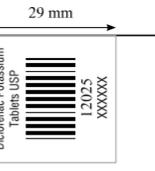


400.00 mm

**Diclofenac Potassium Tablets, USP**



**DESCRIPTION**  
Diclofenac potassium tablets, USP are a benzeneacetic acid derivative. Diclofenac potassium tablets are available as immediate-release tablets of 50 mg (white to off-white) for oral administration. Diclofenac potassium USP is a white to off-white or slightly yellow crystalline powder, slightly hygroscopic and is freely soluble in methanol, soluble in alcohol, sparingly soluble in water, slightly soluble in acetone. The chemical name is 2-(2,6-dichlorophenyl)amino benzenecarboxylic acid, monopotassium salt. The molecular weight is 334.25. Its molecular formula is C<sub>15</sub>H<sub>11</sub>Cl<sub>2</sub>NO<sub>2</sub> and it has the following structural formula:

ClC1=CC=C(C=C1)NC(=O)O.[K+]

The inactive ingredients in diclofenac potassium tablets include: lactose monohydrate, microcrystalline cellulose, sodium lauryl sulfate, colloidal silicon dioxide, magnesium stearate, hydroxypropyl methylcellulose, and titanium dioxide.

**CLINICAL PHARMACOLOGY**  
**Mechanism of Action**  
Diclofenac is a nonsteroidal anti-inflammatory and analgesic. The mechanism of action of diclofenac potassium tablets, like that of other NSAIDs, is not completely understood but involves inhibition of cyclooxygenase (COX-1 and COX-2). Diclofenac is a potent inhibitor of prostaglandin synthesis in vitro. Diclofenac concentrations reached during therapy have produced in vivo effects. Prostaglandins sensitize afferent nerves and potentiate the action of bradykinin in inducing pain in animal models. Prostaglandins are mediators of inflammation. Because diclofenac is an inhibitor of prostaglandin synthesis, its mode of action results in a decrease of prostaglandins in peripheral tissues.

**Pharmacokinetics**  
**Absorption**  
Diclofenac is 100% absorbed after oral administration compared to intravenous (IV) administration as measured by urine recovery. However, due to first-pass metabolism, only about 50% of the absorbed dose is systemically available (see Table 1). In some fasting volunteers, measurable plasma levels are observed within 10 minutes of dosing with diclofenac potassium tablets. Peak plasma levels are achieved approximately 1 to 1 hour following normal dosing, with a range of 0.33 to 2 hours. Food has no significant effect on the extent of diclofenac absorption. However, there is usually a delay in the onset of absorption and a reduction in peak plasma levels of approximately 30%.

PK Parameter	Normal Healthy Adults (20 to 50 years)	Elderly Adults (65 to 75 years)
Absolute Bioavailability (%)	Mean 55	Coefficient of Variation (%) 40
$t_{1/2}$ (hr) [N = 7]	1.0	76
Oral Clearance (CL/F, mL/min) [N = 61]	622	21
Renal Clearance (% of unchanged drug excreted)	<1	-
Apparent Volume of Distribution (V <sub>d</sub> , L/kg) [N = 61]	1.3	33
Terminal Half-life (hr) [N = 48]	1.9	29

**Table 1. Pharmacokinetic Parameters for Diclofenac**

**PK Parameter** | **Normal Healthy Adults (20 to 50 years)** | **Elderly Adults (65 to 75 years)**

Absolute Bioavailability (%)	Mean 55	Coefficient of Variation (%) 40
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Terminal Half-life (hr) [N = 48]	1.9	29

available data, it is unclear that the risk for CV thrombotic events is similar for all NSAIDs. The relative increase in serious CV thrombotic events over baseline conferred by NSAID use appears to be similar in those with and without known CV disease or risk factors for CV disease. However, patients with known CV disease or risk factors had a higher absolute incidence of excess serious CV thrombotic events, due to their increased baseline risk. Some observational studies found that this increased risk of serious CV thrombotic events began as early as the first weeks of treatment. The increase in CV thrombotic risk has been observed most consistently at higher doses.

To minimize the potential risk for an adverse CV event in NSAID-treated patients, use the lowest effective dose for the shortest duration possible. Physicians and patients should remain alert for the development of such events, throughout the entire treatment course, even in the absence of previous CV symptoms. Patients should be informed about the symptoms of serious CV events and the signs and symptoms of a heart attack.

There is no consistent evidence that concurrent use of aspirin mitigates the increased risk of serious CV thrombotic events associated with NSAID use. The concurrent use of aspirin and an NSAID, such as diclofenac, increases the risk of serious gastrointestinal (GI) events (see WARNINGS, Gastrointestinal Bleeding, Ulceration, and Perforation).

**Status Post Coronary Artery Bypass Graft (CABG) Surgery**  
Two large, controlled clinical trials of COX-2 selective therapy for the treatment of pain in the first 10 to 14 days following CABG surgery found an increased incidence of myocardial infarction and stroke. NSAIDs are contraindicated in the setting of CABG (see CONTRAINDICATIONS).

