



The 2020 Application for the Society of Obstetric Anesthesia and Perinatology (SOAP) **Center of Excellence (COE)** for Anesthesia Care of Obstetric Patients

Designation _____

First Name _____

Last Name _____

Credentials _____

Email Address _____

Phone Number _____

Institution _____

Institution Address _____

Institution City _____

Institution State Institution Country _____

Institution Zip/Postal Code _____

Please describe your institution's current practice in response to the expected COE criteria outlined below. For all free text questions provide detailed responses and mention specifics (such as personnel, equipment, location, etc.) as they relate to each stipulated criterion. **Do not simply respond yes or no, outline your answers in detail and attach supporting documents as appropriate.**

Stanford University, Brigham and Women's Hospital, and The Johns Hopkins Hospital have provided their 2018 SOAP COE applications and handouts to help provide examples and expectations of what is expected to obtain designation as a COE. Please feel free to use the provided samples as a template to help guide you when completing your application. If you have any additional questions, please email info@soap.org.

[View the three sample applications \(Members Only\)](#)

SOAP COE applications are institution-specific. Do not apply for a healthcare system or anesthesia group that provides services to various hospitals. **Each hospital requires a separate application, even if the same pool of providers cover them.**

Institutional Details:

1. Describe the institution where you provide obstetric anesthesia services

- Academic/university affiliated
- Private/county/community
- Military/VA
- Other (please specify) _____

2. How many deliveries are there at your institution? _____ per year

3. What is the current cesarean delivery rate at your institution? _____ %

4. What is your institution's general anesthesia rate for cesarean delivery?

For overall (scheduled + unplanned/intrapartum) cesarean delivery _____ %

For scheduled/elective cesarean delivery _____ %

For unplanned/intrapartum cesarean delivery _____ %

*Do you conduct a quality assurance review of all cases requiring general anesthesia (irrespective of your institution's general anesthesia rate)? Please provide evidence of your quality assurance review process.

A quality assurance review must be established, with the aim of reducing avoidable general anesthesia. Overall (scheduled + unplanned/intrapartum combined) general anesthesia rate should ideally be $\leq 5\%$. If $>5\%$, the COE criteria can be met if the application review determines that all general anesthesia cases are being actively reviewed and there is clear evidence of efforts made to reduce avoidable general anesthesia.

5. What percentage of laboring women at your institution receive neuraxial analgesia?

_____ %

6. What is your institution's "wet-tap" rate in the obstetric setting? _____%

**The unintentional dural puncture rate should ideally be $\leq 2\%$. A quality assurance review of all unintentional dural punctures and post-dural puncture headaches (PDPH) should be in place.*

7. How many labor and delivery rooms are in your obstetric unit? _____

8. How many operating rooms are in your obstetric unit? _____

Personnel and staffing:

1. Obstetric anesthesia staffing for your obstetric anesthesia service:

- How many faculty that cover the obstetric anesthesia service have completed an ACGME-accredited obstetric anesthesia fellowship, and/or have equivalent expertise and experience in obstetric anesthesia (e.g. specific training in obstetric anesthesia, several years of practice with a focus on obstetric anesthesia, and/or evidence of expertise based on academic contributions)? _____
- How many faculty in total cover the obstetric anesthesia service (day, night, weekends and holidays)? _____
- On a daily basis, how many staff are assigned to provide dedicated coverage for the obstetric anesthesia service?

Daytime:

*Attending physician: _____

Estimated proportion of shifts covered by specialists vs. generalists _____%

Fellow: _____

Resident: _____

CRNA/CAA: _____

Other (specify): _____

Night-time:

*Attending physician: _____

Estimated proportion of shifts covered by specialists vs. generalists _____%

Fellow: _____

Resident: _____

CRNA/CAA: _____

Other (specify): _____

Weekends:

