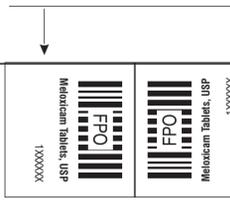


Pharmacode Position shall be changed depending upon the Printer's Machine suitability.



HIGHLIGHTS OF PRESCRIBING INFORMATION
These highlights do not include all the information needed to use MELoxicam TABLETS, safely and effectively. See full prescribing information for MELoxicam TABLETS.

Meloxicam Tablets, for oral use
Initial U.S. Approval: 2000

WARNING: RISK OF SERIOUS CARDIOVASCULAR AND GASTROINTESTINAL EVENTS
See full prescribing information for complete boxed warning.

- **Nonsteroidal anti-inflammatory drugs (NSAIDs) cause an increased risk of serious cardiovascular thrombotic events, including myocardial infarction and stroke, which can be fatal. These events can occur at any time during use and without warning symptoms. Elderly patients and patients with a prior history of peptic ulcer disease and/or GI bleeding are at greater risk for serious GI events. (5.2)**
- **NSAIDs cause an increased risk of serious gastrointestinal (GI) adverse events including bleeding, ulceration, and perforation of the stomach or intestines, which can be fatal. These events can occur at any time during use and without warning symptoms. Elderly patients and patients with a prior history of peptic ulcer disease and/or GI bleeding are at greater risk for serious GI events. (5.2)**

RECENT MAJOR CHANGES

Boxed Warning	5/2016
Indications and Usage, Juvenile Rheumatoid Arthritis (JRA)	6/2016
Pauciarticular and Polyarticular Course (1.3)	6/2016
Dosage and Administration, General Dosing Instructions (2.1)	6/2016
Dosage and Administration, Juvenile Rheumatoid Arthritis (JRA)	6/2016
Pauciarticular and Polyarticular Course (2.4)	6/2016
Warnings and Precautions, Cardiovascular Thrombotic Events (5.1)	5/2016
Warnings and Precautions, Heart Failure and Edema (5.5)	5/2016

INDICATIONS AND USAGE

Meloxicam Tablets, USP is a non-steroidal anti-inflammatory drug indicated for:

- Osteoarthritis (OA) (1.1)
- Rheumatoid Arthritis (RA) (1.2)
- Juvenile Rheumatoid Arthritis (JRA) in patients who weigh ≥ 60 kg (1.3)

DOSE AND ADMINISTRATION

Use the lowest effective dosage for the shortest duration consistent with individual patient treatment goals (2.1).

- OA (2.2) and RA (2.3):
 - Starting dose: 7.5 mg once daily
 - Dose may be increased to 15 mg once daily
 - JRA (2.4):
 - 7.5 mg once daily in children ≥ 60 kg
 - Meloxicam Tablets are not interchangeable with approved formulations of oral meloxicam even if the total milligram strength is the same (2.6)

CONTRAINDICATIONS

- Known hypersensitivity to meloxicam or any components of the drug product (4)
- History of asthma, urticaria, or other allergic-type reactions after taking aspirin or other NSAIDs (4)
- In the setting of CABG surgery (4)

WARNINGS AND PRECAUTIONS

- **Hepatotoxicity:** Inform patients of warning signs and symptoms of hepatotoxicity. Discontinue if abnormal liver tests persist or worsen or if clinical signs and symptoms of liver disease develop (5.3).
- **Hypertension:** Patients taking some antihypertensive medications may have impaired response to these therapies when taking NSAIDs. Monitor blood pressure (5.4, 7).
- **Heart Failure and Edema:** Avoid use of meloxicam in patients with severe heart failure unless benefits are expected to outweigh risk of worsening renal function (5.5).
- **Renal Toxicity:** Monitor renal function in patients with renal or hepatic impairment, heart failure, dehydration, or hypotension. Avoid use of meloxicam in patients with advanced renal disease unless benefits are expected to outweigh risk of worsening renal function (5.6).
- **Anaphylactoid Reactions:** Seek emergency help if an anaphylactoid reaction occurs (5.7).
- **Exacerbation of Asthma Related to Aspirin Sensitivity:** Meloxicam is contraindicated in patients with aspirin-sensitive asthma. Monitor patients with preexisting asthma (without aspirin sensitivity) (5.8).
- **Serious Skin Reactions:** Discontinue meloxicam at first appearance of skin rash or other signs of hypersensitivity (5.9).
- **Premature Closure of Fetal Ductus Arteriosus:** Avoid use in pregnant women starting at 30 weeks gestation (5.10, 8.1).
- **Hematologic Toxicity:** Monitor hemoglobin or hematocrit in patients with any signs or symptoms of anemia (5.11, 7).

ADVERSE REACTIONS

- Most common ($\geq 5\%$ and greater than placebo) adverse events in adults are diarrhea, upper respiratory tract infections, and influenza-like symptoms (6.1)
- Adverse events observed in pediatric studies were similar in nature to the adult clinical trial experience (6.1)

DRUG INTERACTIONS

- **Drugs that Interfere with Hemostasis, i.e., warfarin, aspirin, SSRIs/SNRIs:** Monitor patients for bleeding who are concomitantly taking meloxicam with drugs that interfere with hemostasis. Concomitant use of meloxicam and analgesic doses of aspirin is not generally recommended (7).
- **ACE Inhibitors, Angiotensin Receptor Blockers (ARBs) or Beta-Blockers:** Concomitant use with meloxicam may diminish the antihypertensive effect of these drugs. Monitor blood pressure (7).
- **ACE Inhibitors and ARBs:** Concomitant use with meloxicam in elderly, volume-depleted, or those with renal impairment may result in deterioration of renal function. In such high risk patients, monitor for signs of worsening renal function (7).
- **Diuretics:** NSAIDs can reduce natriuretic and diuretic diuresis. Monitor patients to assure diuretic efficacy including antihypertensive effects (7).

USE IN SPECIFIC POPULATIONS

- **Pregnancy:** Use of NSAIDs during the third trimester of pregnancy increases the risk of premature closure of the fetal ductus arteriosus. Avoid use of NSAIDs in pregnant women starting at 30 weeks gestation (5.10, 8.1)
- **Fertility:** NSAIDs are associated with reversible infertility. Consider withdrawal of meloxicam in women who have difficulties conceiving (8.3)

See 17 for PATIENT COUNSELING INFORMATION and Medication Guide.

ADVERSE REACTIONS

6.1 Clinical Trial Experience
6.2 Postmarketing Experience

DRUG INTERACTIONS

7.1 Clinical Trial Experience
7.2 Postmarketing Experience

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 Hepatic Impairment
8.7 Renal Impairment

DESCRIPTION

CLINICAL PHARMACOLOGY

12.1 Mechanism of Action
12.3 Pharmacokinetics

NONCLINICAL TOXICOLOGY

13.1 Carcinogenesis, Mutagenesis, Impairment of Fertility

CLINICAL STUDIES

14.1 Osteoarthritis and Rheumatoid Arthritis
14.2 Juvenile Rheumatoid Arthritis (JRA) Pauciarticular and Polyarticular Course

HOW SUPPLIED, STORAGE AND HANDLING

PATIENT COUNSELING INFORMATION

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

FULL PRESCRIBING INFORMATION

WARNING: RISK OF SERIOUS CARDIOVASCULAR AND GASTROINTESTINAL EVENTS

- **Cardiovascular Thrombotic Events:** NSAIDs cause an increased risk of serious cardiovascular thrombotic events, including myocardial infarction and stroke, which can be fatal. These events can occur at any time during use and without warning symptoms. Elderly patients and patients with a prior history of peptic ulcer disease and/or GI bleeding are at greater risk for serious GI events. (5.2)
- **Meloxicam is contraindicated in the setting of coronary artery bypass graft (CABG) surgery. (See Contraindications (4) and Warnings and Precautions (5.7)).**

Gastrointestinal Bleeding, Ulceration, and Perforation

- **NSAIDs cause an increased risk of serious gastrointestinal (GI) adverse events including bleeding, ulceration, and perforation of the stomach or intestines, which can be fatal. These events can occur at any time during use and without warning symptoms. Elderly patients and patients with a prior history of peptic ulcer disease and/or GI bleeding are at greater risk for serious GI events. (See Warnings and Precautions (5.2)).**

