

**Review article****An extensive review of pre-operative nursing care for high-risk obstetric surgeries**

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**Received - 25-09-2024, Revised - 27-09-2024, Accepted - 21-10-2024 (DD-MM-YYYY)**

**Refer This Article**

Monalisha Pal, Anugrah Thomas, Sakshi Sharma, Gunjali Singh, Lt Col Cecily PJ, Sapna Pathania, Nikita, 2024. An extensive review of preoperative nursing care for high-risk obstetric surgeries. Journal of medical pharmaceutical and allied sciences, V 13 - I 5, Pages - 6811 – 6816. Doi: <https://doi.org/10.55522/jmpas.V13I5.6704>.

**ABSTRACT**

Healthcare professionals have particular difficulties while performing high-risk obstetric procedures, such as hysterectomies for excessive bleeding, cesarean sections in complex pregnancies, and surgery for ectopic pregnancies. In order to guarantee the safety and wellbeing of the mother and the fetus, perioperative nursing is essential. The purpose of this review is to highlight important nurse interventions, possible side effects, and evidence-based procedures that enhance surgical outcomes in high-risk obstetric situations. The results highlight the significance of important nurse interventions, thorough patient evaluations, and multidisciplinary cooperation throughout the perioperative phase.



49.4% of Indian women were pregnant at high risk; 33% of them carried a single high-risk pregnancy, and 16.4% carried multiple high-risk pregnancies.



The percentage of pregnant women with one or more high-risk characteristics was 67.8% in Meghalaya and 66.7% in Manipur.



19.5% of women experienced unfavorable delivery outcomes with their most recent birth, while around 31.1% of women had short birth spacing.



It's concerning that over half of all pregnancies in India have one or more high-risk variables. These risks were higher for the most vulnerable populations, including those with little education and the worst socioeconomic status.

**Keywords:** Mackerel fish, Chicken liver, *Moringa oleifera*, Soybean tempeh.

## INTRODUCTION

When it comes to guaranteeing the best possible outcome for patients having high-risk obstetric operations, perioperative nursing care is essential. These surgical procedures, which are frequently required due to intricate disorders involving the mother and fetus, need for comprehensive care during the preoperative, intraoperative, and postoperative stages. Preeclampsia, placenta previa, placental abruption, uterine rupture, and other potentially fatal diseases that put both the mother and the fetus in peril are among the issues that lead to the necessity for such procedures. In these kinds of situations, the main objectives of perioperative nursing care are to reduce risks, guarantee the safety of the mother and fetus, and promote recovery with the least amount of morbidity.

One specialist area where nurses may have a significant impact on women's health and surgical results is obstetrics and gynecology. There are several reasons why women seek out or need expert OB-GYN surgical care. These consist of, but are not restricted to, hysterectomy, myomectomy, pelvic organ reconstruction, fetal surgery, cesarean delivery, infertility treatments, sterilization, and cancer exoneration. For women in all these circumstances, it is essential to provide patient-centered care that includes advocacy, compassion, and collaborative decision-making [1, 2].

Of all the operations done on adult women, obstetric and gynecologic surgeries account for 26.5% [3]. Currently, one in three moms gives birth via cesarean delivery, and hysterectomy is one of the most common surgical procedures [4]. Six Patient satisfaction has increased, surgical recovery has been quicker, length of stay and cost for OB-GYN procedures have decreased, and evidence-based care has been outlined throughout the surgical continuum thanks to the development and implementation of perioperative pathways known as Enhanced Recovery after Surgery (ERAS) [5]. Increased emphasis on preoperative patient education to inform the patient of the expectations for early postoperative ambulation, the introduction of oral hydration, and the switch to oral medicines are some of the components of ERAS. The benefits of early ambulation, early hydration, and postoperative gum chewing are supported by nursing research, which also highlights the need of patient education in enhancing patient outcomes in this specialist area [6].

### High-Risk Obstetric Surgeries

Complex surgical procedures carried out during pregnancy, labor, or the postpartum period that have a higher risk of consequences for both the mother and the fetus are referred to as high-risk obstetric surgeries. Women who have pre-existing medical illnesses, pregnancy-related difficulties, or fetal abnormalities that raise the risk of unfavorable outcomes are often the ones undergoing these operations. It is essential to comprehend the background of high-risk obstetric procedures in order to offer expert perioperative treatment

and guarantee patient safety [7].

