

# Medications for patients who are lactating and breastfeeding: a decision tree

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➤ **BREASTFEEDING RATES HAVE INCREASED DRAMATICALLY** in Canada, from lows in 1963 (38%) and 1973 (36%) to current national initiation rates averaging 89%.<sup>1,2</sup> About 22% of breastfed children continue nursing after 9 months of age.<sup>3</sup> Canada's Infant Feeding Joint Working Group has stated that "Breastfeeding—exclusively for the first six months, and continued for up to two years or longer with appropriate complementary feeding—is important for the nutrition, immunologic protection, growth, and development of infants and toddlers."<sup>4</sup> Breastfeeding also has benefits for patients, and the benefits for both patient and child are dose related (i.e., the benefits increase with increased breastfeeding).<sup>5–7</sup> With higher rates of breastfeeding initiation and duration and with the recommendation to continue breastfeeding for 2 years or longer, lactating and breastfeeding patients are increasingly seen in many areas of health care, including emergency departments, radiology suites, surgical departments, and other nonobstetric settings.

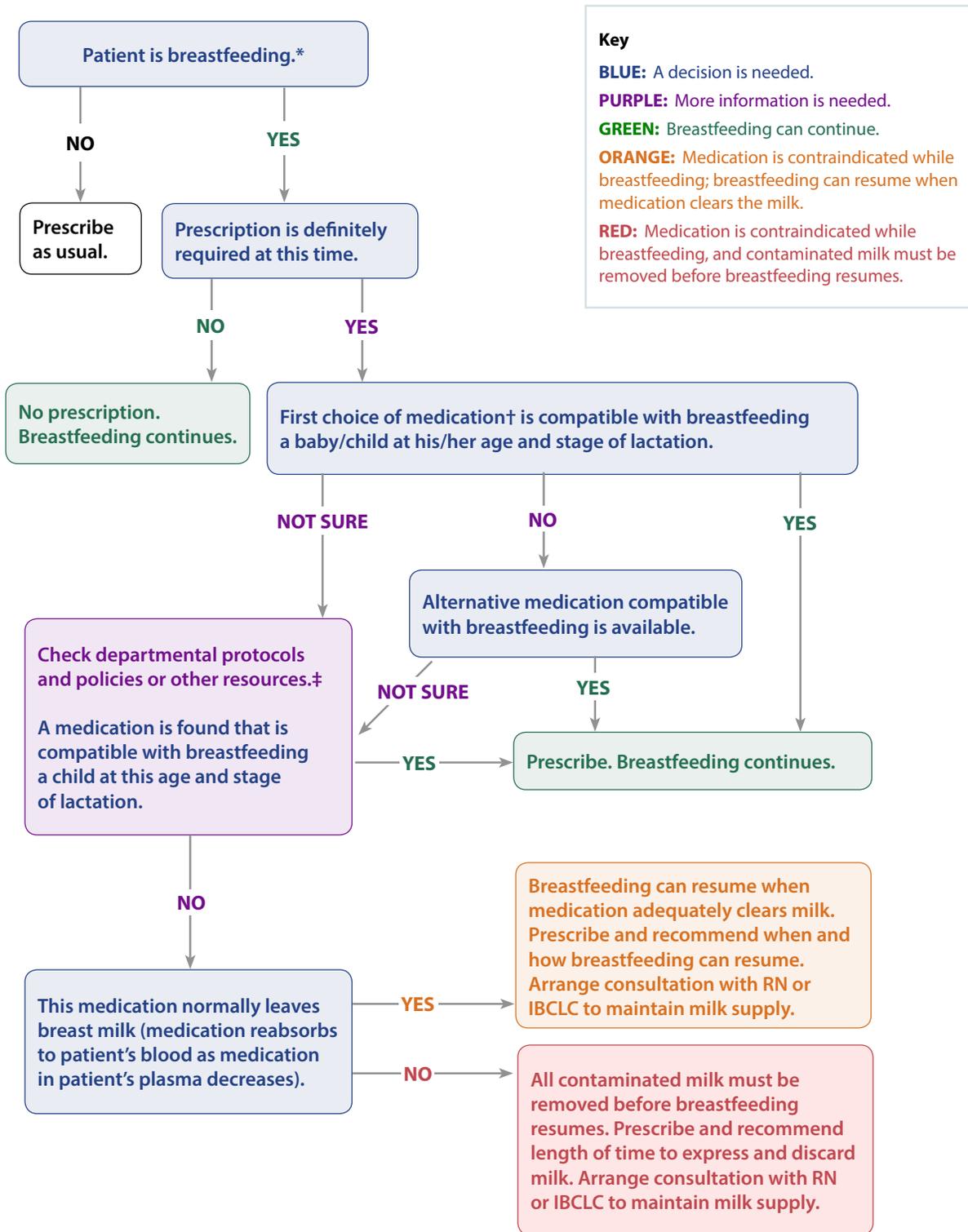
We developed a decision tree to provide guidance when patients who are lactating and breastfeeding need medications (Figure 1). This decision tree applies to any patient who is lactating (i.e., producing milk) and

