RELATED



### Quick Stats

- Most cases occur in patients who deliver via cesarean section
- Most airway disasters occur in the peri-extubation period and in the recovery unit
- Often deemed preventable, with medication error, miscommunication, inadequate supervision, and inadequate monitoring as root causes

### What Can We Do?

- Identify latent safety threats and participate in the multidisciplinary performance improvement effort
- Ensure optimal communication between personnel utilizing techniques such as check backs and closed loop communication
- Evaluate monitoring strategies and decision tree algorithms for post-partum care

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# International Outreach Committee: From Grassroots to Mainstream, Summary of the No Pain Labor & Delivery - Global Health Initiative (NPLD-GHI) Work in 2019

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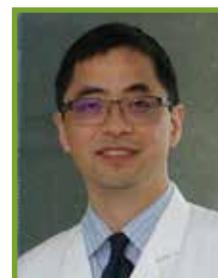
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After a successful first 10 years, No Pain Labor & Delivery - Global Health Initiative (NPLD-GHI) is moving into its second phase in 2019. The collective efforts of our volunteer healthcare providers including obstetricians, anesthesiologists, neonatologists, midwives/labor & delivery nurses, and psychiatrists from more than 120 healthcare institutions worldwide have not gone unnoticed. We would like to sincerely express our gratitude for their hard work over the past decade. Over 800 individual visits were recorded in a total of 101 hospitals in China by the end of June 2019, where approximately 1,000,000 annual deliveries occurred and >50% of laboring women received neuraxial labor analgesia (LA).

According to the China Yearbook, the national LA rate in 2018 has reached 16.5% and the cesarean delivery rate has gone down to 43.6%, from < 1% and > 50%, respectively.

NPLD-GHI grassroots engagement not only improved local medical practice, but it has also changed the national policy and general attitude towards LA. By empowering our local communities, we were able to instill change and convince the National Health Commission of the People's Republic of China to appoint a total of 913 hospitals in March 2019 to advocate and implement the utilization of LA with a tracking record of 48% in November 2019.

Since 2017, NPLD-GHI shifted its focus to building more evidenced-based, multidisciplinary-team approaches to “Modern Labor & Delivery Suites”, where levels of maternal and neonatal care are integrated to improve patient-centered care and safety. NPLD-GHI has designed a standardized assessment with 378 checkpoints to evaluate the medical facilities for credentialing training centers and guiding parturients via the Patient Safety and Quality Care Project. By 2019, a total of 19 hospitals have been evaluated physically and received their recognition [Figure 1-2].

In order to help local healthcare providers have the full spectrum of maternal and neonatal care, NPLD-GHI created projects for simulation training, maternal-fetal medicine, neonatology, and maternal mental health (MMH).

MMH Project was initiated during the June 2019 annual symposium in Liuzhou, China focusing on increasing depression awareness, creating perinatal standard screening with consequently providing/referring for appropriate non-pharmacological/pharmacological interventions, and establishing regional 24/7 crisis lines for emergency. Pilot trips of our Baby First Project were also made in two hospitals on June 16-22.

In summary, 2019 was a fruitful year for NPLD-GHI in advancing our mission for the most effective and comprehensive maternal and neonatal care across the globe. Our incentive plaque recognitions for hospitals and newly developing projects are only the beginning of our new chapter for organization.

*International Outreach Committee continued on next page*



Figure 1. The Recognition Plaques for Modern Labor & Delivery Suites



Figure 2. The Presentation of the “Modern Labor & Delivery Suites” Recognition Plaque to Liuzhou Maternity & Child Healthcare Hospital

# Announcements

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The SOAP community is saddened by the loss of three of our cherished members, Dr. Barbara Leighton, Dr. Charles Gibbs and Dr. Graham McMorland. Their tremendous contributions and friendship will be greatly missed.

## **Dr. Barbara Louise Leighton**

Dr. Barbara L. Leighton's obituary can be viewed here: <https://www.tributearchive.com/obituaries/15148836/Barbara-Louise-Leighton>

## **Charles P. Gibbs MD**

Dr. Charles P. Gibbs' obituary can be viewed here: <https://www.legacy.com/obituaries/gainesville/obituary.aspx?n=charles-p-gibbs&pid=196416903&fhid=4014>

## **Graham H. McMorland**

Born in Pretoria, South Africa on March 18, 1926. Graduated in Medicine from the University of Capetown, South Africa in 1951 following service in the Royal Navy during World War II. Internship for 2 years. Surgical Registrar and Anaesthetic Registrar at King Edward VIII Hospital in Durban, South Africa from 1956-59. Diploma in Anaesthesia R.C.P. & S. England in 1959. Anaesthetic Resident at H.G.H. from 1963- 64. Attended McGill Anaesthetic Course for a short time following which received Certification in Anaesthesia from the Royal College of Physicians and Surgeons of Canada. Practiced Anaesthesia in Willowdale, Ontario from 1964-65. Appointed to the H.G.H. anaesthetic staff in 1965. After several years in Hamilton, moved to Vancouver, B.C., where he continued anaesthesia at the University of British Columbia. He was president of SOAP from 1983-84.



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