**Post-MI Patients**  
Observational studies conducted in the Danone National Registry have demonstrated that patients treated with NSAIDs in the post-MI period were at increased risk of reinfarction. CV-related mortality began to increase in the first week of treatment. In this same cohort, the incidence of death in the first year post-MI was 20 per 1000 persons in NSAID-treated patients compared to 12 per 1000 persons in non-NSAID exposed patients. Although the absolute rate of death declined somewhat after the first year post-MI, the increased relative risk of NSAID users persisted over at least the next four years of follow-up.

Avoid the use of diclofenac potassium tablets in patients with a recent MI unless the benefits are expected to outweigh the risk of recurrent CV thrombotic events. If diclofenac potassium tablets are used in patients with a recent MI, monitor patients for signs of cardiovascular events.

**Gastrointestinal Bleeding, Ulceration, and Perforation**  
NSAIDs, including diclofenac, cause serious gastrointestinal (GI) adverse events including inflammation, bleeding, ulceration, and perforation of the esophagus, stomach, small intestine, or large intestine, which can be fatal. These serious adverse events can occur at any time, with or without warning symptoms, in patients treated with NSAIDs. Only one in five patients, who develop serious GI tract events, are hospitalized, need surgery, or die. Upper GI ulcers, gastrointestinal bleeding or perforation caused by NSAIDs occurred in approximately 1% of patients treated for 3 to 6 months, and in about 2% to 4% of patients treated for one year. However, even short-term therapy is not without risk.

**Risk Factors for GI Bleeding, Ulceration, and Perforation**  
Patients with a prior history of peptic ulcer disease and/or GI bleeding who use NSAIDs had a greater than 10-fold increased risk for developing a GI bleed compared to patients without these risk factors. Other factors that increase the risk of GI bleeding in patients treated with NSAIDs include: longer duration of NSAID therapy; concomitant use of oral corticosteroids, aspirin, anticoagulants, or selective serotonin reuptake inhibitors (SSRIs); smoking; use of alcohol; older age; and poor general health status. Most postmarketing reports of fatal GI events occurred in elderly or debilitated patients. Additionally, patients with advanced liver disease and/or congestive heart failure are at increased risk for GI bleeding.

**Strategies to Minimize the GI Risks in NSAID-Treated Patients**

- Use the lowest effective dose for the shortest possible duration.
- Avoid administration of more than one NSAID at a time.
- Avoid use in patients at higher risk of bleeding. Consider alternative therapies other than NSAIDs.
- Remain alert for signs and symptoms of GI ulceration and bleeding during NSAID therapy.
- If a serious GI adverse event is suspected, promptly initiate evaluation and treatment, and discontinue diclofenac potassium tablets until a serious GI adverse event is ruled out.
- In the setting of concomitant use of low-dose aspirin for cardioprotection, monitor patients more closely for evidence of GI bleeding (see PRECAUTIONS, Drug Interactions).

**Hepatology**  
In clinical trials of diclofenac-containing products, meaningful elevations (i.e., more than 3 times the upper limit of normal [ULN] of aspartate aminotransferase (AST) [also known as SGOT]) were observed in about 2% of approximately 5,700 patients at some time during diclofenac treatment (alanine aminotransferase [ALT] was not measured in all studies).

In a large, open-label, controlled trial of 3,700 patients treated with oral diclofenac sodium 50 mg 2 to 3 times a day, patients were monitored first at 8 weeks and 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50 weeks. Meaningsful elevations of ALT and/or AST occurred in about 4% of patients and included marked elevations (greater than 8 times the ULN) in about 4% of the 3,700 patients. In that open-label study, a higher incidence of borderline (less than 8 times the ULN), moderate (3 to 8 times the ULN), and marked (greater than 8 times the ULN) elevations of ALT and AST was observed in patients receiving diclofenac when compared to NSAID. Elevations in transaminases were seen more frequently in patients with osteoarthritis than in those with rheumatoid arthritis.

Almost all meaningful elevations in transaminases were detected before patients became symptomatic. Abnormal tests occurred during the first 2 months of therapy with diclofenac in 42 of the 51 patients in all trials who developed marked transaminase elevations.

In postmarketing reports, cases of drug-induced hepatotoxicity have been reported in the first month, and in some cases, the first 2 months of therapy, but can occur at any time during treatment with diclofenac. Postmarketing surveillance has reported cases of severe hepatic reactions, including liver necrosis, jaundice, fulminant hepatic failure, and without jaundice, and liver failure. Some of these reported cases were fatal or required liver transplantation.

In a European retrospective population-based, case-controlled study, 10 cases of diclofenac-associated drug-induced liver injury with duration of use compared with non-use of diclofenac were associated with a statistically significant 4-fold adjusted risk of liver injury. In this particular study, based on an overall number of 10 cases of liver injury associated with diclofenac, the adjusted odds ratio increased further with female gender (odds ratio 150) and more than 10 days of use (odds ratio 10).

Physicians should measure transaminases at baseline and periodically in patients receiving long-term therapy with diclofenac, because severe hepatotoxicity may develop without a problem of discerning clinical symptoms. The optimum times for making the first and subsequent transaminase measurements are not known. Based on clinical data and postmarketing experiences, transaminases should be monitored within 1 to 2 weeks after initiating treatment with diclofenac. However, severe hepatic reactions can occur at any time during treatment with diclofenac.