INDICATIONS AND USAGE

1.1 Osteoarthritis (OA)
1.2 Rheumatoid Arthritis (RA)
1.3 Juvenile Rheumatoid Arthritis (JRA) Pauciarticular and Polyarticular Course

DOSE AND ADMINISTRATION

2.1 General Dosing Instructions
2.2 Osteoarthritis
2.3 Rheumatoid Arthritis
2.4 Juvenile Rheumatoid Arthritis (JRA) Pauciarticular and Polyarticular Course

CONTRAINDICATIONS

4. Known hypersensitivity (e.g., anaphylactoid reactions and serious skin reactions) to meloxicam or any components of the drug product (see Warnings and Precautions (5.7, 5.9))

WARNINGS AND PRECAUTIONS

5.1 Cardiovascular Thrombotic Events
5.2 Gastrointestinal Bleeding, Ulceration and Perforation
5.3 Hepatotoxicity
5.4 Hypertension
5.5 Heart Failure and Edema
5.6 Renal Toxicity and Hypokalemia
5.7 Anaphylactoid Reactions
5.8 Exacerbation of Asthma Related to Aspirin Sensitivity
5.9 Serious Skin Reactions
5.10 Premature Closure of Fetal Ductus Arteriosus
5.11 Hematologic Toxicity

ADVERSE REACTIONS

6.1 Clinical Trial Experience
6.2 Postmarketing Experience

DRUG INTERACTIONS

7.1 Clinical Trial Experience
7.2 Postmarketing Experience

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 Hepatic Impairment
8.7 Renal Impairment

DESCRIPTION

CLINICAL PHARMACOLOGY

12.1 Mechanism of Action
12.3 Pharmacokinetics

5.3 Hepatotoxicity

Elevations of ALT or AST (three or more times the upper limit of normal [ULN]) have been reported in approximately 1% of NSAID-treated patients in clinical trials. In addition, rare, sometimes fatal, cases of severe hepatic injury, including fulminant hepatitis, liver necrosis, and hepatic failure have been reported. Elevations of ALT or AST (less than three times ULN) may occur in up to 15% of patients treated with NSAIDs including meloxicam.

5.4 Hypertension

Inform patients of the warning signs and symptoms of hepatotoxicity (e.g., nausea, fatigue, lethargy, diarrhea, pruritus, jaundice, right upper quadrant tenderness, and "flu-like" symptoms). If clinical signs and symptoms consistent with liver disease develop, or if systemic manifestations occur (e.g., eosinophilia, rash, etc.), discontinue meloxicam immediately, and perform a clinical evaluation of the patient (see Use in Specific Populations (8.6) and Clinical Pharmacology (12.3)).

5.5 Heart Failure and Edema

The Coxib and traditional NSAID Trialists' Collaboration meta-analysis of randomized controlled trials demonstrated an approximately two-fold increase in hospitalizations for heart failure in COX-2 selective-treated patients and nonselective NSAID-treated patients compared to placebo-treated patients. In a Danish National Registry study of patients with heart failure, NSAID use increased the risk of MI, hospitalization for heart failure, and death.

5.6 Renal Toxicity and Hypokalemia

Renal function in patients with severe heart failure unless the benefits are expected to outweigh the risk of worsening renal function. If meloxicam is used in patients with severe heart failure, monitor blood pressure (BP) during the initiation of NSAID treatment and throughout the course of therapy.

5.7 Anaphylactoid Reactions

NSAIDs, including meloxicam, can lead to new onset or worsening of preexisting hypertension, either of which may contribute to the increased incidence of CV events. Patients taking angiotensin converting enzyme (ACE) inhibitors, thiazide diuretics, or loop diuretics may have impaired response to these therapies when taking NSAIDs (see Drug Interactions (7)).

5.8 Exacerbation of Asthma Related to Aspirin Sensitivity

A subgroup of patients with asthma may have aspirin-sensitive asthma which may include rhinitis, rhinorrhea, nasal polyps, severe, potentially fatal bronchospasm, and/or intolerance to aspirin and other NSAIDs. Because cross-reactivity between aspirin and other NSAIDs has been reported in such aspirin-sensitive patients, meloxicam is contraindicated in patients with any signs or symptoms of aspirin sensitivity (see Contraindications (4)). When meloxicam is used in patients with preexisting asthma (without known aspirin sensitivity), monitor patients for changes in the signs and symptoms of asthma (see Warnings and Precautions (5.8)).

5.9 Serious Skin Reactions

NSAIDs, including meloxicam, can cause serious skin adverse reactions such as exfoliative dermatitis, Stevens-Johnson Syndrome (SJS), and toxic epidermal necrolysis (TEN), which can be fatal. These serious events may occur without warning. Inform patients about the signs and symptoms of serious skin reactions, and to discontinue the use of meloxicam at the first appearance of any signs or symptoms of a serious skin reaction (see Warnings and Precautions (5.9)).

5.10 Premature Closure of Fetal Ductus Arteriosus

Meloxicam may cause premature closure of the ductus arteriosus. Avoid use of NSAIDs, including meloxicam in pregnant women starting at 30 weeks of gestation (third trimester) (see Use in Specific Populations (8.1)).

5.11 Hematologic Toxicity

NSAIDs, including meloxicam, may cause thrombocytopenia and leukopenia. Monitor patients for signs and symptoms of anemia (see Warnings and Precautions (5.11)).

6 ADVERSE REACTIONS

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

- GI Bleeding, Ulceration, and Perforation (see Boxed Warning and Warnings and Precautions (5.2))
- Hepatotoxicity (see Warnings and Precautions (5.3))
- Hypertension (see Warnings and Precautions (5.4))
- Heart Failure and Edema (see Warnings and Precautions (5.5))
- Renal Toxicity and Hypokalemia (see Warnings and Precautions (5.6))
- Anaphylactoid Reactions (see Warnings and Precautions (5.7))
- Serious Skin Reactions (see Warnings and Precautions (5.9))
- Hematologic Toxicity (see Warnings and Precautions (5.11))

6.1 Clinical Trial 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.

6.2 Postmarketing Experience

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

- Cardiovascular Thrombotic Events (see Boxed Warning and Warnings and Precautions (5.2))
- GI Bleeding, Ulceration, and Perforation (see Boxed Warning and Warnings and Precautions (5.2))
- Hepatotoxicity (see Warnings and Precautions (5.3))
- Hypertension (see Warnings and Precautions (5.4))
- Heart Failure and Edema (see Warnings and Precautions (5.5))
- Renal Toxicity and Hypokalemia (see Warnings and Precautions (5.6))
- Anaphylactoid Reactions (see Warnings and Precautions (5.7))
- Serious Skin Reactions (see Warnings and Precautions (5.9))
- Hematologic Toxicity (see Warnings and Precautions (5.11))

6.3 Juvenile Rheumatoid Arthritis (JRA) Pauciarticular and Polyarticular Course

Three hundred and eighty-seven patients with pauciarticular and polyarticular course JRA were exposed to meloxicam with doses ranging from 0.125 to 0.375 mg/kg per day in three clinical trials. These studies consisted of two 12-week multicenter, double-blind, randomized trials (one with a 12-week open-label extension and one with a 40-week extension) and one 1-year open-label PK study. The adverse events observed in these pediatric studies with meloxicam were similar in nature to the adult clinical trial experience, although there were differences in frequency. In particular, the following most common adverse events, abdominal pain, vomiting, diarrhea, headache, and pyrexia, were more common in the pediatric than in the adult trials. Rash was reported in seven (<2% patients) receiving meloxicam. No unexpected adverse events were identified during the course of the trials. The adverse events did not demonstrate an age or gender-specific subgroup effect.

