

# PRODUCT MONOGRAPH

**Pr AVA-DICLOFENAC**  
**Pr AVA-DICLOFENAC SR**  
(diclofenac sodium)

25 mg and 50 mg Enteric-Coated Tablets  
75 and 100 mg Slow-Release Tablets

Nonsteroidal Anti-Inflammatory Drug (NSAID)

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Pr **AVA-DICLOFENAC**  
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(diclofenac sodium)

**PART I: HEALTH PROFESSIONAL INFORMATION**

**SUMMARY PRODUCT INFORMATION**

<b>Route of Administration</b>	<b>Dosage Form Strength</b>	<b>Clinically Relevant Non-medicinal Ingredients</b>
Oral	Enteric Coated Tablets, 25 mg, 50 mg	Lactose <i>For a complete listing see Dosage Forms, Composition and Packaging section</i>
	Slow-release Tablets, 75 mg, 100 mg	Sucrose <i>For a complete listing see Dosage Forms, Composition and Packaging section</i>

**INDICATIONS AND CLINICAL USE**

AVA-DICLOFENAC (diclofenac sodium) and AVA-DICLOFENAC SR (diclofenac sodium) are indicated for the following:

- the symptomatic treatment of rheumatoid arthritis and osteoarthritis, including degenerative joint disease of the hip.

*Throughout this document, the term NSAIDs refers to both non-selective NSAIDs and selective COX-2 inhibitor NSAIDs, unless otherwise indicated.*

**For patients with an increased risk of developing CV and/or GI adverse events, other management strategies that do NOT include the use of NSAIDs should be considered first.** (See CONTRAINDICATIONS and WARNINGS AND PRECAUTIONS)

**Use of AVA-DICLOFENAC or AVA-DICLOFENAC SR should be limited to the lowest effective dose for the shortest possible duration of treatment in order to minimize the potential risk for cardiovascular or gastrointestinal adverse events.** (See CONTRAINDICATIONS and WARNINGS AND PRECAUTIONS)

AVA-DICLOFENAC and AVA-DICLOFENAC SR, as NSAIDs, do NOT treat clinical disease or prevent its progression.

AVA-DICLOFENAC and AVA-DICLOFENAC SR, as NSAIDs, only relieve symptoms and decrease inflammation for as long as the patients continues to take them.

### **Patients Subsets**

#### **Geriatrics**

Evidence from clinical studies and post-market experience suggests that use in the geriatric population is associated with differences in safety (See WARNINGS AND PRECAUTIONS).

#### **Pediatrics (< 16 years of age)**

Safety and efficacy have not been established in the pediatric population.

### **CONTRAINDICATIONS**

Diclofenac sodium is contraindicated in:

- the peri-operative setting of coronary artery bypass graft surgery (CABG). Although diclofenac sodium has NOT been studied in this patient population, a selective COX-2 inhibitor NSAID studied in such a setting has led to an increased incidence of cardiovascular/thromboembolic events, deep surgical infections and sternal wound complications.
- the third trimester of pregnancy, because of risk of premature closure of the ductus arteriosus and prolonged parturition
- women who are breastfeeding, because of the potential for serious adverse reactions in nursing infants
- severe uncontrolled heart failure
- known hypersensitivity to diclofenac sodium or to any of the components/excipients
- history of asthma, urticaria, or allergic-type reactions after taking ASA or other NSAIDs (i.e. complete or partial syndrome of ASA-intolerance - rhinosinusitis, urticaria/ angioedema, nasal polyps, asthma). Fatal anaphylactoid reactions have occurred in such individuals. Individuals with the above medical problems are at risk of a severe reaction even if they have taken NSAIDs in the past without any adverse reaction. The potential for cross-reactivity between different NSAIDs must be kept in mind (see WARNINGS AND PRECAUTIONS – Hypersensitivity Reactions - Anaphylactoid Reactions).
- active gastric / duodenal / peptic ulcer, active GI bleeding or perforation, regional ulcer, gastritis or ulcerative colitis
- cerebrovascular bleeding or other bleeding disorders
- inflammatory bowel disease
- severe liver impairment or active liver disease
- severe renal impairment (creatinine clearance <30 mL/min or 0.5 mL/sec) or deteriorating renal disease (individuals with lesser degrees of renal impairment are at risk of deterioration of their renal function when prescribed NSAIDs and must be monitored) (see WARNINGS AND PRECAUTIONS - Renal)
- known hyperkalemia (see WARNINGS AND PRECAUTIONS - Renal - Fluid and Electrolyte Balance)
- children and adolescents less than 16 years of age

## WARNINGS AND PRECAUTIONS

**Risk of Cardiovascular (CV) Adverse Events: Ischemic Heart Disease, Cerebrovascular Disease, Congestive Heart Failure (NYHA II-IV) (See WARNINGS AND PRECAUTIONS - Cardiovascular).**

**Diclofenac sodium is a non-steroidal anti-inflammatory drug (NSAID). Use of some NSAIDs is associated with an increased incidence of cardiovascular adverse events (such as myocardial infarction, stroke or thrombotic events) which can be fatal. The risk may increase with duration of use. Patients with cardiovascular disease or risk factors for cardiovascular disease may be at greater risk.**

**Caution should be exercised in prescribing diclofenac sodium to any patient with ischemic heart disease (including but NOT limited to acute myocardial infarction, history of myocardial infarction and/or angina), cerebrovascular disease (including but NOT limited to stroke, cerebrovascular accident, transient ischemic attacks and/or amaurosis fugax) and/or congestive heart failure (NYHA II-IV).**

**Use of NSAIDs, such as diclofenac sodium, can promote sodium retention in a dose-dependent manner, through a renal mechanism, which can result in increased blood pressure and/or exacerbation of congestive heart failure. (see also WARNINGS AND PRECAUTIONS - Renal - Fluid and Electrolyte Balance)**

**Randomized clinical trials with diclofenac sodium has not been designed to detect differences in cardiovascular events in a chronic setting. Therefore, caution should be exercised when prescribing diclofenac sodium.**

**Risk of Gastrointestinal (GI) Adverse Events (see WARNINGS AND PRECAUTIONS–Gastrointestinal).**

**Use of NSAIDs, such as diclofenac sodium, is associated with an increased incidence of gastrointestinal adverse events (such as peptic/duodenal ulceration, perforation, obstruction and gastrointestinal bleeding).**

### **General**

Frail or debilitated patients may tolerate side effects less well and therefore special care should be taken in treating this population. **To minimize the potential risk for an adverse event, the lowest effective dose should be used for the shortest possible duration.** As with other NSAIDs, caution should be used in the treatment of elderly patients who are more likely to be suffering from impaired renal, hepatic or cardiac function. For high risk patients, alternate therapies that do not involve NSAIDs should be considered.

Diclofenac sodium is NOT recommended for use with other NSAIDs, with the exception of low-dose ASA for cardiovascular prophylaxis, because of the absence of any evidence demonstrating

synergistic benefits and the potential for additive adverse reactions. (See DRUG INTERACTIONS - Drug/Drug Interactions - Acetylsalicylic acid (ASA) or other NSAIDs)

**Diclofenac sodium should not be used concomitantly with diclofenac potassium since both exist in plasma as the same active organic ion.**

### **Carcinogenesis and Mutagenesis**

(See TOXICOLOGY)

### **Cardiovascular**

**Diclofenac sodium is a non-steroidal anti-inflammatory drug (NSAID). Use of some NSAIDs is associated with an increased incidence of cardiovascular adverse events (such as myocardial infarction, stroke or thrombotic events) which can be fatal. Large population-based observational studies, meta-analyses and systematic reviews suggest an increased risk of myocardial infarction and stroke also in association with the use of diclofenac. The risk may increase with the dose and duration of use. Patients with cardiovascular disease or risk factors for cardiovascular disease may be at greater risk.**

**Caution should be exercised in prescribing diclofenac sodium to patients with risk factors for cardiovascular disease, cerebrovascular disease or renal disease, such as any of the following (NOT an exhaustive list):**

- **Hypertension**
- **Dyslipidemia / Hyperlipidemia**
- **Diabetes Mellitus**
- **Congestive Heart Failure (NYHA I)**
- **Coronary Artery Disease (Atherosclerosis)**
- **Peripheral Arterial Disease**
- **Smoking**
- **Creatinine Clearance < 60 mL/min or 1 mL/sec**

Use of NSAIDs, such as diclofenac sodium can lead to new hypertension or can worsen pre-existing hypertension, either of which may increase the risk of cardiovascular events as described above. Thus blood pressure should be monitored regularly. Consideration should be given to discontinuing diclofenac sodium should hypertension either develop or worsen with its use.

Use of NSAIDs, such as diclofenac sodium, can induce fluid retention and edema, and may exacerbate congestive heart failure, through a renally-mediated mechanism. (See WARNINGS AND PRECAUTIONS - Renal - Fluid and Electrolyte Balance).

