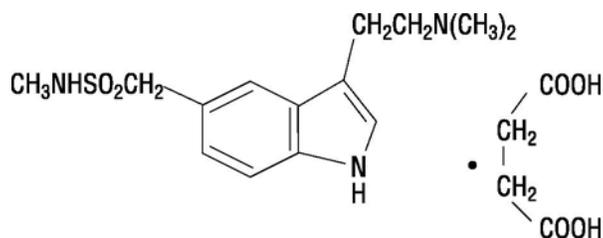


## PREScribing INFORMATION

# 1 2 **IMITREX<sup>®</sup>** 3 **(sumatriptan succinate)** 4 **Tablets**

### 5 **DESCRIPTION**

6 IMITREX Tablets contain sumatriptan (as the succinate), a selective 5-hydroxytryptamine<sub>1</sub>  
7 receptor subtype agonist. Sumatriptan succinate is chemically designated as 3-[2-  
8 (dimethylamino)ethyl]-N-methyl-indole-5-methanesulfonamide succinate (1:1), and it has the  
9 following structure:



13 The empirical formula is  $C_{14}H_{21}N_3O_2S \cdot C_4H_6O_4$ , representing a molecular weight of 413.5.  
14 Sumatriptan succinate is a white to off-white powder that is readily soluble in water and in  
15 saline. Each IMITREX Tablet for oral administration contains 35, 70, or 140 mg of sumatriptan  
16 succinate equivalent to 25, 50, or 100 mg of sumatriptan, respectively. Each tablet also contains  
17 the inactive ingredients croscarmellose sodium, dibasic calcium phosphate, magnesium stearate,  
18 microcrystalline cellulose, and sodium bicarbonate. Each 100-mg tablet also contains  
19 hypromellose, iron oxide, titanium dioxide, and triacetin.

### 20 **CLINICAL PHARMACOLOGY**

21 **Mechanism of Action:** Sumatriptan is an agonist for a vascular 5-hydroxytryptamine<sub>1</sub>  
22 receptor subtype (probably a member of the 5-HT<sub>1D</sub> family) having only a weak affinity for  
23 5-HT<sub>1A</sub>, 5-HT<sub>5A</sub>, and 5-HT<sub>7</sub> receptors and no significant affinity (as measured using standard  
24 radioligand binding assays) or pharmacological activity at 5-HT<sub>2</sub>, 5-HT<sub>3</sub>, or 5-HT<sub>4</sub> receptor  
25 subtypes or at alpha<sub>1</sub>-, alpha<sub>2</sub>-, or beta-adrenergic; dopamine<sub>1</sub>; dopamine<sub>2</sub>; muscarinic; or  
26 benzodiazepine receptors.

27 The vascular 5-HT<sub>1</sub> receptor subtype that sumatriptan activates is present on cranial arteries in  
28 both dog and primate, on the human basilar artery, and in the vasculature of human dura mater  
29 and mediates vasoconstriction. This action in humans correlates with the relief of migraine  
30 headache. In addition to causing vasoconstriction, experimental data from animal studies show  
31 that sumatriptan also activates 5-HT<sub>1</sub> receptors on peripheral terminals of the trigeminal nerve  
32 innervating cranial blood vessels. Such an action may also contribute to the antimigrainous effect  
33 of sumatriptan in humans.

34 In the anesthetized dog, sumatriptan selectively reduces the carotid arterial blood flow with  
35 little or no effect on arterial blood pressure or total peripheral resistance. In the cat, sumatriptan  
36 selectively constricts the carotid arteriovenous anastomoses while having little effect on blood  
37 flow or resistance in cerebral or extracerebral tissues.

38 **Pharmacokinetics:** The mean maximum concentration following oral dosing with 25 mg is  
39 18 ng/mL (range, 7 to 47 ng/mL) and 51 ng/mL (range, 28 to 100 ng/mL) following oral dosing  
40 with 100 mg of sumatriptan. This compares with a  $C_{max}$  of 5 and 16 ng/mL following dosing  
41 with a 5- and 20-mg intranasal dose, respectively. The mean  $C_{max}$  following a 6-mg  
42 subcutaneous injection is 71 ng/mL (range, 49 to 110 ng/mL). The bioavailability is  
43 approximately 15%, primarily due to presystemic metabolism and partly due to incomplete  
44 absorption. The  $C_{max}$  is similar during a migraine attack and during a migraine-free period, but  
45 the  $T_{max}$  is slightly later during the attack, approximately 2.5 hours compared to 2.0 hours. When  
46 given as a single dose, sumatriptan displays dose proportionality in its extent of absorption (area  
47 under the curve [AUC]) over the dose range of 25 to 200 mg, but the  $C_{max}$  after 100 mg is  
48 approximately 25% less than expected (based on the 25-mg dose).

49 A food effect study involving administration of IMITREX Tablets 100 mg to healthy  
50 volunteers under fasting conditions and with a high-fat meal indicated that the  $C_{max}$  and AUC  
51 were increased by 15% and 12%, respectively, when administered in the fed state.

52 Plasma protein binding is low (14% to 21%). The effect of sumatriptan on the protein binding  
53 of other drugs has not been evaluated, but would be expected to be minor, given the low rate of  
54 protein binding. The apparent volume of distribution is 2.4 L/kg.

55 The elimination half-life of sumatriptan is approximately 2.5 hours. Radiolabeled  
56  $^{14}C$ -sumatriptan administered orally is largely renally excreted (about 60%) with about 40%  
57 found in the feces. Most of the radiolabeled compound excreted in the urine is the major  
58 metabolite, indole acetic acid (IAA), which is inactive, or the IAA glucuronide. Only 3% of the  
59 dose can be recovered as unchanged sumatriptan.

60 In vitro studies with human microsomes suggest that sumatriptan is metabolized by  
61 monoamine oxidase (MAO), predominantly the A isoenzyme, and inhibitors of that enzyme may  
62 alter sumatriptan pharmacokinetics to increase systemic exposure. No significant effect was seen  
63 with an MAO-B inhibitor (see CONTRAINDICATIONS, WARNINGS, and PRECAUTIONS:  
64 Drug Interactions).

65 **Special Populations: Renal Impairment:** The effect of renal impairment on the  
66 pharmacokinetics of sumatriptan has not been examined, but little clinical effect would be  
67 expected as sumatriptan is largely metabolized to an inactive substance.

68 **Hepatic Impairment:** The liver plays an important role in the presystemic clearance of  
69 orally administered sumatriptan. Accordingly, the bioavailability of sumatriptan following oral  
70 administration may be markedly increased in patients with liver disease. In 1 small study of  
71 hepatically impaired patients (N = 8) matched for sex, age, and weight with healthy subjects, the  
72 hepatically impaired patients had an approximately 70% increase in AUC and  $C_{max}$  and a  $T_{max}$   
73 40 minutes earlier compared to the healthy subjects (see DOSAGE AND ADMINISTRATION).

74 **Age:** The pharmacokinetics of oral sumatriptan in the elderly (mean age, 72 years; 2 males  
75 and 4 females) and in patients with migraine (mean age, 38 years; 25 males and 155 females)  
76 were similar to that in healthy male subjects (mean age, 30 years) (see PRECAUTIONS:  
77 Geriatric Use).

78 **Gender:** In a study comparing females to males, no pharmacokinetic differences were  
79 observed between genders for AUC,  $C_{max}$ ,  $T_{max}$ , and half-life.

80 **Race:** The systemic clearance and  $C_{max}$  of sumatriptan were similar in black (N = 34) and  
81 Caucasian (N = 38) healthy male subjects.

82 **Drug Interactions: Monoamine Oxidase Inhibitors:** Treatment with MAO-A inhibitors  
83 generally leads to an increase of sumatriptan plasma levels (see CONTRAINDICATIONS and  
84 PRECAUTIONS).

85 Due to gut and hepatic metabolic first-pass effects, the increase of systemic exposure after  
86 coadministration of an MAO-A inhibitor with oral sumatriptan is greater than after  
87 coadministration of the monoamine oxidase inhibitors (MAOI) with subcutaneous sumatriptan.  
88 In a study of 14 healthy females, pretreatment with an MAO-A inhibitor decreased the clearance  
89 of subcutaneous sumatriptan. Under the conditions of this experiment, the result was a 2-fold  
90 increase in the area under the sumatriptan plasma concentration x time curve (AUC),  
91 corresponding to a 40% increase in elimination half-life. This interaction was not evident with an  
92 MAO-B inhibitor.

93 A small study evaluating the effect of pretreatment with an MAO-A inhibitor on the  
94 bioavailability from a 25-mg oral sumatriptan tablet resulted in an approximately 7-fold increase  
95 in systemic exposure.

