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Pharmacologic Stepwise Multimodal Approach for Postpartum Pain Management

Committee on Clinical Consensus–Obstetrics. This Clinical Consensus was developed by the American College of Obstetricians and Gynecologists' Committee on Clinical Consensus–Obstetrics in collaboration with committee members Allison S. Bryant, MD, MPH and Russell S. Miller, MD.

SUMMARY

Pain in the postpartum period is common and considered by many individuals to be both problematic and persistent (1). Pain can interfere with individuals' ability to care for themselves and their infants, and untreated pain is associated with risk of greater opioid use, postpartum depression, and development of persistent pain (2). Clinicians should therefore be skilled in individualized management of postpartum pain. Though no formal time-based definition of postpartum pain exists, the recommendations presented here provide a framework for management of acute perineal, uterine, and incisional pain. This Clinical Consensus document was developed using an *a priori* protocol in conjunction with the authors listed. This document has been revised to incorporate more recent evidence regarding postpartum pain.

BACKGROUND

Purpose

Pain in the postpartum period is common and considered by many individuals to be both problematic and persistent (1). Pain can interfere with individuals' ability to care for themselves and their infants, and untreated pain is associated with risk of greater opioid use, postpartum depression, and development of persistent pain (2). Clinicians should therefore be skilled in individualized management of postpartum pain. Though no formal time-based definition of postpartum pain exists, the recommendations presented here provide a framework for management of acute perineal, uterine, and incisional pain. Management of pain that persists months after delivery is outside the scope of this review. Similarly, discussions regarding intrapartum pain management and treatment of postpartum breast pain can be found elsewhere (see Practice Bulletin 209 on Obstetric Analgesia and Anesthesia, Committee Opinion 756 on Optimizing Support for Breastfeeding as Part of Obstetric Practice, and Committee Opinion 820 on Breastfeeding Challenges for more information). Although both pharmacologic and nonpharmacologic approaches to pain management are valuable, this document will focus largely on the former. This document has been revised to incorporate more recent evidence regarding postpartum pain.

The American College of Obstetricians and Gynecologists (ACOG) recognizes and supports the gender diversity of patients who seek obstetric and gynecologic care, including people who are cisgender, transgender, gender nonbinary, or otherwise gender expansive. ACOG's goal is to use language that is inclusive of gender-diverse individuals. Therefore, this document uses the terms "patient" and "individual." ACOG advocates for inclusive, thoughtful, affirming care, including the use of language that reflects a patient's identity.

Health Equity

Racial and ethnic inequities in health outcomes and care—including the assessment and treatment of pain in general and of postpartum pain specifically—are prevalent and persistent. This underscores the need for clinical guidance to directly address these disparities and to promote equitable postpartum pain management. This is further addressed in the Methods, Consensus Recommendations, and Discussion sections.

METHODS

This Clinical Consensus document was developed using an *a priori* protocol in conjunction with the

Summary of Consensus Recommendations

General Considerations for Postpartum Pain Management

Obstetrician–gynecologists and other obstetric care professionals should be familiar with safe and effective pharmacologic and nonpharmacologic therapies for postpartum pain management.

Obstetrician–gynecologists and other obstetric care professionals should engage in shared decision making with individuals regarding their preferences for pain management; doing so may improve satisfaction, decrease opioid use, and potentially reduce misuse and diversion.

Obstetrician–gynecologists and other obstetric care professionals should be aware of inequities in the assessment and treatment of pain and consider ways in which their own biases may contribute to perpetuating them.

Obstetrician–gynecologists and other obstetric care professionals should use a stepwise multimodal approach using a combination of agents with different mechanisms of action to effectively individualize pain management in the postpartum period.

Nonsteroidal anti-inflammatory drugs (NSAIDs) may be used for the management of postpartum pain in all individuals, including those with hypertensive disorders of pregnancy.

Vaginal Birth

A stepwise multimodal approach to analgesia beginning with an NSAID or acetaminophen and, if needed, escalating to an opioid is recommended after vaginal delivery.

Cesarean Birth

For postoperative cesarean pain, a stepwise multimodal approach should include standard oral and parenteral analgesic adjuvants such as acetaminophen, NSAIDs, and opioids.

