

NIACIN - niacin tablet, film coated, extended release

Sun Pharmaceutical Industries, Inc.

HIGHLIGHTS OF PRESCRIBING INFORMATION

These highlights do not include all the information needed to use NIACIN EXTENDED-RELEASE TABLETS, USP safely and effectively. See full prescribing information for NIACIN EXTENDED-RELEASE TABLETS, USP.

NIACIN extended-release tablets, for oral use
Initial U.S. Approval: 1997

INDICATIONS AND USAGE

Niacin extended-release tablets, USP contain extended-release niacin (nicotinic acid), and are indicated:

- To reduce elevated TC, LDL-C, Apo B and TG, and to increase HDL-C in patients with primary hyperlipidemia and mixed dyslipidemia.(1)
- To reduce the risk of recurrent nonfatal myocardial infarction in patients with a history of myocardial infarction and hyperlipidemia.(1)
- In combination with a bile acid binding resin:
 - Slows progression or promotes regression of atherosclerotic disease in patients with a history of coronary artery disease (CAD) and hyperlipidemia. (1)
 - As an adjunct to diet to reduce elevated TC and LDL-C in adult patients with primary hyperlipidemia. (1)
- To reduce TG in adult patients with severe hypertriglyceridemia. (1)

Limitations of use:

Addition of niacin extended-release did not reduce cardiovascular morbidity or mortality among patients treated with simvastatin in a large, randomized controlled trial (5.1).

DOSAGE AND ADMINISTRATION

- Niacin extended-release tablets, USP should be taken at bedtime with a low-fat snack. (2.1)
- Dose range: 500 mg to 2,000 mg once daily. (2.1)
- Therapy with niacin extended-release tablets, USP must be initiated at 500 mg at bedtime in order to reduce the incidence and severity of side effects which may occur during early therapy and should not be increased by more than 500 mg in any 4-week period. (2.1)
- Maintenance dose: 1,000 mg to 2,000 mg once daily. (2.2)
- Doses greater than 2,000 mg daily are not recommended. (2.2)

DOSAGE FORMS AND STRENGTHS

Unscored film-coated tablets for oral administration: 500 mg, 750 mg and 1,000 mg niacin extended-release. (3)

CONTRAINDICATIONS

- Active liver disease, which may include unexplained persistent elevations in hepatic transaminase levels. (4, 5.3)
- Active peptic ulcer disease. (4)
- Arterial bleeding. (4)
- Known hypersensitivity to product components. (4, 6.1)

WARNINGS AND PRECAUTIONS

- Severe hepatic toxicity has occurred in patients substituting sustained-release niacin for immediate-release niacin at equivalent doses. (5.3)
- Myopathy has been reported in patients taking niacin extended-release tablets. The risk for myopathy and rhabdomyolysis are increased among elderly patients; patients with diabetes, renal failure, or uncontrolled hypothyroidism; and patients being treated with a statin. (5.2)
- Liver enzyme abnormalities and monitoring: Persistent elevations in hepatic transaminase can occur. Monitor liver enzymes before and during treatment. (5.3)
- Use with caution in patients with unstable angina or in the acute phase of an MI. (5)
- Niacin extended-release can increase serum glucose levels. Glucose levels should be closely monitored in diabetic or potentially diabetic patients particularly during the first few months of use or dose adjustment. (5.4)

ADVERSE REACTIONS

Most common adverse reactions (incidence >5% and greater than placebo) are flushing, diarrhea, nausea, vomiting, increased cough, and pruritus. (6.1)

Flushing of the skin may be reduced in frequency or severity by pretreatment with aspirin (up to the recommended dose of 325 mg taken 30 minutes prior to niacin extended-release dose). (2.2)

To report SUSPECTED ADVERSE REACTIONS, contact Sun Pharmaceutical Industries, Inc. at 1-800-818-4555 or FDA at 1-800-FDA-1088 or www.fda.gov/medwatch.

DRUG INTERACTIONS

- Statins: Caution should be used when prescribing niacin with statins as these agents can increase risk of myopathy/rhabdomyolysis. (5.2, 7.1)
- Bile Acid Sequestrants: Bile acid sequestrants have a high niacin-binding capacity and should be taken at least 4 to 6 hours before niacin extended-release administration. (7.2)

USE IN SPECIFIC POPULATIONS

- Pregnancy: Discontinue in patients with hyperlipidemia; assess individual risks and benefits in patients with hypertriglyceridemia. (8.1)
- Lactation: Advise patients not to breastfeed during treatment. (8.2)
- Renal impairment: Niacin extended-release tablets should be used with caution in patients with renal impairment. (5, 8.6)
- Hepatic impairment: Niacin extended-release tablets are contraindicated in active liver disease or significant or unexplained hepatic dysfunction or unexplained elevations of serum transaminases. (4, 5, 5.3, 8.7)

See 17 for PATIENT COUNSELING INFORMATION and FDA-approved patient labeling.

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FULL PRESCRIBING INFORMATION

1 INDICATIONS AND USAGE

Therapy with lipid-altering agents should be only one component of multiple risk factor intervention in individuals at significantly increased risk for atherosclerotic vascular disease due to hyperlipidemia. Niacin therapy is indicated as an adjunct to diet when the response to a diet restricted in saturated fat and cholesterol and other nonpharmacologic measures alone has been inadequate.

1. Niacin extended-release tablets, USP are indicated to reduce elevated TC, LDL-C, Apo B and TG levels, and to increase HDL-C in patients with primary hyperlipidemia and mixed dyslipidemia.
2. In patients with a history of myocardial infarction and hyperlipidemia, niacin is indicated to reduce the risk of recurrent nonfatal myocardial infarction.
3. In patients with a history of coronary artery disease (CAD) and hyperlipidemia, niacin, in combination with a bile acid binding resin, is indicated to slow progression or promote regression of atherosclerotic disease.
4. Niacin extended-release in combination with a bile acid binding resin is indicated to reduce elevated TC and LDL-C levels in adult patients with primary hyperlipidemia.
5. Niacin is also indicated as adjunctive therapy for treatment of adult patients with severe hypertriglyceridemia who present a risk of pancreatitis and who do not respond adequately to a determined dietary effort to control them.

Limitations of Use

Addition of niacin extended-release did not reduce cardiovascular morbidity or mortality among patients treated with simvastatin in a large, randomized controlled trial (AIM-HIGH) [see *Warnings and Precautions (5.1)*].

2 DOSAGE AND ADMINISTRATION

2.1 Initial Dosing

Niacin extended-release tablets, USP should be taken at bedtime, after a low-fat snack, and doses should be individualized according to patient response. Therapy with niacin extended-release tablets, USP must be initiated at 500 mg at bedtime in order to reduce the incidence and severity of side effects which may occur during early therapy. The recommended dose escalation is shown in Table 1 below.

Table 1. Recommended Dosing

	Week(s)	Daily dose	Niacin Extended-Release Dosage
INITIAL TITRATION SCHEDULE	1 to 4	500 mg	1 niacin extended-release 500 mg tablet at bedtime
	5 to 8	1,000 mg	1 niacin extended-release 1,000 mg tablet or 2 niacin extended-release 500 mg tablets at bedtime
	*	1,500 mg	2 niacin extended-release 750 mg tablets or 3 niacin extended-release 500 mg tablets at bedtime
	*	2,000 mg	2 niacin extended-release 1,000 mg tablets or 4 niacin extended-release 500 mg tablets at bedtime
* After Week 8, titrate to patient response and tolerance. If response to 1,000 mg daily is inadequate, increase dose to 1,500 mg daily; may subsequently increase dose to 2,000 mg daily. Daily dose should not be increased more than 500 mg in a 4-week period, and doses above 2,000 mg daily are not recommended. Women may respond at lower doses than men.			

2.2 Maintenance Dose

The daily dosage of niacin extended-release tablets, USP should not be increased by more than 500 mg in any 4-week period. The recommended maintenance dose is 1,000 mg (two 500 mg tablets or one 1,000 mg tablet) to 2,000 mg (two 1,000 mg tablets or four 500 mg tablets) once daily at bedtime. Doses greater than 2,000 mg daily are not recommended. Women may respond at lower niacin extended-release tablets, USP doses than men [see *Clinical Studies (14.2)*].

Single-dose bioavailability studies have demonstrated that two of the 500 mg and one of the 1,000 mg tablet strengths are interchangeable but three of the 500 mg and two of the 750 mg tablet strengths are not interchangeable.

