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1.14.3.1 ANNOTATED SIDE BY SIDE COMPARISON OF PROPOSED GENERIC DRUG PRODUCT PACKAGE INSERT LABELING OF GRAVITI PHARMA $$\rm V_{8}$$

REFERENCE LISTED DRUG PACKAGE INSERT LABELING OF WYETH PHARMACEUTICALS LLC

PROPOSED GENERIC DRUG PACKAGE INSERT LABELING GRAVITI PHARMA		REFERENCE LISTED DRUG PACKAGE INSERT LABELING WYETH PHARMACEUTICALS LLC.
HIGHLIGHTS OF PRESCRIBING INFORMATION These highlights do not include all the information needed to use PANTOPRAZOLE SODIUM DELAYED-RELEASE TABLETS safely and effectively. See full prescribing information for PANTOPRAZOLE SODIUM DELAYED-RELEASE TABLETS.	1 1	HIGHLIGHTS OF PRESCRIBING INFORMATION These highlights do not include all the information needed to use PROTONIX safely and effectively. See full prescribing information for PROTONIX.
PANTOPRAZOLE SODIUM delayed-release tablets, for oral use Initial U.S. approval: 2000	1 2	PROTONIX (pantoprazole sodium) delayed-release tablets, for oral use PROTONIX (pantoprazole sodium) for delayed-release oral suspension Initial U.S. approval: 2000
 INDICATIONS AND USAGE————————————————————————————————————	1	PROTONIX are a proton pump inhibitor (PPI) indicated for the following: Short-Term Treatment of Erosive Esophagitis Associated with Gastroesophageal Reflux Disease (GERD) (1.1) Maintenance of Healing of Erosive Esophagitis (1.2) Pathological Hypersecretory Conditions Including Zollinger-Ellison (ZE) Syndrome (1.3)
DOSAGE AND ADMINISTRATION		DOSAGE AND ADMINISTRATION

PROPOSED G	ENERIC DRUG LABELING	PACKAGE INSERT		REFERENCE	LISTED DRUG LABELIN	PACKAGE INSERT G
	GRAVITI PHAI	RMA		WYETI	H PHARMACEU	TICALS LLC.
Indication	Dose	Frequency		Indication	Dose	Frequency
Short-Term Treat With GERD (2.1)	ment of Erosive	Esophagitis Associated		Short-Term Treat With GERD (2.1)	ment of Erosiv	e Esophagitis Associated
Adults	40 mg	Once Daily for up to 8 weeks		Adults	40 mg	Once Daily for up to 8 weeks
Children (5 years an older)	d			Children (5 years an older)	ıd	
\geq 15 kg to \leq 40 kg	20 mg	Once Daily for up to 8 weeks		\geq 15 kg to \leq 40 kg	20 mg	Once Daily for up to 8 weeks
\geq 40 kg	40 mg			\geq 40 kg		
Maintenance of Hea	aling of Erosive E			Maintenance of He	aling of Erosive l	Esophagitis (2.1)
Adults	40 mg	Once Daily*		Adults		Once Daily*
Pathological Hyper Ellison Syndrome (2		ions Including Zollinger-		Pathological Hyper Ellison Syndrome (tions Including Zollinger-
Adults	40 mg	Twice Daily		Adults	40 mg	Twice Daily
* Controlled studies d	lid not extend beyo	ond 12 months		* Controlled studies of	did not extend bey	ond 12 months
		inistration instructions		See full prescribing in	nformation for adr	ministration instructions
DOSAC	GE FORMS AND	STRENGTHS-		DOSA	GE FORMS ANI	STRENGTHS———
• Delayed-Release	Γablets: 20 mg and	40 mg pantoprazole (3)	_	Delayed-Release	Tablets: 20 mg and	d 40 mg pantoprazole (3)
•			2	• For Delayed-Rele	ase Oral Suspensi	on: 40 mg pantoprazole (3)
С	ONTRAINDICA	ΓΙΟΝS			CONTRAINDICA	ATIONS
		y to any component of the				ity to any component of the
formulation or to s		` /		formulation or to	substituted benzin	nidazoles (4)
• Patients receiving	rilpivirine-contain	ing products (4,7)		Patients receiving	rilpivirine-contain	ning products (4,7)
		ECAUTIONS				RECAUTIONS
• Gastric Malignanc	<u>y:</u> In adults, sym _l	otomatic response does not		Gastric Malignance	<u>cy:</u> In adults, syn	nptomatic response does not

	DEFENDINGE LIGHED DRUG DACIAL CE MICEDE
PROPOSED GENERIC DRUG PACKAGE INSERT	REFERENCE LISTED DRUG PACKAGE INSERT
LABELING	LABELING
GRAVITI PHARMA	
GRAVIII FIIARWA	WYETH PHARMACEUTICALS LLC.
preclude presence of gastric malignancy. Consider additional follow-up and diagnostic testing. (5.1) • Acute Tubulointerstitial Nephritis: Discontinue treatment and evaluate patients. (5.2) • Clostridium difficile-Associated Diarrhea: PPI therapy may be associated with increased risk of Clostridium difficile-associated diarrhea. (5.3) • Bone Fracture: Long-term and multiple daily dose PPI therapy may be associated with an increased risk for osteoporosis-related fractures of the hip, wrist or spine. (5.4) • Severe Cutaneous Adverse Reactions: Discontinue at the first signs or symptoms of severe cutaneous adverse reactions or other signs of hypersensitivity and consider further evaluation. (5.5) • Cutaneous and Systemic Lupus Erythematosus: Mostly cutaneous; new onset or exacerbation of existing disease; discontinue pantoprazole sodium delayed-release tablets and refer to specialist for evaluation. (5.6) • Cyanocobalamin (Vitamin B ₁₂) Deficiency: Daily long-term use (e.g., longer than 3 years) may lead to malabsorption or a deficiency of cyanocobalamin. (5.7) • Hypomagnesemia and Mineral Metabolism: Reported rarely with prolonged treatment with PPIs. (5.8) • Fundic Gland Polyps: Risk increases with long-term use, especially beyond one year. Use the shortest duration of therapy. (5.10)	preclude presence of gastric malignancy. Consider additional follow-up and diagnostic testing. (5.1) • Acute Tubulointerstitial Nephritis: Discontinue treatment and evaluate patients. (5.2) • Clostridium difficile-Associated Diarrhea: PPI therapy may be associated with increased risk of Clostridium difficile-associated diarrhea. (5.3) • Bone Fracture: Long-term and multiple daily dose PPI therapy may be associated with an increased risk for osteoporosis-related fractures of the hip, wrist or spine. (5.4) • Severe Cutaneous Adverse Reactions: Discontinue at the first signs or symptoms of severe cutaneous adverse reactions or other signs of hypersensitivity and consider further evaluation. (5.5) • Cutaneous and Systemic Lupus Erythematosus: Mostly cutaneous; new onset or exacerbation of existing disease; discontinue PROTONIX and refer to specialist for evaluation. (5.6) • Cyanocobalamin (Vitamin B-12) Deficiency: Daily long-term use (e.g., longer than 3 years) may lead to malabsorption or a deficiency of cyanocobalamin. (5.7) • Hypomagnesemia and Mineral Metabolism: Reported rarely with prolonged treatment with PPIs. (5.8) • Fundic Gland Polyps: Risk increases with long-term use, especially beyond one year. Use the shortest duration of therapy. (5.10)
ADVERSE REACTIONS	ADVERSE REACTIONS
Most common adverse reactions are:	Most common adverse reactions are:
• For adult use (> 2%): headache, diarrhea, nausea, abdominal pain,	• For adult use (> 2%): headache, diarrhea, nausea, abdominal pain,

PROPOSED GENERIC DRUG PACKAGE INSERT		REFERENCE LISTED DRUG PACKAGE INSERT
LABELING		LABELING
GRAVITI PHARMA		WYETH PHARMACEUTICALS LLC.
		WIEIHTHARMACEUTICALS LLC.
vomiting, flatulence, dizziness, and arthralgia. (6.1)		vomiting, flatulence, dizziness, and arthralgia. (6.1)
• For pediatric use (> 4%): URI, headache, fever, diarrhea, vomiting, rash, and abdominal pain. (6.1)		• For pediatric use (> 4%): URI, headache, fever, diarrhea, vomiting, rash, and abdominal pain. (6.1)
To report SUSPECTED ADVERSE REACTIONS, contact	5	To report SUSPECTED ADVERSE REACTIONS, contact
Graviti Pharmaceuticals Inc., 1-855-298-4506 or FDA at 1-800-FDA-1088 or www.fda.gov/medwatch.		Pfizer Inc at 1-800-438-1985 or FDA at 1-800-FDA-1088 or www.fda.gov/medwatch.
DRUG INTERACTIONS		DRUG INTERACTIONS
See full prescribing information for a list of clinically important drug interactions (7)		See full prescribing information for a list of clinically important drug interactions (7)
USE IN SPECIFIC POPULATIONS		USE IN SPECIFIC POPULATIONS
Pregnancy: Based on animal data, may cause fetal harm. (8.1)		Pregnancy: Based on animal data, may cause fetal harm. (8.1)
See 17 for PATIENT COUNSELING INFORMATION and		See 17 for PATIENT COUNSELING INFORMATION and
Medication Guide. Issued: 09/2023	17	Medication Guide. Revised: 07/2023
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With Gastroesophageal Reflux Disease (GERD)		Gastroesophageal Reflux Disease (GERD)
1.2 Maintenance of Healing of Erosive Esophagitis		1.2 Maintenance of Healing of Erosive Esophagitis
1.3 Pathological Hypersecretory Conditions Including Zollinger- Ellison (ZE) Syndrome		1.3 Pathological Hypersecretory Conditions Including Zollinger- Ellison (ZE) Syndrome
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2.1 Recommended Dosing Schedule		2.1 Recommended Dosing Schedule
2.2 Administration Instructions		2.2 Administration Instructions
3 DOSAGE FORMS AND STRENGTHS		3 DOSAGE FORMS AND STRENGTHS

PROPOSED GENERIC DRUG PACKAGE INSERT		REFERENCE LISTED DRUG PACKAGE INSERT
LABELING		LABELING
GRAVITI PHARMA		WYETH PHARMACEUTICALS LLC.
4 CONTRAINDICATIONS		4 CONTRAINDICATIONS
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5.4 Bone Fracture		5.4 Bone Fracture
5.5 Severe Cutaneous Adverse Reactions		5.5 Severe Cutaneous Adverse Reactions
5.6 Cutaneous and Systemic Lupus Erythematosus		5.6 Cutaneous and Systemic Lupus Erythematosus
5.7 Cyanocobalamin (Vitamin B ₁₂) Deficiency	6	5.7 Cyanocobalamin (Vitamin B-12) Deficiency
5.8 Hypomagnesemia and Mineral Metabolism		5.8 Hypomagnesemia and Mineral Metabolism
5.9 Tumorigenicity		5.9 Tumorigenicity
5.10 Fundic Gland Polyps		5.10 Fundic Gland Polyps
5.11 Interference with Investigations for Neuroendocrine		5.11 Interference with Investigations for Neuroendocrine Tumors
Tumors		5.12 Interference with Urine Screen for THC
5.12 Interference with Urine Screen for THC	1	5.13 Concomitant Use of PROTONIX with Methotrexate
5.13 Concomitant Use of Pantoprazole Sodium Delayed-Release		
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6.2 Postmarketing Experience		6.2 Postmarketing Experience
7 DRUG INTERACTIONS		7 DRUG INTERACTIONS
8 USE IN SPECIFIC POPULATIONS		8 USE IN SPECIFIC POPULATIONS
8.1 Pregnancy		8.1 Pregnancy
8.2 Lactation		8.2 Lactation
8.4 Pediatric Use		8.4 Pediatric Use
8.5 Geriatric Use		8.5 Geriatric Use
10 OVERDOSAGE		10 OVERDOSAGE
11 DESCRIPTION		11 DESCRIPTION
12 CLINICAL PHARMACOLOGY		12 CLINICAL PHARMACOLOGY

PROPOSED GENERIC DRUG PACKAGE INSERT LABELING	REFERENCE LISTED DRUG PACKAGE INSERT LABELING
GRAVITI PHARMA	WYETH PHARMACEUTICALS LLC.
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12.2 Pharmacodynamics	12.2 Pharmacodynamics
12.3 Pharmacokinetics	12.3 Pharmacokinetics
12.5 Pharmacogenomics	12.5 Pharmacogenomics
13 NONCLINICAL TOXICOLOGY	13 NONCLINICAL TOXICOLOGY
13.1 Carcinogenesis, Mutagenesis, Impairment of Fertility	13.1 Carcinogenesis, Mutagenesis, Impairment of Fertility
14 CLINICAL STUDIES	14 CLINICAL STUDIES
14.1 Erosive Esophagitis (EE) Associated with	14.1 Erosive Esophagitis (EE) Associated with
Gastroesophageal Reflux Disease (GERD)	Gastroesophageal Reflux Disease (GERD)
14.2 Long-Term Maintenance of Healing of Erosive	14.2 Long-Term Maintenance of Healing of Erosive Esophagitis
Esophagitis	14.3 Pathological Hypersecretory Conditions Including
14.3 Pathological Hypersecretory Conditions Including	Zollinger-Ellison Syndrome
Zollinger-Ellison Syndrome	16 HOW SUPPLIED/STORAGE AND HANDLING
16 HOW SUPPLIED/STORAGE AND HANDLING	17 PATIENT COUNSELING INFORMATION
17 PATIENT COUNSELING INFORMATION	
	*Sections or subsections omitted from the full prescribing
*Sections or subsections omitted from the full prescribing	information are not listed
information are not listed	