Breastfeeding Considerations

Acetaminophen and ibuprofen are first-line analgesics for postpartum pain for individuals intending to provide breast milk to their infants.

Intravenous ketorolac is an acceptable component of postpartum multimodal therapy for individuals intending to provide breast milk to their neonates; although information about medication levels in breast milk is not available for intravenous ketorolac, they are likely low in the immediate postpartum period.

Obstetrician–gynecologists and other obstetric health care professionals should counsel individuals who are prescribed opioid analgesics about the risk of central nervous system depression in the individual and in the breastfed infant.

If a codeine-containing medication is selected for postpartum pain management, duration of therapy and neonatal signs of toxicity should be reviewed with individuals and their families.

Discharge Considerations

Obstetrician–gynecologists and other obstetric health care professionals should engage in shared decision making with individuals regarding pain management after hospital discharge, incorporating pharmacologic interventions that may include opioids.

Duration of opioid use should be limited to the shortest reasonable course expected for treating acute pain.

authors listed above. A full description of the Clinical Consensus methodology is published separately (3). The description below is specific to this Clinical Consensus.

Literature Search

The foundation for the evidence base was studies identified in the 2000–2017 literature search for ACOG Committee Opinion 742, *Postpartum Pain Management*. An additional literature search was performed from 2017 until 2019 for clinical areas of overlapping content with Committee Opinion 742, and from 2000 until 2019 for new clinical questions as noted in the outline. ACOG medical librarians searched Cochrane Library, Cochrane Collaboration Registry of Controlled Trials, EMBASE, PubMed, and MEDLINE for human-only studies written in English. MeSH terms and keywords can be found in Appendix 1 (available online at http://links.lww.com/AOG/C376). Search terms for racial and ethnic disparities and implicit bias in the assessment and treatment of pain were incorporated into the literature review, and recommendations were drafted with the intent to promote health equity and reduce these disparities. A bridge literature search was completed in February 2021. Any updated literature was incorporated into the text and recommendations, as appropriate.

Study Selection

Qualifying studies passed both title and abstract screen and full-text screen and met the following inclusion criteria: conducted in countries ranked very high on the United Nations Human Development Index (4), included female participants, and included all study designs. Studies that passed full-text screen by the authors were included in a summary evidence map (Appendix 2, available online at http://links.lww.com/AOG/C376).

Consensus Voting and Recommendation Development

At a meeting of the Committee on Clinical Consensus–Obstetrics, a quorum of two thirds of eligible voting members was met, and the committee held a formal vote on each proposed recommendation. All recommendation statements met or exceeded the 75% approval threshold required for consensus.

CONSENSUS RECOMMENDATIONS AND DISCUSSION

General Considerations for Postpartum Pain Management

Obstetrician–gynecologists and other obstetric care professionals should be familiar with safe and effective pharmacologic and nonpharmacologic therapies for postpartum pain management.

Pain in the postpartum period is experienced by many individuals. In a national survey of English-speaking individuals who had given birth in the United States in 2005, the majority reported some experience of pain within the first 2 months postpartum, regardless of delivery mode (1). The severity of acute postpartum pain has been associated with persistent pain remote from delivery, as well as with perinatal depression (2). Pharmacologic and nonpharmacologic therapies can be useful components of postpartum pain management. Therefore, health care professionals should be familiar with effective pain management options for individuals under their care, including understanding the risks and benefits of each option, with a goal of avoidance of under-, over-, or inequitable treatment of pain.

Obstetrician–gynecologists and other obstetric care professionals should engage in shared decision making with individuals regarding their preferences for pain management; doing so may improve satisfaction, decrease opioid use, and potentially reduce misuse and diversion (5–7).

There is significant variability in individual experience of postpartum pain, but, despite attempts to identify predictors for experiencing severe pain, genetic or demographic factors are not reliable in this regard (8, 9). Preferences regarding whether, when, and how to treat postpartum pain will vary from person to person (9), arguing for individualized approaches that employ shared decision making. Use of shared decision making has been demonstrated to be acceptable to individuals and has been associated with a decrease in the amount of opioids prescribed after cesarean delivery (6).

