Antidepressant Medication Chart

This chart is intended for clinicians who provide primary care to pregnant and postpartum women.

Data current as of April 2008
See reverse side for notes.

Antidepressants	Usual Daily Dose (1)	Benefits	Risks	Breastfeeding [Relative infant dose=RID] (2)	Breastfeeding Half-life ($t_{1/2}$)/metabolites	Breastfeeding Reported side effects in breastfed infants (3)
DRUG CLASS: Selective Serotonin Reuptake Inhibitors (SSRIs) *						
Citalopram (Celexa®)	20-40mg	• No adverse morphologic consequences for infant found • Few interactions with other medications	• Behavioral consequences for infant unknown • Maternal side effects include nausea, insomnia, dizziness, and somnolence	3.6%	• Drug has intermediate $t_{1/2}$ (1-2 days) • 3 weak metabolites with little activity	• Somnolence • Decreased feeding • Weight loss
Escitalopram (Lexapro®)	10-20mg	• Few interactions with other medications	• No systematic studies in human pregnancy • Morphologic and behavioral consequences for infant unknown • Maternal side effects include nausea, insomnia, somnolence, dizziness, fatigue, diarrhea, sexual dysfunction, and dry mouth	5.3%	• Drug and active metabolite have intermediate $t_{1/2}$ (1-2 days)	• Somnolence • Decreased feeding • Weight loss
Fluoxetine (Prozac®)	20-60mg	• More studies in human pregnancy, including meta-analysis and neurodevelopmental follow-up • No adverse morphologic consequences for infant found • No adverse behavioral consequences for infant found	• More reports of neonatal side effects than some other antidepressants • Maternal side effects include nausea, drowsiness, and sexual dysfunction • Possible drug interactions	6.8%	• Drug and active metabolites have very long $t_{1/2}$ (days to weeks) • Serum levels similar to those in adults reported in some symptomatic infants	• Severe colic • Fussiness • Crying
Fluvoxamine (Luvox®)	50-200mg	• No adverse morphologic consequences for infant found	• Behavioral consequences for infant unknown • Maternal side effects include nausea, drowsiness, anorexia, anxiety, and sexual dysfunction • Possible drug interactions	1.3%	• Drug has short $t_{1/2}$ (hours) • Major metabolite not active	• No reported concerns
Paroxetine (Paxil®)	20-60mg	• None--avoid during pregnancy if possible	• Possible association with cardiovascular malformations in infant • Behavioral consequences for infant unknown • More reports of neonatal side effects than most other antidepressants • Maternal side effects include nausea, drowsiness, fatigue, dizziness, and sexual dysfunction.	2.1%	• Drug has relatively short $t_{1/2}$, but variable (hours to days) • No active metabolites	• Numerous studies suggest minimal to no effect on breastfed infants
Sertraline (Zoloft®)	50-200mg	• Relatively well-studied in human pregnancy • No adverse behavioral consequences for infants found • Fewer reports of neonatal side effects than other antidepressants	• Possible specific association with omphalocele and septal defects • Maternal side effects include nausea, loose stools, tremors, insomnia, and sexual dysfunction • Possible drug interactions	2.2%	• Drug and weakly active metabolite have intermediate $t_{1/2}$ (1-2 days) • Generally not detectable in infants	• 1 report of benign neonatal sleep myoclonus (relationship unknown)
DRUG CLASS: Tricyclic Antidepressants (TCAs)						
