

DOXEPIN- doxepin tablet, film coated
North Star Rx LLC

HIGHLIGHTS OF PRESCRIBING INFORMATION

These highlights do not include all the information needed to use DOXEPIN TABLETS safely and effectively. See full prescribing information for DOXEPIN TABLETS.

DOXEPIN tablets, for oral use
Initial U.S. Approval: 1969

INDICATIONS AND USAGE

Doxepin tablets are indicated for the treatment of insomnia characterized by difficulties with sleep maintenance. (1, 14)

DOSAGE AND ADMINISTRATION

- Initial dose: 6 mg, once daily for adults (2.1) and 3 mg, once daily for the elderly. (2.1, 2.2)
- Take within 30 minutes of bedtime. Total daily dose should not exceed 6 mg. (2.3)
- Should not be taken within 3 hours of a meal. (2.3, 12.3)

DOSAGE FORMS AND STRENGTHS

- 3 mg and 6 mg tablets. Tablets not scored. (3)

CONTRAINDICATIONS

- Hypersensitivity to doxepin hydrochloride, inactive ingredients, or other dibenzoxepines. (4.1)
- Co-administration with Monoamine Oxidase Inhibitors (MAOIs): Do not administer if patient is taking MAOIs or has used MAOIs within the past two weeks. (4.2)
- Untreated narrow angle glaucoma or severe urinary retention. (4.3)

WARNINGS AND PRECAUTIONS

- Need to Evaluate for comorbid diagnoses: Reevaluate if insomnia persists after 7 to 10 days of use. (5.1)
- Abnormal thinking, behavioral changes, complex behaviors: May include “Sleep-driving” and hallucinations. Immediately evaluate any new onset behavioral changes. (5.2)
- Depression: Worsening of depression or suicidal thinking may occur. Prescribe the least amount feasible to avoid intentional overdose. (5.3)
- CNS-depressant effects: Use can impair alertness and motor coordination. Avoid engaging in hazardous activities such as operating a motor vehicle or heavy machinery after taking drug. (5.4) Do not use with alcohol. (5.4, 7.3)
- Potential additive effects when used in combination with CNS depressants or sedating antihistamines. Dose reduction may be needed. (5.4, 7.4)
- Patients with severe sleep apnea: Doxepin tablets are ordinarily not recommended for use in this population. (8.7)

ADVERSE REACTIONS

The most common treatment-emergent adverse reactions, reported in $\geq 2\%$ of patients treated with doxepin tablets, and more commonly than in patients treated with placebo, were somnolence/sedation, nausea, and upper respiratory tract infection. (6.1)

To report SUSPECTED ADVERSE REACTIONS, contact Northstar Rx LLC at 1-800-206-7821 or FDA at 1-800-FDA-1088 or www.fda.gov/medwatch

DRUG INTERACTIONS

- MAO inhibitors: Doxepin tablets should not be administered in patients on MAOIs within the past two weeks. (4.2)
- Cimetidine: Increases exposure to doxepin. (7.2)
- Alcohol: Sedative effects may be increased with doxepin. (7.3, 5.4)
- CNS Depressants and Sedating Antihistamines: Sedative effects may be increased with doxepin. (7.4, 5.4)
- Tolazamide: A case of severe hypoglycemia has been reported. (7.5)

USE IN SPECIFIC POPULATIONS

- Pregnancy: Third trimester use may increase the risk for symptoms of poor adaptation (respiratory distress, temperature instability, feeding difficulties, hypotonia, tremor, irritability) in the neonate. (8.1)
- Lactation: Breastfeeding not recommended. (8.2)
- Pediatric Use: Safety and effectiveness have not been evaluated. (8.4)

- Geriatric Use: The recommended starting dose is 3 mg. Monitor prior to considering dose escalation. (2.2, 8.5)
- Use in Patients with Comorbid Illness: Initiate treatment with 3 mg in patients with hepatic impairment or tendency to urinary retention. (8.6, 4.3)

See 17 for **PATIENT COUNSELING INFORMATION** and **Medication Guide**.

Revised: 3/2024

FULL PRESCRIBING INFORMATION: CONTENTS*

1 INDICATIONS AND USAGE

2 DOSAGE AND ADMINISTRATION

2.1 Dosing in Adults

2.2 Dosing in the Elderly

2.3 Administration

3 DOSAGE FORMS AND STRENGTHS

4 CONTRAINDICATIONS

4.1 Hypersensitivity

4.2 Co-administration with Monoamine Oxidase Inhibitors (MAOIs)

4.3 Glaucoma and Urinary Retention

5 WARNINGS AND PRECAUTIONS

5.1 Need to Evaluate for Comorbid Diagnoses

5.2 Abnormal Thinking and Behavioral Changes

5.3 Suicide Risk and Worsening of Depression

5.4 CNS Depressant Effects

6 ADVERSE REACTIONS

6.1 Clinical Trials Experience

6.2 Studies Pertinent to Safety Concerns for Sleep-promoting Drugs

6.3 Other Reactions Observed During the Pre-marketing Evaluation

7 DRUG INTERACTIONS

7.1 Cytochrome P450 Isozymes

7.2 Cimetidine

7.3 Alcohol

7.4 CNS Depressants and Sedating Antihistamines

7.5 Tolazamide

8 USE IN SPECIFIC POPULATIONS

8.1 Pregnancy

8.2 Lactation

8.3 Females and Males of Reproductive Potential

8.4 Pediatric Use

8.5 Geriatric Use

8.6 Use in Patients with Hepatic Impairment

8.7 Use in Patients with Sleep Apnea

9 DRUG ABUSE AND DEPENDENCE

9.1 Controlled Substance

9.2 Abuse

9.3 Dependence

10 OVERDOSAGE

10.1 Signs and Symptoms of Excessive Doses

10.2 Signs and Symptoms of Critical Overdose

10.3 Recommended Management

11 DESCRIPTION

12 CLINICAL PHARMACOLOGY

12.1 Mechanism of Action

12.2 Pharmacodynamics

12.3 Pharmacokinetics

13 NONCLINICAL TOXICOLOGY

13.1 Carcinogenesis, Mutagenesis, Impairment of Fertility

14 CLINICAL STUDIES

14.1 Controlled Clinical Trials

16 HOW SUPPLIED/STORAGE AND HANDLING

16.1 How Supplied

16.2 Storage and Handling

17 PATIENT COUNSELING INFORMATION

* Sections or subsections omitted from the full prescribing information are not listed.

FULL PRESCRIBING INFORMATION

1 INDICATIONS AND USAGE

Doxepin tablets are indicated for the treatment of insomnia characterized by difficulty with sleep maintenance. The clinical trials performed in support of efficacy were up to 3 months in duration.

2 DOSAGE AND ADMINISTRATION

The dose of doxepin tablets should be individualized.

2.1 Dosing in Adults

The recommended dose of doxepin tablets for adults is 6 mg once daily. A 3 mg once daily dose may be appropriate for some patients, if clinically indicated.

2.2 Dosing in the Elderly

The recommended starting dose of doxepin tablets in elderly patients (≥ 65 years old) is 3 mg once daily. The daily dose can be increased to 6 mg, if clinically indicated.

2.3 Administration

Doxepin tablets should be taken within 30 minutes of bedtime.

To minimize the potential for next day effects, doxepin tablets should not be taken within 3 hours of a meal [*see Clinical Pharmacology*(12.3)].

