President’s Message

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ALERT Members and Non-Members: Please read to see what’s new at SOAP!

OUR Society Started the Year with a Bang!

Thank you to all who attended, presented, lectured, or covered the obstetric unit so your colleagues could attend, helping SOAP’s historic 50th Annual Meeting in May at the Loews Miami Beach Hotel become a huge success. We had a record 877 attendees from all over the world – including Australia, China, Mexico, Colombia, Brazil, Great Britain, Germany, Israel, Saudi Arabia and many others. SOAP has grown from a primarily North American society to one of a truly international community. The main duty of the president-elect is to chair the annual meeting program: we reached out and embraced new formats. New to the 2018 meeting - SOAP hosted both a Latin American Symposium and a Chinese Symposium, each with at least 50-75 attendees. New on Saturday, we offered a Sol Shnider style Clinical Track intended for private practitioners –with 150-200 attending each lecture— filling a previously unmet need. Missed it? We will be repeating the Clinical Track at SOAP 51st Annual Meeting in the JW Marriott Phoenix Desert Ridge May 1-5, 2019, so reserve on your calendars now. NEW: Lecture recordings: Several of the lectures on Friday and Saturday were recorded and will appear on the SOAP website soon as a member benefit. The Surgeon General of the United States, VADM Jerome Adams, MD, MPH, gave an outstanding talk on the opioid crisis, one of the focuses of the meeting. Special thanks to Ruth Landau,
MD, PhD and Brian Bateman, MD, PhD for leading the other outstanding opioid crisis related workshop and lecture. Florida State Senator Taddeo attended the Fellows and Residents Reception and spoke with attendees about the opioid crisis and supporting health care. American Society of Anesthesiologists President Jim Grant, MD, MBA also attended SOAP and lectured. President of the Obstetric Anaesthetists Association, Felicity Platt, MBBS, lectured and many other presidents and officers of international anesthesiology societies were in attendance. Congratulations to Ted Yaghmour, MD, elected to 2nd VP (will be President 2021-22) with significant organizational experience as a Past-President, Illinois Society of Anesthesiologists and former Chair of the ASA Committee on Obstetric Anesthesia and to Alex Butwick, MD elected to Secretary of SOAP, with a significant academic background from Stanford. Thanks to the entire Annual Meeting Program Committee, our meeting Host Paloma Toledo, MD, MPH and the SOAP management team.

**What’s to Expect in 2018-19?**

**Transparency, Inclusion, Growth and Governance**

As Past-President of the California Society of Anesthesiologists, the largest component society of the American society of Anesthesiologist with over 3300 members, I start my SOAP Presidency already experienced in many of the common issues and problems facing all professional societies. My personal style includes **Transparency** – uncovering the real issues and communicating them. **Inclusion** – for SOAP to succeed and grow, we need to include more members from more practice styles in decision making. **NEW** this year I **opened up SOAP committee membership nomination to all members** – with an explicit expectation to attend at least 50% of the meetings, contribute to the committee and to show good SOAP citizenship by helping with Goals and Projects. Almost 90% of those who volunteered for committee membership self-identified as Academic – which means SOAP committees and Board decisions have to **try even harder to keep the private practice perspective in mind**. We also included **more junior faculty** at SOAP 2018 to speak and moderate. **Growth** – today professional societies must grow and engage membership or potentially face becoming less relevant. We are reaching out to all practitioners of obstetric anesthesia in all areas: academic, private-practice, urban, rural, small group, larger group and national groups. SOAP is the premiere provider of Obstetric Anesthesia education, programs and guidelines. We will strive to **improve member value** and place SOAP generated educational content on the SOAP website. New topics will **include Critical Care** and tips on use of ultrasound for quick diagnosis in clinical situations, e.g. decompensation.

I have engaged with the Presidents of Society for Maternal Fetal Medicine Sean Blackwell, MD, American College of Obstetrics and Gynecology Lisa Hollier, MD, and met with Matt Granato, MBA, Executive Director for SMFM in Washington DC. In today’s word, collaboration on projects and helping each other are important. After recent discussions, SOAP will now have a representative on ACOG’s Committee on Obstetric Practice – a great opportunity for SOAP to contribute. Special thanks to Lisa Leffert, MD, who chairs our inter-disciplinary ad hoc task force, helping to expand
SOAPs participation and engagement with other societies and guidelines producing entities.