Desipramine (Norpramin®)	100-300mg	• More studies in human pregnancy, including neurodevelopmental follow-up • No adverse morphologic consequences for infant found • No adverse behavioral consequences for infant found • May be useful if sedation desired	• Fetal and neonatal side effects include tachycardia and urinary retention • Maternal side effects include sedation, weight gain, dry mouth, constipation, and orthostatic hypotension--baseline ECG recommended • Possible drug interactions	1%	• Drug and active metabolite have intermediate $t_{1/2}$ (1-2 days) • Not detected in infants	• No reported adverse events in infants found
Nortriptyline (Pamelor®)	50-150mg	• More studies in human pregnancy, including neurodevelopmental follow-up • No adverse morphologic consequences for infant found • No adverse behavioral consequences for infant found • May be useful if sedation desired	• Fetal and neonatal side effects include tachycardia and urinary retention • Maternal side effects include sedation, weight gain, dry mouth, constipation, and orthostatic hypotension--baseline ECG recommended • Possible drug interactions	1.5%	• Drug has intermediate $t_{1/2}$ ($\geq$1 day) • No active metabolites • Not detected in infants	• No reported adverse events in infants found
DRUG CLASS: Serotonin Norepinephrine Reuptake Inhibitors (SNRIs)						
Duloxetine (Cymbalta®)	40-60mg	• Balanced antidepressant; may be effective when selective agents are not	• No systematic studies in human pregnancy • Morphologic and behavioral consequences for infant unknown • Common side effects include nausea, dry mouth, constipation, diarrhea, vomiting, decreased appetite, fatigue, dizziness ,somnolence, tremors, sweating, blurred vision, and insomnia	Unknown	• Drug has short $t_{1/2}$ (hours) • No active metabolites	• No data in breastfeeding available
Venlafaxine (Effexor®)	75-300mg	• Balanced antidepressant; may be effective when selective agents are not • No adverse morphologic consequences for infant found	• No behavioral studies in human pregnancy • Behavioral consequences for infant unknown • Maternal side effects include nausea, sweating, dry mouth, dizziness, insomnia, somnolence, and sexual dysfunction	6.4%	• Drug and active metabolite have short $t_{1/2}$ (hours)	• Detectable plasma levels in several breastfed infants were not associated with any adverse effects
DRUG CLASS: Other						
Bupropion (Wellbutrin®)	300-450mg	• No adverse morphologic consequences for infant found • Helps with smoking cessation (never tested in pregnancy)	• May increase risk of miscarriage • Behavioral consequences for infant unknown • Maternal side effects include dizziness, headache, dry mouth, sweating, tremor, agitation, insomnia, and rare seizures • Possible drug interactions	0.6-2%	• Drug and active metabolite have intermediate $t_{1/2}$ (~ 1 day) • Plasma levels undetectable in breastfed infant	• One reported case of seizure in a 6 month old
Mirtazapine (Remeron®)	15-45mg	• No adverse morphologic consequences for infant found • Helps restore appetite in women who are not gaining weight • Less likely to exacerbate nausea and vomiting	• May increase risk of preterm birth • Behavioral consequences for infant unknown • Maternal side effects include somnolence, nausea, weight gain, and dizziness	1.9%	• Drug and active metabolite have intermediate $t_{1/2}$ (~ 1 day) • Very low plasma level detected in 1 of 3 infants tested	• No published reports of adverse effects • Observe for sedation