Flushing of the skin [see Adverse Reactions (6.1)] may be reduced in frequency or severity by pretreatment with aspirin (up to the recommended dose of 325 mg taken 30 minutes prior to niacin extended-release tablets, USP dose). Tolerance to this flushing develops rapidly over the course of several weeks. Flushing, pruritus, and gastrointestinal distress are also greatly reduced by slowly increasing the dose of niacin and avoiding administration on an empty stomach. Concomitant alcoholic, hot drinks or spicy foods may increase the side effects of flushing and pruritus and should be avoided around the time of niacin extended-release tablets, USP ingestion.

Equivalent doses of niacin extended-release tablets, USP should not be substituted for sustained-release (modified-release, timed-release) niacin preparations or immediate-release (crystalline) niacin [see Warnings and Precautions (5)]. Patients previously receiving other niacin products should be started with the recommended niacin extended-release tablets, USP titration schedule (see Table 1), and the dose should subsequently be individualized based on patient response.

If niacin extended-release tablets, USP therapy is discontinued for an extended period, reinstatement of therapy should include a titration phase (see Table 1).

Niacin extended-release tablets, USP should be taken whole and should not be broken, crushed or chewed before swallowing.

2.3 Dosage in Patients with Renal or Hepatic Impairment

Use of niacin extended-release tablets, USP in patients with renal or hepatic impairment has not been studied. Niacin extended-release tablets, USP are contraindicated in patients with significant or unexplained hepatic dysfunction. Niacin extended-release tablets, USP should be used with caution in patients with renal impairment [see *Warnings and Precautions (5)*].

3 DOSAGE FORMS AND STRENGTHS

- 500 mg unscored, pink, film-coated, capsule-shaped tablets
- 750 mg unscored, pink, film-coated, capsule-shaped tablets
- 1,000 mg unscored, pink, film-coated, capsule-shaped tablets

4 CONTRAINDICATIONS

Niacin extended-release tablets are contraindicated in the following conditions:

- Active liver disease or unexplained persistent elevations in hepatic transaminases [see Warnings and Precautions (5.3)]
- Patients with active peptic ulcer disease

- Patients with arterial bleeding
- Hypersensitivity to niacin or any component of this medication [see Adverse Reactions (6.1)]

5 WARNINGS AND PRECAUTIONS

Niacin extended-release tablets preparations should not be substituted for equivalent doses of immediate-release (crystalline) niacin. For patients switching from immediate-release niacin to niacin extended-release tablets, therapy with niacin extended-release tablets should be initiated with low doses (i.e., 500 mg at bedtime) and the niacin extended-release tablets dose should then be titrated to the desired therapeutic response [see Dosage and Administration (2.1)].

Caution should also be used when niacin extended-release is used in patients with unstable angina or in the acute phase of an MI, particularly when such patients are also receiving vasoactive drugs such as nitrates, calcium channel blockers, or adrenergic blocking agents.

Niacin is rapidly metabolized by the liver, and excreted through the kidneys. Niacin extended-release is contraindicated in patients with significant or unexplained hepatic impairment [see Contraindications (4) and Warnings and Precautions (5.3)] and should be used with caution in patients with renal impairment. Patients with a past history of jaundice, hepatobiliary disease, or peptic ulcer should be observed closely during niacin extended-release therapy.

5.1 Mortality and Coronary Heart Disease Morbidity

Niacin extended-release tablets

have not been shown to reduce cardiovascular morbidity or mortality among patients already treated with a statin.

The Atherothrombosis Intervention in Metabolic Syndrome with Low HDL/High Triglycerides: Impact on Global Health Outcomes (AIM-HIGH) trial was a randomized placebo-controlled trial of 3,414 patients with stable, previously diagnosed cardiovascular disease. Mean baseline lipid levels were LDL-C 74 mg/dL, HDL-C 35 mg/dL, non-HDL-C 111 mg/dL and median triglyceride level of 163 to 177 mg/dL. Ninety-four percent of patients were on background statin therapy prior to entering the trial. All participants received simvastatin, 40 to 80 mg per day, plus ezetimibe 10 mg per day if needed, to maintain an LDL-C level of 40 to 80 mg/dL, and were randomized to receive niacin extended-release 1,500 to 2,000 mg/day (n=1,718) or matching placebo (IR Niacin, 100 to 150 mg, n=1,696). On-treatment lipid changes at two years for LDL-C were -12.0% for the simvastatin plus niacin extended-release group and -5.5% for the simvastatin plus placebo group. HDL-C increased by 25.0% to 42 mg/dL in the simvastatin plus niacin extended-release group and by 9.8% to 38 mg/dL in the

simvastatin plus placebo group ($P < 0.001$). Triglyceride levels decreased by 28.6% in the simvastatin plus niacin extended-release group and by 8.1% in the simvastatin plus placebo group. The primary outcome was an ITT composite of the first study occurrence of coronary heart disease death, nonfatal myocardial infarction, ischemic stroke, hospitalization for acute coronary syndrome or symptom-driven coronary or cerebral revascularization procedures. The trial was stopped after a mean follow-up period of 3 years owing to a lack of efficacy. The primary outcome occurred in 282 patients in the simvastatin plus niacin extended-release group (16.4%) and in 274 patients in the simvastatin plus placebo group (16.2%) (HR 1.02 [95% CI, 0.87 to 1.21], $P = 0.79$). In an ITT analysis, there were 42 cases of first occurrence of ischemic stroke reported, 27 (1.6%) in the simvastatin plus niacin extended-release group and 15 (0.9%) in the simvastatin plus placebo group, a non-statistically significant result (HR 1.79, [95%CI = 0.95 to 3.36], $p = 0.071$). The on-treatment ischemic stroke events were 19 for the simvastatin plus niacin extended-release group and 15 for the simvastatin plus placebo group [see Adverse Reactions (6.1)].

5.2 Skeletal Muscle

Cases of rhabdomyolysis have been associated with concomitant administration of lipid-altering doses (≥ 1 g/day) of niacin and statins. Elderly patients and patients with diabetes, renal failure, or uncontrolled hypothyroidism are particularly at risk. Monitor patients for any signs and symptoms of muscle pain, tenderness, or weakness, particularly during the initial months of therapy and during any periods of upward dosage titration. Periodic serum creatine phosphokinase (CPK) and potassium determinations should be considered in such situations, but there is no assurance that such monitoring will prevent the occurrence of severe myopathy.

5.3 Liver Dysfunction

Cases of severe hepatic toxicity, including fulminant hepatic necrosis, have occurred in patients who have substituted sustained-release (modified-release, timed-release) niacin products for immediate-release (crystalline) niacin at equivalent doses.

Niacin extended-release should be used with caution in patients who consume substantial quantities of alcohol and/or have a past history of liver disease. Active liver diseases or unexplained transaminase elevations are contraindications to the use of niacin extended-release.

Niacin preparations have been associated with abnormal liver tests. In three placebo-controlled clinical trials involving titration to final daily niacin extended-release doses ranging from 500 mg to 3,000 mg, 245 patients received niacin extended-release for a mean duration of 17 weeks. No patient with normal serum transaminase levels (AST, ALT) at baseline experienced elevations to more than 3 times the upper limit of normal (ULN) during treatment with niacin extended-release. In these studies, fewer than 1% (2/245) of niacin extended-release patients discontinued due to transaminase elevations greater than 2 times the ULN.

Liver-related tests should be performed on all patients during therapy with niacin

extended-release. Serum transaminase levels, including AST and ALT (SGOT and SGPT), should be monitored before treatment begins, every 6 to 12 weeks for the first year, and periodically thereafter (e.g., at approximately 6-month intervals). Special attention should be paid to patients who develop elevated serum transaminase levels, and in these patients, measurements should be repeated promptly and then performed more frequently. If the transaminase levels show evidence of progression, particularly if they rise to 3 times ULN and are persistent, or if they are associated with symptoms of nausea, fever, and/or malaise, the drug should be discontinued.

5.4 Laboratory Abnormalities

Increase in Blood Glucose: Niacin treatment can increase fasting blood glucose. Frequent monitoring of blood glucose should be performed to ascertain that the drug is producing no adverse effects.

Diabetic patients may experience a dose-related increase in glucose intolerance. Diabetic or potentially diabetic patients should be observed closely during treatment with niacin extended-release, particularly during the first few months of use or dose adjustment; adjustment of diet and/or hypoglycemic therapy may be necessary.