*Attending physician: _____

Estimated proportion of shifts covered by specialists vs. generalists _____%

Fellow: _____

Resident: _____

CRNA/CAA: _____

Other (specify): _____

2. Obstetric anesthesiologist leadership

- *Outline the expertise and experience of the obstetric anesthesia lead. *The obstetric anesthesia lead must be a board-certified physician anesthesiologist who has completed an ACGME-accredited obstetric anesthesia fellowship, and/or has equivalent expertise in obstetric anesthesia. If equivalent expertise, the basis for this must be clearly delineated (e.g. specific training in obstetric anesthesia, several years of practice with a focus on obstetric anesthesia, and/or evidence of expertise based on academic contributions). Please provide the curriculum vitae of the lead obstetric physician anesthesiologist with your application.*

3. Staffing education

- *Provide evidence of ongoing participation in continuing medical education and professional practice improvement. *The obstetric anesthesia lead and the majority of core faculty members need to show evidence of ongoing participation in continuing medical education relevant to the practice of obstetric anesthesia (e.g. SOAP membership, attendance at a SOAP conference or equivalent obstetric anesthesia-focused meeting at least every other year, and can provide examples of professional practice improvement or evidence-based updates to clinical practice).* If applicable, please also outline efforts made to ensure continuing medical education for all non-core faculty that cover the obstetric service.

- Outline obstetric anesthesia-related staff meetings. *Regular (e.g. every 1-2 months) staff meetings for obstetric anesthesia providers to provide clinical service updates and ongoing education is recommended.*

4. Dedicated coverage

- *Outline your coverage model. *In-house (24/7) coverage of obstetric patients, by at least one board-certified (or equivalent) physician anesthesiologist who is dedicated to cover the obstetric service without additional responsibilities for non-obstetric patients is emphasized. If a low volume center (<1500 deliveries per year), non-dedicated coverage with minimal additional responsibilities may be acceptable. If a very high volume center (>5000 deliveries per year), solo dedicated coverage may not be adequate unless there is a readily available physician anesthesiologist backup with adequate numbers of trainees/CRNAs to support the clinical load.*

5. Supervision

- Outline your supervision policy. *Institutional policy should dictate that the physician anesthesiologist dedicated to the obstetric floor is present (regardless of the level of experience of the trainee) for placement and induction of neuraxial labor analgesia procedures with rare exceptions (e.g. simultaneous emergency), and should be present (regardless of the level of experience of the trainee) at induction and emergence from general anesthesia. For team-based (physician plus CRNA) care models, physician leadership and active medical management involvement is necessary. Evidence of physician contribution to education and training of fellow, resident, CRNA and Student Registered Nurse Anesthetist (SRNA) should be provided.*

6. Backup system

- *Outline your backup system. *Ability to mobilize (within a reasonable (30-60 minute) timeframe) additional anesthesia personnel in case of obstetric emergencies or high clinical volume beyond the capacity of in-house staff assigned to the obstetric service is required.*

Equipment, Protocols and Policies:

1. Obstetric hemorrhage management

- Outline your hemorrhage risk stratification algorithm and management protocol. *Protocols should consider core elements of the National Partnership Obstetric Hemorrhage Bundle (1), California Maternal Quality Care Collaborative Obstetric Hemorrhage Toolkit (2), or comparable recommendations to manage obstetric hemorrhage.*
- *Describe your massive transfusion protocol. *Availability of a massive transfusion protocol with O-negative blood and other blood products, and an emergency release system for available blood is essential. Blood bank protocol needs to have been tested and be functional on the obstetric unit.*

- *Describe your rapid-infuser devices. *Rapid-infuser device to assist with massive resuscitation (e.g. Belmont® Rapid Infuser, Level 1® Fast Flow Fluid Warmer) should be readily available for use on the obstetric unit.*

- Outline plans for difficult peripheral and/or central intravascular access, e.g. ultrasound and intraosseous kits available.

- Describe your point-of-care equipment to assess hematocrit and/or coagulation. Outline if thromboelastography (TEG®) and thromboelastometry (ROTEM®) are available to guide management.

- Outline availability of intraoperative cell salvage for patients who refuse banked blood, and/or during high-risk cesarean deliveries.

- Describe your hemorrhage quality assurance review process. *Quality assurance review of all “severe” hemorrhage cases (defined at an institutional level, e.g. >4 unit blood transfusion) and all unplanned intrapartum hysterectomies should be in place so that opportunities for improvement can be identified and initiated.*

- Briefly describe and provide your institution’s obstetric hemorrhage toolkit (including protocols, checklists and/or algorithms).

