

# Emergency Contraception in Wisconsin: A Review

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## ABSTRACT

Emergency contraception is used to prevent pregnancy in the event of unprotected sexual intercourse. The most common methods of emergency contraception are combination and progestin-only oral contraceptive pills. They are effective, safe, and have few side effects. Most physicians are aware of emergency contraception, yet it is not widely prescribed or used. The American Medical Association and the American College of Obstetricians and Gynecologists recommend providing information and access to emergency contraceptive pills at routine gynecologic visits. Evidence has shown that women provided with advance supplies of emergency contraceptive pills were more likely to use them. There is no evidence of increased sexual risk-taking behavior or reduction in use of regular birth control methods. It is estimated that with wider use of emergency contraceptive, nearly half of unplanned pregnancies and abortions could be prevented. Access and knowledge of emergency contraception are the biggest barriers to use. Many emergency departments in Wisconsin do not prescribe emergency contraception, making access for women in rural areas difficult. By increasing use of emergency contraceptive pills by improving access and improving patient knowledge, unplanned pregnancies and abortions may be reduced.

## INTRODUCTION

Emergency contraception (EC) is a means for women to prevent pregnancy after unprotected intercourse or after the known or suspected failure of a contraceptive method. Emergency contraception is also called “the

morning-after pill,” interception, and postcoital contraception. EC has been available in the United States for more than 30 years and has been shown to be safe and effective in preventing pregnancy.<sup>1</sup> Combination and progestin-only oral contraceptive pills are the most frequently used methods of emergency contraception. Other methods include danazol, synthetic estrogens and conjugated estrogens, antiprogestins, and the insertion of an intrauterine device. This article will focus on hormonal methods of emergency contraception.

Nearly half of all pregnancies are unintended. There were 3 million unintended pregnancies in the United States in 1994, the last year for which data is available.<sup>2</sup> Half of all unintended pregnancies end in abortion.<sup>2</sup> Women who continue a pregnancy that was unintended are less likely to get early prenatal care,<sup>3</sup> more likely to use alcohol during pregnancy,<sup>4</sup> and more likely to experience preterm labor.<sup>5</sup> Children who are born as a result of an unintended pregnancy are more likely to experience child abuse<sup>6</sup> and to have lower educational attainment.<sup>7</sup> Most unintended pregnancies occur among women who report using a method of birth control.<sup>2</sup> It is estimated that with wider use of EC, nearly half of unplanned pregnancies and abortions could be prevented.<sup>8</sup>

Early initiation is crucial to emergency contraceptive effectiveness, which makes timely access to an EC prescription and/or administration critical. Studies have shown that providing a prescription or package of emergency contraceptive pills in advance for women to keep on hand in case of future need improves use.<sup>9,10</sup> Both the American Medical Association and the American College of Obstetricians and Gynecologists (ACOG) recommend providing information and access to emergency contraceptive pills at routine gynecologic visits.<sup>11,12</sup>

Most physicians are aware of EC, yet it is not widely prescribed or used. According to a 2002 Kaiser Family Foundation study, only 25% of obstetricians/gynecologists and 14% of family physicians routinely discussed emergency contraception with patients.<sup>13</sup> According to that same study, only 6% of women had actually used

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emergency contraceptive pills.<sup>13</sup> More than 40% of women surveyed in another study said they would have been more likely to use emergency contraception if it was on a doctor's recommendation, or if they had it at home when they needed it.<sup>14</sup> The Wisconsin Reproductive Access Project found that only half of Wisconsin emergency departments routinely prescribe EC, and 25% will not prescribe EC to victims of sexual assault.<sup>15</sup>

This article will review the most common methods of EC, issues surrounding availability of EC, barriers to prescribing EC, and ongoing efforts in Wisconsin to improve education and use of EC.

## TYPES OF EMERGENCY CONTRACEPTION COMMONLY USED

### *Oral Emergency Contraceptive Pills (ECPs)*

#### **Yuzpe Method/Combined Oral Contraceptive Pills—**

Combined emergency contraceptive pills are birth control pills containing both estrogen and progestin. The hormones that have been studied exclusively in clinical trials of ECPs are the estrogen ethinyl estradiol and the progestin levonorgestrel. These are found in numerous brands of combined oral contraceptives (OCPs) available in the United States. This regimen is also called the Yuzpe method, after the Canadian physician who first described the regimen in 1974.<sup>16</sup> The Preven Emergency Contraceptive Kit was approved for EC by the FDA in 1997, but is no longer being manufactured. Clinicians can still use combination OCPs for emergency contraception (Table 1). The Yuzpe regimen consists of 2 doses of pills, taken 12 hours apart. They are most effective if used within 72 hours of unprotected intercourse.