If abnormal liver test persist or worsen, if clinical signs and/or symptoms consistent with liver disease develop, or if systemic manifestations occur (e.g., eosinophilia, rash, abdominal pain, diarrhea, dark urine, etc.), diclofenac potassium tablets should be discontinued immediately.

Inform patients of the warning signs and symptoms of hepatotoxicity (e.g., nausea, fatigue, lethargy, diarrhea, pruritus, jaundice, right upper quadrant tenderness, and "flu-like" symptoms). If these occur, instruct patients to stop diclofenac potassium tablets immediately, and seek immediate medical attention if they occur (see WARNINGS, Anaphylactic Reactions).

**Serious Skin Reactions, Including DRESS**  
Advise patients to stop diclofenac potassium tablets immediately if they develop any type of rash or fever and contact their healthcare provider as soon as possible (see WARNINGS, Serious Skin Reactions).

**Female Fertility**  
Advise females of reproductive potential who desire pregnancy that NSAIDs, including diclofenac potassium tablets, may be associated with a reversible delay in ovulation (see PRECAUTIONS, Contraception, Menstruation, Impairment of Fertility).

**Fetal Toxicity**  
Inform pregnant women to avoid use of diclofenac potassium tablets and other NSAIDs, starting at 30 weeks gestation because of the risk of the premature closure of the fetal ductus arteriosus. If treatment with diclofenac potassium tablets is needed for a pregnant woman between about 20 to 30 weeks gestation, advise her that she may need to be monitored for oligohydramnios, if treatment continues for longer than 48 hours (see WARNINGS, Fetal Toxicity, PRECAUTIONS, Pregnancy).

**Avoid Concomitant Use of NSAIDs**  
Inform patients that the concomitant use of diclofenac potassium tablets with other NSAIDs or salicylates (e.g., difflural, salicylates) is not recommended due to the increased risk of gastrointestinal toxicity, and little or no increase in efficacy (see WARNINGS, Gastrointestinal Bleeding, Ulceration, and Perforation and Drug Interactions). Alert patients that NSAIDs may be present in "over the counter" medications for treatment of colds, fever, or sinusitis.

**Use of NSAIDs and Low-Dose Aspirin**  
Inform patients not to use low-dose aspirin concomitantly with diclofenac potassium tablets until they talk to their healthcare provider (see PRECAUTIONS, Drug Interactions).

**Masking Inflammation and Fever**  
The pharmacological activity of diclofenac potassium tablets in reducing fever and inflammation, and possibly fever, may diminish the utility of these diagnostic signs in detecting infections.

**Laboratory Monitoring**  
Because aspirin GI bleeding, hepatotoxicity, and renal injury can occur without warning symptoms or signs, consider monitoring renal perfusion. In these patients, administration of an NSAID may cause a dose-dependent reduction in prostaglandin formation and, secondarily, in renal blood flow, which may precipitate overt renal decompensation. Patients at greatest risk of this reaction are those with impaired renal function, dehydration, hypotension, heart failure, liver dysfunction, those taking diuretics and ACE inhibitors or ARBs, and the elderly. Discontinuation of NSAID therapy is usually followed by recovery to the pretreatment state.

No information is available from controlled clinical studies regarding the use of diclofenac potassium tablets in patients with advanced renal disease. The renal effects of diclofenac potassium tablets may hasten the progression of renal dysfunction in patients with preexisting renal disease.

Correct volume status in dehydrated or hypovolemic patients prior to initiating diclofenac potassium tablets. Monitor renal function in patients with renal or hepatic impairment, heart failure, dehydration, or hypovolemia during use of diclofenac potassium tablets (see PRECAUTIONS, Drug Interactions). Avoid the use of diclofenac potassium tablets in patients with advanced renal disease unless the benefits are expected to outweigh the risk of worsening renal function, and if diclofenac potassium tablets are used in patients with advanced renal disease, monitor patients for signs of worsening renal function.

**Hypertension**  
Increases in serum potassium concentration, including hypokalemia, have been reported with use of NSAIDs, even in some patients without renal impairment. In patients with normal renal function, these effects have been attributed to a hyporeninemic/hypoaldosteronism state.

**Anaphylactic Reactions**  
Diclofenac has been associated with anaphylactic reactions in patients with and without known hypersensitivity to diclofenac and in patients with aspirin-sensitive asthma (see CONTRAINDICATIONS, WARNINGS, Exacerbation of Asthma Related to Aspirin Sensitivity).

**Exacerbation of Asthma Related to Aspirin Sensitivity**  
A subpopulation of patients with asthma may have aspirin-sensitive asthma which may include chronic rhinitis complicated by nasal polyps, severe, potentially fatal bronchospasm, and/or intolerance to aspirin and other NSAIDs. Because cross-reactivity between aspirin and other NSAIDs has been reported in such aspirin-sensitive patients, diclofenac potassium tablets are contraindicated in patients with the form of aspirin sensitivity (see CONTRAINDICATIONS). When diclofenac potassium tablets are used in patients with preexisting asthma (without known aspirin sensitivity), monitor patients for changes in the signs and symptoms of asthma.