For patients with a high risk of developing an adverse CV event, other management strategies that do NOT include the use of NSAIDs should be considered first. **To minimize the potential risk for an adverse CV event, the lowest effective dose should be used for the shortest possible duration.**

### **Endocrine and Metabolism**

**Corticosteroids:** Diclofenac sodium is NOT a substitute for corticosteroids. It does NOT treat corticosteroid insufficiency. Abrupt discontinuation of corticosteroids may lead to exacerbation

of corticosteroid-responsive illness. Patients on prolonged corticosteroid therapy should have their therapy tapered slowly if a decision is made to discontinue corticosteroids. (see DRUG INTERACTIONS - Drug-Drug Interactions - Glucocorticoids)

### **Gastrointestinal (GI)**

Serious GI toxicity (sometimes fatal), such as peptic/duodenal ulceration, inflammation, perforation, obstruction and gastrointestinal bleeding, can occur at any time, with or without warning symptoms, in patients treated with NSAIDs, such as diclofenac sodium. Minor upper GI problems, such as dyspepsia, commonly occur at any time. Health care providers should remain alert for ulceration and bleeding in patients treated with diclofenac sodium, even in the absence of previous GI tract symptoms. Most spontaneous reports of fatal GI events are in elderly or debilitated patients and therefore special care should be taken in treating this population. **To minimize the potential risk for an adverse GI event, the lowest effective dose should be used for the shortest possible duration.** For high risk patients, alternate therapies that do not involve NSAIDs should be considered. (see WARNINGS AND PRECAUTIONS – Special Populations – Geriatrics)

Patients should be informed about the signs and/or symptoms of serious GI toxicity and instructed to discontinue using diclofenac sodium and seek emergency medical attention if they experience any such symptoms. The utility of periodic laboratory monitoring has NOT been demonstrated, nor has it been adequately assessed. Most patients who develop a serious upper GI adverse event on NSAID therapy have no symptoms. Upper GI ulcers, gross bleeding or perforation, caused by NSAIDs, appear to occur in approximately 1% of patients treated for 3-6 months, and in about 2-4% of patients treated for one year. These trends continue, thus increasing the likelihood of developing a serious GI event at some time during the course of therapy. Even a short-term therapy has its risks.

Caution should be taken if prescribing diclofenac sodium to patients with a prior history of peptic / duodenal ulcer disease or gastrointestinal bleeding as these individuals have a greater than 10-fold higher risk for developing a GI bleed when taking a NSAID than patients with neither of these risk factors. Other risk factors for GI ulceration and bleeding include the following: *Helicobacter pylori* infection, increased age, prolonged use of NSAID therapy, excess alcohol intake, smoking, poor general health status or concomitant therapy with any of the following:

- Anti-coagulants (e.g. warfarin)
- Anti-platelet agents (e.g. ASA, clopidogrel)
- Oral corticosteroids (e.g. prednisone)
- Selective Serotonin Reuptake Inhibitors (SSRIs) (e.g. citalopram, fluoxetine, paroxetine, sertraline)

There is no definitive evidence that the concomitant administration of histamine H<sub>2</sub>-receptor antagonists and/or antacids will either prevent or reduce the occurrence of gastrointestinal adverse events associated with the use of diclofenac sodium slow-release tablets or the enteric-coated or suppository formulation of diclofenac sodium. Concurrent administration of histamine H<sub>2</sub>-receptor antagonists and/or antacids with the enteric-coated version of diclofenac sodium might result in altered absorption.

### **Genitourinary**

Some NSAIDs are associated with persistent urinary symptoms (bladder pain, dysuria, urinary frequency), hematuria or cystitis. The onset of these symptoms may occur at any time after the initiation of therapy with an NSAID. Should urinary symptoms occur, in the absence of an alternate explanation, treatment with diclofenac sodium should be stopped to ascertain if symptoms disappear. This should be done before urological investigations or treatments are carried out.

### **Hematologic**

NSAIDs inhibiting prostaglandin biosynthesis interfere with platelet function to varying degrees; patients who may be adversely affected by such an action, such as those on anti-coagulants or suffering from hemophilia or platelet disorders should be carefully observed when diclofenac sodium is administered.

**Anti-coagulants:** Numerous studies have shown that the concomitant use of NSAIDs and anti-coagulants increases the risk of bleeding. Concurrent therapy of diclofenac sodium with warfarin requires close monitoring of the international normalized ratio (INR).

Even with therapeutic INR monitoring, increased bleeding may occur.

**Anti-platelet Effects:** NSAIDs inhibit platelet aggregation and have been shown to prolong bleeding time in some patients. Unlike acetylsalicylic acid (ASA), their effect on platelet function is quantitatively less, or of shorter duration, and is reversible.

Diclofenac sodium and other NSAIDs have no proven efficacy as anti-platelet agents and should NOT be used as a substitute for ASA or other anti-platelet agents for prophylaxis of cardiovascular thromboembolic diseases. Anti-platelet therapies (e.g. ASA) should NOT be discontinued. There is some evidence that use of NSAIDs with ASA can markedly attenuate the cardioprotective effects of ASA. (see DRUG INTERACTIONS - Drug-Drug Interactions - Acetylsalicylic Acid (ASA) or other NSAIDs)

Concomitant administration of diclofenac sodium with low dose ASA increases the risk of GI ulceration and associated complications.

**Blood dyscrasias:** Blood dyscrasias (such as neutropenia, leukopenia, thrombocytopenia, aplastic anemia and agranulocytosis) associated with the use of NSAIDs are rare, but could occur with severe consequences.

Anemia is sometimes seen in patients receiving NSAIDs, including diclofenac sodium. This may be due to fluid retention, GI blood loss, or an incompletely described effect upon erythropoiesis. Patients on long-term treatment with NSAIDs, including diclofenac sodium, should have their hemoglobin or hematocrit checked if they exhibit any signs or symptoms of anemia or blood loss.

### **Hepatic/Biliary/Pancreatic**



As with other NSAIDs, including diclofenac sodium, borderline elevations of one or more liver enzyme tests (AST, ALT, alkaline phosphatase) may occur in up to 15% of patients. These abnormalities may progress, may remain essentially unchanged, or may be transient with continued therapy.

In post-marketing 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. Post-marketing surveillance has reported cases of severe hepatic reactions, including liver necrosis, jaundice, fulminant hepatitis with and without jaundice, and liver failure. Some of these reported cases resulted in fatalities or liver transplantation.

Physicians should regularly monitor hepatic function in patients receiving diclofenac sodium. If abnormal liver function tests persist or worsen, if clinical signs and symptoms consistent with liver disease develop (e.g. nausea, fatigue, lethargy, diarrhea, pruritus, jaundice, right upper quadrant tenderness, and «flu-like» symptoms), or if other manifestations occur (e.g. eosinophilia, associated with rash etc.), this drug should be discontinued. Hepatotoxic effects may occur with use of diclofenac without prodromal symptoms.

To minimize the possibility that hepatic injury will become severe between transaminase measurements, physicians should inform patients of the warning signs and symptoms of hepatotoxicity and the appropriate action patients should take if these signs and symptoms appear.

Diclofenac sodium is contraindicated in severe liver impairment or active liver disease. If there is a need to prescribe this drug to other patients with liver impairment, it must be done under strict observation.

Caution is advised when using diclofenac sodium in patients with hepatic porphyria, since diclofenac sodium may trigger an attack.

### **Hypersensitivity reactions**

**Anaphylactoid reactions:** As with NSAIDs in general, anaphylactoid reactions have occurred in patients without known prior exposure to diclofenac sodium. In post-marketing experience, rare cases of anaphylactic/ anaphylactoid reactions and angioedema have been reported in patients receiving diclofenac sodium. Diclofenac sodium should NOT be given to patients with the ASA-triad. This symptom complex typically occurs in asthmatic patients who experience rhinitis with or without nasal polyps, or who exhibit severe, potentially fatal bronchospasm after taking ASA or other NSAIDs (see CONTRAINDICATIONS).

**ASA-intolerance:** Diclofenac sodium should NOT be given to patients with complete or partial syndrome of ASA-intolerance (rhinosinusitis, urticaria/angioedema, nasal polyps, asthma) in whom asthma, anaphylaxis, urticaria/angioedema, rhinitis or other allergic manifestations are precipitated by ASA or other NSAIDs. Fatal anaphylactoid reactions have occurred in such individuals. As well, individuals with the above medical problems are at risk of a severe reaction even if they have taken NSAIDs in the past without any adverse reaction. (See CONTRAINDICATIONS).

**Cross-sensitivity:** Patients sensitive to any one of the NSAIDs may be sensitive to any of the other NSAIDs as well.

**Serious Skin Reactions:**

(See WARNINGS AND PRECAUTIONS - Skin)

**Immune**

(See WARNINGS AND PRECAUTIONS - Infection- Aseptic Meningitis)

**Infection**

Diclofenac sodium, in common with other NSAIDs, may mask signs and symptoms of an underlying infectious disease.

**Aseptic Meningitis:** Rarely, with some NSAIDs, the symptoms of aseptic meningitis (stiff neck, severe headaches, nausea and vomiting, fever or clouding of consciousness) have been observed. Patients with autoimmune disorders (systemic lupus erythematosus, mixed connective tissue diseases, etc.) seem to be pre-disposed. Therefore, in such patients, the health care provider must be vigilant to the development of this complication.

**Neurologic**

Some patients may experience drowsiness, dizziness, blurred vision, vertigo, insomnia, depression, tinnitus or hearing loss with the use of NSAIDs, such as diclofenac sodium. If patients experience such adverse reaction(s) they should exercise caution in carrying out activities that require alertness.

**Ophthalmologic**

Blurred and/or diminished vision has been reported with the use of NSAIDs. If such symptoms develop, diclofenac sodium should be discontinued and an ophthalmologic examination performed. Ophthalmologic examination should be carried out at periodic intervals in any patient receiving diclofenac sodium for an extended period of time.

Sun exposure in patients using diclofenac sodium might cause photosensitivity and vision changes. Patients should be advised to contact their physician for assessment and advice if this occurs.

**Peri-Operative Considerations**

(See CONTRAINDICATIONS - Coronary Artery Bypass Graft Surgery)

**Psychiatric**

(See WARNINGS AND PRECAUTIONS – Neurologic)

**Renal**

Long term administration of NSAIDs to animals has resulted in renal papillary necrosis and other abnormal renal pathology. In humans, there have been reports of acute interstitial nephritis, hematuria, low grade proteinuria and occasionally nephrotic syndrome.