### Typical Health Issues Linked to High-Risk Obstetric Procedures Previous Health Conditions

Cardiac conditions, such as hypertensive illnesses and congenital heart disease.

Respiratory disorders (such as chronic obstructive pulmonary illness and asthma).

Endocrine diseases, such as thyroid dysfunction and diabetes mellitus.

Autoimmune illnesses and diseases of the kidneys.

### Problems Associated with Pregnancy

Eclampsia or severe preeclampsia.

Placental abruption, or early placental separation, or placenta previa, which is the placenta covering the cervix.

Abnormal attachment of the placenta to the uterine wall is known as placenta accreta spectrum.

Major uterine abnormalities or uterine rupture.

### Factors Related to Fetal Development

Many gestations (twins, triplets, etc.).

Limits on or anomalies in fetal growth (e.g., congenital malformations, chromosomal diseases).

Malpresentation (e.g., transverse lay, breech position).

### Emergency Obstetric Care

Emergency cesarean procedures (C-sections) because to cord prolapse, unsuccessful labor progression, or unsettling fetal condition.

### Postpartum Hemorrhage (controlling with surgery required) Particular Difficulties in High-Risk Obstetric Procedures

The nature of these procedures poses a number of difficulties, especially when the mother and the fetus are both involved. Hemodynamic stability, coagulation, and medication metabolism are all impacted by the particular physiological changes that the obstetric population usually experiences. These alterations need to be carefully taken into account during surgery. When pregnancy-related difficulties combine with pre-existing maternal disorders like diabetes, hypertension, or heart diseases, the situation becomes more complex. A multidisciplinary strategy is required for these situations, frequently including critical care teams, anesthesiologists, neonatologists, and obstetricians collaborating with perioperative nurses [8].

### Common Surgical Procedures for High-Risk Pregnancy Cesarean Section (C-Section)

Usually carried out in cases of emergency or when a vaginal birth would be extremely dangerous.

### Peripartum Hysterectomy

The uterus is removed, usually in situations where there is a uterine rupture or bleeding that might be fatal.

### Cervical Cerclage

A technique used in women with cervical incompetence to avoid premature delivery. Intervention when the fertilized egg implants outside the uterus, frequently in the fallopian tubes, is known as surgical management of Ectopic pregnancy.