96 **Alcohol:** Alcohol consumed 30 minutes prior to sumatriptan ingestion had no effect on the  
97 pharmacokinetics of sumatriptan.

## 98 **CLINICAL STUDIES**

99 The efficacy of IMITREX Tablets in the acute treatment of migraine headaches was  
100 demonstrated in 3, randomized, double-blind, placebo-controlled studies. Patients enrolled in  
101 these 3 studies were predominately female (87%) and Caucasian (97%), with a mean age of  
102 40 years (range, 18 to 65 years). Patients were instructed to treat a moderate to severe headache.  
103 Headache response, defined as a reduction in headache severity from moderate or severe pain to  
104 mild or no pain, was assessed up to 4 hours after dosing. Associated symptoms such as nausea,  
105 photophobia, and phonophobia were also assessed. Maintenance of response was assessed for up  
106 to 24 hours postdose. A second dose of IMITREX Tablets or other medication was allowed 4 to  
107 24 hours after the initial treatment for recurrent headache. Acetaminophen was offered to  
108 patients in Studies 2 and 3 beginning at 2 hours after initial treatment if the migraine pain had not  
109 improved or worsened. Additional medications were allowed 4 to 24 hours after the initial  
110 treatment for recurrent headache or as rescue in all 3 studies. The frequency and time to use of  
111 these additional treatments were also determined. In all studies, doses of 25, 50, and 100 mg

112 were compared to placebo in the treatment of migraine attacks. In 1 study, doses of 25, 50, and  
 113 100 mg were also compared to each other.

114 In all 3 trials, the percentage of patients achieving headache response 2 and 4 hours after  
 115 treatment was significantly greater among patients receiving IMITREX Tablets at all doses  
 116 compared to those who received placebo. In 1 of the 3 studies, there was a statistically significant  
 117 greater percentage of patients with headache response at 2 and 4 hours in the 50- or 100-mg  
 118 group when compared to the 25-mg dose groups. There were no statistically significant  
 119 differences between the 50- and 100-mg dose groups in any study. The results from the 3  
 120 controlled clinical trials are summarized in Table 1.

121 **Comparisons of drug performance based upon results obtained in different clinical trials**  
 122 **are never reliable. Because studies are conducted at different times, with different samples**  
 123 **of patients, by different investigators, employing different criteria and/or different**  
 124 **interpretations of the same criteria, under different conditions (dose, dosing regimen, etc.),**  
 125 **quantitative estimates of treatment response and the timing of response may be expected to**  
 126 **vary considerably from study to study.**

127  
 128 **Table 1. Percentage of Patients With Headache Response (No or Mild Pain) 2 and 4 Hours**  
 129 **Following Treatment**

	Placebo		IMITREX Tablets 25 mg		IMITREX Tablets 50 mg		IMITREX Tablets 100 mg	
	2 hr	4 hr	2 hr	4 hr	2 hr	4 hr	2 hr	4 hr
Study 1	27% (N = 94)	38%	52%* (N = 298)	67%*	61%*† (N = 296)	78%*†	62%*† (N = 296)	79%*†
Study 2	26% (N = 65)	38%	52%* (N = 66)	70%*	50%* (N = 62)	68%*	56%* (N = 66)	71%*
Study 3	17% (N = 47)	19%	52%* (N = 48)	65%*	54%* (N = 46)	72%*	57%* (N = 46)	78%*

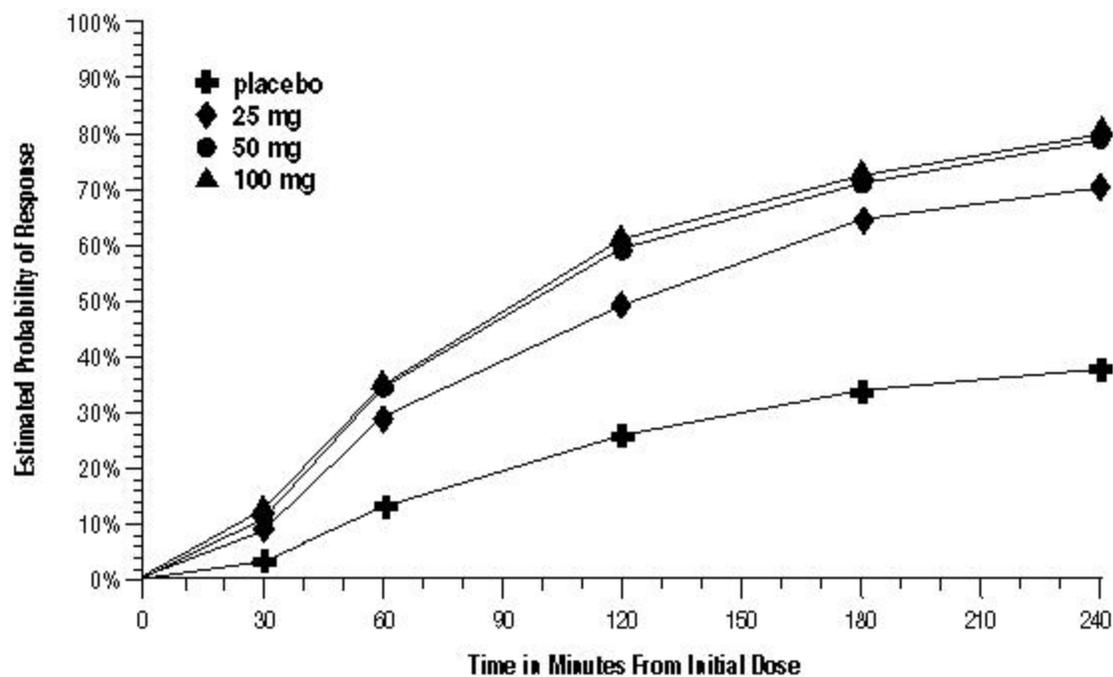
130 \*p<0.05 in comparison with placebo.

131 †p<0.05 in comparison with 25 mg.

132  
 133 The estimated probability of achieving an initial headache response over the 4 hours following  
 134 treatment is depicted in Figure 1.

135

136 **Figure 1. Estimated Probability of Achieving Initial Headache Response Within**  
137 **240 Minutes\***  
138



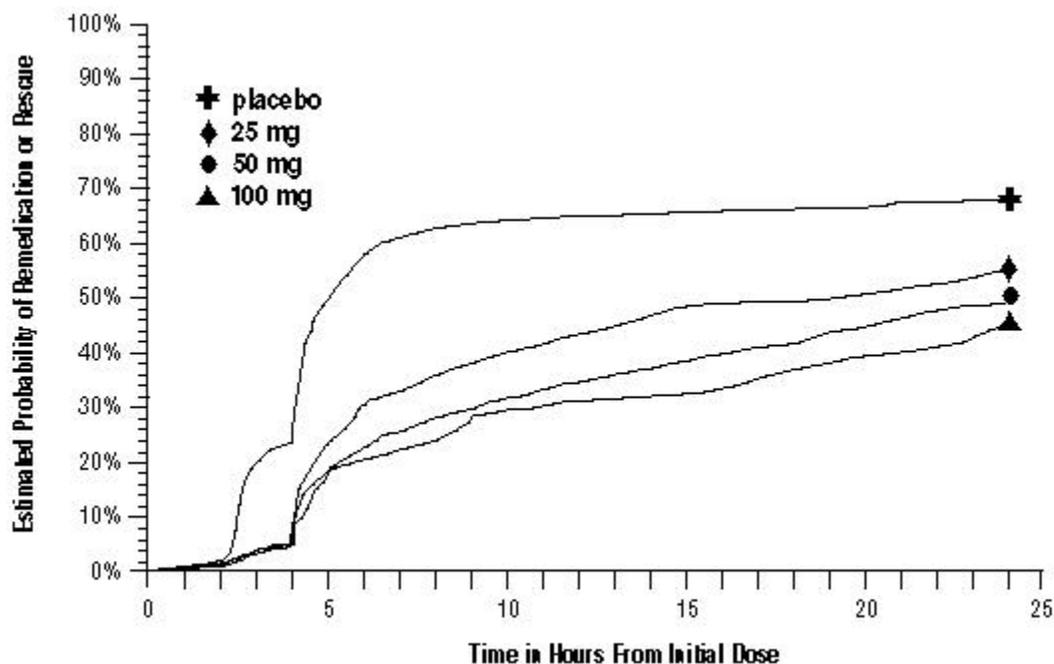
139  
140  
141 \* The figure shows the probability over time of obtaining headache response (no or mild pain)  
142 following treatment with sumatriptan. The averages displayed are based on pooled data from  
143 the 3 clinical controlled trials providing evidence of efficacy. Kaplan-Meier plot with patients  
144 not achieving response and/or taking rescue within 240 minutes censored to 240 minutes.