Obstetrician–gynecologists and other obstetric care professionals should be aware of inequities in the assessment and treatment of pain and consider ways in which their own biases may contribute to perpetuating them (10–12).

Racial and ethnic inequities in health outcomes and care are prevalent and persistent; the assessment and treatment of pain in general and of postpartum pain specifically are not free from these disparities (13, 14). Despite reporting higher pain scores, Black and Hispanic postpartum individuals receive less narcotic pain medication on average than do their White counterparts (15, 16). Inequities in the management of postpartum pain may be mediated in part by health care professional biases (17). Recognizing the role that health care professionals' own biases play in the care they render is suggested as one mechanism for mitigating their effects (11).

Obstetrician–gynecologists and other obstetric care professionals should use a stepwise multimodal approach using a combination of agents with different mechanisms of action to effectively individualize pain management in the postpartum period (Figure 1).

Stepwise multimodal approaches to pain management, wherein nonopioid analgesics are used as first-line followed by opioids of lower and then higher potency as needed, borrows from the stepwise analgesic ladder for cancer pain introduced by the World Health Organization (18). Although level I evidence demonstrating efficacy of such an approach in the postpartum period is lacking, the basic principles represent a useful framework for managing postpartum pain given the multifactorial nature of pain more broadly (19). Nonopioid analgesics such as acetaminophen and nonsteroidal anti-inflammatory drugs (NSAIDs), as well as neuraxial analgesics in the case of cesarean delivery, are effective components in the management of postpartum pain (20–22). The stepwise approach allows for the addition of low-dose, low-potency, and short-acting opioids when needed (23–26).

Nonsteroidal anti-inflammatory drugs (NSAIDs) may be used for the management of postpartum pain in all individuals, including those with hypertensive disorders of pregnancy (27–29).

Earlier guidance to avoid NSAID use in individuals with postpartum hypertension was speculative and based on literature indicating that these medications increase blood pressure in a subset of nonpregnant individuals with hypertension, as well as case reports suggesting a similar effect with postpartum hypertension (28, 30). Although biologically plausible, recent studies have failed to demonstrate a clear correlation between NSAID exposure and