The most common side effects of combination ECPs are nausea and vomiting. Nausea occurs in 50% of patients who use combination oral contraceptives for EC.<sup>17</sup> It may occur after either dose of medication and usually lasts for <2 days. Emesis occurs in 19% of patients.<sup>17</sup> The incidence and severity of nausea and vomiting are decreased when antiemetic agents are taken 1 hour before the first contraceptive dose. Common antiemetic regimens include Meclizine 25-50 mg, Promethazine 25 mg, or Trimethobenzamide 250 mg, 1 hour before each dose. If vomiting does occur within 1 hour of ingestion, a repeat dose is necessary.<sup>18</sup>

**Progestin-Only**—The most common progestin-only method is Plan B, which was approved for use as EC by the FDA in 1999. It consists of 2 doses of 0.75 mg of levonorgestrel, the first to be taken up to 72 hours after unprotected intercourse and the second 12 hours later. Recent data demonstrates that a single dose of 1.5 mg of progestin is as effective as dividing the dose

**Table 1.** Oral Contraceptive Pills to Use as Emergency Contraception<sup>18</sup>

Brand	Pills per Dose*	Ethinyl estradiol per dose (mcg)	Levonorgestrel per dose (mg)
Alesse	5 pink pills	100	0.50
Aviane	5 orange pills	100	0.50
Levlen	4 orange pills	120	0.60
Levlite	5 pink pills	100	0.50
Levora	4 white pills	120	0.60
Low-Ogestrel	4 white pills	120	0.60
Lo/Ovral	4 white pills	120	0.60
Nordette	4 orange pills	120	0.60
Ogestrel	2 white pills	100	0.50
Ovral	2 white pills	100	0.50
Ovrette†	20 yellow pills	0	0.75
Tri-Levlen	4 yellow pills	120	0.50
Triphasil	4 yellow pills	120	0.50
Trivora	4 pink pills	120	0.50

\* Two doses of all regimens need to be taken 12 hours apart.

† If Ovrette is dosed all at once like Plan B is, then a total of 40 pills would have to be taken.

and does not cause more side effects.<sup>19,20</sup> Plan B is more effective than the Yuzpe method and is associated with less nausea and vomiting (23% and 6% respectively).<sup>17</sup> Ovrette oral contraceptive pills can also be used as progestin only EC, but this method requires taking 40 pills at once.

**Effectiveness**—Used correctly, ECPs can decrease the risk of pregnancy by 75% or more.<sup>21,22</sup> The expected rate of pregnancy after 1 episode of mid-cycle unprotected intercourse is about 8%. With the use of combined oral contraceptive pills the rate is 2% and with progestin-only pills the rate is 1%. So, if 100 women had unprotected intercourse at mid-cycle, EC would reduce the number of expected pregnancies from 8 to 1 or 2.<sup>23</sup> A large, multi-centered trial conducted by the World Health Organization (WHO) found that treatment with progestin-only EC remains effective when initiated up to 5 days after unprotected intercourse. However, large randomized controlled trials of these EC methods found that delaying the first dose by even 12 hours increased the chance of pregnancy by almost 50%.<sup>24</sup> Based on these studies, the single dose Plan B is now the most effective method of EC available.

**Mechanism of Action**—As with oral contraceptive pills, a single mechanism of action of EC has not been established. Inhibition or delay in ovulation and insufficient corpus luteum have been reported in some women.<sup>25</sup> Some studies have reported histologic or

biochemical changes within the endometrium, which may result in failure of nidation.<sup>26</sup> Recent studies in monkeys and rats found that if levonorgestrel was given before ovulation it delayed ovulation. If it was given after ovulation, there was no difference in pregnancy rates compared to placebo.<sup>27-29</sup> Other possible mechanisms of action have been postulated, such as thickened cervical mucus, alteration in tubal transport, and inhibition of fertilization, but these have not been clinically demonstrated.<sup>30</sup>

Emergency contraception is not medical abortion. It does not interrupt an established pregnancy defined by the Department of Health and Human Services as beginning with implantation.<sup>31</sup> However, those people who believe that pregnancy begins with fertilization may want to avoid EC as they do oral contraceptive pills. No studies have investigated teratogenic effects associated with the use of oral emergency contraception, however, numerous studies of the teratogenic risk of conception during the regular, daily use of oral contraceptives found no increase in risk.<sup>32</sup> There is no data suggesting an increased risk of any hormone dependent cancer from use of EC.

**Contraindications**—According to the WHO, pre-existing pregnancy is the only absolute contraindication to ECPs due to the ineffectiveness of the method.<sup>33</sup> Due to the high dose of estrogenic combination ECPs may not be appropriate in a woman with an active migraine with neurologic symptoms.

**Patient Counseling**—Up to 98% of women who use ECPs will bleed within 21 days of use. If there are no menses after 3 weeks of use, pregnancy should be excluded. It is also important to discuss future contraceptive needs and STD risk. In all situations, a screen for sexual violence is warranted, as is follow up with a primary care professional to discuss more reliable contraception.