145  
146 For patients with migraine-associated nausea, photophobia, and/or phonophobia at baseline,  
147 there was a lower incidence of these symptoms at 2 hours (Study 1) and at 4 hours (Studies 1, 2,  
148 and 3) following administration of IMITREX Tablets compared to placebo.

149 As early as 2 hours in Studies 2 and 3 or 4 hours in Study 1, through 24 hours following the  
150 initial dose of study treatment, patients were allowed to use additional treatment for pain relief in  
151 the form of a second dose of study treatment or other medication. The estimated probability of  
152 patients taking a second dose or other medication for migraine over the 24 hours following the  
153 initial dose of study treatment is summarized in Figure 2.

154

155 **Figure 2. The Estimated Probability of Patients Taking a Second Dose or Other**  
156 **Medication for Migraine Over the 24 Hours Following the Initial Dose of Study**  
157 **Treatment\***  
158



159  
160  
161 \* Kaplan-Meier plot based on data obtained in the 3 clinical controlled trials providing evidence  
162 of efficacy with patients not using additional treatments censored to 24 hours. Plot also  
163 includes patients who had no response to the initial dose. No remedication was allowed within  
164 2 hours postdose.  
165

166 There is evidence that doses above 50 mg do not provide a greater effect than 50 mg. There  
167 was no evidence to suggest that treatment with sumatriptan was associated with an increase in  
168 the severity of recurrent headaches. The efficacy of IMITREX Tablets was unaffected by  
169 presence of aura; duration of headache prior to treatment; gender, age, or weight of the patient;  
170 relationship to menses; or concomitant use of common migraine prophylactic drugs (e.g.,  
171 beta-blockers, calcium channel blockers, tricyclic antidepressants). There were insufficient data  
172 to assess the impact of race on efficacy.

### 173 **INDICATIONS AND USAGE**

174 IMITREX Tablets are indicated for the acute treatment of migraine attacks with or without  
175 aura in adults.

176 IMITREX Tablets are not intended for the prophylactic therapy of migraine or for use in the  
177 management of hemiplegic or basilar migraine (see CONTRAINDICATIONS). Safety and  
178 effectiveness of IMITREX Tablets have not been established for cluster headache, which is  
179 present in an older, predominantly male population.

180 **CONTRAINDICATIONS**

181 **IMITREX Tablets should not be given to patients with history, symptoms, or signs of**  
182 **ischemic cardiac, cerebrovascular, or peripheral vascular syndromes. In addition, patients**  
183 **with other significant underlying cardiovascular diseases should not receive IMITREX**  
184 **Tablets. Ischemic cardiac syndromes include, but are not limited to, angina pectoris of any**  
185 **type (e.g., stable angina of effort and vasospastic forms of angina such as the Prinzmetal**  
186 **variant), all forms of myocardial infarction, and silent myocardial ischemia.**  
187 **Cerebrovascular syndromes include, but are not limited to, strokes of any type as well as**  
188 **transient ischemic attacks. Peripheral vascular disease includes, but is not limited to,**  
189 **ischemic bowel disease (see WARNINGS).**

190 **Because IMITREX Tablets may increase blood pressure, they should not be given to**  
191 **patients with uncontrolled hypertension.**

192 **Concurrent administration of MAO-A inhibitors or use within 2 weeks of**  
193 **discontinuation of MAO-A inhibitor therapy is contraindicated (see CLINICAL**  
194 **PHARMACOLOGY: Drug Interactions and PRECAUTIONS: Drug Interactions).**

195 **IMITREX Tablets should not be administered to patients with hemiplegic or basilar**  
196 **migraine.**

197 **IMITREX Tablets and any ergotamine-containing or ergot-type medication (like**  
198 **dihydroergotamine or methysergide) should not be used within 24 hours of each other, nor**  
199 **should IMITREX and another 5-HT<sub>1</sub> agonist.**

200 **IMITREX Tablets are contraindicated in patients with hypersensitivity to sumatriptan**  
201 **or any of their components.**

202 **IMITREX Tablets are contraindicated in patients with severe hepatic impairment.**

203 **WARNINGS**

204 **IMITREX Tablets should only be used where a clear diagnosis of migraine headache has**  
205 **been established.**

206 **Risk of Myocardial Ischemia and/or Infarction and Other Adverse Cardiac Events:**  
207 **Sumatriptan should not be given to patients with documented ischemic or vasospastic**  
208 **coronary artery disease (CAD) (see CONTRAINDICATIONS). It is strongly recommended**  
209 **that sumatriptan not be given to patients in whom unrecognized CAD is predicted by the**  
210 **presence of risk factors (e.g., hypertension, hypercholesterolemia, smoker, obesity,**  
211 **diabetes, strong family history of CAD, female with surgical or physiological menopause,**  
212 **or male over 40 years of age) unless a cardiovascular evaluation provides satisfactory**  
213 **clinical evidence that the patient is reasonably free of coronary artery and ischemic**  
214 **myocardial disease or other significant underlying cardiovascular disease. The sensitivity**  
215 **of cardiac diagnostic procedures to detect cardiovascular disease or predisposition to**  
216 **coronary artery vasospasm is modest, at best. If, during the cardiovascular evaluation, the**  
217 **patient's medical history or electrocardiographic investigations reveal findings indicative**

218 of, or consistent with, coronary artery vasospasm or myocardial ischemia, sumatriptan  
219 should not be administered (see CONTRAINDICATIONS).

220 For patients with risk factors predictive of CAD, who are determined to have a  
221 satisfactory cardiovascular evaluation, it is strongly recommended that administration of  
222 the first dose of sumatriptan tablets take place in the setting of a physician's office or  
223 similar medically staffed and equipped facility unless the patient has previously received  
224 sumatriptan. Because cardiac ischemia can occur in the absence of clinical symptoms,  
225 consideration should be given to obtaining on the first occasion of use an electrocardiogram  
226 (ECG) during the interval immediately following IMITREX Tablets, in these patients with  
227 risk factors.

228 It is recommended that patients who are intermittent long-term users of sumatriptan  
229 and who have or acquire risk factors predictive of CAD, as described above, undergo  
230 periodic interval cardiovascular evaluation as they continue to use sumatriptan.

231 The systematic approach described above is intended to reduce the likelihood that  
232 patients with unrecognized cardiovascular disease will be inadvertently exposed to  
233 sumatriptan.

234 **Drug-Associated Cardiac Events and Fatalities:** Serious adverse cardiac events,  
235 including acute myocardial infarction, life-threatening disturbances of cardiac rhythm, and death  
236 have been reported within a few hours following the administration of IMITREX<sup>®</sup> (sumatriptan  
237 succinate) Injection or IMITREX Tablets. Considering the extent of use of sumatriptan in  
238 patients with migraine, the incidence of these events is extremely low.

239 The fact that sumatriptan can cause coronary vasospasm, that some of these events have  
240 occurred in patients with no prior cardiac disease history and with documented absence of CAD,  
241 and the close proximity of the events to sumatriptan use support the conclusion that some of  
242 these cases were caused by the drug. In many cases, however, where there has been known  
243 underlying coronary artery disease, the relationship is uncertain.

244 **Premarketing Experience With Sumatriptan:** Of 6,348 patients with migraine who  
245 participated in premarketing controlled and uncontrolled clinical trials of oral sumatriptan, 2  
246 experienced clinical adverse events shortly after receiving oral sumatriptan that may have  
247 reflected coronary vasospasm. Neither of these adverse events was associated with a serious  
248 clinical outcome.

249 Among the more than 1,900 patients with migraine who participated in premarketing  
250 controlled clinical trials of subcutaneous sumatriptan, there were 8 patients who sustained  
251 clinical events during or shortly after receiving sumatriptan that may have reflected coronary  
252 artery vasospasm. Six of these 8 patients had ECG changes consistent with transient ischemia,  
253 but without accompanying clinical symptoms or signs. Of these 8 patients, 4 had either findings  
254 suggestive of CAD or risk factors predictive of CAD prior to study enrollment.

255 Among approximately 4,000 patients with migraine who participated in premarketing  
256 controlled and uncontrolled clinical trials of sumatriptan nasal spray, 1 patient experienced an  
257 asymptomatic subendocardial infarction possibly subsequent to a coronary vasospastic event.

258 **Postmarketing Experience With Sumatriptan:** Serious cardiovascular events, some  
259 resulting in death, have been reported in association with the use of IMITREX Injection or  
260 IMITREX Tablets. The uncontrolled nature of postmarketing surveillance, however, makes it  
261 impossible to determine definitively the proportion of the reported cases that were actually  
262 caused by sumatriptan or to reliably assess causation in individual cases. On clinical grounds, the  
263 longer the latency between the administration of IMITREX and the onset of the clinical event,  
264 the less likely the association is to be causative. Accordingly, interest has focused on events  
265 beginning within 1 hour of the administration of IMITREX.