The total doxepin tablets dose should not exceed 6 mg per day.

3 DOSAGE FORMS AND STRENGTHS

Doxepin Tablets are available containing 3.39 mg or 6.78 mg of doxepin hydrochloride, USP equivalent to 3 mg or 6 mg of doxepin, respectively. Doxepin tablets are not scored.

- The 3 mg tablets are light blue, round, biconvex, beveled edge tablet debossed with

161 on one side of the tablet and **plain** on the other side.

- The 6 mg tablets are blue, round, biconvex, beveled edge tablet debossed with **162** on one side of the tablet and **plain** on the other side.

4 CONTRAINDICATIONS

4.1 Hypersensitivity

Doxepin tablets are contraindicated in individuals who have shown hypersensitivity to doxepin HCl, any of its inactive ingredients, or other dibenzoxepines.

4.2 Co-administration with Monoamine Oxidase Inhibitors (MAOIs)

Serious side effects and even death have been reported following the concomitant use of certain drugs with MAO inhibitors. Do not administer doxepin tablets if patient is currently on MAOIs or has used MAOIs within the past two weeks. The exact length of time may vary depending on the particular MAOI dosage and duration of treatment.

4.3 Glaucoma and Urinary Retention

Doxepin tablets are contraindicated in individuals with untreated narrow angle glaucoma or severe urinary retention.

5 WARNINGS AND PRECAUTIONS

5.1 Need to Evaluate for Comorbid Diagnoses

Because sleep disturbances may be the presenting manifestation of a physical and/or psychiatric disorder, symptomatic treatment of insomnia should be initiated only after careful evaluation of the patient. **The failure of insomnia to remit after 7 to 10 days of treatment may indicate the presence of a primary psychiatric and/or medical illness that should be evaluated.** Exacerbation of insomnia or the emergence of new cognitive or behavioral abnormalities may be the consequence of an unrecognized psychiatric or physical disorder. Such findings have emerged during the course of treatment with hypnotic drugs.

5.2 Abnormal Thinking and Behavioral Changes

Complex behaviors such as “sleep-driving” (i.e., driving while not fully awake after ingestion of a hypnotic, with amnesia for the event) have been reported with hypnotics. These events can occur in hypnotic-naïve as well as in hypnotic-experienced persons. Although behaviors such as “sleep-driving” may occur with hypnotics alone at therapeutic doses, the use of alcohol and other CNS depressants with hypnotics appears to increase the risk of such behaviors, as does the use of hypnotics at doses exceeding the maximum recommended dose. Due to the risk to the patient and the community, discontinuation of doxepin tablets should be strongly considered for patients who report a “sleep-driving” episode. Other complex behaviors (e.g., preparing and eating food, making phone calls, or having sex) have been reported in patients who are not fully awake after taking a hypnotic. As with “sleep-driving”, patients usually do not remember these events. Amnesia, anxiety and other neuro-psychiatric symptoms may occur unpredictably.

5.3 Suicide Risk and Worsening of Depression

In primarily depressed patients, worsening of depression, including suicidal thoughts

and actions (including completed suicides), has been reported in association with the use of hypnotics.

Doxepin, the active ingredient in doxepin tablets, is an antidepressant at doses 10- to 100-fold higher than in doxepin tablets. Antidepressants increased the risk compared to placebo of suicidal thinking and behavior (suicidality) in children, adolescents, and young adults in short-term studies of major depressive disorder (MDD) and other psychiatric disorders. Risk from the lower dose of doxepin in doxepin tablets can not be excluded.

It can rarely be determined with certainty whether a particular instance of the abnormal behaviors listed above is drug induced, spontaneous in origin, or a result of an underlying psychiatric or physical disorder. Nonetheless, the emergence of any new behavioral sign or symptom of concern requires careful and immediate evaluation.

5.4 CNS Depressant Effects

After taking doxepin tablets, patients should confine their activities to those necessary to prepare for bed. Patients should avoid engaging in hazardous activities, such as operating a motor vehicle or heavy machinery, at night after taking doxepin tablets, and should be cautioned about potential impairment in the performance of such activities that may occur the day following ingestion.

When taken with doxepin tablets, the sedative effects of alcoholic beverages, sedating antihistamines, and other CNS depressants may be potentiated [*see Warnings and Precautions (5.2) and Drug Interactions (7.3, 7.4)*]. Patients should not consume alcohol with doxepin tablets [*see Warnings and Precautions (5.2) and Drug Interactions (7.3)*]. Patients should be cautioned about potential additive effects of doxepin tablets used in combination with CNS depressants or sedating antihistamines [*see Warnings and Precautions (5.2) and Drug Interactions (7.4)*].

6 ADVERSE REACTIONS

The following serious adverse reactions are discussed in greater detail in other sections of labeling:

- Abnormal thinking and behavioral changes [*see Warnings and Precautions (5.2)*].
- Suicide risk and worsening of depression [*see Warnings and Precautions (5.3)*].
- CNS Depressant effects [*see Warnings and Precautions (5.4)*].

6.1 Clinical Trials Experience

The pre-marketing development program for doxepin tablets included doxepin HCl exposures in 1017 subjects (580 insomnia patients and 437 healthy subjects) from 12 studies conducted in the United States. 863 of these subjects (580 insomnia patients and 283 healthy subjects) participated in six randomized, placebo-controlled efficacy studies with doxepin doses of 1 mg, 3 mg, and 6 mg for up to 3-months in duration.

Because clinical studies 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.

However, data from the doxepin tablets studies provide the physician with a basis for estimating the relative contributions of drug and non-drug factors to adverse reaction incidence rates in the populations studied.

Associated with Discontinuation of Treatment

The percentage of subjects discontinuing Phase 1, 2, and 3 trials for an adverse reaction was 0.6% in the placebo group compared to 0.4%, 1.0%, and 0.7% in the doxepin tablets 1 mg, 3 mg, and 6 mg groups, respectively. No reaction that resulted in discontinuation occurred at a rate greater than 0.5%.

Adverse Reactions Observed at an Incidence of $\geq 2\%$ in Controlled Trials

Table 1 shows the incidence of treatment-emergent adverse reactions from three long-term (28 to 85 days) placebo-controlled studies of doxepin tablets in adult (N=221) and elderly (N=494) subjects with chronic insomnia.

Reactions reported by Investigators were classified using a modified MedDRA dictionary of preferred terms for purposes of establishing incidence. The table includes only reactions that occurred in 2% or more of subjects who received doxepin tablets 3 mg or 6 mg in which the incidence in subjects treated with doxepin was greater than the incidence in placebo-treated subjects.

Table 1 Incidence (%) of Treatment-Emergent Adverse Reactions in Long-term Placebo-Controlled Clinical Trials

System Organ Class Preferred Term*	Placebo (N=278)	Doxepin 3 mg (N=157)	Doxepin 6 mg (N=203)
Nervous System Disorders			
Somnolence/Sedation	4	6	9
Infections and Infestations			
Upper Respiratory Tract Infection/Nasopharyngitis	2	4	2
Gastroenteritis	0	2	0
Gastrointestinal Disorders			
Nausea	1	2	2
Vascular Disorders			
Hypertension	0	3	< 1

* Includes reactions that occurred at a rate of $\geq 2\%$ in any doxepin tablets-treated group and at a higher rate than placebo.

The most common treatment-emergent adverse reaction in the placebo and each of the doxepin tables dose groups was somnolence/sedation.