Reduction in platelet count: Niacin extended-release has been associated with small but statistically significant dose-related reductions in platelet count (mean of -11% with 2,000 mg). Caution should be observed when niacin extended-release is administered concomitantly with anticoagulants; platelet counts should be monitored closely in such patients.

Increase in Prothrombin Time (PT): Niacin extended-release has been associated with small but statistically significant increases in prothrombin time (mean of approximately +4%); accordingly, patients undergoing surgery should be carefully evaluated. Caution should be observed when niacin extended-release is administered concomitantly with anticoagulants; prothrombin time should be monitored closely in such patients.

Increase in Uric Acid: Elevated uric acid levels have occurred with niacin therapy, therefore use with caution in patients predisposed to gout.

Decrease in Phosphorus: In placebo-controlled trials, niacin extended-release has been associated with small but statistically significant, dose-related reductions in phosphorus levels (mean of -13% with 2,000 mg). Although these reductions were transient, phosphorus levels should be monitored periodically in patients at risk for hypophosphatemia.

6 ADVERSE REACTIONS

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

- Mortality and Coronary Heart Disease Morbidity [see *Warnings and Precautions (5.1)*]
- Skeletal Muscle (rhabdomyolysis) [see *Warnings and Precautions (5.2)*]

- Liver Dysfunction [see Warnings and Precautions (5.3)]
- Laboratory Abnormalities [see Warnings and Precautions (5.4)]

6.1 Clinical Studies Experience

Because clinical studies are conducted under widely varying conditions, adverse reaction rates observed in the clinical studies of a drug cannot be directly compared to rates in the clinical studies of another drug and may not reflect the rates observed in practice.

In the placebo-controlled clinical trials database of 402 patients (age range 21 to 75 years, 33% women, 89% Caucasians, 7% Blacks, 3% Hispanics, 1% Asians) with a median treatment duration of 16 weeks, 16% of patients on niacin extended-release and 4% of patients on placebo discontinued due to adverse reactions. The most common adverse reactions in the group of patients treated with niacin extended-release that led to treatment discontinuation and occurred at a rate greater than placebo were flushing (6% vs. 0%), rash (2% vs. 0%), diarrhea (2% vs. 0%), nausea (1% vs. 0%), and vomiting (1% vs. 0%). The most commonly reported adverse reactions (incidence >5% and greater than placebo) in the niacin extended-release controlled clinical trial database of 402 patients were flushing, diarrhea, nausea, vomiting, increased cough and pruritus.

In the placebo-controlled clinical trials, flushing episodes (i.e., warmth, redness, itching and/or tingling) were the most common treatment-emergent adverse reactions (reported by as many as 88% of patients) for niacin extended-release. Spontaneous reports suggest that flushing may also be accompanied by symptoms of dizziness, tachycardia, palpitations, shortness of breath, sweating, burning sensation/skin burning sensation, chills, and/or edema, which in rare cases may lead to syncope. In pivotal studies, 6% (14/245) of niacin extended-release patients discontinued due to flushing. In comparisons of immediate-release (IR) niacin and niacin extended-release tablets, although the proportion of patients who flushed was similar, fewer flushing episodes were reported by patients who received niacin extended-release tablets. Following 4 weeks of maintenance therapy at daily doses of 1,500 mg, the incidence of flushing over the 4-week period averaged 8.6 events per patient for IR niacin versus 1.9 following niacin extended-release tablets.

Other adverse reactions occurring in $\geq 5\%$ of patients treated with niacin extended-release tablets and at an incidence greater than placebo are shown in Table 2 below.

Table 2. Treatment-Emergent Adverse Reactions by Dose Level in $\geq 5\%$ of Patients and at an Incidence Greater than Placebo; Regardless of Causality Assessment in Placebo-Controlled Clinical Trials

	Placebo-Controlled Studies Niacin Extended-Release Tablets Treatment@		
			Recommended Daily

	Placebo	500 mg [‡]	Maintenance Doses [†]		
			1,000 mg	1,500 mg	2,000 mg
	(n = 157)	(n = 87)	(n = 110)	(n = 136)	(n = 95)
	%	%	%	%	%
Gastrointestinal Disorders					
Diarrhea	13	7	10	10	14
Nausea	7	5	6	4	11
Vomiting	4	0	2	4	9
Respiratory					
Cough, Increased	6	3	2	< 2	8
Skin and Subcutaneous Tissue Disorders					
Pruritus	2	8	0	3	0
Rash	0	5	5	5	0
Vascular Disorders					
Flushing ^{&}	19	68	69	63	55

Note: Percentages are calculated from the total number of patients in each column.

† Adverse reactions are reported at the initial dose where they occur.

@ Pooled results from placebo-controlled studies; for niacin extended-release tablets, n = 245 and median treatment duration = 16 weeks. Number of niacin extended-release tablets patients (n) are not additive across doses.

‡ The 500 mg/day dose is outside the recommended daily maintenance dosing range [see Dosage and Administration (2.2)].

& 10 patients discontinued before receiving 500 mg, therefore they were not included.

In general, the incidence of adverse events was higher in women compared to men.

Atherothrombosis Intervention in Metabolic Syndrome with Low HDL/High Triglycerides: Impact on Global Health Outcomes (AIM-HIGH)

In AIM-HIGH involving 3,414 patients (mean age of 64 years, 15% women, 92% Caucasians, 34% with diabetes mellitus) with stable, previously diagnosed cardiovascular disease, all patients received simvastatin, 40 to 80 mg per day, plus ezetimibe 10 mg per day if needed, to maintain an LDL-C level of 40 to 80 mg/dL, and were randomized to receive niacin extended-release 1,500 to 2,000 mg/day (n=1,718) or matching placebo (IR Niacin, 100 mg to 150 mg, n=1,696). The incidence of the adverse reactions of “blood glucose increased” (6.4% vs. 4.5%) and “diabetes mellitus” (3.6% vs. 2.2%) was significantly higher in the simvastatin plus niacin extended-release group as compared to the simvastatin plus placebo group. There were 5 cases of rhabdomyolysis reported, 4 (0.2%) in the simvastatin plus niacin extended-release group and one (<0.1%) in the simvastatin plus placebo group.

6.2 Postmarketing Experience

The following additional adverse reactions have been identified during post-approval use of niacin extended-release tablets. Because the below reactions are reported voluntarily from a population of uncertain size, it is generally not possible to reliably estimate their frequency or establish a causal relationship to drug exposure.

Cardiac disorders: tachycardia, palpitations, atrial fibrillation, other cardiac arrhythmias

Eye disorders: blurred vision, macular edema

Gastrointestinal disorders: peptic ulcers, eructation, flatulence

Hepatobiliary disorders: hepatitis, jaundice

Immune system disorders: hypersensitivity reactions (including anaphylaxis, angioedema, urticaria, flushing, dyspnea, tongue edema, larynx edema, face edema, peripheral edema, laryngismus, and vesiculobullous rash)

Metabolism and nutrition disorders: decreased glucose tolerance, gout

Musculoskeletal and connective tissue disorders: myalgia, myopathy

Nervous system disorders: dizziness, insomnia, asthenia, nervousness, paresthesia, migraine

Respiratory, thoracic and mediastinal disorders: dyspnea

Skin and subcutaneous tissue disorders: maculopapular rash, dry skin, sweating, burning sensation/skin burning sensation, skin discoloration, acanthosis nigricans

Vascular disorders: syncope, hypotension, postural hypotension

Clinical Laboratory Abnormalities

Chemistry: Elevations in serum transaminases, LDH, fasting glucose, uric acid, total bilirubin, amylase and creatine kinase, and reduction in phosphorus.

Hematology: Slight reductions in platelet counts and prolongation in prothrombin time.

7 DRUG INTERACTIONS

7.1 Statins

Caution should be used when prescribing niacin (≥ 1 gm/day) with statins as these drugs can increase risk of myopathy/rhabdomyolysis [see *Warnings and Precautions (5)* and *Clinical Pharmacology (12.3)*].

7.2 Bile Acid Sequestrants

An *in vitro* study results suggest that the bile acid-binding resins have high niacin binding capacity. Therefore, 4 to 6 hours, or as great an interval as possible, should elapse between the ingestion of bile acid-binding resins and the administration of niacin extended-release [see *Clinical Pharmacology (12.3)*].