During long-term therapy, kidney function should be monitored periodically. (See ACTION AND CLINICAL PHARMACOLOGY-Special Populations and Conditions-Renal Impairment)

Renal insufficiency due to NSAID use is seen in patients with pre-renal conditions leading to reduction in renal blood flow or blood volume. Under these circumstances, renal prostaglandins help maintain renal perfusion and glomerular filtration rate (GFR). In these patients, administration of a NSAID may cause a reduction in prostaglandin synthesis leading to impaired renal function. Patients at greatest risk of this reaction are those with pre-existing renal insufficiency (GFR < 60 mL/min or 1 mL/s), dehydrated patients, patients on salt restricted diets, those with congestive heart failure, cirrhosis, liver dysfunction, taking angiotensin-converting enzyme inhibitors, angiotensin-II receptor blockers, cyclosporin, diuretics, and those who are elderly. Serious or life-threatening renal failure has been reported in patients with normal or impaired renal function after short term therapy with NSAIDs. Even patients at risk who demonstrate the ability to tolerate a NSAID under stable conditions may decompensate during periods of added stress (e.g. dehydration due to gastroenteritis). Discontinuation of NSAIDs is usually followed by recovery to the pre-treatment state.

Caution should be used when initiating treatment with NSAIDs, such as diclofenac sodium, in patients with considerable dehydration. Such patients should be rehydrated prior to initiation of therapy. Caution is also recommended in patients with pre-existing kidney disease. (See WARNING AND PRECAUTIONS-Monitoring and Laboratory Tests - Renal)

**Advanced Renal Disease:** (See CONTRAINDICATIONS)

**Fluid and Electrolyte Balance:** Use of NSAIDs, such as diclofenac sodium, can promote sodium retention in a dose-dependant manner, which can lead to fluid retention and edema, and consequences of increased blood pressure and exacerbation of congestive heart failure. Thus, caution should be exercised in prescribing diclofenac sodium in patients with a history of congestive heart failure, compromised cardiac function, hypertension, increased age or other conditions predisposing to fluid retention. (See WARNINGS AND PRECAUTIONS - Cardiovascular).

Use of NSAIDs, such as diclofenac sodium, can increase the risk of hyperkalemia, especially in patients with diabetes mellitus, renal failure, increased age, or those receiving concomitant therapy with adrenergic blockers, angiotensin-converting enzyme inhibitors, angiotensin-II receptor antagonists, cyclosporin, or some diuretics. Electrolytes should be monitored periodically. (See CONTRAINDICATIONS)

### **Respiratory**

ASA-induced asthma is an uncommon but very important indication of ASA and NSAIDs sensitivity. It occurs more frequently in patients with asthma who have nasal polyps.

**Pre-existing asthma:** In patients with asthma, seasonal allergic rhinitis, swelling of the nasal mucosa (i.e. nasal polyps), chronic obstructive pulmonary diseases or chronic infections of the respiratory tract (especially if linked to allergic rhinitis-like symptoms), reactions on NSAIDs like asthma exacerbations (so-called intolerance to analgesics / analgesics-asthma), Quincke's oedema or urticaria are more frequent than in other patients. Therefore, special precaution is

recommended in such patients (readiness for emergency). This is applicable as well for patients who are allergic to other substances, e.g. with skin reactions, pruritus or urticaria.

### **Sexual Function / Reproduction**

The use of diclofenac sodium, as with any drug known to inhibit cyclooxygenase/prostaglandin synthesis, may impair fertility and is not recommended in women attempting to conceive.

Therefore, in women who have difficulties conceiving, or who are undergoing investigation of infertility, withdrawal of diclofenac sodium should be considered.

### **Skin**

In rare cases, serious skin reactions such as Stevens-Johnson syndrome, toxic epidermal necrolysis, exfoliative dermatitis and erythema multiforme have been associated with the use of some NSAIDs. Because the rate of these reactions is low, they have usually been noted during post-marketing surveillance in patients taking other medications also associated with the potential development of these serious skin reactions. Thus, causality is NOT clear. These reactions are potentially life threatening but may be reversible if the causative agent is discontinued and appropriate treatment instituted. Patients should be advised that if they experience a skin rash they should discontinue their NSAID and contact their physician for assessment and advice, including which additional therapies to discontinue.

Use of diclofenac sodium may cause photosensitivity upon exposure to sunlight or UV light causing symptoms such as sunburn, skin rash, skin blisters, pruritus, erythema and discolouration.

### **Special Populations**

**Pregnant Women: Diclofenac sodium is CONTRAINDICATED for use during the third trimester of pregnancy because of risk of premature closure of the ductus arteriosus and the potential to prolong parturition (see TOXICOLOGY).**

**Caution should be exercised in prescribing diclofenac sodium during the first and second trimesters of pregnancy (see TOXICOLOGY).**

Inhibition of prostaglandin synthesis may adversely affect pregnancy and/or the embryofoetal development. Data from epidemiological studies suggest an increased risk of miscarriage and of cardiac malformation after use of a prostaglandin synthesis inhibitor in early pregnancy. In animals, administration of a prostaglandin synthesis inhibitor has been shown to result in increased pre- and post-implantation loss and embryo-foetal lethality. In addition, increased incidences of various malformations, including cardiovascular, have been reported in animals given a prostaglandin synthesis inhibitor during the organogenetic period.

Diclofenac sodium readily crosses the placental barrier.

**Nursing Women:** (see CONTRAINDICATIONS)

**Pediatrics:** (see CONTRAINDICATIONS)

**Geriatrics:** Patients older than 65 years (referred to in this document as older or elderly) and frail or debilitated patients are more susceptible to a variety of adverse reactions from NSAIDs; the incidence of these adverse reactions increases with dose and duration of treatment. In addition, these patients are less tolerant to ulceration and bleeding. Most reports of fatal GI events are in this population. Older patients are also at risk of lower esophageal injury including ulceration and bleeding.

For such patients, consideration should be given to a starting dose lower than the one usually recommended, with individual adjustment when necessary and under close supervision.

### **Monitoring and Laboratory Tests**

**Cardiovascular (Hypertension):** Blood pressure should be monitored regularly during therapy with diclofenac sodium.

**Hematologic:** Patients on long-term treatment with diclofenac sodium should have their hemoglobin, hematocrit, red blood cells (RBC), white blood cells (WBC), and platelets checked if they exhibit any signs or symptoms of anemia or blood loss or blood dyscrasia.

Concurrent therapy of diclofenac sodium with warfarin requires close monitoring of the international normalized ratio (INR).

**Hepatic:** Hepatic function (e.g. serum transaminases, bilirubine) should be monitored regularly during therapy with diclofenac sodium.

**Ophthalmologic:** Patients on long-term treatment with diclofenac sodium should have an ophthalmologic examination performed periodically, and if they experience blurred and/or diminished vision.

**Renal:** Patients with pre-existing renal insufficiency (GFR < 60 mL/min or 1 mL/s), dehydrated patients, patients on salt restricted diets, those with congestive heart failure, cirrhosis, liver dysfunction, taking angiotensin-converting enzyme inhibitors, angiotensin-II receptor blockers, cyclosporin, diuretics, and the elderly should have their renal function monitored (e.g. urine output, serum creatinine, creatinine clearance and serum urea) during therapy with diclofenac sodium.

Electrolytes, including serum potassium, should be monitored periodically, especially in patients with diabetes mellitus, renal failure, increased age, or those receiving concomitant therapy with adrenergic blockers, angiotensin-converting enzyme inhibitors, angiotensin-II receptor antagonists, cyclosporin, or some diuretics.

## **ADVERSE REACTIONS**

### **Adverse Drug Reaction Overview**

Although not all adverse drug reactions have been reported with diclofenac sodium, the types of adverse drug reactions are expected to be similar to those of diclofenac potassium since both formulations exist in the plasma as the same active organic anion.

Gastrointestinal, dermatological, CNS and hepatic adverse reactions are the most commonly seen with diclofenac. The most severe gastrointestinal adverse reactions observed were ulceration and bleeding, while the most severe dermatological albeit rare reactions observed with diclofenac were erythema multiforme (Stevens-Johnson Syndrome and Lyell Syndrome). Fatalities have occurred on occasion, particularly in the elderly

This section summarizes adverse drug reaction data pooled from clinical trials, published investigations and post-marketing experience with diclofenac potassium and diclofenac sodium.

Frequency estimate:

Very common:  $\geq 10\%$

Common:  $\geq 1\%$  and  $< 10\%$

Uncommon:  $\geq 0.01\%$  and  $< 1\%$

Very rare  $< 0.01\%$ , including isolated reports.