6.2 Studies Pertinent to Safety Concerns for Sleep-promoting Drugs

Residual Pharmacological Effect in Insomnia Trials

Five randomized, placebo-controlled studies in adults and the elderly assessed next-day psychomotor function within 1 hour of awakening utilizing the digit-symbol substitution test (DSST), symbol copying test (SCT), and visual analog scale (VAS) for sleepiness, following night time administration of doxepin tablets.

In a one-night, double-blind study conducted in 565 healthy adult subjects experiencing transient insomnia, doxepin tablets 6 mg showed modest negative changes in SCT and VAS.

In a 35-day, double-blind, placebo-controlled, parallel group study of doxepin tablets 3 and 6 mg in 221 adults with chronic insomnia, small decreases in the DSST and SCT occurred in the 6 mg group.

In a 3-month, double-blind, placebo-controlled, parallel group study in 240 elderly subjects with chronic insomnia, doxepin tablets 1 mg and 3 mg was comparable to placebo on DSST, SCT, and VAS.

6.3 Other Reactions Observed During the Pre-marketing Evaluation

Doxepin tablets were administered to 1017 subjects in clinical trials in the United States. Treatment-emergent adverse reactions recorded by clinical investigators were standardized using a modified MedDRA dictionary of preferred terms. The following is a list of MedDRA terms that reflect treatment-emergent adverse reactions reported by subjects treated with doxepin tablets.

Adverse reactions are further categorized by body system and listed in order of decreasing frequency according to the following definitions: **Frequent** adverse reactions are those that occurred on one or more occasions in at least 1/100 subjects; **Infrequent** adverse reactions are those that occurred in fewer than 1/100 subjects and more than 1/1000 subjects. **Rare** adverse reactions are those that occurred in fewer than 1/1000 subjects. Adverse reactions that are listed in Table 1 are not included in the following listing of frequent, infrequent, and rare AEs.

Blood and Lymphatic System Disorders: Infrequent: anemia; Rare: thrombocythemia.

Cardiac Disorders: Rare: atrioventricular block, palpitations, tachycardia, ventricular extrasystoles.

Ear and Labyrinth Disorders: Rare: ear pain, hypoacusis, motion sickness, tinnitus, tympanic membrane perforation.

Eye Disorders: Infrequent: eye redness, vision blurred; Rare: blepharospasm, diplopia, eye pain, lacrimation decreased.

Gastrointestinal Disorders: Infrequent: abdominal pain, dry mouth, gastroesophageal reflux disease, vomiting; Rare: dyspepsia, constipation, gingival recession, haematochezia, lip blister.

General Disorders and Administration Site Conditions: Infrequent: asthenia, chest pain, fatigue; Rare: chills, gait abnormal, edema peripheral.

Hepatobiliary Disorders: Rare: hyperbilirubinemia.

Immune System Disorders: Rare: hypersensitivity.

Infections and Infestations: Infrequent: bronchitis, fungal infection, laryngitis, sinusitis, tooth infection, urinary tract infection, viral infection; Rare: cellulitis staphylococcal, eye infection, folliculitis, gastroenteritis viral, herpes zoster, infective tenosynovitis, influenza, lower respiratory tract infection, onychomycosis, pharyngitis, pneumonia.

Injury, Poisoning and Procedural Complications: Infrequent: back injury, fall, joint sprain; Rare: bone fracture, skin laceration.

Investigations: Infrequent: blood glucose increased; Rare: alanine aminotransferase increased, blood pressure decreased, blood pressure increased, electrocardiogram ST-T segment abnormal, electrocardiogram QRS complex abnormal, heart rate decreased, neutrophil count decreased, QRS axis abnormal, transaminases increased.

Metabolism and Nutrition Disorders: Infrequent: anorexia, decreased appetite, hyperkalemia, hypermagnesemia, increased appetite; Rare: hypokalemia.

Musculoskeletal and Connective Tissue Disorders: Infrequent: arthralgia, back pain, myalgia, neck pain, pain in extremity; Rare: joint range of motion decreased, muscle cramp, sensation of heaviness.

*Neoplasms Benign, Malignant and Unspecified (Including Cysts and Polyps):*Rare: lung adenocarcinoma stage I, malignant melanoma.

*Nervous System Disorders:*Frequent: dizziness; Infrequent: dysgeusia, lethargy, parasthesia, syncope; Rare: ageusia, ataxia, cerebrovascular accident, disturbance in attention, migraine, sleep paralysis, syncope vasovagal, tremor.

*Psychiatric Disorders:*Infrequent: abnormal dreams, adjustment disorder, anxiety, depression; Rare: confusional state, elevated mood, insomnia, libido decreased, nightmare.

*Reproductive System and Breast Disorders:*Rare: breast cyst, dysmenorrhea.

*Renal and Urinary Disorders:*Rare: dysuria, enuresis, hemoglobinuria, nocturia.

*Respiratory, Thoracic and Mediastinal Disorders:*Infrequent: nasal congestion, pharyngolaryngeal pain, sinus congestion, wheezing; Rare: cough, crackles lung, nasopharyngeal disorder, rhinorrhea, dyspnea.

*Skin and Subcutaneous Tissue Disorders:*Infrequent: skin irritation; Rare: cold sweat, dermatitis, erythema, hyperhidrosis, pruritis, rash, rosacea.

*Surgical and Medical Procedures:*Rare: arthrodesis.

*Vascular Disorders:*Infrequent: pallor; Rare: blood pressure inadequately controlled, hematoma, hot flush.

In addition, the reactions below have been reported for other tricyclics and may be idiosyncratic (not related to dose).

*Allergic:*photosensitization, skin rash.

*Hematologic:*agranulocytosis, eosinophilia, leukopenia, purpura, thrombocytopenia.

7 DRUG INTERACTIONS

7.1 Cytochrome P450 Isozymes

Doxepin is primarily metabolized by hepatic cytochrome P450 isozymes CYP2C19 and CYP2D6, and to a lesser extent, by CYP1A2 and CYP2C9. Inhibitors of these isozymes may increase the exposure of doxepin. Doxepin is not an inhibitor of any CYP isozymes at therapeutically relevant concentrations. The ability of doxepin to induce CYP isozymes is not known.

7.2 Cimetidine

Doxepin exposure is doubled with concomitant administration of cimetidine, a nonspecific inhibitor of CYP isozymes. A maximum dose of 3 mg is recommended in adults and elderly when cimetidine is co-administered with doxepin tablets [*see Clinical Pharmacology (12.3)*]

7.3 Alcohol

When taken with doxepin tablets, the sedative effects of alcohol may be potentiated [*see Warnings and Precautions (5.2, 5.4)*].

7.4 CNS Depressants and Sedating Antihistamines

When taken with doxepin tablets, the sedative effects of sedating antihistamines and CNS depressants may be potentiated [*see Warnings and Precautions (5.2, 5.4)*].

7.5 Tolazamide

A case of severe hypoglycemia has been reported in a type II diabetic patient maintained on tolazamide (1 g/day) 11 days after the addition of oral doxepin (75 mg/day).

