WELLBUTRIN XL
(bupropion hydrochloride extended-release tablets)

INDICATIONS AND USAGE

Major Depressive Disorder

WELLBUTRIN XL is indicated for the treatment of major depressive disorder (MDD), as defined by the Diagnostic and Statistical Manual (DSM).

The efficacy of the immediate-release formulation of bupropion was established in two 4-week controlled inpatient trials and one 6-week controlled outpatient trial of adult patients with MDD. The efficacy of the sustained-release formulation of bupropion in maintenance treatment of MDD was established in a long-term (up to 44 weeks), placebo-controlled trial in patients who had responded to bupropion in an 8-week study of acute treatment (see *Clinical Studies*).

Seasonal Affective Disorder

WELLBUTRIN XL is indicated for the prevention of seasonal major depressive episodes in patients with a diagnosis of seasonal affective disorder (SAD).

The efficacy of bupropion hydrochloride extended-release tablets in the prevention of seasonal major depressive episodes was established in 3 controlled trials in adult outpatients with a history of MDD with an autumn-winter seasonal pattern as defined by DSM (see *Clinical Studies*).

DOSAGE AND ADMINISTRATION

General Instructions for Use

To minimize the risk of seizure, increase the dose gradually (see *Warnings and Precautions*).

WELLBUTRIN XL should be swallowed whole and not crushed, divided or chewed.

WELLBUTRIN XL should be administered in the morning and may be taken with or without food.

Dosage for Major Depressive Disorder (MDD)

The recommended starting dose for MDD is 150 mg once daily in the morning. After 4 days of dosing, the dose may be increased to the target dose of 300 mg once daily in the morning.

It is generally agreed that acute episodes of depression require several months or longer of antidepressant treatment beyond the response in the acute episode. It is unknown whether the WELLBUTRIN XL dose needed for maintenance treatment is identical to the dose that provided an initial response. Periodically reassess the need for maintenance treatment and the appropriate dose for such treatment.

Dosage for Seasonal Affective Disorder (SAD)

The recommended starting dose for SAD is 150 mg once daily. After 7 days of dosing, the dose may be increased to the target dose of 300 mg once daily in the morning. Doses above 300 mg of bupropion HCl extended-release were not assessed in the SAD trials.

For the prevention of seasonal MDD episodes associated with SAD, initiate WELLBUTRIN XL in the autumn, prior to the onset of depressive symptoms. Continue treatment through the winter season. Taper and discontinue WELLBUTRIN XL in early spring. For patients treated with 300 mg/day, decrease the dose to 150 mg once daily before discontinuing WELLBUTRIN XL. Individualize the timing of initiation and duration of treatment should be individualized, based on the patient's historical pattern of seasonal MDD episodes.

Switching Patients from WELLBUTRIN Tablets or from WELLBUTRIN SR Sustained-Release Tablets

When switching patients from WELLBUTRIN Tablets to WELLBUTRIN XL or from WELLBUTRIN SR Sustained-Release Tablets to WELLBUTRIN XL, give the same total daily dose when possible.

To discontinue WELLBUTRIN XL, Taper the dose
When discontinuing treatment in patients treated with WELLBUTRIN XL 300 mg once daily, decrease the dose to 150 mg once daily prior to discontinuation.

Dosage Adjustment in patients with hepatic impairment
In patients with moderate to severe hepatic impairment (Child-Pugh score: 7 to 15), the maximum dose is 150 mg every other day. In patients with mild hepatic impairment (Child-Pugh score: 5 to 6), consider reducing the dose and/or frequency of dosing (see *Use in Specific Populations* and *Clinical Pharmacology*).

Dosage Adjustment in patients with renal impairment
Consider reducing the dose and/or frequency of WELLBUTRIN XL in patients with renal impairment (glomerular filtration rate less than 90 mL/min) (see *Use in Specific Populations* and *Clinical Pharmacology*).

Switching a patient to or from a Monoamine Oxidase Inhibitor (MAOI) antidepressant
At least 14 days should elapse between discontinuation of an MAOI intended to treat depression and initiation of therapy with WELLBUTRIN XL. Conversely, at least 14 days should be allowed after stopping WELLBUTRIN XL before starting an MAOI antidepressant (see *Contraindications* and *Drug Interactions*).

Use of WELLBUTRIN XL with reversible MAOIs such as Linezolid or Methylene Blue
Do not start WELLBUTRIN XL in a patient who is being treated with a reversible MAOI such as linezolid or intravenous methylene blue. Drug interactions can increase risk of hypertensive reactions. In a patient who requires more urgent treatment of a psychiatric condition, non-pharmacological interventions, including hospitalization, should be considered (see *Contraindications*).

In some cases, a patient already receiving therapy with WELLBUTRIN XL may require urgent treatment with linezolid or intravenous methylene blue. If acceptable alternatives to linezolid or intravenous methylene blue treatment are not available and the potential benefits of linezolid or intravenous methylene blue treatment are judged to outweigh the risks of hypertensive reactions in a particular patient, WELLBUTRIN XL should be stopped promptly, and linezolid or intravenous methylene blue can be administered. The patient should be monitored for 2 weeks or until 24 hours after the last dose of linezolid or intravenous methylene blue, whichever comes first. Therapy with WELLBUTRIN XL may be resumed 24 hours after the last dose of linezolid or intravenous methylene blue.

The risk of administering methylene blue by non-intravenous routes (such as oral tablets or by local injection) or in intravenous doses much lower than 1 mg per kg with WELLBUTRIN XL is unclear. The clinician should, nevertheless, be aware of the possibility of a drug interaction with such use (see *Contraindications* and *Drug Interactions*).

CONTRAINDICATIONS

- WELLBUTRIN XL is contraindicated in patients with hypersensitivity to bupropion or any of the other components of the preparation. Anaphylactoid / anaphylactic reactions and Stevens-Johnson Syndrome have been reported (see *Warnings and Precautions*).
- WELLBUTRIN XL is contraindicated in patients with seizure disorder.
- WELLBUTRIN XL is contraindicated in patients undergoing abrupt discontinuation of alcohol, benzodiazepines, barbiturates and antiepileptic drugs (see *Warnings and Precautions* and *Drug Interactions*).

- WELLBUTRIN XL is contraindicated in patients with a current or prior diagnosis of bulimia or anorexia nervosa as a higher incidence of seizures was observed in such patients treated with WELLLBUTRIN XL (see *Warnings and Precautions*).
- The use of MAOIs (intended to treat psychiatric disorders) concomitantly with WELLBUTRIN XL or within 14 days of discontinuing treatment with WELLBUTRIN XL is contraindicated. There is increased risk of hypertensive reactions when WELLBUTRIN XL is used concomitantly with MAOIs. The use of WELLBUTRIN XL within 14 days of discontinuing treatment with an MAOI is also contraindicated. Starting WELLBUTRIN XL in a patient treated with reversible MAOIs such as linezolid or intravenous methylene blue is contraindicated (see *Dosage and Administration, Warnings and Precautions* and *Drug Interactions*).

WARNINGS AND PRECATIONS

Suicidal Thoughts and Behaviours in Children, Adolescents and Young Adults

Patients with major depressive disorder (MDD), both adult and pediatric, may experience worsening of their depression and/or the emergence of suicidal ideation and behavior (suicidality) or unusual changes in behavior, whether or not they are taking antidepressant medications, and this risk may persist until significant remission occurs. Suicide is a known risk of depression and certain other psychiatric disorders, and these disorders themselves are the strongest predictors of suicide. There has been a long-standing concern that antidepressants may have a role in inducing worsening of depression and the emergence of suicidality in certain patients during the early phases of treatment.

Pooled analyses of short-term placebo-controlled trials of antidepressant drugs (Selective Serotonin Reuptake Inhibitors [SSRIs] and others) showed that these drugs increase the risk of suicidal thinking and behavior (suicidality) in children, adolescents, and young adults (ages 18 to 24) with major depressive disorder (MDD) and other psychiatric disorders. Short-term studies did not show an increase in the risk of suicidality with antidepressants compared to placebo in adults beyond age 24; there was a reduction with antidepressants compared to placebo in adults aged 65 and older.

The pooled analyses of placebo-controlled trials in children and adolescents with MDD, obsessive compulsive disorder (OCD), or other psychiatric disorders included a total of 24 short-term trials of 9 antidepressant drugs in over 4,400 patients. The pooled analyses of placebo-controlled trials in adults with MDD or other psychiatric disorders included a total of 295 short-term trials (median duration of 2 months) of 11 antidepressant drugs in over 77,000 patients. There was considerable variation in risk of suicidality among drugs, but a tendency toward an increase in the younger patients for almost all drugs studied. There were differences in absolute risk of suicidality across the different indications, with the highest incidence in MDD. The risk differences (drug vs placebo), however, were relatively stable within age strata and across indications. These risk differences (drug-placebo difference in the number of cases of suicidality per 1,000 patients treated) are provided in Table 1.

Table 1 Risk differences in the number of suicidality cases by age group in the pooled placebo-controlled trials of antidepressants in paediatric and adult patients

Age Range	Drug-Placebo Difference in Number of Cases of Suicidality per 1,000 patients treated
Increases Compared to Placebo	
<18	14 additional cases
18-24	5 additional cases
Decreases Compared to Placebo	
25-64	1 fewer case
≥65	6 fewer cases

No suicides occurred in any of the pediatric trials. There were suicides in the adult trials, but the number was not sufficient to reach any conclusion about drug effect on suicide.

It is unknown whether the suicidality risk extends to longer-term use, i.e., beyond several months. However, there is substantial evidence from placebo-controlled maintenance trials in adults with depression that the use of antidepressants can delay the recurrence of depression.

All patients being treated with antidepressants for any indication should be monitored appropriately and observed closely for clinical worsening, suicidality, and unusual changes in behavior, especially during the initial few months of a course of drug therapy, or at times of dose changes, either increases or decreases (see *Use in Specific Populations*).