PROPOSED GENERIC DRUG PACKAGE INSERT		REFERENCE LISTED DRUG PACKAGE INSERT
LABELING		LABELING
GRAVITI PHARMA		WYETH PHARMACEUTICALS LLC.
FULL PRESCRIBING INFORMATION		FULL PRESCRIBING INFORMATION
1 INDICATIONS AND USAGE		1 INDICATIONS AND USAGE
Pantoprazole sodium delayed-release tablets are indicated for:	1, 2	PROTONIX For Delayed-Release Oral Suspension and PROTONIX Delayed-Release Tablets are indicated for:
1.1 Short-Term Treatment of Erosive Esophagitis Associated With Gastroesophageal Reflux Disease (GERD)		1.1 Short-Term Treatment of Erosive Esophagitis Associated With Gastroesophageal Reflux Disease (GERD)
Pantoprazole sodium delayed-release tablets are indicated in adults and pediatric patients five years of age and older for the short-term treatment (up to 8 weeks) in the healing and symptomatic relief of erosive esophagitis (EE). For those adult patients who have not healed after 8 weeks of treatment, an additional 8-week course of pantoprazole sodium delayed-release tablets may be considered.	1	PROTONIX is indicated in adults and pediatric patients five years of age and older for the short-term treatment (up to 8 weeks) in the healing and symptomatic relief of erosive esophagitis (EE). For those adult patients who have not healed after 8 weeks of treatment, an additional 8-week course of PROTONIX may be considered.
Safety of treatment beyond 8 weeks in pediatric patients has not been established.		Safety of treatment beyond 8 weeks in pediatric patients has not been established.
1.2 Maintenance of Healing of Erosive Esophagitis		1.2 Maintenance of Healing of Erosive Esophagitis
Pantoprazole sodium delayed-release tablets are indicated for maintenance of healing of EE and reduction in relapse rates of daytime and nighttime heartburn symptoms in adult patients with GERD. Controlled studies did not extend beyond 12 months.	1	PROTONIX is indicated for maintenance of healing of EE and reduction in relapse rates of daytime and nighttime heartburn symptoms in adult patients with GERD. Controlled studies did not extend beyond 12 months.
1.3 Pathological Hypersecretory Conditions Including Zollinger- Ellison Syndrome		1.3 Pathological Hypersecretory Conditions Including Zollinger- Ellison Syndrome

PROPOSED GENERIC DRUG PACKAGE INSERT		REFERENCE LISTED DRUG PACKAGE INSERT
LABELING		LABELING
GRAVITI PHARMA		WYETH PHARMACEUTICALS LLC.
Pantoprazole sodium delayed-release tablets are indicated for the long-term treatment of pathological hypersecretory conditions, including Zollinger-Ellison (ZE) Syndrome.	1	PROTONIX is indicated for the long-term treatment of pathological hypersecretory conditions, including Zollinger-Ellison (ZE) Syndrome.
2 DOSAGE AND ADMINISTRATION		2 DOSAGE AND ADMINISTRATION
2.1 Recommended Dosing Schedule		2.1 Recommended Dosing Schedule
Pantoprazole sodium is supplied as delayed-release tablets. The recommended dosages are outlined in Table 1.	1, 2	PROTONIX is supplied as delayed-release granules in packets for preparation of oral suspensions or as delayed-release tablets. The recommended dosages are outlined in Table 1.
Table 1 Recommended Dosing Schedule for Pantoprazole Sodium Delayed-Release Tablets	1	Table 1 Recommended Dosing Schedule for PROTONIX Indication Dose Frequency
Indication Dose Frequency		Short-Term Treatment of Erosive Esophagitis Associated With GERD
Indication Dose Frequency Short-Term Treatment of Erosive Esophagitis Associated With GERD		Adults 40 mg Once Daily for up to 8
Adults 40 mg Once Daily for up to 8		weeks*
Weeks*		Children (5 years and
Children (5 years and		older)
older)		$\geq 15 \text{ kg to} < 40 \text{ kg}$ 20 mg Once Daily for up to 8
$\geq 15 \text{ kg to} < 40 \text{ kg}$ 20 mg Once Daily for up to 8		weeks
weeks		\geq 40 kg 40 mg
\geq 40 kg 40 mg		Maintenance of Healing of Erosive Esophagitis
Maintenance of Healing of Erosive Esophagitis		Adults 40 mg Once Daily***
Adults 40 mg Once Daily***		Pathological Hypersecretory Conditions Including Zollinger-Ellison
Pathological Hypersecretory Conditions Including Zollinger-Ellison		Syndrome Adults 40 mg Twice Daily**
Syndrome Adults 40 mg Twice Daily**		*For adult patients who have not healed after 8 weeks of treatment, an additional 8-
Adults 40 mg Twice Daily** *For adult patients who have not healed after 8 weeks of treatment, an additional	1	week course of PROTONIX may be considered.
8-week course of pantoprazole sodium delayed-release tablets may be considered.	1	neon course of recording may be considered.
o-week course of pantodrazoie soutum delayed-release tablets may be considered.		

PROPOSED GENERIC DRUG PACKAGE INSERT LABELING		REFERENCE LISTED DRUG PACKAGE INSERT LABELING
GRAVITI PHARMA		WYETH PHARMACEUTICALS LLC.
** Dosage regimens should be adjusted to individual patient needs and should continue for as long as clinically indicated. Doses up to 240 mg daily have been administered. *** Controlled studies did not extend beyond 12 months		** Dosage regimens should be adjusted to individual patient needs and should continue for as long as clinically indicated. Doses up to 240 mg daily have been administered. *** Controlled studies did not extend beyond 12 months
2.2 Administration Instructions		2.2 Administration Instructions
Directions for method of administration for the delayed-release tablet dosage form are presented in Table 2.	2	Directions for method of administration for each dosage form are presented in Table 2.
Table 2 Administration Instructions		Table 2 Administration Instructions
Formulation Route Instructions*		Formulation Route Instructions*
Delayed-Release Tablets Oral Swallowed whole, with or without food		Delayed-Release Tablets Oral Swallowed whole, with or without food
* Do not split, chew, or crush pantoprazole sodium delayed-release tablets.	2	For Delayed-Release Oral Suspension Oral Administered in 1 teaspoonful of applesauce or apple juice approximately 30 minutes prior to a meal
	2 1, 2	For Delayed-Release Oral Suspension * Do not split, chew, or crush PROTONIX Delayed-Release Tablets and PROTONIX For Delayed-Release Oral Suspension.
Take a missed dose as soon as possible. If it is almost time for the next dose, skip the missed dose and take the next dose at the regular scheduled time. Do not take 2 doses at the same time.		Take a missed dose as soon as possible. If it is almost time for the next dose, skip the missed dose and take the next dose at the regular scheduled time. Do not take 2 doses at the same time.
Pantoprazole Sodium Delayed-Release Tablets	1	PROTONIX Delayed-Release Tablets

PROPOSED GENERIC DRUG PACKAGE INSERT		REFERENCE LISTED DRUG PACKAGE INSERT
LABELING		LABELING
GRAVITI PHARMA		WYETH PHARMACEUTICALS LLC.
Swallow pantoprazole sodium delayed-release tablets whole, with or without food in the stomach. For patients unable to swallow a 40 mg tablet, two 20 mg tablets may be taken. Concomitant administration of antacids does not affect the absorption of pantoprazole sodium delayed-release tablets.	1	Swallow PROTONIX delayed-release tablets whole, with or without food in the stomach. For patients unable to swallow a 40 mg tablet, two 20 mg tablets may be taken. Concomitant administration of antacids does not affect the absorption of PROTONIX Delayed-Release Tablets.
	2	PROTONIX For Delayed-Release Oral Suspension Administer PROTONIX For Delayed-Release Oral Suspension approximately 30 minutes prior to a meal via oral administration in apple juice or applesauce or nasogastric tube in apple juice only. Because proper pH is necessary for stability, do not administer PROTONIX For Delayed-Release Oral Suspension in liquids other than apple juice, or foods other than applesauce.
	2	Do not divide the 40 mg PROTONIX For Delayed-Release Oral Suspension packet to create a 20 mg dosage for pediatric patients who are unable to take the tablet formulation.
	2	 PROTONIX For Delayed-Release Oral Suspension -Oral Administration in Applesauce Open packet. Sprinkle granules on one teaspoonful of applesauce. DO NOT USE OTHER FOODS OR CRUSH OR CHEW THE GRANULES. Take within 10 minutes of preparation. Take sips of water to make sure granules are washed down into the stomach. Repeat water sips as necessary.
	۷.	PROTONIX For Delayed-Release Oral Suspension -Oral Administration in Apple Juice

PROPOSED GENERIC DRUG PACKAGE INSERT LABELING GRAVITI PHARMA		REFERENCE LISTED DRUG PACKAGE INSERT LABELING WYETH PHARMACEUTICALS LLC.
	2 2 2	 Open packet. Empty granules into a small cup or teaspoon containing one teaspoon of apple juice. Stir for 5 seconds (granules will not dissolve) and swallow immediately. To make sure that the entire dose is taken, rinse the container once or twice with apple juice to remove any remaining granules. Swallow immediately. PROTONIX For Delayed-Release Oral Suspension -Nasogastric (NG) Tube or Gastrostomy Tube Administration For patients who have a nasogastric tube or gastrostomy tube in place, PROTONIX For Delayed-Release Oral Suspension can be given as follows: Remove the plunger from the barrel of a 2 ounce (60 mL) catheter-tip syringe. Discard the plunger. Connect the catheter tip of the syringe to a 16 French (or larger) tube. Hold the syringe attached to the tubing as high as possible while giving PROTONIX For Delayed-Release Oral Suspension to prevent any bending of the tubing. Empty the contents of the packet into the barrel of the syringe. Add 10 mL (2 teaspoonfuls) of apple juice and gently tap and/or shake the barrel of the syringe to help rinse the syringe and tube. Repeat at least twice more using the same amount of apple juice (10 mL or 2 teaspoonfuls) each time. No granules should remain in the syringe.

PROPOSED GENERIC DRUG PACKAGE INSERT LABELING GRAVITI PHARMA 3 DOSAGE FORMS AND STRENGTHS Delayed-Release Tablets:	3, 1, 2	REFERENCE LISTED DRUG PACKAGE INSERT LABELING WYETH PHARMACEUTICALS LLC. 3 DOSAGE FORMS AND STRENGTHS Delayed-Release Tablets:
 20 mg: Yellow colored, round shaped tablets imprinted with '52' in black ink on one side and plain on other side. 40 mg: Yellow colored, oval shaped biconvex tablets imprinted with '53' in black ink on one side and plain on other side. 		 40 mg pantoprazole, yellow oval biconvex tablets imprinted with PROTONIX (brown ink) on one side 20 mg pantoprazole, yellow oval biconvex tablets imprinted with P20 (brown ink) on one side For Delayed-Release Oral Suspension: 40 mg pantoprazole, pale yellowish to dark brownish, enteric-coated granules in a unit dose packet
 Pantoprazole sodium delayed-release tablets are contraindicated in patients with known hypersensitivity to any component of the formulation or any substituted benzimidazole. Hypersensitivity reactions may include anaphylaxis, anaphylactic shock, angioedema, bronchospasm, acute tubulointerstitial nephritis, and urticaria [see Warnings and Precautions (5.2), Adverse Reactions (6)]. Proton pump inhibitors (PPIs), including pantoprazole sodium delayed-release tablets, are contraindicated in patients receiving rilpivirine-containing products [see Drug Interactions (7)]. 	1, 7	 PROTONIX is contraindicated in patients with known hypersensitivity to any component of the formulation or any substituted benzimidazole. Hypersensitivity reactions may include anaphylaxis, anaphylactic shock, angioedema, bronchospasm, acute tubulointerstitial nephritis, and urticaria [see Warnings and Precautions (5.2), Adverse Reactions (6)]. Proton pump inhibitors (PPIs), including PROTONIX, are contraindicated in patients receiving rilpivirine-containing products [see Drug Interactions (7)].
5 WARNINGS AND PRECAUTIONS		5 WARNINGS AND PRECAUTIONS

PROPOSED GENERIC DRUG PACKAGE INSERT LABELING GRAVITI PHARMA		REFERENCE LISTED DRUG PACKAGE INSERT LABELING WYETH PHARMACEUTICALS LLC.
5.1 Presence of Gastric Malignancy		5.1 Presence of Gastric Malignancy
In adults, symptomatic response to therapy with pantoprazole sodium delayed-release tablets does not preclude the presence of gastric malignancy. Consider additional follow-up and diagnostic testing in adult patients who have a suboptimal response or an early symptomatic relapse after completing treatment with a PPI. In older patients, also consider an endoscopy.	1	In adults, symptomatic response to therapy with PROTONIX does not preclude the presence of gastric malignancy. Consider additional follow-up and diagnostic testing in adult patients who have a suboptimal response or an early symptomatic relapse after completing treatment with a PPI. In older patients, also consider an endoscopy.
5.2 Acute Tubulointerstitial Nephritis		5.2 Acute Tubulointerstitial Nephritis
Acute tubulointerstitial nephritis (TIN) has been observed in patients taking PPIs and may occur at any point during PPI therapy. Patients may present with varying signs and symptoms from symptomatic hypersensitivity reactions to non-specific symptoms of decreased renal function (e.g., malaise, nausea, anorexia). In reported case series, some patients were diagnosed on biopsy and in the absence of extra-renal manifestations (e.g., fever, rash or arthralgia). Discontinue pantoprazole sodium delayed-release tablets and evaluate patients with suspected acute TIN [see Contraindications (4)].	1	Acute tubulointerstitial nephritis (TIN) has been observed in patients taking PPIs and may occur at any point during PPI therapy. Patients may present with varying signs and symptoms from symptomatic hypersensitivity reactions to non-specific symptoms of decreased renal function (e.g., malaise, nausea, anorexia). In reported case series, some patients were diagnosed on biopsy and in the absence of extra-renal manifestations (e.g., fever, rash or arthralgia). Discontinue PROTONIX and evaluate patients with suspected acute TIN [see Contraindications (4)].
5.3 Clostridium difficile-Associated Diarrhea		5.3 Clostridium difficile-Associated Diarrhea
Published observational studies suggest that PPI therapy like pantoprazole sodium delayed-release tablets may be associated with an increased risk of <i>Clostridium difficile</i> associated diarrhea, especially in hospitalized patients. This diagnosis should be	1	Published observational studies suggest that PPI therapy like PROTONIX may be associated with an increased risk of <i>Clostridium difficile</i> associated diarrhea, especially in hospitalized patients. This diagnosis should be considered for diarrhea that does not improve

[see Adverse Reactions (6.2)].