**Table 1: Most Common Adverse Drug Reactions ( $\geq 1\%$ )**

<b>Gastrointestinal disorders</b>	Very common	nausea, vomiting, diarrhea, dyspepsia, abdominal pain, flatulence, anorexia
<b>Nervous System</b>	Common	dizziness, headache, vertigo
<b>Hepatic</b>	Common	elevations ( $\geq 3$ times the upper normal limit) of serum aminotransferase enzymes (SGOT or AST, SGPT or ALT).
<b>Skin and subcutaneous disorders</b>	Common	rash, pruritus

**Table 2: Less Common Adverse Drug Reactions ( $< 1\%$ )**

<b>Gastrointestinal disorders</b>	Uncommon	gastritis, gastrointestinal hemorrhage, hemorrhagic diarrhea, melena, hematemesis gastric and intestinal ulcerations (with or without bleeding or perforation)
	Very rare	lower gut disorders (including hemorrhagic colitis and exacerbation of ulcerative colitis or Crohn's disease), diaphragm-like intestinal strictures, hyperacidity, stomatitis, glossitis, coated tongue, esophageal lesions, constipation, pancreatitis
<b>Nervous System</b>	Uncommon	drowsiness, malaise, impaired concentration, tiredness
	Very rare	sensory disturbances including paresthesia, memory disturbance, convulsions, anxiety, tremor, aseptic meningitis, cerebrovascular accident (including transient ischemic attack, cerebral hemorrhage)
<b>Special senses</b>	Very rare	vision disturbances (blurred vision, diplopia), impaired hearing, tinnitus, taste alteration disorders
<b>Cardiac disorders</b>	Uncommon	palpitation, angina, arrhythmias
	Very rare	exacerbation of cardiac failure, hypertension, myocardial infarction
<b>Skin and subcutaneous</b>	Uncommon	urticaria
	Very rare	bullous eruption, erythema, eczema, erythema multiforme,

<b>disorders</b>		Stevens-Johnson Syndrome, Lyell Syndrome (toxic epidermal necrolysis), erythroderma (exfoliative dermatitis), loss of hair, photosensitivity reactions, purpura, allergic purpura
<b>Renal and urinary disorders</b>	Uncommon Very rare	edema (facial, general, peripheral) acute renal failure, nephrotic syndrome, urinary abnormalities (e.g., hematuria and proteinuria), interstitial nephritis, renal papillary necrosis
<b>Hematologic</b>	Very rare	thrombocytopenia, leukopenia, agranulocytosis, hemolytic anemia, aplastic anemia, anemia secondary to gastrointestinal bleeding
<b>Hepatic</b>	Uncommon Very rare	liver function disorders including hepatitis, liver necrosis, liver failure, jaundice fulminant hepatitis
<b>Immune system disorders</b>	Uncommon Very rare	hypersensitivity anaphylactic / anaphylactoid systemic reactions (including hypotension and shock) angioneurotic edema, (including face edema)
<b>Psychiatric disorders</b>	Very rare	disorientation, depression, insomnia, nightmare, irritability, psychotic disorder
<b>Respiratory disorders</b>	Uncommon Very rare	asthma pneumonitis

### **Post-Market Adverse Drug Reactions**

**Hepatic:** Severe hepatic reactions including liver necrosis, fulminant hepatitis with and without jaundice, and liver failure, some of them with fatal outcome or requiring liver transplantation (see WARNINGS AND PRECAUTIONS – Hepatic/Biliary/Pancreatic).

## **DRUG INTERACTIONS**

### **Drug-Drug Interactions**

#### **Overview**

**Effect of Other Drugs on the Metabolism of diclofenac:** Co-prescribing diclofenac with potent CYP2C9 inhibitors could result in a significant increase in peak plasma concentrations and exposure to diclofenac due to inhibition of diclofenac metabolism.

**Table 3: Established Potential Drug-Drug Interactions**

Diclofenac sodium	Clinical comment
Acetaminophen	There may be an increased risk of adverse renal effects when administered concomitantly with NSAIDs.
Acetylsalicylic acid (ASA) or other NSAIDs	The use of diclofenac sodium in addition to any other NSAID, including over the counter ones (such as ASA and ibuprofen) for analgesic and/or anti-inflammatory effects is NOT recommended because of the absence of any evidence demonstrating synergistic benefits and the potential for additive adverse reactions.

	<p>The exception is the use of low dose ASA for cardiovascular protection when another NSAID is being used for its analgesic/anti-inflammatory effect, keeping in mind that combination NSAID therapy is associated with additive adverse reactions.</p> <p>Some NSAIDs (e.g. ibuprofen) may interfere with the anti-platelet effects of low dose ASA, possible by competing with ASA for access to the active site of cyclooxygenase-1.</p> <p>Diclofenac sodium should not be used concomitantly with diclofenac potassium since both exist in plasma as the same active organic ion.</p> <p>Concomitant administration of diclofenac and other systemic NSAIDs or corticosteroids may increase the frequency of gastrointestinal undesirable effects.</p>
Alcohol	There may be an increased risk of gastrointestinal side effects, including ulceration or hemorrhage, when administered concomitantly with NSAIDs.
Antacids	Concomitant administration of antacids with NSAIDs may affect the rate, but generally not the extent of the absorption of the NSAID
Anticoagulants	(See WARNINGS AND PRECAUTIONS- Hematologic- Anti-coagulants)
Anti-hypertensives	NSAIDs may diminish the anti-hypertensive effect of Angiotensin Converting Enzyme (ACE) inhibitors. Combinations of ACE inhibitors, angiotensin-II antagonists, or diuretics with NSAIDs might have an increased risk for acute renal failure and hyperkalemia. Blood pressure and renal function (including electrolytes) should be monitored more closely in this situation, as occasionally there can be a substantial increase in blood pressure.(see WARNINGS AND PRECAUTIONS – Renal) Therefore the combination should be administered with caution and patients, especially the elderly (see WARNINGS AND PRECAUTIONS - Monitoring and Laboratory Tests)
Anti-platelet agents (including ASA)	There is an increased risk of bleeding, via inhibition of platelet function, when anti-platelet agents are combined with NSAIDs, such as diclofenac sodium (see WARNINGS AND PRECAUTIONS – Hematologic - Anti-platelet Effects).
Cyclosporin	Nephrotoxicity of cyclosporin may be increased because of the effect of NSAIDs on renal prostaglandins. Therefore, it should be given at doses lower than those that would be used in patients not receiving cyclosporin.
Digoxin	Diclofenac may increase the plasma concentration of digoxin. Dosage adjustment may be required. Monitoring of serum digoxin level is recommended



Diuretics	<p>Clinical studies as well as post-marketing observations have shown that NSAIDs can reduce the effect of diuretics. (see WARNINGS AND PRECAUTIONS – Renal).</p> <p><b>Class Statement</b>  Concomitant treatment with potassium-sparing diuretics may be associated with increased serum potassium, thus making it necessary to monitor levels. (see WARNINGS AND PRECAUTIONS – Monitoring and Laboratory Tests – Renal)</p>
Glucocorticoids	<p>Some studies have shown that concomitant use of NSAIDs and oral glucocorticoids increases the risk of GI adverse events such as ulceration and bleeding. This is especially the case in older (&gt;65 years of age) individuals.</p>
Lithium	<p>Monitoring of plasma lithium concentrations is advised when stopping or starting a NSAID, as increased lithium concentrations can occur in patients taking lithium. Dosage adjustment of lithium may be required.</p>
Methotrexate	<p>Caution should be exercised when NSAIDs, including diclofenac sodium, are administered less than 24 hours before or after treatment with methotrexate. Elevated blood concentrations of methotrexate may occur, increasing toxicity.</p>
Oral Hypoglycemics	<p>Pharmacodynamic studies have shown no potentiation of effect with concurrent administration with diclofenac; however, there are isolated reports of both hypoglycemic and hyperglycemic effects in the presence of diclofenac, which necessitated changes in the dosage of hypoglycemic agents. For this reason, monitoring of the blood glucose level is recommended as a precautionary measure during concomitant therapy.</p>
Phenytoin	<p>When using phenytoin concomitantly with diclofenac, monitoring of phenytoin plasma concentrations is recommended due to an expected increase in exposure to phenytoin.</p>
Probenecid	<p>May decrease the excretion and increase serum concentrations of NSAIDs possibly enhancing effectiveness and/or increasing potential for toxicity. Concurrent therapy of NSAIDs with probenecid requires close monitoring to be certain that no change in dosage is necessary.</p>
Quinolone antibacterials	<p>There have been isolated reports of convulsions which may have been due to concomitant use of quinolones and NSAIDs.</p>
Selective serotonin reuptake inhibitors (SSRIs)	<p>Concomitant administration of NSAIDs, including diclofenac sodium, and SSRIs may increase the risk of gastrointestinal ulceration and bleeding. (see WARNINGS AND PRECAUTIONS – Gastrointestinal(GI))</p>
Sulfinpyrazone	<p>Caution is recommended when co-prescribing diclofenac with potent CYP2C9 inhibitors (such as sulfinpyrazone, which could result in a significant increase in peak plasma concentrations and exposure to diclofenac due to inhibition of diclofenac metabolism.</p>
Tacrolimus	<p>Nephrotoxicity of tacrolimus may be increased because of the</p>

	effect of NSAIDs on renal prostaglandins. Therefore, it should be given at doses lower than those that would be used in patients not receiving tacrolimus.
Voriconazole	Caution is recommended when co-prescribing diclofenac with potent CYP2C9 inhibitors (such as voriconazole), which could result in a significant increase in peak plasma concentrations and exposure to diclofenac due to inhibition of diclofenac metabolism.

### **Drug-Food Interactions**

Interactions with food have not been established.

### **Drug-Herb Interactions**

Interactions with herbal products have not been established.

### **Drug Laboratory Tests Interactions:**

Diclofenac increases platelet aggregation time but does not affect bleeding time, plasma thrombin clotting time, plasma fibrinogen, or factors V and VII to XII. Statistically significant changes in prothrombin and partial thromboplastin times have been reported in normal volunteers. The mean changes were observed to be less than 1 second in both instances, and are unlikely to be clinically important.

Persistently abnormal or worsening renal, hepatic or hematological test values should be followed up carefully since they may be related to therapy.

### **Drug-Lifestyle Interactions**

Patients experiencing visual disturbances, dizziness, vertigo, somnolence or other central nervous system disturbances while taking diclofenac sodium should refrain from driving or using machines.