The following symptoms, anxiety, agitation, panic attacks, insomnia, irritability, hostility, aggressiveness, impulsivity, akathisia (psychomotor restlessness), hypomania, and mania, have been reported in adult and pediatric patients being treated with antidepressants for major depressive disorder as well as for other indications, both psychiatric and nonpsychiatric. Although a causal link between the emergence of such symptoms and either the worsening of depression and/or the emergence of suicidal impulses has not been established, there is concern that such symptoms may represent precursors to emerging suicidality.

Consideration should be given to changing the therapeutic regimen, including possibly discontinuing the medication, in patients whose depression is persistently worse, or who are experiencing emergent suicidality or symptoms that might be precursors to worsening depression or suicidality, especially if these symptoms are severe, abrupt in onset, or were not part of the patient's presenting symptoms.

Families and caregivers of patients being treated with antidepressants for major depressive disorder or other indications, both psychiatric and nonpsychiatric, should be alerted about the need to monitor patients for the emergence of agitation, irritability, unusual changes in behavior, and the other symptoms described above, as well as the emergence of suicidality, and to report such symptoms immediately to healthcare providers. Such monitoring should include daily observation by families and caregivers. Prescriptions for WELLBUTRIN XL should be written for the smallest quantity of tablets consistent with good patient management, in order to reduce the risk of overdose.

Neuropsychiatric Adverse Events and Suicide Risk in Smoking Cessation Treatment

WELLBUTRIN XL is not approved for smoking cessation treatment; however, bupropion HCl sustained-release is approved for this use. Serious neuropsychiatric adverse events have been reported in patients taking bupropion for smoking cessation. These postmarketing reports have included changes in mood (including depression and mania), psychosis, hallucinations, paranoia, delusions, homicidal ideation, hostility, agitation, aggression, anxiety, and panic, as well as suicidal ideation, suicide attempt, and completed suicide (see *Adverse Reactions*). Some patients who stopped smoking may have been experiencing symptoms of nicotine withdrawal, including depressed mood. Depression, rarely including suicidal ideation, has been reported in smokers undergoing a smoking cessation attempt without medication. However, some of these adverse events occurred in patients taking bupropion who continued to smoke.

Neuropsychiatric adverse events occurred in patients without and with pre-existing psychiatric disease; some patients experienced worsening of their psychiatric illnesses. Observe patients for the occurrence of neuropsychiatric adverse events. Advise patients and caregivers that the patient should stop taking WELLBUTRIN XL and contact a healthcare provider immediately if agitation, depressed mood, or changes in behavior or thinking that are not typical for the patient are observed, or if the patient develops suicidal ideation or suicidal behavior. The healthcare provided should evaluate the severity of the adverse events and the extent to which the patient is benefiting from treatment, and consider options including continued treatment under close monitoring, or discontinuing treatment. In many post-marketing cases, resolution of symptoms after discontinuation of bupropion was reported. However, the symptoms persisted in some cases, therefore, ongoing monitoring and supportive care should be provided until symptoms resolve.

Seizure
WELLBUTRIN XL can cause seizure. The risk of seizure is dose-related. The dose should not exceed 300 mg once daily. Increase the dose gradually. Discontinue WELLBUTRIN XL and do not restart treatment if the patient experiences a seizure.

The risk of seizures is also related to patient factors, clinical situations, and concomitant medications that lower the seizure threshold. Consider these risks before initiating treatment with WELLBUTRIN XL. WELLBUTRIN XL is contraindicated in patients with a seizure disorder or conditions that increase the risk of seizure (e.g. severe head injury, arteriovenous malformation, CNS tumor or CNS infection, severe stroke, anorexia nervosa or bulimia or abrupt discontinuation of alcohol, benzodiazepines, barbiturates and antiepileptic drugs (see *Contraindications*). The following conditions can also increase the risk of seizure: concomitant use of other medications that lower the seizure threshold (e.g. other bupropion products, antipsychotics, tricyclic antidepressants, theophylline and systemic corticosteroids), metabolic disorders (e.g. hypoglycemia, hyponatremia, severe hepatic impairment and hypoxia) or use of illicit drugs (e.g. cocaine) or abuse or misuse of prescription drugs such as CNS stimulants. Additional predisposing conditions include diabetes mellitus treated with oral hypoglycemic drugs or insulin, use of anorectic drugs, excessive use of alcohol, benzodiazepines, sedative/hypnotics or opiates.

Incidence of seizure with bupropion use
The incidence of seizure with WELLBUTRIN XL has not been formally evaluated in clinical trials. In studies using bupropion HCl sustained-release up to 300 mg per day the incidence of seizure was approximately 0.1% (1/1000 patients). In a large prospective, follow-up study, the seizure incidence was approximately 0.4% (13/3200) with bupropion HCl immediate-release in the range of 300 mg to 450 mg per day.

Additional data accumulated for bupropion immediate-release suggests that the estimated seizure incidence increases almost tenfold between 450 and 600 mg/day. The risk of seizure can be reduced if the WELLBUTRIN XL dose does not exceed 450 mg once daily and the titration is gradual.

Hypertension
Treatment with WELLBUTRIN XL can result in elevated blood pressure and hypertension.
Assess blood pressure before initiating treatment with WELLBUTRIN XL, and monitor periodically during treatment. The risk of hypertension is increased if WELLBUTRIN XL is used concomitantly with MAOIs or other drugs that increase dopaminergic or noradrenergic activity (*see Contraindications).*
Data from a comparative trial of the sustained-release formulation of bupropion HCl, nicotine transdermal system (NTS), the combination of sustained-release bupropion plus NTS, and placebo as an aid to smoking cessation suggest a higher incidence of treatment-emergent hypertension in patients treated with the combination of sustained-release bupropion and NTS. In this trial, 6.1% of subjects treated with the combination of sustained-release bupropion and NTS had treatment-emergent hypertension compared to 2.5%, 1.6%, and 3.1% of subjects treated with sustained-release bupropion, NTS, and placebo, respectively. The majority of these subjects had evidence of pre-existing hypertension. Three subjects (1.2%) treated with the combination of sustained-release bupropion and NTS and 1 subject (0.4%) treated with NTS had study medication discontinued due to hypertension compared with none of the subjects treated with sustained-release bupropion or placebo. Monitoring of blood pressure is recommended in patients who receive the combination of bupropion and nicotine replacement.
In the 3 trials of bupropion HCl extended-release in seasonal affective disorder, there were significant elevations in blood pressure. Hypertension was reported as an adverse reaction for 2% of the bupropion group (11/537) and none in the placebo group (0/511). In the SAD trials, 2 patients treated with bupropion discontinued from the study because they developed hypertension. None of the placebo group discontinued because of hypertension. The mean increase in systolic blood pressure was 1.3 mmHg in the bupropion group and 0.1 mmHg in the placebo group. The difference was statistically significant (p=0.013). The mean increase in diastolic blood pressure was 0.8 mmHg in the bupropion group and 0.1 mmHg in the placebo group. The difference was not statistically significant (p=0.075). In the SAD trials, 82% of patients were treated with 300 mg per day, and 18% were treated with 150 mg

per day. The mean daily dose was 270 mg per day. The mean duration of bupropion exposure was 126 days.
In a clinical trial of bupropion immediate-release in MDD subjects with stable congestive heart failure (N=36), bupropion was associated with an exacerbation of pre-existing hypertension in 2 subjects, leading to discontinuation of bupropion treatment. There are no controlled studies assessing the safety of bupropion in patients with a recent history of myocardial infarction or unstable cardiac disease.

Activation of Mania/Hypomania
Antidepressant treatment can precipitate a manic, mixed, or hypomanic manic episode. The risk appears to be increased in patients with bipolar disorder or who have risk factors for bipolar disorder. Prior to initiating WELLBUTRIN XL, screen patients for a history of bipolar disorder and the presence of risk factors for bipolar disorder (e.g., family history of bipolar disorder, suicide, or depression). WELLBUTRIN XL is not approved for the treatment of bipolar depression.

Psychosis and Other Neuropsychiatric Reactions
Depressed patients treated with bupropion have had a variety of neuropsychiatric signs and symptoms, including delusions, hallucinations, psychosis, concentration disturbance, paranoia, and confusion. Some of these patients had a diagnosis of bipolar disorder. In some cases, these symptoms abated upon dose reduction and/or withdrawal of treatment. Discontinue WELLBUTRIN XL if these reactions occur.

Angle-Closure Glaucoma
The pupillary dilation that occurs following use of many antidepressant drugs including WELLBUTRIN XL may trigger an angle closure attack in a patient with anatomically narrow angles who does not have a patent iridectomy.

Hypersensitivity reactions
Anaphylactoid/anaphylactic reactions have occurred during clinical trials with bupropion. Reactions have been characterized by pruritus, urticaria, angioedema, and dyspnea, requiring medical treatment. In addition, there have been rare, spontaneous postmarketing reports of erythema multiforme, Stevens-Johnson Syndrome, and anaphylactic shock associated with bupropion. Instruct patients to discontinue WELLBUTRIN XL and consult a healthcare provider if they develop an allergic or anaphylactoid/anaphylactic reaction (e.g. skin rash, pruritus, hives, chest pain, edema, and shortness of breath) during treatment.
There are reports of arthralgia, myalgia, fever with rash and other symptoms of serum sickness suggestive of delayed hypersensitivity.

ADVERSE REACTIONS
The following adverse reactions are discussed in greater detail in other sections (*see Warnings and Precautions)* of the labeling:

- Suicidal thoughts and behaviors in children, adolescents and young adults
- Neuropsychiatric adverse events and suicide risk in smoking cessation treatment
- Seizure
- Hypertension
- Activation of mania or hypomania
- Psychosis and other neuropsychiatric events
- Angle-Closure Glaucoma
- Hypersensitivity reactions

Clinical Trials Experience
Because clinical trials are conducted under widely varying conditions, adverse reaction rates observed in the clinical trials of a drug cannot be directly compared to rates in the clinical trials of another drug and may not reflect the rates observed in practice.
Commonly observed adverse reactions in controlled clinical trials of sustained-release bupropion hydrochloride

Adverse reactions that occurred in at least 5% of patients treated with bupropion HCl sustained-release (300 mg and 400 mg per day) and at a rate at least twice the placebo rate are listed below.