2. Airway management

- *Outline your difficult airway cart and supplies (laryngoscopes, endotracheal tubes, rescue airway devices (e.g. supraglottic airway device such as a laryngeal mask airway), video-laryngoscope and surgical airway equipment) that are immediately available on the obstetric unit.
- *Describe the availability of suction devices. *Suction and a means to deliver positive pressure ventilation (e.g. bag-valve mask device) is required to be immediately available in readily accessible locations where neuraxial analgesia/anesthesia and/or general anesthesia are administered.*

- Describe your in-house backup plan to provide personnel with surgical airway access skills if needed 24/7.

3. Other emergency resources

- *Outline your lipid emulsion availability, appropriate supplies, and protocols that allow a timely response to local anesthetic systemic toxicity.
- Outline your malignant hyperthermia protocol. *Dantrolene formulations and sterile water vials, along with other supplies must be available to allow a timely response to malignant hyperthermia.*
- Outline cognitive aids and training resources. *Provide evidence for cognitive aids and clinician awareness of resources to manage emergencies, and training to facilitate team member awareness of the location and means to retrieve resources to better manage emergencies.*

7. Ultrasound and echocardiography

*Outline availability and usage by obstetric anesthesia providers of ultrasound devices for peripheral and central intravenous access, neuraxial blocks, regional blocks (e.g. transversus abdominis/quadratus lumborum/erector spinae), and point-of-care evaluations (gastric, airway, lung, and cardiac).

8. Multidisciplinary team-based approach

- *Describe systems in place to ensure inter-professional communication and situational awareness on your obstetric unit such as: board sign-out at each shift change of anesthesiology staff; pre-procedural timeouts; post-procedural briefings, as indicated; daily multidisciplinary rounds or huddles to discuss management plans for women on labor and delivery, antepartum and postpartum.
- Outline how timeouts are performed prior to all anesthetic interventions.

- Outline evaluations by the anesthesiology service of: 1) all women undergoing scheduled cesarean delivery and other obstetric-related surgeries, and 2) the vast majority of women presenting to labor and delivery. *Women presenting to labor and delivery should be triaged, and/or evaluated by the anesthesiology service soon after admission.*
- Outline the system in place to screen and identify all high-risk patients. Discuss early evaluation of high-risk antenatal patients prior to admission for scheduled surgery or labor and delivery (e.g. high-risk clinic).
- Describe your multidisciplinary evaluation of cardiac and other high-risk obstetric patients.
- Describe the availability of surgical backup. *Surgical backup (e.g. trauma and/or gyn-onc surgeons) must be available, ideally 24/7 and in-house.*
- Outline your protocol or pathway to activate interventional radiology.

- Describe the intensive care unit available to receive obstetric patients (e.g. expertise, proximity to the obstetric unit and capacity).

- Outline the qualifications of nursing staff who provide post-anesthesia care in the obstetric unit and describe their competencies to recover surgical patients.

- *Describe your obstetric emergency response team and policy. Outline obstetric conditions and/or vital sign parameters that warrant activation, the means of notifying all members of the response team, and the approach for including anesthesiologists in the response to obstetrical emergencies such as hemorrhage, severe hypertension and non-reassuring fetal heart rate.

- *Outline your simulation drills and training. Outline drill scenarios as well as the percentage of anesthesiology faculty (who cover obstetric anesthesia call), obstetricians, nurses, and other personnel who have participated in obstetric simulation (or inter-professional team training) in the last five years. Physicians providing obstetric anesthesia should participate in at least one simulation drill every five years. *An active multidisciplinary program with obstetric and anesthetic emergency simulation drills (e.g. emergent cesarean delivery, maternal cardiac arrest, difficult/failed intubation, obstetric hemorrhage, and eclampsia) is preferable. Simulation drills for anesthesiology providers only may be acceptable, if no formal multidisciplinary program exists, or to supplement pre-existing drills.*

9. Institutional resources

- Describe your ability to provide anesthesia care for postpartum tubal ligation procedures within 24 hours of delivery, and urgent cerclage placement within 12 hours of surgical request.
- *Outline options for an additional operating room (with nursing/techs/obstetric and anesthesiology personnel) that is available at all times for emergency obstetric procedures (if all obstetric unit operating rooms are occupied).