## **DOSAGE AND ADMINISTRATION**

### **Dosing Considerations**

**Geriatrics:** For such patients, consideration should be given to a starting dose lower than the one usually recommended, with individual adjustment when necessary and under close supervision. (See WARNINGS AND PRECAUTIONS – Special Populations - Geriatrics)

**Renal Insufficiency:** Lower doses of AVA-DICLOFENAC and AVA-DICLOFENAC SR should be considered in patients with impaired renal function. (see WARNINGS AND PRECAUTIONS – Renal)

**Hepatic Impairment:** Lower doses of AVA-DICLOFENAC and AVA-DICLOFENAC SR should be considered in patients with impaired hepatic function. (see WARNINGS AND PRECAUTIONS – Hepatic/Biliary/Pancreatic)

### **Recommended Dose and Dose Adjustment**

AVA-DICLOFENAC and AVA-DICLOFENAC SR are to be used for maintenance therapy only.

As a general recommendation, the dose should be individually adjusted and the lowest effective dose given for the shortest possible duration.

**AVA-DICLOFENAC Tablets 25 mg and 50 mg (enteric-coated)**

Rheumatoid arthritis and osteoarthritis patients may use AVA-DICLOFENAC (diclofenac sodium) enteric-coated tablets if:

- They were previously initiated at the lowest dose of 75 mg (enteric-coated) per day in 3 divided doses and required up-titration because they did not respond to that dose.
- The maximum recommended daily dose is 100 mg.
- For patients experiencing an inflammatory flare, who do not achieve control of symptoms with 100 mg of diclofenac, the dosage may be increased to a maximum of 150 mg per day in divided doses (50 mg TID), for the shortest possible duration and under close monitoring (See WARNINGS and PRECAUTIONS – Cardiovascular). In elderly patients, and patients with renal insufficiency, hepatic impairment or with a cardiovascular risk, the maximum daily dose should not exceed 100 mg of diclofenac (see Dosing Considerations).

AVA-DICLOFENAC should be taken with food and the tablets should be swallowed whole.

**AVA-DICLOFENAC SR 75 mg and 100 mg (slow-release tablets)**

- Patients with rheumatoid arthritis or osteoarthritis on a maintenance dose of 75 mg diclofenac sodium per day may be changed to a once daily dose of AVA-DICLOFENAC SR 75 mg administered morning or evening.
- Patients on a maintenance dose of 100 mg diclofenac sodium per day may be changed to a once daily dose of AVA-DICLOFENAC SR 100 mg, administered morning or evening.
- The maximum recommended daily dose is 100 mg.
- For patients experiencing an inflammatory flare, who do not achieve control of symptoms with 100 mg of diclofenac, the dosage may be increased to a maximum of 150 mg per day in divided doses (75 mg administered morning and evening), for the shortest possible duration and under close monitoring (See WARNINGS and PRECAUTIONS – Cardiovascular).
- In elderly patients, and patients with renal insufficiency, hepatic impairment or with a cardiovascular risk, the maximum daily dose should not exceed 100 mg of diclofenac (see Dosing Considerations).

AVA-DICLOFENAC SR tablets should be swallowed whole with liquid, preferably at mealtime.

**Missed Dose**

Patients who miss one or more doses of AVA-DICLOFENAC (diclofenac sodium) 25 mg or 50 mg tablets or AVA-DICLOFENAC SR (diclofenac sodium) 75 and 100 mg tablets should not increase the dose of AVA-DICLOFENAC (diclofenac sodium) or AVA-DICLOFENAC SR to

compensate for the missed dose or doses, but should continue with their therapy as soon as possible.

## OVERDOSAGE

For management of a suspected drug overdose, contact your regional Poison Control Center.
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### **Symptoms**

There is no typical clinical picture resulting from diclofenac overdose. Overdosage can cause symptoms such as vomiting, gastrointestinal haemorrhage, diarrhoea, dizziness, tinnitus or convulsions. In the event of significant poisoning, acute renal failure and liver damage are possible.

### **Therapeutic measures**

Management of acute poisoning with NSAIDs, including diclofenac sodium, essentially consists of supportive measures and symptomatic treatment. Supportive measures and symptomatic treatment should be given for complications such as hypotension, renal failure, convulsions, gastrointestinal disorder, and respiratory depression. Special measures such as forced diuresis, dialysis or haemoperfusion are probably of no help in eliminating NSAIDs, including diclofenac sodium, due to the high protein binding and extensive metabolism. Activated charcoal may be considered after ingestion of a potentially toxic overdose, and gastric decontamination (e.g. vomiting, gastric lavage) after ingestion of a potentially life threatening overdose.

## ACTION AND CLINICAL PHARMACOLOGY

### **Mechanism of Action**

Diclofenac sodium is a non-steroidal anti-inflammatory drug (NSAID). The mode of action is not fully known but it does not act through the pituitary-adrenal axis. Diclofenac sodium inhibits prostaglandin synthesis by interfering with the action of prostaglandin synthetase. This inhibitory effect may partially explain its actions.

### **Pharmacodynamics**

The effects of diclofenac sodium is largely mediated by inhibition of cyclooxygenases (COXs, COX-1, COX-2). These enzymes are found throughout the body and produce prostaglandins, which are important mediators of pain, fever, and adaptive and protective reactions in many organs and (inflamed) tissues.

### **Pharmacokinetics**

**Absorption:** In humans, orally-administered diclofenac sodium is rapidly and almost completely absorbed and distributed to blood, liver, and kidneys. The plasma concentrations show a linear relationship to the amount of drug administered. No accumulation occurs provided the recommended dosage intervals are observed.

Enteric coating may delay the onset of absorption from 50 mg tablets. Absorption occurs more rapidly when the drug is administered on an empty stomach ( $T_{\max}$  2.5 hours), than with meals ( $T_{\max}$  6 hours). The bioavailability remains the same under both conditions. The mean peak plasma concentration of 1.5 mcg/mL (5 nmol/L) is attained, on average, 2 hours after ingestion of one 50 mg enteric-coated tablet.

Following administration of slow-release (SR) diclofenac sodium,  $C_{\max}$  is reached at approximately 4 hours or later. Significant drug plasma concentrations persist when levels would have dropped almost to baseline values following enteric-coated tablet administration. Mean plasma concentrations of 13 ng/mL (40 nmol/L) were produced 24 hours after diclofenac sodium SR 100 mg, or 16 hours after diclofenac sodium SR 75 mg (single dose). Trough levels are approximately 22-25 ng/mL (70-80 nmol/L) during treatment with diclofenac sodium SR 100 once daily or diclofenac sodium SR 75 twice daily. In pharmacokinetic studies no accumulation of diclofenac sodium was found following repeated once daily administration of diclofenac sodium SR 100 mg tablets or repeated twice daily administration of diclofenac sodium SR 75 mg tablets.

**Distribution:** Diclofenac sodium is extensively bound (99%) to serum albumin. The apparent volume of distribution is 0.12 to 0.17 L/kg. Single-dose (P.O. or I.M.) studies in rheumatoid patients with joint effusions have shown that diclofenac is distributed to the synovial fluid, where  $T_{\max}$  occurs 2 to 4 hours after plasma  $T_{\max}$ . Synovial fluid concentrations exceed plasma levels within 4 to 6 hours of administration. This elevation above plasma concentrations can be maintained for up to 12 hours. The synovial fluid elimination half-life is at least 3 times greater than that for plasma.

**Metabolism:** Diclofenac undergoes single and multiple hydroxylation and methoxylation, producing 3'-, 4'-, 5-hydroxy, 4'-5-hydroxy and 3'-hydroxy-4'-methoxy derivatives of diclofenac. These phenolic metabolites are largely inactive, and (along with the parent compound) are mostly converted to glucuronide conjugates.

**Excretion:** Plasma clearance of diclofenac is  $263 \pm 56$  mL/min. The mean terminal drug half-life in plasma is 1.8 hours after oral doses. In humans about 60% of the drug and its metabolites are eliminated in the urine and the balance through bile in the feces. More than 90% of an oral dose is accounted for in elimination products within 72 hours. About 1% of an oral dose is excreted unchanged in urine.

### **Special Populations and Conditions**

**Renal Impairment:** In patients suffering from renal impairment, no accumulation of the unchanged active substance can be inferred from the single-dose kinetics when applying the usual dosage schedule. At a creatinine clearance of  $<10$  mL/min, the calculated steady-state plasma levels of the hydroxy metabolites are about 4 times higher than in normal subjects. However, the metabolites are ultimately cleared through the bile. Although no accumulation of pharmacologically active substance seem to occur, caution is advised while administering diclofenac sodium to patients with impaired kidney function (ie GFR  $< 60$  mL/min or 1 mL/sec) (see WARNINGS AND PRECAUTIONS - Renal). Diclofenac sodium is contraindicated in

patients with severely impaired or deteriorating renal function (creatinine clearance < 30 mL/min (0.5 mL/s) (see CONTRAINDICATIONS).

**Hepatic impairment:** In a study of ten patients with impaired hepatic function (chronic hepatitis and non-decompensated cirrhosis) receiving a single oral dose of 100 mg diclofenac sodium, the kinetics and metabolism of diclofenac, were the same as in patients without liver disease.

**Pediatrics:** Diclofenac sodium is contraindicated in children and adolescents less than 16 years of age. (see CONTRAINDICATIONS)

**Geriatrics:** The ability of elderly subjects to absorb, metabolize and excrete diclofenac sodium does not appear to differ significantly from those of younger subjects.

## STORAGE AND STABILITY

Protect the tablets from heat (i.e., store between 15°C-30°C) and humidity.