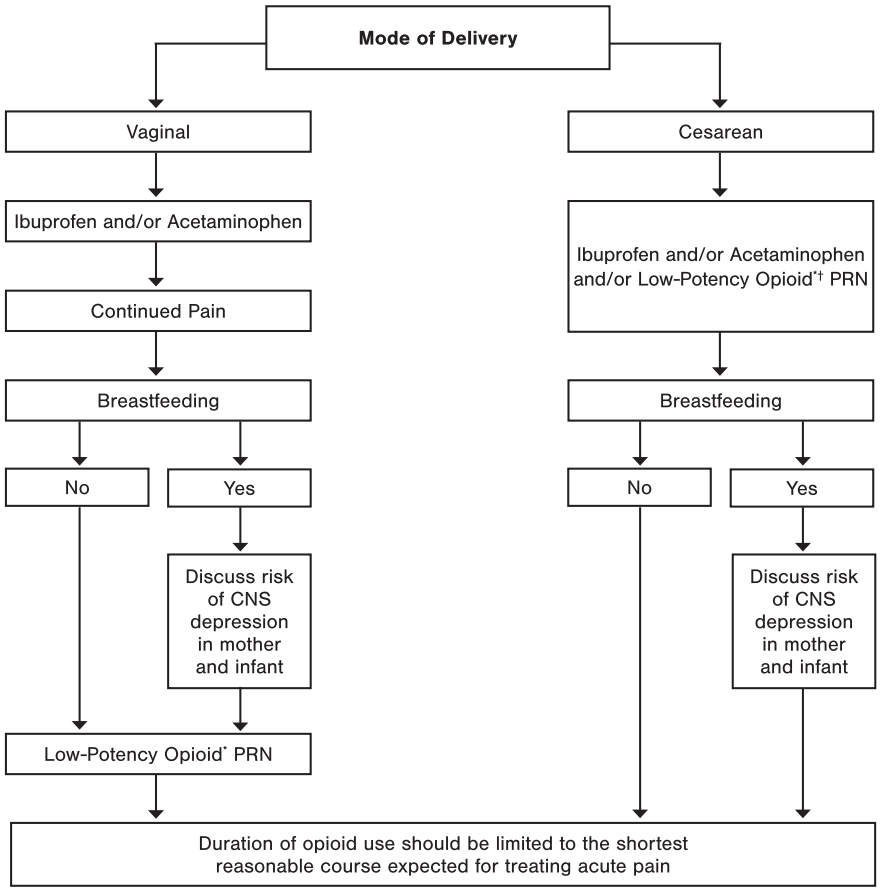

Figure 1. Postpartum pain stepwise multimodal approach summary. *Stronger opioids should be reserved for refractory or breakthrough pain. Abbreviations: PRN, as needed; CNS, central nervous system.

severity of postpartum hypertension. One retrospective review was unable to demonstrate an association between NSAID exposure and persistent postpartum hypertension among individuals with preeclampsia with severe features, and another failed to detect an increase in postpartum mean arterial pressure among individuals with severe hypertensive disorders of pregnancy who were exposed to NSAIDs (27, 31). A randomized controlled trial comparing ibuprofen with acetaminophen use among postpartum individuals with preeclampsia with severe features or superimposed preeclampsia after vaginal birth did demonstrate increased blood pressure with ibuprofen exposure (32). However, there was no significant difference in severe hypertension between groups. Furthermore, this study was limited by open-label randomization and small sample size. More recently, a comparably sized, double-masked randomized controlled trial evaluating ibuprofen compared with acetaminophen use among postpartum individuals with preeclampsia with severe features revealed no difference between groups in degree or length of severe-range hypertension (33). Given insufficient evidence to support harm and overall findings favoring safety, NSAIDs should be considered among first-line agents in the management of postpartum pain for all individuals, including those with hypertensive disorders of pregnancy.

Vaginal Birth

A stepwise multimodal approach to analgesia beginning with an NSAID or acetaminophen and, if needed, escalating to an opioid is recommended after vaginal delivery (34–36).

The most common sources of pain in the early days after vaginal birth are perineal lacerations, uterine contractions, and breast engorgement, and there can be considerable variability in individual pain experiences. Given interindividual differences in pain type and intensity, as well as the concern that a small subset of opioid-naïve patients will become persistent opioid users after postpartum exposure, a stepwise multimodal approach to analgesia is recommended that limits opioid exposure to the lowest, briefest exposure necessary to achieve pain control when NSAIDs and acetaminophen prove inadequate (34, 35, 37). In addition to minimizing chances for the subsequent development of opioid use disorders, this approach intends to reduce opioid-associated side effects such as nausea, constipation, and drowsiness.

A regimen involving NSAID and acetaminophen administration on a set schedule has proven to be an effective first step toward achieving postpartum analgesia, providing sustained analgesia and decreased opioid needs (26, 38). When NSAIDs and acetaminophen prove insufficient, the addition of a low-dose, low-potency, and short-acting oral opioid is recommended, with appropriate options including codeine, hydrocodone, oxycodone, tramadol, and morphine. This approach is recommended over the standard use of acetaminophen–opioid or NSAID–opioid combination medications, which offer prescribing convenience at the expense of inelegant dosing, potential excess opioid exposure, and risks of unintended medication toxicity. For example, acetaminophen-associated hepatotoxicity is the leading cause of acute liver failure in the developed world, with a substantial proportion of overdoses being unintentional and attributed to combination acetaminophen–opioid products (39). Thus, there is concern when combination medications are initiated shortly after delivery and continued through outpatient care.

Stronger opioid analgesics are best reserved for individuals with inadequate pain control despite a reasonable trial using low-dose, low-potency opioids in addition to standard dosages of NSAIDs and acetaminophen. Examples of stronger opioids include hydromorphone and fentanyl, especially when administered parenterally (through nonoral routes) or at higher doses. It is unusual for stronger opioids to be required for analgesia in opioid-naïve individuals after uncomplicated vaginal birth, and this pain requirement may warrant clinical evaluation for unidentified causes of severe pain such as vaginal hematomas.