- 300 mg/day of bupropion HCl sustained-release: anorexia, dry mouth, rash, sweating, tinnitus and tremor.
- 400 mg/day of bupropion HCl sustained-release: abdominal pain, agitation, anxiety, dizziness, dry mouth, insomnia, myalgia, nausea, palpitation, pharyngitis, sweating, tinnitus and urinary frequency.

WELLBUTRIN XL has been demonstrated to have similar bioavailability both to the immediate-release and sustained-release formulations of bupropion. The information included under this subsection and under *Postmarketing Experience* is based primarily on data from controlled clinical trials with the sustained-release and extended-release formulations of bupropion hydrochloride.

Major Depressive Disorder

Adverse Reactions Leading to Discontinuation of Treatment with Bupropion HCl Immediate-Release, Bupropion HCl Sustained-Release, and Bupropion HCl Extended-Release in Major Depressive Disorder Trials

In placebo-controlled clinical trials with bupropion HCl sustained-release, 4%, 9%, and 11% of the placebo, 300 mg/day and 400 mg/day groups, respectively, discontinued treatment because of adverse reactions. The specific adverse reactions leading to discontinuation in at least 1% of the 300 mg/day or 400 mg/day groups and at a rate at least twice the placebo rate are listed in **Table 2**.

Table 2: Treatment Discontinuation Due to Adverse Reactions in Placebo-Controlled Trials in MDD

Adverse Reaction Term	Placebo (n=385)	Bupropion HCl Sustained-release 300 mg/day (n=376)	Bupropion HCl Sustained-release 400 mg/day (n=114)
Rash	0.0%	2.4%	0.9%
Nausea	0.3%	0.8%	1.8%
Agitation	0.3%	0.3%	1.8%
Migraine	0.3%	0.0%	1.8%

In clinical trials with bupropion HCl immediate-release, 10% of patients and volunteers discontinued due to an adverse reaction. Reactions resulting in discontinuation (in addition to those listed above for the sustained-release formulation) included vomiting, seizures, and sleep disturbances.

Adverse Reactions Occurring at an Incidence of >1% in Patients Treated with Bupropion HCl Immediate-Release or Bupropion HCl Sustained-Release in MDD

Table 3 summarizes the adverse reactions that occurred in placebo-controlled trials in patients treated with bupropion HCl sustained-release 300 mg/day and 400 mg/day. These include reactions that occurred in either the 300 mg or 400 mg group at an incidence of 1% or more and were more frequent than in the placebo group.

Table 3: Adverse Reactions in Placebo-Controlled Trials in Patients with MDD

Body System / Adverse Reaction	Placebo (n=385)	Bupropion HCl Sustained-release 300 mg/day (n=376)	Bupropion HCl Sustained-release 400 mg/day (n=114)
Body (General)			
Headache	23%	26%	25%
Infection	6%	8%	9%
Abdominal pain	2%	3%	9%
Asthenia	2%	2%	4%
Chest pain	1%	3%	4%
Pain	2%	2%	3%

Fever	-	1%	2%
Cardiovascular			
Palpitation	2%	2%	6%
Flushing	-	1%	4%
Migraine	1%	1%	4%
Hot flashes	1%	1%	3%
Digestive			
Dry mouth	7%	17%	24%
Nausea	8%	13%	18%
Constipation	7%	10%	5%
Diarrhea	6%	5%	7%
Anorexia	2%	5%	3%
Vomiting	2%	4%	2%
Dysphagia	0%	0%	2%
Musculoskeletal			
Myalgia	3%	2%	6%
Arthragia	1%	1%	4%
Arthritis	0%	0%	2%
Twitch	-	1%	2%
Nervous System			
Insomnia	6%	11%	16%
Dizziness	5%	7%	11%
Agitation	2%	3%	9%
Anxiety	3%	5%	6%
Tremor	1%	6%	3%
Nervousness	3%	5%	3%
Somnolence	2%	2%	3%
Irritability	2%	3%	2%
Memory decreased	1%	-	3%
Paresthesia	1%	1%	2%
Central Nervous System			
Stimulation	1%	2%	1%
Respiratory			
Pharyngitis	2%	3%	11%
Sinusitis	2%	3%	1%
Increased cough	1%	1%	2%
Skin			
Sweating	2%	6%	5%
Rash	1%	5%	4%
Pruritus	2%	2%	4%
Urticaria	0%	2%	1%
Special senses			
Tinnitus	2%	6%	6%
Taster perversion	-	2%	4%
Blurred vision or diplopia	2%	3%	2%

Urogential			
Urinary frequency	2%	2%	5%
Urinary urgency	0%	-	2%
Vaginal hemorrhage*	-	0%	2%
Urinary tract infection	-[+]	1%	0%

*Incidence based on the number of female patients.
[+]Hyphen denotes adverse reactions occurring in greater than 0 but less than 0.5% of patients.

The following additional adverse reactions occurred in controlled trials of bupropion HCl immediate-release (300 to 600 mg per day) at an incidence of at least 1% more frequently than in the placebo group were: cardiac arrhythmia (5% vs. 4%), hypertension (4% vs. 2%), hypotension (3% vs. 2%), menstrual complaints (5% vs. 1%), akathisia (2% vs. 1%), impaired sleep quality (4% vs. 2%), sensory disturbance (4% vs. 3%), confusion (8% vs. 5%), decreased libido (3% vs. 2%), hostility (6% vs. 4%), auditory disturbance (5% vs. 3%), and gustatory disturbance (3% vs. 1%).

Seasonal Affective Disorder
In placebo-controlled clinical trials in SAD, 9% of patients treated with WELLBUTRIN XL and 5% of patients treated with placebo discontinued treatment because of adverse reactions. The adverse reactions leading to discontinuation in at least 1% of patients treated with bupropion and at a rate numerically greater than the placebo rate were insomnia (2% vs. <1%) and headache (1% vs. <1%).

Table 4 summarizes the adverse reactions that occurred in patients treated with WELLBUTRIN XL for up to approximately 6 months in 3 placebo-controlled trials. These include reactions that occurred at an incidence of 2% or more and were more frequent than in the placebo group.

Table 4: Adverse Reactions in Placebo-Controlled Trials in Patients with SAD

System Organ Class / Preferred Term	Placebo (n=511)	Bupropion HCl Extended-release (n=537)
Gastrointestinal Disorder		
Dry mouth	15%	26%
Nausea	8%	13%
Constipation	2%	9%
Flatulence	3%	6%
Abdominal pain	<1%	2%
Nervous System Disorder		
Headache	26%	34%
Dizziness	5%	6%
Tremor	<1%	3%
Infections and Infestations		
Nasopharyngitis	12%	13%
Upper respiratory tract infection	8%	9%
Sinusitis	4%	5%
Psychiatric Disorders		
Insomnia	13%	20%
Anxiety	5%	7%
Abnormal dreams	2%	3%
Agitation	<1%	2%

Musculoskeletal and Connective Tissue Disorders Myalgia Pain in extremity	 2% 2%	 3% 3%
Respiratory, Thoracic and Mediastinal Disorders Cough	3%	4%
General Disorders and Administration site conditions Feeling jittery	2%	3%
Skin and Subcutaneous Tissue Disorders Rash	2%	3%
Metabolism and Nutrition Disorders Decreased appetite	1%	4%
Reproductive System and Breast Disorders Dysmenorrhea	<1%	2%
Ear and Labyrinth Disorders Tinnitus	<1%	3%
Vascular Disorders Hypertension	0%	2%

Change in Body Weight
Table 5 presents the incidence of body weight changes (≥5 lbs) in the short-term MDD trials using bupropion HCl sustained-release. There was a dose-related decrease in body weight.

Table 5. Incidence of Weight Gain and Weight Loss (≥5 lbs) in MDD Trials Using Bupropion HCl Sustained Release

Weight Change	Bupropion HCl Sustained-Release 300 mg/day (n = 339)	Bupropion HCl Sustained-Release 400 mg/day (n = 112)	Placebo (n = 347)
Gained >5 lbs	3%	2%	4%
Lost >5 lbs	14%	19%	6%

Table 6 presents the incidence of body weight changes (≥5 lbs) in the 3 SAD trials using bupropion HCl extended-release. A higher proportion of subjects in the bupropion group (23%) had a weight loss ≥5 lbs, compared to the placebo group (11%). These were relatively long-term trials (up to 6 months).

Table 6. Incidence of Weight Gain and Weight Loss (≥5 lbs) in SAD Trials using Bupropion HCl Extended-release

Weight Change	Bupropion HCl Extended-Release 150-300 mg/day (n = 537)	Placebo (n = 511)
Gained >5 lbs	11%	21%
Lost >5 lbs	23%	11%

Postmarketing Experience

The following adverse reactions have been identified during post-approval use of WELLBUTRIN XL. Because these reactions are reported voluntarily from a population of uncertain size, it is not always possible to reliably estimate their frequency or establish a causal relationship to drug exposure.

Body (General)
Chills, facial edema, edema, peripheral edema, musculoskeletal chest pain, photosensitivity and malaise.

Cardiovascular
Postural hypotension, hypertension, stroke, vasodilation, syncope, complete atrioventricular block, extrasystoles, myocardial infarction, phlebitis and pulmonary embolism.

Digestive
Abnormal liver function, bruxism, gastric reflux, gingivitis, glossitis, increased salivation, jaundice, mouth ulcers, stomatitis, thirst, edema of tongue, colitis, esophagitis, gastrointestinal hemorrhage, gum hemorrhage, hepatitis, intestinal perforation, liver damage, pancreatitis, and stomach ulcer.

