This chart is produced by the University of Illinois at Chicago (UIC) Perinatal Mental Health Project as a summary of research on antidepressants in human pregnancy and breastfeeding.

Sources of data:

- **Pregnancy data:** Data presented here are based on controlled studies during human pregnancy. The Food and Drug Administration (FDA) Pregnancy Risk Categories, as found in the Physician’s Desk Reference, are based on a combination of animal and human studies. FDA pregnancy risk categories have limitations. No medication is yet specifically FDA-approved for use during pregnancy. All psychotropic medications cross the placenta, so are never Category A (“no risk”). Medications that are non-teratogenic in animal studies but have never been studied in humans are classified as “Category B”. Since teratogenicity does not generalize across species, it is misleading to think that “Category B” medications are “safer” for women than Category C or D medications. Several medications have been shifted from Category B to C or D as their risks become better studied and better understood.

- **Breastfeeding data:** Data about the side effects to breastfeeding babies is based on limited case reports and case studies. In cases where no side effects have been reported, that does not necessarily mean the medication does not cause side effects; often it means there are few case reports available. The estimated percents of maternal dose to breastfeeding babies are weight-adjusted estimates that include the agent and its active metabolite(s).

General guidelines:

- Treatment needs to be based on individual patient characteristics and clinical judgment.
- Risks of antidepressants during pregnancy and lactation must be weighed against the risks of untreated illness. Risks of untreated perinatal depression may include preterm birth and other obstetric complications, increased risk of infection and more difficult temperament in the infant, impaired parenting, and impaired cognitive development, emotional and behavioral problems and increased reactivity to stress in children.

All antidepressants may be associated with following risks:

- Gestational age decreased by an average of one week.
- Possible increased risk of miscarriage, but rates within norms of the general population.

All SSRI antidepressants (citalopram, escitalopram, fluoxetine, paroxetine, sertraline) may be associated with the following risks:

- Possible increased risk of persistent pulmonary hypertension in the newborn with exposure later in pregnancy.
- Risk of neonatal side effects such as respiratory distress, excessive crying, changes in sleep and behavioral state, difficulty sleeping, increased or decreased muscle tone, hyperreflexia, seizures or cardiac arrhythmias.
- Most studies have found no increased risk of birth defects from SSRI antidepressants as a group. One retrospective case control study found a possible increased risk of anencephaly, craniosynostosis and omphalocele, and a retrospective prescription event monitoring study found an increased risk of anomalies in general: absolute risks were small.
- For dosing strategies during pregnancy please refer to: [www.psych.uic.edu/research/perinatalmentalhealth/pdf/Miller_et_al_Balancing_Risks.pdf](http://www.psych.uic.edu/research/perinatalmentalhealth/pdf/Miller_et_al_Balancing_Risks.pdf)

For questions, references, or permission to reprint, call the UIC Perinatal Mental Health Project at 1-800-573-6121 or visit [www.psych.uic.edu/research/perinatalmentalhealth](http://www.psych.uic.edu/research/perinatalmentalhealth/)

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<th>Antidepressants</th>
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| Bupropion       | • Fewer sexual side effects  
• Less risk of weight gain  
• Helps with smoking cessation | Morphologic – none found  
Behavioral – unknown | • Limited data available  
• Lowers seizure threshold  
• Can cause insomnia  
• May increase risk of miscarriage | 2%  
Seizures | |
| Citalopram      | • Few interactions with other medications | Morphologic – none found  
Behavioral – none found | • Limited data available | 0.7% -9.0%  
Uneasy sleep, drowsiness, irritability, weight loss | |
| Desipramine     | • More studies in human pregnancy, including neurodevelopmental follow-up | Morphologic – none found  
Behavioral – none found | • Maternal side effects additive to pregnancy effects (sedation, constipation, tachycardia)  
• Orthostatic hypotension, risking decreased placental perfusion  
• Fetal and neonatal side effects: tachycardia, urinary retention | 1.0%  
None | |
| Duloxetine      | • Also treats diabetic peripheral neuropathic pain | Morphologic – unknown  
Behavioral – unknown | • No systematic studies in human pregnancy | 0.14%  
Unknown | |
| Escitalopram    | • Few interactions with other medications | Morphologic – unknown  
Behavioral – unknown | • No systematic studies in human pregnancy | 3.9% - 7.9%  
Enterooclitis | |
| Fluoxetine      | • More studies in human pregnancy, including meta-analysis and neurodevelopmental follow-up | Morphologic – unlikely increased risk of cardiovascular malformations*  
Behavioral – none found | • More reports of neonatal side effects than some other antidepressants | 1.2% - 12.0%  
Excessive crying, irritability, vomiting, watery stools, difficulty sleeping, tremor, somnolence, hypotonia, decreased weight gain, hyperglycemia | |
| Mirtazapine     | • Fewer sexual side effects  
• Helps restore appetite in women who are not gaining weight  
• Less likely to exacerbate nausea and vomiting | Morphologic – none found  
Behavioral - unknown | • Limited data available  
• Can cause excessive weight gain  
• Tends to be sedating  
• May increase risk of preterm birth | 0.6% - 2.8%  
None | |
| Nortriptyline   | • More studies in human pregnancy, including neurodevelopmental follow-up | Morphologic – none found  
Behavioral – none found | • Maternal side effects additive to pregnancy effects (sedation, constipation, tachycardia)  
• Orthostatic hypotension, risking decreased placental perfusion  
• Fetal and neonatal side effects: tachycardia, urinary retention | 1.3%  
None | |
| Paroxetine      | | Morphologic – Possible increased risk of cardiovascular malformations  
Behavioral – unknown | • More reports of neonatal side effects than most other antidepressants | 0.1% -4.3%  
Irritability, sleepiness, constipation, SIADH | |
| Sertraline      | • Relatively well-studied in human pregnancy  
• Fewer reports of neonatal side effects than other antidepressants | Morphologic – unlikely increased risk of omphalocele and septal defects*  
Behavioral – none found | • None specific | 0.4% -2.3%  
Benign sleep myoclonus, agitation | |
| Venlafaxine     | | Morphologic – none found  
Behavioral – unknown | • Limited data available | 5.2% -7.6%  
Decreased weight gain | |
| Desvenlafaxine  | | Morphologic – unknown  
Behavioral – unknown | • No systematic studies in human pregnancy | Unknown  
Unknown | |

* Findings from one study at variance with other data, perhaps due to methodological flaws

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