Although the focus of this document is a stepwise multimodal approach for postpartum pain management, adjunct pharmacologic and nonpharmacologic strategies may contribute to successful pain control after birth. Topical agents and anesthetics are commonly used to address perineal pain, although data demonstrating benefit are inconclusive (40). Though cooling therapies such as ice packs for short-term perineal analgesia 24–72 hours after birth are frequently used, data supporting their use are limited and of low quality (41). Heating pads applied to the abdomen may help with uterine cramping after birth (42). Astringent, steroid, or anesthetic creams may also help with postpartum hemorrhoid symptoms, although no randomized trials have demonstrated their effectiveness (43).

Cesarean Birth

For postoperative cesarean pain, a stepwise multimodal approach should include standard oral and parenteral analgesic adjuvants such as acetaminophen, NSAIDs, and opioids (38, 44, 45).

A multimodal approach to analgesia is also recommended for pain control after cesarean delivery (25, 26, 46). Neuraxial opioids (opioids administered by spinal and epidural anesthesia, such as intrathecal morphine) represent the most important contributor to immediate postoperative pain relief, yet their effects are time-limited to within a day of surgery (26). Although a combination of neuraxial opioids and nonopioid medications such as NSAIDs provides adequate analgesia for most individuals, some will have breakthrough pain requiring additional parenteral or oral opioids. Rare individuals may benefit from patient-controlled analgesia for recurrent breakthrough pain in the immediate postpartum period. Patient-controlled analgesia may also be a valuable component of initial postcesarean multimodal pain management for individuals who do receive neuraxial opioids. Patient-controlled analgesia has been demonstrated to provide improved analgesic efficacy and is associated with increased patient satisfaction (47).

Preoperative intravenous acetaminophen may provide useful postoperative opioid-sparing effects and is safe for use around the time of delivery (48). Dexamethasone has also been studied in the perioperative period. Although a single preoperative dose of dexamethasone has been found to decrease nausea and vomiting on the first postoperative day, data regarding its effect on pain control are conflicting (49–51).

Some individuals who undergo cesarean birth may benefit from local anesthetics delivered by transversus abdominis plane (TAP) block (26, 45, 52). A TAP block uses a blunt-tip needle to inject anesthetic in the plane between the internal oblique and transversus abdominis muscles under ultrasonographic guidance or by an anatomical landmark–based technique, thereby targeting the thoracolumbar peripheral nerves innervating the lower abdomen (53). Best evidence indicates that TAP block is most appropriate in situations for which neuraxial opioids are not used at the time of cesarean delivery for any reason, such as deliveries performed under general anesthesia. Although TAP block has not been demonstrated to provide superior relief when compared with neuraxial opioids, it may be associated with less pain within 12 hours of cesarean delivery and lower opioid requirements in patients who do not receive neuraxial opioids (54). Although data are limited, TAP block does not appear to be a useful adjunct to standard multimodal therapy that already includes neuraxial opioids (55).

Beyond the immediate postoperative period, stepwise multimodal analgesia is recommended for continued postcesarean pain relief. This strategy is associated with reduced opioid consumption without increasing reported pain or length of hospital stay (25). A combination of NSAIDs, acetaminophen, and opioids should be used with a goal of limiting opioid strength, exposure, and duration without compromising pain control. As with pain relief after vaginal birth, low-dose, low-potency, and short-acting opioids should be used first when an opioid is

needed, with stronger opioids reserved for instances of refractory or breakthrough pain. As previously noted, regimens that avoid acetaminophen–opioid and NSAID–opioid combination medications are generally advisable.

Although effective approaches to stepwise multimodal pain control may differ among institutions, some considerations may be helpful when developing a baseline strategy. As with vaginal birth, NSAID and acetaminophen dosing on a fixed schedule appears to be superior to as-needed administration, with decreased opioid use and more consistent analgesia. (26, 38). Furthermore, elimination of the routine ordering of opioids may be associated with decreased opioid consumption without compromising pain control or patient satisfaction (56). Finally, an approach that uses a split-dose strategy to oxycodone administration, in which an intended dose is halved and a patient then reassessed for continued pain requirement before receiving the remainder of the full dose, may be associated with reduced opioid use and related side effects after cesarean delivery, without an increase in reported pain (51). This type of practice modification is labor-intensive, requires further research, and may not be appropriate for all obstetric services.