8 USE IN SPECIFIC POPULATIONS

8.1 Pregnancy

Risk Summary

Available data from published epidemiologic studies and postmarketing reports have not established an increased risk of major birth defects or miscarriage (*see Data*). There are risks of poor neonatal adaptation with exposure to tricyclic antidepressants (TCAs), including doxepin, during pregnancy (*see Clinical Considerations*). In animal reproduction studies, oral administration of doxepin to rats and rabbits during the period of organogenesis caused adverse developmental effects at doses 65 and 23 times the maximum recommended human dose (MRHD) of 6 mg/day based on AUC, respectively. Oral administration of doxepin to pregnant rats during pregnancy and lactation resulted in decreased pup survival and a delay in pup growth at doses 60 times the MRHD based on AUC (*see Data*).

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

Clinical Considerations

Fetal/Neonatal Adverse Reactions:

Neonates exposed to TCAs, including doxepin, late in the third trimester have developed complications requiring prolonged hospitalization, respiratory support, and tube feeding. Such complications can arise immediately upon delivery. Reported clinical findings have included respiratory distress, cyanosis, apnea, seizures, temperature instability, feeding difficulty, vomiting, hypoglycemia, hypotonia, hyperreflexia, tremor, jitteriness, irritability and constant crying. These findings are consistent with either direct toxic effects of TCAs or possibly a drug discontinuation syndrome. Monitor neonates who were exposed to doxepin in the third trimester of pregnancy for poor neonatal adaptation syndrome .

Data

Human Data

Published epidemiologic studies of pregnant women exposed to TCAs, including doxepin, have not established an association with major birth defects, miscarriage or adverse maternal outcomes. Methodological limitations of these observational studies include small sample size and lack of adequate controls.

Animal Data

When doxepin (30, 100, and 150 mg/kg/day) was administered orally to pregnant rats during the period of organogenesis, developmental toxicity (increased incidences of fetal structural abnormalities consisting of non-ossified bones in the skull and sternum and decreased fetal body weights) and maternal toxicity were noted at ≥ 100 mg/kg/day, which produced plasma exposures (AUCs) of doxepin and nordoxepin (the primary

metabolite in humans) approximately 65 and 53 times, respectively, the plasma AUCs at the MRHD. The plasma exposures at the no-effect dose for embryo-fetal developmental toxicity in rats (30 mg/kg/day) are approximately 6 and 5 times the plasma AUCs for doxepin and nordoxepin, respectively, at the MRHD. When doxepin (10, 30, and 60 mg/kg/day) was administered orally to pregnant rabbits during the period of organogenesis, fetal body weights were reduced at the highest dose in the absence of maternal toxicity, which produced plasma AUCs of doxepin and nordoxepin approximately 23 and 56 times, respectively, the plasma AUCs at the MRHD. The plasma exposures at the no-effect dose for developmental effects (30 mg/kg/day) are approximately 8 and 25 times the plasma AUCs for doxepin and nordoxepin, respectively, at the MRHD. Oral administration of doxepin (10, 30, and 100 mg/kg/day) to rats throughout pregnancy and lactation resulted in decreased pup survival and transient growth delay at the highest dose, which produced plasma AUCs of doxepin and nordoxepin approximately 60 and 39 times, respectively, the plasma AUCs at the MRHD. The plasma exposures at the no-effect dose for adverse effects on pre- and postnatal development in rats (30 mg/kg/day) are approximately 2 and 1 times the plasma AUCs for doxepin and nordoxepin, respectively, at the MRHD.

8.2 Lactation

Risk Summary

Data from the published literature report the presence of doxepin and nordoxepin in human milk. There are reports of excess sedation, respiratory depression, poor sucking and swallowing, and hypotonia in breastfed infants exposed to doxepin. There are no data on the effects of doxepin on milk production. Because of the potential for serious adverse reactions, including excess sedation and respiratory depression in a breastfed infant, clinicians should advise patients that breastfeeding is not recommended during treatment with doxepin tablets.

Clinical Considerations

Infants exposed to doxepin through breast milk should be monitored for excess sedation, respiratory depression and hypotonia.

8.3 Females and Males of Reproductive Potential

Infertility

Based on results from animal fertility studies conducted in rats, doxepin may reduce fertility in females and males of reproductive potential [see *Nonclinical Toxicology (13.1)*]. It is unknown if the effects are reversible.

8.4 Pediatric Use

The safety and effectiveness of doxepin tablets in pediatric patients have not been evaluated.

8.5 Geriatric Use

A total of 362 subjects who were ≥ 65 years and 86 subjects who were ≥ 75 years received doxepin tablets in controlled clinical studies. No overall differences in safety or effectiveness were observed between these subjects and younger adult subjects. Greater sensitivity of some older individuals cannot be ruled out.

Sleep-promoting drugs may cause confusion and over-sedation in the elderly. A starting dose of 3 mg is recommended in this population and evaluation prior to considering dose escalation is recommended [see *Dosage and Administration (2.2)*].

8.6 Use in Patients with Hepatic Impairment

Patients with hepatic impairment may display higher doxepin concentrations than healthy individuals. Initiate doxepin tablets treatment with 3 mg in patients with hepatic impairment and monitor closely for adverse daytime effects [*see Clinical Pharmacology (12.3)*].

8.7 Use in Patients with Sleep Apnea

Doxepin tablets has not been studied in patients with obstructive sleep apnea. Since hypnotics have the capacity to depress respiratory drive, precautions should be taken if doxepin tablets are prescribed to patients with compromised respiratory function. In patients with severe sleep apnea, doxepin tablets are ordinarily not recommended for use.

9 DRUG ABUSE AND DEPENDENCE

9.1 Controlled Substance

Doxepin is not a controlled substance.

9.2 Abuse

Doxepin is not associated with abuse potential in animals or in humans. Physicians should carefully evaluate patients for history of drug abuse and follow such patients closely, observing them for signs of misuse or abuse of doxepin (e.g., incrementation of dose, drug-seeking behavior).

9.3 Dependence

In a brief assessment of adverse events observed during discontinuation of doxepin following chronic administration, no symptoms indicative of a withdrawal syndrome were observed. Thus, doxepin does not appear to produce physical dependence.

10 OVERDOSAGE

Doxepin is routinely administered for indications other than insomnia at doses 10- to 50-fold higher than the highest recommended dose of doxepin tablets.

The signs and symptoms associated with doxepin use at doses several-fold higher than the maximum recommended dose (Excessive dose) of doxepin tablets for the treatment of insomnia are described [*see Overdosage (10.1)*], as are signs and symptoms associated with higher multiples of the maximum recommended dose (Critical overdose) [*see Overdosage (10.2)*].

10.1 Signs and Symptoms of Excessive Doses

The following adverse effects have been associated with use of doxepin at doses higher than 6 mg.

Anticholinergic Effects: constipation and urinary retention.

Central Nervous System: disorientation, hallucinations, numbness, paresthesias, extrapyramidal symptoms, seizures, tardive dyskinesia.

Cardiovascular: hypotension.

Gastrointestinal: aphthous stomatitis, indigestion.

Endocrine: raised libido, testicular swelling, gynecomastia in males, enlargement of breasts and galactorrhea in the female, raising or lowering of blood sugar levels, and syndrome of inappropriate antidiuretic hormone secretion.

Other: tinnitus, weight gain, sweating, flushing, jaundice, alopecia, exacerbation of asthma, and hyperpyrexia (in association with chlorpromazine).