Endocrine
Hyperglycemia, hypoglycemia, and syndrome of inappropriate antidiuretic hormone secretion.

Hemic and Lymphatic
Ecchymosis, anemia, leukocytosis, leukopenia, lymphadenopathy, pancytopenia, and thrombocytopenia. Altered PT and/or INR, associated with hemorrhagic or thrombotic complications, were observed when bupropion was coadministered with warfarin.

Metabolic and Nutritional
Glycosuria.

Musculoskeletal
Leg cramps, fever/rhabdomyolysis and muscle weakness.

Nervous System
Abnormal coordination, depersonalization, emotional lability, hyperkinesia, hypertonia, hypesthesia, vertigo, amnesia, ataxia, derealization, abnormal electroencephalogram (EEG), aggression, akinesia, aphasia, coma, dysarthria, dyskinesia, dystonia, euphoria, extrapyramidal syndrome, hypokinesia, increased libido, neuralgia, neuropathy, paranoid ideation, restlessness, suicide attempt and unmasking tardive dyskinesia.

Respiratory
Bronchospasm and pneumonia.

Skin
Maculopapular rash, alopecia, angioedema, exfoliative dermatitis and hirsutism.

Special Senses
Accommodation abnormality, dry eye, deafness, increased intraocular pressure, angle-closure glaucoma and mydriasis.

Urogenital
Impotence, polyuria, prostate disorder, abnormal ejaculation, cystitis, dyspareunia, dysuria, gynecomastia, menopause, painful erection, salpingitis, urinary incontinence, urinary retention and vaginitis.

DRUG INTERACTIONS

Potential for other drugs to affect WELLBUTRIN XL

Bupropion is primarily metabolized to hydroxybupropion by the CYP2B6. Therefore, the potential exists for drug interactions between WELLBUTRIN XL and drugs that are inhibitors or inducers of the CYP2B6.

Inhibitors of the CYP2B6

Ticlopidine and clopidogrel: Concomitant treatment with these drugs can increase bupropion exposures but decrease hydroxybupropion exposure. Based on clinical response, dosage adjustment of WELLBUTRIN XL may be necessary when coadministered with CYP2B6 inhibitors (ticlopidine or clopidogrel) (see *Clinical Pharmacology*).

Inducers of the CYP2B6

Ritonavir, Lopinavir and Efavirenz: Concomitant treatment with these drugs can decrease bupropion exposures and hydroxybupropion exposure. Dosage increase of WELLBUTRIN XL may be necessary when coadministered with ritonavir, lopiniavir or efavirenz but should not exceed the maximum recommended dose (see *Clinical Pharmacology*).

Carbamazepine, Phenobarbital, Phenytoin: While not systemically studied, these drugs may induce metabolism of bupropion and may decrease bupropion exposures (see *Clinical Pharmacology).*
If bupropion is used concomitantly with a CYP inducer, it may be necessary to increase the dose of bupropion, but the maximum recommended dose should not be exceeded.

Potential for WELLBUTRIN XL to affect other drugs

Drugs Metabolized By CYP2D6

Bupropion and its metabolites (erythrohydroxybupropion, threohydroxybupropion, hydroxybupropion) are CYP2D6 inhibitors. Therefore, coadministration of WELLBUTRIN XL with drugs that are metabolized by CYP2D6 can increase the exposures of drugs that are substrates of CYP2D6. Such drugs include certain antidepressants (e.g., venlafaxine, nortriptyline, imipramine, desipramine, paroxetine, fluoxetine and sertraline), antipsychotics (e.g., haloperidol, risperidone, thioridazine), beta-blockers (e.g., metoprolol), and Type 1C antiarrhythmics (e.g., propafenone, flecainide). When used concomitantly with WELLBUTRIN XL, it may be necessary to decrease the dose of these CYP2D6 substrates, particularly for drugs with a narrow therapeutic index.

Drugs that require metabolic activation by CYP2D6 to be effective (e.g. tamoxifen), theorectically could have reduced efficacy when administered concomitantly with inhibitors of CYP2D6 such as bupropion. Patients treated concomitantly with WELLBUTRIN XL and such drugs may require increased doses of the drug (see *Clinical Pharmacology*).

Drugs That Lower Seizure Threshold

Use extreme caution when coadministering WELLBUTRIN XL with other drugs that lower the seizure threshold (e.g. other bupropion products, antipsychotics, antidepressants, theophylline, systemic steroids). Use low initial doses of WELLBUTRIN XL and increase the dose gradually (see *Warnings and Precautions*).

Dopaminergic Drugs (Levodopa and Amantadine)

Bupropion, levodopa and amantadine have dopamine agonist effects. CNS toxicity has been reported when bupropion was coadministered with levodopa or amantadine. Adverse reactions have included restlessness, agitation, tremor, ataxia, gait disturbance, vertigo and dizziness. It is presumed that the

toxicity results from cumulative dopamine agonist effects. Use caution when administering WELLBUTRIN XL concomitantly with these drugs.

Use with Alcohol
In postmarketing experience, there have been rare reports of adverse neuropsychiatric events or reduced alcohol tolerance in patients who were drinking alcohol during treatment with WELLBUTRIN XL. The consumption of alcohol during treatment with WELLBUTRIN XL should be minimized or avoided.

MAO Inhibitors
Bupropion inhibits the reuptake of dopamine and norepinephrine. Concomitant use of MAOIs and bupropion is contraindicated because there is an increased risk of hypertensive reactions if bupropion is used concomitantly with MAOIs. Studies in animals demonstrate that the acute toxicity of bupropion is enhanced by the MAO inhibitor phenelzine. At least 14 days should elapse between discontinuation of an MAOI intended to treat depression and initiation of treatment with WELLBUTRIN XL. Conversely, at least 14 days should be allowed after stopping WELLBUTRIN XL before starting an MAOI antidepressant (see *Dosage and Administration* and *Contraindications).*

Drug-Laboratory Test Interactions
False-positive urine immunoassay screening tests for amphetamines have been reported in patients taking bupropion. This is due to lack of specificity of some screening tests. False-positive test results may result even following discontinuation of bupropion therapy. Confirmatory tests, such as gas chromatography / mass spectrometry, will distinguish bupropion from amphetamines.

Serotonergic psychiatric drugs should not be started in a patient receiving linezolid. Wait until 24 hours after the last dose of linezolid before starting the serotonergic psychiatric drugs.

USE IN SPECIFIC POPULATIONS

Pregnancy
Some epidemiological studies of pregnancy outcomes following maternal exposure to bupropion in the first trimester have reported an association with increased risk of some congenital cardiovascular malformations. These findings are not consistent across studies. The prescribing physician will need to weigh the option of alternative treatments in women who are pregnant or are planning to become pregnant, and should only prescribe bupropion if the expected benefits are greater than the potential risks.

Risk Summary
Data from epidemiological studies including pregnant women exposed to bupropion in the first trimester indicate no increased risk of congenital malformations overall. All pregnancies regardless of drug exposure have a background rate of 2% to 4% for major malformations and 15% to 20% for pregnancy loss. No clear evidence of teratogenic activity was found in reproductive developmental studies conducted in rats and rabbits. However, in rabbits, slightly increased incidences of fetal malformations and skeletal variations were observed at doses approximately equal to the maximum recommended human dose (MRHD) and greater and decreased fetal weights were seen at doses twice the MRHD and greater. WELLBUTRIN XL should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Clinical Considerations
Consider the risk of untreated depression when discontinuing or changing treatment with antidepressant medications during pregnancy and postpartum.

Human Data
Data from an international bupropion Pregnancy Registry (675 first trimester exposures) and a retrospective cohort study using the United Healthcare database (1,213 first trimester exposures) did not show an increased risk for malformations overall.

No increased risk for cardiovascular malformations overall has been observed after bupropion exposure during the first trimester. The prospectively observed rate of cardiovascular malformations in pregnancies with exposure to bupropion in the first trimester from the international Pregnancy Registry was 1.3% (9 cardiovascular malformations / 675 first-trimester maternal bupropion exposures), which is similar to the background rate of cardiovascular malformations (approximately 1%). Data from the United Healthcare database and a case-controlled study (6,853 infants with cardiovascular malformations and 5,753 with non-cardiovascular malformations) from the National Birth Defects Prevention Study (NBDPS) did not show an increased risk for cardiovascular malformations overall after bupropion exposure during the first trimester.

Study findings on bupropion exposure during the first trimester and risk left ventricular outflow tract obstruction (LVOTO) are inconsistent and do not allow conclusions regarding possible association. The United Healthcare database lacked sufficient power to evaluate this association; the NBDPS found increased risk for LVOTO (n = 10; adjusted OR = 2.6; 95% CI 1.2, 5.7) and the Slone Epidemiology case control study did not find increased risk for LVOTO.

Study findings on bupropion exposure during the first trimester and risk for ventricular septal defect (VSD) are inconsistent and do not allow conclusions regarding a possible association. The Slone Epidemiology Study found an increased risk for VSD following first trimester maternal bupropion exposure (n = 17; adjusted OR = 2.5; 95% CI: 1.3, 5.0) but did not find an increased risk for any other cardiovascular malformations studied (including LVOTO as above). The NBDPS and United Healthcare database study did not find an association between first trimester maternal bupropion exposure and VSD.

For the findings of LVOTO and VSD, the studies were limited by the small number of exposed cases, inconsistent findings among studies, and the potential for chance findings from multiple comparisons in case control studies.

Animal Data
In studies conducted in rats and rabbits, bupropion was administered orally at doses up to 450 and 150 mg/kg/day, respectively (approximately 11 and 7 times the maximum recommended human dose [MRHD], respectively, on a mg/m^2 basis), during the period of organogenesis. No clear evidence of teratogenic activity was found in either species; however, in rabbits, slightly increased incidences of fetal malformations and skeletal variations were observed at the lowest dose tested (25 mg/kg/day, approximately equal to the MRHD on a mg/m^2 basis) and greater. Decreased fetal weights were seen at 50 mg/kg and greater. When rats were administered bupropion at oral doses of up to 300 mg/kg/day (approximately 7 times the MRHD on a mg/m^2 basis) prior to mating and throughout pregnancy and lactation, there were no apparent adverse effects on offspring development.

