Tips from Other Journals

Tips from Other Journals are written by the medical editors of *American Family Physician*.

The trade names of drugs listed in Tips from Other Journals are based on what is currently available and not necessarily the brand of drug that was used in the study being discussed.

Chlorhexidine-Alcohol Antiseptic Reduces Surgical Site Infections

Background: The relative ability of different skin antiseptics to reduce postsurgical infection has not been well studied. Povidone-iodine (Betadine) is widely used in the United States, but chlorhexidine (Peridex)–based agents have recently been shown to reduce vascular catheterization infection rates by about 50 percent compared with povidone. However, no recommendations exist for the preoperative use of specific antiseptic agents. Darouiche and colleagues compared the effectiveness of antiseptic agents in preventing surgical site infections.

The Study: The authors prospectively examined the relative merits of 10% povidone-iodine and 2% chlorhexidine gluconate with 70% isopropyl alcohol in reducing surgical site infections. Adult patients were randomized to have their surgical sites preoperatively scrubbed with either agent. All patients were undergoing clean-contaminated surgery (e.g., gastrointestinal, thoracic), and received systemic prophylactic antibiotics within one hour before the initial incision. The primary end point was surgical-site infection within 30 days, with secondary end points reviewing specific types of postsurgical infections.

Results: A total of 849 patients were randomized to receive a povidone-iodine or a chlorhexidine with isopropyl alcohol skin scrubbing. Participants in both groups had similar baseline traits, presurgical prophylactic antibiotics, and surgery types. The chlorhexidine group had a significantly lower postsurgical infection rate than persons receiving povidone-iodine (9.5 versus 16.1 percent; relative risk [RR] = 0.59). Fewer superficial (RR = 0.48) and deep incisional (RR = 0.33) infections occurred in the chlorhexidine group, although the incidence of organ-space infection and sepsis were similar between groups. Three patients in each study group reported local reactions at the wound site, such as pruritus or erythema, but no serious adverse events were reported.

Conclusion: The authors conclude that using chlorhexidine-alcohol antiseptic before surgery reduced the risk of surgical site infection by 41 percent, compared with povidone-iodine. Although no episodes of fire or chemical skin burn occurred in the study, the authors caution that this is a potential risk when using alcohol-based agents.

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Source: Darouiche RO, et al. Chlorhexidine–alcohol versus povidone–iodine for surgical-site antisepsis. *N Engl J Med.* January 7, 2010;362(1):18-26.

Safety of Psychotropic Medications in Breastfeeding

Background: The benefits of breastfeeding for both mother and infant are well documented. The World Health Organization recommends exclusive breastfeeding for the first four to six months of life and its continuation for one to two years thereafter. Advocacy for breastfeeding has led to increased breastfeeding rates worldwide; however, more than 50 percent of breastfeeding women take some sort of drug, and data on excretion of drugs into breast milk and possible effects on infants are often limited or unavailable. This uncertainty is especially true of psychotropic medications. Psychiatric disorders complicate an estimated 500,000 pregnancies in the United States annually; therefore, more accurate drug data are needed to better evaluate the safety of psychotropic medications in newborns. Fortinguerra and colleagues systematically reviewed the literature to provide updated and more comprehensive data on infant exposure and adverse events to various categories of psychotropic medications.

The Study: The authors evaluated original and review articles retrieved through Medline (1967 through July 2008), EMBASE (1975 through July 2008), and PsychINFO (1967 through July 2008); all bibliographies from these articles were also searched to determine additional pertinent studies. The manufacturers were contacted directly for information on drugs that had no published studies. The following data were included from reviewed articles: maternal dosage; number of mother-infant pairs studied; the milk-to-plasma ratio; the relative infant dosage

Table. Breastfeeding Compatibility with Psychotropic Drugs

Drug class	*Compatible*	*Caution*	*Contraindicated*
Antiepileptics	Carbamazepine (Tegretol) Phenytoin (Dilantin) Valproic acid (Depakene)	Clonazepam (Klonopin) Gabapentin (Neurontin) Oxcarbazepine (Trileptal)	Ethosuximide (Zarontin) Lamotrigine (Lamictal) Levetiracetam (Keppra) Phenobarbital Primidone (Mysoline) Topiramate (Topamax) Zonisamide (Zonegran)
Antipsychotics	Chlorpromazine Haloperidol (formerly Haldol) Olanzapine (Zyprexa)	Aripiprazole (Abilify) Quetiapine (Seroquel) Risperidone (Risperdal)	Clozapine (Clozaril) Lithium
Anxiolytics		Alprazolam (Xanax) Clorazepate (Tranxene) Lorazepam (Ativan) Oxazepam	Diazepam (Valium)
Hypnotics and sedatives	Zaleplon (Sonata) Zolpidem (Ambien)	Midazolam Temazepam (Restoril)	
Psychostimulants		Methylphenidate (Ritalin)	
Selective serotonin reuptake inhibitors	Fluvoxamine Paroxetine (Paxil) Sertraline (Zoloft)		Citalopram (Celexa) Escitalopram (Lexapro) Fluoxetine (Prozac)
Tricyclic antidepressants	Amitriptyline Clomipramine (Anafranil) Imipramine (Tofranil)	Desipramine (Norpramin) Maprotiline Nortriptyline (Pamelor) Trazodone	
Other antidepressants	Hypericum perforatum (St. John's wort) Mirtazapine (Remeron) Venlafaxine (Effexor)	Duloxetine (Cymbalta)	

received through breast milk; and infant adverse events. To determine each drug's compatibility with breastfeeding, the pharmacokinetic characteristics, excretion in breast milk, number of treatment days at sampling, and the incidence and type of adverse events in infants were considered. Drugs were categorized in the following way: as compatible if the relative infant dosage was less than 10 percent of the maternal dosage and no adverse events were reported; as a caution drug if there were no available data to confirm the safety or risk of the accumulated drug with prolonged use; or as contraindicated if the relative infant dosage was more than 10 percent of the maternal dosage and adverse events were reported in breastfed infants.

Results: The literature review produced 183 original articles for evaluation, which revealed data for 62 of the 96 psychotropic drugs. The remaining 34 medications had no data (including from the manufacturers) on their safety in breastfeeding and were considered contraindicated. Of the 62 drugs for which there were data, 15 were contraindicated because of elevated exposure levels or adverse events in infants. Consequently, 19 drugs can be used during lactation, and 28 have insufficient data to evaluate. Among the drug subclasses, selective serotonin reuptake inhibitors were most thoroughly studied; because of their low level of excretion in breast milk, sertraline (Zoloft), paroxetine (Paxil), and fluvoxamine were found to be first-choice medications for breastfeeding mothers. Conversely, citalopram (Celexa), escitalopram (Lexapro), and fluoxetine (Prozac) were contraindicated because of a longer half-life, adverse effects, and a higher relative infant dosage *(see accompanying table)*.

Conclusion: The authors conclude that safety data for psychotropic medications in breastfeeding vary widely. Although many of these drugs are compatible with breastfeeding, no class effect applies, so potential pharmacologic therapies need to be addressed on an individual basis.

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Source: Fortinguerra F, et al. Psychotropic drug use during breastfeeding: a review of the evidence. *Pediatrics.* October 2009;124(4):e547-e556.