breastfeeding a baby or child of any age, as well as to any patient who is expressing or pumping milk to be used for feeding immediately or stored for future use or donation. For the purpose of this decision tree, "medication" is an all-inclusive word referring to any drug used for treatment and any diagnostic agent, hormone, vaccine, herb, over-the-counter product, chemotherapeutic agent, or other substance. The action of "prescribing" encompasses all uses of medications in the course of patient care, whether on the basis of a written prescription or a recommendation or if required as an agent for diagnosis or treatment.

This decision tree has been designed for use by health care providers, especially those who do not specialize in lactation and breastfeeding but who provide care for patients who are lactating and breastfeeding. We recognize that babies and children who receive breast milk need to be kept healthy and safe, which means they should not be exposed to contraindicated medications through breast milk. At the same time, continued breastfeeding contributes to children's health and safety, and clinicians who are prescribing medications for patients should consider the risks associated with not breastfeeding.<sup>8</sup>

The decision tree does not deal with specific medications; rather, it has been designed for use with any medication. The first part of the decision tree promotes breastfeeding by considering it as the starting point. This section focuses on safety, first asking whether the patient is breastfeeding, and then questioning whether the medication is required at this time. For example, some medications that are used under normal circumstances can be delayed for a breastfeeding patient. Such a delay might promote breastfeeding by ensuring that patients do not wean their babies before they are ready to do so.

More often, a medication cannot be delayed, especially if the patient intends to breastfeed for an extended period. The second part of the decision tree therefore supports breastfeeding by suggesting that the clinician choose a medication compatible with lactation and breastfeeding. Here, clinicians must consider several factors, such as the oral bioavailability of the medication from the nursing's gut (where "nursling" means the child receiving breast milk), the age of the nursing, and the stage of lactation. With regard to bioavailability, during pregnancy, the blood of the fetus is in contact with the patient's blood, which allows the patient's medications to reach the fetus's blood directly.



\*Includes expressing/pumping breast milk to use or store.

† For example, drugs for treatment, diagnostic agents, hormones, vaccines.

‡ Additional resources: websites and telephone helplines, e.g., Lactmed (Drugs and Lactation Database, <http://toxnet.nlm.nih.gov/newtoxnet/lactmed.htm>), Medications and Mothers' Milk ([www.medsmilk.com](http://www.medsmilk.com)), Motherisk ([www.motherisk.org/women/index.jsp](http://www.motherisk.org/women/index.jsp)), MotherToBaby California ([www.mothersbabyca.org/](http://www.mothersbabyca.org/)).

Figure 1

**Prescribing for a lactating or breastfeeding patient: decision tree.** While this decision tree focuses on decisions about medications compatible with the breastfeeding baby or child, we recommend that clinicians also consider whether the medication will affect milk production and supply. RN = registered nurse; IBCLC = lactation consultant certified by the International Board of Lactation Consultant Examiners

Following birth, medications carried in the patient's milk must pass through the nursling's gut, where they may be destroyed before reaching the nursling's bloodstream. With regard to the nursling's age, the clinician should consider whether the nursling could take the medication directly. For example, a medication cautioned or contraindicated for an infant up to 6 months of age might be used to treat a 1- or 2-year-old child, and hence could be taken by a patient who is breastfeeding a child of this older age. With regard to the stage of lactation, the first week following birth is a period of particular vulnerability, as this is when lactation is being established, and medications can more easily pass from the patient's blood into the milk.<sup>9</sup>