REFERENCE LISTED DRUG PACKAGE INSERT PROPOSED GENERIC DRUG PACKAGE INSERT LABELING LABELING **GRAVITI PHARMA** WYETH PHARMACEUTICALS LLC. considered for diarrhea that does not improve [see Adverse Reactions (6.2)]. Patients should use the lowest dose and shortest duration of PPI Patients should use the lowest dose and shortest duration of PPI therapy appropriate to the condition being treated. therapy appropriate to the condition being treated. **5.4 Bone Fracture 5.4 Bone Fracture** Several published observational studies suggest that PPI therapy may Several published observational studies suggest that PPI therapy may be associated with an increased risk for osteoporosis-related be associated with an increased risk for osteoporosis-related fractures fractures of the hip, wrist, or spine. The risk of fracture was increased of the hip, wrist, or spine. The risk of fracture was increased in in patients who received high-dose, defined as multiple daily doses, patients who received high-dose, defined as multiple daily doses, and and long-term PPI therapy (a year or longer). Patients should use the long-term PPI therapy (a year or longer). Patients should use the lowest dose and shortest duration of PPI therapy appropriate to the lowest dose and shortest duration of PPI therapy appropriate to the condition being treated. Patients at risk for osteoporosis-related condition being treated. Patients at risk for osteoporosis-related fractures should be managed according to established treatment fractures should be managed according to established treatment guidelines [see Dosage and Administration (2), Adverse Reactions guidelines [see Dosage and Administration (2), Adverse Reactions (6.2)7. (6.2)]. **5.5 Severe Cutaneous Adverse Reactions 5.5 Severe Cutaneous Adverse Reactions** Severe cutaneous adverse reactions, including erythema multiforme, Severe cutaneous adverse reactions, including erythema multiforme, Stevens-Johnson syndrome (SJS), toxic epidermal necrolysis (TEN), Stevens-Johnson syndrome (SJS), toxic epidermal necrolysis (TEN), drug reaction with eosinophilia and systemic symptoms (DRESS), drug reaction with eosinophilia and systemic symptoms (DRESS), and acute generalized exanthematous pustulosis (AGEP) have been and acute generalized exanthematous pustulosis (AGEP) have been reported in association with the use of PPIs [see Adverse Reactions reported in association with the use of PPIs [see Adverse Reactions (6.2)]. Discontinue pantoprazole sodium delayed-release tablets at (6.2)]. Discontinue **PROTONIX** at the first signs or symptoms of the first signs or symptoms of severe cutaneous adverse reactions or severe cutaneous adverse reactions or other signs of hypersensitivity

and consider further evaluation.

other signs of hypersensitivity and consider further evaluation.

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5.6 Cutaneous and Systemic Lupus Erythematosus	5.6 Cutaneous and Systemic Lupus Erythematosus
Cutaneous lupus erythematosus (CLE) and systemic lupus erythematosus (SLE) have been reported in patients taking PPIs, including pantoprazole sodium. These events have occurred as both new onset and an exacerbation of existing autoimmune disease. The majority of PPI-induced lupus erythematous cases were CLE. The most common form of CLE reported in patients treated with PPIs was subacute CLE (SCLE) and occurred within weeks to years after continuous drug therapy in patients ranging from infants to the elderly. Generally, histological findings were observed without organ involvement. Systemic lupus erythematosus (SLE) is less commonly reported than CLE in patients receiving PPIs. PPI associated SLE is usually milder than non-drug induced SLE. Onset of SLE typically occurred within days to years after initiating treatment primarily in patients ranging from young adults to the elderly. The majority of patients presented with rash; however, arthralgia and cytopenia were also reported. Avoid administration of PPIs for longer than medically indicated. If signs or symptoms consistent with CLE or SLE are noted in patients	Cutaneous lupus erythematosus (CLE) and systemic lupus erythematosus (SLE) have been reported in patients taking PPIs, including pantoprazole sodium. These events have occurred as both new onset and an exacerbation of existing autoimmune disease. The majority of PPI-induced lupus erythematous cases were CLE. The most common form of CLE reported in patients treated with PPIs was subacute CLE (SCLE) and occurred within weeks to years after continuous drug therapy in patients ranging from infants to the elderly. Generally, histological findings were observed without organ involvement. Systemic lupus erythematosus (SLE) is less commonly reported than CLE in patients receiving PPIs. PPI associated SLE is usually milder than non-drug induced SLE. Onset of SLE typically occurred within days to years after initiating treatment primarily in patients ranging from young adults to the elderly. The majority of patients presented with rash; however, arthralgia and cytopenia were also reported. Avoid administration of PPIs for longer than medically indicated. If signs or symptoms consistent with CLE or SLE are noted in patients
receiving pantoprazole sodium delayed-release tablets, discontinue the drug and refer the patient to the appropriate specialist for evaluation. Most patients improve with discontinuation of the PPI alone in 4 to 12 weeks. Serological testing (e.g., ANA) may be positive and elevated serological test results may take longer to resolve than clinical manifestations.	receiving PROTONIX, discontinue the drug and refer the patient to the appropriate specialist for evaluation. Most patients improve with discontinuation of the PPI alone in 4 to 12 weeks. Serological testing (e.g., ANA) may be positive and elevated serological test results may take longer to resolve than clinical manifestations.

PROPOSED GENERIC DRUG PACKAGE INSERT LABELING GRAVITI PHARMA		REFERENCE LISTED DRUG PACKAGE INSERT LABELING WYETH PHARMACEUTICALS LLC.
5.7 Cyanocobalamin (Vitamin B ₁₂) Deficiency	6	5.7 Cyanocobalamin (Vitamin B-12) Deficiency
Generally, daily treatment with any acid-suppressing medications over a long period of time (e.g., longer than 3 years) may lead to malabsorption of cyanocobalamin (Vitamin B ₁₂) caused by hypo- or achlorhydria. Rare reports of cyanocobalamin deficiency occurring with acid-suppressing therapy have been reported in the literature. This diagnosis should be considered if clinical symptoms consistent with cyanocobalamin deficiency are observed.	6	Generally, daily treatment with any acid-suppressing medications over a long period of time (e.g., longer than 3 years) may lead to malabsorption of cyanocobalamin (Vitamin B-12) caused by hypoor achlorhydria. Rare reports of cyanocobalamin deficiency occurring with acid-suppressing therapy have been reported in the literature. This diagnosis should be considered if clinical symptoms consistent with cyanocobalamin deficiency are observed.
5.8 Hypomagnesemia and Mineral Metabolism		5.8 Hypomagnesemia and Mineral Metabolism
Hypomagnesemia, symptomatic and asymptomatic, has been reported rarely in patients treated with PPIs for at least three months, and in most cases after a year of therapy. Serious adverse events include tetany, arrhythmias, and seizures. Hypomagnesemia may lead to hypocalcemia and/or hypokalemia and may exacerbate underlying hypocalcemia in at-risk patients. In most patients, treatment of hypomagnesemia required magnesium replacement and discontinuation of the PPI.		Hypomagnesemia, symptomatic and asymptomatic, has been reported rarely in patients treated with PPIs for at least three months, and in most cases after a year of therapy. Serious adverse events include tetany, arrhythmias, and seizures. Hypomagnesemia may lead to hypocalcemia and/or hypokalemia and may exacerbate underlying hypocalcemia in at-risk patients. In most patients, treatment of hypomagnesemia required magnesium replacement and discontinuation of the PPI.
For patients expected to be on prolonged treatment or who take PPIs with medications such as digoxin or drugs that may cause hypomagnesemia (e.g., diuretics), health care professionals may consider monitoring magnesium levels prior to initiation of PPI treatment and periodically [see Adverse Reactions (6.2)].		For patients expected to be on prolonged treatment or who take PPIs with medications such as digoxin or drugs that may cause hypomagnesemia (e.g., diuretics), health care professionals may consider monitoring magnesium levels prior to initiation of PPI treatment and periodically [see Adverse Reactions (6.2)].

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Consider monitoring magnesium and calcium levels prior to initiation of pantoprazole sodium delayed-release tablets and periodically while on treatment in patients with a preexisting risk of hypocalcemia (e.g., hypoparathyroidism). Supplement with magnesium and/or calcium as necessary. If hypocalcemia is refractory to treatment, consider discontinuing the PPI.	1	Consider monitoring magnesium and calcium levels prior to initiation of PROTONIX and periodically while on treatment in patients with preexisting risk of hypocalcemia (e.g., hypoparathyroidism Supplement with magnesium and/or calcium as necessary. hypocalcemia is refractory to treatment, consider discontinuing the PPI.	
5.9 Tumorigenicity		5.9 Tumorigenicity	
Due to the chronic nature of GERD, there may be a potential for prolonged administration of pantoprazole sodium delayed-release tablets. In long-term rodent studies, pantoprazole was carcinogenic and caused rare types of gastrointestinal tumors. The relevance of these findings to tumor development in humans is unknown [see Nonclinical Toxicology (13.1)].	1	Due to the chronic nature of GERD, there may be a potential for prolonged administration of PROTONIX . In long-term rodent studies, pantoprazole was carcinogenic and caused rare types of gastrointestinal tumors. The relevance of these findings to tumor development in humans is unknown [see Nonclinical Toxicology (13.1)].	
5.10 Fundic Gland Polyps		5.10 Fundic Gland Polyps	
PPI use is associated with an increased risk of fundic gland polyps that increases with long-term use, especially beyond one year. Most PPI users who developed fundic gland polyps were asymptomatic and fundic gland polyps were identified incidentally on endoscopy. Use the shortest duration of PPI therapy appropriate to the condition being treated.		PPI use is associated with an increased risk of fundic gland polyps that increases with long-term use, especially beyond one year. Most PPI users who developed fundic gland polyps were asymptomatic and fundic gland polyps were identified incidentally on endoscopy. Use the shortest duration of PPI therapy appropriate to the condition being treated.	
5.11 Interference with Investigations for Neuroendocrine Tumors		5.11 Interference with Investigations for Neuroendocrine Tumors	

GRAVITI PHARMA

Serum chromogranin A (CgA) levels increase secondary to druginduced decreases in gastric acidity. The increased CgA level may cause false positive results in diagnostic investigations for neuroendocrine tumors. Healthcare providers should temporarily stop pantoprazole sodium delayed-release tablets treatment at least 14 days before assessing CgA levels and consider repeating the test if initial CgA levels are high. If serial tests are performed (e.g., for monitoring), the same commercial laboratory should be used for testing, as reference ranges between tests may vary [see Clinical Pharmacology (12.2)].

5.12 Interference with Urine Screen for THC

There have been reports of false-positive urine screening tests for tetrahydrocannabinol (THC) in patients receiving PPIs, including pantoprazole sodium delayed-release tablets [see Drug Interactions (7)].

5.13 Concomitant Use of Pantoprazole Sodium Delayed-Release Tablets with Methotrexate

Literature suggests that concomitant use of PPIs with methotrexate (primarily at high dose; see methotrexate prescribing information) may elevate and prolong serum levels of methotrexate and/or its metabolite, possibly leading to methotrexate toxicities. In high-dose methotrexate administration, a temporary withdrawal of the PPI may be considered in some patients [see Drug Interactions (7)].

6 ADVERSE REACTIONS

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Serum chromogranin A (CgA) levels increase secondary to drug-induced decreases in gastric acidity. The increased CgA level may cause false positive results in diagnostic investigations for neuroendocrine tumors. Healthcare providers should temporarily stop PROTONIX treatment at least 14 days before assessing CgA levels and consider repeating the test if initial CgA levels are high. If serial tests are performed (e.g., for monitoring), the same commercial laboratory should be used for testing, as reference ranges between tests may vary [see Clinical Pharmacology (12.2)].

5.12 Interference with Urine Screen for THC

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5.13 Concomitant Use of PROTONIX with Methotrexate

Literature suggests that concomitant use of PPIs with methotrexate (primarily at high dose; see methotrexate prescribing information) may elevate and prolong serum levels of methotrexate and/or its metabolite, possibly leading to methotrexate toxicities. In high-dose methotrexate administration, a temporary withdrawal of the PPI may be considered in some patients [see Drug Interactions (7)].