**Serious Skin Reactions**  
NSAIDs, including diclofenac, can cause serious skin adverse reactions such as exfoliative dermatitis, Stevens-Johnson Syndrome (SJS), and toxic epidermal necrolysis (TEN), which can be fatal. NSAIDs can also cause fluid drug eruption (FDE). FDE may present as a more severe variant known as generalized bullous fluid drug eruption (GBFDE), which can be life-threatening. These serious events may occur without warning. Inform patients of the signs and symptoms of serious skin reactions, and to discontinue the use of diclofenac potassium tablets at the first appearance of skin rash or any other sign of hypersensitivity. Diclofenac potassium tablets are contraindicated in patients with previous serious skin reactions to NSAIDs (see CONTRAINDICATIONS).

**Drug Reaction with Eosinophilia and Systemic Symptoms (DRESS)**  
Drug Reaction with Eosinophilia and Systemic Symptoms (DRESS) has been reported in patients taking NSAIDs, such as diclofenac potassium tablets. Some of these events have been life-threatening. DRESS, highly allergic, although not exclusively, presents with fever, rash, lymphadenopathy, and/or facial swelling. Other clinical manifestations may include hepatitis, nephritis, hematological abnormalities, myocarditis, or myositis. Sometimes symptoms of DRESS may resemble an acute viral infection. Eosinophilia is often present. Because this disorder is variable in its presentation, other organ systems not noted here may be involved. It is important to note that early manifestations of hypersensitivity, such as fever or lymphadenopathy, may be present even though rash is not evident. If such signs or symptoms are present, discontinue diclofenac potassium tablets and evaluate the patient immediately.

**Fetal Toxicity**  
**Premature Closure of Fetal Ductus Arteriosus**  
Avoid use of NSAIDs, including diclofenac potassium tablets, in pregnant women at about 30 weeks' gestation and later. NSAIDs, including diclofenac potassium tablets, increase the risk of premature closure of the fetal ductus arteriosus at approximately the gestational age.

**Use of NSAIDs in Neonatal/Renal Impairment**  
Use of NSAIDs, including diclofenac potassium tablets, at about 20 weeks gestation or later in pregnancy may cause fetal renal dysfunction leading to oligohydramnios and, in some cases, neonatal renal impairment. These adverse outcomes are seen, on average, after days to weeks of treatment, although oligohydramnios has been infrequently reported as soon as 48 hours after commencement with treatment. Discontinue treatment of NSAIDs if oligohydramnios is detected. Complications of prolonged oligohydramnios may, for example, include limb contractures and delayed lung maturation. In some postmarketing cases of impaired neonatal/renal function, invasive procedures, such as exchange transfusion or dialysis were required.

INSAID treatment is necessary between about 20 weeks to 30 weeks gestation, limit diclofenac potassium tablets use to the shortest duration possible. Consider ultrasonographic monitoring of amniotic fluid if diclofenac potassium tablets treatment extends beyond 48 hours. Discontinue diclofenac potassium tablets if oligohydramnios occurs and follow up according to clinical practice (see PRECAUTIONS, Pregnancy).

**Cardiovascular Toxicity**  
Anemia has occurred in NSAID-treated patients. This may be due to occult or gross blood loss, fluid retention, or an incompletely described effect upon erythropoiesis. If a patient treated with diclofenac potassium tablets has any signs or symptoms of anemia, monitor hemoglobin/hematocrit.

NSAIDs, including diclofenac potassium tablets, may increase the risk of bleeding events. Co-morbid conditions such as coagulation disorders, concomitant use of warfarin and other anticoagulants, antiplatelet agents (e.g., aspirin), serotonin reuptake inhibitors (SSRIs), and serotonin norepinephrine reuptake inhibitors (SNRIs) may increase this risk. Monitor these patients for signs of bleeding (see PRECAUTIONS, Drug Interactions).

**General**  
Diclofenac potassium immediate-release tablets cannot be expected to substitute for corticosteroids or to treat corticosteroid insufficiency. Abrupt discontinuation of corticosteroids may lead to disease exacerbation. Patients on prolonged corticosteroid therapy should have their therapy tapered slowly if a decision is made to discontinue corticosteroids and the patient should be increased slowly for any underlying adverse effects, including adrenal insufficiency and exacerbation of symptoms of arthritis.

The pharmacological activity of diclofenac potassium tablets in reducing fever and inflammation may diminish the utility of these diagnostic signs in detecting complications of presumed non-infectious, painful conditions.

**Information for Patients**  
Advise the patient to read the FDA-approved patient labeling (Medication Guide) that accompanies each prescription dispensed. Inform patients, families, or their caregivers of the following information before initiating therapy with diclofenac potassium tablets and periodically during the course of ongoing therapy.

**Cardiovascular Thrombotic Events**  
Advise patients to be alert for the symptoms of cardiovascular thrombotic events, including chest pain, shortness of breath, weakness, or slurring of speech, and to report any of these symptoms to their healthcare provider immediately (see WARNINGS, Cardiovascular Thrombotic Events).

**Gastrointestinal Bleeding, Ulceration, and Perforation**  
Advise patients to report symptoms of ulcerations and bleeding, including epigastric pain, dyspepsia, melena, and hematemesis to their health care provider. In the setting of concomitant use of low-dose aspirin for cardiac prophylaxis, inform patients that the increased risk for the signs and symptoms of GI bleeding (see WARNINGS, Gastrointestinal Bleeding, Ulceration, and Perforation).