Notes

(1) Dosage information taken from *Treatment Guidelines from The Medical Letter®: Drugs for Psychiatric Disorders.* July 2003; 1(11): 69-76.

Table based on Wisner et al *N Eng J Med,* Vol. 347, No. 3, July 18, 2002, pg. 196 and related articles.

Breastfeeding information from Hale, T.W. (2006). *Medications and Mothers' Milk* (12th ed.) and *Micromedix®* Healthcare Series. 1974-2008. Greenwood Village, Colo: Thomson Healthcare.

Clinicians may consider initiating treatment with these agents at half of the lowest recommended therapeutic dose. Treatment decisions should be based on patient characteristics and clinical judgment. Recommended dosages can be found in the most recent editions of the *Physician's Desk Reference* and the *Drug Information Handbook*.

(2) A relative infant dose < 10% is generally considered safe to breastfeed; however, all infants must be observed for adverse events during maternal drug therapy.

(3) Reported side effects in breastfeeding infants are based on case reports and case series.

* All SSRI antidepressants (citalopram, escitalopram, fluoxetine, paroxetine, sertraline) may be associated with the following risks: possible increased risk of miscarriage; gestational age decreased by an average of one week; possible increased risk of persistent pulmonary hypertension in the newborn with exposure after 20 weeks gestation, although no teratogenicity has been found in prospective, controlled studies or meta-analyses. One case-control study found a possible increased risk of anencephaly, craniosynostosis and omphalocele, and a retrospective prescription events monitoring study found an increased risk of anomalies in general; absolute risks were small.

- Medications vary in the amount and quality of data available about effects in human pregnancy. A better-studied medication may have more reported side effects than a less-studied medication because more is known about it, not necessarily because it is riskier.
- Data presented here are based on studies during human pregnancy. The Food and Drug Administration's Pregnancy Risk Categories, as found in the *Physician's Desk Reference*, are based on a combination of animal and human studies.

General Notes:

This document reflects emerging clinical and scientific advances as of the date issued and is subject to change. The information should not be construed as dictating an exclusive course of treatment or procedure to be followed. Variations in practice may be warranted based on the needs of the individual patient, resources, and limitations unique to the institution or type of practice.

- Risks of antidepressants during pregnancy and lactation must be weighed against the risks of untreated symptoms. Treatment needs to be individualized.
- Monitor for dose adjustment through pregnancy. The dose of the medication may need to be increased to maintain response.
- All antidepressants, if abruptly discontinued during pregnancy or at the time of birth, can lead to discontinuation side effects in the fetus or neonate. These signs can include respiratory distress, excessive crying, changes in sleep and behavioral state, difficulty feeding, increased or decreased tone, hyperreflexia, seizures, or cardiac arrhythmias. Discontinuation side effects can be minimized by a partial dose taper during the last month of pregnancy, if the patient is asymptomatic, with a return to full dose after delivery to prevent postpartum recurrence.
- See also ACOG Practice Bulletin No. 92: Use of psychiatric medications during pregnancy and lactation. (Apr. 2008) *Obstetrics and Gynecology* 111(5): 1001-1020.
- If patient is on other medications, consult with a pharmacist or other appropriate specialists for interaction information.
- For more information on SSRIs and congenital birth defects see: Use of selective serotonin-reuptake inhibitors in pregnancy and the risk of birth defects. *N Eng J Med*, Vol. 356, No. 26, June 28, 2007, pg. 2684-2692 and related articles.

Breastfeeding and Medications: Maternal Considerations

1. Avoid random switching of medications based on data alone. Choose drugs for which published data is available, rather than those recently introduced.
2. Most drugs are quite safe in breastfeeding mothers. The risk of not breastfeeding and instead using infant formula is much higher for the infant.
3. If the Relative Infant Dose (RID) is less than 10%, most medications are quite safe to use. The RID of the vast majority of drugs is <1%.
4. Choose drugs with a short half-life, high protein binding, low oral availability, or high molecular weight.
5. Medications used in the first 3-4 days postpartum generally produce sub-clinical levels in the infant due to the limited volume of milk.
6. Avoid using medications when possible. Herbal drugs, high dose vitamins, unusual supplements, etc. that are simply not necessary should be avoided.

Adapted from Hale, T.W. (2006). *Medications and Mothers' Milk* (12th ed.).

Breastfeeding and Medications: Neonatal Considerations

1. **Evaluate the infant for risks:** Be slightly more cautious with premature infants or neonates. Be less concerned about older infants.
2. **Inquire about the infant:** Always inquire about the infant's age, size, and stability. This is perhaps the most important criteria to be evaluated prior to using the medication.
3. **Infant age:** Premature and newborn infants are at somewhat greater risk. Older mature infants can metabolize and clear medications much easier.
4. **Infant stability:** Unstable infants with poor GI stability may increase the risk of using medications.
5. **Pediatric Approved Drugs:** These generally are less hazardous if long-term history of safety is recognized.

Adapted from Hale, T.W. (2006). *Medications and Mothers' Milk* (12th ed.).

This chart was compiled by a multidisciplinary work group of leaders in their respective disciplines including OB/GYN, family practice, psychiatry, nursing, genetics, and pharmacy, practicing in Wisconsin and representing WAPC and/or the Wisconsin Section of ACOG.

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