6 ADVERSE REACTIONS

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The following serious adverse reactions are described below and elsewhere in labeling:	The following serious adverse reactions are described below and elsewhere in labeling:
 Acute Tubulointerstitial Nephritis [see Warnings and Precautions (5.2)] Clostridium difficile-Associated Diarrhea [see Warnings and Precautions (5.3)] Bone Fracture [see Warnings and Precautions (5.4)] Severe Cutaneous Adverse Reactions [see Warnings and Precautions (5.5)] Cutaneous and Systemic Lupus Erythematosus [see Warnings and Precautions (5.6)] Cyanocobalamin (Vitamin B₁₂) Deficiency [see Warnings and Precautions (5.7)] Hypomagnesemia and Mineral Metabolism [see Warnings and Precautions (5.8)] Fundic Gland Polyps [see Warnings and Precautions (5.10)] 	 Acute Tubulointerstitial Nephritis [see Warnings and Precautions (5.2)] Clostridium difficile-Associated Diarrhea [see Warnings and Precautions (5.3)] Bone Fracture [see Warnings and Precautions (5.4)] Severe Cutaneous Adverse Reactions [see Warnings and Precautions (5.5)] Cutaneous and Systemic Lupus Erythematosus [see Warnings and Precautions (5.6)] Cyanocobalamin (Vitamin B₁₂) Deficiency [see Warnings and Precautions (5.7)] Hypomagnesemia and Mineral Metabolism [see Warnings and Precautions (5.8)] Fundic Gland Polyps [see Warnings and Precautions (5.10)]
6.1 Clinical Trials Experience	6.1 Clinical Trials Experience
	The adverse reaction profiles for PROTONIX (pantoprazole sodium) For Delayed-Release Oral Suspension and PROTONIX (pantoprazole sodium) Delayed-Release Tablets are similar.
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 clinical practice.	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 clinical practice.

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Adults

Safety in nine randomized comparative U.S. clinical trials in patients with GERD included 1,473 patients on oral pantoprazole sodium delayed-release tablets (20 mg or 40 mg), 299 patients on an H₂-receptor antagonist, 46 patients on another PPI, and 82 patients on placebo. The most frequently occurring adverse reactions are listed in Table 3.

Table 3 Adverse Reactions Reported in Clinical Trials of Adult Patients with GERD at a Frequency of > 2%

	Pantoprazole Sodium Delayed- Release Tablets (n=1,473) %	Comparator s (n=345) %	Placebo (n=82) %
Headache	12.2	12.8	8.5
Diarrhea	8.8	9.6	4.9
Nausea	7.0	5.2	9.8
Abdominal pain	6.2	4.1	6.1
Vomiting	4.3	3.5	2.4
Flatulence	3.9	2.9	3.7
Dizziness	3.0	2.9	1.2
Arthralgia	2.8	1.4	1.2

Additional adverse reactions that were reported for pantoprazole sodium delayed-release tablets in clinical trials with a frequency of $\leq 2\%$ are listed below by body system:

Adults

6

Safety in nine randomized comparative $\overline{\text{US}}$ clinical trials in patients with GERD included 1,473 patients on oral $\overline{\text{PROTONIX}}$ (20 mg or 40 mg), 299 patients on an H_2 -receptor antagonist, 46 patients on another PPI, and 82 patients on placebo. The most frequently occurring adverse reactions are listed in Table 3.

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Dizziness	3.0	2.9	1.2
Arthralgia	2.8	1.4	1.2

Additional adverse reactions that were reported for PROTONIX in clinical trials with a frequency of $\leq 2\%$ are listed below by body system:

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PROPOSED GENERIC DRUG PACKAGE INSERT LABELING GRAVITI PHARMA		REFERENCE LISTED DRUG PACKAGE INSERT LABELING
		WYETH PHARMACEUTICALS LLC.
Body as a Whole: allergic reaction, pyrexia, photosensitivity reaction, facial edema		Body as a Whole: allergic reaction, pyrexia, photosensitivity reaction, facial edema
Gastrointestinal: constipation, dry mouth, hepatitis		Gastrointestinal: constipation, dry mouth, hepatitis
Hematologic: leukopenia, thrombocytopenia		Hematologic: leukopenia, thrombocytopenia
Metabolic/Nutritional: elevated CK (creatine kinase), generalized edema, elevated triglycerides, liver enzymes elevated		Metabolic/Nutritional: elevated CK (creatine kinase), generalized edema, elevated triglycerides, liver enzymes elevated
Musculoskeletal: myalgia		Musculoskeletal: myalgia
Nervous: depression, vertigo		Nervous: depression, vertigo
Skin and Appendages: urticaria, rash, pruritus		Skin and Appendages: urticaria, rash, pruritus
Special Senses: blurred vision		Special Senses: blurred vision
Pediatric Patients		Pediatric Patients
Safety of pantoprazole in the treatment of EE associated with GERD was evaluated in pediatric patients ages 1 year through 16 years in three clinical trials. Safety trials involved pediatric patients with EE; however, as EE is uncommon in the pediatric population, 249 pediatric patients with endoscopically-proven or symptomatic GERD were also evaluated. All adult adverse reactions to pantoprazole sodium delayed-release tablets are considered relevant to pediatric patients. In patients ages 1 year through 16 years, the	1	Safety of PROTONIX in the treatment of EE associated with GERD was evaluated in pediatric patients ages 1 year through 16 years in three clinical trials. Safety trials involved pediatric patients with EE; however, as EE is uncommon in the pediatric population, 249 pediatric patients with endoscopically-proven or symptomatic GERD were also evaluated. All adult adverse reactions to PROTONIX are considered relevant to pediatric patients. In patients ages 1 year through 16 years, the most commonly reported (> 4%) adverse

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most commonly reported (> 4%) adverse reactions include: URI, headache, fever, diarrhea, vomiting, rash, and abdominal pain.		reactions include: URI, headache, fever, diarrhea, vomiting, rash, and abdominal pain.
For safety information in patients less than 1 year of age see <i>Use in Specific Populations (8.4)</i> .		For safety information in patients less than 1 year of age see <i>Use in Specific Populations (8.4)</i> .
Additional adverse reactions that were reported for pantoprazole in pediatric patients in clinical trials with a frequency of $\leq 4\%$ are listed below by body system:	1	Additional adverse reactions that were reported for $\frac{PROTONIX}{PROTONIX}$ in pediatric patients in clinical trials with a frequency of $\leq 4\%$ are listed below by body system:
Body as a Whole: allergic reaction, facial edema		Body as a Whole: allergic reaction, facial edema
Gastrointestinal: constipation, flatulence, nausea		Gastrointestinal: constipation, flatulence, nausea
Metabolic/Nutritional: elevated triglycerides, elevated liver enzymes, elevated CK (creatine kinase)		Metabolic/Nutritional: elevated triglycerides, elevated liver enzymes, elevated CK (creatine kinase)
Musculoskeletal: arthralgia, myalgia		Musculoskeletal: arthralgia, myalgia
Nervous: dizziness, vertigo		Nervous: dizziness, vertigo
Skin and Appendages: urticaria		Skin and Appendages: urticaria
The following adverse reactions seen in adults in clinical trials were not reported in pediatric patients in clinical trials, but are considered relevant to pediatric patients: photosensitivity reaction, dry mouth, hepatitis, thrombocytopenia, generalized edema, depression, pruritus, leukopenia, and blurred vision.		The following adverse reactions seen in adults in clinical trials were not reported in pediatric patients in clinical trials, but are considered relevant to pediatric patients: photosensitivity reaction, dry mouth, hepatitis, thrombocytopenia, generalized edema, depression, pruritus, leukopenia, and blurred vision.

PROPOSED GENERIC DRUG PACKAGE INSERT LABELING GRAVITI PHARMA		REFERENCE LISTED DRUG PACKAGE INSERT LABELING WYETH PHARMACEUTICALS LLC.
Zollinger-Ellison (ZE) Syndrome		Zollinger-Ellison (ZE) Syndrome
In clinical studies of ZE Syndrome, adverse reactions reported in 35 patients taking pantoprazole 80 mg/day to 240 mg/day for up to 2 years were similar to those reported in adult patients with GERD.	1	In clinical studies of ZE Syndrome, adverse reactions reported in 35 patients taking PROTONIX 80 mg/day to 240 mg/day for up to 2 years were similar to those reported in adult patients with GERD.
6.2 Postmarketing Experience		6.2 Postmarketing Experience
The following adverse reactions have been identified during postapproval use of pantoprazole sodium delayed-release tablets. 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.	1	The following adverse reactions have been identified during postapproval use of PROTONIX . 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.
These adverse reactions are listed below by body system:		These adverse reactions are listed below by body system:
Gastrointestinal Disorders: fundic gland polyps		Gastrointestinal Disorders: fundic gland polyps
General Disorders and Administration Conditions: asthenia, fatigue, malaise		General Disorders and Administration Conditions: asthenia, fatigue, malaise
Hematologic: pancytopenia, agranulocytosis		Hematologic: pancytopenia, agranulocytosis
Hepatobiliary Disorders: hepatocellular damage leading to jaundice and hepatic failure		Hepatobiliary Disorders: hepatocellular damage leading to jaundice and hepatic failure
Immune System Disorders: anaphylaxis (including anaphylactic shock), systemic lupus erythematosus		Immune System Disorders: anaphylaxis (including anaphylactic shock), systemic lupus erythematosus

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Infections and Infestations: Clostridium difficile associated diarrhea		Infections and Infestations: Clostridium difficile associated diarrhea
Investigations: weight changes		Investigations: weight changes
Metabolism and Nutritional Disorders: hypomagnesemia, hypocalcemia, hypokalemia, hyponatremia		Metabolism and Nutritional Disorders: hypomagnesemia, hypocalcemia, hypokalemia, hyponatremia
Musculoskeletal Disorders: rhabdomyolysis, bone fracture		Musculoskeletal Disorders: rhabdomyolysis, bone fracture
Nervous: ageusia, dysgeusia		Nervous: ageusia, dysgeusia
Psychiatric Disorders: hallucination, confusion, insomnia, somnolence		Psychiatric Disorders: hallucination, confusion, insomnia, somnolence
Renal and Genitourinary Disorders: acute tubulointerstitial nephritis, erectile dysfunction		Renal and Genitourinary Disorders: acute tubulointerstitial nephritis, erectile dysfunction
Skin and Subcutaneous Tissue Disorders: severe dermatologic reactions (some fatal), including erythema multiforme, SJS/TEN, DRESS, AGEP, angioedema (Quincke's edema) and cutaneous lupus erythematosus		Skin and Subcutaneous Tissue Disorders: severe dermatologic reactions (some fatal), including erythema multiforme, SJS/TEN, DRESS, AGEP, angioedema (Quincke's edema) and cutaneous lupus erythematosus
7 DRUG INTERACTIONS		7 DRUG INTERACTIONS
Table 4 includes drugs with clinically important drug interactions and interaction with diagnostics when administered concomitantly with pantoprazole sodium delayed-release tablets and instructions for preventing or managing them.	1	Table 4 includes drugs with clinically important drug interactions and interaction with diagnostics when administered concomitantly with PROTONIX and instructions for preventing or managing them.

PROPOSED GENERIC DRUG PACKAGE INSERT LABELING GRAVITI PHARMA	REFERENCE LISTED DRUG PACKAGE INSERT LABELING WYETH PHARMACEUTICALS LLC.
Consult the labeling of concomitantly used drugs to obtain further information about interactions with PPIs. Table 4 Clinically Relevant Interactions Affecting Drugs Co-Administered with Pantoprazole Sodium Delayed-Release Tablets and Interactions with Diagnostics	Consult the labeling of concomitantly used drugs to obtain further information about interactions with PPIs. Table 4 Clinically Relevant Interactions Affecting Drugs Co-Administered with PROTONIX and Interactions with Diagnostics
Antiretrovirals Clinical Impact: The effect of PPIs on antiretroviral drugs is variable. The clinical importance and the mechanisms behind these interactions are not always known. • Decreased exposure of some antiretroviral drugs (e.g., rilpivirine, atazanavir, and nelfinavir) when used concomitantly with pantoprazole may reduce antiviral effect and promote the development of drug resistance. • Increased exposure of other antiretroviral drugs (e.g., saquinavir) when used concomitantly with pantoprazole may increase toxicity of the antiretroviral drugs. • There are other antiretroviral drugs which do not result in clinically relevant interactions with pantoprazole.	Antiretrovirals Clinical Impact: The effect of PPIs on antiretroviral drugs is variable. The clinical importance and the mechanisms behind these interactions are not always known. • Decreased exposure of some antiretroviral drugs (e.g., rilpivirine, atazanavir, and nelfinavir) when used concomitantly with pantoprazole may reduce antiviral effect and promote the development of drug resistance. • Increased exposure of other antiretroviral drugs (e.g., saquinavir) when used concomitantly with pantoprazole may increase toxicity of the antiretroviral drugs. • There are other antiretroviral drugs which do not result in clinically relevant interactions with pantoprazole.