## DOSAGE FORMS, COMPOSITION AND PACKAGING

### **AVA-DICLOFENAC (enteric-coated) 25 mg Tablets:**

Yellow, round, slightly biconvex, enteric-coated, tablets.

Printed **S** on one side and **25** on the other.

Available in bottles of 100 tablets.

### **AVA-DICLOFENAC (enteric-coated) 50 mg Tablets:**

Light brown, round, slightly biconvex, enteric-coated, tablets.

Printed **S** on one side and **50** on the other.

Available in bottles of 100 tablets.

### **AVA-DICLOFENAC SR 75 mg Slow-Release Tablets:**

Light pink, triangular, biconvex, film-coated tablets.

Printed **S** on one side and **SR 75** on the other.

Available in bottles of 100 tablets.

### **AVA-DICLOFENAC SR 100 mg Slow-Release Tablets:**

Pink, round, biconvex, film-coated tablets.

Printed **S** on one side and **SR100** on the other.

Available in bottles of 100 tablets.

## **Composition:**

### **AVA-DICLOFENAC 25 mg and 50 mg enteric-coated tablets:**

Each tablet contains the medicinal ingredient diclofenac sodium and non-medicinal ingredients: black ink, castor oil derivatives, colloidal silicon dioxide, corn starch, hypromellose, iron oxides,

lactose, magnesium stearate, microcrystalline cellulose, polyethylene glycol, povidone, sodium starch glycolate, talc, titanium dioxide.

**AVA-DICLOFENAC SR 75 mg and 100 mg slow-release tablets:**

Each tablet contains the medicinal ingredient diclofenac sodium and non-medicinal ingredients: black ink, carnauba wax, cellulose compounds, cetyl alcohol, colloidal silicon dioxide, hypromellose, magnesium stearate, polysorbate 80, povidone, red iron oxide, sucrose, talc, titanium dioxide.

## PART II: SCIENTIFIC INFORMATION

### PHARMACEUTICAL INFORMATION

**Drug Substance:**

Proper name:

Diclofenac sodium

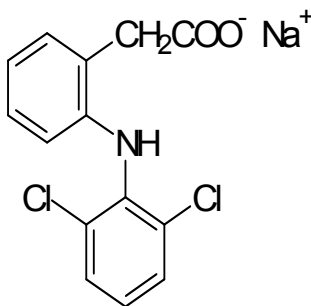
Chemical Name:

Sodium-[o-[(2,6-dichlorophenyl)-amino]-phenyl]-acetate

Molecular formula and molecular mass:

C<sub>14</sub>H<sub>10</sub>Cl<sub>2</sub>NNaO<sub>2</sub> ; 318.1

Structural formula:



Physicochemical properties:

White to off-white powder with a salty bitter taste. At 25°C, diclofenac sodium is 2% soluble in water (pH 7.7). It is practically insoluble in aqueous acidic solutions

### CLINICAL TRIALS

Randomized clinical trials with diclofenac sodium has NOT been designed to detect differences in cardiovascular adverse events in a chronic setting.

However, large population-based observational studies, meta-analyses and systematic reviews suggest that diclofenac use is associated with an increased risk of cardiovascular thrombotic events, including myocardial infarction and ischemic stroke. Results of some studies suggest that the CV risk is related to the dose and duration of diclofenac exposure and is greater in patients with risk factors for CV disease.

*The information provided below supported the original registration and its subsequent amendments. These studies were conducted in accordance with the standards and regulations in force at the time of conduct of these studies.*

**Enteric coated tablets**

The therapeutic safety and efficacy of diclofenac sodium in arthritic conditions has been investigated in both short and long-term (three months) controlled clinical studies, followed by extended controlled and non-controlled studies. The majority of the comparative studies were double blind, within patient or between patient design, using placebo and indomethacin as



controls. Acetylsalicylic acid (ASA), ibuprofen, phenylbutazone and acetaminophen were also used as comparative standards.

At time of approval, the safety and efficacy of diclofenac sodium for relief of the signs and symptoms of osteoarthritis and rheumatoid arthritis was demonstrated in short-term prospective comparative clinical trials conducted in 105 patients with osteoarthritis and 654 patients with rheumatoid arthritis. The controls used in these trials included: indomethacin, acetylsalicylic acid, acetaminophen and ibuprofen.

Several of the long-term double-blind, between patient studies comparing a three times daily dosing of diclofenac sodium to that of indomethacin were of three months duration. Patients received either drug at dosages ranging from 50 to 125 mg. In the treatment of patients with rheumatoid arthritis there was no clear difference between the treatment groups for therapeutic effect.

The safety and efficacy of diclofenac sodium compared to indomethacin for relief of the signs and symptoms of rheumatoid arthritis was also studied in longer-term studies of 6 to 30 months.

### **Slow release tablets**

Bioavailability studies have demonstrated that the absorption of active drug from the diclofenac sodium slow release (SR) tablets is similar as that reported from the diclofenac sodium enteric coated tablets with the  $C_{max}$  being attained approximately four hours after the administration of a single 100 mg diclofenac sodium SR tablet. Repeated administration of the diclofenac sodium SR tablets for seven days or longer did not result in any accumulation of active drug and food intake did not alter absorption from the diclofenac sodium SR tablet.

A regimen of multiple doses of the 75 mg diclofenac sodium SR tablet (every 12 hours) provided an equivalent  $AUC_{0-24}$  to that of the 50 mg diclofenac sodium enteric coated tablet dosed every eight hours; an indication that the 75 mg diclofenac sodium SR tablet is an effective and desirable alternate to the 50 mg diclofenac sodium enteric coated tablet for the treatment of rheumatoid arthritis or osteoarthritis.

Safety and efficacy of diclofenac sodium SR 100 mg tablets were demonstrated in a randomized, double-blind, parallel, short-term (two weeks) clinical study when compared to diclofenac sodium enteric coated tablets and placebo in patients suffering from adult onset rheumatoid arthritis. A second comparative clinical trial was conducted in patients with established osteoarthritis of the hip and knee. No statistically significant differences were seen between the 2 diclofenac sodium regimens.

## **DETAILED PHARMACOLOGY**

Diclofenac sodium is a phenyl-acetic acid derivative possessing anti-inflammatory activities as shown in various pharmacological models.

*In vitro* diclofenac sodium does not suppress proteoglycan biosynthesis in cartilage at concentrations equivalent to the concentrations reached in humans.

### Anti-Inflammatory Activity In Rats

The anti-inflammatory potency was assessed by testing inhibition of paw edema (carrageenin solution and kaolin suspension) and reduction of adjuvant arthritis (Freund's adjuvant).

Preparation	Inhibition of edema induced by	
	Carrageenin (ED <sub>50</sub> mg/kg) P.O.*	Kaolin (ED <sub>50</sub> mg/kg) P.O.*
Diclofenac sodium	2.1	1.2

\*determined by graphic interpolation from 3 or more doses.

### Inhibition of Prostaglandin

A close correlation exists between certain febrile reactions and increased prostaglandin levels in the brain. Diclofenac (0.5 mcg/mL) reduces prostaglandin E<sub>2</sub> formation which parallels antipyresis but does not induce hypothermia in the afebrile animal. The inhibition of prostaglandin synthesis *in vitro* (IC<sub>50</sub> mcM/L) is 1.6.

### Platelet Adhesiveness

At 15 mcg/mL, diclofenac reduces collagen-induced aggregation in rabbit platelets by 50%. ADP-induced adhesiveness at the same dosage is similarly affected. At 10 mg/kg P.O., diclofenac protected rabbits against the lethal action of thrombokinase without untoward effects.

### Gastrointestinal Tolerability

In rats, oral doses of 17 mg/kg diclofenac sodium caused a blood loss of 150 mcL in 72 hours, as measured by the administration of <sup>51</sup>Cr-labelled erythrocytes.

## TOXICOLOGY

### Acute Toxicity

Species	Route	LD <sub>50</sub> mg/kg	95% Confidence Limits (mg/kg)
Mouse	P.O.	389	197 - 595
	I.V.	133	126 - 140
Rat	P.O.	173	133 - 213
	I.V.	106	80 - 132
Guinea-pig	P.O.	1110	950 - 1270
	I.V.	127	123 - 132
Rabbit	P.O.	194	151 - 259

The symptoms included bradycardia and convulsions.

The most frequent autopsy findings in animals that died were gastric irritation, perforation and their sequelae.

### Long-Term Toxicity Studies

SPECIES	PERIOD	DAILY DOSE mg/kg/day P.O.
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		No signs of intoxication	Reversible signs of toxicity, mainly GI Tract	Minimum lethal dose
Rat	3 months 6 months 98 weeks	2 1 0.25	- 2 -	6 4 1
Dog	3 months	-	0.5	2
Rhesus Monkey	6 months	-	5-15	75
Baboon	12 months	-	5	10

Diclofenac sodium was given orally to male and female rats in doses of 0.25, 1.0 and 2.0 mg/kg/day from 59 weeks (high-dose groups) to 98 weeks (low- and intermediate-dose groups). High dose-related mortality rates resulted in termination of the high-dose administration after 59 weeks; the high mortality rate was caused by severe dose-dependent ulceration of the gastrointestinal tract, with perforated ulcers leading to peritonitis and sequelae. Body-weight gains and feed consumption of the treated groups were close to the controls. Hematologic patterns showing neutrophilic leucocytosis and anemia were seen in the high- and intermediate-dose groups, particularly females at weeks 52 and 98, respectively. Female animals tended to develop enlarged adrenals and eventually experienced depressed glucose and elevated alkaline phosphatase levels. Histology studies carried out on the tissues of the control, low- and intermediate-dose groups showed drug-related changes including mucosal ulceration of the small intestine, lymphangiectasis, lymphoid hypoplasia, and plasma cell hypoplasia of the mesenteric lymph nodes, foci of hepatocytic hyperplasia, adrenal cortical atrophy and prostatitis. No increase in tumour incidence was observed in the drug-treated groups as compared to the control group.