6.4 Juvenile Rheumatoid Arthritis (JRA) Pauciarticular and Polyarticular Course

Three hundred and eighty-seven patients with pauciarticular and polyarticular course JRA were exposed to meloxicam with doses ranging from 0.125 to 0.375 mg/kg per day in three clinical trials. These studies consisted of two 12-week multicenter, double-blind, randomized trials (one with a 12-week open-label extension and one with a 40-week extension) and one 1-year open-label PK study. The adverse events observed in these pediatric studies with meloxicam were similar in nature to the adult clinical trial experience, although there were differences in frequency. In particular, the following most common adverse events, abdominal pain, vomiting, diarrhea, headache, and pyrexia, were more common in the pediatric than in the adult trials. Rash was reported in seven (<2% patients) receiving meloxicam. No unexpected adverse events were identified during the course of the trials. The adverse events did not demonstrate an age or gender-specific subgroup effect.

6.5 Juvenile Rheumatoid Arthritis (JRA) Polyarticular Course

Three hundred and eighty-seven patients with polyarticular course JRA were exposed to meloxicam with doses ranging from 0.125 to 0.375 mg/kg per day in three clinical trials. These studies consisted of two 12-week multicenter, double-blind, randomized trials (one with a 12-week open-label extension and one with a 40-week extension) and one 1-year open-label PK study. The adverse events observed in these pediatric studies with meloxicam were similar in nature to the adult clinical trial experience, although there were differences in frequency. In particular, the following most common adverse events, abdominal pain, vomiting, diarrhea, headache, and pyrexia, were more common in the pediatric than in the adult trials. Rash was reported in seven (<2% patients) receiving meloxicam. No unexpected adverse events were identified during the course of the trials. The adverse events did not demonstrate an age or gender-specific subgroup effect.

6.6 Juvenile Rheumatoid Arthritis (JRA) Systemic Course

Three hundred and eighty-seven patients with systemic course JRA were exposed to meloxicam with doses ranging from 0.125 to 0.375 mg/kg per day in three clinical trials. These studies consisted of two 12-week multicenter, double-blind, randomized trials (one with a 12-week open-label extension and one with a 40-week extension) and one 1-year open-label PK study. The adverse events observed in these pediatric studies with meloxicam were similar in nature to the adult clinical trial experience, although there were differences in frequency. In particular, the following most common adverse events, abdominal pain, vomiting, diarrhea, headache, and pyrexia, were more common in the pediatric than in the adult trials. Rash was reported in seven (<2% patients) receiving meloxicam. No unexpected adverse events were identified during the course of the trials. The adverse events did not demonstrate an age or gender-specific subgroup effect.

6.7 Juvenile Rheumatoid Arthritis (JRA) Mixed Course

Three hundred and eighty-seven patients with mixed course JRA were exposed to meloxicam with doses ranging from 0.125 to 0.375 mg/kg per day in three clinical trials. These studies consisted of two 12-week multicenter, double-blind, randomized trials (one with a 12-week open-label extension and one with a 40-week extension) and one 1-year open-label PK study. The adverse events observed in these pediatric studies with meloxicam were similar in nature to the adult clinical trial experience, although there were differences in frequency. In particular, the following most common adverse events, abdominal pain, vomiting, diarrhea, headache, and pyrexia, were more common in the pediatric than in the adult trials. Rash was reported in seven (<2% patients) receiving meloxicam. No unexpected adverse events were identified during the course of the trials. The adverse events did not demonstrate an age or gender-specific subgroup effect.

6.8 Juvenile Rheumatoid Arthritis (JRA) Unclassified Course

Three hundred and eighty-seven patients with unclassified course JRA were exposed to meloxicam with doses ranging from 0.125 to 0.375 mg/kg per day in three clinical trials. These studies consisted of two 12-week multicenter, double-blind, randomized trials (one with a 12-week open-label extension and one with a 40-week extension) and one 1-year open-label PK study. The adverse events observed in these pediatric studies with meloxicam were similar in nature to the adult clinical trial experience, although there were differences in frequency. In particular, the following most common adverse events, abdominal pain, vomiting, diarrhea, headache, and pyrexia, were more common in the pediatric than in the adult trials. Rash was reported in seven (<2% patients) receiving meloxicam. No unexpected adverse events were identified during the course of the trials. The adverse events did not demonstrate an age or gender-specific subgroup effect.

6.9 Juvenile Rheumatoid Arthritis (JRA) Other Course

Three hundred and eighty-seven patients with other course JRA were exposed to meloxicam with doses ranging from 0.125 to 0.375 mg/kg per day in three clinical trials. These studies consisted of two 12-week multicenter, double-blind, randomized trials (one with a 12-week open-label extension and one with a 40-week extension) and one 1-year open-label PK study. The adverse events observed in these pediatric studies with meloxicam were similar in nature to the adult clinical trial experience, although there were differences in frequency. In particular, the following most common adverse events, abdominal pain, vomiting, diarrhea, headache, and pyrexia, were more common in the pediatric than in the adult trials. Rash was reported in seven (<2% patients) receiving meloxicam. No unexpected adverse events were identified during the course of the trials. The adverse events did not demonstrate an age or gender-specific subgroup effect.

6.10 Juvenile Rheumatoid Arthritis (JRA) Unspecified Course

Three hundred and eighty-seven patients with unspecified course JRA were exposed to meloxicam with doses ranging from 0.125 to 0.375 mg/kg per day in three clinical trials. These studies consisted of two 12-week multicenter, double-blind, randomized trials (one with a 12-week open-label extension and one with a 40-week extension) and one 1-year open-label PK study. The adverse events observed in these pediatric studies with meloxicam were similar in nature to the adult clinical trial experience, although there were differences in frequency. In particular, the following most common adverse events, abdominal pain, vomiting, diarrhea, headache, and pyrexia, were more common in the pediatric than in the adult trials. Rash was reported in seven (<2% patients) receiving meloxicam. No unexpected adverse events were identified during the course of the trials. The adverse events did not demonstrate an age or gender-specific subgroup effect.

6.11 Juvenile Rheumatoid Arthritis (JRA) Unspecified Course

Three hundred and eighty-seven patients with unspecified course JRA were exposed to meloxicam with doses ranging from 0.125 to 0.375 mg/kg per day in three clinical trials. These studies consisted of two 12-week multicenter, double-blind, randomized trials (one with a 12-week open-label extension and one with a 40-week extension) and one 1-year open-label PK study. The adverse events observed in these pediatric studies with meloxicam were similar in nature to the adult clinical trial experience, although there were differences in frequency. In particular, the following most common adverse events, abdominal pain, vomiting, diarrhea, headache, and pyrexia, were more common in the pediatric than in the adult trials. Rash was reported in seven (<2% patients) receiving meloxicam. No unexpected adverse events were identified during the course of the trials. The adverse events did not demonstrate an age or gender-specific subgroup effect.

6.12 Juvenile Rheumatoid Arthritis (JRA) Unspecified Course

Three hundred and eighty-seven patients with unspecified course JRA were exposed to meloxicam with doses ranging from 0.125 to 0.375 mg/kg per day in three clinical trials. These studies consisted of two 12-week multicenter, double-blind, randomized trials (one with a 12-week open-label extension and one with a 40-week extension) and one 1-year open-label PK study. The adverse events observed in these pediatric studies with meloxicam were similar in nature to the adult clinical trial experience, although there were differences in frequency. In particular, the following most common adverse events, abdominal pain, vomiting, diarrhea, headache, and pyrexia, were more common in the pediatric than in the adult trials. Rash was reported in seven (<2% patients) receiving meloxicam. No unexpected adverse events were identified during the course of the trials. The adverse events did not demonstrate an age or gender-specific subgroup effect.

6.13 Juvenile Rheumatoid Arthritis (JRA) Unspecified Course

Three hundred and eighty-seven patients with unspecified course JRA were exposed to meloxicam with doses ranging from 0.125 to 0.375 mg/kg per day in three clinical trials. These studies consisted of two 12-week multicenter, double-blind, randomized trials (one with a 12-week open-label extension and one with a 40-week extension) and one 1-year open-label PK study. The adverse events observed in these pediatric studies with meloxicam were similar in nature to the adult clinical trial experience, although there were differences in frequency. In particular, the following most common adverse events, abdominal pain, vomiting, diarrhea, headache, and pyrexia, were more common in the pediatric than in the adult trials. Rash was reported in seven (<2% patients) receiving meloxicam. No unexpected adverse events were identified during the course of the trials. The adverse events did not demonstrate an age or gender-specific subgroup effect.