10.2 Signs and Symptoms of Critical Overdose

Manifestations of doxepin critical overdose include: cardiac dysrhythmias, severe hypotension, convulsions, and CNS depression including coma. Electrocardiogram changes, particularly in QRS axis or width, are clinically significant indicators of tricyclic compound toxicity. Other signs of overdose may include, but are not limited to: confusion, disturbed concentration, transient visual hallucinations, dilated pupils, agitation, hyperactive reflexes, stupor, drowsiness, muscle rigidity, vomiting, hypothermia, hyperpyrexia.

10.3 Recommended Management

As management of overdose is complex and changing, it is recommended that the physician contact a poison control center for current information on treatment. In addition, the possibility of a multiple drug ingestion should be considered.

If an overdose is suspected, an ECG should be obtained and cardiac monitoring should be initiated immediately. The patient's airway should be protected, an intravenous line should be established, and gastric decontamination should be initiated. A minimum of six hours of observation with cardiac monitoring and observation for signs of CNS or respiratory depression, hypotension, cardiac dysrhythmias and/or conduction blocks, and seizures is strongly advised. If signs of toxicity occur at any time during this period, extended monitoring is recommended. There are case reports of patients succumbing to fatal dysrhythmias late after overdose; these patients had clinical evidence of significant poisoning prior to death and most received inadequate gastrointestinal decontamination. Monitoring of plasma drug levels should not guide management of the patient.

Gastrointestinal Decontamination

All patients suspected of overdose should receive gastrointestinal decontamination. This should include large volume gastric lavage followed by administration of activated charcoal. If consciousness is impaired, the airway should be secured prior to lavage. Emesis is contraindicated.

Cardiovascular

A maximal limb-lead QRS duration of ≥ 0.10 seconds may be the best indication of the severity of an overdose. Serum alkalinization, using intravenous sodium bicarbonate should be used to maintain the serum pH in the range of 7.45 to 7.55 for patients with dysrhythmias and/or QRS widening. If the pH response is inadequate, hyperventilation may also be used. Concomitant use of hyperventilation and sodium bicarbonate should be done with extreme caution, with frequent pH monitoring. A pH > 7.60 or a $pCO_2 < 20$ mmHg is undesirable. Dysrhythmias unresponsive to sodium bicarbonate therapy/hyperventilation may respond to lidocaine or phenytoin. Type 1A and 1C antiarrhythmics are generally contraindicated (e.g., quinidine, disopyramide, and procainamide).

In rare instances, hemoperfusion may be beneficial in acute refractory cardiovascular instability in patients with acute toxicity. However, hemodialysis, peritoneal dialysis,

exchange transfusions, and forced diuresis generally have been reported as ineffective in treatment of tricyclic compound poisoning.

Central Nervous System

In patients with central nervous system depression, early intubation is advised because of the potential for abrupt deterioration. Seizures should be controlled with benzodiazepines, or, if these are ineffective, other anticonvulsants (e.g., phenobarbital or phenytoin). Physostigmine is not recommended except to treat life-threatening symptoms that have been unresponsive to other therapies, and then only in consultation with a poison control center.

Psychiatric Follow-up

Since overdose often is deliberate, patients may attempt suicide by other means during the recovery phase. Psychiatric referral may be appropriate.

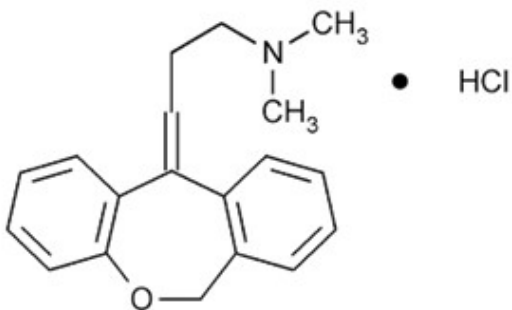
Pediatric Management

The principles of management of child and adult overdoses are similar. It is strongly recommended that the physician contact the local poison control center for specific pediatric treatment.

11 DESCRIPTION

Doxepin Tablets are available in 3 mg and 6 mg strengths for oral administration. Each tablet contains 3.39 mg or 6.78 mg doxepin hydrochloride, equivalent to 3 mg and 6 mg of doxepin, respectively.

Chemically, doxepin hydrochloride is an (E) and (Z) geometric, isomeric mixture of 1-propanamine, 3-dibenz[*b,e*]oxepin-11(6*H*)ylidene-*N,N*-dimethyl-hydrochloride. It has the following structure:



Doxepin hydrochloride, USP is a white crystalline powder, with a slight amine-like odor, that is readily soluble in water. It has a molecular weight of 315.84 and molecular formula of C₁₉H₂₁NO•HCl.

Each doxepin tablet includes the following inactive ingredients: colloidal silicon dioxide, FD&C Blue No. 1 Aluminum Lake, magnesium stearate and microcrystalline cellulose.

12 CLINICAL PHARMACOLOGY

12.1 Mechanism of Action

The mechanism of action of doxepin in sleep maintenance is unclear; however, doxepin's effect could be mediated through antagonism of the H₁ receptor .

12.2 Pharmacodynamics

Doxepin has high binding affinity to the H₁ receptor ($K_i < 1$ nM).

Cardiac Electrophysiology

In a thorough QTc prolongation clinical study in healthy subjects, doxepin had no effect on QT intervals or other electrocardiographic parameters after multiple daily doses up to 50 mg.

12.3 Pharmacokinetics

Absorption

The median time to peak concentrations (T_{max}) of doxepin occurred at 3.5 hours postdose after oral administration of a 6 mg dose to fasted healthy subjects. Peak plasma concentrations (C_{max}) of doxepin increased in approximately a dose-proportional manner for 3 mg and 6 mg doses. The AUC was increased by 41% and C_{max} by 15% when 6 mg doxepin tablets were administered with a high fat meal. Additionally, compared to the fasted state, T_{max} was delayed by approximately 3 hours. Therefore, for faster onset and to minimize the potential for next day effects, it is recommended that doxepin tablets not be taken within 3 hours of a meal [see *Dosage and Administration* (2.3)].

Distribution

Doxepin is widely distributed throughout the body tissues. The mean apparent volume of distribution following a single 6 mg oral dose of doxepin tablets to healthy subjects was 11,930 liters. Doxepin is approximately 80% bound to plasma proteins.

Metabolism

Following oral administration, doxepin is extensively metabolized by oxidation and demethylation. The primary metabolite is N-desmethyldoxepin (nordoxepin).

The primary metabolite undergoes further biotransformation to glucuronide conjugates.

In vitro studies have shown that CYP2C19 and CYP2D6 are the major enzymes involved in doxepin metabolism, and that CYP1A2 and CYP2C9 are involved to a lesser extent.

Doxepin appears not to have inhibitory effects on human CYP enzymes at therapeutic concentrations. The potential of doxepin to induce metabolizing enzymes is not known. Doxepin is not a Pgp substrate.

Excretion

Doxepin is excreted in the urine mainly in the form of glucuronide conjugates.

Less than 3% of a doxepin dose is excreted in the urine as parent compound or nordoxepin. The apparent terminal half-life ($t_{1/2}$) of doxepin was 15.3 hours and for nordoxepin was 31 hours.

Drug Interactions

Since doxepin is metabolized by CYP2C19 and CYP2D6, inhibitors of these CYP isozymes may increase the exposure of doxepin.

Cimetidine

The effect of cimetidine, a non-specific inhibitor of CYP1A2, 2C19, 2D6, and 3A4, on doxepin plasma concentrations was evaluated in healthy subjects. When cimetidine 300 mg BID was co-administered with a single dose of doxepin tablets 6 mg, there was

approximately a 2-fold increase in doxepin C_{max} and AUC compared to doxepin given alone. A maximum dose of doxepin in adults and elderly should be 3 mg, when doxepin is co-administered with cimetidine.