266 Cardiac events that have been observed to have onset within 1 hour of sumatriptan  
267 administration include: coronary artery vasospasm, transient ischemia, myocardial infarction,  
268 ventricular tachycardia and ventricular fibrillation, cardiac arrest, and death.

269 Some of these events occurred in patients who had no findings of CAD and appear to  
270 represent consequences of coronary artery vasospasm. However, among domestic reports of  
271 serious cardiac events within 1 hour of sumatriptan administration, almost all of the patients had  
272 risk factors predictive of CAD and the presence of significant underlying CAD was established  
273 in most cases (see CONTRAINDICATIONS).

274 **Drug-Associated Cerebrovascular Events and Fatalities:** Cerebral hemorrhage,  
275 subarachnoid hemorrhage, stroke, and other cerebrovascular events have been reported in  
276 patients treated with oral or subcutaneous sumatriptan, and some have resulted in fatalities. The  
277 relationship of sumatriptan to these events is uncertain. In a number of cases, it appears possible  
278 that the cerebrovascular events were primary, sumatriptan having been administered in the  
279 incorrect belief that the symptoms experienced were a consequence of migraine when they were  
280 not. As with other acute migraine therapies, before treating headaches in patients not previously  
281 diagnosed as migraineurs, and in migraineurs who present with atypical symptoms, care should  
282 be taken to exclude other potentially serious neurological conditions. It should also be noted that  
283 patients with migraine may be at increased risk of certain cerebrovascular events (e.g.,  
284 cerebrovascular accident, transient ischemic attack).

285 **Other Vasospasm-Related Events:** Sumatriptan may cause vasospastic reactions other than  
286 coronary artery vasospasm. Both peripheral vascular ischemia and colonic ischemia with  
287 abdominal pain and bloody diarrhea have been reported. Very rare reports of transient and  
288 permanent blindness and significant partial vision loss have been reported with the use of  
289 sumatriptan. Visual disorders may also be part of a migraine attack.

290 **Serotonin Syndrome:** The development of a potentially life-threatening serotonin syndrome  
291 may occur with triptans, including treatment with IMITREX, particularly during combined use  
292 with selective serotonin reuptake inhibitors (SSRIs) or serotonin norepinephrine reuptake  
293 inhibitors (SNRIs). If concomitant treatment with sumatriptan and an SSRI (e.g., fluoxetine,  
294 paroxetine, sertraline, fluvoxamine, citalopram, escitalopram) or SNRI (e.g., venlafaxine,  
295 duloxetine) is clinically warranted, careful observation of the patient is advised, particularly  
296 during treatment initiation and dose increases. Serotonin syndrome symptoms may include  
297 mental status changes (e.g., agitation, hallucinations, coma), autonomic instability (e.g.,

298 tachycardia, labile blood pressure, hyperthermia), neuromuscular aberrations (e.g., hyperreflexia,  
299 incoordination), and/or gastrointestinal symptoms (e.g., nausea, vomiting, diarrhea).

300 **Increase in Blood Pressure:** Significant elevation in blood pressure, including hypertensive  
301 crisis, has been reported on rare occasions in patients with and without a history of hypertension.  
302 Sumatriptan is contraindicated in patients with uncontrolled hypertension (see  
303 CONTRAINDICATIONS). Sumatriptan should be administered with caution to patients with  
304 controlled hypertension as transient increases in blood pressure and peripheral vascular resistance  
305 have been observed in a small proportion of patients.

306 **Concomitant Drug Use:** In patients taking MAO-A inhibitors, sumatriptan plasma levels  
307 attained after treatment with recommended doses are 7-fold higher following oral administration  
308 than those obtained under other conditions. Accordingly, the coadministration of IMITREX  
309 Tablets and an MAO-A inhibitor is contraindicated (see CLINICAL PHARMACOLOGY and  
310 CONTRAINDICATIONS).

311 **Hypersensitivity:** Hypersensitivity (anaphylaxis/anaphylactoid) reactions have occurred on  
312 rare occasions in patients receiving sumatriptan. Such reactions can be life threatening or fatal. In  
313 general, hypersensitivity reactions to drugs are more likely to occur in individuals with a history  
314 of sensitivity to multiple allergens (see CONTRAINDICATIONS).

## 315 **PRECAUTIONS**

316 **General:** Chest discomfort and jaw or neck tightness have been reported following use of  
317 IMITREX Tablets and have also been reported infrequently following administration of  
318 IMITREX Nasal Spray. Chest, jaw, or neck tightness is relatively common after administration  
319 of IMITREX Injection. Only rarely have these symptoms been associated with ischemic ECG  
320 changes. However, because sumatriptan may cause coronary artery vasospasm, patients who  
321 experience signs or symptoms suggestive of angina following sumatriptan should be evaluated  
322 for the presence of CAD or a predisposition to Prinzmetal variant angina before receiving  
323 additional doses of sumatriptan, and should be monitored electrocardiographically if dosing is  
324 resumed and similar symptoms recur. Similarly, patients who experience other symptoms or  
325 signs suggestive of decreased arterial flow, such as ischemic bowel syndrome or Raynaud  
326 syndrome following sumatriptan should be evaluated for atherosclerosis or predisposition to  
327 vasospasm (see WARNINGS).

328 IMITREX should also be administered with caution to patients with diseases that may alter  
329 the absorption, metabolism, or excretion of drugs, such as impaired hepatic or renal function.

330 There have been rare reports of seizure following administration of sumatriptan. Sumatriptan  
331 should be used with caution in patients with a history of epilepsy or conditions associated with a  
332 lowered seizure threshold.

333 Care should be taken to exclude other potentially serious neurologic conditions before treating  
334 headache in patients not previously diagnosed with migraine headache or who experience a  
335 headache that is atypical for them. There have been rare reports where patients received

336 sumatriptan for severe headaches that were subsequently shown to have been secondary to an  
337 evolving neurologic lesion (see WARNINGS).

338 For a given attack, if a patient does not respond to the first dose of sumatriptan, the diagnosis  
339 of migraine should be reconsidered before administration of a second dose.

340 **Binding to Melanin-Containing Tissues:** In rats treated with a single subcutaneous dose  
341 (0.5 mg/kg) or oral dose (2 mg/kg) of radiolabeled sumatriptan, the elimination half-life of  
342 radioactivity from the eye was 15 and 23 days, respectively, suggesting that sumatriptan and/or  
343 its metabolites bind to the melanin of the eye. Because there could be an accumulation in  
344 melanin-rich tissues over time, this raises the possibility that sumatriptan could cause toxicity in  
345 these tissues after extended use. However, no effects on the retina related to treatment with  
346 sumatriptan were noted in any of the oral or subcutaneous toxicity studies. Although no  
347 systematic monitoring of ophthalmologic function was undertaken in clinical trials, and no  
348 specific recommendations for ophthalmologic monitoring are offered, prescribers should be  
349 aware of the possibility of long-term ophthalmologic effects.

350 **Corneal Opacities:** Sumatriptan causes corneal opacities and defects in the corneal epithelium  
351 in dogs; this raises the possibility that these changes may occur in humans. While patients were  
352 not systematically evaluated for these changes in clinical trials, and no specific recommendations  
353 for monitoring are being offered, prescribers should be aware of the possibility of these changes  
354 (see ANIMAL TOXICOLOGY).

355 **Information for Patients:** See PATIENT INFORMATION at the end of this labeling for the  
356 text of the separate leaflet provided for patients.

357 Patients should be cautioned about the risk of serotonin syndrome with the use of sumatriptan  
358 or other triptans, especially during combined use with SSRIs or SNRIs.

359 **Laboratory Tests:** No specific laboratory tests are recommended for monitoring patients prior  
360 to and/or after treatment with sumatriptan.

361 **Drug Interactions: *Selective Serotonin Reuptake Inhibitors/Serotonin***

362 ***Norepinephrine Reuptake Inhibitors and Serotonin Syndrome:*** Cases of  
363 life-threatening serotonin syndrome have been reported during combined use of SSRIs or SNRIs  
364 and triptans (see WARNINGS).

365 ***Ergot-Containing Drugs:*** Ergot-containing drugs have been reported to cause prolonged  
366 vasospastic reactions. Because there is a theoretical basis that these effects may be additive, use  
367 of ergotamine-containing or ergot-type medications (like dihydroergotamine or methysergide)  
368 and sumatriptan within 24 hours of each other should be avoided (see  
369 CONTRAINDICATIONS).

370 ***Monoamine Oxidase-A Inhibitors:*** MAO-A inhibitors reduce sumatriptan clearance,  
371 significantly increasing systemic exposure. Therefore, the use of IMITREX Tablets in patients  
372 receiving MAO-A inhibitors is contraindicated (see CLINICAL PHARMACOLOGY and  
373 CONTRAINDICATIONS).