The third and final section of the decision tree protects breastfeeding in the event that a clinician is considering a medication that is contraindicated while breastfeeding. To guide prescribing in this situation, clinicians should determine the half-life of the medication and whether the medication is diffused from breast milk.<sup>9</sup> There is a difference between a medication that will be reabsorbed from the milk into the patient's bloodstream and one that will not. In the first instance, when the patient's plasma level of the medication falls, the medication can move as easily from the milk back into the bloodstream as it moved from the bloodstream to the milk.<sup>9</sup> The half-life will determine when the contraindicated medication has left the bloodstream and, by extension, the milk. In the rarer instance of a contraindicated medication that does not diffuse back into the patient's bloodstream from the milk, the contaminated milk must be removed (i.e., by being expressed and discarded) to ensure the nursling is not exposed to it. In both situations, if breastfeeding is interrupted, patients will need help to maintain their milk supply and to preserve their breastfeeding relationships with their children.

Given current recommendations about extended duration of breastfeeding, it behooves all sectors of health care to support best practice. This decision tree is intended to assist in the decision-making process, particularly for those clinicians working in areas of health care not typically associated with breastfeeding support. To ensure appropriate prescribing for patients who are lactating and breastfeeding, we recommend that policies and procedures, reference books, websites, and helpline telephone numbers be kept updated and easily accessible. Careful consideration in the use of medications will benefit both patients and their infants.

**Contributors:** Joy Noel-Weiss suggested the decision tree, edited the first draft of the decision tree, incorporated suggestions for further revisions, and wrote the first draft of the manuscript. Susan Lepine drew up the first draft of the decision tree and provided further suggestions for revisions. Both authors made revisions of the manuscript up to and including final approval of the version to be published, and both authors agree to be accountable for all aspects of the work.

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## References

1. McNally E, Hendricks S, Horowitz I. A look at breast-feeding trends in Canada (1963–1982). *Can J Public Health* 1985;76(2):101–107.
2. Gionet L. Health at a glance: breastfeeding trends in Canada. Ottawa (ON): Statistics Canada; 2013. Available from: [www.statcan.gc.ca/pub/82-624-x/2013001/article/11879-eng.htm](http://www.statcan.gc.ca/pub/82-624-x/2013001/article/11879-eng.htm) (accessed 2014 Jul 3).
3. Millar WJ, Maclean H. Breastfeeding practices. *Health Rep* 2005; 16(2):23–31. Statistics Canada Catalogue no. 82-003-XIE.
4. Infant Feeding Joint Working Group. Nutrition for healthy term infants: recommendations from six to 24 months. A joint statement of Health Canada, Canadian Paediatric Society, Dietitians of Canada, and Breastfeeding Committee for Canada. Ottawa (ON): Health Canada; 2014. Available from: [www.hc-sc.gc.ca/fn-an/nutrition/infant-nourisson/recom/recom-6-24-months-6-24-mois-eng.php](http://www.hc-sc.gc.ca/fn-an/nutrition/infant-nourisson/recom/recom-6-24-months-6-24-mois-eng.php) (accessed 2014 Jul 3).
5. Shantakumar S, Terry MB, Teitelbaum SL, Britton JA, Millikan RC, Moorman PG, et al. Reproductive factors and breast cancer risk among older women. *Breast Cancer Res Treat* 2007;102(3):365–374.
6. Jackson KM, Nazar AM. Breastfeeding, the immune response, and long-term health. *J Am Osteopath Assoc* 2006;106(4):203–207.
7. Labbok MH, Clark D, Goldman AS. Breastfeeding: maintaining an irreplaceable immunological resource. *Nat Rev Immunol* 2004;4(7): 565–572.
8. Stuebe A. The risks of not breastfeeding for mothers and infants. *Rev Obstet Gynecol* 2009;2(4):222–231.
9. Hale T. Medications and mothers' milk: introduction. Plano (TX): Hale Publishing; 2014. Available from: [www.medsmilk.com/pages/introduction](http://www.medsmilk.com/pages/introduction) (accessed 2014 Jul 3).

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