The Perioperative Surgical Home (PSH), as defined by the American Society of Anesthesiologists, coordinates patient care throughout the entire perioperative period from preoperative medical optimization to postoperative recovery [1]. This PSH concept has expanded the role of anesthesiologists from intraoperative providers to true perioperative physicians. It is an individualized patient-centered practice focusing on standardization, communication and coordination of care throughout the entire perioperative continuum [2]. Physician anesthesiologists and PSH healthcare providers must know how to manage the perioperative usage of preoperative long-term medications and to understand the medication interactions between home medications and anesthetic agents.

During the preoperative evaluation, the PSH healthcare providers must know about the patient’s long-term medications in addition to obtaining a history, performing a physical examination, and reviewing pertinent diagnostic tools. Specific instructions outlining which medications should be taken or held during the preoperative period must be clearly conveyed to patients during this encounter [3]. Some oral home-medications may need to be converted to intravenous administrations for proper intraoperative patient management. Abrupt discontinuation of certain medications may have a negative impact on patient safety and outcomes. It may also have a negative financial effect due to surgical delays or cancellations from patients who are not optimally prepared for elective surgery.

This thematic issue focuses on the perioperative pharmacological management of commonly used prescription medications and dietary supplements. It provides a complete, yet concise, overview on the benefits and risks of discontinuing any of these treatments and supplements during the perioperative period. Different pharmacological managements are grouped into antiarrhythmic, anticoagulation, anti-hypertensive, cholesterol, diabetes, hormone, neurologic, pain, psychiatric and pulmonary medications. This issue also provides crucial knowledge on interactions between over-the-counter supplements and anesthetic agents.

According to the Centers for Disease Control and Prevention report, approximately 75 million adults in the United States have hypertension [4]. As the population continues to age, this prevalence is likely to increase further. The article on Pharmacologic and Perioperative Considerations for Antihypertensive Medications points out that abrupt discontinuation of anti-hypertension medication, such as the alpha-2 agonist therapy, may result in rebound hypertension [5] with the hypertensive crisis showing clear association with myocardial ischemia, hypertensive encephalopathy, hemorrhagic retinopathy, hemorrhagic stroke, renal failure and hypertensive cardiomyopathy [6, 7]. On the opposite spectrum, the continuation of diuretics in the perioperative period has been linked to profound hypotension as patients may be volume-depleted due to diuretic usage and fasting [8]. Renin-angiotensin-aldosterone system inhibitors, another type of anti-hypertensive medication with well-debated risks and benefits of continuing versus holding on the day of the surgery, have been associated with increased postoperative mortality if discontinued during surgery but not properly resumed after surgery [9].

Similar to the increasing prevalence of hypertension, the number of patients with a cardiac arrhythmia, most commonly atrial fibrillation, and/or coronary artery disease is also increasing [10]. As Friraray-Alvarado and Seim point out in Perioperative Management of Beta Blockers and Other Antiarrhythmlc Medications and Perioperative Management of Anticoagulants, the continuation of antiarrhythmic medications is safe perioperatively, while caution is advised when interruption and resuming anticoagulant therapy. In these circumstances, the PSH care providers need to balance the benefits of stroke, myocardial infarction and other thromboembolic disease prevention with the risk of bleeding. Renew’s paper on Perioperative Management of Hyperlipidemia Medications finds sufficient data to support the continued usage of statins in the perioperative period. This class of hyperlipidemia medications is associated with improved postoperative outcomes when used without interruption perioperatively.

Diabetes mellitus is another commonly encountered disease in the surgical patient population. Approximately 29 million adults are diagnosed in the United States [11]. Perioperative control of blood glucose levels is essential as it is associated with better surgical outcomes. The article by Aniskevich et al., Pharmacology and Perioperative Considerations for Diabetes Mellitus Medications, points out the importance of preoperative adjustment for diabetic medications on the basis of patient comorbidities, the duration of the fasting period, and the duration of surgery for better surgical outcomes. It provides a clear algorithm for intraoperative blood glucose correction management for patients with type 1 and type 2 diabetes mellitus.