7.3 Aspirin

Concomitant aspirin may decrease the metabolic clearance of nicotinic acid. The clinical relevance of this finding is unclear.

7.4 Antihypertensive Therapy

Niacin may potentiate the effects of ganglionic blocking agents and vasoactive drugs resulting in postural hypotension.

7.5 Other

Vitamins or other nutritional supplements containing large doses of niacin or related compounds such as nicotinamide may potentiate the adverse effects of niacin extended-release.

7.6 Laboratory Test Interactions

Niacin may produce false elevations in some fluorometric determinations of plasma or urinary catecholamines. Niacin may also give false-positive reactions with cupric sulfate solution (Benedict's reagent) in urine glucose tests.

8 USE IN SPECIFIC POPULATIONS

8.1 Pregnancy

Risk Summary

Discontinue niacin extended-release tablets when pregnancy is recognized in patients receiving the drug for the treatment of hyperlipidemia. Assess the individual risks and benefits of continuing niacin extended-release tablets during pregnancy in patients receiving the drug for the treatment of hypertriglyceridemia. Advise patients to inform their healthcare provider of a known or suspected pregnancy.

The potential for embryofetal toxicity with the doses of niacin in niacin extended-release tablets is unknown. The available data on niacin use in pregnant women are insufficient to evaluate for a drug-associated risk of major birth defects, miscarriage, or adverse maternal or fetal outcomes. Animal reproduction studies have not been conducted with niacin or with niacin extended-release tablets. Treatment of hypercholesterolemia is not generally necessary during pregnancy. Atherosclerosis is a chronic process and the discontinuation of lipid-lowering drugs during pregnancy should have little impact on the outcome of long-term therapy of primary hypercholesterolemia for most patients.

The estimated background risk of major birth defects and miscarriage for the indicated population is unknown. 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.

8.2 Lactation

Risk Summary

Niacin is present in human milk and the amount of niacin increases with maternal supplementation. There is no information on the effects of the doses of niacin in niacin

extended-release tablets on the breastfed infant or the effects on milk production. Because of the potential for serious adverse reactions in breastfeeding infants, including hepatotoxicity, advise patients not to breastfeed during treatment with niacin.

8.4 Pediatric Use

Safety and effectiveness of niacin therapy in pediatric patients (≤ 16 years) have not been established.

8.5 Geriatric Use

Of 979 patients in clinical studies of niacin extended-release, 21% of the patients were age 65 and over. No overall differences in safety and effectiveness were observed between these patients and younger patients, and other reported clinical experience has not identified differences in responses between the elderly and younger patients, but greater sensitivity of some older individuals cannot be ruled out.

8.6 Renal Impairment

No studies have been performed in this population. Niacin extended-release should be used with caution in patients with renal impairment [*see Warnings and Precautions (5)*].

8.7 Hepatic Impairment

No studies have been performed in this population. Niacin extended-release should be used with caution in patients with a past history of liver disease and/or who consume substantial quantities of alcohol. Active liver disease, unexplained transaminase elevations and significant or unexplained hepatic dysfunction are contraindications to the use of niacin extended-release [*see Contraindications (4) and Warnings and Precautions (5.3)*].

8.8 Gender

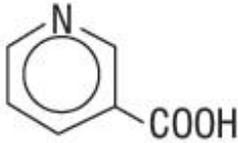
Data from the clinical trials suggest that women have a greater hypolipidemic response than men at equivalent doses of niacin extended-release.

10 OVERDOSAGE

Supportive measures should be undertaken in the event of an overdose.

11 DESCRIPTION

Niacin extended-release tablet, USP contains niacin, which at therapeutic doses is an antihyperlipidemic agent. Niacin (nicotinic acid, or 3-pyridinecarboxylic acid) is a white, crystalline powder, sparingly soluble in water, with the following structural formula:



$C_6H_5NO_2$

M.W. = 123.11

Niacin extended-release tablets, USP are unscored, pink, film-coated tablets for oral administration and are available in three tablet strengths containing 500 mg, 750 mg, and 1,000 mg niacin USP. Niacin extended-release tablets, USP also contain the inactive ingredients hypromellose, hydrogenated vegetable oil Type I, glyceryl behenate, colloidal silicon dioxide, magnesium stearate, polyvinyl alcohol-partially hydrolyzed, titanium dioxide, polyethylene glycol, talc, iron oxide red and iron oxide yellow.

Meet USP Dissolution Test 3

12 CLINICAL PHARMACOLOGY

12.1 Mechanism of Action

The mechanism by which niacin alters lipid profiles has not been well defined. It may involve several actions including partial inhibition of release of free fatty acids from adipose tissue, and increased lipoprotein lipase activity, which may increase the rate of chylomicron triglyceride removal from plasma. Niacin decreases the rate of hepatic synthesis of VLDL and LDL, and does not appear to affect fecal excretion of fats, sterols, or bile acids.

12.3 Pharmacokinetics

Absorption

Due to extensive and saturable first-pass metabolism, niacin concentrations in the general circulation are dose dependent and highly variable. Time to reach the maximum niacin plasma concentrations was about 5 hours following niacin extended-release tablets. To reduce the risk of gastrointestinal (GI) upset, administration of niacin extended-release tablets with a low-fat meal or snack is recommended.

Single-dose bioavailability studies have demonstrated that the 500 mg and 1,000 mg tablet strengths are dosage form equivalent but the 500 mg and 750 mg tablet strengths are not dosage form equivalent.

Metabolism

The pharmacokinetic profile of niacin is complicated due to extensive first-pass metabolism that is dose-rate specific and, at the doses used to treat dyslipidemia, saturable. In humans, one pathway is through a simple conjugation step with glycine to form nicotinuric acid (NUA). NUA is then excreted in the urine, although there may be a small amount of reversible metabolism back to niacin. The other pathway results in the

formation of nicotinamide adenine dinucleotide (NAD). It is unclear whether nicotinamide is formed as a precursor to, or following the synthesis of, NAD. Nicotinamide is further metabolized to at least N-methylnicotinamide (MNA) and nicotinamide-N-oxide (NNO). MNA is further metabolized to two other compounds, N-methyl-2-pyridone-5-carboxamide (2PY) and N-methyl-4-pyridone-5-carboxamide (4PY). The formation of 2PY appears to predominate over 4PY in humans. At the doses used to treat hyperlipidemia, these metabolic pathways are saturable, which explains the nonlinear relationship between niacin dose and plasma concentrations following multiple-dose niacin extended-release tablets administration.

Nicotinamide does not have hypolipidemic activity; the activity of the other metabolites is unknown.

Elimination

Following single and multiple doses, approximately 60 to 76% of the niacin dose administered as niacin extended-release tablets was recovered in urine as niacin and metabolites; up to 12% was recovered as unchanged niacin after multiple dosing. The ratio of metabolites recovered in the urine was dependent on the dose administered.

Pediatric Use

No pharmacokinetic studies have been performed in this population (≤ 16 years) [see *Use in Specific Populations (8.4)*].

Geriatric Use

No pharmacokinetic studies have been performed in this population (> 65 years) [see *Use in Specific Populations (8.5)*].

Renal Impairment

No pharmacokinetic studies have been performed in this population. Niacin extended-release tablets should be used with caution in patients with renal disease [see *Warnings and Precautions (5)*].

Hepatic Impairment

No pharmacokinetic studies have been performed in this population. Active liver disease, unexplained transaminase elevations and significant or unexplained hepatic dysfunction are contraindications to the use of niacin extended-release tablets [see *Contraindications (4) and Warnings and Precautions (5.3)*].

Gender

Steady-state plasma concentrations of niacin and metabolites after administration of niacin extended-release tablets are generally higher in women than in men, with the magnitude of the difference varying with dose and metabolite. This gender differences observed in plasma levels of niacin and its metabolites may be due to gender-specific differences in metabolic rate or volume of distribution. Recovery of niacin and

metabolites in urine, however, is generally similar for men and women, indicating that absorption is similar for both genders [see *Gender (8.8)*].

Drug interactions

Fluvastatin

Niacin did not affect fluvastatin pharmacokinetics [see *Drug Interactions (7.1)*].

Lovastatin

When niacin extended-release 2,000 mg and lovastatin 40 mg were co-administered, niacin extended-release increased lovastatin C_{max} and AUC by 2% and 14%, respectively, and decreased lovastatin acid C_{max} and AUC by 22% and 2%, respectively. Lovastatin reduced niacin extended-release bioavailability by 2 to 3% [see *Drug Interactions (7.1)*].