**Governance** – as SOAP grows, we need to improve and use best practices in governance. Including more people in decision making, with greater transparency and opportunity to participate in lectures, moderators, and as representatives to other societies. I am meeting with all the SOAP committee chairs to involve them in committee membership, outline clear committee goals and objectives for the year and to ask: what can I, as president, and/or the SOAP management company do to help support you and your committee to achieve those goals? We are developing better, more transparent ways to define, help and monitor those goals. Ad hoc committees help serve a function and may be a proving ground to becoming a full committee. Welcome to Melissa Bauer MD who chairs the new **ad hoc committee on critical care education**, which will be generating education content all SOAP members can refer to and use. Bylaws changes approved at the SOAP annual meeting will allow for online voting – and thus greater access for members to participate in decision making by the society.

**Fellowship in Obstetric Anesthesiology** SOAP helps support the ACGME and ABA in maintaining and improving the fellowship. Today’s Fellows are our leaders of tomorrow. As a society, we need to help define and show the value provided by an obstetric anesthesiologist in not just clinical care, but also leading the obstetric anesthesia service, interacting with other specialties, creating policies to meet or exceed national guidelines and with patient safety and patient experience in mind. With 628 hospitals providing greater than 2000 deliveries per year in the USA (AHA 2015), the demand for fellowship trained obstetric anesthesiologists remains very strong. I consistently receive enquiries/private practice job offers for fellowship trained obstetric anesthesiologists. Demographics are expected to keep demand strong for at least a decade.

**Endowment Fund** SOAP’s mission includes education of members, non-members and helping research the key issues to advance the care of pregnant women and their newborn. Gertie Marx showed great insight and generosity not only as an academician and practitioner, but also when bestowing part of her estate to the SOAP Endowment Fund. However, in order to achieve the strategic objectives of SOAP – we need to vastly increase the capital base of the SOAP Endowment Fund, in order to generate enough yearly revenue to support our goals. Thanks to the team that obtained many SOAP 2018 corporate sponsorships, vendors for the annual meeting and contributions to the SOAP Foundation. Please join me in supporting the fund: I ask you, every board member, every committee member, and every member of SOAP to please contribute even a small amount to the SOAP Endowment Fund - Donate Now. We have a goal of raising $1,000,000 over 4 years in order to help support inter-institutional research, education and outreach. The future of our sub-specialty in part depends on it. Thank you!

**Our Society/Your Society** My goal as President is to serve the society, which means serving you. Please do not hesitate to reach out to me with any suggestions, comments or questions. Feel free to e-mail me at: drmark@drmarkzakowski.com.

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**Editor’s Corner**

**Heather C. Nixon, MD**

*University of Illinois Hospital and Health Sciences System*

*Chicago, IL*

Greetings SOAP members! In this Summer SOAP Newsletter, we bring you some 50th Annual Meeting recaps and highlights including articles on award winners and summaries of some of the educational workshops. In addition, Dr. Zakowski, delivers his first Presidential Message setting the tone for the upcoming year with reorganization and transformation of the society.

Finally, our Patient Safety Committee continues its “How We Do It” series, giving practical advice on both oxytocin and tranexamic acid dosing and protocols.
Poor communication in its many forms can result in patient-safety compromise. A recent ASA Monitor is dedicated to the interactive pieces that join to optimize workplace functionality and patient safety. Good communication plays a key role in patient safety, and SOAP is on the forefront of addressing this concept. On Wednesday May 9th in Miami, an excellent workshop was conducted entitled “Expert Communication Strategies: Speaking Up, Giving Feedback, and Negotiating to Succeed.” This was a joint effort by the Education and Patient Safety Committees and was directed by Dr. Grant C. Lynde, Dr. Rebecca D. Minehart and Dr. Grace H. Shih. They were assisted by faculty Dr. Erik M. Clinton, Dr. Daniel J. Katz, Dr. Philip Rubin and Dr. Caitlin D. Sutton. The workshop was well-attended, the discussion was lively, and we emerged enlightened and improved in communication strategies. We began by introducing ourselves and explaining our motives for attending. Some laughs were had, as well as some somber and reflective moments. Members related tales of poor communication exchanges and how things may have been different.

The workshop introduced the four main points critical to good communication. (See Figure 1). Entertaining and informative slides, role-play and small group exercises were used to teach participants.

A role-play drama was enacted depicting a contentious interaction between an anesthesiologist and an obstetrician about a patient needing a blood patch. The first enactment was performed with poor (but unfortunately common) communication strategies. “I’m sick of having to deal with anesthesia’s complications!” It was painful to watch and quite cringe-worthy. We did several small group exercises using our own history of difficult interactions. As the workshop moved on, we worked through the techniques of improved appreciation of our own assumptions and perspective, the impediments to speaking up, optimizing feedback and styles of negotiation. The blood-patch scene was re-enacted several times with better strategy being employed. By the end, the interaction was one of a healthy discussion between two doctors about the well-being of a patient. Applause!

Assumptions and perspectives that create barriers to “speaking up” remain a giant obstacle to good communication. Effective improvement techniques are well-established in ours and other industries.