6.14 Juvenile Rheumatoid Arthritis (JRA) Unspecified Course

Three hundred and eighty-seven patients with unspecified course JRA were exposed to meloxicam with doses ranging from 0.125 to 0.375 mg/kg per day in three clinical trials. These studies consisted of two 12-week multicenter, double-blind, randomized trials (one with a 12-week open-label extension and one with a 40-week extension) and one 1-year open-label PK study. The adverse events observed in these pediatric studies with meloxicam were similar in nature to the adult clinical trial experience, although there were differences in frequency. In particular, the following most common adverse events, abdominal pain, vomiting, diarrhea, headache, and pyrexia, were more common in the pediatric than in the adult trials. Rash was reported in seven (<2% patients) receiving meloxicam. No unexpected adverse events were identified during the course of the trials. The adverse events did not demonstrate an age or gender-specific subgroup effect.

6.15 Juvenile Rheumatoid Arthritis (JRA) Unspecified Course

Three hundred and eighty-seven patients with unspecified course JRA were exposed to meloxicam with doses ranging from 0.125 to 0.375 mg/kg per day in three clinical trials. These studies consisted of two 12-week multicenter, double-blind, randomized trials (one with a 12-week open-label extension and one with a 40-week extension) and one 1-year open-label PK study. The adverse events observed in these pediatric studies with meloxicam were similar in nature to the adult clinical trial experience, although there were differences in frequency. In particular, the following most common adverse events, abdominal pain, vomiting, diarrhea, headache, and pyrexia, were more common in the pediatric than in the adult trials. Rash was reported in seven (<2% patients) receiving meloxicam. No unexpected adverse events were identified during the course of the trials. The adverse events did not demonstrate an age or gender-specific subgroup effect.

6.16 Juvenile Rheumatoid Arthritis (JRA) Unspecified Course

Three hundred and eighty-seven patients with unspecified course JRA were exposed to meloxicam with doses ranging from 0.125 to 0.375 mg/kg per day in three clinical trials. These studies consisted of two 12-week multicenter, double-blind, randomized trials (one with a 12-week open-label extension and one with a 40-week extension) and one 1-year open-label PK study. The adverse events observed in these pediatric studies with meloxicam were similar in nature to the adult clinical trial experience, although there were differences in frequency. In particular, the following most common adverse events, abdominal pain, vomiting, diarrhea, headache, and pyrexia, were more common in the pediatric than in the adult trials. Rash was reported in seven (<2% patients) receiving meloxicam. No unexpected adverse events were identified during the course of the trials. The adverse events did not demonstrate an age or gender-specific subgroup effect.

6.17 Juvenile Rheumatoid Arthritis (JRA) Unspecified Course

Three hundred and eighty-seven patients with unspecified course JRA were exposed to meloxicam with doses ranging from 0.125 to 0.375 mg/kg per day in three clinical trials. These studies consisted of two 12-week multicenter, double-blind, randomized trials (one with a 12-week open-label extension and one with a 40-week extension) and one 1-year open-label PK study. The adverse events observed in these pediatric studies with meloxicam were similar in nature to the adult clinical trial experience, although there were differences in frequency. In particular, the following most common adverse events, abdominal pain, vomiting, diarrhea, headache, and pyrexia, were more common in the pediatric than in the adult trials. Rash was reported in seven (<2% patients) receiving meloxicam. No unexpected adverse events were identified during the course of the trials. The adverse events did not demonstrate an age or gender-specific subgroup effect.

6.18 Juvenile Rheumatoid Arthritis (JRA) Unspecified Course

Three hundred and eighty-seven patients with unspecified course JRA were exposed to meloxicam with doses ranging from 0.125 to 0.375 mg/kg per day in three clinical trials. These studies consisted of two 12-week multicenter, double-blind, randomized trials (one with a 12-week open-label extension and one with a 40-week extension) and one 1-year open-label PK study. The adverse events observed in these pediatric studies with meloxicam were similar in nature to the adult clinical trial experience, although there were differences in frequency. In particular, the following most common adverse events, abdominal pain, vomiting, diarrhea, headache, and pyrexia, were more common in the pediatric than in the adult trials. Rash was reported in seven (<2% patients) receiving meloxicam. No unexpected adverse events were identified during the course of the trials. The adverse events did not demonstrate an age or gender-specific subgroup effect.

6.19 Juvenile Rheumatoid Arthritis (JRA) Unspecified Course

Three hundred and eighty-seven patients with unspecified course JRA were exposed to meloxicam with doses ranging from 0.125 to 0.375 mg/kg per day in three clinical trials. These studies consisted of two 12-week multicenter, double-blind, randomized trials (one with a 12-week open-label extension and one with a 40-week extension) and one 1-year open-label PK study. The adverse events observed in these pediatric studies with meloxicam were similar in nature to the adult clinical trial experience, although there were differences in frequency. In particular, the following most common adverse events, abdominal pain, vomiting, diarrhea, headache, and pyrexia, were more common in the pediatric than in the adult trials. Rash was reported in seven (<2% patients) receiving meloxicam. No unexpected adverse events were identified during the course of the trials. The adverse events did not demonstrate an age or gender-specific subgroup effect.

6.20 Juvenile Rheumatoid Arthritis (JRA) Unspecified Course

Three hundred and eighty-seven patients with unspecified course JRA were exposed to meloxicam with doses ranging from 0.125 to 0.375 mg/kg per day in three clinical trials. These studies consisted of two 12-week multicenter, double-blind, randomized trials (one with a 12-week open-label extension and one with a 40-week extension) and one 1-year open-label PK study. The adverse events observed in these pediatric studies with meloxicam were similar in nature to the adult clinical trial experience, although there were differences in frequency. In particular, the following most common adverse events, abdominal pain, vomiting, diarrhea, headache, and pyrexia, were more common in the pediatric than in the adult trials. Rash was reported in seven (<2% patients) receiving meloxicam. No unexpected adverse events were identified during the course of the trials. The adverse events did not demonstrate an age or gender-specific subgroup effect.

6.21 Juvenile Rheumatoid Arthritis (JRA) Unspecified Course

Three hundred and eighty-seven patients with unspecified course JRA were exposed to meloxicam with doses ranging from 0.125 to 0.375 mg/kg per day in three clinical trials. These studies consisted of two 12-week multicenter, double-blind, randomized trials (one with a 12-week open-label extension and one with a 40-week extension) and one 1-year open-label PK study. The adverse events observed in these pediatric studies with meloxicam were similar in nature to the adult clinical trial experience, although there were differences in frequency. In particular, the following most common adverse events, abdominal pain, vomiting, diarrhea, headache, and pyrexia, were more common in the pediatric than in the adult trials. Rash was reported in seven (<2% patients) receiving meloxicam. No unexpected adverse events were identified during the course of the trials. The adverse events did not demonstrate an age or gender-specific subgroup effect.

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The following is a list of adverse drug reactions occurring in <2% of patients receiving meloxicam in clinical trials involving approximately 15,200 patients.