374 **Drug/Laboratory Test Interactions:** IMITREX Tablets are not known to interfere with  
375 commonly employed clinical laboratory tests.

376 **Carcinogenesis, Mutagenesis, Impairment of Fertility: Carcinogenesis:** In  
377 carcinogenicity studies, rats and mice were given sumatriptan by oral gavage (rats, 104 weeks) or  
378 drinking water (mice, 78 weeks). Average exposures achieved in mice receiving the highest dose  
379 (target dose of 160 mg/kg/day) were approximately 40 times the exposure attained in humans  
380 after the maximum recommended single oral dose of 100 mg. The highest dose administered to  
381 rats (160 mg/kg/day, reduced from 360 mg/kg/day during week 21) was approximately 15 times  
382 the maximum recommended single human oral dose of 100 mg on a mg/m<sup>2</sup> basis. There was no  
383 evidence of an increase in tumors in either species related to sumatriptan administration.

384 **Mutagenesis:** Sumatriptan was not mutagenic in the presence or absence of metabolic  
385 activation when tested in 2 gene mutation assays (the Ames test and the in vitro mammalian  
386 Chinese hamster V79/HGPRT assay). In 2 cytogenetics assays (the in vitro human lymphocyte  
387 assay and the in vivo rat micronucleus assay) sumatriptan was not associated with clastogenic  
388 activity.

389 **Impairment of Fertility:** In a study in which male and female rats were dosed daily with  
390 oral sumatriptan prior to and throughout the mating period, there was a treatment-related  
391 decrease in fertility secondary to a decrease in mating in animals treated with 50 and  
392 500 mg/kg/day. The highest no-effect dose for this finding was 5 mg/kg/day, or approximately  
393 one half of the maximum recommended single human oral dose of 100 mg on a mg/m<sup>2</sup> basis. It  
394 is not clear whether the problem is associated with treatment of the males or females or both  
395 combined. In a similar study by the subcutaneous route there was no evidence of impaired  
396 fertility at 60 mg/kg/day, the maximum dose tested, which is equivalent to approximately 6 times  
397 the maximum recommended single human oral dose of 100 mg on a mg/m<sup>2</sup> basis.

398 **Pregnancy:** Pregnancy Category C. In reproductive toxicity studies in rats and rabbits, oral  
399 treatment with sumatriptan was associated with embryoletality, fetal abnormalities, and pup  
400 mortality. When administered by the intravenous route to rabbits, sumatriptan has been shown to  
401 be embryoletal. There are no adequate and well-controlled studies in pregnant women.  
402 Therefore, IMITREX should be used during pregnancy only if the potential benefit justifies the  
403 potential risk to the fetus. In assessing this information, the following findings should be  
404 considered.

405 **Embryoletality:** When given orally or intravenously to pregnant rabbits daily throughout  
406 the period of organogenesis, sumatriptan caused embryoletality at doses at or close to those  
407 producing maternal toxicity. In the oral studies this dose was 100 mg/kg/day, and in the  
408 intravenous studies this dose was 2.0 mg/kg/day. The mechanism of the embryoletality is not  
409 known. The highest no-effect dose for embryoletality by the oral route was 50 mg/kg/day,  
410 which is approximately 9 times the maximum single recommended human oral dose of 100 mg  
411 on a mg/m<sup>2</sup> basis. By the intravenous route, the highest no-effect dose was 0.75 mg/kg/day, or  
412 approximately one tenth of the maximum single recommended human oral dose of 100 mg on a  
413 mg/m<sup>2</sup> basis.

414 The intravenous administration of sumatriptan to pregnant rats throughout organogenesis at  
415 12.5 mg/kg/day, the maximum dose tested, did not cause embryoletality. This dose is

416 equivalent to the maximum single recommended human oral dose of 100 mg on a mg/m<sup>2</sup> basis.  
417 Additionally, in a study in rats given subcutaneous sumatriptan daily prior to and throughout  
418 pregnancy at 60 mg/kg/day, the maximum dose tested, there was no evidence of increased  
419 embryo/fetal lethality. This dose is equivalent to approximately 6 times the maximum  
420 recommended single human oral dose of 100 mg on a mg/m<sup>2</sup> basis.

421 **Teratogenicity:** Oral treatment of pregnant rats with sumatriptan during the period of  
422 organogenesis resulted in an increased incidence of blood vessel abnormalities (cervicothoracic  
423 and umbilical) at doses of approximately 250 mg/kg/day or higher. The highest no-effect dose  
424 was approximately 60 mg/kg/day, which is approximately 6 times the maximum single  
425 recommended human oral dose of 100 mg on a mg/m<sup>2</sup> basis. Oral treatment of pregnant rabbits  
426 with sumatriptan during the period of organogenesis resulted in an increased incidence of  
427 cervicothoracic vascular and skeletal abnormalities. The highest no-effect dose for these effects  
428 was 15 mg/kg/day, or approximately 3 times the maximum single recommended human oral  
429 dose of 100 mg on a mg/m<sup>2</sup> basis.

430 A study in which rats were dosed daily with oral sumatriptan prior to and throughout gestation  
431 demonstrated embryo/fetal toxicity (decreased body weight, decreased ossification, increased  
432 incidence of rib variations) and an increased incidence of a syndrome of malformations (short  
433 tail/short body and vertebral disorganization) at 500 mg/kg/day. The highest no-effect dose was  
434 50 mg/kg/day, or approximately 5 times the maximum single recommended human oral dose of  
435 100 mg on a mg/m<sup>2</sup> basis. In a study in rats dosed daily with subcutaneous sumatriptan prior to  
436 and throughout pregnancy, at a dose of 60 mg/kg/day, the maximum dose tested, there was no  
437 evidence of teratogenicity. This dose is equivalent to approximately 6 times the maximum  
438 recommended single human oral dose of 100 mg on a mg/m<sup>2</sup> basis.

439 **Pup Deaths:** Oral treatment of pregnant rats with sumatriptan during the period of  
440 organogenesis resulted in a decrease in pup survival between birth and postnatal day 4 at doses  
441 of approximately 250 mg/kg/day or higher. The highest no-effect dose for this effect was  
442 approximately 60 mg/kg/day, or 6 times the maximum single recommended human oral dose of  
443 100 mg on a mg/m<sup>2</sup> basis.

444 Oral treatment of pregnant rats with sumatriptan from gestational day 17 through postnatal  
445 day 21 demonstrated a decrease in pup survival measured at postnatal days 2, 4, and 20 at the  
446 dose of 1,000 mg/kg/day. The highest no-effect dose for this finding was 100 mg/kg/day,  
447 approximately 10 times the maximum single recommended human oral dose of 100 mg on a  
448 mg/m<sup>2</sup> basis. In a similar study in rats by the subcutaneous route there was no increase in pup  
449 death at 81 mg/kg/day, the highest dose tested, which is equivalent to 8 times the maximum  
450 single recommended human oral dose of 100 mg on a mg/m<sup>2</sup> basis.

451 **Pregnancy Registry:** To monitor fetal outcomes of pregnant women exposed to  
452 IMITREX, GlaxoSmithKline maintains a Sumatriptan Pregnancy Registry. Physicians are  
453 encouraged to register patients by calling (800) 336-2176.

454 **Nursing Mothers:** Sumatriptan is excreted in human breast milk following subcutaneous  
455 administration. Infant exposure to sumatriptan can be minimized by avoiding breastfeeding for  
456 12 hours after treatment with IMITREX Tablets.

457 **Pediatric Use:** Safety and effectiveness of IMITREX Tablets in pediatric patients under 18  
458 years of age have not been established; therefore, IMITREX Tablets are not recommended for  
459 use in patients under 18 years of age.

460 Two controlled clinical trials evaluating sumatriptan nasal spray (5 to 20 mg) in pediatric  
461 patients aged 12 to 17 years enrolled a total of 1,248 adolescent migraineurs who treated a single  
462 attack. The studies did not establish the efficacy of sumatriptan nasal spray compared to placebo  
463 in the treatment of migraine in adolescents. Adverse events observed in these clinical trials were  
464 similar in nature to those reported in clinical trials in adults.

465 Five controlled clinical trials (2 single attack studies, 3 multiple attack studies) evaluating oral  
466 sumatriptan (25 to 100 mg) in pediatric patients aged 12 to 17 years enrolled a total of 701  
467 adolescent migraineurs. These studies did not establish the efficacy of oral sumatriptan compared  
468 to placebo in the treatment of migraine in adolescents. Adverse events observed in these clinical  
469 trials were similar in nature to those reported in clinical trials in adults. The frequency of all  
470 adverse events in these patients appeared to be both dose- and age-dependent, with younger  
471 patients reporting events more commonly than older adolescents.