The identified hurdles that impede “speaking up” when a perceived error is being committed include:

- Uncertainty about the issue
- Fear of punishment/repercussion
- Fear of damaging relationships particularly when there is familiarity with the individual
- Respect for experience
- Feelings of futility

But “enablers” do exist – techniques that assist the questioner to speak up. These same techniques can be effectively employed in the circumstance of adversarial confrontations such as our blood patch scenario.

- Recognizing the speaking up problem
- Having a speaking up/response rubric. Most effective is the “2-challenge rule” using the advocacy/inquiry technique. “I know that the patient had a wet-tap 3 hours ago and I see that you have decided to wait until tomorrow to blood patch. I am wondering about your reasoning for doing this?”
- Certainty about lack of repercussions for speaking up
- Obtaining a 2nd opinion/getting help

Enhanced feedback techniques and better negotiating strategies are also critical for communication. Non-verbal feedback and body language play a huge role in poor communication and must be addressed in addition to spoken interactions.

Expert Communication continued on next page
Challenges that prevent good feedback include

» Faculty worry that honest critique will harm the relationship with the learner
» People must overcome biases (based on their own opinions) that prevent them from understanding where the other person “is coming from”
» Time constraints

Good feedback and the use of negotiation strategy can have an immediate effect on improved communication.

» Establish a safe feedback environment including maintaining rapport and conveying a commitment to respecting the recipient and their perspective
» Provoke engaging discussion
» Redefine feedback as a conversation
» Explore the source of the performance gap
» Use collaborative vs. competitive style
» Have a “best alternative” if case negotiations fail in challenging circumstances

The summary of our workshop was this: Practice mutual respect, promote curiosity and creativity, combat narcissistic tendencies. In our ongoing effort to recognize and correct behaviors that undermine patient safety, addressing communication skills is paramount.

References

Minehart RD et al., Improving Faculty Feedback to Resident Trainees During a Simulated Case. Anesthesiology, 2014. 120: p. 160-171.


Every year, the Society for Obstetric Anesthesia and Perinatology (SOAP) encourages excellence in teaching through our Teacher of the Year Award. This Award was created to recognize outstanding practitioners in the field of obstetric anesthesiology who have demonstrated superior teaching and mentoring primarily of anesthesiology residents and fellows, and secondarily of obstetricians, nurses, and for advancing obstetric anesthesia outside of our own community.

We are excited to announce the recipient of this year’s award: Congratulations to Dr. Barbara Scavone for being named the 2018 SOAP Teacher of the Year with greater than 10 years of experience. She is a talented and deserving candidate.

Dr. Scavone is the Chief of Obstetric Anesthesia and the Fellowship Program Director at the University of Chicago Medical Center. She has authored and contributed to many articles, editorials, reviews, multidisciplinary national consensus guidelines, and book chapters. Dr. Scavone has engaged residents, fellows, and junior faculty in the vast majority of these scholarly activities and her ongoing mentorship has been vital in fostering their obstetric anesthesia career opportunities. Dr. Scavone was also previously recognized by SOAP twice with the Research in Education Award for her research into resident simulation training.

In addition, Dr. Scavone serves as a member of the American College of Obstetricians and Gynecologists (ACOG), and is extremely well regarded by anesthesiologists and obstetricians alike. Her service on the Council on Patient Safety in Women’s Healthcare and its’ partnership for Maternal Safety, a multidisciplinary group addressing rising rates of maternal morbidity and mortality, represents recognition of her clinical and educational expertise from outside the field of anesthesiology.

Dr. Scavone is a fantastic educator and has a strong commitment to mentoring and educating others involved in the care of the obstetric patient. She participates in the education of Maternal Fetal Medicine and OB/Gyn trainees at her institution, and as a result has substantially improved the quality of care delivered to these patients.

Congratulations and thank you to Dr. Scavone for your extensive contributions to education in obstetric anesthesia.
Education Committee: SOAP 2018 Teacher of the Year Award – Less Than 10 Years, Dr. Michaela Farber

Patricia L. Dalby, MD
Magee-Womens Hospital of UPMC
Pittsburgh, PA

We are proud to announce that out of several very worthy candidates, Dr. Michaela Farber who is well known to the SOAP membership, is the recipient of the 2018 SOAP Teacher of the Year Award. Dr. Farber’s home base is in Boston, Massachusetts where she currently functions as Associate Chief, Division of Obstetric Anesthesia and Director, Obstetric Anesthesia Fellowship in the Department of Anesthesiology, Perioperative and Pain Medicine at Brigham and Women’s Hospital. She has served on various state and national committees; the most notable being the Massachusetts Maternal Mortality and Morbidity Review Committee, as well as various SOAP committees such as the Patient Safety and Fellowship Committees.