Nonpharmacologic interventions may also influence pain relief after cesarean delivery. For example, abdominal binders may be associated with improved postoperative pain control (57, 58). With regard to practice innovations, data are limited and inconsistent regarding what effect enhanced recovery after surgery protocol implementation specifically has on postpartum opioid use and which pathway components may be most beneficial (20, 59, 60).

Standard analgesic treatment regimens may fail to adequately address pain for some individuals. Those at particular risk for suboptimal postpartum pain control include individuals with preoperative pain and chronic pain conditions (45, 61). Similarly, individuals with opioid use disorders have unique challenges and risks for suboptimal postpartum pain control (62). Although specific management in these circumstances is beyond the scope of this document, affected individuals are likely to require enhanced analgesia. These situations are ideal for individualized care plans, and collaboration with an obstetric anesthesiologist or pain medicine specialist may be helpful.

Breastfeeding Considerations

Factors that affect drug transfer into breast milk include the lipophilic nature of the drug, the degree to which the drug binds to protein, the drug's bioavailability, the medication pKa (measure of acidity) and milk pH, the drug's molecular weight, the amount of breast milk consumed, and the timing of medication administration relative to breastfeeding episodes. The *relative infant dose* (RID), defined as the weight-adjusted maximum percentage of the maternal dose, is the measure most often used to assess drug safety during lactation. An RID greater than 10% of the maternal dose is generally concerning (63). Relative infant doses of some medications commonly used in pregnancy can be found in the LactMed database (64).

Acetaminophen and ibuprofen are first-line analgesics for postpartum pain for individuals intending to provide breast milk to their infants (65).

Orally administered acetaminophen and NSAIDs are excreted into breast milk in low concentrations, with peak RID estimates (which vary by time after administration and phase of milk production) of approximately 2% and 0.6%, respectively (66). The concentration of ibuprofen in breast milk decreases with longer duration of breastfeeding and with decreases in the protein concentration of breast milk (67). Given the efficacy of these medications in addressing pain and their low concentrations in breast milk, both are acceptable and preferred choices for postpartum pain management.

Intravenous ketorolac is an acceptable component of postpartum multimodal therapy for individuals intending to provide breast milk to their neonates; although information about medication levels in breast milk is not available for intravenous ketorolac, they are likely low in the immediate postpartum period (65, 68).

Injectable and oral forms of ketorolac are used to treat moderate pain in the immediate postpartum period. The product labeling states that this agent should be used with caution when administered to a nursing individual, particularly when nursing a newborn or preterm infant. Limited data suggest the estimated RID after oral administration is low at approximately 0.2–0.4% (65, 68). Although the RID after intravenous administration is not known, it is likely low in the first days postpartum before the onset of copious milk production. Therefore, based on the effectiveness of ketorolac as a component of multimodal analgesia particularly after cesarean birth, and the fact that ketorolac use would likely have little if any concentration in breast milk soon after delivery, ketorolac is acceptable for use in the immediate postpartum period.

Obstetrician–gynecologists and other obstetric health care professionals should counsel individuals who are prescribed opioid analgesics about the risk of central nervous system depression in the individual and in the breastfed infant (69).

Opioids are lipophilic, have a low molecular weight, and are generally weak bases, which are all properties that facilitate transfer into breast milk (70). Some undergo conversion to metabolites that have a significant analgesic and sedative effect. Codeine and tramadol rely on cytochrome P450 2D6 (CYP2D6) for metabolism to their active analgesic forms (71), and different polymorphisms in the genes

that encode the CYP450 enzymes are associated with population variation in the amount and efficiency of these enzymes (72). Up to 4–5% of people in the United States are "ultra-rapid metabolizers" and generate higher levels of active analgesic forms in the serum and, by extension, the breast milk (71, 72). There are several published case reports of breastfed infants with excessive sedation or depressed respiration in the setting of maternal codeine use, as well as one report of an infant death. These events resulted in U.S. Food and Drug Administration–directed changes to the labeling of codeine and tramadol warning that breastfeeding is not recommended while using medicines that contain these agents (73, 74).