Simvastatin

When niacin extended-release 2,000 mg and simvastatin 40 mg were co-administered, niacin extended-release increased simvastatin C_{max} and AUC by 1% and 9%, respectively, and simvastatin acid C_{max} and AUC by 2% and 18%, respectively. Simvastatin reduced niacin extended-release bioavailability by 2% [see *Drug Interactions (7.1)*].

Bile Acid Sequestrants

An *in vitro* study was carried out investigating the niacin-binding capacity of colestipol and cholestyramine. About 98% of available niacin was bound to colestipol, with 10 to 30% binding to cholestyramine [see *Drug Interactions (7.2)*].

13 NONCLINICAL TOXICOLOGY

13.1 Carcinogenesis and Mutagenesis and Impairment of Fertility

Niacin administered to mice for a lifetime as a 1% solution in drinking water was not carcinogenic. The mice in this study received approximately 6 to 8 times a human dose of 3,000 mg/day as determined on a mg/m^2 basis. Niacin was negative for mutagenicity in the Ames test. No studies on impairment of fertility have been performed. No studies have been conducted with niacin extended-release regarding carcinogenesis, mutagenesis, or impairment of fertility.

14 CLINICAL STUDIES

14.1 Niacin Clinical Studies

Niacin's ability to reduce mortality and the risk of definite, nonfatal myocardial infarction (MI) has been assessed in long-term studies. The Coronary Drug Project, completed in 1975, was designed to assess the safety and efficacy of niacin and other lipid-altering drugs in men 30 to 64 years old with a history of MI. Over an observation period of 5

years, niacin treatment was associated with a statistically significant reduction in nonfatal, recurrent MI. The incidence of definite, nonfatal MI was 8.9% for the 1,119 patients randomized to nicotinic acid versus 12.2% for the 2,789 patients who received placebo ($p < 0.004$). Total mortality was similar in the two groups at 5 years (24.4% with nicotinic acid versus 25.4% with placebo; $p = \text{N.S.}$). At the time of a 15-year follow-up, there were 11% (69) fewer deaths in the niacin group compared to the placebo cohort (52% versus 58.2%; $p = 0.0004$).

However, mortality at 15 years was not an original endpoint of the Coronary Drug Project. In addition, patients had not received niacin for approximately 9 years, and confounding variables such as concomitant medication use and medical or surgical treatments were not controlled.

The Cholesterol-Lowering Atherosclerosis Study (CLAS) was a randomized, placebo-controlled, angiographic trial testing combined colestipol and niacin therapy in 162 non-smoking males with previous coronary bypass surgery.

The primary, per-subject cardiac endpoint was global coronary artery change score. After 2 years, 61% of patients in the placebo cohort showed disease progression by global change score ($n = 82$), compared with only 38.8% of drug-treated subjects ($n = 80$), when both native arteries and grafts were considered ($p < 0.005$); disease regression also occurred more frequently in the drug-treated group (16.2% versus 2.4%; $p = 0.002$). In a follow-up to this trial in a subgroup of 103 patients treated for 4 years, again, significantly fewer patients in the drug-treated group demonstrated progression than in the placebo cohort (48% versus 85%, respectively; $p < 0.0001$).

The Familial Atherosclerosis Treatment Study (FATS) in 146 men ages 62 and younger with Apo B levels ≥ 125 mg/dL, established coronary artery disease, and family histories of vascular disease, assessed change in severity of disease in the proximal coronary arteries by quantitative arteriography. Patients were given dietary counseling and randomized to treatment with either conventional therapy with double placebo (or placebo plus colestipol if the LDL-C was elevated); lovastatin plus colestipol; or niacin plus colestipol. In the conventional therapy group, 46% of patients had disease progression (and no regression) in at least one of nine proximal coronary segments; regression was the only change in 11%. In contrast, progression (as the only change) was seen in only 25% in the niacin plus colestipol group, while regression was observed in 39%. Though not an original endpoint of the trial, clinical events (death, MI, or revascularization for worsening angina) occurred in 10 of 52 patients who received conventional therapy, compared with 2 of 48 who received niacin plus colestipol.

14.2 Niacin Extended-Release Tablets Clinical Studies

Placebo-Controlled Clinical Studies in Patients with Primary Hyperlipidemia and Mixed Dyslipidemia: In two randomized, double-blind, parallel, multi-center, placebo-controlled trials, niacin extended-release tablets dosed at 1,000 mg, 1,500 mg or 2,000 mg daily at bedtime with a low-fat snack for 16 weeks (including 4 weeks of dose escalation) favorably altered lipid profiles compared to placebo (Table 3). Women appeared to have

a greater response than men at each niacin extended-release tablets dose level (see Gender Effect, below).

Table 3. Lipid Response to Niacin Extended-Release Tablets Therapy

Treatment	n	Mean Percent Change from Baseline to Week 16*				
		TC	LDL-C	HDL-C	TG	Apo B
Niacin extended-release tablets 1,000 mg at bedtime	41	-3	-5	+18	-21	-6
Niacin extended-release tablets 2,000 mg at bedtime	41	-10	-14	+22	-28	-16
Placebo	40	0	-1	+4	0	+1
Niacin extended-release tablets 1,500 mg at bedtime	76	-8	-12	+20	-13	-12
Placebo	73	+2	+1	+2	+12	+1

n = number of patients at baseline;

* Mean percent change from baseline for all niacin extended-release tablets doses was significantly different ($p < 0.05$) from placebo.

In a double-blind, multi-center, forced dose-escalation study, monthly 500 mg increases in niacin extended-release tablets dose resulted in incremental reductions of approximately 5% in LDL-C and Apo B levels in the daily dose range of 500 mg through 2,000 mg (Table 4). Women again tended to have a greater response to niacin extended-release tablets than men (see Gender Effect, below).

Table 4. Lipid Response in Dose-Escalation Study

Treatment	n	Mean Percent Change from Baseline*				
		TC	LDL-C	HDL-C	TG	Apo B
Placebo [‡]	44	-2	-1	+5	-6	-2
Niacin extended-release tablets	87					
500 mg at bedtime		-2	-3	+10	-5	-2
1,000 mg at bedtime		-5	-9	+15	-11	-7
1,500 mg at bedtime		-11	-14	+22	-28	-15
2,000 mg at bedtime		-12	-17	+26	-35	-16

n = number of patients enrolled;

‡ Placebo data shown are after 24 weeks of placebo treatment.

* For all niacin extended-release tablets doses except 500 mg, mean percent change from baseline was significantly different ($p < 0.05$) from placebo for all lipid parameters shown.

Pooled results for major lipids from these three placebo-controlled studies are shown below (Table 5).

Table 5. Selected Lipid Response to Niacin Extended-Release Tablets in Placebo-Controlled Clinical Studies*				
		Mean Baseline and Median Percent Change from Baseline (25th, 75th Percentiles)		
Niacin Extended-Release Tablets Dose	n	LDL-C	HDL-C	TG
1,000 mg at bedtime	104			
Baseline (mg/dL)		218	45	172
Percent Change		-7 (-15, 0)	+14 (+7, +23)	-16 (-34, +3)
1,500 mg at bedtime	120			
Baseline (mg/dL)		212	46	171
Percent Change		-13 (-21, -4)	+19 (+9, +31)	-25 (-45, -2)
2,000 mg at bedtime	85			
Baseline (mg/dL)		220	44	160
Percent Change		-16 (-26, -7)	+22 (+15, +34)	-38 (-52, -14)

* Represents pooled analyses of results; minimum duration on therapy at each dose was 4 weeks.

Gender Effect: Combined data from the three placebo-controlled niacin extended-release tablets studies in patients with primary hyperlipidemia and mixed dyslipidemia suggest that, at each niacin extended-release tablets dose level studied, changes in lipid concentrations are greater for women than for men (Table 6).

Table 6. Effect of Gender on Niacin Extended-Release Tablets Dose Response									
Niacin Extended-Release Tablets Dose	n (M/F)	Mean Percent Change from Baseline							
		LDL-C		HDL-C		TG		Apo B	
		M	F	M	F	M	F	M	F
500 mg at bedtime	50/37	-2	-5	+11	+8	-3	-9	-1	-5
1,000 mg at bedtime	76/52	-6*	-11*	+14	+20	-10	-20	-5*	-10*
1,500 mg at bedtime	104/59	-12	-16	+19	+24	-17	-28	-13	-15
2,000 mg at bedtime	75/53	-15	-18	+23	+26	-30	-36	-16	-16

n = number of male/female patients enrolled.