Sertraline

The effect of sertraline HCl, a selective serotonin reuptake inhibitor, on doxepin plasma concentrations was evaluated in a daytime study conducted with 24 healthy subjects. Following co-administration of doxepin 6 mg with sertraline 50 mg (at steady-state), the doxepin mean AUC and C_{max} estimates were approximately 21% and 32% higher, respectively, than those obtained following administration of doxepin alone. Psychomotor function as measured by the digit symbol substitution test and symbol copy test performance was decreased more at 2 to 4 hours post dosing for the combination of sertraline and doxepin as compared to doxepin alone, but subjective measures of alertness were comparable for the two treatments.

Special Populations

Renal Impairment

The effects of renal impairment on doxepin pharmacokinetics have not been studied. Because only small amounts of doxepin and nordoxepin are eliminated in the urine, renal impairment would not be expected to result in significantly altered doxepin concentrations.

Hepatic Impairment

The effects of doxepin in patients with hepatic impairment have not been studied. Because doxepin is extensively metabolized by hepatic enzymes, patients with hepatic impairment may display higher doxepin concentrations than healthy individuals.

Poor Metabolizers of CYPs

Poor metabolizers of CYP2C19 and CYP2D6 may have higher doxepin plasma levels than normal subjects.

13 NONCLINICAL TOXICOLOGY

13.1 Carcinogenesis, Mutagenesis, Impairment of Fertility

Carcinogenesis

No evidence of carcinogenic potential was observed when doxepin was administered orally to hemizygous Tg.rasH2 mice for 26 weeks at doses of 25, 50, 75, and 100 mg/kg/day.

Mutagenesis

Doxepin was negative in *in vitro* (bacterial reverse mutation, chromosomal aberration in human lymphocytes) and *in vivo* (rat micronucleus) assays.

Impairment of Fertility

When doxepin (10, 30, and 100 mg/kg/day) was orally administered to male and female rats prior to, during and after mating, adverse effects on fertility (increased copulatory interval and decreased corpora lutea, implantation, viable embryos and litter size) and sperm parameters (increased percentages of abnormal sperm and decreased sperm motility) were observed. The plasma exposures (AUC) for doxepin and nordoxepin at the no-effect dose for adverse effects on reproductive performance and fertility in rats (10 mg/kg/day) are less than those in humans at the maximum recommended human

dose of 6 mg/day.

14 CLINICAL STUDIES

14.1 Controlled Clinical Trials

The efficacy of doxepin tablets for improving sleep maintenance was supported by six randomized, double-blind studies up to 3 months in duration that included 1,423 subjects, 18 to 93 years of age, with chronic (N=858) or transient (N=565) insomnia. Doxepin tablets were evaluated at doses of 1 mg, 3 mg, and 6 mg relative to placebo in inpatient (sleep laboratory) and outpatient settings.

The primary efficacy measures for assessment of sleep maintenance were the objective and subjective time spent awake after sleep onset (respectively, objective Wake After Sleep Onset [WASO] and subjective WASO).

Subjects in studies of chronic insomnia were required to have at least a 3-month history of insomnia.

Chronic Insomnia

Adults

A randomized, double-blind, parallel-group study was conducted in adults (N = 221) with chronic insomnia. Doxepin tablets 3 mg and 6 mg were compared to placebo out to 30 days.

Doxepin tablets 3 mg and 6 mg were superior to placebo on objective WASO. Doxepin tablets 3 mg were superior to placebo on subjective WASO at night 1 only. Doxepin tablets 6 mg was superior to placebo on subjective WASO at night 1, and nominally superior at some later time points out to Day 30.

Elderly

Elderly subjects with chronic insomnia were assessed in two parallel-group studies.

The first randomized, double-blind study assessed doxepin tablets 1 mg and 3 mg relative to placebo for 3 months in inpatient and outpatient settings in elderly subjects (N=240) with chronic insomnia. Doxepin tablets 3 mg were superior to placebo on objective WASO.

The second randomized, double-blind study assessed doxepin tablets 6 mg relative to placebo for 4 weeks in an outpatient setting in elderly subjects (N=254) with chronic insomnia. On subjective WASO, doxepin tablets 6 mg was superior to placebo.

Transient Insomnia

Healthy adult subjects (N=565) experiencing transient insomnia during the first night in a sleep laboratory were evaluated in a randomized, double-blind, parallel-group, single-dose study of doxepin tablets 6 mg relative to placebo. Doxepin tablets 6 mg was superior to placebo on objective WASO and subjective WASO.

Withdrawal Effects

Potential withdrawal effects were assessed in a 35-day double blind study of adults with chronic insomnia who were randomized to placebo, doxepin tablets 3 mg, or doxepin tablets 6 mg. There was no indication of a withdrawal syndrome after discontinuation of doxepin tablets treatment (3 mg or 6 mg), as measured by the Tyrer's Symptom Checklist. Discontinuation-period emergent nausea and vomiting occurred in 5% of subjects treated with 6 mg doxepin tablets, versus 0% in 3 mg and placebo subjects.

Rebound Insomnia Effects

Rebound insomnia, defined as a worsening in WASO compared with baseline following discontinuation of treatment, was assessed in a double-blind, 35-day study in adults with chronic insomnia. Doxepin tablets 3 mg and 6 mg showed no evidence of rebound insomnia.

16 HOW SUPPLIED/STORAGE AND HANDLING

16.1 How Supplied

Doxepin Tablets are available containing 3.39 mg or 6.78 mg of doxepin hydrochloride, USP equivalent to 3 mg or 6 mg of doxepin, respectively.

The 3 mg tablets are light blue, round, biconvex, beveled edge tablet debossed with 161 on one side of the tablet and plain on the other side. They are available as follows:

NDC 72603-222-01 Bottles of 30 tablets

The 6 mg tablets are blue, round, biconvex, beveled edge tablet debossed with 162 on one side of the tablet and plain on the other side. They are available as follows

NDC 72603-223-01 Bottles of 30 tablets

16.2 Storage and Handling

Store at 20° to 25°C (68° to 77°F) [see USP Controlled Room Temperature]. Protect from light.

Dispense in a tight, light-resistant container as defined in the USP using a child-resistant closure.

Medication Guide available at www.northstarrxllc.com/products or call 1-800-206-7821.

17 PATIENT COUNSELING INFORMATION

Advise the patient to read the FDA-approved patient labeling (Medication Guide).

Sleep-driving and Other Complex Behaviors

There have been reports of people getting out of bed after taking a hypnotic and driving their cars while not fully awake, often with no memory of the event. If a patient experiences such an episode, it should be reported to his or her doctor immediately, since “sleep-driving” can be dangerous. This behavior is more likely to occur when a hypnotic is taken with alcohol or other central nervous system depressants [see *Warnings and Precautions* (5.2, 5.4) and *Drug Interactions* (7.3, 7.4)]. Other complex behaviors (e.g., preparing and eating food, making phone calls, or having sex) have been reported in patients who are not fully awake after taking a hypnotic. As with “sleep-driving”, patients usually do not remember these events.

In addition, patients should be advised to report all concomitant medications to the prescriber. Patients should be instructed to report events such as “sleep-driving” and other complex behaviors immediately to the prescriber.