PROPOSED GENERIC DRUG PACKAGE INSERT LABELING GRAVITI PHARMA		REFER	ENCE LISTED DRUG PACKAGE INSERT LABELING
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Intervention: Rilpivirine-containing products: Concorpantoprazole sodium delayed-release contraindicated [see Contraindications (4) information. Atazanavir: See prescribing information dosing information. Nelfinavir: Avoid concomitant use with part delayed-release tablets. See prescribing nelfinavir. Saquinavir: See the prescribing information and monitor for potential saquinavir toxicits.	for atazanavir for saquinavir iies. 1 1 1 1 1 1 1 1 1	Intervention:	Rilpivirine-containing products: Concomitant use with PROTONIX is contraindicated [see Contraindications (4)]. See prescribing information. Atazanavir: See prescribing information for atazanavir for dosing information. Nelfinavir: Avoid concomitant use with PROTONIX. See prescribing information for nelfinavir. Saquinavir: See the prescribing information for saquinavir and monitor for potential saquinavir toxicities. Other antiretrovirals: See prescribing information.
Other antiretrovirals: See prescribing inform	mation.	Warfarin	
Clinical Impact: Increased INR and prothrombin time in pPIs, including pantoprazole, and warfar Increases in INR and prothrombin time may bleeding and even death.	in concomitantly. y lead to abnormal	Clinical Impact:	Increased INR and prothrombin time in patients receiving PPIs, including pantoprazole, and warfarin concomitantly. Increases in INR and prothrombin time may lead to abnormal bleeding and even death.
Intervention: Monitor INR and prothrombin time. Do warfarin may be needed to maintain target prescribing information for warfarin.		Intervention:	Monitor INR and prothrombin time. Dose adjustment of warfarin may be needed to maintain target INR range. See prescribing information for warfarin.
Clopidogrel		Clopidogrel	
Clinical Impact: Concomitant administration of pantoprazol in healthy subjects had no clinically im exposure to the active metabolite of clopidogrel-induced platelet inhibition Pharmacology (12.3)].	portant effect on clopidogrel or [see Clinical	Clinical Impact:	Concomitant administration of pantoprazole and clopidogrel in healthy subjects had no clinically important effect on exposure to the active metabolite of clopidogrel or clopidogrel-induced platelet inhibition [see Clinical Pharmacology (12.3)].
Intervention: No dose adjustment of clopidogrel is administered with an approved dose of par delayed-release tablets.		Intervention:	No dose adjustment of clopidogrel is necessary when administered with an approved dose of PROTONIX .
Methotrexate		Methotrexate	

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Clinical Impact: Intervention:	Concomitant use of PPIs with methotrexate (primarily at high dose) may elevate and prolong serum concentrations of methotrexate and/or its metabolite hydroxymethotrexate, possibly leading to methotrexate toxicities. No formal drug interaction studies of high-dose methotrexate with PPIs have been conducted [see Warnings and Precautions (5.13)]. A temporary withdrawal of pantoprazole sodium delayed-release tablets may be considered in some patients receiving high-dose methotrexate.	1	Clinical Impact: Intervention:	dose) may elevate and prolong serum concentrations of methotrexate and/or its metabolite hydroxymethotrexate, possibly leading to methotrexate toxicities. No formal drug interaction studies of high-dose methotrexate with PPIs have been conducted [see Warnings and Precautions (5.13)]. A temporary withdrawal of PROTONIX may be considered in some patients receiving high-dose methotrexate.
	ent on Gastric pH for Absorption (e.g., iron salts, erlotinib, inib, mycophenolate mofetil, ketoconazole/itraconazole)			ent on Gastric pH for Absorption (e.g., iron salts, erlotinib, inib, mycophenolate mofetil, ketoconazole/itraconazole)
Clinical Impact:	Pantoprazole can reduce the absorption of other drugs due to its effect on reducing intragastric acidity.		Clinical Impact:	Pantoprazole can reduce the absorption of other drugs due to its effect on reducing intragastric acidity.
Intervention:	Mycophenolate mofetil (MMF): Co-administration of pantoprazole sodium in healthy subjects and in transplant patients receiving MMF has been reported to reduce the exposure to the active metabolite, mycophenolic acid (MPA), possibly due to a decrease in MMF solubility at an increased gastric pH <i>[see Clinical Pharmacology (12.3)]</i> . The clinical relevance of reduced MPA exposure on organ rejection has not been established in transplant patients receiving pantoprazole sodium delayed-release tablets and MMF. Use pantoprazole sodium delayed-release tablets with caution in transplant patients receiving MMF.		Intervention:	Mycophenolate mofetil (MMF): Co-administration of pantoprazole sodium in healthy subjects and in transplant patients receiving MMF has been reported to reduce the exposure to the active metabolite, mycophenolic acid (MPA), possibly due to a decrease in MMF solubility at an increased gastric pH [see Clinical Pharmacology (12.3)]. The clinical relevance of reduced MPA exposure on organ rejection has not been established in transplant patients receiving PROTONIX and MMF. Use PROTONIX with caution in transplant patients receiving MMF. See the prescribing information for other drugs dependent on gastric pH for absorption.
	gastric pH for absorption.			th Investigations of Neuroendocrine Tumors
Interactions win	th Investigations of Neuroendocrine Tumors CgA levels increase secondary to PPI-induced decreases in gastric acidity. The increased CgA level may cause false positive results in diagnostic investigations for neuroendocrine tumors [see Warnings and Precautions (5.11), Clinical Pharmacology (12.2)].		Clinical Impact:	CgA levels increase secondary to PPI-induced decreases in gastric acidity. The increased CgA level may cause false positive results in diagnostic investigations for neuroendocrine tumors [see Warnings and Precautions (5.11), Clinical Pharmacology (12.2)].

PROPO	OSED GENERIC DRUG PACKAGE INSERT LABELING GRAVITI PHARMA		REFERENCE LISTED DRUG PACKAGE INSERT LABELING WYETH PHARMACEUTICALS LLC.	
Intervention: False Positive Clinical Impac	Temporarily stop pantoprazole sodium delayed-release tablets treatment at least 14 days before assessing CgA levels and consider repeating the test if initial CgA levels are high. If serial tests are performed (e.g., for monitoring), the same commercial laboratory should be used for testing, as reference ranges between tests may vary. Urine Tests for THC There have been reports of false positive urine screening tests for tetrahydrocannabinol (THC) in patients receiving PPIs [see Warnings and Precautions (5.12)].	1		Temporarily stop PROTONIX treatment at least 14 days before assessing CgA levels and consider repeating the test if initial CgA levels are high. If serial tests are performed (e.g., for monitoring), the same commercial laboratory should be used for testing, as reference ranges between tests may vary. Urine Tests for THC There have been reports of false positive urine screening tests for tetrahydrocannabinol (THC) in patients receiving PPIs [see Warnings and Precautions (5.12)]. An alternative confirmatory method should be considered to
Intervention: 8 USE IN SP	An alternative confirmatory method should be considered to verify positive results. ECIFIC POPULATIONS		8 USE IN SP	verify positive results. ECIFIC POPULATIONS
8.1 Pregnanc	y		8.1 Pregnanc	y
Risk Summar	У		Risk Summar	У
demonstrate a	ta from published observational studies did not association of major malformations or other adverse teomes with pantoprazole.		demonstrate a	ata from published observational studies did not an association of major malformations or other adverse tcomes with pantoprazole.
outcomes wa have been per 88 times the r to 40 mg/kg/d administration animals and I	roduction studies, no evidence of adverse development is observed with pantoprazole. Reproduction studies formed in rats at oral doses up to 450 mg/kg/day (about ecommended human dose) and rabbits at oral doses up ay (about 16 times the recommended human dose) with an of pantoprazole during organogenesis in pregnant have revealed no evidence of harm to the fetus due to in this study (see Data).		outcomes was have been per 88 times the re to 40 mg/kg/d administration animals and h	roduction studies, no evidence of adverse development is observed with pantoprazole. Reproduction studies formed in rats at oral doses up to 450 mg/kg/day (about recommended human dose) and rabbits at oral doses up lay (about 16 times the recommended human dose) with an of pantoprazole during organogenesis in pregnant have revealed no evidence of harm to the fetus due to in this study (see Data).

GRAVITI PHARMA

A pre-and postnatal development toxicity study in rats with additional endpoints to evaluate the effect on bone development was performed with pantoprazole sodium. Oral pantoprazole doses of 5, 15, and 30 mg/kg/day (approximately 1, 3, and 6 times the human dose of 40 mg/day) were administered to pregnant females from gestation day (GD) 6 through lactation day (LD) 21. Changes in bone morphology were observed in pups exposed to pantoprazole *in utero* and through milk during the period of lactation as well as by oral dosing from postnatal day (PND) 4 through PND 21 [see Use in Specific Populations (8.4)]. There were no drug-related findings in maternal animals. Advise pregnant women of the potential risk of fetal harm.

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

Data

Human Data

Available data from published observational studies failed to demonstrate an association of adverse pregnancy- related outcomes and pantoprazole use. Methodological limitations of these observational studies cannot definitely establish or exclude any drug-associated risk during pregnancy. In a prospective study by the

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GRAVITI PHARMA

European Network of Teratology Information Services, outcomes from a group of 53 pregnant women administered median daily doses of 40 mg pantoprazole were compared to a control group of 868 pregnant women who did not take any proton pump inhibitors (PPIs). There was no difference in the rate of major malformations between women exposed to PPIs and the control group, corresponding to a Relative Risk (RR)=0.55, [95% Confidence Interval (CI) 0.08-3.95]. In a population-based retrospective cohort study covering all live births in Denmark from 1996 to 2008, there was no significant increase in major birth defects during analysis of first trimester exposure to pantoprazole in 549 live births. A meta-analysis that compared 1,530 pregnant women exposed to PPIs in at least the first trimester with 133,410 unexposed pregnant women showed no significant increases in risk for congenital malformations or spontaneous abortion with exposure to PPIs (for major malformations OR=1.12 ([95% CI 0.86-1.45] and for spontaneous abortions OR=1.29 [95% CI 0.84-1.97]).

Animal Data

Reproduction studies have been performed in rats at oral pantoprazole doses up to 450 mg/kg/day (about 88 times the recommended human dose based on body surface area) and in rabbits at oral doses up to 40 mg/kg/day (about 16 times the recommended human dose based on body surface area) with administration of pantoprazole sodium during organogenesis in pregnant animals. The studies have revealed no evidence of impaired fertility or harm to the fetus due to pantoprazole.

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GRAVITI PHARMA

A pre- and postnatal development toxicity study in rats with additional endpoints to evaluate the effect on bone development was performed with pantoprazole sodium. Oral pantoprazole doses of 5, 15, and 30 mg/kg/day (approximately 1, 3, and 6 times the human dose of 40 mg/day on a body surface area basis) were administered to pregnant females from gestation day (GD) 6 through lactation day (LD) 21. On postnatal day (PND 4) through PND 21, the pups were administered oral doses at 5, 15, and 30 mg/kg/day (approximately 1, 2.3, and 3.2 times the exposure (AUC) in humans at a dose of 40 mg). There were no drug-related findings in maternal animals. During the preweaning dosing phase (PND 4 to 21) of the pups, there were increased mortality and/or moribundity and decreased body weight and body weight gain at 5 mg/kg/day (approximately equal exposures (AUC) in humans receiving the 40 mg dose) and higher doses. On PND 21, decreased mean femur length and weight and changes in femur bone mass and geometry were observed in the offspring at 5 mg/kg/day (approximately equal exposures (AUC) in humans at the 40 mg dose) and higher doses. The femur findings included lower total area, bone mineral content and density, periosteal and endosteal circumference, and cross-sectional moment of inertia. There were no microscopic changes in the distal femur, proximal tibia, or stifle joints. Changes in bone parameters were partially reversible following a recovery period, with findings on PND 70 limited to lower femur metaphysis cortical/subcortical bone mineral density in female pups at 5 mg/kg/day (approximately equal exposures (AUC) in humans at the 40 mg dose) and higher doses.

8.2 Lactation

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A pre- and postnatal development toxicity study in rats with additional endpoints to evaluate the effect on bone development was performed with pantoprazole sodium. Oral pantoprazole doses of 5, 15, and 30 mg/kg/day (approximately 1, 3, and 6 times the human dose of 40 mg/day on a body surface area basis) were administered to pregnant females from gestation day (GD) 6 through lactation day (LD) 21. On postnatal day (PND 4) through PND 21, the pups were administered oral doses at 5, 15, and 30 mg/kg/day (approximately 1, 2.3, and 3.2 times the exposure (AUC) in humans at a dose of 40 mg). There were no drug-related findings in maternal animals. During the preweaning dosing phase (PND 4 to 21) of the pups, there were increased mortality and/or moribundity and decreased body weight and body weight gain at 5 mg/kg/day (approximately equal exposures (AUC) in humans receiving the 40 mg dose) and higher doses. On PND 21, decreased mean femur length and weight and changes in femur bone mass and geometry were observed in the offspring at 5 mg/kg/day (approximately equal exposures (AUC) in humans at the 40 mg dose) and higher doses. The femur findings included lower total area, bone mineral content and density, periosteal and endosteal circumference, and cross-sectional moment of inertia. There were no microscopic changes in the distal femur, proximal tibia, or stifle joints. Changes in bone parameters were partially reversible following a recovery period, with findings on PND 70 limited to lower femur metaphysis cortical/subcortical bone mineral density in female pups at 5 mg/kg/day (approximately equal exposures (AUC) in humans at the 40 mg dose) and higher doses.