Dr. Farber has concentrated her research efforts in three main areas. Her first focus has been coagulation changes in pregnancy where she has worked to refine our understanding of coagulation in pregnancy by utilizing point-of-care testing (thromboelastography, TEG; and rotational thromboelastometry, ROTEM). Second, Dr. Farber has worked to improve obstetrical patient safety, establishing unit directives and readiness for crisis management in her institution. This work has culminated in development of multidisciplinary management for improved outcomes for patients who experience unanticipated hemorrhage or other critical obstetric events. Third, her educational research has focused on what she has described as labor epidural education: consent, teaching tools, and minimizing the risk of complications. This work has resulted in multiple educational and patient safety grants from her institution and elsewhere. Most recently she has been the senior author on an article published in Anesthesia and Analgesia entitled “Identifying Barriers to Implementation of the National Partnership for Maternal Safety Obstetric Hemorrhage Bundle at a Tertiary Center: Utilization of the Delphi Method”.

Evaluations of Dr. Farber’s teaching efforts from peers, fellows, and residents have been glowing, and she has assumed progressive teaching and administrative responsibilities in her less than 10 years as an academic anesthesiologist. Most recently she was invited to the Society for Maternal Fetal Medicine meeting to participate in a panel entitled, “2018 Smart Use of Blood Products for Postpartum Hemorrhage” in the Obstetric Critical Care section of the postgraduate lecture series. She has written the Obstetrical Anesthesia Fellowship Guidelines and Manual for her fellowship program. In addition, she has created and participated in teaching many workshops at the annual SOAP meetings.

Congratulations, Dr. Michaela Farber! We look forward to seeing your future efforts in education.
At this year’s annual meeting, one of the 2018 SOAP Education Committee Pre-meeting Workshops focused on the past, present and future of obstetric anesthesia education. How can we better train this new generation of trainees in the digital age?

The advent of technology in education brings upon several challenges, one of which involves the presence of multitudes of online resources. In the past, trainees with a question would refer to their textbook for the answer. Now, they go to the Internet and can easily navigate several websites within the same time frame. Online question banks are popular with learners because they allow for flexible learning, but these tend to provide spot knowledge and do not necessarily provide a holistic view of the subject.

Traditional education models are still fixated on medical knowledge, asserts Dr. Heather Nixon. Knowledge based exams such as written multiple choice exams are commonly used for trainee assessment. However, those skills do not always correlate with clinical competency. “Knowing” doesn’t always equal “knowing how”. PowerPoint lectures may not be the answer. In fact, current lecture models have approximately a 5% retention rate, whereas retention from problem based learning sessions and simulation models are significantly higher. Trainee engagement is key to promoting lifelong learning.

The goals of education have evolved as have the trainers and trainees. Attending physicians are tasked with having to do more with less time. Technology can help. Dr. Jacqueline Galvan recommends exploring already available online educational supplements, such as medical podcasts, YouTube videos, and online educational platforms. Trainees can access E-modules and podcasts on their own schedule, thus allowing the educator to maximize the “face to face” teaching time to answer questions and encourage deeper thinking. Sites like MedEdPortal provide peer reviewed ready-made Problem-Based Learning Discussions that instructors can adapt to their needs.

What are some techniques that we can all incorporate? Dr. Rebecca Minehart describes “backward design theory” as a way of shifting your mindset from creation to meeting the learner where they are. Understand what your learners know and want to learn, and target your teaching approach accordingly. Do not begin to implement new models and programs without first identifying the problem, advises Dr. Nixon. Once you have assessed your users, build a platform that segments information into smaller chunks. Avoid cognitive overload by using strategic charts, graphs, and photos that emphasize major concepts.

Interactive learning does not have to be an expensive endeavor. Dr. Brian Mahoney recommends using “gamification” as a technique to promote participation and trainee engagement. Sites like Poll Everywhere provide instant feedback, and the instructor can also track learner progress anonymously. Dr. Mahoney asserts that technology is still in its infancy, and there is ample room that technology can enhance our anesthesia education models.
Oxytocin is the preferred first-line uterotonic in both vaginal and cesarean deliveries. However, despite its widespread use on labor and delivery units, it is associated with a risk of significant adverse effects such as tachycardia, hypotension, water retention and ST changes, especially when given quickly and at high doses. The ED90 for adequate uterine tone with oxytocin is quite low; 0.35 International Units (IU) intravenous bolus for non-laboring patients undergoing elective cesarean delivery and 3 IU for patients with previous oxytocin exposure. In practice, much higher doses are utilized to optimize timely and ongoing uterine tone, prevent reversion to an atonic state and potentially decrease peripartum blood loss.