Figure 1: Surgical Procedure

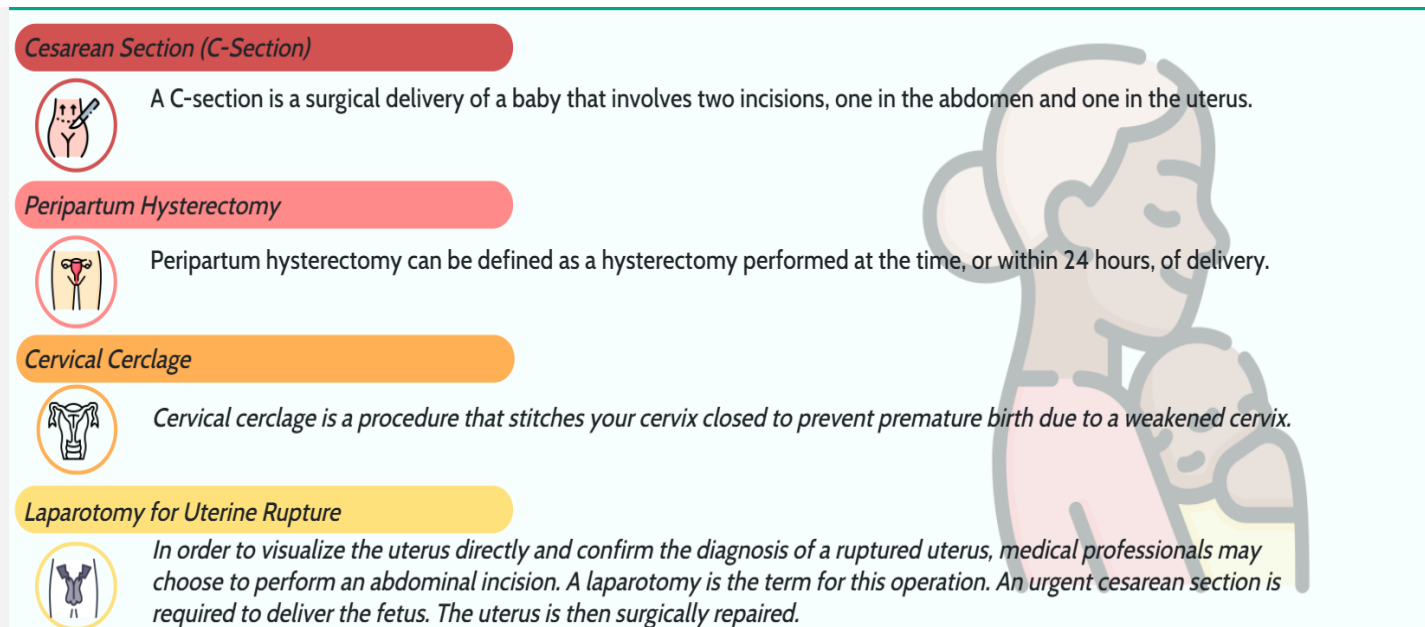
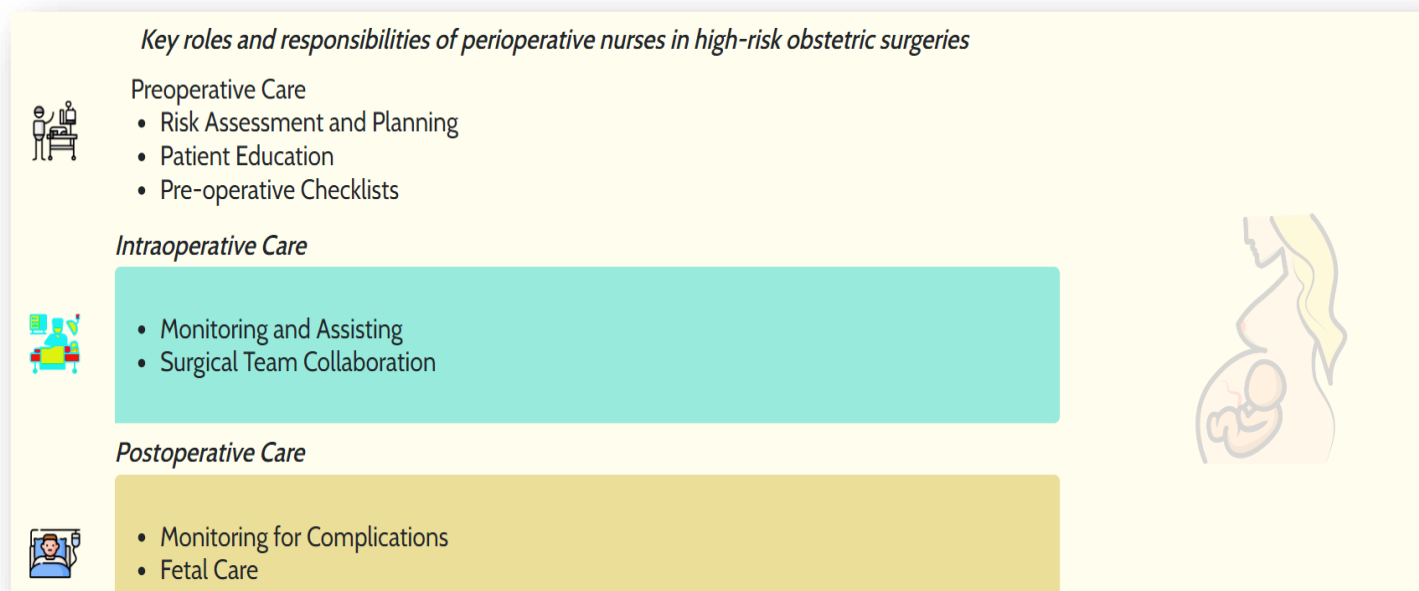


Figure 2: Responsibilities of Peri- operative Nurses



### Laparotomy for Uterine Rupture

When a woman has had a previous uterine surgery, such as a C-section, she may require emergency surgical repair in the event of a rupture.

Key roles and responsibilities of perioperative nurses in high-risk obstetric surgeries

#### Preoperative Care

**Risk Assessment and Planning:** Involves comprehensive history-taking, identification of high-risk factors (such as pre-eclampsia, gestational diabetes, or abnormal placental attachment), and preparing for potential complications like hemorrhage.

**Patient Education:** The nurse educates the patient and family about the surgery, anesthesia, recovery process, and potential risks.