8.2 Lactation

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Risk Summary		Risk Summary
Pantoprazole has been detected in breast milk of a nursing mother after a single 40 mg oral dose of pantoprazole. There were no effects on the breastfed infant (see Data). There are no data on pantoprazole effects on milk production.		Pantoprazole has been detected in breast milk of a nursing mother after a single 40 mg oral dose of pantoprazole. There were no effects on the breastfed infant (see Data). There are no data on pantoprazole effects on milk production.
The developmental and health benefits of breastfeeding should be considered along with the mother's clinical need for pantoprazole sodium delayed-release tablets and any potential adverse effects on the breastfed child from pantoprazole or from the underlying maternal condition.	1	The developmental and health benefits of breastfeeding should be considered along with the mother's clinical need for PROTONIX and any potential adverse effects on the breastfed child from pantoprazole or from the underlying maternal condition.
<u>Data</u>		<u>Data</u>
The breast milk of a 42-year-old woman receiving 40 mg of oral pantoprazole, at 10 months postpartum, was studied for 24 hours, to demonstrate low levels of pantoprazole present in the breast milk. Pantoprazole was detectable in milk only 2 and 4 hours after the dose with milk levels of approximately 36 mcg/L and 24 mcg/L, respectively. A milk-to-plasma ratio of 0.022 was observed at 2 hours after drug administration. Pantoprazole was not detectable (< 10 mcg/L) in milk at 6, 8 and 24 hours after the dose. The relative dose to the infant was estimated to be 7.3 mcg of pantoprazole, which is equivalent to 0.14% of the weight-adjusted maternal dose. No adverse events in the infant were reported by the mother.	1	The breast milk of a 42-year-old woman receiving 40 mg of oral PROTONIX, at 10 months postpartum, was studied for 24 hours, to demonstrate low levels of pantoprazole present in the breast milk. Pantoprazole was detectable in milk only 2 and 4 hours after the dose with milk levels of approximately 36 mcg/L and 24 mcg/L, respectively. A milk-to-plasma ratio of 0.022 was observed at 2 hours after drug administration. Pantoprazole was not detectable (< 10 mcg/L) in milk at 6, 8 and 24 hours after the dose. The relative dose to the infant was estimated to be 7.3 mcg of pantoprazole, which is equivalent to 0.14% of the weight-adjusted maternal dose. No adverse events in the infant were reported by the mother.
8.4 Pediatric Use		8.4 Pediatric Use

PROPOSED GENERIC DRUG PACKAGE INSERT LABELING GRAVITI PHARMA		REFERENCE LISTED DRUG PACKAGE INSERT LABELING WYETH PHARMACEUTICALS LLC.
The safety and effectiveness of pantoprazole for short-term treatment (up to eight weeks) of EE associated with GERD have been established in pediatric patients 1 year through 16 years of age. Effectiveness for EE has not been demonstrated in patients less than 1 year of age. In addition, for patients less than 5 years of age, there is no appropriate dosage strength in an age-appropriate formulation available. Therefore, pantoprazole sodium delayed-release tablets are indicated for the short-term treatment of EE associated with GERD for patients 5 years and older. The safety and effectiveness of pantoprazole sodium delayed-release tablets for pediatric uses other than EE have not been established.	1 1, 7 1	The safety and effectiveness of PROTONIX for short-term treatment (up to eight weeks) of EE associated with GERD have been established in pediatric patients 1 year through 16 years of age. Effectiveness for EE has not been demonstrated in patients less than 1 year of age. In addition, for patients less than 5 years of age, there is no appropriate dosage strength in an age-appropriate formulation available. Therefore, PROTONIX is indicated for the short-term treatment of EE associated with GERD for patients 5 years and older. The safety and effectiveness of PROTONIX for pediatric uses other than EE have not been established.
1 year through 16 years of age		1 year through 16 years of age
Use of pantoprazole in pediatric patients 1 year through 16 years of age for short-term treatment (up to eight weeks) of EE associated with GERD is supported by: a) extrapolation of results from adequate and well-controlled studies that supported the approval of pantoprazole sodium delayed-release tablets for treatment of EE associated with GERD in adults, and b) safety, effectiveness, and pharmacokinetic studies performed in pediatric patients [see Clinical Studies (14.1), Clinical Pharmacology (12.3)].	1	Use of PROTONIX in pediatric patients 1 year through 16 years of age for short-term treatment (up to eight weeks) of EE associated with GERD is supported by: a) extrapolation of results from adequate and well-controlled studies that supported the approval of PROTONIX for treatment of EE associated with GERD in adults, and b) safety, effectiveness, and pharmacokinetic studies performed in pediatric patients [see Clinical Studies (14.1), Clinical Pharmacology (12.3)].
Safety of pantoprazole in the treatment of EE associated with GERD in pediatric patients 1 through 16 years of age was evaluated in three multicenter, randomized, double-blind, parallel-treatment studies, involving 249 pediatric patients, including 8 with EE (4 patients ages 1 year to 5 years and 4 patients 5 years to 11 years). The children ages 1 year to 5 years with endoscopically diagnosed EE (defined as	1	Safety of PROTONIX in the treatment of EE associated with GERD in pediatric patients 1 through 16 years of age was evaluated in three multicenter, randomized, double-blind, parallel-treatment studies, involving 249 pediatric patients, including 8 with EE (4 patients ages 1 year to 5 years and 4 patients 5 years to 11 years). The children ages 1 year to 5 years with endoscopically diagnosed EE (defined as an

REFERENCE LISTED DRUG PACKAGE INSERT PROPOSED GENERIC DRUG PACKAGE INSERT LABELING **LABELING GRAVITI PHARMA** WYETH PHARMACEUTICALS LLC. an endoscopic Hetzel-Dent score ≥ 2) were treated once daily for 8 endoscopic Hetzel-Dent score ≥ 2) were treated once daily for 8 weeks with one of two dose levels of pantoprazole (approximating weeks with one of two dose levels of **PROTONIX** (approximating 0.6 1 0.6 mg/kg or 1.2 mg/kg). All 4 of these patients with EE were healed mg/kg or 1.2 mg/kg). All 4 of these patients with EE were healed (Hetzel-Dent score of 0 or 1) at 8 weeks. Because EE is uncommon (Hetzel-Dent score of 0 or 1) at 8 weeks. Because EE is uncommon in the pediatric population, predominantly pediatric patients with in the pediatric population, predominantly pediatric patients with endoscopically-proven or symptomatic GERD were also included in endoscopically-proven or symptomatic GERD were also included in these studies. Patients were treated with a range of doses of these studies. Patients were treated with a range of doses of pantoprazole once daily for 8 weeks. For safety findings see *Adverse* **PROTONIX** once daily for 8 weeks. For safety findings see *Adverse* 1 Reactions (6.1). Because these pediatric trials had no placebo, active Reactions (6.1). Because these pediatric trials had no placebo, active comparator, or evidence of a dose response, the trials were comparator, or evidence of a dose response, the trials were inconclusive regarding the clinical benefit of pantoprazole for inconclusive regarding the clinical benefit of PROTONIX for 1 symptomatic GERD in the pediatric population. The effectiveness of symptomatic GERD in the pediatric population. The effectiveness of pantoprazole for treating symptomatic GERD in pediatric patients **PROTONIX** for treating symptomatic GERD in pediatric patients has 1 not been established. has not been established. Although the data from the clinical trials support use of pantoprazole Although the data from the clinical trials support use of **PROTONIX** 1 for the short-term treatment of EE associated with GERD in pediatric for the short-term treatment of EE associated with GERD in pediatric patients 1 year through 5 years, there is no commercially available patients 1 year through 5 years, there is no commercially available dosage formulation appropriate for patients less than 5 years of age dosage formulation appropriate for patients less than 5 years of age [see Dosage and Administration (2)]. [see Dosage and Administration (2)]. In a population pharmacokinetic analysis, clearance values in the In a population pharmacokinetic analysis, clearance values in the children 1 to 5 years old with endoscopically proven GERD had a children 1 to 5 years old with endoscopically proven GERD had a median value of 2.4 L/h. Following a 1.2 mg/kg equivalent dose (15 median value of 2.4 L/h. Following a 1.2 mg/kg equivalent dose (15 mg for ≤ 12.5 kg and 20 mg for > 12.5 to < 25 kg), the plasma mg for ≤ 12.5 kg and 20 mg for > 12.5 to < 25 kg), the plasma concentrations of pantoprazole were highly variable and the median concentrations of pantoprazole were highly variable and the median

time to peak plasma concentration was 3 to 6 hours. The estimated

AUC for patients 1 to 5 years old was 37% higher than for adults

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PROPOSED GENERIC DRUG PACKAGE INSERT LABELING GRAVITI PHARMA		REFERENCE LISTED DRUG PACKAGE INSERT LABELING WYETH PHARMACEUTICALS LLC.
receiving a single 40 mg tablet, with a geometric mean AUC value of 6.8 mcg•hr/mL.	6	receiving a single 40 mg tablet, with a geometric mean AUC value of 6.8 µg•hr/mL.
Neonates to less than one year of age		Neonates to less than one year of age
Pantoprazole was not found to be effective in a multicenter, randomized, double-blind, placebo-controlled, treatment-withdrawal study of 129 pediatric patients 1 through 11 months of age. Patients were enrolled if they had symptomatic GERD based on medical history and had not responded to non-pharmacologic interventions for GERD for two weeks. Patients received pantoprazole daily for four weeks in an open-label phase, then patients were randomized in equal proportion to receive pantoprazole treatment or placebo for the subsequent four weeks in a double-blind manner. Efficacy was assessed by observing the time from randomization to study discontinuation due to symptom worsening during the four-week treatment-withdrawal phase. There was no statistically significant difference between pantoprazole and placebo in the rate of discontinuation.	1 1 1	PROTONIX was not found to be effective in a multicenter, randomized, double-blind, placebo-controlled, treatment-withdrawal study of 129 pediatric patients 1 through 11 months of age. Patients were enrolled if they had symptomatic GERD based on medical history and had not responded to non-pharmacologic interventions for GERD for two weeks. Patients received PROTONIX daily for four weeks in an open-label phase, then patients were randomized in equal proportion to receive PROTONIX treatment or placebo for the subsequent four weeks in a double-blind manner. Efficacy was assessed by observing the time from randomization to study discontinuation due to symptom worsening during the four-week treatment-withdrawal phase. There was no statistically significant difference between PROTONIX and placebo in the rate of discontinuation.
In this trial, the adverse reactions that were reported more commonly (difference of \geq 4%) in the treated population compared to the placebo population were elevated CK, otitis media, rhinitis, and laryngitis.		In this trial, the adverse reactions that were reported more commonly (difference of \geq 4%) in the treated population compared to the placebo population were elevated CK, otitis media, rhinitis, and laryngitis.
In a population pharmacokinetic analysis, the systemic exposure was higher in patients less than 1 year of age with GERD compared to adults who received a single 40 mg dose (geometric mean AUC was 103% higher in preterm infants and neonates receiving single dose		In a population pharmacokinetic analysis, the systemic exposure was higher in patients less than 1 year of age with GERD compared to adults who received a single 40 mg dose (geometric mean AUC was 103% higher in preterm infants and neonates receiving single dose of

PROPOSED GENERIC DRUG PACKAGE INSERT		REFERENCE LISTED DRUG PACKAGE INSERT
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of 2.5 mg of pantoprazole, and 23% higher in infants 1 through 11 months of age receiving a single dose of approximately 1.2 mg/kg). In these patients, the apparent clearance (CL/F) increased with age (median clearance: 0.6 L/hr, range: 0.03 to 3.2 L/hr).	1	2.5 mg of PROTONIX, and 23% higher in infants 1 through 11 months of age receiving a single dose of approximately 1.2 mg/kg). In these patients, the apparent clearance (CL/F) increased with age (median clearance: 0.6 L/hr, range: 0.03 to 3.2 L/hr).
These doses resulted in pharmacodynamic effects on gastric but not esophageal pH. Following once daily dosing of 2.5 mg of pantoprazole in preterm infants and neonates, there was an increase in the mean gastric pH (from 4.3 at baseline to 5.2 at steady-state) and in the mean % time that gastric pH was > 4 (from 60% at baseline to 80% at steady-state). Following once daily dosing of approximately 1.2 mg/kg of pantoprazole in infants 1 through 11 months of age, there was an increase in the mean gastric pH (from 3.1 at baseline to 4.2 at steady-state) and in the mean % time that gastric pH was > 4 (from 32% at baseline to 60% at steady-state). However, no significant changes were observed in mean intraesophageal pH or % time that esophageal pH was < 4 in either age group.	1	These doses resulted in pharmacodynamic effects on gastric but not esophageal pH. Following once daily dosing of 2.5 mg of PROTONIX in preterm infants and neonates, there was an increase in the mean gastric pH (from 4.3 at baseline to 5.2 at steady-state) and in the mean % time that gastric pH was > 4 (from 60% at baseline to 80% at steady-state). Following once daily dosing of approximately 1.2 mg/kg of PROTONIX in infants 1 through 11 months of age, there was an increase in the mean gastric pH (from 3.1 at baseline to 4.2 at steady-state) and in the mean % time that gastric pH was > 4 (from 32% at baseline to 60% at steady-state). However, no significant changes were observed in mean intraesophageal pH or % time that esophageal pH was < 4 in either age group.
Because pantoprazole was not shown to be effective in the randomized, placebo-controlled study in this age group, the use of pantoprazole for treatment of symptomatic GERD in infants less than 1 year of age is not indicated.	1	Because PROTONIX was not shown to be effective in the randomized, placebo-controlled study in this age group, the use of PROTONIX for treatment of symptomatic GERD in infants less than 1 year of age is not indicated.
Animal Toxicity Data		Animal Toxicity Data
In a pre- and post-natal development study in rats, the pups were administered oral doses of pantoprazole at 5, 15, and 30 mg/kg/day (approximately 1, 2.3, and 3.2 times the exposure (AUC) in children		In a pre- and post-natal development study in rats, the pups were administered oral doses of pantoprazole at 5, 15, and 30 mg/kg/day (approximately 1, 2.3, and 3.2 times the exposure (AUC) in children

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aged 6 to 11 years at a dose of 40 mg) on postnatal day (PND 4) through PND 21, in addition to lactational exposure through milk. On PND 21, decreased mean femur length and weight and changes in femur bone mass and geometry were observed in the offspring at 5 mg/kg/day (approximately equal exposures (AUC) in children aged 6 to 11 years at the 40 mg dose) and higher doses. Changes in bone parameters were partially reversible following a recovery period.