Nursing Mothers
Bupropion and its metabolites are present in human milk. In a lactation study of ten women, levels of orally dosed bupropion and its active metabolites were measured in expressed milk. The average daily infant exposure (assuming 150 mL/kg daily consumption) to bupropion and its active metabolites was 2% of the maternal weight-adjusted dose. Exercise caution when WELLBUTRIN XL is administered to a nursing woman.

Pediatric Use
Safety and effectiveness in the pediatric population have not been established. When considering the use of WELLBUTRIN XL in a child or adolescent, balance the potential risks with the clinical need (see *Warnings and Precautions*).

Geriatric Use
Of the approximately 6,000 patients who participated in clinical trials with bupropion hydrochloride sustained-release tablets (depression and smoking cessation studies), 275 were ≥65 years old and 47 were ≥75 years old. In addition, several hundred patients ≥65 years of age participated in clinical trials using

the immediate-release formulation of bupropion hydrochloride (depression studies). No overall differences in safety or effectiveness were observed between these subjects and younger subjects. Reported clinical experience has not identified differences in responses between the elderly and younger patients, but greater sensitivity of some older individuals cannot be ruled out.

Bupropion is extensively metabolized in the liver to active metabolites, which are further metabolized and excreted by the kidneys. The risk of toxic reaction to this drug may be greater in patients with impaired renal function. Because elderly patients are more likely to have decreased renal function, it may be necessary to consider this factor in dose selection; it may be useful to monitor renal function (see *Dosage and Administration, Use in Specific Populations* and *Clinical Pharmacology*).

Renal Impairment
Consider a reduced dose and/or dosing frequency of WELLBUTRIN XL in patients with renal impairment (glomerular filtration rate: <90 mL/min). Bupropion and its metabolites are cleared renally and may accumulate in such patients to a greater extent than usual. Monitor closely for adverse reactions that could indicate high bupropion or metabolite exposures (see *Dosage and Administration* and *Clinical Pharmacology).*

Hepatic Impairment
In patients with moderate to severe hepatic impairment (Child-Pugh score: 7 to 15), the maximum WELLBUTRIN XL dose is 150 mg every other day. In patients with mild hepatic impairment (Child-Pugh score: 5 to 6), consider reducing the dose and/or frequency of dosing (see *Dosage and Administration* and *Clinical Pharmacology).*

DRUG ABUSE AND DEPENDENCE
Abuse
Humans
Controlled clinical studies of bupropion HCl immediate-release conducted in normal volunteers, in subjects with a history of multiple drug abuse, and in depressed patients demonstrated an increase in motor activity and agitation / excitement.

In a population of individuals experienced with drugs of abuse, a single dose of 400 mg bupropion produced mild amphetamine-like activity as compared to placebo on the Morphine-Benzedrine Subscale of the Addiction Research Center Inventories (ARCI), and a score intermediate between placebo and amphetamine on the Liking Scale of the ARCI. These scales measure general feelings of euphoria and drug desirability.

Findings in clinical trials, however, are not known to reliably predict the abuse potential of drugs. Nonetheless, evidence from single-dose studies does suggest that the recommended daily dosage of bupropion when administered in divided doses is not likely to be significantly reinforcing to amphetamine or CNS stimulant abusers. However, higher doses (that could not be tested because of the risk of seizure) might be modestly attractive to those who abuse CNS stimulant drugs.

Bupropion hydrochloride extended-release tablets are intended for oral use only. The inhalation of crushed tablets or injection of dissolved bupropion has been reported. Seizures and/or cases of death have been reported when bupropion has been administered intranasally or by parenteral injection.

Animals
Studies in rodents and primates demonstrated that bupropion exhibits some pharmacologic actions common to psychostimulants. In rodents, it has been shown to increase locomotor activity, elicit a mild stereotyped behavioral response, and increase rates of responding in several schedule-controlled behavior paradigms. In primate models assessing the positive reinforcing effects of psychoactive drugs, bupropion was self-administered intravenously. In rats, bupropion produced amphetamine-like and cocaine-like

discriminative stimulus effects in drug discrimination paradigms used to characterize the subjective effects of psychoactive drugs.

OVERDOSAGE

Human Overdose Experience

Overdoses of up to 30 g or more of bupropion have been reported. Seizure was reported in approximately one third of all cases. Other serious reactions reported with overdoses of bupropion alone included hallucinations, loss of consciousness, sinus tachycardia, and ECG changes such as conduction disturbances or arrhythmias. Fever, muscle rigidity, rhabdomyolysis, hypotension, stupor, coma and respiratory failure have been reported mainly when bupropion was part of multiple drug overdoses.

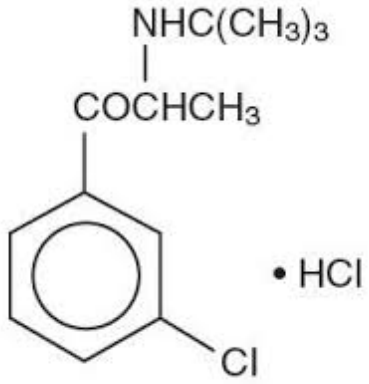
Although most patients recovered without sequelae, deaths associated with overdoses of bupropion alone have been reported in patients ingesting large doses of the drug. Multiple uncontrolled seizures, bradycardia, cardiac failure and cardiac arrest prior to death were reported in these patients.

Overdosage Management

There are no known antidotes for bupropion. In case of an overdose, provide supportive care, including close medical supervision and monitoring. Consider the possibility of multiple dose overdose.

DESCRIPTION

WELLBUTRIN XL (bupropion hydrochloride), an antidepressant of the aminoketone class, is chemically unrelated to tricyclic, tetracyclic, selective serotonin reuptake inhibitor or other known antidepressant agents. Its structure closely resembles that of diethylpropion; it is related to phenylethylamines. It is designated as (±)-1-(3-chorophenyl)-2-[(1,1dimethylethyl)amino]-1-propanone hydrochloride. The molecular weight is 276.2. The molecular formula is $C_{13}H_{18}ClNO$•HCl. Bupropion hydrochloride powder is white, crystalline, and highly soluble in water. It has a bitter taste and produces the sensation of local anesthesia on the oral mucosa. The structural formula is:



WELLBUTRIN XL tablets are supplied for oral administration as 150 mg and 300 mg creamy-white to pale yellow extended-release tablets.
The insoluble shell of the extended-release tablet may remain intact during gastrointestinal transit and is eliminated in the feces.

CLINICAL PHARMACOLOGY

Mechanism of Action

The mechanism of action of bupropion is unknown, as is the case with other antidepressants. However, it is presumed that this action is mediated by noradrenergic and/or dopaminergic mechanisms. Bupropion is a relatively weak inhibitor of the neuronal update of norepinephrine and dopamine and does not inhibit monoamine oxidase or the reuptake of serotonin.

Pharmacokinetics

Bupropion is a racemic mixture. The pharmacologic activity and pharmacokinetics of the individual enantiomers have not been studied.

Following chronic dosing, the mean steady-state plasma concentration of bupropion was reached within 8 days. The mean elimination half-life (±SD) of bupropion after chronic dosing is 21 (±9) hours.

In a study comparing 14-day dosing with WELLBUTRIN XL 300 mg once daily to the immediate-release formulation of bupropion at 100 mg 3 times daily, equivalence was demonstrated for peak plasma concentration and area under the curve for bupropion and the 3 metabolites (hydroxybupropion, threohydrobupropion, and erythrohydrobupropion). Additionally, in a study comparing 14-day dosing with WELLBUTRIN XL 300 mg once daily to the sustained-release formulation of bupropion at 150 mg 2 times daily, equivalence was demonstrated for peak plasma concentration and area under the curve for bupropion and the 3 metabolites.

Absorption

Following oral administration of WELLBUTRIN XL tablets to healthy volunteers, the median time to peak plasma concentrations of bupropion was approximately 5 hours. The presence of food did not affect the peak plasma concentration and area under the curve of bupropion.

Distribution

In vitro tests show that bupropion is 84% bound to human plasma proteins at concentrations up to 200mcg/ml. The extent of protein binding of the hydroxybupropion metabolite is similar to that for bupropion, whereas the extent of protein binding of the threohydrobupropion metabolite is about half that of bupropion.

Metabolism

Bupropion is extensively metabolized in humans. Three metabolites are active: hydroxybupropion, which is formed via hydroxylation of the *tert*-butyl group of bupropion, and the amino-alcohol isomers threohydrobupropion and erythrohydrobupropion, which are formed via reduction of the carbonyl group. *In vitro* findings suggest that CYP2B6 is the principal isoenzyme involved in the formation of hydroxybupropion, while cytochrome P450 enzymes are not involved in the formation of threohydrobupropion. Oxidation of the bupropion side chain results in the formation of a glycine conjugate of meta-chlorobenzoic acid, which is then excreted as the major urinary metabolite. The potency and toxicity of the metabolites relative to bupropion have not been fully characterized. However, it has been demonstrated in an antidepressant screening test in mice that hydroxybupropion is one half as potent as bupropion, while threohydrobupropion and erythrohydrobupropion are 5-fold less potent than bupropion. This may be of clinical importance because the plasma concentrations of the metabolites are as high or higher than those of bupropion.