Addressing emotional well-being and alleviating anxiety is a crucial aspect.

**Preoperative Checklists:** Ensuring the patient has undergone all necessary preoperative evaluations, including blood work, imaging, and fetal monitoring.

#### Intraoperative Care

**Monitoring and Assisting:** Perioperative nurses are responsible for continuous monitoring of maternal and fetal vitals during surgery, maintaining sterility, assisting the surgical team, and being prepared to handle emergency interventions, such as massive transfusions.

**Surgical Team Collaboration:** Nurses work closely with

anesthesiologists, obstetricians, neonatologists, and other specialists to ensure seamless communication and readiness for complications.

### Postoperative Care

**Monitoring for Complications:** After surgery, patients are at risk for infection, hemorrhage, and deep vein thrombosis (DVT). Perioperative nurses must closely monitor vital signs, pain levels, and the surgical site while administering medications to prevent infection and control bleeding.

**Fetal Care:** In cases where the baby has been delivered, the nurse ensures the newborn's transition from intrauterine to extrauterine life is smooth. This includes monitoring Apgar scores, neonatal resuscitation, and coordination with pediatricians<sup>[9]</sup>.

### Obstetric Patients at High Risk Obstetric Perioperative Care Challenges Hemorrhage

Postpartum hemorrhage (PPH) is one of the major dangers associated with obstetric procedures, particularly in situations of uterine atony or faulty placental implantation. The early warning indications of excessive bleeding must be recognized by perioperative nurses, who must then act quickly to administer uterotonic medications or assist surgical procedures such as hysterectomy or uterine artery ligation.

### Anesthetic Considerations

Because pregnancy alters a patient's physiological condition, managing anesthesia in pregnant individuals can be challenging. To monitor mother-fetal oxygenation and avoid problems like aspiration, hemodynamic instability, or spinal block failure, nurses must collaborate closely with anesthesiologists.

### Multidisciplinary Cooperation

Obstetricians, anesthesiologists, neonatologists, and nursing personnel must work seamlessly together during high-risk procedures. As the liaison between these teams, perioperative nurses frequently make sure that all parties are aware of possible situations and prepared.

### Emotional and Psychological Support

Patients and their families may experience tremendous stress and anxiety as a result of high-risk procedures. A common role for perioperative nurses is to assist patients emotionally, allay worries, and make sure that the patient and family are aware of the surgery and its results.

### Ethics and Law in Perioperative Nursing Management of High-Risk Obstetric Procedures

Careful consideration of patient safety, autonomy, informed consent, and professional accountability are necessary while providing perioperative nursing care for high-risk obstetric procedures due to the significant ethical and legal problems involved. A greater degree of attention must be paid to the ethical and legal issues of treatment while performing high-risk obstetric procedures, such as cesarean sections in patients with preeclampsia, placenta previa, or other problems affecting the mother and fetus. A thorough examination of these factors

may be found below:

### Consent that is informed and Patient Autonomy

Patient autonomy, or the patient's freedom to make decisions about their own treatment, is one of the cornerstone ethical concepts in healthcare. In perioperative care, informed consent is vital and ensures that the patient (or their legal agent) understands:

The nature of the surgery.

The risks, benefits, and potential complications.

Available alternatives, including non-surgical options.

The expected outcomes.

Legal issues arise if the patient is unconscious or incapable of giving consent; in such a case, the nurse must make sure that consent is obtained from an authorized surrogate decision-maker or through an advance directive. In high-risk obstetric surgeries, the patient may be under physical and emotional stress, which can complicate the informed consent process. Special attention must be given to ensure the patient is fully informed and has the capacity to consent<sup>[10]</sup>.

### Non-maleficence and Beneficence

The perioperative treatment of patients with high-risk pregnancies, when the lives of both the mother and the fetus are in jeopardy, requires adherence to the ethical norms of beneficence (doing well) and non-maleficence (doing no harm). To reduce risks and guarantee the best outcome for mother and child, nurses must collaborate with surgeons, anesthesiologists, and obstetricians.

The danger of injury is increased during high-risk obstetric procedures; thus, nurses need to be ready to foresee and stop problems like bleeding, infection, or thromboembolic events. Failure to satisfy the standard of care may result in injury and legal responsibility for carelessness or malpractice.