* Percent change significantly different between genders (p < 0.05).

Other Patient Populations: In a double-blind, multi-center, 19-week study the lipid-altering effects of niacin extended-release tablets (forced titration to 2,000 mg at bedtime) were compared to baseline in patients whose primary lipid abnormality was a low level of HDL-C (HDL-C ≤40 mg/dL, TG ≤400 mg/dL, and LDL-C ≤160, or <130 mg/dL in the presence of CHD). Results are shown below (Table 7).

		Mean Baseline and Mean Percent Change from Baseline*				
	n	TC	LDL-C	HDL-C	TG	Apo B[†]
Baseline (mg/dL)	88	190	120	31	194	106
Week 19 (% Change)	71	-3	0	+26	-30	-9

n = number of patients

* Mean percent change from baseline was significantly different (p < 0.05) for all lipid parameters shown except LDL-C.

† n = 72 at baseline and 69 at week 19.

At niacin extended-release tablets 2,000 mg/day, median changes from baseline (25th, 75th percentiles) for LDL-C, HDL-C, and TG were -3% (-14, +12%), +27% (+13, +38%), and -33% (-50, -19%), respectively.

16 HOW SUPPLIED/STORAGE AND HANDLING

Niacin extended-release tablets, USP are supplied as unscored, pink, film-coated, capsule-shaped tablets containing 500 mg, 750 mg or 1,000 mg of niacin USP in an extended-release formulation. Tablets are debossed 'S' on one side and the tablet strength (500, 750 or 1,000) on the other side.

Tablets are supplied as follows:

500 mg tablets:

Bottles of 30 with child resistant cap.....NDC 47335-539-83

Bottles of 90 with child resistant cap.....NDC 47335-539-81

Bottles of 100 with child resistant cap.....NDC 47335-539-88

Bottles of 100.....NDC 47335-539-08

Bottles of 1,000.....NDC 47335-539-18

750 mg tablets:

Bottles of 30 with child resistant cap.....NDC 47335-614-83

Bottles of 90 with child resistant cap.....NDC 47335-614-81
Bottles of 100 with child resistant cap.....NDC 47335-614-88
Bottles of 1,000.....NDC 47335-614-18

1,000 mg tablets

Bottles of 30 with child resistant cap.....NDC 47335-613-83
Bottles of 90 with child resistant cap.....NDC 47335-613-81
Bottles of 100 with child resistant cap.....NDC 47335-613-88
Bottles of 100.....NDC 47335-613-08
Bottles of 1,000.....NDC 47335-613-18

Storage: Store at 20° to 25°C (68° to 77°F); excursions permitted between 15° and 30°C (59° and 86°F) [see USP Controlled Room Temperature].

Dispense in a tight container with child-resistant closure.

17 PATIENT COUNSELING INFORMATION

17.1 Patient Counseling

Patients should be advised to adhere to their National Cholesterol Education Program (NCEP) recommended diet, a regular exercise program, and periodic testing of a fasting lipid panel.

Patients should be advised to inform other healthcare professionals prescribing a new medication that they are taking niacin extended-release tablets.

The patient should be informed of the following:

Dosing Time

Niacin extended-release tablets should be taken at bedtime, after a low-fat snack. Administration on an empty stomach is not recommended.

Tablet Integrity

Niacin extended-release tablets should not be broken, crushed or chewed, but should be swallowed whole.

Dosing Interruption

If dosing is interrupted for any length of time, their physician should be contacted prior to restarting therapy; re-titration is recommended.

Muscle Pain

Notify their physician of any unexplained muscle pain, tenderness, or weakness

promptly. They should discuss all medication, both prescription and over the counter, with their physician.

Flushing

Flushing (warmth, redness, itching and/or tingling of the skin) is a common side effect of niacin therapy that may subside after several weeks of consistent niacin extended-release tablets use. Flushing may vary in severity and is more likely to occur with initiation of therapy, or during dose increases. By dosing at bedtime, flushing will most likely occur during sleep. However, if awakened by flushing at night, the patient should get up slowly, especially if feeling dizzy, feeling faint, or taking blood pressure medications. Advise patients of the symptoms of flushing and how they differ from the symptoms of a myocardial infarction.

Use of Aspirin Medication

Taking aspirin (up to the recommended dose of 325 mg) approximately 30 minutes before dosing can minimize flushing.

Diet

Avoid ingestion of alcohol, hot beverages and spicy foods around the time of taking niacin extended-release tablets to minimize flushing.

Supplements

Notify their physician if they are taking vitamins or other nutritional supplements containing niacin or nicotinamide.

Dizziness

Notify their physician if symptoms of dizziness occur.

Diabetics

If diabetic, to notify their physician of changes in blood glucose.

Pregnancy

Advise patients to inform their healthcare provider of a known or suspected pregnancy to discuss if niacin extended-release tablets should be discontinued [*see Use in Specific Populations (8.1)*].

Lactation

Advise patients not to breastfeed during treatment with niacin extended-release tablets.

Dispense with Patient Information available at:

<https://www.sunpharma.com/usa/products>

PATIENT INFORMATION

Niacin (nahy-uh-sin)

Extended-Release Tablets, USP

for oral use

Read this information carefully before you start taking niacin extended-release tablets and each time you get a refill. There may be new information. This

information does not take the place of talking with your doctor about your medical condition or your treatment.

What are niacin extended-release tablets?

Niacin extended-release tablets are prescription medicines used with diet and exercise to increase the good cholesterol (HDL) and lower the bad cholesterol (LDL) and fats (triglycerides) in your blood.

- Niacin extended-release tablets are also used to lower the risk of heart attack in people who have had a heart attack and have high cholesterol.
- In people with coronary artery disease and high cholesterol, niacin extended-release tablets, when used with a bile acid-binding resin (another cholesterol medicine) can slow down or lessen the build-up of plaque (fatty deposits) in your arteries.
- In people with heart problems and well-controlled cholesterol, taking niacin extended-release tablets with another cholesterol-lowering medicine (simvastatin) does not reduce heart attacks or strokes more than taking simvastatin alone.

It is not known if niacin extended-release tablets are safe and effective in children 16 years of age and under.

Who should not take niacin extended-release tablets?

Do not take niacin extended-release tablets if you have:

- liver problems.
- a stomach ulcer.
- bleeding problems.
- an allergy to niacin or any of the ingredients in niacin extended-release tablets. See the end of this Patient Information leaflet for a complete list of ingredients in niacin extended-release tablets.

What should I tell my doctor before taking niacin extended-release tablets?

Before you take niacin extended-release tablets, tell your doctor about all your medical problems including, if you:

- have diabetes. Tell your doctor if your blood sugar levels change after you take niacin extended-release tablets.
- have gout.

- have kidney problems.
- are pregnant or plan to become pregnant. It is not known if niacin extended-release tablets will harm your unborn baby. Talk to your doctor if you are pregnant or plan to become pregnant while taking niacin extended-release tablets.
- are breastfeeding or plan to breastfeed. Niacin can pass into your breast milk. You and your doctor should decide if you will take niacin extended-release tablets or breastfeed. You should not do both. Talk to your doctor about the best way to feed your baby if you take niacin extended-release tablets.

Tell your doctor about all the medicines you take, including prescription and over-the-counter medicines, vitamins, herbal supplements or other nutritional supplements containing niacin or nicotinamide. Niacin extended-release tablets and other medicines may affect each other causing side effects. Niacin extended-release tablets may affect the way other medicines work, and other medicines may affect how niacin extended-release tablets work.

Especially tell your doctor if you take:

- other medicines to lower cholesterol or triglycerides
- aspirin
- blood pressure medicines
- blood thinner medicines
- large amounts of alcohol

Know the medicines you take. Keep a list of them to show your doctor and pharmacist when you get a new medicine.

How should I take niacin extended-release tablets?

- Take niacin extended-release tablets exactly as your doctor tells you to take it.
- Take niacin extended-release tablets whole. Do not break, crush or chew niacin extended-release tablets before swallowing.
- Take niacin extended-release tablets 1 time a day at bedtime after a low-fat snack. Niacin extended-release tablets should not be taken on an empty stomach.
- All forms of niacin are not the same as niacin extended-release tablets. Do not switch between forms of niacin without first talking to your doctor as severe

liver damage can occur.