Oxycodone, which is prescribed more commonly than codeine- or tramadol-containing medications in many institutions (7), is partially metabolized by CYP2D6. In a retrospective study, nursing individuals were asked to recall perceived infant central nervous system depression during periods when they were taking oxycodone, codeine, or acetaminophen. Central nervous system depression was perceived in 20% of neonates of individuals taking oxycodone, as compared with fewer than 1% of neonates of those taking acetaminophen and 17% of neonates of those taking codeine (75). Given interindividual variation in metabolism of opioids, as well as the risk of maternal and neonatal adverse effects in individuals who are ultra-rapid metabolizers of codeine, monitoring for excessive sedation and other adverse effects in the parent and infant is prudent for individuals who are prescribed opiates (69). As with all inpatients, postpartum individuals should be assessed for their risk of falls or impairment related to fatigue or medication use (76).

If a codeine-containing medication is selected for postpartum pain management, duration of therapy and neonatal signs of toxicity should be reviewed with individuals and their families (69).

The Motherisk Program at the Hospital for Sick Children in Toronto has published guidelines for monitoring lactating individuals and neonates for central nervous system depression while using medications that contain codeine (77). In a study of 238 breastfeeding individuals using these guidelines, neonatal sedation was reported in 2.1% of neonates and was not associated with differences in genotypes responsible for variation in metabolism of opioids (69). These results suggest that such safety guidelines reduce the risk of neonatal sedation with maternal opioid use.

Discharge Considerations

Obstetrician–gynecologists and other obstetric health care professionals should engage in shared decision making with individuals regarding pain management after hospital discharge, incorporating pharmacologic interventions that may include opioids (6).

Recent studies have demonstrated that the amount of opioids prescribed after cesarean birth often exceeds the actual amount needed or consumed after discharge. In a survey of 720 individuals who had delivered by cesarean at one of six academic medical centers, 85% filled an opioid prescription after hospital discharge. Though the median number of dispensed tablets was 40, the median number consumed was 20, with a median of 15 leftover tablets. The vast majority of individuals had not disposed of excess tablets, raising concern for contribution to misuse or diversion (7). Although quality and safety considerations around overprescription of opioids are critical, so are concerns of undertreatment of pain by underprescription, especially in inequitable patterns. A standardized shared decision-making approach has been demonstrated to reduce the number of prescribed tablets from previous institutional noncustom orders, was thought to be acceptable and valuable to patients, and was not associated with a burdensome volume of requests for opioid refills (6). Therapy should be individualized based on the patient's condition and preferences, and the risks, benefits, and alternatives of all medications prescribed should be reviewed. As with inpatient pain management, use of separately administered acetaminophen, NSAIDs, and opioids as needed after discharge is preferred over the use of acetaminophen–opioid or NSAID–opioid combination medications.

Duration of opioid use should be limited to the shortest reasonable course expected for treating acute pain.

Traditional discharge order sets may call for prescription of a greater number of opioid tablets than are needed, which may lead to excess tablets and concerns for misuse and diversion. Involving patients in decisions about quantities of opioid tablets at discharge can lead to better-matched supply and demand, with only a minority of individuals requiring prescription of additional tablets after discharge (6). Use of acetaminophen and NSAIDs can also reduce the requirement for opioids (38, 44); they should be used liberally as appropriate, even among individuals with hypertensive disorders of pregnancy.

FURTHER RESEARCH

The natural history of postpartum pain (eg, average quality and duration) is not well described; though the experience of pain varies from individual to individual, normative data on an individual's postpartum pain experience would be valuable. Similarly, there is no single strategy to meet all individuals' postdischarge pain

management needs. Therefore, proposed algorithms for shared decision-making approaches with proven benefit are needed. Additionally, an optimal approach to monitoring for excessive sedation and other adverse effects from opioid analgesic is lacking. Finally, further investigation into explanatory models of disparities in pain management, with accompanying evidence-based interventions to eliminate such disparities, will be vital to assuring equitable postpartum care.

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APPENDICES

Supplemental Digital Content

1. Literature Search Strategy: http://links.lww.com/AOG/C376
2. Evidence Map: http://links.lww.com/AOG/C376

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