Body as a Whole	allergic reaction, face edema, fatigue, fever, hot flashes, malaise, syncope, weight decrease, weight increase
Cardiovascular	angina pectoris, cardiac failure, hypertension, hypotension, myocardial infarction, vasculitis
Central and Peripheral Nervous System	Convulsions, parasthesia, tremor, vertigo
Gastrointestinal	colitis, dry mouth, duodenal ulcer, eructation, esophagitis, gastric ulcer, gastritis, gastroesophageal reflux, gastroesophageal hemorrhage, stomatitis, hemorrhagic, duodenal ulcer, hemorrhagic gastric ulcer, intestinal perforation, melena, pancreatitis, perforated duodenal ulcer, perforated gastric ulcer, stomatitis ulcerative
Heart Rate and Rhythm	arrhythmia, palpitation, tachycardia
Hematologic	leukopenia, purpura, thrombocytopenia
Liver and Biliary System	ALT increased, AST increased, bilirubinemia, GGT increased, hepatitis
Metabolic and Nutritional	dehydration
Psychiatric	abnormal dreaming, anxiety, appetite increased, confusion, depression, nervousness, somnolence
Respiratory	asthma, bronchospasm, dyspnea
Skin and Appendages	alopecia, angiodema, bullous eruption, photosensitivity reaction, pruritus, sweating increased, urticaria
Special Senses	abnormal vision, conjunctivitis, taste perversion, tinnitus
Urinary System	albuminuria, BUN increased, creatinine increased, hematuria, renal failure

6.2 Post Marketing Experience
The following adverse reactions have been identified during post approval use of meloxicam. 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. Decisions about whether to include an adverse event from spontaneous reports in labeling are typically based on one or more of the following factors: (1) seriousness of the event; (2) number of reports; or (3) strength of causal relationship to the drug. Adverse reactions reported in worldwide post marketing experience or the literature include: acute urinary retention; agranulocytosis; alterations in mood (such as mood fluctuations); anaphylactoid reactions including shock, erythema multiforme, exfoliative dermatitis; interstitial nephritis; jaundice; liver failure; Stevens-Johnson syndrome; and toxic epidermal necrolysis.

To report SUSPECTED ADVERSE REACTIONS, contact Strides Pharma Inc. at 1-877-244-9825 or go to www.stridespharma.com or FDA at 1-800-FDA-1088 or <http://www.fda.gov/medwatch>.

7 DRUG INTERACTIONS
See Table 3 for clinically significant drug interactions with meloxicam. See also Warnings and Precautions (5.2, 5.6, 5.11) and Clinical Pharmacology (12.3).

Table 3 Clinically Significant Drug Interactions with Meloxicam	
Drugs that Interfere with Hemostasis	
Clinical Impact:	Meloxicam and anticoagulants such as warfarin have a synergistic effect on bleeding. The concomitant use of meloxicam and anticoagulants have an increased risk of serious bleeding compared to the use of either drug alone. Serotonin release by platelets plays an important role in hemostasis. Case-control and cohort epidemiological studies showed that concomitant use of drugs that interfere with serotonin reuptake and an NSAID may potentiate the risk of bleeding more than an NSAID alone.
Intervention:	Monitor patients with concomitant use of meloxicam and anticoagulants (e.g., warfarin, antiplatelet agents (e.g., aspirin), selective serotonin reuptake inhibitors (SSRIs), and serotonin norepinephrine reuptake inhibitors (SNRIs)) for signs of bleeding [see Warnings and Precautions (5.11)].
Aspirin	
Clinical Impact:	Controlled clinical studies showed that the concomitant use of NSAIDs and analgesic doses of aspirin does not produce any greater therapeutic effect than the use of NSAIDs alone. In a clinical study, the concomitant use of an NSAID and aspirin was associated with a significantly increased incidence of GI adverse reactions as compared to use of the NSAID alone [see Warnings and Precautions (5.2)].
Intervention:	Concomitant use of meloxicam and low dose aspirin or analgesic doses of aspirin is not generally recommended because of the increased risk of bleeding [see Warnings and Precautions (5.11)]. Meloxicam is not a substitute for low dose aspirin for cardiovascular protection.
ACE Inhibitors, Angiotensin Receptor Blockers, or Beta-Blockers	
Clinical Impact:	NSAIDs may diminish the antihypertensive effect of angiotensin converting enzyme (ACE) inhibitors, angiotensin receptor blockers (ARBs), or beta-blockers (including propranolol). In patients who are elderly, volume-depleted, or on diuretic therapy, or have renal impairment, co-administration of an NSAID with ACE inhibitors or ARBs may result in deterioration of renal function, including possible acute renal failure. These effects are usually reversible.
Intervention:	During concomitant use of meloxicam and ACE inhibitors, ARBs, or beta-blockers, monitor blood pressure to ensure that the desired blood pressure is obtained. During concomitant use of meloxicam and ACE inhibitors or ARBs in patients who are elderly, volume-depleted, or have impaired renal function, monitor for signs of worsening renal function [see Warnings and Precautions (5.6)]. When these drugs are administered concomitantly, patients should be adequately hydrated. Assess renal function at the beginning of the concomitant treatment and periodically thereafter.
Diuretics	
Clinical Impact:	Clinical studies, as well as post-marketing observations, showed that NSAIDs reduced the natriuretic effect of loop diuretics (e.g., furosemide) and thiazide diuretics in some patients. This effect has been attributed to the NSAID inhibition of renal prostaglandin synthesis. However, studies with furosemide agents and meloxicam have not demonstrated a reduction in natriuretic effect. Furosemide single and multiple dose pharmacokinetics and pharmacodynamics are not affected by multiple doses of meloxicam.
Intervention:	During concomitant use of meloxicam with diuretics, observe patients for signs of worsening renal function, in addition to assuring diuretic efficacy including antihypertensive effects [see Warnings and Precautions (5.6)].
Lithium	
Clinical Impact:	NSAIDs have produced elevations in plasma lithium levels and reductions in renal lithium clearance. The mean minimum lithium concentration increased 15%, and the renal clearance decreased by approximately 20%. This effect has been attributed to the NSAID inhibition of renal prostaglandin synthesis [see Clinical Pharmacology (12.3)].
Intervention:	During concomitant use of meloxicam and lithium, monitor patients for signs of lithium toxicity.
Methotrexate	
Clinical Impact:	Concomitant use of NSAIDs and methotrexate may increase the risk for methotrexate toxicity (e.g., neutropenia, thrombocytopenia, renal dysfunction).
Intervention:	During concomitant use of meloxicam and methotrexate, monitor patients for methotrexate toxicity.
Cyclosporine	
Clinical Impact:	Concomitant use of meloxicam and cyclosporine may increase cyclosporine's nephrotoxicity.
Intervention:	During concomitant use of meloxicam and cyclosporine, monitor patients for signs of worsening renal function.
NSAIDs and Salicylates	
Clinical Impact:	Concomitant use of meloxicam with other NSAIDs or salicylates (e.g., diflunisal, salsalate) increases the risk of GI toxicity, with little or no increase in efficacy [see Warnings and Precautions (5.2)].
Intervention:	The concomitant use of meloxicam with other NSAIDs or salicylates is not recommended.
Pemetrexed	
Clinical Impact:	Concomitant use of meloxicam and pemetrexed may increase the risk of pemetrexed-associated myelosuppression, renal, and GI toxicity (see the pemetrexed prescribing information).

Interactions:
During concomitant use of meloxicam and pemetrexed, in patients with renal impairment whose creatinine clearance ranges from 45 to 79 mL/min, monitor for myelosuppression, renal and GI toxicity.
Patients taking meloxicam should interrupt dosing for at least five days before, the day of, and two days following pemetrexed administration.
In patients with creatinine clearance below 45 mL/min, the concomitant administration of meloxicam with pemetrexed is not recommended.

8 USE IN SPECIFIC POPULATIONS
8.1 Pregnancy
Risk Summary
Use of NSAIDs, including meloxicam, during the third trimester of pregnancy increases the risk of premature closure of the fetal ductus arteriosus. Avoid use of NSAIDs, including meloxicam in pregnant women starting at 30 weeks of gestation (third trimester) [see Warnings and Precautions (5.10)].
There are no adequate and well-controlled studies of meloxicam in pregnant women. Data from observational studies regarding potential embryofetal risks of NSAID use in women in the first or second trimester of pregnancy are inconclusive. In the general U.S. population, all clinically recognized pregnancies, regardless of drug exposure, have a background rate of 2-4% for major malformations, and 15-20% for pregnancy loss.
In animal reproduction studies, embryofetal death was observed in rats and rabbits treated during the period of organogenesis with meloxicam at oral doses equivalent to 0.65- and 6.5-times the maximum recommended human dose (MRHD) of meloxicam. Increased incidence of septal heart defects were observed in rabbits treated throughout embryogenesis with meloxicam at an oral dose equivalent to 78-times the MRHD. In pre- and post-natal reproduction studies, there was an increased incidence of dystolic, delayed parturition, and decreased offspring survival at 0.08-times MRHD of meloxicam. No teratogenic effects were observed in rats and rabbits treated with meloxicam during organogenesis at an oral dose equivalent to 2.6 and 26-times the MRHD [see Data].

