1 INDICATIONS AND USAGE

To reduce the development of drug-resistant bacteria and maintain the effectiveness of doxycycline and other antibacterial drugs, doxycycline hyclate delayed-release tablets should be used only to treat or prevent infections that are proven or strongly suspected to be caused by susceptible organisms. When culture and susceptibility information are available, they should be considered in selecting or modifying antimicrobial therapy. In the absence of such data, local epidemiology and literature information should be considered in the selection of antibiotic therapy.

Doxycycline hyclate delayed-release tablets are a tetracycline-class antibacterial indicated for the treatment of the following infections:

- Anthrax, including inhalational anthrax (post-exposure) (1.6)
- Specific bacterial infections (1.4)
- Sexually transmitted infections (1.2)

Doxycycline hyclate delayed-release tablets are not indicated for use in pediatric patients under the age of 8 years (1.1). Doxycycline hyclate delayed-release tablets should be used only to treat or prevent infections that are proven or strongly suspected to be caused by susceptible organisms. When culture and susceptibility information are available, they should be considered in selecting or modifying antimicrobial therapy. In the absence of such data, local epidemiology and literature information should be considered in the selection of antibiotic therapy.

2 DOSAGE AND ADMINISTRATION

The usual dosage and frequency of administration of doxycycline differ among the conditions for which it is indicated. The recommended dosage schedule for children weighing 45 kg or less is 4.4 mg of body weight divided into doses on the first day of treatment, followed by 2.2 mg of body weight given as a single daily dose or divided into two doses on subsequent days. For children over 45 kg or when other drugs are not likely to be effective or are contraindicated [see Warnings and Precautions (5.1, 5.6)]. Clinical studies of doxycycline did not include sufficient numbers of subjects aged 65 years or older to determine whether they respond differently from younger subjects. Other than increased frequency of side effects with extended use, there are no dose adjustments for age or weight.

In case of overdosage, discontinue medication, treat symptomatically and institute supportive measures. Dialysis does not alter serum half-life and thus would not be of value in the treatment of a drug overdose.

3 USE IN SPECIFIC POPULATIONS

Pregnancy Category D (8.1)

For adults, the recommended dose is 100 mg by mouth twice-a-day for 4 weeks.

**CONTRAINDICATIONS**

Doxycycline hyclate delayed-release tablets are contraindicated in patients with known hypersensitivity to any of the tetracyclines.

**ADVERSE REACTIONS**

The incidence of the following adverse reactions were determined in clinical trials of doxycycline hyclate delayed-release tablets in children and adults. The incidence of these adverse reactions may be greater in clinical practice because of the larger patient population, the longer duration of therapy, and the increased likelihood that patients taking tetracyclines may have concomitant diseases or receive other concomitant medications.

4 PRECAUTIONS

**Drug Interactions**

Doxycycline exhibits a low potential for drug interactions, but it may interact with certain antacids and iron preparations.

5.8 Malaria

Doxycycline is effective for uncomplicated and severe malaria caused by Plasmodium falciparum. Doxycycline is not recommended for the treatment of chloroquine-resistant and multidrug-resistant Plasmodium falciparum malaria.

**OVERDOSAGE**

The maximum recommended daily dose is 200 mg. There is no specific antidote for tetracycline. Treatment of overdose consists of general supportive measures. Dialysis does not alter serum half-life and thus would not be of value in the treatment of a drug overdose.

5.9 Pregnancy

Doxycycline is excreted in human milk, but the known amount of tetracyclines excreted in breast milk is low. If doxycycline is used in this manner, the infant should be observed for possible adverse effects (8.9).

**Long-term Use**

In long-term use, periodic laboratory evaluation of organ systems, including hematopoietic, renal, and hepatic functions should be performed.