In neonatal/juvenile animals (rats and dogs) toxicities were similar to those observed in adult animals, including gastric alterations, decreases in red cell mass, increases in lipids, enzyme induction and hepatocellular hypertrophy. An increased incidence of eosinophilic chief cells in adult and neonatal/juvenile rats, and atrophy of chief cells in adult rats and in neonatal/juvenile dogs, was observed in the fundic mucosa of stomachs in repeated-dose studies. Full to partial recovery of these effects were noted in animals of both age groups following a recovery period.

8.5 Geriatric Use

In short-term U.S. clinical trials, EE healing rates in the 107 elderly patients (≥ 65 years old) treated with pantoprazole sodium delayed-release tablets were similar to those found in patients under the age of 65. The incidence rates of adverse reactions and laboratory abnormalities in patients aged 65 years and older were similar to those associated with patients younger than 65 years of age.

10 OVERDOSAGE

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10 OVERDOSAGE

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Experience in patients taking very high doses of pantoprazole sodium delayed-release tablets (greater than 240 mg) is limited. Spontaneous post-marketing reports of overdose are generally within the known safety profile of pantoprazole sodium delayed-release tablets.	1	Experience in patients taking very high doses of PROTONIX (greater than 240 mg) is limited. Spontaneous post-marketing reports of overdose are generally within the known safety profile of PROTONIX.
Pantoprazole is not removed by hemodialysis. In case of overdosage, treatment should be symptomatic and supportive. Single oral doses of pantoprazole at 709 mg/kg, 798 mg/kg, and 887 mg/kg were lethal to mice, rats, and dogs, respectively. The symptoms of acute toxicity were hypoactivity, ataxia, hunched sitting, limb-splay, lateral position, segregation, absence of ear reflex, and tremor. If overexposure to pantoprazole sodium delayed-release tablets occurs, call your Poison Control Center at 1-800-222-1222 for current information on the management of poisoning or overdosage.	1	Pantoprazole is not removed by hemodialysis. In case of overdosage, treatment should be symptomatic and supportive. Single oral doses of pantoprazole at 709 mg/kg, 798 mg/kg, and 887 mg/kg were lethal to mice, rats, and dogs, respectively. The symptoms of acute toxicity were hypoactivity, ataxia, hunched sitting, limb-splay, lateral position, segregation, absence of ear reflex, and tremor. If overexposure to PROTONIX occurs, call your Poison Control Center at 1-800-222-1222 for current information on the management of poisoning or overdosage.
11 DESCRIPTION	1, 2, 4	11 DESCRIPTION
The active ingredient in pantoprazole sodium delayed-release tablets, USP, a PPI, is a substituted 5-(difluoromethoxy)-2-[[(3,4-dimethoxy-2-pyridyl)methyl]sulfinyl]benzimidazole, sodium salt, sesquihydrate, a compound that inhibits gastric acid secretion. Its molecular formula is $C_{16}H_{14}F_2N_3NaO_4S \times 1.5 H_2O$, with a molecular weight of 432.37. The structural formula is:		The active ingredient in PROTONIX (pantoprazole sodium) For Delayed-Release Oral Suspension and PROTONIX (pantoprazole sodium) Delayed-Release Tablets, a PPI, is a substituted benzimidazole, sodium 5-(difluoromethoxy)-2-[[(3,4-dimethoxy-2-pyridinyl)methyl] sulfinyl]-1H-benzimidazole sesquihydrate, a compound that inhibits gastric acid secretion. Its empirical formula

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 H_3CO OCH_3 N OCH_3 N OCH_3 N OCH_3 OCH_3

Pantoprazole sodium, USP is a white to off white powder and is racemic. Pantoprazole has weakly basic and acidic properties. Pantoprazole sodium, USP is freely soluble in water, methanol and dehydrated alcohol, practically insoluble in hexane and dichloromethane.

The stability of the compound in aqueous solution is pH-dependent. The rate of degradation increases with decreasing pH. At ambient temperature, the degradation half-life is approximately 2.8 hours at pH 5 and approximately 220 hours at pH 7.8.

Pantoprazole sodium is supplied as a delayed-release tablet, available in two strengths 20 mg pantoprazole (equivalent to 22.55 mg of pantoprazole sodium) and 40 mg pantoprazole (equivalent to 45.10 mg of pantoprazole sodium).

Pantoprazole sodium delayed-release tablet, USP contains the following inactive ingredients: calcium stearate, crospovidone, ferric oxide yellow, hydroxy propyl cellulose, hypromellose, mannitol, methacrylic acid and ethyl acrylate copolymer dispersion, sodium carbonate and triethyl citrate.

is C₁₆H₁₄F₂N₃NaO₄S x 1.5 H₂O, with a molecular weight of 432.4. The structural formula is:

$$OCF_2H$$
 OCH_3
 N
 OCF_2H
 OCH_3
 N
 OCF_2H
 OCH_3
 OCH_3

Pantoprazole sodium sesquihydrate is a white to off-white crystalline powder and is racemic. Pantoprazole has weakly basic and acidic properties. Pantoprazole sodium sesquihydrate is freely soluble in water, very slightly soluble in phosphate buffer at pH 7.4, and practically insoluble in n-hexane.

The stability of the compound in aqueous solution is pH-dependent. The rate of degradation increases with decreasing pH. At ambient temperature, the degradation half-life is approximately 2.8 hours at pH 5 and approximately 220 hours at pH 7.8.

PROTONIX is supplied as a for delayed-release oral suspension in unit dose packets, available in one strength 40 mg pantoprazole, (equivalent to 45.1 mg of pantoprazole sodium), and as a delayed-release tablet, available in two strengths 20 mg pantoprazole (equivalent to 22.56 mg of pantoprazole sodium) and 40 mg pantoprazole (equivalent to 45.1 mg of pantoprazole sodium).

PROTONIX Delayed-Release Tablets contains the following inactive ingredients: calcium stearate, crospovidone, hypromellose, iron oxide, mannitol, methacrylic acid copolymer, polysorbate 80, povidone, propylene

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Additionally, each tablet is printed with black pharmaceutical ink which contains ferrosoferric oxide, propylene glycol and shellac.	glycol, sodium carbonate, sodium lauryl sulfate, titanium dioxide, ar triethyl citrate. PROTONIX Delayed-Release Tablets (40 mg and 20 m complies with USP dissolution test 2.
It complies with USP dissolution test 3.	PROTONIX For Delayed-Release Oral Suspension contains the following inactive ingredients: crospovidone, hypromellose, methacrylic accopolymer, microcrystalline cellulose, polysorbate 80, povidone, sodiu carbonate, sodium lauryl sulfate, talc, titanium dioxide, triethyl citrate, ary yellow ferric oxide.
12 CLINICAL PHARMACOLOGY	12 CLINICAL PHARMACOLOGY
12.1 Mechanism of Action	12.1 Mechanism of Action
Pantoprazole is a PPI that suppresses the final step in gastric acid production by covalently binding to the (H ⁺ , K ⁺)-ATPase enzyme system at the secretory surface of the gastric parietal cell. This effect leads to inhibition of both basal and stimulated gastric acid secretion, irrespective of the stimulus. The binding to the (H ⁺ , K ⁺)-ATPase results in a duration of antisecretory effect that persists longer than 24 hours for all doses tested (20 mg to 120 mg).	Pantoprazole is a PPI that suppresses the final step in gastric ac production by covalently binding to the (H ⁺ , K ⁺)-ATPase enzym system at the secretory surface of the gastric parietal cell. This effe leads to inhibition of both basal and stimulated gastric acid secretio irrespective of the stimulus. The binding to the (H ⁺ , K ⁺)-ATPa results in a duration of antisecretory effect that persists longer than a hours for all doses tested (20 mg to 120 mg).
12.2 Pharmacodynamics	12.2 Pharmacodynamics
Pantoprazole sodium for delayed-release oral suspension, 40 mg has been shown to be comparable to pantoprazole sodium delayed-release tablets in suppressing pentagastrin-stimulated MAO in patients (n = 49) with GERD and a history of EE. In this multicenter, pharmacodynamic crossover study, a 40 mg oral dose of	PROTONIX For Delayed-Release Oral Suspension, 40 mg has been shown to be comparable to PROTONIX Delayed-Release Tablets suppressing pentagastrin-stimulated MAO in patients (n = 49) wire GERD and a history of EE. In this multicenter, pharmacodynam crossover study, a 40 mg oral dose of PROTONIX For Delayer Release Oral Suspension administered in a teaspoonful of applesauce

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pantoprazole sodium for delayed-release oral suspension administered in a teaspoonful of applesauce was compared with a 40 mg oral dose of pantoprazole sodium delayed-release tablets after administration of each formulation once daily for 7 days. Both medications were administered thirty minutes before breakfast. Pentagastrin-stimulated (MAO) was assessed from hour 23 to 24 at steady state.

Antisecretory Activity

Under maximal acid stimulatory conditions using pentagastrin, a dose-dependent decrease in gastric acid output occurs after a single dose of oral (20-80 mg) or a single dose of intravenous (20-120 mg) pantoprazole in healthy subjects. Pantoprazole given once daily results in increasing inhibition of gastric acid secretion. Following the initial oral dose of 40 mg pantoprazole, a 51% mean inhibition was achieved by 2.5 hours. With once-a-day dosing for 7 days, the mean inhibition was increased to 85%. Pantoprazole suppressed acid secretion in excess of 95% in half of the subjects. Acid secretion had returned to normal within a week after the last dose of pantoprazole; there was no evidence of rebound hypersecretion.

In a series of dose-response studies, pantoprazole, at oral doses ranging from 20 to 120 mg, caused dose-related increases in median basal gastric pH and in the percent of time gastric pH was > 3 and > 4. Treatment with 40 mg of pantoprazole produced significantly greater increases in gastric pH than the 20 mg dose. Doses higher than 40 mg (60, 80, 120 mg) did not result in further significant increases in median gastric pH. The effects of pantoprazole on

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was compared with a 40 mg oral dose of PROTONIX Delayed-Release Tablets after administration of each formulation once daily for 7 days. Both medications were administered thirty minutes before breakfast. Pentagastrin-stimulated (MAO) was assessed from hour 23 to 24 at steady state.

Antisecretory Activity

Under maximal acid stimulatory conditions using pentagastrin, a dose-dependent decrease in gastric acid output occurs after a single dose of oral (20-80 mg) or a single dose of intravenous (20-120 mg) pantoprazole in healthy subjects. Pantoprazole given once daily results in increasing inhibition of gastric acid secretion. Following the initial oral dose of 40 mg pantoprazole, a 51% mean inhibition was achieved by 2.5 hours. With once-a-day dosing for 7 days, the mean inhibition was increased to 85%. Pantoprazole suppressed acid secretion in excess of 95% in half of the subjects. Acid secretion had returned to normal within a week after the last dose of pantoprazole; there was no evidence of rebound hypersecretion.

In a series of dose-response studies, pantoprazole, at oral doses ranging from 20 to 120 mg, caused dose-related increases in median basal gastric pH and in the percent of time gastric pH was > 3 and > 4. Treatment with 40 mg of pantoprazole produced significantly greater increases in gastric pH than the 20 mg dose. Doses higher than 40 mg (60, 80, 120 mg) did not result in further significant increases

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median pH from one double-blind crossover study are shown in

Table 5.

Table 5 Effect of Single Daily Doses of Oral Pantoprazole on Intragastric pH

	Median pH on day 7			
Time	Placebo	20 mg	40 mg	80 mg
8 a.m. to 8 a.m.	1.3	2.9^{*}	3.8*#	3.9*#
(24 hours)				
8 a.m. <mark>to</mark> 10 p.m.	1.6	3.2^{*}	$4.4^{*\#}$	4.8*#
(Daytime)			_	
10 p.m. <mark>to</mark> 8 a.m.	1.2	2.1^{*}	<mark>3</mark> *	2.6^{*}
(Nighttime)				

^{*} Significantly different from placebo

Serum Gastrin Effects

Fasting serum gastrin levels were assessed in two double-blind studies of the acute healing of EE in which 682 patients with gastroesophageal reflux disease (GERD) received 10, 20, or 40 mg of pantoprazole for up to 8 weeks. At 4 weeks of treatment there was an increase in mean gastrin levels of 7%, 35%, and 72% over pretreatment values in the 10, 20, and 40 mg treatment groups, respectively. A similar increase in serum gastrin levels was noted at the 8-week visit with mean increases of 3%, 26%, and 84% for the three pantoprazole dose groups. Median serum gastrin levels in median gastric pH. The effects of pantoprazole on median pH from one double-blind crossover study are shown in Table 5.