**Hepatology**  
Inform patients of the warning signs and symptoms of hepatotoxicity (e.g., nausea, fatigue, lethargy, diarrhea, jaundice, right upper quadrant tenderness, and "flu-like" symptoms). If these occur, instruct patients to stop diclofenac potassium tablets immediately and seek immediate medical attention (see WARNINGS, Hepatology).

**Heart Failure and Edema**  
Advise patients to be alert for the symptoms of congestive heart failure including shortness of breath, unexplained weight gain, or edema and to contact their healthcare provider if such symptoms occur (see WARNINGS, Heart Failure and Edema).

**Anaphylactic Reactions**  
Inform patients of the signs of an anaphylactic reaction (e.g., difficulty breathing, swelling of the face or throat). Instruct patients to seek immediate emergency help if they occur (see WARNINGS, Anaphylactic Reactions).

**Serious Skin Reactions, Including DRESS**  
Advise patients to stop diclofenac potassium tablets immediately if they develop any type of rash or fever and contact their healthcare provider as soon as possible (see WARNINGS, Serious Skin Reactions).

**Female Fertility**  
Advise females of reproductive potential who desire pregnancy that NSAIDs, including diclofenac potassium tablets, may be associated with a reversible delay in ovulation (see PRECAUTIONS, Contraception, Menstruation, Impairment of Fertility).

**Fetal Toxicity**  
Inform pregnant women to avoid use of diclofenac potassium tablets and other NSAIDs, starting at 30 weeks gestation because of the risk of the premature closure of the fetal ductus arteriosus. If treatment with diclofenac potassium tablets is needed for a pregnant woman between about 20 to 30 weeks gestation, advise her that she may need to be monitored for oligohydramnios, if treatment continues for longer than 48 hours (see WARNINGS, Fetal Toxicity, PRECAUTIONS, Pregnancy).

**Avoid Concomitant Use of NSAIDs**  
Inform patients that the concomitant use of diclofenac potassium tablets with other NSAIDs or salicylates (e.g., difflural, salicylates) is not recommended due to the increased risk of gastrointestinal toxicity, and little or no increase in efficacy (see WARNINGS, Gastrointestinal Bleeding, Ulceration, and Perforation and Drug Interactions). Alert patients that NSAIDs may be present in "over the counter" medications for treatment of colds, fever, or sinusitis.

**Use of NSAIDs and Low-Dose Aspirin**  
Inform patients not to use low-dose aspirin concomitantly with diclofenac potassium tablets until they talk to their healthcare provider (see PRECAUTIONS, Drug Interactions).

**Masking Inflammation and Fever**  
The pharmacological activity of diclofenac potassium tablets in reducing fever and inflammation, and possibly fever, may diminish the utility of these diagnostic signs in detecting infections.

**Laboratory Monitoring**  
Because aspirin GI bleeding, hepatotoxicity, and renal injury can occur without warning symptoms or signs, consider monitoring renal perfusion. In these patients, administration of an NSAID may cause a dose-dependent reduction in prostaglandin formation and, secondarily, in renal blood flow, which may precipitate overt renal decompensation. Patients at greatest risk of this reaction are those with impaired renal function, dehydration, hypotension, heart failure, liver dysfunction, those taking diuretics and ACE inhibitors or ARBs, and the elderly. Discontinuation of NSAID therapy is usually followed by recovery to the pretreatment state.

No information is available from controlled clinical studies regarding the use of diclofenac potassium tablets in patients with advanced renal disease. The renal effects of diclofenac potassium tablets may hasten the progression of renal dysfunction in patients with preexisting renal disease.

Correct volume status in dehydrated or hypovolemic patients prior to initiating diclofenac potassium tablets. Monitor renal function in patients with renal or hepatic impairment, heart failure, dehydration, or hypovolemia during use of diclofenac potassium tablets (see PRECAUTIONS, Drug Interactions). Avoid the use of diclofenac potassium tablets in patients with advanced renal disease unless the benefits are expected to outweigh the risk of worsening renal function, and if diclofenac potassium tablets are used in patients with advanced renal disease, monitor patients for signs of worsening renal function.

**Hypertension**  
Increases in serum potassium concentration, including hypokalemia, have been reported with use of NSAIDs, even in some patients without renal impairment. In patients with normal renal function, these effects have been attributed to a hyporeninemic/hypoaldosteronism state.

**Anaphylactic Reactions**  
Diclofenac has been associated with anaphylactic reactions in patients with and without known hypersensitivity to diclofenac and in patients with aspirin-sensitive asthma (see CONTRAINDICATIONS, WARNINGS, Exacerbation of Asthma Related to Aspirin Sensitivity).