The article on Pharmacology and Perioperative Considerations for Pain Medications by Chadha et al., was published at an opportune time. The increased number of patients on chronic pain medications reflects the recent opioid crisis in the United States. However, management of postoperative pain is of utmost importance for anesthesiologist. The goal is not to avoid opioid completely due to the opioid epidemic, but to also recognize the importance of using non-opioid pain medications in the perioperative pain management. While most pain medications should be continued in the perioperative period, it is important to...
stop those that antagonize pain receptors at the appropriate time preoperatively to avoid significant postoperative morbidities that can be associated with poorly managed pain.

The article by Sadana and Joshi on *Pharmacology and Perioperative Considerations for Psychiatric Medications* thoroughly discusses how psychotropic medications, including antidepressants, antipsychotics, anxiolytics, mood stabilizers and stimulants, interact with routinely used anesthetic agents. Psychiatric medications are increasingly being prescribed with the rise of psychiatric illness and their usages in the management of chronic neuropathic pain as well as other off-label usages [12, 13]. Mabry’s paper on *Perioperative Neurologic Medication Management* organizes the most current recommendations for neurologic medication management on common neurological disorders, such as Alzheimer’s disease, epilepsy, Parkinson’s disease and multiple sclerosis during the perioperative period to minimize the risk of postoperative neurologic decline. Although most evidence suggests the continuation of these medications in the perioperative period, it is still important to determine how psychotropic and neurologic medications interact with anesthetic agents and which medications should be continued and which should not be on an individualized basis for each patient.

The article on *Perioperative Pulmonary Medication Management* discusses the risk of complications such as bronchospasm, hypoxia and even postoperative respiratory failure associated with poorly controlled pulmonary conditions such as asthma and chronic obstructive pulmonary disease. The PSH care providers must be familiar with pulmonary medication regimens that are critical for maintaining stable homeostasis of these chronic conditions. The article provides a reminder on how these pulmonary treatment regimens should be maintained in the perioperative period to reduce the risk of such complications.

The article on *Perioperative Management of Female Hormone Medications* discusses the benefits and risks associated with the continuation of oral contraceptives (OCPs) during the perioperative period. While the continuation of OCPs may increase the thromboembolic risk, the discontinuation may lead to unwanted pregnancy and the potential risk of exposing a fetus in early gestational period to anesthesia. For hormone medications prescribed to treat cancer, osteoporosis, or menopausal symptoms, some evidences suggest that the medication needs to be held at least 72 hours before a period of prolonged immobilization and must be resumed when the patient is ambulatory. In recent years, sugammadex, a neuromuscular blockade reversal agent, has gained popularity in the United States. Sugammadex selectively binds to rocuronium or vecuronium, the commonly used neuromuscular blockade. Studies have printed out that it affects the effectiveness of hormonal birth control. Postoperative counselling to these particular surgical patients regarding back up methods of contraception is recommended for the subsequent 7 days [14].

PSH care providers do not only deal with commonly prescribed medications. The article, *Perioperative Considerations of Herbal Medications*, by Chadha and Egan outlines the recommendations for discontinuing over-the-counter dietary supplemenations. PSH care providers should specifically inquire on the use of herbal medications prior to surgery as many surgical patients do not consider dietary supplements as medicines and fail to disclose the usage. It is recommended to stop most substances a week or longer prior to surgery.

Regardless of recent advances in surgical techniques, improvements in perioperative management are still closely associated with the avoidance of postoperative functional disability and complications [15]. With the uprisings of the PSH concept, this thematic issue serves as a valuable aid for all the PSH healthcare providers when coordinating the care of surgical patients throughout a continuum extending from preoperative assessment through the surgery and recovery care. I would like to congratulate the authors on this great undertaking of composing together this wealth of information in an attempt to be improve patient safety and outcomes.

**Keywords:** Preoperative evaluation, preoperative medication instruction, perioperative medication management, perioperative surgical home, surgery.

**ABBREVIATIONS**

<table>
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<tr>
<th>Abbreviation</th>
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<tr>
<td>OCPs</td>
<td>Oral Contraceptives</td>
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<td>PSH</td>
<td>Perioperative Surgical Home</td>
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**REFERENCES**


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