472 Postmarketing experience documents that serious adverse events have occurred in the  
473 pediatric population after use of subcutaneous, oral, and/or intranasal sumatriptan. These reports  
474 include events similar in nature to those reported rarely in adults, including stroke, visual loss,  
475 and death. A myocardial infarction has been reported in a 14-year-old male following the use of  
476 oral sumatriptan; clinical signs occurred within 1 day of drug administration. Since clinical data  
477 to determine the frequency of serious adverse events in pediatric patients who might receive  
478 injectable, oral, or intranasal sumatriptan are not presently available, the use of sumatriptan in  
479 patients aged younger than 18 years is not recommended.

480 **Geriatric Use:** The use of sumatriptan in elderly patients is not recommended because elderly  
481 patients are more likely to have decreased hepatic function, they are at higher risk for CAD, and  
482 blood pressure increases may be more pronounced in the elderly (see WARNINGS).

## 483 **ADVERSE REACTIONS**

484 **Serious cardiac events, including some that have been fatal, have occurred following the**  
485 **use of IMITREX Injection or Tablets. These events are extremely rare and most have been**  
486 **reported in patients with risk factors predictive of CAD. Events reported have included**  
487 **coronary artery vasospasm, transient myocardial ischemia, myocardial infarction,**  
488 **ventricular tachycardia, and ventricular fibrillation** (see CONTRAINDICATIONS,  
489 WARNINGS, and PRECAUTIONS).

490 Significant hypertensive episodes, including hypertensive crises, have been reported on rare  
491 occasions in patients with or without a history of hypertension (see WARNINGS).

492 **Incidence in Controlled Clinical Trials:** Table 2 lists adverse events that occurred in  
 493 placebo-controlled clinical trials in patients who took at least 1 dose of study drug. Only events  
 494 that occurred at a frequency of 2% or more in any group treated with IMITREX Tablets and  
 495 were more frequent in that group than in the placebo group are included in Table 2. The events  
 496 cited reflect experience gained under closely monitored conditions of clinical trials in a highly  
 497 selected patient population. In actual clinical practice or in other clinical trials, these frequency  
 498 estimates may not apply, as the conditions of use, reporting behavior, and the kinds of patients  
 499 treated may differ.

500

501 **Table 2. Treatment-Emergent Adverse Events Reported by at Least 2% of Patients in**  
 502 **Controlled Migraine Trials\***

Adverse Event Type	Percent of Patients Reporting			
	Placebo (N = 309)	IMITREX 25 mg (N = 417)	IMITREX 50 mg (N = 771)	IMITREX 100 mg (N = 437)
Atypical sensations	4%	5%	6%	6%
Paresthesia (all types)	2%	3%	5%	3%
Sensation warm/cold	2%	3%	2%	3%
Pain and other pressure sensations	4%	6%	6%	8%
Chest - pain/tightness/pressure and/or heaviness	1%	1%	2%	2%
Neck/throat/jaw - pain/ tightness/pressure	<1%	<1%	2%	3%
Pain - location specified	1%	2%	1%	1%
Other - pressure/tightness/ heaviness	2%	1%	1%	3%
Neurological				
Vertigo	<1%	<1%	<1%	2%
Other				
Malaise/fatigue	<1%	2%	2%	3%

503 \* Events that occurred at a frequency of 2% or more in the group treated with IMITREX  
 504 Tablets and that occurred more frequently in that group than the placebo group.

505

506 Other events that occurred in more than 1% of patients receiving IMITREX Tablets and at  
 507 least as often on placebo included nausea and/or vomiting, migraine, headache, hyposalivation,  
 508 dizziness, and drowsiness/sleepiness.

509 IMITREX Tablets are generally well tolerated. Across all doses, most adverse reactions were  
 510 mild and transient and did not lead to long-lasting effects. The incidence of adverse events in  
 511 controlled clinical trials was not affected by gender or age of the patients. There were insufficient  
 512 data to assess the impact of race on the incidence of adverse events.

513 **Other Events Observed in Association With the Administration of IMITREX**  
514 **Tablets:** In the paragraphs that follow, the frequencies of less commonly reported adverse  
515 clinical events are presented. Because the reports include events observed in open and  
516 uncontrolled studies, the role of IMITREX Tablets in their causation cannot be reliably  
517 determined. Furthermore, variability associated with adverse event reporting, the terminology  
518 used to describe adverse events, etc., limit the value of quantitative frequency estimates  
519 provided. Event frequencies are calculated as the number of patients who used IMITREX Tablets  
520 (25, 50, or 100 mg) and reported an event divided by the total number of patients (N = 6,348)  
521 exposed to IMITREX Tablets. All reported events are included except those already listed in the  
522 previous table, those too general to be informative, and those not reasonably associated with the  
523 use of the drug. Events are further classified within body system categories and enumerated in  
524 order of decreasing frequency using the following definitions: frequent adverse events are  
525 defined as those occurring in at least 1/100 patients, infrequent adverse events are those  
526 occurring in 1/100 to 1/1,000 patients, and rare adverse events are those occurring in fewer than  
527 1/1,000 patients.

528 **Atypical Sensations:** Frequent were burning sensation and numbness. Infrequent was tight  
529 feeling in head. Rare were dysesthesia.

530 **Cardiovascular:** Frequent were palpitations, syncope, decreased blood pressure, and  
531 increased blood pressure. Infrequent were arrhythmia, changes in ECG, hypertension,  
532 hypotension, pallor, pulsating sensations, and tachycardia. Rare were angina, atherosclerosis,  
533 bradycardia, cerebral ischemia, cerebrovascular lesion, heart block, peripheral cyanosis,  
534 thrombosis, transient myocardial ischemia, and vasodilation.

535 **Ear, Nose, and Throat:** Frequent were sinusitis, tinnitus; allergic rhinitis; upper respiratory  
536 inflammation; ear, nose, and throat hemorrhage; external otitis; hearing loss; nasal inflammation;  
537 and sensitivity to noise. Infrequent were hearing disturbances and otalgia. Rare was feeling of  
538 fullness in the ear(s).

539 **Endocrine and Metabolic:** Infrequent was thirst. Rare were elevated thyrotropin  
540 stimulating hormone (TSH) levels; galactorrhea; hyperglycemia; hypoglycemia; hypothyroidism;  
541 polydipsia; weight gain; weight loss; endocrine cysts, lumps, and masses; and fluid disturbances.

542 **Eye:** Rare were disorders of sclera, mydriasis, blindness and low vision, visual disturbances,  
543 eye edema and swelling, eye irritation and itching, accommodation disorders, external ocular  
544 muscle disorders, eye hemorrhage, eye pain, and keratitis and conjunctivitis.

545 **Gastrointestinal:** Frequent were diarrhea and gastric symptoms. Infrequent were  
546 constipation, dysphagia, and gastroesophageal reflux. Rare were gastrointestinal bleeding,  
547 hematemesis, melena, peptic ulcer, gastrointestinal pain, dyspeptic symptoms, dental pain,  
548 feelings of gastrointestinal pressure, gastroesophageal reflux, gastritis, gastroenteritis,  
549 hypersalivation, abdominal distention, oral itching and irritation, salivary gland swelling, and  
550 swallowing disorders.

551 **Hematological Disorders:** Rare was anemia.

552 **Musculoskeletal:** Frequent was myalgia. Infrequent was muscle cramps. Rare were tetany;  
553 muscle atrophy, weakness, and tiredness; arthralgia and articular rheumatitis; acquired  
554 musculoskeletal deformity; muscle stiffness, tightness, and rigidity; and musculoskeletal  
555 inflammation.

556 **Neurological:** Frequent were phonophobia and photophobia. Infrequent were confusion,  
557 depression, difficulty concentrating, disturbance of smell, dysarthria, euphoria, facial pain, heat  
558 sensitivity, incoordination, lacrimation, monoplegia, sleep disturbance, shivering, syncope, and  
559 tremor. Rare were aggressiveness, apathy, bradylogia, cluster headache, convulsions, decreased  
560 appetite, drug abuse, dystonic reaction, facial paralysis, hallucinations, hunger, hyperesthesia,  
561 hysteria, increased alertness, memory disturbance, neuralgia, paralysis, personality change,  
562 phobia, radiculopathy, rigidity, suicide, twitching, agitation, anxiety, depressive disorders,  
563 detachment, motor dysfunction, neurotic disorders, psychomotor disorders, taste disturbances,  
564 and raised intracranial pressure.

565 **Respiratory:** Frequent was dyspnea. Infrequent was asthma. Rare were hiccoughs, breathing  
566 disorders, cough, and bronchitis.

