## Examples of Drugs Known to Cause Fetotoxic Effects

<table>
<thead>
<tr>
<th>1st Trimester</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Drug Taken by Mother</strong></td>
<td><strong>Possible Effect on the Infant</strong></td>
<td></td>
</tr>
<tr>
<td>ACE inhibitors and Angiotensin-II receptor antagonists</td>
<td>Lung and kidney hypoplasia, hypocalvaria</td>
<td></td>
</tr>
<tr>
<td>Antiepileptics</td>
<td>Cardiac, facial and limb defects, mental retardation, neural tube defects</td>
<td></td>
</tr>
<tr>
<td>Cytotoxic agents</td>
<td>Multiple defects, abortion</td>
<td></td>
</tr>
<tr>
<td>Sex Hormones e.g. progestogens and oestrogens</td>
<td>Virilisation of female fetus, feminisation of male fetus</td>
<td></td>
</tr>
<tr>
<td>Lithium salts</td>
<td>Cardiovascular, congenital goitre, perinatal mortality, prematurity, fetal macrosomia, floppy infant syndrome</td>
<td></td>
</tr>
<tr>
<td>Retinoids</td>
<td>Ear, cardiovascular, skeletal defects, CNS dysfunction</td>
<td></td>
</tr>
<tr>
<td>Thalidomide</td>
<td>Limb abnormalities, central facial naevus, cleft palate, cardiovascular, urogenital and gastrointestinal abnormalities and neurodevelopmental problems</td>
<td></td>
</tr>
<tr>
<td>Warfarin</td>
<td>Nasal hypoplasia, chondrodysplasia punctata</td>
<td></td>
</tr>
<tr>
<td>Vaccination</td>
<td>Theoretical concerns that live vaccination (e.g. MMR) may infect the fetus and should be delayed until after delivery. Inactivated vaccines should only be administered if immediate protection is required (e.g. influenza)</td>
<td></td>
</tr>
</tbody>
</table>

Table 1: Examples of drugs known to cause fetotoxic effects in the first trimester
### 2\textsuperscript{nd} & 3\textsuperscript{rd} Trimesters

<table>
<thead>
<tr>
<th>Drug Taken by Mother</th>
<th>Possible Effect on the Infant</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACE inhibitors and Angiotensin-II receptor antagonists</td>
<td>Oligohydramnios, growth retardation, lung and kidney hypoplasia, hypocalvaria, neonatal convulsions, hypotension, anuria</td>
</tr>
<tr>
<td>Aminoglycosides</td>
<td>Deafness, vestibular damage</td>
</tr>
<tr>
<td>Antidepressants</td>
<td>Neonatal withdrawal syndrome</td>
</tr>
<tr>
<td>Antiepileptics</td>
<td>Mental retardation, autism/Aspergers syndrome</td>
</tr>
<tr>
<td>Benzodiazepines</td>
<td>Floppy infant syndrome, neonatal respiratory depression, withdrawal symptoms</td>
</tr>
<tr>
<td>Beta-adrenoceptor antagonists</td>
<td>Intrauterine growth restriction, neonatal bradycardia, hypoglycaemia</td>
</tr>
<tr>
<td>Cytotoxic agents</td>
<td>Intrauterine growth restriction, still birth</td>
</tr>
<tr>
<td>NSAIDs</td>
<td>Prolongation of gestation and labour, premature closure of the ductus arteriosus, neonatal pulmonary hypertension</td>
</tr>
<tr>
<td>Opioids</td>
<td>Neonatal respiratory depression, withdrawal symptoms</td>
</tr>
<tr>
<td>Phenothiazines</td>
<td>Neonatal withdrawal symptoms, impaired thermoregulation, extrapyramidal effects</td>
</tr>
<tr>
<td>Retinoids</td>
<td>CNS dysfunction</td>
</tr>
<tr>
<td>Salicylates</td>
<td>Foetal/neonatal haemorrhage</td>
</tr>
<tr>
<td>Sex Hormones e.g. progestogens and oestrogens</td>
<td>Virilisation of female fetus, feminisation of male fetus</td>
</tr>
<tr>
<td>Sulphonamides</td>
<td>Hyperbilirubinaemia, kernicterus</td>
</tr>
<tr>
<td>Tetracyclines</td>
<td>Staining of deciduous teeth, impaired bone growth</td>
</tr>
<tr>
<td>Warfarin/coumarins</td>
<td>Foetal haemorrhage, CNS abnormalities</td>
</tr>
</tbody>
</table>

Table 2: Examples of drugs known to cause fetotoxic effects in the second and third trimesters