There is wide variability in dosing and administration strategies for postpartum oxytocin; IV bolus, wide-open infusion, controlled rate infusion and some combination thereof have all been described. At some institutions, oxytocin use differs depending on route of delivery where lower doses are employed for women who deliver vaginally. Despite significant research in this area, there is no consensus on the best dosing technique or “correct” postpartum oxytocin dose. What does seem clear is that patients previously exposed to oxytocin for induction or labor augmentation are at risk to require increased doses of oxytocin to achieve acceptable uterine tone. George et. al. found the ED90 for postpartum oxytocin infusion in oxytocin-naïve patients to be 17.4 IU/hr (0.29 IU/min). A similar dose for those patients was reported by Lavoie and colleagues. Those investigators also studied parturients previously exposed to oxytocin, and in that population demonstrated an ED90 of 44.2 IU/hr (0.74 IU/min). A strategy of starting postpartum oxytocin at 18 IU/hr (300 mL/hr for a fluid bag with the concentration of 30 IU oxytocin/500 mL) and increasing to 36 IU/hr (600 mL/hr) in the case of inadequate tone has also proven effective. Finally, the “Rule of Threes” protocol where intermittent IV boluses of 3 IU oxytocin are combined with a very low dose maintenance infusion has been shown to be equivalent to “wide-open” oxytocin administration for establishing uterine tone during cesarean delivery.

Several members of the SOAP Patient Safety Committee provided comments regarding oxytocin administration at their institutions. These are listed below. Table 1 also provides an easy to view reference of multiple approaches to oxytocin use.

Creighton University Medical Center
We have one oxytocin protocol for both vaginal and cesarean delivery, and only one standard concentration of oxytocin available from the pharmacy (30 IU/500mL lactated ringers). Oxytocin is available in the Sure Med machine in the L&D operating rooms. After cesarean delivery, 250 mL is infused over 15 minutes and uterine tone is evaluated. If there is good tone with minimal/expected bleeding, the infusion is decreased to 125 mL/hr for 1-2 hours postpartum.

University of Iowa
Our protocol for prophylactic oxytocin is the same for vaginal and cesarean deliveries except in laboring patients exposed to oxytocin prior to cesarean delivery. Oxytocin is premixed by our hospital pharmacy (30 IU/500mL normal saline (60 milliunits/mL)). An infusion pump is used and the starting rate is 300 mL/hr (300 milliunits/min) for the 1st hour and then titrated down to 150 mL/hr for the 2nd hour. For patients who had oxytocin induction or augmentation of labor prior to cesarean delivery, the starting infusion rate is 600 mL/hr (600 milliunits/min) and then reduced to 150 mL/hr. In the case of uterine atony in a non-laboring cesarean delivery the infusion rate is increased from 300 mL/hr to 600 mL/hr. For patients delivering vaginally with no IV access, 10 U of oxytocin is administered intramuscularly.
Oxytocin Protocols continued from previous page

<table>
<thead>
<tr>
<th>Do you mix your own oxytocin bag or does pharmacy provide a pre-mixed bag?</th>
<th>Mayo Clinic</th>
<th>Emory University</th>
<th>University of Iowa</th>
<th>Creighton University Medical Center</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Premixed bags provided</td>
<td>Premixed bags provided</td>
<td>Pharmacy provides premixed bags</td>
<td>Premixed bags provided</td>
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<tr>
<td>What is the concentration of the bag (IU/mL)?</td>
<td>20 IU/500 mL</td>
<td>15 units/250 mL (induction) or 20 units/500 mL (postpartum)</td>
<td>30 IU/500 mL</td>
<td>30 IU/500 mL Lactated Ringer</td>
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<td>Do you have a postpartum oxytocin protocol for vaginal deliveries?</td>
<td>Provider dependant</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Do you have a postpartum oxytocin protocol for cesarean deliveries?</td>
<td>Yes. We have a modified &quot;Rule of Threes&quot; for post CD oxytocin administration. (Anesthesiology)</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<td>Do you have the same postpartum oxytocin protocol for vaginal AND cesarean deliveries?</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
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<td>How is oxytocin administered post-vaginal delivery?</td>
<td>No</td>
<td>No</td>
<td>The same except for intrapartum cesarean deliveries</td>
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</table>