Suicide Risk and Worsening of Depression

Patients, their families, and their caregivers should be encouraged to be alert to worsening of depression, including suicidal thoughts and actions. Such symptoms should be reported to the patient's prescriber or health professional.

Administration Instructions

Patients should be counseled to take doxepin tablets within 30 minutes of bedtime and should confine their activities to those necessary to prepare for bed. Doxepin tablets should not be taken with or immediately after a meal [see *Dosage and Administration (2.3)*]. Advise patients NOT to take doxepin tablets when drinking alcohol [see *Warnings and Precautions (5.2, 5.4) and Drug Interactions (7.3)*].

Pregnancy

Advise patients that doxepin tablets use late in pregnancy may increase the risk for neonatal complications requiring prolonged hospitalization, respiratory support or tube feeding [see *Use in Specific Populations (8.1)*].

Lactation

Advise patients that breastfeeding is not recommended during treatment with doxepin tablets [see *Use in Specific Populations (8.2)*].

Infertility

Inform patients that doxepin tablets may cause reduced fertility. It is not known whether these effects on fertility are reversible [see *Use in Specific Populations (8.3) and Nonclinical Toxicology (13.1)*].

Manufactured for:

Northstar Rx LL

Memphis, TN 38141

Manufactured by:

APPCO Pharma LLC

Piscataway, NJ 08854

MEDICATION GUIDE

D oxepin Tablets (dox' e pin)

What is the most important information I should know about doxepin tablets?

Doxepin tablets can cause serious side effects including:

After taking doxepin tablets, you may get up out of bed while not being fully awake and do an activity that you do not know you are doing. The next morning, you may not remember that you did anything during the night. You have a higher chance for doing these activities if you drink alcohol or take other medicines that make you sleepy with doxepin tablets. Reported activities include:

- driving a car ("sleep-driving")
- making and eating food
- talking on the phone
- having sex
- sleep-walking

Stop taking doxepin tablets and call your healthcare provider right away if you find out that you have done any of the above activities after taking doxepin tablets.

Important:

- Take doxepin tablets exactly as prescribed
 - Do not take more doxepin tablets than prescribed.

Take doxepin tablets 30 minutes before bedtime. After taking doxepin tablets, you should only do activities needed to get ready for bed.

What are doxepin tablets?

Doxepin Tablets are a prescription medicine used to treat adults who have trouble staying asleep. It is not known if doxepin tablets are safe and effective in children.

Do not take doxepin tablets if you:

- are allergic to any of the ingredients in doxepin tablets. See the end of this Medication Guide for a complete list of ingredients in doxepin tablets.
- take a monoamine oxidase inhibitor (MAOI) medicine or have taken an MAOI in the last 14 days (2 weeks). Ask your healthcare provider if you are not sure if your medicine is an MAOI.
- have an eye problem called narrow angle glaucoma that is not being treated or have trouble urinating that is severe.

Before taking doxepin tablets, tell your healthcare provider about all of your medical conditions, including if you:

- have a history of depression, mental illness, or suicidal thoughts
- have severe sleep apnea
- have kidney or liver problems
- have a history of drug or alcohol abuse or addiction
- have a history of glaucoma or trouble urinating that is severe
- are pregnant or plan to become pregnant. Taking doxepin tablets in the third trimester of pregnancy may harm your unborn baby. Talk to your healthcare provider if you are pregnant or plan to become pregnant during treatment with doxepin tablets.
 - Babies born to mothers who take certain medicines, including doxepin tablets, during the third trimester of pregnancy may have symptoms of sedation, such as breathing problems, sluggishness, low muscle tone, feeding problems, and withdrawal symptoms.

• are breastfeeding or plan to breastfeed. Doxepin can pass into your breast milk and may harm your baby. You should not breastfeed during treatment with doxepin tablets. Talk to your healthcare provider about the best way to feed your baby during treatment with doxepin tablets.

Tell your healthcare provider about all of the medicines you take including prescription and over-the-counter medicines, vitamins and herbal supplements.

Doxepin tablets and other medicines may affect each other causing side effects. Doxepin tablets may affect the way other medicines work, and other medicines may affect how doxepin tablets works.

Especially tell your healthcare provider if you take:

- certain allergy medicines (antihistamines) or other medicines that can make you sleepy or affect your breathing

Know the medicines you take. Keep a list of your medicines with you to show your healthcare provider and pharmacist each time you get a new medicine.

How should I take doxepin tablets?

- Take doxepin tablets exactly as your healthcare provider tells you to take them.
- Your healthcare provider may change your dose if needed.
- **Take doxepin tablets within 30 minutes of bedtime.** After taking doxepin tablets, you should only do activities to get ready for bed.
- **Do not take doxepin tablets within 3 hours of a meal.** Doxepin tablets may make you sleepy the next day if taken with or right after a meal.
- **Call your healthcare provider if your sleep problems get worse or do not get better within 7 to 10 days.** This may mean that there is another condition causing your sleep problem.
- If you take too much doxepin tablets, call your healthcare provider or get medical help right away.

What should I avoid during treatment with doxepin tablets?

- You should not drink alcohol or take other medicines that may make you sleepy or dizzy during treatment with doxepin tablets because it may make your sleepiness or dizziness much worse.
- You should not drive, operate heavy machinery, or do other dangerous activities after taking doxepin

tablets. **You may still feel sleepy the next day after taking doxepin tablets. Do not**

drive or do other dangerous activities after taking doxepin tablets until you feel fully awake.

What are the possible side effects of doxepin tablets?

Doxepin tablets can cause serious side effects including:

• See “**What is the most important information I should know about doxepin tablets?**”

• **Risk of suicide and worsening of depression.** Worsening of depression, including suicidal thoughts and actions can happen during treatment with doxepin tablets. Call your healthcare provider right away if you have any thoughts of suicide, dying, or worsening depression.

The most common side effects of doxepin tablets include:

- drowsiness or tiredness
- nausea
- upper respiratory tract infection

Doxepin tablets may cause fertility problems in females and males, which may affect your ability to have children. Talk to your healthcare provider if you have concerns about fertility.

These are not all of the possible side effects of doxepin tablets. **Call your doctor for medical advice about side effects. You may report side effects to FDA at 1-800-FDA-1088.**

How should I store doxepin tablets?

- Store doxepin tablets at room temperature between 20° to 25°C (68° to 77° F).
- Protect from light.

Keep doxepin tablets and all medicines out of the reach of children.

General Information about the safe and effective use of doxepin tablets.

Medicines are sometimes prescribed for purposes other than those listed in a Medication Guide. Do not use doxepin tablets for a condition for which they were not prescribed. Do not give doxepin tablets to other people, even if they have the same symptoms that you have. They may harm them. You can ask your pharmacist or healthcare provider for information about doxepin tablets that is written for healthcare professionals.

What are the ingredients in doxepin tablets?

Active Ingredient:doxepin hydrochloride

Inactive Ingredients: colloidal silicon dioxide, FD&C Blue No. 1 Aluminum Lake, magnesium stearate and microcrystalline cellulose.

Manufactured for:

Manufactured by:

Northstar Rx LL

APPCO Pharma LLC

Memphis, TN 38141

Piscataway, NJ 08854

Medication Guide available at www.northstarrxllc.com/products or call 1-800-206-7821.

The brands listed are trademarks of their respective owners.