**Table 2. Clinically Significant Drug Interactions with Diclofenac**

Drugs That Interfere with Hemostasis	Clinical Impact
<ul style="list-style-type: none"> <li>Diclofenac and anticoagulants such as warfarin have a synergistic effect on bleeding. The concomitant use of diclofenac and anticoagulants have an increased risk of serious bleeding compared to the use of either drug alone.</li> <li>Serotonin reuptake inhibitors play an important role in hemostasis. Case-control and cohort epidemiological studies showed that concomitant use of drugs that interfere with serotonin reuptake and an NSAID may potentiate the risk of bleeding more than an NSAID alone.</li> </ul>	<ul style="list-style-type: none"> <li>Monitor patients with concomitant use of diclofenac potassium tablets with anticoagulants (e.g., warfarin), antiplatelet agents (e.g., aspirin), selective serotonin reuptake inhibitors (SSRIs), and serotonin norepinephrine reuptake inhibitors (SNRIs) for signs of bleeding (see WARNINGS, Hematology, Toxicity).</li> </ul>
<ul style="list-style-type: none"> <li>Controlled clinical studies showed that the concomitant use of NSAIDs and analgesic doses of aspirin does not produce any greater therapeutic effect than the use of NSAIDs alone. In a clinical study, the concomitant use of an NSAID and aspirin was associated with a significantly increased incidence of GI adverse reactions as compared to use of the NSAID alone (see WARNINGS, Gastrointestinal Bleeding, Ulceration, and Perforation).</li> </ul>	<ul style="list-style-type: none"> <li>Monitor patients with concomitant use of diclofenac potassium tablets and aspirin for signs of bleeding (see PRECAUTIONS, Drug Interactions).</li> </ul>

**Intervention:** Concomitant use of diclofenac potassium tablets and analgesic doses of aspirin is not generally recommended because of the increased risk of bleeding (see WARNINGS, Hematology, Toxicity). Diclofenac potassium tablets are not a substitute for low-dose aspirin for cardiovascular protection.

**ACE Inhibitors, Angiotensin Receptor Blockers, and Beta-Blockers**  
**Clinical Impact:** NSAIDs may diminish the antihypertensive effect of angiotensin converting enzyme (ACE) inhibitors, angiotensin receptor blockers (ARBs), or beta-blockers (including propranolol). In patients who are elderly, volume-depleted (including those on diuretic therapy), or have renal impairment, co-administration of an NSAID with ACE inhibitors or ARBs may result in deterioration of renal function, including possible acute renal failure. These effects are usually reversible. When these drugs are administered concomitantly, patients should be adequately hydrated. Assess renal function at the beginning of the concomitant treatment and periodically thereafter.

**Diuretics**  
**Clinical Impact:** Clinical studies, as well as post-marketing observations, showed that NSAIDs reduced the natriuretic effect of loop diuretics (e.g., furosemide) and thiazide diuretics in some patients. This effect has been attributed to the NSAID inhibition of renal prostaglandin synthesis.

**Digoxin**  
**Clinical Impact:** The concomitant use of diclofenac with digoxin has been reported to increase the serum concentration and prolong the half-life of digoxin.

**Lithium**  
**Clinical Impact:** NSAIDs have produced elevations in plasma lithium levels and reductions in renal lithium clearance. The mean maximum lithium concentration increased 10%, and the renal clearance decreased by approximately 20%. This effect has been attributed to NSAID inhibition of renal prostaglandin synthesis.

**Methotrexate**  
**Clinical Impact:** Concomitant use of NSAIDs and methotrexate may increase the risk for methotrexate toxicity (e.g., neutropenia, leukopenia, thrombocytopenia, renal impairment, and hepatic toxicity). PRECAUTIONS: Laboratory Monitoring).

**Cyclosporine**  
**Clinical Impact:** Concomitant use of diclofenac potassium tablets and cyclosporine may increase cyclosporine's nephrotoxicity.

**NSAIDs and Salicylates**  
**Clinical Impact:** Concomitant use of diclofenac with other NSAIDs or salicylates (e.g., difflural, salicylates) increases the risk of GI toxicity with little or no increase in efficacy (see WARNINGS, Gastrointestinal Bleeding, Ulceration, and Perforation). The concomitant use of diclofenac with other NSAIDs or salicylates is not recommended.

**Penicillins**  
**Clinical Impact:** Concomitant use of diclofenac potassium tablets and penicillins may increase the risk of penicillin-associated hypotension, renal, and GI toxicity (see penicillin-associated prescribing information).

**CYP2C9 Inhibitors or Inducers**  
**Clinical Impact:** Diclofenac is metabolized by cytochrome P450 enzymes, predominantly by CYP2C9. Co-administration of diclofenac with CYP2C9 inhibitors (e.g., voriconazole) may enhance the exposure and toxicity of diclofenac whereas co-administration with CYP2C9 inducers (e.g., rifampin) may lead to decreased diclofenac exposure (see PRECAUTIONS, Drug Interactions).

**Intervention:** NSAIDs do not alter elimination half-lives (i.e., diclofenac, indomethacin) should be avoided for a period of 2 days before, the day of, and 2 days following administration of penicillin.

**Carcinogenesis, Mutagenesis, Impairment of Fertility**  
**Carcinogenesis**  
Long-term carcinogenicity studies in rats given diclofenac sodium up to 2 mg/kg/day (approximately 0.1 times the maximum recommended human dose [MRHD]) diclofenac potassium tablets, 200 mg/day, based on body surface area (BSA) comparison) have revealed no significant increase in tumor incidence. A 2-year carcinogenicity study conducted in mice employing diclofenac sodium doses up to 0.3 mg/kg/day (approximately 0.003 times the MRHD based on BSA comparison) in males and 1 mg/kg/day (approximately 0.03 times the MRHD based on BSA comparison) in females did not reveal any oncogenic potential.