Diclofenac sodium was administered orally in gelatin capsules once daily to baboons (*Papio spp.*) at dose levels of 0, 5, 15 (reduced to 10 on day 254) and 50 (reduced to 30 on day 38) mg/kg/day for up to 52 weeks. At all dose levels studied, diclofenac caused ulceration of the gastrointestinal tract. Ulceration was confined to the colon in the low-dose group but was present in the stomach and small intestine also in the other two groups. Body weights were below controls. Constipation, with occasional episodes of diarrhea, was a marked feature. In all treated groups, there was a dose-related fall in serum albumin levels. Anemia and an increased ESR were observed in the high-dose group. In the recovery groups (control, low, and intermediate), no intestinal lesions were present. Food consumption and body-weight gains were within normal limits. Hematology parameters were comparable to controls and serum albumin levels returned towards normal values.

### Reproduction Studies

**Rats:** Doses of 2 and 4 mg/kg/day were given orally to male and female rats with no noticeable effect on fertility. Dosing was carried out during pre-mating, mating, gestation, and lactation periods. At the higher dose, prolonged gestation and dystocia were observed. Embryotoxicity (low birth weight, failure to survive) was observed at both doses but it was minimal at 2 mg/kg/day. Post-natal survival and growth of pups from drug-treated animals were comparable to those of controls except for slightly retarded growth at the higher dose.

**Mice and Rats:** Teratology studies at oral doses of 2, 3, 10, and 20 mg/kg/day showed no teratogenic effects on fetuses. At the higher doses, pronounced gastrointestinal effects were

observed in the dams and a marked toxic effect noted in fetuses (reduced birth weights and increased fetal deaths).

**Rabbits:** Pregnant females treated with oral doses of 5 or 10 mg/animal/day throughout the gestation period showed a dose-dependent increase in resorption rates, diminished fetus weights, and abnormal skeletal findings. Definite embryotoxicity was observed at the highest dose although there was no evidence to suggest teratogenicity.

### **Mutagenicity Studies**

Mutagenicity studies were carried out *in vitro* using bacteria with, and without microsomal activation, and in mammalian cells. Studies *in vivo* were also performed. Diclofenac sodium was not mutagenic in any of these test systems.

### **Carcinogenicity Studies**

Long-term carcinogenicity studies in rats given diclofenac sodium up to 2 mg/kg/day have revealed no significant increases in tumour incidence. There was a positive dose-related trend with respect to adrenal medullary hyperplasia, mammary fibroadenomas and subcutaneous tissue fibromas in females, as well as of C-cell adenomas of the thyroid in males. The differences in the incidence between the various groups, including control, were small and were considered to reflect the variation in the spontaneous occurrence of these incidental lesions, common in old laboratory rats.

In a 2-year mouse study, only controls and animals at the two lower daily doses of 0.1 and 0.3 mg/kg showed survival sufficient for assessment of carcinogenic potential. The two higher daily doses of 1 and 2 mg/kg resulted in a shortening of lifespan, particularly in males, as a consequence of ulceration and/or perforation of the small intestine and therefore prevented evaluation. The known susceptibility of rodents to non-steroidal anti-inflammatory drugs, resulting in high mortality at dose levels close to the therapeutic dose, is considered to be a rodent-specific effect. Diclofenac sodium was not carcinogenic to mice under the conditions of this study.

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**PART III CONSUMER INFORMATION**

<sup>Pr</sup>AVA-DICLOFENAC  
<sup>Pr</sup>AVA-DICLOFENAC SR  
 (diclofenac sodium)

Read this information each time you refill your prescription in case new information has been added.

This leaflet is Part III of a three-part "Product Monograph" published when AVA-DICLOFENAC and AVA-DICLOFENAC SR were approved for sale in Canada and is designed specifically for Consumers. This leaflet is a summary and will NOT tell you everything about AVA-DICLOFENAC or AVA-DICLOFENAC SR. Contact your doctor or pharmacist if you have any questions about the drug.

**ABOUT THIS MEDICATION**

What the Medication is used for:

Your health care provider has prescribed AVA-DICLOFENAC or AVA-DICLOFENAC SR for you to relieve pain and swelling in rheumatoid arthritis and osteoarthritis, including degenerative joint disease of the hip.

What it does:

AVA-DICLOFENAC and AVA-DICLOFENAC SR (diclofenac sodium), as nonsteroidal anti-inflammatory drugs (NSAIDs), can reduce the chemicals prostaglandins produced by your body which cause pain and swelling.

AVA-DICLOFENAC and AVA-DICLOFENAC SR, as nonsteroidal anti-inflammatory drugs (NSAIDs) do NOT cure your illness or prevent it from getting worse. AVA-DICLOFENAC or AVA-DICLOFENAC SR can only relieve pain and reduce swelling as long as you continue to take it.

When it should not be used:

**DO NOT TAKE AVA-DICLOFENAC or AVA-DICLOFENAC SR if you have any of the following conditions:**

- Heart bypass surgery (planning to have or recently had)
- Severe, uncontrolled heart failure
- Bleeding in the brain or other bleeding disorders
- Current pregnancy (after 28 weeks of pregnancy)
- Currently breastfeeding (or planning to breastfeed)
- Allergy (hypersensitivity) to diclofenac sodium, or ASA (Acetylsalicylic Acid) or other NSAIDs (Nonsteroidal Anti- Inflammatory Drugs), or any of the nonmedicinal ingredients in AVA-DICLOFENAC or AVA-DICLOFENAC SR
- Ulcer (active)

- Bleeding from the stomach or gut (active)
- Inflammatory bowel disease (Crohn's Disease or Ulcerative Colitis)
- Liver disease (active or severe)
- Kidney disease (severe or worsening)
- High potassium in the blood

Patients who took a drug in the same class as AVA-DICLOFENAC and AVA-DICLOFENAC SR after a type of heart surgery (coronary artery bypass grafting (CABG)) were more likely to have heart attacks, strokes, blood clots in the leg(s) or lung(s), and infections or other complications than those who did NOT take that drug.

AVA-DICLOFENAC and AVA-DICLOFENAC SR should NOT be used in patients under 16 years of age since the safety and effectiveness have NOT been established.

What the medicinal ingredient is:  
 diclofenac sodium.

What the non-medicinal ingredients are:

The enteric coated 25 mg and 50 mg tablets (AVA-DICLOFENAC) contain black ink, castor oil derivatives, colloidal silicon dioxide, corn starch, hypromellose, iron oxides, lactose, magnesium stearate, microcrystalline cellulose, polyethylene glycol, povidone, sodium starch glycolate, talc, titanium dioxide.

The slow-release 75 mg and 100 mg tablets (AVA-DICLOFENAC SR) contain black ink, carnauba wax, cellulose compounds, cetyl alcohol, colloidal silicon dioxide, hypromellose magnesium stearate, polysorbate 80, povidone, red iron oxide, sucrose, talc, titanium dioxide.

What dosage forms it comes in:

AVA-DICLOFENAC 25 mg (enteric-coated) tablet: yellow, round, **S** on one side and **25** on the other.

AVA-DICLOFENAC 50 mg (enteric-coated) tablet: light brown, round, **S** on one side and **50** on the other.

AVA-DICLOFENAC 75 mg Slow Release (SR) tablet: light pink, triangular, **S** on one side and **SR 75** on the other.

AVA-DICLOFENAC 100 mg Slow Release (SR) tablet: pink, round, **S** on one side and **SR100** on the other.

Check with your pharmacist if the identifying markings or colour appear different.

**WARNINGS AND PRECAUTIONS**

**If you have, or previously had, any of the following medical conditions, see your health care provider to discuss treatment options other than AVA-DICLOFENAC or AVA-DICLOFENAC SR:**

- Heart Attack or Angina
- Stroke or Mini-stroke
- Loss of Vision
- Current Pregnancy (less than 28 weeks)
- Congestive Heart Failure

**Use of NSAIDs, such as AVA-DICLOFENAC and AVA-DICLOFENAC SR, may cause gastrointestinal problems (such as peptic/duodenal ulceration, perforation, obstruction and gastrointestinal bleeding).**

Before taking this medication, tell your health care provider if you have any of the following:

- High blood pressure
- High cholesterol
- Diabetes mellitus or on a low sugar diet
- Atherosclerosis
- Poor circulation to your extremities
- Smoker or ex-smoker
- Kidney disease or urine problems
- Previous ulcer or bleeding from the stomach or gut
- Previous bleeding in the brain
- Bleeding problems
- Family history of allergy to NSAIDs, such as acetylsalicylic acid (ASA), celecoxib, diclofenac, diflunisal, etodolac, fenoprofen, flurbiprofen, ibuprofen, indomethacin, ketoprofen, ketorolac, mefenamic acid, meloxicam, nabumetone, naproxen, oxaprozin, piroxicam, rofecoxib, sulindac, tenoxicam, tiaprofenic acid, tolmetin, or valdecoxib (NOT a complete list)
- Family history of asthma, nasal polyps, long-term swelling of the sinus (chronic sinusitis) or hives

Also, before taking this medication, tell your health care provider if you are planning to get pregnant.