567 **Skin:** Frequent was sweating. Infrequent were erythema, pruritus, rash, and skin tenderness.  
568 Rare were dry/scaly skin, tightness of skin, wrinkling of skin, eczema, seborrheic dermatitis, and  
569 skin nodules.

570 **Breasts:** Infrequent was tenderness. Rare were nipple discharge; breast swelling; cysts,  
571 lumps, and masses of breasts; and primary malignant breast neoplasm.

572 **Urogenital:** Infrequent were dysmenorrhea, increased urination, and intermenstrual  
573 bleeding. Rare were abortion and hematuria, urinary frequency, bladder inflammation,  
574 micturition disorders, urethritis, urinary infections, menstruation symptoms, abnormal menstrual  
575 cycle, inflammation of fallopian tubes, and menstrual cycle symptoms.

576 **Miscellaneous:** Frequent was hypersensitivity. Infrequent were fever, fluid retention, and  
577 overdose. Rare were edema, hematoma, lymphadenopathy, speech disturbance, voice  
578 disturbances, contusions.

579 **Other Events Observed in the Clinical Development of IMITREX:** The following  
580 adverse events occurred in clinical trials with IMITREX Injection and IMITREX Nasal Spray.  
581 Because the reports include events observed in open and uncontrolled studies, the role of  
582 IMITREX in their causation cannot be reliably determined. All reported events are included  
583 except those already listed, those too general to be informative, and those not reasonably  
584 associated with the use of the drug.

585 **Atypical Sensations:** Feeling strange, prickling sensation, tingling, and hot sensation.

586 **Cardiovascular:** Abdominal aortic aneurysm, abnormal pulse, flushing, phlebitis, Raynaud  
587 syndrome, and various transient ECG changes (nonspecific ST or T wave changes, prolongation  
588 of PR or QTc intervals, sinus arrhythmia, nonsustained ventricular premature beats, isolated  
589 junctional ectopic beats, atrial ectopic beats, delayed activation of the right ventricle).

590 **Chest Symptoms:** Chest discomfort.

591 **Endocrine and Metabolic:** Dehydration.

592 **Ear, Nose, and Throat:** Disorder/discomfort nasal cavity and sinuses, ear infection,  
593 Meniere disease, and throat discomfort.

594 **Eye:** Vision alterations.

595 **Gastrointestinal:** Abdominal discomfort, colitis, disturbance of liver function tests,  
596 flatulence/eructation, gallstones, intestinal obstruction, pancreatitis, and retching.

597 **Injection Site Reaction**

598 **Miscellaneous:** Difficulty in walking, hypersensitivity to various agents, jaw discomfort,  
599 miscellaneous laboratory abnormalities, “serotonin agonist effect,” swelling of the extremities,  
600 and swelling of the face.

601 **Mouth and Teeth:** Disorder of mouth and tongue (e.g., burning of tongue, numbness of  
602 tongue, dry mouth).

603 **Musculoskeletal:** Arthritis, backache, intervertebral disc disorder, neck pain/stiffness, need  
604 to flex calf muscles, and various joint disturbances (pain, stiffness, swelling, ache).

605 **Neurological:** Bad/unusual taste, chills, diplegia, disturbance of emotions, sedation, globus  
606 hystericus, intoxication, myoclonia, neoplasm of pituitary, relaxation, sensation of lightness,  
607 simultaneous hot and cold sensations, stinging sensations, stress, tickling sensations, transient  
608 hemiplegia, and yawning.

609 **Respiratory:** Influenza and diseases of the lower respiratory tract and lower respiratory tract  
610 infection.

611 **Skin:** Skin eruption, herpes, and peeling of the skin.

612 **Urogenital:** Disorder of breasts, endometriosis, and renal calculus.

613 **Postmarketing Experience (Reports for Subcutaneous or Oral Sumatriptan):** The  
614 following section enumerates potentially important adverse events that have occurred in clinical  
615 practice and that have been reported spontaneously to various surveillance systems. The events  
616 enumerated represent reports arising from both domestic and nondomestic use of oral or  
617 subcutaneous dosage forms of sumatriptan. The events enumerated include all except those  
618 already listed in the ADVERSE REACTIONS section above or those too general to be  
619 informative. Because the reports cite events reported spontaneously from worldwide  
620 postmarketing experience, frequency of events and the role of sumatriptan in their causation  
621 cannot be reliably determined. It is assumed, however, that systemic reactions following  
622 sumatriptan use are likely to be similar regardless of route of administration.

623 **Blood:** Hemolytic anemia, pancytopenia, thrombocytopenia.

624 **Cardiovascular:** Atrial fibrillation, cardiomyopathy, colonic ischemia (see WARNINGS),  
625 Prinzmetal variant angina, pulmonary embolism, shock, thrombophlebitis.

626 **Ear, Nose, and Throat:** Deafness.

627 **Eye:** Ischemic optic neuropathy, retinal artery occlusion, retinal vein thrombosis, loss of  
628 vision.

629 **Gastrointestinal:** Ischemic colitis with rectal bleeding (see WARNINGS), xerostomia.

630 **Hepatic:** Elevated liver function tests.

631 **Neurological:** Central nervous system vasculitis, cerebrovascular accident, dysphasia,  
632 serotonin syndrome, subarachnoid hemorrhage.  
633 **Non-Site Specific:** Angioneurotic edema, cyanosis, death (see WARNINGS), temporal  
634 arteritis.  
635 **Psychiatry:** Panic disorder.  
636 **Respiratory:** Bronchospasm in patients with and without a history of asthma.  
637 **Skin:** Exacerbation of sunburn, hypersensitivity reactions (allergic vasculitis, erythema,  
638 pruritus, rash, shortness of breath, urticaria; in addition, severe anaphylaxis/anaphylactoid  
639 reactions have been reported [see WARNINGS]), photosensitivity.  
640 **Urogenital:** Acute renal failure.

## 641 **DRUG ABUSE AND DEPENDENCE**

642 One clinical study with IMITREX<sup>®</sup> (sumatriptan succinate) Injection enrolling 12 patients  
643 with a history of substance abuse failed to induce subjective behavior and/or physiologic  
644 response ordinarily associated with drugs that have an established potential for abuse.

## 645 **OVERDOSAGE**

646 Patients (N = 670) have received single oral doses of 140 to 300 mg without significant  
647 adverse effects. Volunteers (N = 174) have received single oral doses of 140 to 400 mg without  
648 serious adverse events.

649 Overdose in animals has been fatal and has been heralded by convulsions, tremor, paralysis,  
650 inactivity, ptosis, erythema of the extremities, abnormal respiration, cyanosis, ataxia, mydriasis,  
651 salivation, and lacrimation. The elimination half-life of sumatriptan is approximately 2.5 hours  
652 (see CLINICAL PHARMACOLOGY), and therefore monitoring of patients after overdose with  
653 IMITREX Tablets should continue for at least 12 hours or while symptoms or signs persist.

654 It is unknown what effect hemodialysis or peritoneal dialysis has on the serum concentrations  
655 of sumatriptan.

## 656 **DOSAGE AND ADMINISTRATION**

657 In controlled clinical trials, single doses of 25, 50, or 100 mg of IMITREX Tablets were  
658 effective for the acute treatment of migraine in adults. There is evidence that doses of 50 and  
659 100 mg may provide a greater effect than 25 mg (see CLINICAL TRIALS). There is also  
660 evidence that doses of 100 mg do not provide a greater effect than 50 mg. Individuals may vary  
661 in response to doses of IMITREX Tablets. The choice of dose should therefore be made on an  
662 individual basis, weighing the possible benefit of a higher dose with the potential for a greater  
663 risk of adverse events.

664 If the headache returns or the patient has a partial response to the initial dose, the dose may be  
665 repeated after 2 hours, not to exceed a total daily dose of 200 mg. If a headache returns following  
666 an initial treatment with IMITREX Injection, additional single IMITREX Tablets (up to  
667 100 mg/day) may be given with an interval of at least 2 hours between tablet doses. The safety of  
668 treating an average of more than 4 headaches in a 30-day period has not been established.

669 Because of the potential of MAO-A inhibitors to cause unpredictable elevations in the  
670 bioavailability of oral sumatriptan, their combined use is contraindicated (see  
671 CONTRAINDICATIONS).

672 Hepatic disease/functional impairment may also cause unpredictable elevations in the  
673 bioavailability of orally administered sumatriptan. Consequently, if treatment is deemed  
674 advisable in the presence of liver disease, the maximum single dose should in general not exceed  
675 50 mg (see CLINICAL PHARMACOLOGY for the basis of this recommendation).

## 676 HOW SUPPLIED

677 IMITREX Tablets, 25, 50, and 100 mg of sumatriptan (base) as the succinate.

678 IMITREX Tablets, 25 mg are white, triangular-shaped, film-coated tablets debossed with “T”  
679 on one side and “25” on the other in blister packs of 9 tablets (NDC 0173-0735-00).