**Genetic Toxicity**  
Diclofenac sodium did not show mutagenic activity in in vitro point mutation assays in mammalian (mouse lymphoma) and microbial (yeast Ames) test systems and was nonmutagenic in several mammalian in vivo and in vivo tests, including dominant lethal and male germinal epithelial chromosomal studies in mice, and nucleic acid and chromosomal aberration studies in Chinese hamsters.

**Impairment of Fertility**  
Diclofenac sodium administered to male and female rats at 4 mg/kg/day (approximately 0.2 times the MRHD based on BSA comparison) did not affect fertility.

Based on the mechanism of action, the use of prostaglandin-mediated NSAIDs, including diclofenac potassium tablets, may delay or prevent rupture of ovarian follicles in some women. Published animal studies have shown that administration of prostaglandin synthesis inhibitors has the potential to disrupt granulosa-stimulated follicular rupture required for ovulation. Small studies in women treated with NSAIDs have also shown a reversible delay in ovulation. Consider potential of NSAIDs, including diclofenac potassium tablets, in women who have difficulties conceiving who are undergoing investigation of infertility.

**Pregnancy**  
**Risk Summary**  
Use of NSAIDs, including diclofenac potassium tablets 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 these risks, limit dose and duration of diclofenac potassium tablets use between about 20 and 30 weeks of gestation, and avoid diclofenac potassium tablets use after about 30 weeks of gestation and later in pregnancy (see WARNINGS, Fetal Toxicity).

**Premature Closure of Fetal Ductus Arteriosus**  
Use of NSAIDs, including diclofenac potassium tablets, at about 30 weeks gestation or later in pregnancy increases the risk of premature closure of the fetal ductus arteriosus.

**Oligohydramnios/Neonatal Renal Impairment**  
Use of NSAIDs at about 20 weeks gestation or later in pregnancy has been associated with cases of fetal renal dysfunction leading to oligohydramnios, and in some cases, neonatal renal impairment.

There are no adequate and well-controlled studies of diclofenac potassium tablets in pregnant women.

Data from observational studies regarding potential embryofetal risk of NSAID use in women in the first or second trimesters of pregnancy are inconclusive. In animal reproduction studies, no evidence of teratogenicity was observed in mice, rats, or rabbits given diclofenac during the period of organogenesis at doses up to approximately 0.5, 0.5, and 1 times, respectively, the maximum recommended human dose (MRHD) of diclofenac potassium tablets, despite the presence of maternal and fetal toxicity at these doses (see Data).

Based on published animal data, prostaglandins have been shown to have an important role in endometrial vascular remodeling, histotrophic trophoblast development, and decidualization. In animal studies, administration of prostaglandin synthesis inhibitors such as diclofenac, resulted in increased pre- and post-implantation loss. Prostaglandins also have been shown to have an important role in fetal kidney development. In published animal studies, prostaglandin synthesis inhibitors have been reported to impact kidney development when administered at clinically relevant doses.

The estimated background risk of major birth defects and miscarriage for the indicated population(s) is unknown. All pregnancies have a background risk of birth defect, loss, or other adverse outcomes. In the U.S. general population, the estimated background risk of major birth defects and miscarriage in clinically recognized pregnancies is 2% to 4% and 15% to 20%, respectively.

**Fetal/Neonatal Adverse Reactions**  
**Premature Closure of Fetal Ductus Arteriosus:** Published literature reports that the use of NSAIDs at about 30 weeks of gestation and later in pregnancy may cause premature closure of the fetal ductus arteriosus.

**Oligohydramnios/Neonatal Renal Impairment:** Published literature reports that the use of NSAIDs at about 30 weeks of gestation and later in pregnancy may cause premature closure of the fetal ductus arteriosus.

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**Oligohydramnios/Neonatal Renal Impairment:** Published literature reports that the use of NSAIDs at about 30 weeks of gestation and later in pregnancy may cause premature closure of the fetal ductus arteriosus.

Published studies and postmarketing reports describe maternal NSAID use at about 20 weeks gestation or later in pregnancy associated with fetal renal dysfunction leading to oligohydramnios, and in some cases, neonatal renal impairment. These adverse outcomes are seen, on average, after days to weeks of treatment, although oligohydramnios has been infrequently reported as soon as 48 hours after NSAID initiation. In many cases, but not all, the decrease in amniotic fluid was transient and reversible with cessation of the drug. There have been a limited number of case reports of maternal NSAID use and neonatal renal dysfunction without oligohydramnios, some of which were reversible. Some cases of neonatal renal dysfunction required treatment with invasive procedures, such as exchange transfusion/dialysis.

Methodological limitations of these postmarketing studies and reports include lack of a control group, limited information regarding dose, duration, and timing of drug exposure, and concomitant use of other medications. These limitations preclude establishing a reliable estimate of the risk of adverse fetal and neonatal outcomes with maternal NSAID use. Because the published safety data on neonatal outcomes involved mostly preterm infants, the generalizability of certain reported risks to the term infant exposed to NSAID through maternal use is uncertain.