- Describe your ability to provide invasive monitoring and other advanced management techniques for high-risk patients on the obstetric unit, including arterial lines, central lines, cardiac output monitoring, and transthoracic/transesophageal echocardiography.

- Outline your management of women who need vasoactive drug infusions, intensive care or cardiac care, and/or additional monitoring requirements (e.g. monitored bed, telemetry).

10. Community and/or interprofessional education

*Outline your approach to educating expectant women, patients, nurses, obstetricians and other healthcare providers. If you provide obstetric anesthesia training for residents and fellows, describe the number of trainees graduating annually.

Cesarean Delivery Management:

1. *Outline, describe, and provide your enhanced recovery protocol as defined by the SOAP Enhanced Recovery After Cesarean (ERAC) Consensus Statement (3). *A standardized enhanced recovery protocol or clinical care pathway that is utilized by the institution and all obstetric anesthesia providers is an essential element.*

2. *Outline your routine utilization of a pencil-point needle, 25-gauge (or smaller) for the provision of spinal and combined spinal-epidural (CSE) anesthesia for cesarean delivery.

3. Multimodal analgesia protocols

- *Outline your post-cesarean delivery analgesic protocol. *Analgesic protocols should include low dose long-acting neuraxial opioid (such as 100-150 mcg intrathecal morphine or equivalent long-acting opioid, or 2-3 mg epidural morphine or equivalent long-acting opioid), and supplemental multimodal analgesics (ideally scheduled non-steroidal anti-inflammatory drugs and acetaminophen).*

- Describe your ability to provide local anesthetic wound infusions or regional nerve/fascial plane blocks when appropriate.

- *Outline institutional efforts to minimize opioid usage, such as limiting rescue opioid doses (e.g. <30 mg oxycodone/24 hours), non-opioid rescue analgesic options (e.g. transversus abdominis plane blocks, gabapentin), and efforts to limit the number of opioid tablets (e.g. 20-30 tablets) prescribed on discharge.

- Describe your standardized protocol or plan of action to manage women with opioid use disorders, and/or chronic pain.

4. Temperature management

- *Outline strategies to prevent maternal and fetal intraoperative hypothermia, e.g. active warming, warm intravenous fluids, appropriate ambient delivery/operating room temperature. *Active warming and a standardized minimum operating room temperature of at least $\geq 73^{\circ}\text{F}$, and/or operating room temperature based on gestational age for cesarean delivery is recommended.*

- Describe your approach to the measurement of maternal temperature during general and neuraxial anesthesia.

5. Appropriate antibiotic prophylaxis to prevent surgical site infection

- *Describe your antibiotic prophylaxis protocols, specifically how the following are ensured: timely administration (prior to skin incision) of appropriate antibiotic(s); implementation of a weight-based dosing approach; implementation of an appropriate re-dosing strategy; identification of alternatives if allergies known/detected; and consideration of additional antibiotics for high-risk patients.

- Outline which antibiotics are immediately available in the operating room for emergency cesarean deliveries, and describe how additional antibiotics are acquired urgently from pharmacy.

6. Spinal hypotension prevention and treatment

- *Outline your standardized approach to prevent and treat hypotension after spinal anesthesia. *Ideally, prophylactic infusion of phenylephrine to maintain blood pressure within 10% of baseline, with boluses of phenylephrine and ephedrine as appropriate to treat hypotension, as well as intravenous fluid pre-load or co-load during spinal or CSE anesthesia should be utilized.*

7. Postoperative nausea and vomiting (PONV) prophylaxis and treatment

- Describe your approach to risk stratification to identify women at increased risk for postoperative nausea and vomiting.

- *Outline your nausea and vomiting prophylaxis and treatment protocol. *A standardize approach ideally involving at least one prophylactic antiemetic agent routinely administered, with an alternative class of antiemetic agent available for additional prophylaxis (in women at higher risk for PONV) and for treatment of nausea and vomiting.*

8. Postpartum monitoring

- Describe your approach to risk stratification to identify women at increased risk for respiratory depression, and screening for obstructive sleep apnea.