This Medication Guide has been approved by the U.S. Food and Drug Administration.

Iss: 02/2024

PI-DXP-00-NS

MG-DXP-00-NS

Code No. 200741

Package Label Principal Panel

NDC 72603- 222-01

Doxepin

Tablets

3 mg

PHARMACIST:Dispense the Medication Guide provided separately to each patient.

Rx only

30 Tablets

NORTHSTAR x

Each tablet contains:

3.39 mg doxepin hydrochloride, USP
equivalent to 3 mg of doxepin.

Usual Dosage:See accompanying
prescribing information.

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

**Store at 20° to 25°C(68° to 77° F) [See
USP Controlled Room Temperature.]**

Protect from light.

Dispense in a tight, light-resistant
container as defined in the USP
using a child-resistant closure.

Keep container tightly closed.

Medication Guide available at
www.northstarrxllc.com/products
or call 1-800-206-7821

CL-222-01-00

Manufactured for:

Northstar Rx LLC


Memphis, TN 38141

Manufactured By:

APPCO Pharma LLC

Piscataway, NJ 08854

code No: 200743

<p>NDC 72603-222-01</p> <h1>Doxepin Tablets</h1> <p>3 mg</p> <p>PHARMACIST: Dispense Medication Guide provided separately to each patient.</p> <p>30 Tablets</p> <p>NORTHSTAR_X</p>	<p>Each tablet contains: 3.39 mg doxepin hydrochloride, USP equivalent to 3 mg of doxepin.</p> <p>Usual Dosage: See accompanying prescribing information.</p> <p>Keep this and all medication out of the reach of children. Store at 20° to 25°C (68° to 77°F). [See USP Controlled Room Temperature.]</p> <p>Protect from light. Dispense in a tight, light-resistant container as defined in the USP using a child-resistant closure. Keep container tightly closed.</p> <p>Medication Guide available at www.northstarrxllc.com/products or call 1-800-206-7821</p> <p>Iss.:02/2024 CL-222-01-00</p>	 <p>Manufactured for: Northstar Rx LLC Memphis, TN 38141</p> <p>© 2005 Northstar Healthcare Holdings Ltd.</p> <p>Manufactured by: APPCO Pharma LLC Piscataway, NJ 08854</p> <p>Code No: 200743</p>	<p>(1.15 x 1.5 in) Varnish Free Area for Variable Data Coding</p>
---	--	--	---

Package Label Principal Panel

NDC 72603- 223-01

Doxepin

Tablets

6 mg

PHARMACIST:Dispense the Medication Guide provided separately to each patient.

30 Tablets

NORTHSTARX

Each tablet contains:

6.78 mg doxepin hydrochloride, USP
equivalent to 6 mg of doxepin.

Usual Dosage:See accompanying
prescribing information.

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

**Store at 20° to 25°C(68° to 77° F) [See
USP Controlled Room Temperature.]**

Protect from light.

Dispense in a tight, light-resistant
container as defined in the USP
using a child-resistant closure.

Keep container tightly closed.

Medication Guide available at
www.northstarrxllc.com/products
or call 1-800-206-7821

Iss.:11/2023

CL-223-01-00

Manufactured for:
 Northstar Rx LLC
 Memphis, TN 38141
 Manufactured By:
 APPCO Pharma LLC
 Piscataway, NJ 08854
 code No: 200742

NDC 72603-223-01

Doxepin
 Tablets

6 mg

PHARMACIST: Dispense Medication Guide provided separately to each patient.

30 Tablets

NORTHSTAR[®]

Each tablet contains: 6.78 mg doxepin hydrochloride, USP equivalent to 6 mg of doxepin.

Usual Dosage: See accompanying prescribing information.

Keep this and all medication out of the reach of children. Store at 20° to 25°C (68° to 77°F). [See USP Controlled Room Temperature.]

Protect from light. Dispense in a tight, light-resistant container as defined in the USP using a child-resistant closure. Keep container tightly closed.

Medication Guide available at www.northstarxllc.com/products or call 1-800-206-7821

Iss.:02/2024 CL-223-01-00

Manufactured for: Northstar Rx LLC
 Memphis, TN 38141
 © 2005 Northstar Healthcare Holdings Ltd.

Manufactured by: APPCO Pharma LLC
 Piscataway, NJ 08854
 Code No: 200742

(1.15 x 1.5 in)
 Varnish Free Area
 for Variable Data Coding

DOXEPIN

doxepin tablet, film coated

Product Information

Product Type	HUMAN PRESCRIPTION DRUG	Item Code (Source)	NDC:72603-222
Route of Administration	ORAL		

Active Ingredient/Active Moiety

Ingredient Name	Basis of Strength	Strength
DOXEPIN HYDROCHLORIDE (UNII: 3U9A0FE9N5) (DOXEPIN - UNII:5ASJ6HUZ 7D)	DOXEPIN	3 mg

Inactive Ingredients

Ingredient Name	Strength
SILICON DIOXIDE (UNII: ETJ7Z6XBU4)	
MAGNESIUM STEARATE (UNII: 70097M6I30)	
CELLULOSE, MICROCRYSTALLINE (UNII: OP1R32D61U)	
FD&C BLUE NO. 1 ALUMINUM LAKE (UNII: J9EQA3S2JM)	

Product Characteristics

Color	blue	Score	no score
Shape	ROUND	Size	10mm
Flavor		Imprint Code	161
Contains			

Packaging

#	Item Code	Package Description	Marketing Start Date	Marketing End Date
1	NDC:72603-222-01	30 in 1 BOTTLE; Type 0: Not a Combination Product	04/01/2024	

Marketing Information

Marketing Category	Application Number or Monograph Citation	Marketing Start Date	Marketing End Date
ANDA	ANDA202337	04/01/2024	

DOXEPIN

doxepin tablet, film coated

Product Information

Product Type	HUMAN PRESCRIPTION DRUG	Item Code (Source)	NDC:72603-223
Route of Administration	ORAL		

Active Ingredient/Active Moiety

Ingredient Name	Basis of Strength	Strength
DOXEPIN HYDROCHLORIDE (UNII: 3U9A0FE9N5) (DOXEPIN - UNII:5ASJ6HUZ7D)	DOXEPIN	6 mg

Inactive Ingredients

Ingredient Name	Strength
SILICON DIOXIDE (UNII: ETJ7Z6XBU4)	
MAGNESIUM STEARATE (UNII: 70097M6I30)	
CELLULOSE, MICROCRYSTALLINE (UNII: OP1R32D61U)	
FD&C BLUE NO. 1 ALUMINUM LAKE (UNII: J9EQA3S2JM)	

Product Characteristics

Color	blue	Score	no score
Shape	ROUND	Size	10mm
Flavor		Imprint Code	162
Contains			

Packaging

#	Item Code	Package Description	Marketing Start Date	Marketing End Date
1	NDC:72603-223-01	30 in 1 BOTTLE; Type 0: Not a Combination Product	04/01/2024	

Marketing Information

Marketing Category	Application Number or Monograph Citation	Marketing Start Date	Marketing End Date

ANDA	ANDA202337	04/01/2024	
------	------------	------------	--

Labeler - North Star Rx LLC (830546433)

Registrant - RK pharma (116901480)

Establishment

Name	Address	ID/FEI	Business Operations
APPCO Pharma LLC		117536843	manufacture(72603-222, 72603-223)

Revised: 3/2024

North Star Rx LLC