While taking this medication:

- tell any other doctor, dentist, pharmacist or other health care professional that you see, that you are taking this medication, especially if you are planning to have heart surgery;
- do NOT drink alcoholic beverages while taking this medication because you would be more likely to develop stomach problems;
- fertility may be decreased. The use of AVA-DICLOFENAC or AVA-DICLOFENAC SR is not recommended in women trying to get pregnant. In women who have difficulty conceiving, stopping AVA-DICLOFENAC or AVA-DICLOFENAC SR should be considered.

**Long-term use of AVA-DICLOFENAC or AVA-DICLOFENAC SR might increase the risk of heart attacks or strokes.**

**AVA-DICLOFENAC or AVA-DICLOFENAC SR is NOT recommended for use in patients under 16 years of age since safety and effectiveness have NOT been established.**

## INTERACTIONS WITH THIS MEDICATION

### What About Taking Other Drugs At The Same Time?

See your health care provider and pharmacist if you are taking any other medication (prescription or non-prescription) such as any of the following (NOT a complete list):

- Acetaminophen
- Acetylsalicylic Acid (ASA) or other NSAIDs
  - e.g. ASA, celecoxib, diclofenac, ibuprofen, indomethacin, ketorolac, meloxicam, naproxen
- Alcohol
- Antacids
- Anti-depressants
- Selective Serotonin Reuptake Inhibitors (SSRIs)
  - e.g. citalopram, fluoxetine, paroxetine, sertraline
- Blood pressure medications
  - ACE (angiotensin converting enzyme) inhibitors
    - e.g. enalapril, lisinopril, perindopril, ramipril
  - ARBs (angiotensin II receptor blockers)
    - e.g. candesartan, irbesartan, losartan, valsartan
  - Beta-blockers
    - e.g. metoprolol
- Blood thinners (medicine used to prevent blood-clotting)
  - e.g. warfarin, ASA, clopidogrel
- Corticosteroids (including glucocorticoids) (medicines used to provide relief for inflamed areas of the body)
  - e.g. prednisone
- Cyclosporin (a medicine primarily used in patients who have received organ transplants)
- Digoxin (a medicine used for heart problems)
- Diuretics (medicines used to increase the amount of urine)
  - e.g. furosemide, hydrochlorothiazide
- Lithium
- Methotrexate (a medicine used to treat some kinds of cancer or arthritis)
- Oral hypoglycemics (diabetes medications)
- Phenytoin (a medicine used to treat seizures).
- Probenecid
- Quinolone antibacterials (medicines used against infection)
- Sulfapyrazone (a medicine used to treat gout)
- Tacrolimus (a medicine primarily used in patients who have received organ transplants)
- Voriconazole (a medicine used to treat fungal infections)



Your health care provider may prescribe low dose ASA (acetylsalicylic acid) as a blood thinner to reduce your risk of having a heart attack or stroke while you are taking AVA-DICLOFENAC or AVA-DICLOFENAC SR. Take only the amount of ASA prescribed by your health care provider. You are more likely to upset or damage your stomach if you take both AVA-DICLOFENAC or AVA-DICLOFENAC SR and ASA than if you took AVA-DICLOFENAC or AVA-DICLOFENAC SR alone.

**PROPER USE OF THIS MEDICATION**

AVA-DICLOFENAC and AVA-DICLOFENAC SR is used for maintenance therapy only.

**Usual Dose for patients 16 years of age and older:**

Medical Condition	Maintenance Dose	Maximum Dose (per day) <sup>A</sup>
AVA-DICLOFENAC 25 mg & 50 mg enteric-coated tablets		
Rheumatoid Arthritis	50 mg twice daily	100 mg
Osteoarthritis	50 mg twice daily	100 mg
AVA-DICLOFENAC SR 75 & 100 mg slow-release tablets		
Rheumatoid Arthritis	75 mg once daily	100 mg
Osteoarthritis	75 mg once daily	100 mg

<sup>A</sup> If required, the maximum daily dose of 150 mg may be prescribed by your doctor in divided doses for a short period of time and under close monitoring. If you are older than 65 years, have liver problems, kidney problems, or heart problems, the maximum total dose per day should not exceed 100 mg of AVA-DICLOFENAC (50 mg twice a day).

Take AVA-DICLOFENAC or AVA-DICLOFENAC SR only as directed by your health care provider. **Do NOT take more of it, do NOT take it more often and do NOT take it for a longer period of time than your health care provider recommended. If possible, you should take the lowest dose of this medication for the shortest time period.** Taking too much AVA-DICLOFENAC or AVA-DICLOFENAC SR may increase your chances of unwanted and sometimes dangerous side effects, especially if you are elderly, have other diseases or take other medications.

If you will be using AVA-DICLOFENAC or AVA-DICLOFENAC SR for more than 7 days, see your health care provider regularly to discuss whether this medicine is working for you and if it is causing you any unwanted effects.

Swallow the tablet whole with water, do not chew or divide the tablet. It is best to take your dose at the same time each day.

To help reduce the possibility of stomach upset you should take AVA-DICLOFENAC or AVA-DICLOFENAC SR tablets immediately after a meal or with food or milk. Also, you should remain standing or sitting upright (i.e. do not lie down) for about 15-30 minutes after taking the medicine. This helps to prevent irritation that may lead to trouble swallowing. If stomach upset (indigestion, nausea, vomiting, stomach pain or diarrhea) occurs and continues, contact your doctor.

**This medication has been prescribed specifically for you. Do NOT give it to anyone else. It may harm them, even if their symptoms seem to be similar to yours.**

**Missed dose:**

If you forget to take your scheduled dose, you should not double the next scheduled dose to make up for the missed dose.

**Overdose:**

If you have accidentally taken more than the prescribed dose of AVA-DICLOFENAC tablets or AVA-DICLOFENAC SR tablets, **contact your doctor, pharmacist or poison control centre immediately or go to the hospital emergency unit at once.** You may require medical attention.

**SIDE EFFECTS AND WHAT TO DO ABOUT THEM**

AVA-DICLOFENAC or AVA-DICLOFENAC SR may cause some side effects, especially when used for a long time or in large doses. When these side effects occur, you may require medical attention. Report all symptoms or side effects to your health care provider.

AVA-DICLOFENAC or AVA-DICLOFENAC SR may cause you to become drowsy or tired. Be careful about driving or participating in activities that require you to be alert. If you become drowsy, dizzy or light-headed after taking AVA-DICLOFENAC or AVA-DICLOFENAC SR, do NOT drive or operate machinery.

AVA-DICLOFENAC or AVA-DICLOFENAC SR may cause you to become more sensitive to sunlight. Any

exposure to sunlight or sunlamps may cause sunburn, skin blisters, skin rash, redness, itching or discolouration, or vision changes. If you have a reaction from the sun, check with your health care provider.

Check with your health care provider IMMEDIATELY if you develop chills, fever, muscle aches or pains, or other flu-like symptoms, especially if they occur before or together with a skin rash. These symptoms may be the first signs of a SERIOUS ALLERGIC REACTION to this medication.

SERIOUS SIDE EFFECTS AND WHAT TO DO ABOUT THEM		
Symptom	STOP taking AVA-DICLOFENAC or AVA-DICLOFENAC SR and get emergency medical attention IMMEDIATELY	STOP taking AVA-DICLOFENAC or AVA-DICLOFENAC SR and talk to your physician or pharmacist
Bloody or black tarry stools, vomiting blood	√	
Shortness of breath, wheezing, any trouble breathing or chest tightness	√	
Skin rash, hives, swelling or itching	√	
Blurred vision, or any visual disturbance	√	
Any change in the amount or colour of your urine (red or brown)	√	
Any pain or difficulty experienced while urinating		√
Swelling of the feet, lower legs; weight gain		√
Vomiting or persistent indigestion, nausea, stomach pain or diarrhea		√
Yellow discolouration of the skin or eyes (signs of liver failure), with or without itchy skin		√
Malaise, fatigue, loss of appetite or « flu-like » symptoms		√
Headaches, stiff neck		√
Mental confusion, depression		√
Dizziness, lightheadedness		√
Hearing problems		√
Rectal itching or bleeding		√
right upper abdominal discomfort or pain		√

This is NOT a complete list of side effects. If you develop any other symptoms while taking AVA-DICLOFENAC and/or AVA-DICLOFENAC SR, see your health care provider.

**HOW TO STORE IT**

Protect tablets from heat (i.e., store at temperatures between 15°C-30°C) and humidity.

**Do NOT keep outdated medicine or medicine no longer needed.** Any outdated or unused medicine should be returned to your pharmacist.

**Keep this and all medication out of the reach of children.**

**REPORTING SUSPECTED SIDE EFFECTS**

REPORTING SUSPECTED SIDE EFFECTS

You can report any suspected adverse reactions associated with the use of health products to the Canada Vigilance Program by one of the following 3 ways:

- 
- Report online at [www.healthcanada.gc.ca/medeffect](http://www.healthcanada.gc.ca/medeffect)
- Call toll-free at 1-866-234-2345
- Complete a Canada Vigilance Reporting Form and:
  - Fax toll-free to 1-866-678-6789, or
  - Mail to: Canada Vigilance Program  
Health Canada  
Postal Locator 0701E  
Ottawa, Ontario  
K1A 0K9

Postage paid labels, Canada Vigilance Reporting Form and the adverse reaction reporting guidelines are available on the MedEffect™ Canada Web site at [www.healthcanada.gc.ca/medeffect](http://www.healthcanada.gc.ca/medeffect).

*NOTE: Should you require information related to the management of side effects, contact your health professional. The Canada Vigilance Program does not provide medical advice.*

**MORE INFORMATION**

This document plus the full product monograph, prepared for health professionals can be found by contacting the sponsor, Avantra Inc., at:

1-855-708-36-78

Or by e-mail at :  
medinfo@avanstra.com

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