### Privacy & Confidentiality

Perioperative nurses are required by law and ethics to protect patient privacy. Sensitive data handling is required, including the patient's obstetric history, current health issues, and possible surgical outcomes. In high-risk procedures, when there may be more healthcare practitioners present and a greater chance of unauthorized exposure of personal health information, extra care needs to be taken. In order to guarantee that patients' information is only shared with those directly involved in their treatment, nurses are required to abide by privacy rules such as the Health Insurance Portability and Accountability Act (HIPAA) in the United States, or comparable legislation in other countries.

### Allocation of Resources and Justice

Fairness in the allocation of healthcare resources is referred to by the ethical ideal of justice. Particularly in environments with limited resources, nurses may have difficulties when allocating resources in the context of high-risk obstetric procedures. One of a nurse's responsibilities is to promote fair access to essential medical procedures, such as timely C-sections or blood transfusions.

Legally speaking, healthcare facilities are required to have enough personnel, supplies, and tools so that nurses may offer safe treatment. If this isn't done, institutions may be held accountable for unfavorable consequences.

### **Legal Obligations and Practice Area**

The legal obligations pertaining to the scope of practice of perioperative nurses are subject to change based on regional or national rules. In addition to adhering to national nursing practice legislation and hospital rules and procedures, nurses must behave within the bounds of their professional competence.

Nurses are frequently needed to conduct sophisticated monitoring, give specific medicine, and support life-saving procedures during high-risk obstetric procedures. They have to understand the possible legal ramifications of what they do, particularly if things get complicated. Nurses must carefully record all treatment given, including any deviations from established protocols and the reasoning behind clinical choices, using documentation, which is a crucial legal instrument.

### **Mother-Child Disagreement**

The maternal-fetal conflict, in which the mother's and the fetus's health needs may not coincide, is one of the special ethical problems in obstetric surgery. For instance, the mother may be seriously at danger from an intervention that helps the fetus. Because they help patients and the healthcare team communicate, nurses are essential in settling this dispute.

Legally, mother rights usually supersede fetal rights, especially in states where the fetus is not regarded as a distinct legal entity. However, nurses need to be ready for circumstances in which weighing the interests of the mother and the fetus is required by law or hospital policy.

### **Palliative Care and End-of-Life Decisions**

High-risk obstetric procedures may entail situations in which the patient's life is in imminent danger, necessitating choices on palliative care or end-of-life care. Deciding whether to provide the mother intensive treatment or comfort care presents ethical dilemmas. Sometimes, obstetric procedures result in the untimely death of the fetus, which raises ethical questions about how best to provide palliative care for the bereaved mother and her family.

Advance directives and do-not-resuscitate (DNR) instructions are legally required to be taken into account and followed throughout perioperative treatment. It is imperative that nurses possess knowledge of pertinent legislation and institutional regulations pertaining to end-of-life choices in obstetric circumstances.

### **Ethical Conundrums and Advocacy**

It is the ethical responsibility of nurses to represent patients' interests, particularly when such interests or well-being may be at jeopardy. This may include questioning decisions made by other members of the healthcare team in high-risk operations if they do not

correspond with the patient's preferences or best interests.

Nurses must defend the patient's right to make an educated decision while making sure the patient is aware of the possible outcomes, for instance, if the patient has a desire for a vaginal delivery even when medical advice suggests a cesarean section owing to high risk. Nurses should consult ethics committees for advice on how to settle disputes in a fair and open way when faced with moral quandaries.

### **METHODS**

This review was based on an extensive literature search of peer-reviewed articles and clinical guidelines focusing on perioperative care in high-risk obstetric surgeries. Key databases such as PubMed, CINAHL, and Cochrane Library were used. Studies were selected based on their relevance to perioperative nursing practices, particularly those addressing nursing interventions, patient outcomes, and maternal-fetal safety. The inclusion criteria were studies published in the last ten years, clinical trials, cohort studies and expert guidelines [11].

### **RESULTS AND DISCUSSION**

This review emphasizes how important perioperative nurses are to enhancing the results of high-risk obstetric procedures. High-risk patients can be stabilized with the aid of preoperative evaluations, and when crucial events such as hemorrhaging or uterine rupture, maternal-fetal safety is guaranteed by intraoperative treatment. It has been demonstrated that postoperative treatment that prioritizes monitoring and early problem diagnosis is essential for reducing long-term morbidity.