680 IMITREX Tablets, 50 mg are white, triangular-shaped, film-coated tablets debossed with  
681 “IMITREX 50” on one side and a chevron shape (^) on the other in blister packs of 9 tablets  
682 (NDC 0173-0736-01).

683 IMITREX Tablets, 100 mg, are pink, triangular-shaped, film-coated tablets debossed with  
684 “IMITREX 100” on one side and a chevron shape (^) on the other in blister packs of 9 tablets  
685 (NDC 0173-0737-01).

686 **Store between 36° and 86°F (2° and 30°C).**

## 687 ANIMAL TOXICOLOGY

688 **Corneal Opacities:** Dogs receiving oral sumatriptan developed corneal opacities and defects  
689 in the corneal epithelium. Corneal opacities were seen at the lowest dosage tested, 2 mg/kg/day,  
690 and were present after 1 month of treatment. Defects in the corneal epithelium were noted in a  
691 60-week study. Earlier examinations for these toxicities were not conducted and no-effect doses  
692 were not established; however, the relative exposure at the lowest dose tested was approximately  
693 5 times the human exposure after a 100-mg oral dose. There is evidence of alterations in corneal  
694 appearance on the first day of intranasal dosing to dogs. Changes were noted at the lowest dose  
695 tested, which was approximately one half the maximum single human oral dose of 100 mg on a  
696 mg/m<sup>2</sup> basis.

## 697 PATIENT INFORMATION

698 The following wording is contained in a separate leaflet provided for patients.

699

700

701

702

### **Information for the Patient** **IMITREX<sup>®\*</sup> (sumatriptan succinate) Tablets**

703 Please read this leaflet carefully before you take IMITREX Tablets. This provides a summary of  
704 the information available on your medicine. Please do not throw away this leaflet until you have  
705 finished your medicine. You may need to read this leaflet again. This leaflet does not contain all

706 the information on IMITREX Tablets. For further information or advice, ask your doctor or  
707 pharmacist.

708 **Information About Your Medicine:**

709 The name of your medicine is IMITREX (sumatriptan succinate) Tablets. It can be obtained  
710 only by prescription from your doctor. The decision to use IMITREX Tablets is one that you and  
711 your doctor should make jointly, taking into account your individual preferences and medical  
712 circumstances. If you have risk factors for heart disease (such as high blood pressure, high  
713 cholesterol, obesity, diabetes, smoking, strong family history of heart disease, or you are  
714 postmenopausal or a male over 40 years of age), you should tell your doctor, who should  
715 evaluate you for heart disease in order to determine if IMITREX is appropriate for you. Although  
716 the vast majority of those who have taken IMITREX have not experienced any significant side  
717 effects, some individuals have experienced serious heart problems and, rarely, considering the  
718 extensiveness of IMITREX use worldwide, deaths have been reported. In all but a few instances,  
719 however, serious problems occurred in people with known heart disease and it was not clear  
720 whether IMITREX was a contributory factor in these deaths.

721 **1. The Purpose of Your Medicine:**

722 IMITREX Tablets are intended to relieve your migraine, but not to prevent or reduce the  
723 number of attacks you experience. Use IMITREX Tablets only to treat an actual migraine attack.

724 **2. Important Questions to Consider Before Taking IMITREX Tablets:**

725 If the answer to any of the following questions is **YES** or if you do not know the answer, then  
726 please discuss it with your doctor before you use IMITREX Tablets.

- 727 • Are you pregnant? Do you think you might be pregnant? Are you trying to become pregnant?  
728 Are you using inadequate contraception? Are you breastfeeding?
- 729 • Do you have any chest pain, heart disease, shortness of breath, or irregular heartbeats? Have  
730 you had a heart attack?
- 731 • Do you have risk factors for heart disease (such as high blood pressure, high cholesterol,  
732 obesity, diabetes, smoking, strong family history of heart disease, or you are postmenopausal  
733 or a male over 40 years of age)?
- 734 • Have you had a stroke, transient ischemic attacks (TIAs), or Raynaud syndrome?
- 735 • Do you have high blood pressure?
- 736 • Have you ever had to stop taking this or any other medicine because of an allergy or other  
737 problems?
- 738 • Are you taking any other migraine medicines, including other 5-HT<sub>1</sub> agonists or any other  
739 medicines containing ergotamine, dihydroergotamine, or methysergide?
- 740 • Are you taking any medicine for depression or other disorders such as monoamine oxidase  
741 inhibitors, selective serotonin reuptake inhibitors (SSRIs), or serotonin norepinephrine  
742 reuptake inhibitors (SNRIs)? Common SSRIs are citalopram HBr (CELEXA<sup>®</sup>), escitalopram  
743 oxalate (LEXAPRO<sup>®</sup>), paroxetine (PAXIL<sup>®</sup>), fluoxetine (PROZAC<sup>®</sup>/SARAFEM<sup>®</sup>),  
744 olanzapine/fluoxetine (SYMBYAX<sup>®</sup>), sertraline (ZOLOFT<sup>®</sup>), and fluvoxamine. Common  
745 SNRIs are duloxetine (CYMBALTA<sup>®</sup>) and venlafaxine (EFFEXOR<sup>®</sup>).

- 746 • Have you had, or do you have, any disease of the liver or kidney?  
747 • Have you had, or do you have, epilepsy or seizures?  
748 • Is this headache different from your usual migraine attacks?

749 Remember, if you answered **YES** to any of the above questions, then discuss it with your  
750 doctor.

751 **3. *The Use of IMITREX Tablets During Pregnancy:***

752 Do not use IMITREX Tablets if you are pregnant, think you might be pregnant, are trying to  
753 become pregnant, or are not using adequate contraception, unless you have discussed this with  
754 your doctor.

755 **4. *How to Use IMITREX Tablets:***

756 For adults, the usual dose is a single tablet swallowed whole with water or other fluids. Do not  
757 split tablets.

758 A second tablet may be taken if your symptoms of migraine come back or if you have a  
759 partial response to the initial dose, but not sooner than 2 hours following the first tablet. For a  
760 given attack, if you have no response to the first tablet, do not take a second tablet without first  
761 consulting with your doctor. Do not take more than a total of 200 mg of IMITREX Tablets in  
762 any 24-hour period. The safety of treating an average of more than 4 headaches in a 30-day  
763 period has not been established.

764 **5. *Side Effects to Watch for:***

- 765 • Some patients experience pain or tightness in the chest or throat when using IMITREX  
766 Tablets. If this happens to you, then discuss it with your doctor before using any more  
767 IMITREX Tablets. If the chest pain is severe or does not go away, call your doctor  
768 immediately.
- 769 • If you have sudden and/or severe abdominal pain following IMITREX Tablets, call your  
770 doctor immediately.
- 771 • Some people may have a reaction called serotonin syndrome when they use certain types of  
772 antidepressants, SSRIs or SNRIs, while taking IMITREX Tablets. Symptoms may include  
773 confusion, hallucinations, fast heartbeat, feeling faint, fever, sweating, muscle spasm,  
774 difficulty walking, and/or diarrhea. Call your doctor immediately if you have any of these  
775 symptoms after taking IMITREX Tablets.
- 776 • Shortness of breath; wheeziness; heart throbbing; swelling of eyelids, face, or lips; or a skin  
777 rash, skin lumps, or hives happens rarely. If it happens to you, then tell your doctor  
778 immediately. Do not take any more IMITREX Tablets unless your doctor tells you to do so.
- 779 • Some people may have feelings of tingling, heat, flushing (redness of face lasting a short  
780 time), heaviness or pressure after treatment with IMITREX Tablets. A few people may feel  
781 drowsy, dizzy, tired, or sick. Tell your doctor of these symptoms at your next visit.
- 782 • If you feel unwell in any other way or have any symptoms that you do not understand, you  
783 should contact your doctor immediately.

784 **6. *What to Do if an Overdose is Taken:***

785 If you have taken more medicine than you have been told, contact either your doctor, hospital  
786 emergency department, or nearest poison control center immediately.

787 **7. Storing Your Medicine:**

788 Keep your medicine in a safe place where children cannot reach it. It may be harmful to  
789 children. Do not remove tablets from the packaging until you are ready to use them. Do not store  
790 the tablets in any other container.

791 Store your medicine away from heat and light. Do not store at temperatures above 86°F  
792 (30°C), or below 36°F (2°C).

793 If your medicine has expired (the expiration date is printed on the treatment pack), throw it  
794 away as instructed. If your doctor decides to stop your treatment, do not keep any leftover  
795 medicine unless your doctor tells you to. Throw away your medicine as instructed.

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799 makers of these brands are not affiliated with and do not endorse GlaxoSmithKline or its  
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