There are no studies on the effects of diclofenac potassium tablets during labor or delivery. In animal studies, NSAIDs, including diclofenac, inhibit prostaglandin synthesis, cause delayed parturition, and increase the incidence of stillbirth.

**Nursing Mothers**  
**Risk Summary**  
Based on available data, diclofenac may be present in human milk. The developmental and health benefits of breastfeeding should be considered along with the mother's clinical need for diclofenac potassium tablets and any potential adverse effects on the breastfed infant from the diclofenac potassium tablets or from the underlying medical condition.

**Data**  
One woman treated orally with a diclofenac salt, 150 mg/day, had a milk diclofenac level of 100 mcg/L, equivalent to an infant dose of 0.1 mg/kg/day. Diclofenac was not detectable in breast milk in 12 women using diclofenac (either after 100 mg/day orally for 7 days or a single 50 mg intramuscular dose administered in the immediate postpartum period).

**Pediatric Use**  
Safety and effectiveness in pediatric patients have not been established.

**Geriatric Use**  
Elderly patients, compared to younger patients, are at greater risk for NSAID-associated serious cardiovascular, gastrointestinal, and/or renal adverse reactions. If the anticipated benefit for the elderly patient outweighs these potential risks, start dosing at the low end of the dosing range, and monitor patients for adverse effects (see WARNINGS, Cardiovascular Thrombotic Events, Gastrointestinal Bleeding, Ulceration, and Perforation, Hypertension, Renal Toxicity and Hypertension, Laboratory Monitoring).

Diclofenac is known to be substantially excreted by the kidney, and the risk of adverse reactions to this drug may be greater in patients with impaired renal function. Because elderly patients are more likely to have decreased renal function, care should be taken in dose selection, and it may be useful to monitor renal function (See CLINICAL PHARMACOLOGY, ADVERSE REACTIONS).

**ADVERSE REACTIONS**  
The following adverse reactions are discussed in greater detail in other sections of the labeling:

- Cardiovascular Thrombotic Events (see WARNINGS)
- GI Bleeding, Ulceration and Perforation (see WARNINGS)
- Hypertension (see WARNINGS)
- Heart Failure and Edema (see WARNINGS)
- Renal Toxicity and Hypertension (see WARNINGS)
- Anaphylactic Reactions (see WARNINGS)
- Serious Skin Reactions (see WARNINGS)
- Hematologic Toxicity (see WARNINGS)

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**Clinical Trials Experience**  
Because clinical trials are conducted under widely varying conditions, adverse reaction rates observed in the clinical trials of a drug cannot be directly compared to rates in the clinical trials of another drug and may not reflect the rates observed in practice.

In 718 patients treated for osteoarthritis, i.e., 2 weeks or less, with diclofenac potassium immediate-release tablets, adverse reactions were reported one-half to one-third as frequently as with Voltaren® treated for longer periods. In a 6-month, double-blind trial comparing diclofenac potassium tablets (N=196) versus VOLTAREN® (N=197), adverse reactions were similar in nature and frequency.

In patients taking diclofenac potassium tablets or other NSAIDs, the most frequently reported adverse experiences occurring in 1% or more of patients were:

- headache
- indigestion or heartburn
- diarrhea
- constipation
- nausea
- flatulence
- gas
- stomach pain
- abdominal pain
- constipation
- diarrhea
- dyspepsia
- fatigue
- gas
- gastrointestinal perforation, heartburn, nausea, GI ulcers (gastrointestinal) and vomiting.

Abnormal renal function, anemia, dizziness, edema, elevated liver enzymes, headaches, increased bleeding time, pruritus, rashes and tinnitus.

**Additional adverse experiences reported occasionally include:**

- GI Bleeding, Ulceration and Perforation (see WARNINGS)
- Hypertension (see WARNINGS)
- Heart Failure and Edema (see WARNINGS)
- Renal Toxicity and Hypertension (see WARNINGS)
- Anaphylactic Reactions (see WARNINGS)
- Serious Skin Reactions (see WARNINGS)
- Hematologic Toxicity (see WARNINGS)

**Body as a Whole:** fever, infection, sepsis

**Cardiovascular System:** congestive heart failure, hypertension, tachycardia, syncope

**Digestive System:** dry mouth, esophagitis, gastropeptic ulcers, gastritis, gastrointestinal bleeding, glossitis, hamatemesis, hepatitis, jaundice

**Hemic and Lymphatic System:** acychromia, eosinophilia, leukopenia, melena, purpura, renal bleeding, stomatitis, thrombocytopenia

**Metabolic and Nutritional:** weight changes

**Nervous System:** anxiety, ataxia, confusion, depression, dream abnormalities, drowsiness, isomnia, malaise, nervousness, paresthesia, somnolence, tremors, vertigo

**Respiratory System:** asthma, dyspnea

**Skin and Appendages:** alopecia, photosensitivity, sweating increased

**Special Senses:** blurred vision

**Urogenital System:** cystitis, dysuria, hematuria, interstitial nephritis, oliguria/polyuria, proteinuria, renal failure