At steady state, peak plasma concentration of hydroxybupropion occur approximately 7 hours after administration of WELLBUTRIN XL and it was approximately 7 times the peak level of the parent drug. The elimination half-life of hydroxybupropion is approximately 20 (±5) hours, and its AUC at steady state is about 13 times that of bupropion. The times to peak concentrations for the erythrohydrobupropion and threohydrobupropion metabolites are similar to that of the hydroxybupropion. However, their elimination half-lives of erythrohydrobupropion and threohydrobupropion are longer, approximately 33 (±10) and 37 (±13) hours, respectively, and steady-state AUCs are 1.4 and 7 times that of bupropion, respectively.

Bupropion and its metabolites exhibit linear kinetics following chronic administration of 300 to 450 mg/day.

Elimination

Following oral administration of 200 mg of ^{14}C-bupropion in humans, 87% and 10% of the radioactive dose were recovered in the urine and feces, respectively. Only 0.5% of the oral dose was excreted as unchanged bupropion.

Population Subgroups

Factors or conditions altering metabolic capacity (e.g. liver disease, congestive heart failure [CHF], age, concomitant medications, etc.) or elimination may be expected to influence the degree and extent of accumulation of the active metabolites of bupropion. The elimination of the major metabolites of bupropion may be affected by reduced renal or hepatic function because they are moderately polar compounds and are likely to undergo further metabolism or conjugation in the liver prior to urinary excretion.

Hepatic Impairment

The effect of hepatic impairment on the pharmacokinetics of bupropion was characterized in 2 single-dose studies, one in patients with alcoholic liver disease and one in patients with mild to severe cirrhosis. The first study showed that the half-life of hydroxybupropion was significantly longer in 8 patients with alcoholic liver disease than in 8 healthy volunteers (32±14 hours versus 21±5 hours, respectively). Although not statistically significant, the AUCs for bupropion and hydroxybupropion were more variable and tended to be greater (by 53% to 57%) in patients with alcoholic liver disease. The differences in half-life for bupropion and the other metabolites in the 2 patient groups were minimal.

The second study showed no statistically significant differences in the pharmacokinetics of bupropion and its active metabolites in 9 patients with mild to moderate hepatic cirrhosis compared to 8 healthy volunteers. However, more variability was observed in some of the pharmacokinetic parameters for bupropion (AUC, C_{max}, and T_{max}) and its active metabolites ($t_{½}$) in patients with mild to moderate hepatic cirrhosis. In addition, in patients with severe hepatic cirrhosis, the bupropion C_{max} and AUC were substantially increased (mean difference: by approximately 70% and 3-fold, respectively) and more variable when compared to values in healthy volunteers; the mean bupropion half-life was also longer (29 hours in patients with severe hepatic cirrhosis vs 19 hours in healthy subjects). For the metabolite hydroxybupropion, the mean C_{max} was approximately 69% lower. For the combined amino-alcohol isomers threohydrobupropion and erythrohydrobupropion, the mean C_{max} was approximately 31% lower. The mean AUC increased by about 1½-fold for hydroxybupropion and about 2½-fold for threo/erythrohydrobupropion. The median T_{max} was observed 19 hours later for hydroxybupropion and 31 hours later for threo/erythrohydrobupropion. The mean half-lives for hydroxybupropion and threo/erythrohydrobupropion were increased 5- and 2-fold, respectively, in patients with severe hepatic cirrhosis compared to healthy volunteers (see *Dosage and Administration* and *use in Specific Populations*).

Renal Impairment

There is limited information on the pharmacokinetics of bupropion in patients with renal impairment. An inter-study comparison between normal subjects and patients with end-stage renal failure demonstrated that the parent drug C_{max} and AUC values were comparable in the 2 groups, whereas the hydroxybupropion and threohydrobupropion metabolites had a 2.3- and 2.8-fold increase, respectively, in AUC for patients with end-stage renal failure. A second study, comparing normal subjects and patients with moderate-to-severe renal impairment (GFR 30.9 ± 10.8 mL/min) showed that after a single 150 mg dose sustained-release bupropion, exposure to bupropion was approximately 2-fold higher in patients with impaired renal function while levels of the hydroxybupropion and threo/erythrohydrobupropion (combined) metabolites were similar in the 2 groups. Bupropion is extensively metabolized in the liver to active metabolites, which are further metabolized and subsequently excreted by the kidneys. The elimination of the major metabolites of bupropion may be reduced by impaired renal function. WELLBUTRIN XL should be used with caution in patients with renal impairment, and a reduced frequency and/or dose should be considered (see *Dosage and Administration* and *Use in Specific Populations*).

Left Ventricular Dysfunction

During a chronic dosing study with bupropion in 14 depressed patients with left ventricular dysfunction (history of CHF or an enlarged heart on x-ray), no apparent effect on the pharmacokinetics of bupropion or its metabolites was revealed, compared to healthy volunteers.

Age

The effects of age on the pharmacokinetics of bupropion and its metabolites have not been fully characterized, but an exploration of steady-state bupropion concentrations from several depression efficacy studies involving patients dosed in a range of 300 to 750 mg/day, on a 3 times daily schedule, revealed no relationship between age (18 to 83 years) and plasma concentration of bupropion. A single-dose pharmacokinetic study demonstrated that the disposition of bupropion and its metabolites in elderly subjects was similar to that of younger subjects. These data suggest there is no prominent effect of age on bupropion concentration; however, another pharmacokinetic study, single and multiple dose, has suggested that the elderly are at increased risk for accumulation of bupropion and its metabolites (see *Use in Specific Populations*).

Gender

A single-dose study involving 12 healthy male and 12 healthy female volunteers revealed no sex-related differences in the pharmacokinetic parameters of bupropion. In addition, pooled analysis of bupropion pharmacokinetic data from 90 healthy male and 90 healthy female volunteers revealed no sex-related differences in the peak plasma concentrations of bupropion. The mean systemic exposure (AUC) was approximately 13% higher in male volunteer compared to female volunteers.

Smokers

The effects of cigarette smoking on the pharmacokinetics of bupropion hydrochloride were studied in 34 healthy male and female volunteers; 17 were chronic cigarette smokers and 17 were nonsmokers. Following oral administration of a single 150-mg dose of bupropion, there was no statistically significant difference in C_{max}, half-life, T_{max}, AUC, or clearance of bupropion or its active metabolites between smokers and nonsmokers.

Drug Interactions

Potential for other drugs to affect WELLBUTRIN XL

In vitro studies indicated that bupropion is primarily metabolized to hydroxybupropion by CYP2B6. Therefore, the potential exists for drug interactions between WELLBUTRIN XL and drugs that are inhibitors or inducers of the CYP2B6. In addition, *in vitro* studies suggest that paroxetine, sertraline, norfluoxetine, fluvoxamine and nelfinavir inhibit the hydroxylation of bupropion.

Inhibitors of the CYP2B6

Ticlopidine and Clopidogrel: In a study in healthy male volunteers, clopidogrel 75 mg once daily or ticlopidine 250 mg twice daily increased exposures (C_{max} and AUC) of bupropion by 40% and 60% for clopidogrel, by 38% and 85% for ticlopidine, respectively. The exposure of hydroxybupropion were decreased.

Prasugrel: In healthy subjects, prasugrel increased bupropion C_{max} and AUC values by 14% and 18%, respectively and decreased C_{max} and AUC values of hydroxybupropion by 32% and 24%, respectively.

Cimetidine: Following oral administration of bupropion 300 mg with and without cimetidine 800 mg in 24 healthy young male volunteers, the pharmacokinetics of bupropion and hydroxybupropion were unaffected. However, there was 16% and 32% increases in the AUC and C_{max} respectively, of the combined moieties of threohydrobupropion and erythrohydrobupropion.

Citalopram: Citalopram did not affect the pharmacokinetics of bupropion and its three metabolites.

Inducers of the CYP2B6

Ritonavir and Lopinavir: In a healthy volunteer study, ritonavir 100 mg twice daily reduced the AUC and C_{max} of bupropion by 22% and 21%, respectively. The exposure of the hydroxybupropion metabolite was

decreased by 23%, the threohydrobupropion decreased by 38% and erythrohydrobupropion decreased by 48%. In a second healthy volunteer study, ritonavir 600 mg twice daily decreased the AUC and C_{max} of bupropion by 66% and 62%, respectively. The exposure of the hydroxybupropion metabolite was decreased by 78%, the threohydrobupropion decreased by 50% and the erythrohydrobupropion decreased by 68%.

In another healthy volunteer study, lopinavir 400 mg/ ritonavir 100 mg twice daily decreased bupropion AUC and C_{max} by approximately 57%. The AUC and C_{max} of hydroxybupropion metabolite were decreased by 50% and 31%, respectively.

Efavirenz: In a study of healthy volunteers, efavirenz 600 mg once daily for 2 weeks reduced bupropion AUC and C_{max} by approximately 55% and 34%, respectively. The AUC of hydroxybupropion was unchanged, whereas C_{max} of hydroxybupropion was increased by 50%.

Carbamazepine, Phenobarbital, Phenytoin: While not systemically studied, these drugs may induce metabolism of bupropion.

Potential for WELLBUTRIN XL to affect other drugs
Animal data indicated that bupropion may be an inducer of drug-metabolizing enzymes in humans. In a study of 8 healthy male volunteers, following a 14-day administration of bupropion 100 mg three times per day, there was no evidence of induction of its own metabolism. Nevertheless, there may be the potential for clinically important alterations of blood levels of coadministered drugs.

Drugs Metabolized By CYP2D6
In vitro, bupropion and hydroxybupropion are CYP2D6 inhibitors. In a clinical study of 15 male subjects (ages 19 to 35 years) who were extensive metabolizers of CYP2D6, bupropion given as 150 mg twice daily followed by a single dose of 50 mg desipramine increased the C_{max}, AUC, and $T_{1/2}$ of desipramine by an average of approximately 2-, 5-, and 2-fold, respectively. The effect was present for at least 7 days after the last dose of bupropion. Concomitant use of bupropion with other drugs metabolized by CYP2D6 has not been formally studied.
Citalopram: Although citalopram is not primarily metabolized by CYP2D6, in one study bupropion increased the C_{max} and AUC of citalopram by 30% and 40%, respectively.
Lamotrigine: Multiple oral doses of bupropion had no statistically significant effects on the single-dose pharmacokinetics of lamotrigine in 12 healthy volunteers.