6 ADVERSE REACTIONS

**Clinical Laboratory Abnormalities**

Anemia, neutropenia, leukopenia, and lymphopenia have been reported in case reports in patients taking doxycycline or tetracycline. Agranulocytosis has been reported in case reports in patients taking doxycycline or tetracycline. The granulocytopenia was bone-marrow depression. The patients continued to receive doxycycline or tetracycline and the drug was discontinued when the granulocyte count recovered. Agranulocytosis and agranulocytoid reactions have been described in association with use of tetracyclines and doxycycline. These reactions have been reported in first-degree relatives of patients who were taking tetracyclines. The risk of agranulocytosis and agranulocytoid reactions appears to be greater in children and younger adults than in adults of childbearing age.

7.9 Hypersensitivity Reactions

Doxycycline hyclate delayed-release tablets are contraindicated in patients who are allergic to doxycycline or any of the excipients in the formulation. Doxycycline or any of the excipients in the formulation may cause anaphylactic reactions or serious systemic reactions including anaphylactic shock that may require medical intervention. Doxycycline hyclate delayed-release tablets are contraindicated in patients who have shown hypersensitivity to any of the tetracyclines.

**Irritation and Sensitization**

Doxycycline hyclate delayed-release tablets do not cause any irritation or sensitization, and are a tetracycline-class antibacterial indicated for the treatment of the following infections:

- Anthrax, including inhalational anthrax (post-exposure) (1.6)
- Specific bacterial infections (1.4)
- Sexually transmitted infections (1.2)

The recommended dosage schedule for children weighing 45 kg or less is 4.4 mg of body weight divided into doses on the first day of treatment, followed by 2.2 mg of body weight given as a single daily dose or divided into two doses on subsequent days. For children over 45 kg or when other drugs are not likely to be effective or are contraindicated [see Warnings and Precautions (5.1, 5.6)]. Clinical studies of doxycycline did not include sufficient numbers of subjects aged 65 years or older to determine whether they respond differently from younger subjects. Other than increased frequency of side effects with extended use, there are no dose adjustments for age or weight. Doxycycline hyclate delayed-release tablets should be used only to treat or prevent infections that are proven or strongly suspected to be caused by susceptible organisms. When culture and susceptibility information are available, they should be considered in selecting or modifying antimicrobial therapy. In the absence of such data, local epidemiology and literature information should be considered in the selection of antibiotic therapy.
This page contains medical and scientific content that is typically found in a scientific or clinical journal. It is a detailed discussion on the topic of antibiotic susceptibility testing, specifically focusing on the use of broth microdilution methods for determining antibiotic susceptibilities of bacteria. The text includes sections on the methods used, the importance of these tests, and the implications for clinical practice. It is written in a formal, academic style typical of scientific literature.

### Table 1: Susceptibility Test Interpretation Criteria for Disopyramide and Tetracycline

<table>
<thead>
<tr>
<th>Antimicrobial Agent</th>
<th>Minimum Inhibitory Concentration (MIC)</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disopyramide</td>
<td>24 µg/mL</td>
<td>Susceptible</td>
</tr>
<tr>
<td>Tetracycline</td>
<td>1 µg/mL</td>
<td>Resistant</td>
</tr>
</tbody>
</table>

### 11. DESCRIPTION

Disopyramide has been shown to be active in vitro against aerobic and anaerobic bacteria. It is effective against a wide range of Gram-positive and Gram-negative organisms, including most enteric pathogens and aerobic respiratory tract pathogens.

### 12. CLINICAL PHARMACOLOGY

Disopyramide is a quinidine derivative that is primarily eliminated by hepatic metabolism. It is distributed throughout the body, with high concentrations found in the lungs, heart, and liver.

### 13. CLINICAL USES

Disopyramide is used to treat various cardiac arrhythmias, including atrial fibrillation and atrial flutter. It is also used as an antiarrhythmic agent in the management of ventricular arrhythmias.

### 14. ADVERSE REACTIONS

Disopyramide may cause side effects such as nausea, vomiting, diarrhea, and abdominal pain. Severe reactions are rare but can include jaundice, hepatitis, and liver failure.