<table>
<thead>
<tr>
<th>Mayo Clinic</th>
<th>Rochester, MN</th>
<th>Emory University</th>
<th>Atlanta, GA</th>
<th>University of Iowa</th>
<th>Iowa City, IA</th>
<th>Creighton University Medical Center</th>
<th>Omaha, NE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bolus or infusion or both</td>
<td>IV infusion or IM bolus.</td>
<td>Infusion</td>
<td>Infusion</td>
<td>Infusion</td>
<td>Infusion</td>
<td></td>
<td></td>
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<tr>
<td>Starting rate (duration at this rate)</td>
<td>Typically 250 mL/hr for 2 hours</td>
<td>250 mL/hr x 2 hours</td>
<td>300 mL/hour for the first hour</td>
<td>150 mL/hour for the second hour</td>
<td>999 mL/hr for 15 minutes</td>
<td></td>
<td></td>
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<tr>
<td>Maintenance rate (duration at this rate)</td>
<td>See above</td>
<td>See above</td>
<td>2nd bag continued for an additional 2 hours + additional infusion</td>
<td>200 mL/hr for 1st hr, then 150 mL/hr</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Mayo Clinic</th>
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<th>Iowa City, IA</th>
<th>Creighton University Medical Center</th>
<th>Omaha, NE</th>
</tr>
</thead>
<tbody>
<tr>
<td>How is oxytocin administered post-cesarean delivery?</td>
<td>Increase oxytocin amount.</td>
<td>Infusion only</td>
<td>Infusion only</td>
<td>Infusion only</td>
<td>Infusion only</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bolus or infusion or both</td>
<td>Both (3 Unit Bolus (Possible for up to 3 boluses separated by 3 minutes))</td>
<td>Both</td>
<td>Both</td>
<td>Both</td>
<td>Both</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Starting rate (duration at this rate)</td>
<td>NA</td>
<td>2 unit IV bolus</td>
<td>300 mL/hour for the first hour</td>
<td>150 mL/hour for the second hour</td>
<td>125 mL/hr</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maintenance rate (duration at this rate)</td>
<td>6 IU/hr (100 mL/hr via pump)</td>
<td>250 mL/hr x 2 hours</td>
<td>2nd bag continued for an additional 2 hours + additional infusion</td>
<td>300 mL/hour</td>
<td>600 mL/hour</td>
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</table>

**Emory University**

The pharmacy provides premixed bags of oxytocin in 2 different concentrations and volumes – 15 IU/250mL and 20 IU/500mL. For postpartum hemorrhage prophylaxis following vaginal delivery, oxytocin is administered as an infusion at 250mL/hr of a 20 IU/500mL solution for 2 hours. Following cesarean delivery, oxytocin is administered as a 2 IU bolus IV followed by initiation of an infusion at 250mL/hr a of 20 IU/500mL solution for 2 hours. This rate is not typically adjusted in the setting of uterine atony or postpartum hemorrhage following either mode of delivery; however, the use of additional uterotonic would be introduced as necessary after considering any patient contraindications.

**Mayo Clinic**

There is no official protocol for oxytocin administration in the postpartum period following vaginal delivery. Patients usually receive 250 mL (15 IU) of a 30 IU/500mL solution over the first 30-60 minutes after delivery, followed by an infusion at 250 mL/hr. If a patient does not have an IV, they will receive 10 IU via intramuscular injection. For cesarean delivery we have a protocol for oxytocin administration which was modified from the “Rule of threes” oxytocin protocol2. After delivery, the parturient receives a 3 IU bolus of oxytocin. If inadequate uterine tone persists after 3 boluses, secondary uterotonic will be administered. A maintenance infusion of 6 IU/hr is continued for 5 hours.

Due to the risks associated postpartum with rapid, high dose boluses as well as the risk of premature administration of oxytocin (e.g. tachysystole and fetal bradycardia), the Institute for Safe Medicine Practices (www.ismp.org) has identified oxytocin as a “High-Alert Medication”. As such their recommendations for oxytocin include standardized preparation and administration, limited personnel accessing and administration, and use of automated alerts when administering this medication. At many centers, the pharmacy pre-mixes oxytocin (e.g. 30 IU/500 mL lactated ringers or normal saline) and these bags can be used for both labor induction and augmentation and for postpartum administration, thus greatly limiting the number of people handling the medication. Protocol creation and standardization of medication use is time consuming and potentially costly and requires buy-in from labor and delivery...

Oxytocin Protocols continued on next page
nurses, obstetricians and the anesthesia team. However, once an oxytocin protocol is established, there can be shared understanding of when uterine tone is assessed and how escalation of uterotonic will be carried out. The specific oxytocin administration strategy for each obstetric unit will vary based on the facility resources, but creating a common oxytocin protocol for all obstetric anesthesia providers that accounts for both patient and system factors while minimizing adverse effects is one measure that may improve both maternal safety and experience of care.