- Do not change your dose or stop taking niacin extended-release tablets unless your doctor tells you to.
- If you need to stop taking niacin extended-release tablets, call your doctor before you start taking niacin extended-release tablets again. Your doctor may need to lower your dose of niacin extended-release tablets.
- If you take too many niacin extended-release tablets, call your doctor right away.
- Medicines used to lower your cholesterol called bile acid resins, such as colestipol and cholestyramine, should not be taken at the same time of day as niacin extended-release tablets. You should take niacin extended-release tablets and the bile acid resin medicine at least 4 to 6 hours apart.
- Your doctor may do blood tests before you start taking niacin extended-release tablets and during your treatment. You should see your doctor regularly to check your cholesterol and triglyceride levels and to check for side effects.

What are the possible side effects of niacin extended-release tablets?

Niacin extended-release tablets may cause serious side effects, including:

- **unexplained muscle pain, tenderness or weakness**
- **severe liver problems. Signs of liver problems include:**
 - increased tiredness
 - dark colored urine (tea-colored)
 - loss of appetite
 - light colored stools
 - nausea
 - right upper stomach (abdomen) pain
 - yellowing of your skin or whites of your eye
 - itchy skin
- **high blood sugar level (glucose)**

Call your doctor right away if you have any of the side effects listed above.

The most common side effects of niacin extended-release tablets include:

- flushing
- diarrhea
- nausea
- vomiting
- increased cough
- rash
- itching

Flushing is the most common side effect of niacin extended-release tablets. Flushing happens when tiny blood vessels near the surface of the skin (especially on the face, neck, chest and/or back) open wider. Symptoms of flushing may include any or all of the following:

- warmth
- redness
- itching
- tingling of the skin

Flushing does not always happen. If it does, it is usually within 2 to 4 hours after taking a dose of niacin extended-release tablets. Flushing may last for a few hours. Flushing is more likely to happen when you first start taking niacin extended-release tablets or when your dose of niacin extended-release tablets is increased. Flushing may get better after several weeks.

If you wake up at night because of flushing, get up slowly, especially if you:

- feel dizzy or faint
- take blood pressure medicines

To lower your chance of flushing:

-

Ask your doctor if you can take aspirin to help lower the flushing side effect from niacin extended-release tablets. You can take aspirin (up to the recommended dose of 325 mg) about 30 minutes before you take niacin extended-release tablets to help lower the flushing side effect.

- Do not drink hot beverages (including coffee), alcohol, or eat spicy foods around the time you take niacin extended-release tablets.
- Take niacin extended-release tablets with a low-fat snack to lessen upset stomach.

People with high cholesterol and heart disease are at risk for a heart attack. Symptoms of a heart attack may be different from a flushing reaction from niacin extended-release tablets. **The following may be symptoms of a heart attack due to heart disease and not a flushing reaction:**

- chest pain
- pain in other areas of your upper body such as one or both arms, back, neck, jaw or stomach
- shortness of breath
- sweating
- nausea
- lightheadedness

The chest pain you have with a heart attack may feel like uncomfortable pressure, squeezing, fullness or pain that lasts more than a few minutes, or that goes away and comes back. Heart attacks may be sudden and intense, but often start slowly, with mild pain or discomfort.

Call your doctor right away if you have any symptoms of a heart attack.

Tell your doctor if you have any side effect that bothers you or does not go away.

These are not all the possible side effects of niacin extended-release tablets. For more information, ask your doctor or pharmacist.

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 niacin extended-release tablets?

- Store at 20° to 25°C (68° to 77°F); excursions permitted between 15° and 30°C (59° and 86°F).

Keep niacin extended-release tablets and all medicines out of the reach of children.

General information about the safe and effective use of niacin extended-release tablets

Medicines are sometimes prescribed for purposes other than those listed in a Patient Information leaflet. Do not use niacin extended-release tablets for a condition for which it was not prescribed. Do not give niacin extended-release tablets to other people, even if they have the same symptoms that you have. It may harm them.

This Patient Information leaflet summarizes the most important information about niacin extended-release tablets. If you would like more information, talk with your doctor. You can ask your pharmacist or doctor for information about niacin extended-release tablets that is written for health professionals.

What are the ingredients in niacin extended-release tablets?

Active ingredient:niacin

Inactive Ingredients:

hypromellose, hydrogenated vegetable oil Type I, glyceryl behenate, colloidal silicon dioxide, magnesium stearate, polyvinyl alcohol-partially hydrolyzed, titanium dioxide, polyethylene glycol, talc, iron oxide red and iron oxide yellow.

Dispense with Patient Information available at:

<https://www.sunpharma.com/usa/products>

Distributed by:

Sun Pharmaceutical Industries, Inc.

Cranbury, NJ 08512

Manufactured by:

Sun Pharmaceutical Industries Ltd.

Survey No. 1012, Dadra-396 193,
U.T. of D & NH and Daman & Diu, India..

For more information, call 1-800-818-4555.

This Patient Information has been approved by the U.S. Food and Drug Administration.

5246306

Revised: 10/2023

PRINCIPAL DISPLAY PANEL-500 mg

NDC 47335-539-81

Niacin Extended-Release Tablets, USP

500 mg

PHARMACIST: Dispense with Patient Information to each patient.

Rx only

90 Tablets
SUN PHARMA

Each film-coated tablet contains 500 mg of niacin USP.

USUAL DOSAGE: See attached package insert for complete directions for use.

Do not accept if seal over bottle opening is broken or missing.

Store at 20° to 25°C (68° to 77°F); excursions permitted between 15° and 30°C (59° and 86°F) [see USP Controlled Room Temperature].

Dispense in tight container with child-resistant closure.

Patient Information available at <https://www.sunpharma.com/usa/products>

NDC 47335-539-81

Niacin Extended-Release Tablets, USP

500 mg

PHARMACIST: Dispense with Patient Information to each patient.

Rx only
90 Tablets



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Manufactured by:
Sun Pharmaceutical Industries Limited
Survey No. 1012, Dadra-396 193,
U.T. of D & NH and Daman & Diu, India.

DNH/DRUGS/NH/138 5 2 3 7 3 2 8



GTIN XXXXXXXXXXXXX
SN XXXXXXXXX
LOT AAA###A
EXP YYYY-MM

PRINCIPAL DISPLAY PANEL-750 mg

NDC 47335-614-81
Niacin Extended-Release Tablets, USP
750 mg
PHARMACIST: Dispense with Patient Information to each patient.
Rx only
90 Tablets
SUN PHARMA

Each film-coated tablet contains 750 mg of niacin USP.

USUAL DOSAGE: See attached package insert for complete directions for use.

Do not accept if seal over bottle opening is broken or missing.

Store at 20° to 25°C (68° to 77°F); excursions permitted between 15° and 30°C (59° and 86°F) [see USP Controlled Room Temperature].

Dispense in tight container with child-resistant closure.

Patient Information available at <https://www.sunpharma.com/usa/products>

NDC 47335-614-81

Niacin Extended-Release Tablets, USP

750 mg

PHARMACIST: Dispense with Patient Information to each patient.

Rx only
90 Tablets



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Cranbury, NJ 08512

Manufactured by:
Sun Pharmaceutical Industries Limited
Survey No. 1012, Dadra-396 193,
U.T. of D & NH and Daman & Diu, India.

DNH/DRUGS/NH/138 5 2 4 6 3 0 9



GTIN XXXXXXXXXXXXX
SN XXXXXXXXX
LOT AAA###A
EXP YYYY-MM

PRINCIPAL DISPLAY PANEL-1000 mg

NDC 47335-613-81

Niacin Extended-Release Tablets, USP

1000 mg

PHARMACIST: Dispense with Patient Information to each patient.