## AVAILABILITY OF EMERGENCY CONTRACEPTION

ECPs are available either over the counter or from pharmacists without needing a prescription from a clinician in 25 countries worldwide and in 6 states in the United States (California, Alaska, Washington, New Mexico, Hawaii, and Maine). In May 2004, the FDA rejected Barr Pharmaceutical's application for nonprescription sale of Plan B, going against the recommendation of its scientific committee. In September 2005, the FDA delayed indefinitely a decision on Barr's revised application for over-the-counter status for Plan B for women

over 17 years of age. The Wisconsin Assembly passed a bill in June 2005 barring all University of Wisconsin student health service offices from prescribing EC. This bill has not yet been heard in the state senate.

The Wisconsin Family Planning and Reproductive Health Association has activated a toll-free telephone hotline to allow women across the state access to ECPs that can be delivered to their homes overnight. The hotline is staffed by a nurse at a Wausau clinic who directs callers to the nearest family planning clinic or prescribes ECPs over the phone after conducting a health assessment.

Several studies have shown that women provided with prescriptions or supplies of ECPs to have on hand for future use were more likely to use the pills than women who received counseling alone. In addition, these studies did not show that ECPs were used repeatedly, or that other methods of contraception were not used.<sup>9,34,35</sup> These same results have been found in the teenage population. A study done on advanced provisions to teens at an urban, hospital-based clinic showed that the teens who received advance provisions were twice as likely as the control group to use EC.<sup>10,36</sup> No detrimental effects on condom or hormonal contraceptive use and no increase in unprotected intercourse were found.<sup>10</sup> EC has not been found to promote sexual risk-taking behavior, or to encourage women to use reliable contraception less.<sup>9</sup> It has not been found to be used as a replacement for other birth control methods.<sup>9</sup> A large population-based study done in Britain, where EC has been available over the counter since 2001, also did not show decreases in use of other contraception.<sup>37</sup>

Emergency contraception can be prescribed by telephone. ACOG recommends patient screening with 3 questions: (1) Have you had unprotected sex or a problem with your birth control (such as condom breakage) during the last 3 days (rule out sexual assault)? (2) Did your last menstrual period begin less than 4 weeks ago? and (3) Was the timing and duration of your last menstrual period normal? If the patient responds "yes" to all 3 questions, a clinician may prescribe emergency contraception over the telephone.<sup>12</sup>

## BARRIERS TO EC

The biggest barriers to EC are: (1) women's lack of knowledge of this method for preventing unintended pregnancy, (2) lack of counseling from health care professionals, and (3) availability. In 1 survey, while 77% of women in an inner city emergency department knew about EC, only 26% knew the 72-hour time frame.<sup>38</sup>

Few physicians discuss EC with patients routinely.

The results of an unpublished 2004 survey conducted among Madison, Wis health care professionals showed that 78% were familiar with ECPs but only 28% counseled patients about ECPs during routine contraception counseling. And only 75% discussed ECPs even when asked by the patient.<sup>39</sup>

In 2001, the Wisconsin Reproductive Access Project (WRAP), a study by the NARAL Pro-Choice Wisconsin Foundation, was undertaken to gather data about access to EC in hospital emergency departments around Wisconsin. Through a telephone survey of the 105 hospitals in Wisconsin that provide obstetric and gynecological care, the study looked at a woman's ability to obtain EC in an emergency department. Only 51% of respondents reported that their hospitals prescribe emergency contraception in all cases. Twenty-eight percent said that their hospitals dispensed emergency contraception only for sexual assault victims. Of the hospitals who did not prescribe EC, 47% were willing to provide a referral to another hospital that did.<sup>15</sup>

## IMPROVING PATIENT KNOWLEDGE AND ACCESS IN WISCONSIN

Health care professionals are one of the most important resources for patients regarding EC. Patient knowledge and use of EC can be significantly improved if health care professionals adopt a policy to offer education and advanced prescription for EC at the time of a preventative health visit.

The NARAL Pro-Choice Wisconsin Foundation Provider EC Education Project (PEEP) has been established specifically to educate health care professionals about EC and to encourage advance prescription of EC to minimize emergency department use. The goal is to address perceived barriers to use of EC among health care professionals, educate primary clinicians about the benefits of advance prescription, and provide resources for clinicians.

## CONCLUSION

Emergency contraception provides a significant opportunity to avoid unintended pregnancy. Increasing education and use of emergency contraception pills has the potential to decrease both unplanned pregnancies and abortions. Wisconsin health care professionals can improve efforts to educate patients about ECPs and improve access and use by (1) incorporating counseling and educational materials about ECPs into every preventive health and contraceptive visit, (2) providing advance supplies of ECPs to patients, (3) ensuring a back-up partner is on call for EC requests when the

### Resources: Emergency Contraception

#### Hotlines

888.NOT.2.Late or 800.584.9911

#### Web Sites

[www.NOT-2-Late.org](http://www.NOT-2-Late.org)

([www.ec.princeton.edu/](http://www.ec.princeton.edu/))

[www.PREVEN.com](http://www.PREVEN.com)

<http://kaisernetwork.org>

<http://cecinfo/html/updates.htm>

[www.acog.org](http://www.acog.org)

primary call partner is not willing to prescribe it, and (4) supporting over-the-counter status of ECPs.

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