NONCLINICAL TOXICOLOGY

Carcinogenesis, Mutagenesis, Impairment of Fertility
Lifetime carcinogenicity studies were performed in rats and mice at doses up to 300 and 150 mg/kg/day bupropion hydrochloride, respectively. These doses are approximately 7 and 2 times the maximum recommended human dose (MRHD), respectively, on a mg/m^2 basis. In the rat study there was an increase in nodular proliferative lesions of the liver at doses of 100 to 300 mg/kg/day of bupropion hydrochloride (approximately 2 to 7 times the MRHD on a mg/m^2 basis); lower doses were not tested. The question of whether or not such lesions may be precursors of neoplasms of the liver is currently unresolved. Similar liver lesions were not seen in the mouse study, and no increase in malignant tumors of the liver and other organs was seen in either study.
Bupropion produced a positive response (2 to 3 times control mutation rate) in 2 of 5 strains in one Ames bacterial mutagenicity assay, but was negative in another. Bupropion produced an increase in chromosomal aberrations in 1 of 3 *in vivo* rat bone marrow cytogenetic studies.
A fertility study in rats at doses up to 300 mg/kg/day revealed no evidence of impaired fertility.

CLINICAL TRIALS

Major Depressive Disorder
The efficacy of bupropion as a treatment for major depressive disorder was established with the immediate-release formulation of bupropion in two 4-week, placebo-controlled trials in adult inpatients with MDD and in one 6-week, placebo-controlled trial in adult outpatients with MDD. In the first study,

the bupropion dose range was 300 mg to 600 mg/day administered 3 divided doses; 78% of patients were treated with doses of 300 mg to 450 mg/day. The trial demonstrated the efficacy of bupropion as measured by the Hamilton Depression Rating Scale (HAMD) total score, the HAMD depressed mood item (item 1) and the Clinical Global Impressions-Severity Scale (CGI-S). The second study included 2 fixed doses of bupropion (300 and 450 mg/day) and placebo. This trial demonstrated the efficacy of bupropion for only the 450 mg dose. The efficacy results were significant for the HAMD total score and the CGI-S severity score, but not for HAMD item 1. In the third study, outpatients were treated with bupropion 300 mg/day. This study demonstrated the efficacy of bupropion as measured by the HAMD total score, HAMD item 1, the Montgomery-Asberg Depression Rating Scale (MADRS), the CGI-S score and the CGI-Improvement Scale (CGI-I) score.

A longer-term, placebo-controlled, randomized withdrawal trial demonstrated the efficacy of bupropion HCl sustained-release in the maintenance treatment of MDD. The trial included adult outpatients meeting DSM-IV criteria for MDD, recurrent type, who had responded during an 8-week open trial of bupropion 300 mg/day. Responders were randomized to continuation of bupropion 300 mg/day or placebo for up to 44 weeks of observation for relapse. Response during the open-label phase was defined as CGI-Improvement Scale score of 1 (very much improved) or 2 (much improved) for each of the final 3 weeks. Relapse during the double-blind phase was defined as the investigator's judgment that drug treatment was needed for worsening depressive symptoms. Patients in the bupropion group experienced significantly lower relapse rates over the subsequent 44 weeks compared to those receiving placebo.

Although there are no independent trials demonstrating the efficacy of WELLBUTRIN XL in the acute treatment of MDD, studies have demonstrated similar bioavailability between the immediate-, sustained- and extended-release formulation of bupropion HCl under steady-state conditions (i.e. the exposure [C_{max} and AUC] for bupropion and its metabolites are similar among the 3 formulations).

Seasonal Affective Disorder

The efficacy of WELLBUTRIN XL in the prevention of seasonal major depressive episodes associated with SAD was established in 3 randomized, double-blind, placebo-controlled trials in adult outpatients with a history of MDD with an autumn-winter seasonal pattern (as defined by DSM-IV criteria). Bupropion treatment was initiated prior to the onset of symptoms in the autumn (September to November). Treatment was discontinued following a 2 week taper that began the first week of spring (fourth week of March), resulting in a treatment duration of approximately 4 to 6 months for the majority of patients. Patients were randomized to treatment with WELLBUTRIN XL or placebo. The initial bupropion dose was 150 mg once daily for 1 week, followed by up-titration to 300 mg once daily. Patients who were deemed by the investigator to be unlikely or unable to tolerate 300 mg once daily were allowed to remain on, or had their dose reduced to, 150 mg once daily. The mean bupropion doses in the 3 trials ranged from 257 to 280 mg/day. Approximately 59% of patients continued in the study for 3 to 6 months; 26% continued for <3 months, 15% continued for >6 months.

To enter the trials, patients must have had a low level of depressive symptoms, as demonstrated by a score of <7 on the Hamilton Depression Rating Scale-17 (HAMD17) and a HAMD24 score of <14. The primary efficacy measure was the Structured Interview Guide for the Hamilton Depression Rating Scale, Seasonal Affective Disorders (SIGH-SAD), which is identical to the HAMD24. The SIGH-SAD consists of the HAMD17 plus 7 items specifically assessing core symptoms of seasonal affective disorder: social withdrawal, weight gain, increased appetite, increased eating, carbohydrate craving, hypersomnia and fatigability. The primary efficacy endpoint was the onset of a seasonal major depressive episode. The criteria for defining an episode included: 1) the investigator's judgment that a major depressive episode had occurred or that the patient required intervention for depressive symptoms, or 2) a SIGH-SAD score of >20 on 2 consecutive weeks. The primary analysis was a comparison of depression-free rates between the bupropion and placebo groups.

In these 3 trials, the percentage of patients who were depression-free (did not have an episode of MDD) at the end of treatment was significantly higher for bupropion group than in the placebo group: 81.4% vs 69.7%, 87.2% vs 78.7%, and 84.0% vs 69.0% for Study 1, 2 and 3, respectively. For the 3 trials

combined, the depression-free rate was 84.3% vs 72.0% in the bupropion and placebo group, respectively.

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Medication Guide
WELLBUTRIN XL
(Bupropion hydrochloride) Extended-Release Tablets

Antidepressant Medicines, Depression and Other Serious Mental Illnesses, and Suicidal Thoughts or Actions

What is the most important information I should know about antidepressant medicines, depression and other serious mental illnesses, and suicidal thoughts or actions?

1. **Antidepressant medicines may increase the risk of suicidal thoughts or actions in some children, teenagers, or young adults within the first few months of treatment.**
2. **Depression or other serious mental illnesses are the most important causes of suicidal thoughts and actions. Some people may have a particularly high risk of having suicidal thoughts or actions.** These include people who have (or have a family history of) bipolar illness (also called manic-depressive illness) or suicidal thoughts or actions.
3. **How can I watch for and try to prevent suicidal thoughts and actions in myself or a family member?**
   • Pay close attention to any changes, especially sudden changes, in mood, behaviors, thoughts, or feelings. This is very important when an antidepressant medicine is started or when the dose is changed.
   • Call your healthcare provider right away to report new or sudden changes in mood, behavior, thoughts, or feelings.
   • Keep all follow up visits with your healthcare provider as scheduled. Call the healthcare provider between visits as needed, especially if you have concerns about symptoms.

Call your healthcare provider right away if you or your family member has any of the following symptoms, especially if they are new, worse, or worry you:

- thoughts about suicide or dying
- attempts to commit suicide
- new or worse depression
- new or worse anxiety
- feeling very agitated or restless
- panic attacks
- trouble sleeping (insomnia)
- new or worse irritability
- acting aggressive, being angry, or violent
- acting on dangerous impulses
- an extreme increase in activity and talking (mania)
- other unusual changes in behavior or mood

What else do I need to know about antidepressant medicines?
• **Never stop an antidepressant medicine without first talking to a healthcare provider.** Stopping an antidepressant medicine suddenly can cause other symptoms.
• **Antidepressants are medicines used to treat depression and other illnesses.** It is important to discuss all the risks of treating depression and also the risks of not treating it. Patients and their families or other caregivers should discuss all treatment choices with the healthcare provider, not just the use of antidepressants.
• **Antidepressant medicines have other side effects.** Talk to the healthcare provider about the side effects of the medicine prescribed for you or your family member.
• **Antidepressant medicines can interact with other medicines.** Know all of the medicines that you or your family member takes. Keep a list of all medicines to show the healthcare provider. Do not start new medicines without first checking with your healthcare provider.

It is not known if WELLBUTRIN XL is safe and effective in children under the age of 18.

Quitting Smoking, Quit-Smoking Medications, Changes in Thinking and Behavior, Depression, and Suicidal Thoughts or Actions

Although WELLBUTRIN XL is not a treatment for quitting smoking, it contains the same active ingredient (bupropion hydrochloride) as ZYBAN® which is used to help patients quit smoking.

Talk to your healthcare provider or your family member's healthcare provider about:
• all risks and benefits of quit-smoking medicines.
• all treatment choices for quitting smoking.

When you try to quit smoking, with or without bupropion you may have symptoms that may be due to nicotine withdrawal, including:

• urge to smoke	• frustration	• restlessness
• depressed mood	• anger	• decreased heart rate
• trouble sleeping	• feeling anxious	• increased appetite
• irritability	• difficulty concentrating	• weight gain

Some people have even experienced suicidal thoughts when trying to quit smoking without medication. Sometimes quitting smoking can lead to worsening of mental health problems that you already have, such as depression.

Some people have had serious side effects while taking bupropion to help them quit smoking, including:

New or worse mental health problems, **such as changes in behavior or thinking, aggression, hostility, agitation, depression or suicidal thoughts or actions.** Some people had these symptoms when they began taking bupropion, and others developed them after several weeks of treatment, or after stopping bupropion. These symptoms happened more often in people who had a history of mental health problems before taking bupropion than in people without a history of mental health problems.