- *Describe your monitoring and treatment for respiratory depression after cesarean delivery. *Your protocol should be consistent with the SOAP Consensus Recommendations for the Prevention and Detection of Respiratory Depression Associated with Neuraxial Morphine Administration for Cesarean Delivery Analgesia (4), and the American Society of Anesthesiologists (ASA) Practice Guidelines for the Prevention, Detection, and Management of Respiratory Depression Associated with Neuraxial Opioids (5).*

- Outline your nursing care and monitoring. *Your nursing care should be consistent with the Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN) and ASA recommendations.*

9. Neonatal care

- Describe how your anesthesiology service is supportive of baby-friendly breastfeeding practices (e.g. ability to safely facilitate skin-to-skin in the operating room, when possible).
- Outline how an in-house (24/7) clinician (separate from the anesthesiology service) with appropriate training to provide neonatal resuscitation is available.

Labor Analgesia:

1. *Outline your routine utilization of a pencil-point needle, 25-gauge (or smaller) for the provision of CSE or dural puncture labor epidural analgesia.

2. Low concentration local anesthetic solutions for administering neuraxial labor analgesia

- *Describe your use of low concentration local anesthetic solutions. Ideally $\leq 0.1\%$ bupivacaine or $\leq 0.15\%$ ropivacaine.

- *Outline your use of neuraxial opioids (e.g. fentanyl or sufentanil) and/or other adjuvants (e.g. clonidine) added to epidural local anesthetic solutions.

- Describe how standardized epidural solutions are provided and used by all providers. *Ideally, pharmacy-provided pre-mixed epidural solutions.*

3. Neuraxial techniques

- *Outline if and what CSE techniques are available and offered in addition to standard labor epidural analgesia.

- *Outline your labor epidural maintenance techniques. *Patient-controlled epidural analgesia (PCEA) and ideally background programmed intermittent epidural boluses (PIEB) should be utilized for provision of neuraxial labor analgesia.*

- *Describe your routine utilization of flexible (flex-tipped/wire-reinforced) epidural catheters for labor epidural analgesia.

4. Regular assessment of labor analgesia effectiveness

- *Outline how you provide regular assessment of neuraxial labor analgesia effectiveness. *Ideally, pain scores documented by nursing staff (e.g. every 1-2 hours) supplemented with regular anesthesia provider rounds or evaluations (e.g. every 2-4 hours).*
- Describe your ongoing monitoring (e.g. blood pressure, assessment of motor/sensory levels) and protocols to manage potential side effects or complications associated with neuraxial analgesia.
- Outline your nursing postpartum monitoring protocol that is consistent with AWHONN recommendations.

- Describe your system used to track labor epidural replacement rates. Please report your failed block/epidural replacement rate and outline how this quality assurance metric is evaluated.

5. *Non-neuraxial labor analgesia options

Describe intravenous patient-controlled opioid analgesia options offered, and outline protocol specifics including opioids available, administration settings and monitoring requirements. Outline the availability of nitrous oxide for labor analgesia, and if available provide protocol specifics.

Recommendations and Guidelines Implementation:

- *At a minimum, provide evidence of implementation of the Practice Guidelines for Obstetric Anesthesia by the ASA Task Force on Obstetric Anesthesia and SOAP (6). Select key recommendations not otherwise addressed in other areas of this application:
 - Platelet count prior to neuraxial block placement: No requirement for routine testing in healthy women

 - Appropriate liquid and diet restrictions: Intrapartum (allow clear liquids in uncomplicated patients); cesarean delivery (clear liquids up to 2 hours prior)

- Timing of neuraxial analgesia: Allow neuraxial analgesia in early labor (no specific cervical dilation required)

- Outline evidence of implementation of the SOAP Consensus Statement on the Management of Cardiac Arrest in Pregnancy (7).

- Provide examples of implementation of key aspects of all National Partnership Maternal Safety Bundles (8). *Ideally, institutions should consider implementation of all 9 safety bundles.*

- Outline your approach to coordinate care for women receiving ante- and postpartum thromboprophylaxis as outlined by the SOAP Consensus Statement on Neuraxial Anesthesia in Obstetric Patients Receiving Thromboprophylaxis (9). Describe a process by which obstetric anesthesia providers are informed about women receiving thromboprophylaxis.