One important discovery was that some of the deadliest complications associated with these procedures may be avoided by using nurse treatments, such as intraoperative monitoring and preoperative risk assessment that are specifically designed to meet the needs of high-risk obstetric patients. Additionally, the significance of a multidisciplinary approach was stressed, in which obstetricians, anesthesiologists, and neonatologists work closely with perioperative nurses.

There are still issues, though, such as the requirement for nurses to have specific training in obstetric crises, maintaining sufficient staffing in high-risk units, and enhancing access to high-quality obstetric treatment in environments with low resources.

### **CONCLUSION**

Perioperative nursing care plays a critical role in the management of high-risk obstetric surgeries, significantly influencing maternal and neonatal outcomes. Through diligent assessment, intraoperative care, and vigilant postoperative monitoring, nurses can help prevent complications and improve recovery. This review underscores the importance of continuous professional development and interdisciplinary collaboration in enhancing perioperative care quality for high-risk obstetric patients.



**Recommendations**

**Training and Education:** Specialized training programs in obstetric emergencies for perioperative nurses should be expanded to ensure timely, effective care.

**Multidisciplinary Protocols:** Establishment of standardized care protocols in high-risk obstetric surgery settings will enhance coordinated care and reduce risks.

**Research and Monitoring:** Continued research into innovative perioperative care techniques and ongoing data collection on outcomes will further improve the care provided.

**ACKNOWLEDGEMENTS**

We are grateful to all who contributed to this research.

**REFERENCES**

1. Barry MJ, Edgman-Levitan S, 2012. Shared decision making—pinnacle of patient-centered care. *N Engl Journal Medicine*. 366(9), Pages 780-781. Doi: 10.1056/NEJMp1109283.
2. Palese A, Tomietto M, Suhonen R, et al, 2011. Surgical patient satisfaction as an outcome of nurses' caring behaviors: a descriptive and correlational study in six European countries. *Journal Nursing Scholarsh*. 43(4), Pages 341-350. Doi: 10.1111/j.1547-5069.2011.01413.x.
3. Oliphant SS, Jones KA, Wang L, et al, 2010. Trends over time with commonly performed obstetric and gynecologic inpatient procedures. *Obstet Gynecol*. 116(4), Pages 926-931. Doi: 10.1097/AOG.0b013e3181f38599.
4. ACOG Committee Opinion No. 750: Perioperative Pathways: Enhanced Recovery After Surgery. 2018. *Obstetrics and gynecology*. 132(3), Pages e120–e130. Doi: <https://doi.org/10.1097/AOG.0000000000002818>.
5. Terzioglu F, Şimsek S, Karaca K, et al, 2013. Multimodal interventions (chewing gum, early oral hydration and early mobilisation) on the intestinal motility following abdominal gynaecologic surgery. *Journal Clin Nurs*. 22(13-14), Pages 1917-1925. Doi: <https://doi.org/10.1111/jocn.12172>.
6. Johnson K, Razo S, Smith J, et al, 2019. Optimize patient outcomes among females undergoing gynecological surgery: a randomized controlled trial. *Applied Nursing Res*. 45, Pages 39-44. Doi: <https://doi.org/10.1016/j.apnr.2018.12.005>.
7. Gams B, Neerland C, Kennedy S, 2019. Reducing primary cesareans: an innovative multipronged approach to supporting physiologic labor and vaginal birth. *Journal Perinat Neonatal Nurse*. 33(1), Pages 52-60. Doi: 10.1097/JPN.0000000000000378.
8. Lagrew DC, Low LK, Brennan R, et al, 2018. National partnership for maternal safety: consensus bundle on safe reduction of primary cesarean births—supporting intended vaginal births. *Journal Obstet Gynecol Neonatal Nurs*. 47(2), 214-226. Doi: 10.1097/AOG.0000000000002471.
9. Jennifer Speth, 2021. Guideline for surgical attire. In: *Guidelines for Perioperative Practice*. Denver, CO: AORN, Pages 1015-1032. <https://doi.org/10.1002/aorn.14205>.
10. McGarvey HE, Chambers MG, Boore JR, 2000. Development and definition of the role of the operating department nurse: a review. *J Adv Nurs*. 32(5), Pages 1092-1100.
11. Watson J, 2012. *Human Caring Science: A Theory of Nursing*. 2nd ed. Sudbury, MA: Jones and Bartlett Learning.