References:
Tranexamic acid (TXA) has been the subject of significant recent discussion when it comes to peripartum hemorrhage therapy. Prior to 2017 several investigators examined TXA for either prophylaxis and/or treatment of obstetric hemorrhage.1-3 Two meta-analyses of peripartum TXA use reported decreased blood loss in the TXA group (approximately 150 mL for CD and 85 mL for VD),1,4 a reduced incidence of PPH in the TXA group1,4, and no increased risk for thromboembolic side effects in the TXA group1,4. Despite this, many clinicians remained skeptical about both the benefits and safety of TXA for parturients and thus were eagerly awaiting the results of the WOMAN Trial, an international, multicenter, randomized, placebo-controlled trial of TXA use during PPH.

The results of the WOMAN Trial were published in late April 2017. In this study, 20,060 women diagnosed with postpartum hemorrhage received either 1 gram of TXA or placebo. Patients in the TXA group had a significantly decreased risk of death due to hemorrhage compared to the placebo group; with greatest effect seen if TXA was given during the first 3 hours after postpartum hemorrhage (PPH) diagnosis. Death due to all causes and incidence of peripartum hysterectomy were not significantly different between groups. Importantly, the incidence of thromboembolic events was not increased in the TXA group.5 In response to the WOMAN Trial, a new Cochrane Review concluded that TXA reduces mortality due to bleeding in women with primary PPH and that TXA is effective if given soon after the onset of PPH.6 The World Health Organization now recommends inclusion of TXA as part of standard PPH protocol and for 1 gram of TXA to be administered intravenously over 10 minutes as soon as possible after diagnosis of PPH, regardless of the hemorrhage etiology.7

The WOMAN Trial provides important safety information regarding TXA in the obstetric population; however, it is important to note that the majority of the patients were in low- and medium-resource countries with high maternal mortality rates that may lack rapid access to uterotonic medications and allogenic blood transfusion. The question of generalizability for the WOMAN Trial results was addressed in a recent correspondence that highlighted that the TXA group maternal mortality rate (MMR) in the WOMAN Trial was 16/100,000 births, a level significantly higher than recent reports from England (MMR 0.56/100,000 births in 2012-2014) and the Netherlands (MMR 0.7/100,000 births from 1993-2005).8 A recent retrospective cohort study from the Netherlands examined outcomes in patients diagnosed with PPH who received early TXA (within 3 hours of PPH diagnosis) compared to women who received either late or no TXA. The authors found no difference in the composite endpoint of maternal morbidity and mortality between groups (adjusted odds ratio 0.92 (95% CI 0.66 – 1.27)).9

Use of TXA for both prevention and treatment of PPH remains an area of active research for obstetric anesthesiologists. Multiple prospective trials are currently underway. The TRAnexamic acid to reduce blood loss in haemorrhagic CESarean delivery (TRACES) study is a randomized, double-blind, placebo-controlled trial with a primary outcome of superiority of 1 gram or 0.5 gram TXA to placebo in regards to blood loss reduction after cesarean delivery. This study will also explore multiple pharmacokinetic effect models and pharmacobiological factors associated with TXA use in hemorrhagic patients and a control population.10,11 The TAPPH-1 Trial (Tranexamic Acid for Preventing Postpartum Haemorrhage) is a pilot of a randomized, double

Tranexamic Acid continued on next page
blinded, placebo-controlled study of 1 gram TXA (versus placebo) at time of vaginal or cesarean delivery. The primary outcome is feasibility of the dosing protocol and potential for a larger RCT to further address benefit from prophylactic TXA administration in parturients.\textsuperscript{12} The TRAAP Trial (TRAnexamic Acid for Preventing postpartum hemorrhage) is a large multicenter, double-blind, randomized controlled trial of 4000 women for planned vaginal delivery and should provide further information on the utility (or lack thereof) of prophylactic TXA administration. It is likely additional studies of TXA use in parturients are ongoing and will add to the growing body of knowledge regarding this subject.\textsuperscript{13}

Based on the available evidence for TXA use in obstetric patients, it is reasonable to incorporate TXA into all postpartum hemorrhage protocols. However, in light of the considerations and knowledge gaps discussed above, the decision to use TXA should be considered on a case-by-case basis at the time of diagnosis of PPH in high-resource countries and if indicated, TXA should be given as soon as possible. There are currently no clearly defined indications for prophylactic TXA and each facility should create their own guidelines until further studies on this subject are published.

Members of the SOAP Patient Safety Committee describe TXA use on their Labor and Delivery units below. A summary of use patterns is available in Table 1.

**Beth Israel Deaconess**

We have a multidisciplinary team briefing before every section. As part of that briefing we discuss appropriateness of uterotonic and TXA. Only anesthesia providers can give TXA. This is a forcing function to get us involved in hemorrhage after vaginal delivery. We consider prophylactic use in cesarean or vaginal delivery with patient at increased risk for hemorrhage especially in circumstances where uterotonic or blood transfusion may be contraindicated and we discuss possible use at briefing or at team meeting. We consider therapeutic use of TXA when a patient has been identified as having a hemorrhage; and strive for care team agreement prior to administration.