Quality Assurance and Patient Follow-up:

- *Describe how an anesthesiologist serves as a member of the team that develops and implements multidisciplinary clinical policies, e.g. quality improvement committee, patient safety committee. Outline current quality assurance and other patient care initiatives that the obstetric anesthesia division is leading, and/or involved in.

- Outline involvement of obstetric anesthesia staff in hospital committees. Describe committees (e.g. peer review, blood management) that the obstetric anesthesia staff are involved in, and their role in these committees.

- *Describe how patients receive follow-up with structured interview/consultation who received either labor neuraxial analgesia, cesarean anesthesia, or anesthesia for other procedures (e.g. postpartum tubal ligation, cerclage).
Patients should be reviewed, or protocol criteria fulfilled prior to discharge or transfer from labor and delivery. All patients who received an anesthetic procedure should be reviewed by the anesthesia service on the postpartum floor prior to hospital discharge.

- Outline your system to follow-up on all patients with anesthesia-related complications.

- *Describe your system to evaluate and treat (with an epidural blood patch, if necessary) a PDPH in a timely fashion. *Optimally, outpatient PDPH should be evaluated and treated on the obstetric unit and not in the emergency department.*

- Describe your approach to routinely collecting patient feedback on maternal experience of care, with a specific focus on anesthetic and analgesic care.

- Outline if the anesthesiologist is an active participant in multidisciplinary root cause analysis or equivalent program to evaluate maternal and/or fetal adverse events. Provide examples of effective implementation of identified system solutions.

- Describe your system to educate nurses, obstetricians and allied professionals on obstetric anesthesia-related care.

References:

1. Council on Patient Safety in Women's Health Care. Obstetric Hemorrhage. <http://safehealthcareforeverywoman.org/patient-safety-bundles/obstetric-hemorrhage/> (accessed July 2020)
2. California Maternal Quality Care Collaborative. OB Hemorrhage Toolkit V 2.0. <https://www.cmqcc.org/resources-tool-kits/toolkits/ob-hemorrhage-toolkit> (accessed June 2019)
3. SOAP Enhanced Recovery After Cesarean (ERAC) Consensus Statement. <https://soap.org/wp-content/uploads/2019/05/SOAP-Enhanced-Recovery-After-Cesarean-Consensus-Statement.pdf> (accessed July 2020)
4. Bauchat J, Weiniger CF, Sultan P, et al. Society for Obstetric Anesthesia and Perinatology Consensus Statement: Monitoring Recommendations for Prevention and Detection of Respiratory Depression Associated with Administration of Neuraxial Morphine for Cesarean Delivery Analgesia. *Anesth Analg.* 2019;129(2):458-474.
5. Practice Guidelines for the Prevention, Detection, and Management of Respiratory Depression Associated with Neuraxial Opioid Administration: An Updated Report by the American Society of Anesthesiologists Task Force on Neuraxial Opioids and the American Society of Regional Anesthesia and Pain Medicine. *Anesthesiology.* 2016;124(3):535-52
6. Practice Guidelines for Obstetric Anesthesia: An Updated Report by the American Society of Anesthesiologists Task Force on Obstetric Anesthesia and the Society for Obstetric Anesthesia and Perinatology. *Anesthesiology.* 2016;124(2):270-300
7. Lipman S, Cohen S, Einav S et al. The Society for Obstetric Anesthesia and Perinatology Consensus Statement on the Management of Cardiac Arrest in Pregnancy. *Anesth Analg.* 2014;118(5):1003-16.
8. Council on Patient Safety in Women's Health Care. Patient Safety Bundles. <http://safehealthcareforeverywoman.org/patient-safety-bundles/> (accessed July 2020)
9. Leffert L, Butwick A, Carvalho B et al. The Society for Obstetric Anesthesia and Perinatology Consensus Statement on the Anesthetic Management of Pregnant and Postpartum Women Receiving Thromboprophylaxis or Higher Dose Anticoagulants. *Anesth Analg.* 2018;126(3):928-944.