Rx only

90 Tablets

SUN PHARMA

<p>Each film-coated tablet contains 1000 mg of niacin USP.</p>	<p>NDC 47335-613-81</p>	<p>Distributed by: Sun Pharmaceutical Industries, Inc. Cranbury, NJ 08512</p>									
<p>USUAL DOSAGE: See attached package insert for complete directions for use.</p>	<p style="text-align: center;">Niacin Extended-Release Tablets, USP</p>	<p>Manufactured by: Sun Pharmaceutical Industries Limited Survey No. 1012, Dadra-396 193, U.T. of D & NH and Daman & Diu, India.</p>									
<p>Do not accept if seal over bottle opening is broken or missing.</p>		<p>DNH/DRUGS/NH/138</p>									
<p>Store at 20° to 25°C (68° to 77°F); excursions permitted between 15° and 30°C (59° and 86°F) [see USP Controlled Room Temperature].</p>	<p style="text-align: center;">1000 mg</p>	<p>5 2 4 6 3 1 0</p>									
<p>Dispense in tight container with child-resistant closure.</p>	<p style="text-align: center;">PHARMACIST: Dispense with Patient Information to each patient.</p>	<div style="border: 1px solid red; padding: 5px;">  <table border="0"> <tr><td>GTIN</td><td>XXXXXXXXXXXXXX</td></tr> <tr><td>SN</td><td>XXXXXXXXXX</td></tr> <tr><td>LOT</td><td>AAA###A</td></tr> <tr><td>EXP</td><td>YYYY-MM</td></tr> </table> </div>	GTIN	XXXXXXXXXXXXXX	SN	XXXXXXXXXX	LOT	AAA###A	EXP	YYYY-MM	
GTIN	XXXXXXXXXXXXXX										
SN	XXXXXXXXXX										
LOT	AAA###A										
EXP	YYYY-MM										
<p>Patient Information available at https://www.sunpharma.com/usa/products</p>	<p>Rx only 90 Tablets</p>										

NIACIN

niacin tablet, film coated, extended release

Product Information

Product Type	HUMAN PRESCRIPTION DRUG	Item Code (Source)	NDC:47335-539
Route of Administration	ORAL		

Active Ingredient/Active Moiety

Ingredient Name	Basis of Strength	Strength
NIACIN (UNII: 2679MF687A) (NIACIN - UNII:2679MF687A)	NIACIN	500 mg

Inactive Ingredients

Ingredient Name	Strength
HYPROMELLOSE, UNSPECIFIED (UNII: 3NXW29V3WO)	
GLYCERYL DIBEHENATE (UNII: R8WTH25YS2)	
SILICON DIOXIDE (UNII: ETJ7Z6XBU4)	
MAGNESIUM STEARATE (UNII: 70097M6130)	
POLYVINYL ALCOHOL, UNSPECIFIED (UNII: 532B59J990)	
TITANIUM DIOXIDE (UNII: 15FIX9V2JP)	
POLYETHYLENE GLYCOL, UNSPECIFIED (UNII: 3WJQ0SDW1A)	
TALC (UNII: 7SEV7J4R1U)	
FERRIC OXIDE YELLOW (UNII: EX438O2MRT)	
FERRIC OXIDE RED (UNII: 1K09F3G675)	

Product Characteristics

Color	PINK	Score	no score
Shape	CAPSULE	Size	17mm
Flavor		Imprint Code	S;500
Contains			

Packaging

#	Item Code	Package Description	Marketing Start Date	Marketing End Date
1	NDC:47335-539-83	30 in 1 BOTTLE; Type 0: Not a Combination Product	06/27/2014	
2	NDC:47335-539-81	90 in 1 BOTTLE; Type 0: Not a Combination Product	06/27/2014	
3	NDC:47335-539-88	100 in 1 BOTTLE; Type 0: Not a Combination Product	06/27/2014	
4	NDC:47335-539-08	100 in 1 BOTTLE; Type 0: Not a Combination Product	06/27/2014	
5	NDC:47335-539-18	1000 in 1 BOTTLE; Type 0: Not a Combination Product	06/27/2014	

Marketing Information

Marketing Category	Application Number or Monograph Citation	Marketing Start Date	Marketing End Date
ANDA	ANDA200484	06/27/2014	

NIACIN

niacin tablet, film coated, extended release

Product Information

Product Type	HUMAN PRESCRIPTION DRUG	Item Code (Source)	NDC:47335-614
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Route of Administration ORAL

Active Ingredient/Active Moiety

Ingredient Name	Basis of Strength	Strength
NIACIN (UNII: 2679MF687A) (NIACIN - UNII:2679MF687A)	NIACIN	750 mg

Inactive Ingredients

Ingredient Name	Strength
HYPROMELLOSE, UNSPECIFIED (UNII: 3NXW29V3WO)	
GLYCERYL DIBEHENATE (UNII: R8WTH25YS2)	
SILICON DIOXIDE (UNII: ETJ7Z6XBU4)	
MAGNESIUM STEARATE (UNII: 70097M6I30)	
POLYVINYL ALCOHOL, UNSPECIFIED (UNII: 532B59J990)	
TITANIUM DIOXIDE (UNII: 15FIX9V2JP)	
POLYETHYLENE GLYCOL, UNSPECIFIED (UNII: 3WJQ05DW1A)	
TALC (UNII: 7SEV7J4R1U)	
FERRIC OXIDE YELLOW (UNII: EX438O2MRT)	
FERRIC OXIDE RED (UNII: 1K09F3G675)	

Product Characteristics

Color	PINK	Score	no score
Shape	CAPSULE	Size	19mm
Flavor		Imprint Code	S;750
Contains			

Packaging

#	Item Code	Package Description	Marketing Start Date	Marketing End Date
1	NDC:47335-614-83	30 in 1 BOTTLE; Type 0: Not a Combination Product	06/27/2014	
2	NDC:47335-614-81	90 in 1 BOTTLE; Type 0: Not a Combination Product	06/27/2014	
3	NDC:47335-614-88	100 in 1 BOTTLE; Type 0: Not a Combination Product	06/27/2014	
4	NDC:47335-614-18	1000 in 1 BOTTLE; Type 0: Not a Combination Product	06/27/2014	

Marketing Information

Marketing Category	Application Number or Monograph Citation	Marketing Start Date	Marketing End Date
ANDA	ANDA201273	06/27/2014	

NIACIN

niacin tablet, film coated, extended release

Product Information

Product Type	HUMAN PRESCRIPTION DRUG	Item Code (Source)	NDC:47335-613
Route of Administration	ORAL		

Active Ingredient/Active Moiety

Ingredient Name	Basis of Strength	Strength
NIACIN (UNII: 2679MF687A) (NIACIN - UNII:2679MF687A)	NIACIN	1000 mg

Inactive Ingredients

Ingredient Name	Strength
HYPROMELLOSE, UNSPECIFIED (UNII: 3NXW29V3WO)	
GLYCERYL DIBEHENATE (UNII: R8WTH25YS2)	
SILICON DIOXIDE (UNII: ETJ7Z6XBU4)	
MAGNESIUM STEARATE (UNII: 70097M6I30)	
POLYVINYL ALCOHOL, UNSPECIFIED (UNII: 532B59J990)	
TITANIUM DIOXIDE (UNII: 15FIX9V2JP)	
POLYETHYLENE GLYCOL, UNSPECIFIED (UNII: 3WJQ0SDW1A)	
TALC (UNII: 7SEV7J4R1U)	
FERRIC OXIDE YELLOW (UNII: EX438O2MRT)	
FERRIC OXIDE RED (UNII: 1K09F3G675)	

Product Characteristics

Color	PINK	Score	no score
Shape	CAPSULE	Size	19mm
Flavor		Imprint Code	S;1000
Contains			

Packaging

#	Item Code	Package Description	Marketing Start Date	Marketing End Date
1	NDC:47335-613-83	30 in 1 BOTTLE; Type 0: Not a Combination Product	06/27/2014	
2	NDC:47335-613-81	90 in 1 BOTTLE; Type 0: Not a Combination Product	06/27/2014	
3	NDC:47335-613-88	100 in 1 BOTTLE; Type 0: Not a Combination Product	06/27/2014	
4	NDC:47335-613-08	100 in 1 BOTTLE; Type 0: Not a Combination Product	06/27/2014	
5	NDC:47335-613-18	1000 in 1 BOTTLE; Type 0: Not a Combination Product	06/27/2014	

Marketing Information

Marketing Category	Application Number or Monograph Citation	Marketing Start Date	Marketing End Date
ANDA	ANDA200484	06/27/2014	

Labeler - Sun Pharmaceutical Industries, Inc. (146974886)

Establishment

Name	Address	ID/FEI	Business Operations
Sun Pharmaceutical Industries Limited		650445203	ANALYSIS(47335-539, 47335-613, 47335-614) , MANUFACTURE(47335-539, 47335-613, 47335-614)

Revised: 11/2023

Sun Pharmaceutical Industries, Inc.