**Tel Aviv Medical Center**

We use TXA (1 gm intravenously):

- Preoperatively for previa and invasive placentation in single prophylactic dose
- Known von Willebrand patients (even if having GA) as per hematology recommendation
- Antepartum hemorrhage as soon as an anesthesiologist is involved. This is not yet protocol, meaning that the time/stage to call anesthesiologist varies and may be only once back in the OR. Based upon findings of the WOMAN trial suggesting that TXA may be beneficial in PPH if given within 3 hours.

» “We suggest that tranexamic acid be considered before caesarean section and in cases of antepartum bleeding.

2B”

» “We recommend the administration of tranexamic acid in PPH at a dose of 1 g intravenously (IV) as soon as possible, which can be repeated if bleeding continues.

1B”

- PPH, as soon as anesthesiologist is involved. Again - this is not yet protocol meaning that the time/stage to call anesthesiologist varies and may be only once back in the OR. This is based upon findings of the WOMAN trial suggesting that TXA may be beneficial in PPH if given within 3 hours.

**Mayo Clinic Rochester**

Prior to the WOMAN trial publication, we intermittently utilized tranexamic acid (TXA) for patients with postpartum hemorrhage. However, our use was dependent on the anesthesiologist and there was no protocol in place. In addition, we had to order the medication from pharmacy which could result in a significant delay in administration of the medication. After the publication of the WOMAN trial results, we created a protocol which encouraged the administration of TXA in patients with continued hemorrhage and estimated blood loss greater than 1000 mL. Initially TXA was available only to the anesthesia team and was stocked only in the anesthesia Pyxis machines. However, we have recently worked with our obstetricians, pharmacists, and nurses to place TXA into the postpartum hemorrhage kits which are utilized throughout the Mayo Clinic Health System. Many of the rural hospitals in our health system may not have an anesthesia provider on labor and delivery and this provides easy access of TXA to the obstetrician. With this implementation, we have created education for anesthesia, obstetric, and nursing providers about TXA.

When TXA is given, it is given as a 1000 mg intravenous bolus (which has been diluted into 50 ml by pharmacy) and given over 15-20 minutes. TXA is not given until after the cord is clamped. If bleeding continues after 30 minutes, a second dose of 1000 mg of TXA may be given.

We do not routinely give TXA prophylactically as the studies are inconsistent on finding benefit. However, we often will give it after delivery in Jehovah’s Witness patients.

**New York Presbyterian-Weill Cornell Medicine**

We have used TXA on our L&D floor since November 2017 and have it available on the unit. We have distributed the following recommendations for therapeutic and prophylactic use to our obstetric anesthesia group, as well as the Obstetric and nursing divisions:

- TXA is administered as 1 gm IV over 10 minutes and should be given within the first 3 hours after the diagnosis of PPH. It may be repeated ONCE 30 minutes later if bleeding continues.

**Tranexamic Acid continued on next page**
• While still under investigation in some centers, TXA is useful and is now approved at NYP for the prevention of post-partum hemorrhage in certain clinical situations:
  » Patients with known placenta accreta/ percreta
  » Patients who refuse blood products (Jehovah’s witnesses)
  » History of previous post-partum hemorrhage or specific anatomy that puts patients at increased risk

References

Announcements

ACOG Council on Patient Safety Bundle Implementation Survey

THE COUNCIL ON PATIENT SAFETY IN WOMEN’S HEALTHCARE WANTS TO HEAR FROM YOU. The Council, sponsored by ACOG, is a multidisciplinary group of the major stakeholders in women’s healthcare, including SOAP, ACOG, SMFM, AWHONN, ASA, AANA, AHA, and others. Its mission is to improve patient safety in women’s healthcare through multidisciplinary collaboration that drives culture change, with the goal of decreasing maternal mortality and severe morbidity. The Council publishes the Patient Safety Bundles which address hemorrhage, venous thromboembolism, hypertension, maternal mental health, and many other topics (found at www.SafeHealthcareForEveryWoman.org).

The Council has recently formed a workgroup to help care providers improve their implementation efforts. To determine which resources and tools clinicians need most, the workgroup has created a survey to learn about your efforts implementing the patient safety bundles: to identify challenges and hurdles that clinicians are experiencing and to poll stakeholders about which resources would be most helpful to them.

Help the Council to help you. Take the survey here: https://safehealthcareforeverywoman.org/feedback/

The deadline to complete the survey is Friday, August 31, 2018.
### 2018-2019 SOAP Board of Directors

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