Stop taking WELLBUTRIN XL and call your healthcare provider right away if you, your family, or caregiver notice any of these symptoms. Work with your healthcare provider to decide whether you should continue to take WELLBUTRIN XL. In many people, these symptoms went away after stopping WELLBUTRIN XL, but in some people symptoms continued after stopping WELLBUTRIN XL. It is important for you to follow-up with your healthcare provider until your symptoms go away. **Before taking WELLBUTRIN XL,** tell your healthcare provider if you have ever had depression or other mental health problems. You should also tell your healthcare provider about any symptoms you had during other times you tried to quit smoking, with or without bupropion.

What Other Important Information Should I Know About WELLBUTRIN XL?

- **Seizures: There is a chance of having a seizure (convulsion, fit) with WELLBUTRIN XL, especially in people:**
  - with certain medical problems.
  - who take certain medicines.

  The chance of having seizures increases with higher doses of WELLBUTRIN XL. For more information, see the sections "Who should not take WELLBUTRIN XL?" and "What should I tell my healthcare provider before taking WELLBUTRIN XL?" Tell your healthcare provider about all of your medical conditions and all the medicines you take. **Do not take any other medicines while you are taking WELLBUTRIN XL unless your healthcare provider has said it is okay to take them.**

  If you have a seizure while taking WELLBUTRIN XL, stop taking the tablets and call your healthcare provider right away. Do not take WELLBUTRIN XL again if you have a seizure.

- **High blood pressure (hypertension). Some people get high blood pressure that can be severe, while taking WELLBUTRIN XL.** The chance of high blood pressure may be higher if you also use nicotine replacement therapy (such as a nicotine patch) to help you stop smoking (see the section of this Medication Guide called "How should I take WELLBUTRIN XL?").

- **Manic episodes.** Some people may have periods of mania while taking W ELLBUTRIN XL, including:
  - Greatly increased energy
  - Severe trouble sleeping
  - Racing thoughts
  - Reckless behavior
  - Unusually grand ideas
  - Excessive happiness or irritability
  - Talking more or faster than usual

  If you have any of the above symptoms of mania, call your healthcare provider.

- **Unusual thoughts or behaviors.** Some patients have unusual thoughts or behaviors while taking WELLBUTRIN XL, including delusions (believe you are someone else), hallucinations (seeing or hearing things that are not there), paranoia (feeling that people are against you), or feeling confused. If this happens to you, call your healthcare provider.

- **Visual problems.**
  - eye pain
  - changes in vision
  - swelling or redness in or around the eye

  Only some people are at risk for these problems. You may want to undergo an eye examination to see if you are at risk and receive preventative treatment if you are.

- **Severe allergic reactions. Some people can have severe allergic reactions to WELLBUTRIN XL. Stop taking WELLBUTRIN XL and call your healthcare provider right away** if you get a rash, itching, hives, fever, swollen lymph glands, painful sores in the mouth or around the eyes, swelling of the lips or tongue, chest pain, or have trouble breathing. These could be signs of a serious allergic reaction.

Who should not take WELLBUTRIN XL?

Do not take WELLBUTRIN XL if you:

- have or had a seizure disorder or epilepsy.
- have or had an eating disorder such as anorexia nervosa or bulimia.
- **are taking any other medicines that contain bupropion**. Bupropion is the same active ingredient that is in WELLBUTRIN XL.
- drink a lot of alcohol and abruptly stop drinking, or take medicines called sedatives (these make you sleepy), benzodiazepines, or anti-seizure medicines, and you stop taking them all of a sudden.
- take a monoamine oxidase inhibitor (MAOI). Ask your healthcare provider or pharmacist if you are not sure if you take an MAOI, including the antibiotic linezolid.
  - **do not take an MAOI within 2 weeks of stopping WELLBUTRIN XL unless directed to do so by your healthcare provider.**
  - **do not start WELLBUTRIN XL if you stopped taking an MAOI in the last 2 weeks unless directed to do so by your healthcare provider.**
- are allergic to the active ingredient in WELLBUTRIN XL, bupropion, or to any of the inactive ingredients. See the end of this Medication Guide for a complete list of ingredients in WELLBUTRIN XL.

What should I tell my healthcare provider before taking WELLBUTRIN XL?

Tell your healthcare provider if you have ever had depression, suicidal thoughts or actions, or other mental health problems. You should also tell your healthcare provider about any symptoms you had during other times you tried to quit smoking, with or without WELLBUTRIN XL. See "Quitting Smoking, Quit-Smoking Medications, Changes in Thinking and Behavior, Depression, and Suicidal Thoughts or Actions."

• **Tell your healthcare provider about your other medical conditions, including if you:**
  - have liver problems, especially cirrhosis of the liver.
  - have kidney problems.
  - have, or have had, an eating disorder such as anorexia nervosa or bulimia.
  - have had a head injury.
  - have had a seizure (convulsion, fit).
  - have a tumor in your nervous system (brain or spine).
  - have had a heart attack, heart problems, or high blood pressure.
  - are a diabetic taking insulin or other medicines to control your blood sugar.
  - drink alcohol.
  - abuse prescription medicines or street drugs.
  - are pregnant or plan to become pregnant.
  - are breastfeeding. WELLBUTRIN XL passes into your milk in small amounts.

Tell your healthcare provider about all the medicines you take, including prescription, over–the-counter medicines, vitamins, and herbal supplements. Many medicines increase your chances of having seizures or other serious side effects if you take them while you are taking WELLBUTRIN XL.

How should I take WELLBUTRIN XL?

- Start WELLBUTRIN XL before you stop smoking to give W ELLBUTRIN XL time to build up in your body. It takes about 1 week for WELLBUTRIN XL to start working.
- Pick a date to stop smoking that is during the second week you are taking WELLBUTRIN XL.
- Take WELLBUTRIN XL exactly as prescribed by your healthcare provider. Do not change your dose or stop taking WELLBUTRIN XL without talking with your healthcare provider first.
- WELLBUTRIN XL is usually taken for 7 to 12 weeks. Your healthcare provider may decide to prescribe WELLBUTRIN XL for longer than 12 weeks to help you stop smoking. Follow your healthcare provider's instructions.
- **Swallow WELLBUTRIN XL tablets whole. Do not chew, cut, or crush WELLBUTRIN XL tablets.** If you do, the medicine will be released into your body too quickly. If this happens you may be more likely to get side effects including seizures. **Tell your healthcare provider if you cannot swallow tablets.**
- WELLBUTRIN XL tablets may have an odor. This is normal.
- Take your doses of WELLBUTRIN XL at least 8 hours apart.
- You may take WELLBUTRIN XL with or without food.
- It is not dangerous to smoke and take WELLBUTRIN XL at the same time. But, you will lower your chance of breaking your smoking habit if you smoke after the date you set to stop smoking.
- You may use WELLBUTRIN XL and nicotine patches (a type of nicotine replacement therapy) at the same time, following the precautions below.
  - You should only use W ELLBUTRIN XL and nicotine patches together under the care of your healthcare provider. Using WELLBUTRIN XL and nicotine patches together may raise your blood pressure, and sometimes this can be severe.
  - Tell your healthcare provider if you plan to use nicotine patches. Your healthcare provider should check your blood pressure regularly if you use nicotine patches with WELLBUTRIN XL to help you quit smoking.
- If you miss a dose, do not take an extra dose to make up for the dose you missed. Wait and take your next dose at the regular time. **This is very important.** Too much WELLBUTRIN XL can increase your chance of having a seizure.
- If you take too much WELLBUTRIN XL, or overdose, call your local emergency room right away.

Do not take any other medicines while taking WELLBUTRIN XL unless your healthcare provider has told you it is okay.

What should I avoid while taking WELLBUTRIN XL?

- Limit or avoid using alcohol during treatment with WELLBUTRIN XL. If you usually drink a lot of alcohol, talk with your healthcare provider before suddenly stopping. If you suddenly stop drinking alcohol, you may increase your chance of having seizures.
- Do not drive a car or use heavy machinery until you know how WELLBUTRIN XL affects you. WELLBUTRIN XL can affect your ability to do these things safely.

What are possible side effects of WELLBUTRIN XL?

WELLBUTRIN XL can cause serious side effects. See the sections at the beginning of this Medication Guide for information about serious side effects of WELLBUTRIN XL.

The most common side effects of WELLBUTRIN XL include:

• trouble sleeping	• feeling anxious	• stuffy nose	• nausea
• dry mouth	• constipation	• dizziness	• joint aches

If you have trouble sleeping, do not take WELLBUTRIN XL too close to bedtime.
Tell your healthcare provider right away about any side effects that bother you.
These are not all the possible side effects of WELLBUTRIN XL. For more information, ask your healthcare provider or pharmacist. Call your doctor for medical advice about side effects.

General information about the safe and effective use of WELLBUTRIN XL.

Medicines are sometimes prescribed for purposes other than those listed in a Medication Guide. Do not use WELLBUTRIN XL for a condition for which it was not prescribed. Do not give WELLBUTRIN XL to other people, even if they have the same symptoms you have. It may harm them.

If you take a urine drug screening test, WELLBUTRIN XL may make the test result positive for amphetamines. If you tell the person giving you the drug screening test that you are taking WELLBUTRIN XL, they can do a more specific drug screening test that should not have this problem.

This Medication Guide summarizes important information about WELLBUTRIN XL. If you would like more information, talk with your healthcare provider. You can ask your healthcare provider or pharmacist for information about WELLBUTRIN XL that is written for health professionals.

What are the ingredients in WELLBUTRIN XL?

Active ingredient: Bupropion hydrochloride.
Inactive ingredients: Ethylcellulose, glyceryl behenate, methacrylic acid copolymer dispersion, polyvinyl alcohol, polyethylene glycol, povidone, silicon dioxide and triethyl citrate. The tablets are printed with edible black ink.

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