Teratogenic Medications in Dermatology

The below-listed medications are either contraindicated during pregnancy or may have some negative effect on the fetus. Additionally, some of the listed medications need special monitoring during pregnancy. Some medications are mainly used in the treatment of advanced melanoma, BCC, or cSCC.
Please see our disclaimer at the bottom of this document.

Table 1. Systemic Medications

Medication	Notes
Abrocitinib	There is a registry for pregnant patients taking abrocitinib. Currently, there are insufficient data to establish a drug-associated risk for major birth defects, miscarriage, or other adverse maternal or fetal outcomes.
Acitretin	Acitretin must not be used by patients who are pregnant or who intend to become pregnant during therapy or at any time for at least 3 years following discontinuation of therapy. Acitretin also must not be used by females who may not use reliable contraception while undergoing treatment and for at least three years following discontinuation of treatment. Acitretin is a metabolite of etretinate, and major human fetal abnormalities have been reported with the administration of acitretin and etretinate. Potentially, any fetus exposed can be affected.
Apremilast	No studies on pregnancy, but there is a registry for pregnant women taking the medication. Dermatologists are encouraged to discuss pregnancy planning and prevention with patients of childbearing potential during treatment with apremilast.
Baricitinib	Based on animal data, it may cause fetal harm. However, there are insufficient human data to inform a drug-associated risk for major birth defects, miscarriage, or other adverse maternal or fetal outcomes. Consider the risk and benefits of chronic use during pregnancy.
Bleomycin	Can cause fetal harm when administered to pregnant patients.
Cetuximab	Can cause fetal harm. Advise patients about the risk to the fetus and suggest using effective contraception.
Dabrafenib (BRAF Inhibitor)	Can cause fetal harm when administered to pregnant patients.
Dupilumab	There is a registry for pregnant patients using dupilumab. In women with poorly or moderately controlled asthma, evidence demonstrates that there is an increased risk of preeclampsia in the mother and prematurity, low birth weight, and small for gestational age in the neonate. The level of asthma control should be closely monitored in pregnant women and treatment adjusted as necessary to maintain optimal control.
Ipilimumab (Anti-CTLA- 4)	Can cause fetal harm. Patients should be advised about the potential risk to the fetus. Patients should consider effective contraception.
Isotretinoin (Retinoids)	Teratogenic.
Lapatinib	Can cause fetal harm. Advise patients about the risk to the fetus and suggest using effective contraception.
Methotrexate	Teratogenic.
Mycophenolate mofetil	Use during pregnancy is associated with increased risks of first-trimester pregnancy loss and congenital malformations. Avoid if safer treatment options are available. Females of reproductive potential must be counseled regarding pregnancy prevention and planning.
Pembrolizumab (Anti- PD-1)	Can cause fetal harm. Patients should be advised about the potential risk to the fetus. Patients should consider effective contraception.
Sonidegib (Hedgehog Inhibitor Pathway)	Embryo-fetal toxicity (Black Box Warning).
Tofacitinib	There is a registry for pregnant patients taking tofacitinib.
Trametinib (MEK Inhibitor)	Can cause fetal harm when administered to pregnant patients.

For more information, see: **aad.org/advocacy**

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Medication	Notes
Upadacitinib	It may cause fetal harm based on animal studies. Advise female patients of reproductive potential of the potential risk to a fetus and to use effective contraception.
Ustekinumab	There is limited data on the use of ustekinumab and humans.
Vemurafenib (Targeted therapy)	Placental transfer of vemurafenib has been reported. There are no data on the use of vemurafenib in pregnant patients.
Vismodegib (Hedgehog pathway inhibitor)	Embryo-fetal toxicity (Black Box Warning).
Vitamin A (retinol)	Risk of teratogenicity w/ doses >25,000 units/day based on human data.
Tralokinumab	There is a risk of transplacental transfer due to human IgG antibodies' ability to cross the placental barrier.
Flucanazole	Use in pregnancy should be avoided except in patients with severe or potentially life-threatening fungal infections in whom fluconazole may be used if the anticipated benefit outweighs the possible risk to the fetus.
Tetracycline	Animal studies have revealed evidence of embryotoxicity and teratogenicity, including toxic effects on skeletal formation. There are no controlled data in human pregnancy, however, congenital defects and maternal hepatotoxicity have been reported. When used during tooth development (second half of pregnancy) tetracyclines may cause permanent yellow-gray- brown discoloration of the teeth and enamel hypoplasia. The use of tetracycline during pregnancy is generally not recommended, especially during the last half of pregnancy.
Minocycline	Animal studies have revealed evidence of embryo and fetotoxicity. There are no controlled data in human pregnancy. However, there have been reports of congenital defects associated with the tetracycline class of antibiotics. Minocycline topical should only be given during pregnancy when benefit outweighs risk.

Table 2. Topical Medications

Medication	Notes
5-Fluorouracil	Teratogenic.
Adapalene	Only use in pregnant patients if the potential benefit outweighs the potential risk to the fetus.
Corticosteroids	Safe during pregnancy in low cumulative doses. Super potent topical corticosteroids should be avoided in the nipple area in people who are nursing.
Diclofenac	The use of NSAID's can cause premature closure of the fetal ductus arteriosus and fetal renal dysfunction leading to oligohydramnios and, in some cases, neonatal renal impairment. Because of the risks, limit the dose and duration of NSAID's use between about 20 and 30 weeks of gestation, and avoid NSAID's use at about 30 weeks of gestation and later in pregnancy.
Imiquimod	Only use in pregnant patients if the potential benefit outweighs the potential risk to the fetus.
Tazarotene	Teratogenic and is contraindicated in pregnancy. Females of child-bearing potential should have a negative pregnancy test within two weeks prior to initiating treatment and use an effective method of contraception during treatment.
Tretinoin	Weigh risk/benefit during pregnancy; risk of teratogenicity and holoprosencephaly low based on limited human data and minimal systemic absorption; risk of teratogenicity and fetal death based on human data w/ systemic retinoids.

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Table 3. Phototherapy

Category	Notes
Phototherapy	Decreases folate, which is vital for pregnancy; however, this can be managed with appropriate supplements and monitoring.

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