Based on animal data, prostaglandins have been shown to have an important role in endothelial vascular permeability, histovessel maturation, and decidualization. In animal studies, administration of prostaglandin synthesis inhibitors, such as meloxicam, resulted in increased pre- and post-implantation loss.

Clinical Considerations
Labor or Delivery
There are no studies on the effects of meloxicam during labor or delivery. In animal studies, NSAIDs, including meloxicam, inhibit prostaglandin synthesis, cause delayed parturition, and increase the incidence of stillbirth.

Data
Animal Data
Meloxicam was not teratogenic when administered to pregnant rats during fetal organogenesis at oral doses up to 4 mg/kg/day (2.6-fold greater than the MRHD of 15 mg of meloxicam based on BSA comparison). Administration of meloxicam to pregnant rabbits throughout embryogenesis produced an increased incidence of septal defects of the heart at an oral dose of 60 mg/kg/day (78-fold greater than the MRHD based on BSA comparison). The effect was also observed at 20 mg/kg/day (26-fold greater than the MRHD based on BSA comparison). In rats and rabbits, embryofetality occurred at oral meloxicam doses of 1 mg/kg/day and 5 mg/kg/day, respectively (0.50 and 6.5-fold greater, respectively, than the MRHD based on BSA comparison) when administered throughout organogenesis.

Oral administration of meloxicam to pregnant rats during late gestation through lactation increased the incidence of dystocia, delayed parturition, and decreased offspring survival at meloxicam doses of 0.125 mg/kg/day or greater (0.08-times MRHD based on BSA comparison).

8.2 Lactation
There are no human data available on whether meloxicam is present in human milk, or on the effects on breastfed infants, or on milk production. The developmental and health benefits of breastfeeding should be considered along with the mother's clinical need for meloxicam and any potential adverse effects on the breastfed infant from the meloxicam or from the underlying maternal condition.

Data
Animal Data
Meloxicam was present in the milk of lactating rats at concentrations higher than those in plasma.

8.3 Females and Males of Reproductive Potential
Females
Based on the mechanism of action, the use of prostaglandin-mediated NSAIDs, including meloxicam, may delay or prevent uptake of ovarian follicles, which has been associated with reversible infertility in some women. Published animal studies have shown that administration of prostaglandin synthesis inhibitors has the potential to disrupt prostaglandin-mediated follicular rupture required for ovulation. Small studies in women treated with NSAIDs have also shown a reversible delay in ovulation. Consider withdrawal of NSAIDs, including meloxicam, in women who have difficulties conceiving or who are undergoing investigation of infertility.

8.4 Pediatric Use
The safety and effectiveness of meloxicam in pediatric JRA patients from 2 to 17 years of age has been evaluated in two clinical trials [see Dosage and Administration (2.3), Adverse Reactions (6.1) and Clinical Studies (14.2)].

8.5 Geriatric Use
Elderly patients, compared to younger patients, are at greater risk for NSAID-associated serious cardiovascular, gastrointestinal, and renal adverse reactions. It is anticipated benefit for the elderly patient outweighs these potential risks, starting at the low end of the dosing range, and monitor patients for adverse effects [see Warnings and Precautions (5.1, 5.2, 5.4, 5.6, 5.10)].

8.6 Hepatic Impairment
No dose adjustment is necessary in patients with mild to moderate hepatic impairment. Patients with severe hepatic impairment have not been adequately studied. Since meloxicam is significantly metabolized in the liver and hepatotoxicity may occur, use meloxicam with caution in patients with hepatic impairment [see Warnings and Precautions (6.3) and Clinical Pharmacology (12.3)].

8.7 Renal Impairment
No dose adjustment is necessary in patients with mild to moderate renal impairment. Patients with severe renal impairment have not been studied. The use of meloxicam in subjects with severe renal impairment is not recommended. In patients on hemodialysis, meloxicam should not exceed 7.5 mg per day. Meloxicam is not dialyzable [see Dosage and Administration (2.1) and Clinical Pharmacology (12.3)].

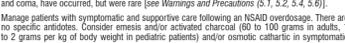
8.8 OVERDOSAGE
Serious NSAID overdoses have been typically limited to lethargy, drowsiness, nausea, vomiting, and gastric pain, which have been generally reversible with supportive care. Gastrointestinal bleeding has occurred (hypertension, acute renal failure, hematuria, hematochezia, and coma, have occurred, but were rare [see Warnings and Precautions (5.1, 5.2, 5.4, 5.6)].

Manage patients with symptomatic and supportive care following an NSAID overdose. There are no specific antidotes. Consider emesis and/or activated charcoal (80 to 100 grams in adults, 1 to 2 grams per kg of body weight in pediatric patients) and/or gastric lavage in symptomatic patients seen within four hours of ingestion or in patients with a large overdose (5 to 10 times the recommended dosage). Force diuresis, alkalization of urine, hemodialysis, or hemoperfusion may be useful to high protein binding.

There is limited experience with meloxicam overdose. Cholestyramine may be useful to accelerate the clearance of meloxicam. Accelerated removal of meloxicam by a GI oral dose of cholestyramine given three times a day was demonstrated in a clinical trial. Administration of cholestyramine may be useful following an overdose.

For additional information about overdose treatment, call a poison control center (1-800-222-1222).

11 DESCRIPTION
Meloxicam is a nonsteroidal anti-inflammatory drug (NSAID). Each light yellow colored tablet contains meloxicam 7.5 mg or 15 mg meloxicam for oral administration. Meloxicam is chemically designated as 4-hydroxy-2-methyl-N-(5-methyl-2-thiazolyl)-2H-1,2-benzothiazine-3-carboxamide-1,1-dioxide. The molecular weight is 351.4. Its empirical formula is C₁₄H₁₃N₃O₅S₂ and it has the following structural formula:



Meloxicam is a pale yellow solid, practically insoluble in water, with higher solubility observed in strong acids and bases. It is very slightly soluble in methanol. Meloxicam has an apparent partition coefficient (log P)_{ow} = 0.1 in n-octanol/buffer pH 7.4. Meloxicam has pKa values of 1.1 and 4.2.

Meloxicam Tablets, USP is available as a tablet for oral administration containing 7.5 mg or 15 mg meloxicam.

The inactive ingredients in Meloxicam Tablets, USP include croscarmellose, iron oxide (Feric Oxide) (in 15 mg tablets only), lactose monohydrate, magnesium stearate, microcrystalline cellulose, polyvidone and polyethylene glycol.

12 CLINICAL PHARMACOLOGY
12.1 Mechanism of Action
Meloxicam has analgesic, anti-inflammatory, and antipyretic properties.
The mechanism of action of Meloxicam like that of other NSAIDs, is not completely understood but involves inhibition of cyclooxygenase (COX-1 and COX-2). Meloxicam is a potent inhibitor of prostaglandin synthesis *in vitro*. Meloxicam concentrations reached during therapy have produced *in vivo* effects. Prostaglandins sensitize afferent nerves and potentiate the action of bradykinin in inducing pain in animal models. Prostaglandins are mediators of inflammation. Because meloxicam is an inhibitor of prostaglandin synthesis, its mode of action may be due to a decrease of prostaglandins in peripheral tissues.

12.3 Pharmacokinetics
Absorption
The absolute bioavailability of meloxicam capsules was 89% following a single oral dose of 30 mg compared with 30 mg IV bolus injection. Following single intravenous doses, dose-proportional pharmacokinetics were shown in the range of 5 mg to 60 mg. After multiple oral doses the pharmacokinetics of meloxicam capsules were dose-proportional over the range of 7.5 mg to 15 mg. Mean C_{max} was achieved within four to five hours after a 7.5 mg meloxicam tablet was taken under fasted conditions, indicating a prolonged drug absorption. With multiple dosing, steady-state concentrations were reached by Day 5. A second meloxicam concentration peak occurs around 12 to 14 hours post-dose suggesting biliary recycling.

Table 4 Mean and Steady-State Pharmacokinetic Parameters for Oral 7.5 mg and 15 mg Meloxicam (Single Dose and % CV)^a

Pharmacokinetic Parameters (CV) ^b	Steady State		Single Dose		
	Healthy male adults (Fed) ^c	Elderly males (Fed) ^d	Elderly females (Fasted)	Hepatic insufficiency (Fasted)	
N	8	8	12	12	
C_{max} [µg/mL]	1.05 (20)	2.3 (39)	3.2 (24)	0.59 (36)	0.84 (29)
t_{max} [h]	4.9 (8)	5 (12)	6 (27)	4 (65)	10 (87)
t_{1/2} [h]	20.1 (29)	21 (24)	24 (24)	18 (46)	18 (29)
Cl_{CR} [mL/min]	8.8 (29)	9.9 (76)	5.1 (22)	19 (43)	11 (44)
V_d/F [L]	14.7 (32)	15 (42)	10 (30)	26 (44)	14 (29)

^aThe parameter values in the table are from various studies.
^bnot under high fat conditions.
^cMeloxicam Tablets, USP
^dV_d/F = Dose/(AUC•Ka)

Food and Anacid Effects
The pharmacokinetics of meloxicam capsules following a high fat breakfast (75 g of fat) resulted in mean peak drug levels (i.e., C_{max}) being increased by approximately 22% while the extent of absorption (AUC) was unchanged. The time to maximum concentration (t_{max}) was achieved between 5 and 6 hours. No pharmacokinetic interaction was detected with concomitant administration of antacids. Based on these results, meloxicam can be administered without regard to timing of meals or concomitant administration of antacids.

Distribution
The mean volume of distribution (V_d) of meloxicam is approximately 10 L. Meloxicam is ~99.4% bound to human plasma proteins (primarily albumin) within the therapeutic dose range. The fraction of protein binding is independent of drug concentration, over the clinically relevant concentration range, but decreases to ~95% in patients with renal dysfunction. Meloxicam penetration into human red blood cells, after oral dosing, is less than 10%. Following a radiolabeled dose, over 90% of the radioactivity detected in the plasma was present as unchanged meloxicam.

Meloxicam concentrations in synovial fluid, after a single oral dose, range from 40% to 50% of those in plasma. The free fraction of meloxicam in synovial fluid is 2.3 times higher than in plasma. Due to the lower albumin content in synovial fluid as compared to plasma, the significance of this penetration is unknown.

Elimination
Meloxicam is extensively metabolized in the liver. Meloxicam metabolites include 5-carboxy and 5-hydroxy meloxicam. The mean elimination half-life (t_{1/2}) was 20 hours in healthy subjects. The metabolite 5-hydroxymethyl meloxicam which is also excreted to a lesser extent (9% of dose). *In vitro* studies indicate that CYP2C9 (cytochrome P450 metabolizing enzyme) plays an important role in the metabolic pathway with a minor contribution of the CYP3A4 isoenzyme. P-glycoprotein-mediated active transport, respectively, of the two metabolites which account for 18% and 4% of the administered dose, respectively. All the four metabolites are not known to have any *in vivo* pharmacological activity.

Excretion
Meloxicam excretion is predominantly in the form of metabolites, and occurs to equal extents in the urine and feces. Only traces of the unchanged parent compound are excreted in the urine (0.2%) and feces (1.6%). The extent of the urinary excretion was confirmed for unlabeled meloxicam 7.5 mg doses: 0.5%, 6%, and 13% of the dose were found in urine in the form of meloxicam, and the 5-hydroxymethyl and 5-carboxy metabolites, respectively. There is significant biliary and/or renal secretion of the drug. This was demonstrated when oral administration of cholestyramine following a single IV dose of meloxicam decreased the AUC of meloxicam by 50%.

The mean elimination half-life (t_{1/2}) ranges from 15 hours to 20 hours. The elimination half-life is constant across dose levels indicating linear metabolism within the therapeutic dose range. Plasma clearance ranges from 7 to 9 mL/min.

Special Populations
Pediatric
After single (0.25 mg/kg) dose administration and after achieving steady state (0.375 mg/kg/day), there was a general trend of approximately 50% lower exposure in younger patients (2 to 6 years old) as compared to the older patients (7 to 16 years old). The older patients had meloxicam exposures (AUC) that were similar to those in the adult population. The mean elimination half-life (t_{1/2}) was 15.5 hours, 6.5 hours, 6.5 hours, and 6.5 hours in the 2 to 6, 7 to 16, 17 to 24, and 25 to 30 year old patients, respectively. This pharmacokinetic difference due to gender is likely to be of little clinical importance. There was linearity of pharmacokinetics and no appreciable difference in the C_{max} or t_{1/2} across genders.

Geriatric
Elderly males (>65 years of age) exhibited meloxicam plasma concentrations and steady-state plasma concentrations similar to younger males. Elderly females (>65 years of age) had a 47% higher AUC, and 32% higher C_{max}, as compared to younger females (<65 years of age) after body weight normalization. Despite the increased total concentrations in the elderly females, the adverse event profile was comparable for both elderly patient populations. A smaller free fraction was observed in elderly female patients in comparison to elderly male patients.

Sex
Young females exhibited slightly lower plasma concentrations relative to young males. After single doses of 7.5 mg Meloxicam Tablets, USP the mean elimination half-life was 15.5 hours for males and 17.9 hours for females (<14 hours). This pharmacokinetic difference due to gender is likely to be of little clinical importance. There was linearity of pharmacokinetics and no appreciable difference in the C_{max} or t_{1/2} across genders.

Hepatic Impairment
Following a single 15 mg dose of meloxicam there was no marked difference in plasma concentrations in patients with mild (Child-Pugh Class I) or moderate (Child-Pugh Class II) hepatic impairment compared to healthy volunteers. Protein binding of meloxicam was not affected by hepatic impairment. No dosage adjustment is necessary in patients with mild to moderate hepatic impairment. Patients with severe hepatic impairment (Child-Pugh Class III) have not been adequately studied [see Warnings and Precautions (6.3) and Use in Specific Populations (8.6)].

Renal Impairment
Meloxicam pharmacokinetics have been investigated in subjects with mild and moderate renal impairment. Total drug plasma concentrations of meloxicam decreased and renal clearance of meloxicam increased with the degree of renal impairment while free AUC values were similar in all subjects. The higher meloxicam plasma concentrations observed in patients with mild to moderate renal impairment are likely due to decreased fraction of unbound meloxicam which is available for hepatic metabolism and subsequent excretion. No dosage adjustment is necessary in patients with mild to moderate renal impairment. Patients with severe renal impairment have not been adequately studied. The use of meloxicam in patients with severe renal impairment is not recommended [see Dosage and Administration (2.5), Warnings and Precautions (6.4) and Use in Specific Populations (8.7)].

Hemodialysis
Following a single dose of meloxicam, the free C_{max} plasma concentrations were higher in patients with renal failure on chronic hemodialysis (1% free fraction) in comparison to healthy volunteers (0.3% free fraction). Hemodialysis did not lower the total drug concentration in plasma; therefore, additional doses are not necessary after hemodialysis. Meloxicam is not dialyzable [see Dosage and Administration (2.7) and Use in Specific Populations (8.7)].

Drug Interaction Studies
Aspirin: When NSAIDs were administered with aspirin, the protein binding of NSAIDs were reduced, although the clearance of free NSAID was not altered. When Meloxicam Tablets, USP were administered with aspirin (1000 mg three times daily) to healthy volunteers, it tended to increase the AUC (10% and C_{max} (24%)) of meloxicam. The clinical significance of this interaction is not known. See Table 3 for clinically significant drug interactions of NSAIDs with aspirin [see Drug Interactions (7)].

Cholestyramine: Pretreatment for four days with cholestyramine significantly increased the clearance of meloxicam by 50%. This resulted in a decrease in t_{1/2} from 19.2 hours to 12.5 hours, and a 36% reduction in AUC. This suggests the existence of a renal elimination pathway for meloxicam in the gastrointestinal tract. The clinical relevance of this interaction has not been established.

Cimetidine: Concomitant administration of 200 mg cimetidine four times daily did not alter the single-dose pharmacokinetics of 20 mg meloxicam.

Digoxin: Meloxicam 15 mg once daily for 7 days did not alter the plasma concentration profile of digoxin after β-acetyldigoxin administration for 7 days at clinical doses. *In vitro* testing found no protein binding drug interaction between digoxin and meloxicam.

Lithium: In a study conducted in healthy subjects, mean pre-dose lithium concentration and AUC were increased by 21% in subjects receiving lithium doses ranging from 804 to 1072 mg twice with meloxicam 15 mg QD every day as compared to subjects receiving lithium alone [see Drug Interactions (7)].

Methotrexate: A study in 13 rheumatoid arthritis (RA) patients evaluated the effects of multiple doses of meloxicam on the pharmacokinetics of methotrexate taken once weekly. Meloxicam did not have a significant effect on the pharmacokinetics of single doses of methotrexate. *In vitro*, methotrexate did not displace meloxicam from its human serum binding sites [see Drug Interactions (7)].

Warfarin: The effect of meloxicam on the anticoagulant effect of warfarin was studied in a group of healthy subjects receiving daily doses of warfarin that produced an INR (International Normalized Ratio) between 1.2 and 1.8. In these subjects, meloxicam did not alter warfarin pharmacokinetics and the average anticoagulant effect of warfarin as determined by prothrombin time. However, one subject showed an increase in INR from 1.5 to 2.1. Caution should be used when administering meloxicam with warfarin since patients on warfarin may experience changes in INR and an increased risk of bleeding complications when a new medication is introduced [see Drug Interactions (7)].

13 NONCLINICAL TOXICOLOGY
13.1 Carcinogenesis, Mutagenesis, Impairment of Fertility
Carcinogenesis
There was no increase in tumor incidence in long-term carcinogenicity studies in rats (104 weeks) and mice (99 weeks) administered meloxicam at oral doses up to 0.8 mg/kg/day in rats and up to 8.0 mg/kg/day in mice (up to 0.5- and 2.6-fold, respectively, the maximum recommended human dose [MRHD] of 15 mg/day meloxicam based on body surface area [BSA] comparison).

Mutagenesis
Meloxicam was not mutagenic in an Ames assay, or clastogenic in a chromosome aberration assay with human lymphocytes and an *in vivo* micronucleus test in mouse bone marrow.

Impairment of Fertility
Meloxicam did not impair male and female fertility in rats at oral doses up to 9 mg/kg/day in males and 5 mg/kg/day in females (up to 0.6- and 3.2-times greater, respectively, than the MRHD based on BSA comparison).

14 CLINICAL STUDIES
14.1 Osteoarthritis and Rheumatoid Arthritis
The use of meloxicam for the treatment of the signs and symptoms of osteoarthritis of the knee and hip was evaluated in a 12-week, double-blind, controlled trial. Meloxicam (3.75 mg, 7.5 mg, and 15 mg daily) was compared to placebo. The four primary endpoints were investigator's global assessment, patient global assessment, patient pain assessment, and total WOMAC score (a self-administered questionnaire assessing pain, function, and stiffness). Patients on meloxicam 7.5 mg daily and meloxicam 15 mg daily showed significant improvement in each of these endpoints compared with placebo.

The use of meloxicam for the management of signs and symptoms of osteoarthritis was evaluated in six double-blind, active-controlled trials outside the U.S. ranging from 4 weeks' to 6 months' duration. In these trials, the efficacy of meloxicam in doses of 7.5 mg/day and 15 mg/day was comparable to meloxicam 20 mg/day and diclofenac 50 mg/day and consistent with the efficacy seen in the U.S. trial.

The use of meloxicam for the treatment of the signs and symptoms of rheumatoid arthritis was evaluated in a 12-week, double-blind, controlled multinational trial. Meloxicam (7.5 mg, 15 mg, and 22.5 mg daily) was compared to placebo. The primary endpoint in this study was the ACR20 response rate, a composite measure of clinical, laboratory, and functional measures of RA response. Patients receiving Meloxicam Tablets, USP 7.5 mg and 15 mg daily showed significant improvement in the primary endpoint compared with placebo. No incremental benefit was observed with the 22.5 mg dose compared to the 15 mg dose.

14.2 Juvenile Rheumatoid Arthritis (JRA) Pauciarticular and Polyarticular Course
The use of meloxicam for the treatment of the signs and symptoms of pauciarticular or polyarticular course of juvenile rheumatoid arthritis in patients 2 years of age and older was evaluated in this 12-week, double-blind, parallel-arm, active-controlled trial.

Both studies included three arms: naproxen and two doses of meloxicam. In both studies, meloxicam dosing began at 0.125 mg/kg/day (7.5 mg maximum) or 0.25 mg/kg/day (15 mg maximum), and the naproxen dosing began at 10 mg/kg/day. One study used meloxicam in both studies throughout the 12-week dosing period, while the other incorporated a titration after 4 weeks to doses of 0.25 mg/kg/day and 0.25 mg/kg/day (22.5 mg maximum) of meloxicam and 15 mg/kg/day of naproxen.

The efficacy analysis used the ACR Pediatric 30 responder definition, a composite of parent and investigator assessments, counts of active joints and joints with limited range of motion, and erythrocyte sedimentation rate. The proportion of responders were similar in all three groups in both studies, and no difference was observed between the meloxicam dose groups.

16 HOW SUPPLIED/STORAGE AND HANDLING
Meloxicam Tablets, USP 7.5 mg is available as light yellow colored, oval shaped uncoated tablet engraved S 160 on one side and plain on other side.
Bottles of 100 NDC: 64380-715-06
Bottles of 500 NDC: 64380-715-07
Meloxicam Tablets, USP 15 mg are available as follows:
Bottles of 100 NDC: 64380-715-08
Bottles of 500 NDC: 64380-715-07

Storage
Store at 25°C (77°F) excursions permitted to 15° to 30°C (59° to 86°F) [see USP Controlled Room Temperature]. Keep Meloxicam Tablets, USP in a dry place.
Dispense tablets in a tight container.
Keep this and all medications out of the reach of children.

17 PATIENT COUNSELING INFORMATION
Advise patient to read the FDA-approved patient labeling (Medication Guide) that accompanies each prescription dispensed.
Inform patients, families or their caregivers of the following information before initiating therapy with an NSAID and periodically during the course of ongoing therapy.
Cardiovascular Thrombotic Events
Advise patients to be alert for the symptoms of cardiovascular thrombotic events, including chest pain, shortness of breath, weakness, or slurring of speech, and to report any of these symptoms to their healthcare provider immediately [see Warnings and Precautions (5.1)].

Gastrointestinal Bleeding, Ulceration, and Perforation
Advise patients to report symptoms of ulcerations and bleeding, including epigastric pain, dyspepsia, melena, and hematemesis to their healthcare provider. In the setting of concomitant use of low-dose aspirin for cardiac prophylaxis, inform patients of the increased risk for the signs and symptoms of GI bleeding [see Warnings and Precautions (5.2)].

Hepatic Toxicity
Inform patients of the warning signs and symptoms of hepatotoxicity (e.g., nausea, fatigue, lethargy, diarrhea, pruritus, jaundice, right upper quadrant tenderness, and "flu-like" symptoms). If these occur, instruct patients to stop Meloxicam Tablets, USP and seek immediate medical therapy [see Warnings and Precautions (5.3)].

Heart Failure and Edema
Advise patients to be alert for the symptoms of congestive heart failure including shortness of breath, unexplained weight gain, or edema and to contact their healthcare provider if such symptoms occur [see Warnings and Precautions (5.5)].

Anaphylactic Reactions
Inform patients of the signs of an anaphylactic reaction (e.g., difficulty breathing, swelling of the face or throat). Instruct patients to seek immediate emergency help if they are having [see Contraindications (4) and Warnings and Precautions (5.7)].

Serious Skin Reactions
Advise patients to stop Meloxicam Tablets, USP immediately if they develop any type of rash and to contact their healthcare provider as soon as possible [see Warnings and Precautions (5.9)].

Female Fertility
Advise females of reproductive potential who desire pregnancy that NSAIDs, including Meloxicam Tablets, USP may be associated with a reversible delay in ovulation [see Use in Specific Populations (8.6)].