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Table 5 Effect of Single Daily Doses of Oral Pantoprazole on Intragastric pH

	Median pH on day 7			7
Time	Placebo	20 mg	40 mg	80 mg
8 a.m 8 a.m.	1.3	2.9^{*}	3.8*#	$3.9^{*\#}$
(24 hours)				
8 a.m 10 p.m.	1.6	3.2^{*}	$4.4^{*\#}$	$4.8^{*\#}$
(Daytime)				
10 p.m. <mark>-</mark> 8 a.m.	1.2	2.1^{*}	3.0*	2.6^{*}
(Nighttime)				

^{*} Significantly different from placebo

Serum Gastrin Effects

Fasting serum gastrin levels were assessed in two double-blind studies of the acute healing of EE in which 682 patients with gastroesophageal reflux disease (GERD) received 10, 20, or 40 mg of **PROTONIX** for up to 8 weeks. At 4 weeks of treatment there was an increase in mean gastrin levels of 7%, 35%, and 72% over pretreatment values in the 10, 20, and 40 mg treatment groups, respectively. A similar increase in serum gastrin levels was noted at the 8-week visit with mean increases of 3%, 26%, and 84% for the three pantoprazole dose groups. Median serum gastrin levels

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[#] Significantly different from 20 mg

[#] Significantly different from 20 mg

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remained within normal limits during maintenance therapy with pantoprazole sodium delayed-release tablets.	1	remained within normal limits during maintenance therapy with PROTONIX Delayed-Release Tablets.
In long-term international studies involving over 800 patients, a 2-to 3-fold mean increase from the pretreatment fasting serum gastrin level was observed in the initial months of treatment with pantoprazole at doses of 40 mg per day during GERD maintenance studies and 40 mg or higher per day in patients with refractory GERD. Fasting serum gastrin levels generally remained at approximately 2 to 3 times baseline for up to 4 years of periodic follow-up in clinical trials.		In long-term international studies involving over 800 patients, a 2- to 3-fold mean increase from the pretreatment fasting serum gastrin level was observed in the initial months of treatment with pantoprazole at doses of 40 mg per day during GERD maintenance studies and 40 mg or higher per day in patients with refractory GERD. Fasting serum gastrin levels generally remained at approximately 2 to 3 times baseline for up to 4 years of periodic follow-up in clinical trials.
Following short-term treatment with pantoprazole sodium delayed-release tablets, elevated gastrin levels return to normal by at least 3 months.	1	Following short-term treatment with PROTONIX , elevated gastrin levels return to normal by at least 3 months.
Enterochromaffin-Like (ECL) Cell Effects		Enterochromaffin-Like (ECL) Cell Effects
In 39 patients treated with oral pantoprazole 40 mg to 240 mg daily (majority receiving 40 mg to 80 mg) for up to 5 years, there was a moderate increase in ECL-cell density, starting after the first year of use, which appeared to plateau after 4 years.		In 39 patients treated with oral pantoprazole 40 mg to 240 mg daily (majority receiving 40 mg to 80 mg) for up to 5 years, there was a moderate increase in ECL-cell density, starting after the first year of use, which appeared to plateau after 4 years.
In a nonclinical study in Sprague-Dawley rats, lifetime exposure (24 months) to pantoprazole at doses of 0.5 to 200 mg/kg/day resulted in dose-related increases in gastric ECL-cell proliferation and gastric neuroendocrine (NE)-cell tumors. Gastric NE-cell tumors in rats may result from chronic elevation of serum gastrin concentrations. The high density of ECL cells in the rat stomach makes this species		In a nonclinical study in Sprague-Dawley rats, lifetime exposure (24 months) to pantoprazole at doses of 0.5 to 200 mg/kg/day resulted in dose-related increases in gastric ECL-cell proliferation and gastric neuroendocrine (NE)-cell tumors. Gastric NE-cell tumors in rats may result from chronic elevation of serum gastrin concentrations. The high density of ECL cells in the rat stomach makes this species highly

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highly susceptible to the proliferative effects of elevated gastrin concentrations produced by PPIs. However, there were no observed elevations in serum gastrin following the administration of pantoprazole at a dose of 0.5 mg/kg/day. In a separate study, a gastric NE-cell tumor without concomitant ECL-cell proliferative changes was observed in 1 female rat following 12 months of dosing with pantoprazole at 5 mg/kg/day and a 9 month off-dose recovery [see Nonclinical Toxicology (13.1)].		susceptible to the proliferative effects of elevated gastrin concentrations produced by PPIs. However, there were no observed elevations in serum gastrin following the administration of pantoprazole at a dose of 0.5 mg/kg/day. In a separate study, a gastric NE-cell tumor without concomitant ECL-cell proliferative changes was observed in 1 female rat following 12 months of dosing with pantoprazole at 5 mg/kg/day and a 9 month off-dose recovery [see Nonclinical Toxicology (13.1)].
Endocrine Effects		Endocrine Effects
In a clinical pharmacology study, pantoprazole sodium delayed-release tablets 40 mg given once daily for 2 weeks had no effect on the levels of the following hormones: cortisol, testosterone, triiodothyronine (T3), thyroxine (T4), thyroid-stimulating hormone (TSH), thyronine-binding protein, parathyroid hormone, insulin, glucagon, renin, aldosterone, follicle-stimulating hormone, luteinizing hormone, prolactin, and growth hormone.	1	In a clinical pharmacology study, PROTONIX 40 mg given once daily for 2 weeks had no effect on the levels of the following hormones: cortisol, testosterone, triiodothyronine (T3), thyroxine (T4), thyroid-stimulating hormone (TSH), thyronine-binding protein, parathyroid hormone, insulin, glucagon, renin, aldosterone, follicle-stimulating hormone, luteinizing hormone, prolactin, and growth hormone.
In a 1-year study of GERD patients treated with pantoprazole sodium delayed-release tablets 40 mg or 20 mg, there were no changes from baseline in overall levels of T3, T4, and TSH.		In a 1-year study of GERD patients treated with pantoprazole sodium delayed-release tablets 40 mg or 20 mg, there were no changes from baseline in overall levels of T3, T4, and TSH.
12.3 Pharmacokinetics		12.3 Pharmacokinetics
Pantoprazole sodium delayed-release tablets are prepared as enteric-coated tablets so that absorption of pantoprazole begins only after the tablet leaves the stomach. Peak serum concentration (C_{max}) and	1	PROTONIX Delayed-Release Tablets are prepared as enteric-coated tablets so that absorption of pantoprazole begins only after the tablet leaves the stomach. Peak serum concentration (C_{max}) and area under

the serum concentration time curve (AUC) increase in a manner

area under the serum concentration time curve (AUC) increase in a

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manner proportional to oral and intravenous doses from 10 mg to 80 mg. Pantoprazole does not accumulate, and its pharmacokinetics are unaltered with multiple daily dosing. Following oral or intravenous administration, the serum concentration of pantoprazole declines biexponentially, with a terminal elimination half-life of approximately one hour.		proportional to oral and intravenous doses from 10 mg to 80 mg. Pantoprazole does not accumulate, and its pharmacokinetics are unaltered with multiple daily dosing. Following oral or intravenous administration, the serum concentration of pantoprazole declines biexponentially, with a terminal elimination half-life of approximately one hour.
In extensive metabolizers with normal liver function receiving an oral dose of the enteric-coated 40 mg pantoprazole tablet, the peak concentration (C _{max}) is 2.5 mcg/mL; the time to reach the peak concentration (t _{max}) is 2.5 h, and the mean total area under the plasma concentration versus time curve (AUC) is 4.8 mcg·h/mL (range 1.4 to 13.3 mcg·h/mL). Following intravenous administration of pantoprazole to extensive metabolizers, its total clearance is 7.6 to 14 L/h, and its apparent volume of distribution is 11 to 23.6 L.	6 6 6 6,6	In extensive metabolizers with normal liver function receiving an oral dose of the enteric-coated 40 mg pantoprazole tablet, the peak concentration (C _{max}) is 2.5 µg/mL; the time to reach the peak concentration (t _{max}) is 2.5 h, and the mean total area under the plasma concentration versus time curve (AUC) is 4.8 µg•h/mL (range 1.4 to 13.3 µg•h/mL). Following intravenous administration of pantoprazole to extensive metabolizers, its total clearance is 7.6 - 14 L/h, and its apparent volume of distribution is 11 - 23.6 L.
	2	A single oral dose of PROTONIX For Delayed-Release Oral Suspension, 40 mg, was shown to be bioequivalent when administered to healthy subjects ($N = 22$) as granules sprinkled over a teaspoonful of applesauce, as granules mixed with apple juice, or mixed with apple juice followed by administration through a nasogastric tube. The plasma pharmacokinetic parameters from a crossover study in healthy subjects are summarized in Table 6.
	2	Table 6: Pharmacokinetics Parameters (mean \pm SD) of PROTONIX For Delayed-Release Oral Suspension at 40 mg
		Pharmacokineti Granules in Granules in Applesauce Apple Juice Nasogastric Tube

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After administration of a single or multiple oral 40 mg doses of pantoprazole sodium delayed-release tablets, the peak plasma concentration of pantoprazole was achieved in approximately 2.5 hours, and C _{max} was 2.5 mcg/mL. Pantoprazole undergoes little first-pass metabolism, resulting in an absolute bioavailability of approximately 77%. Pantoprazole absorption is not affected by concomitant administration of antacids. Administration of pantoprazole sodium delayed-release tablets with food may delay its absorption up to 2 hours or longer; however, the C _{max} and the extent of pantoprazole absorption (AUC) are not altered. Thus, pantoprazole sodium delayed-release tablets may be taken without regard to timing of meals.	1 6 1 1 2	AUC (μg*hr/mL) Cmax (μg/mL) L0 ±0.7 L1.9 ±0.5 Absorption After administration of a single or multiple oral 40 mg doses of PROTONIX Delayed-Release Tablets, the peak plasma concentration of pantoprazole was achieved in approximately 2.5 hours, and Cmax was 2.5 μg/mL. Pantoprazole undergoes little first-pass metabolism, resulting in an absolute bioavailability of approximately 77%. Pantoprazole absorption is not affected by concomitant administration of antacids. Administration of PROTONIX Delayed-Release Tablets with food may delay its absorption up to 2 hours or longer; however, the Cmax and the extent of pantoprazole absorption (AUC) are not altered. Thus, PROTONIX Delayed-Release Tablets may be taken without regard to timing of meals. Administration of pantoprazole granules, 40 mg, with a high-fat meal delayed median time to peak plasma concentration by 2 hours. With a concomitant high-fat meal, the Cmax and AUC of pantoprazole granules, 40 mg, sprinkled on applesauce decreased by 51% and 29%, respectively. Thus, PROTONIX For Delayed-Release Oral Suspension should be taken approximately 30 minutes before a meal.
<u>Distribution</u>		<u>Distribution</u>

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The apparent volume of distribution of pantoprazole is approximately 11 to 23.6 L, distributing mainly in extracellular fluid. The serum protein binding of pantoprazole is about 98%, primarily to albumin. Elimination Metabolism Pantoprazole is extensively metabolized in the liver through the cytochrome P450 (CYP) system. Pantoprazole metabolism is independent of the route of administration (intravenous or oral). The main metabolic pathway is demethylation, by CYP2C19, with subsequent sulfation; other metabolic pathways include oxidation by CYP3A4. There is no evidence that any of the pantoprazole	The apparent volume of distribution of pantoprazole is approximately 11 to 23.6 L, distributing mainly in extracellular fluid. The serum protein binding of pantoprazole is about 98%, primarily to albumin. Elimination Metabolism Pantoprazole is extensively metabolized in the liver through the cytochrome P450 (CYP) system. Pantoprazole metabolism is independent of the route of administration (intravenous or oral). The main metabolic pathway is demethylation, by CYP2C19, with subsequent sulfation; other metabolic pathways include oxidation by CYP3A4. There is no evidence that any of the pantoprazole
metabolites have significant pharmacologic activity. Excretion	metabolites have significant pharmacologic activity. Excretion
After a single oral or intravenous dose of ¹⁴ C-labeled pantoprazole to healthy, normal metabolizer subjects, approximately 71% of the dose was excreted in the urine, with 18% excreted in the feces through biliary excretion. There was no renal excretion of unchanged pantoprazole.	After a single oral or intravenous dose of ¹⁴ C-labeled pantoprazole to healthy, normal metabolizer subjects, approximately 71% of the dose was excreted in the urine, with 18% excreted in the feces through biliary excretion. There was no renal excretion of unchanged pantoprazole.
Specific Populations	Specific Populations
Geriatric Patients	Geriatric Patients

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Only slight to moderate increases in the AUC (43%) and C _{max} (26%) of pantoprazole were found in elderly subjects (64 to 76 years of age) after repeated oral administration, compared with younger subjects [see Use in Specific Populations (8.5)].		Only slight to moderate increases in the AUC (43%) and C _{max} (26%) of pantoprazole were found in elderly subjects (64 to 76 years of age) after repeated oral administration, compared with younger subjects [see Use in Specific Populations (8.5)].
Pediatric Patients		Pediatric Patients
The pharmacokinetics of pantoprazole were studied in children less than 16 years of age in four randomized, open-label clinical trials in pediatric patients with presumed/proven GERD. A pediatric granule formulation was studied in children through 5 years of age, and pantoprazole sodium delayed-release tablets were studied in children older than 5 years.	1	The pharmacokinetics of pantoprazole were studied in children less than 16 years of age in four randomized, open-label clinical trials in pediatric patients with presumed/proven GERD. A pediatric granule formulation was studied in children through 5 years of age, and PROTONIX Delayed-Release Tablets were studied in children older than 5 years.
In a population PK analysis, total clearance increased with increasing bodyweight in a non-linear fashion. The total clearance also increased with increasing age only in children under 3 years of age.		In a population PK analysis, total clearance increased with increasing bodyweight in a non-linear fashion. The total clearance also increased with increasing age only in children under 3 years of age.
Neonate through 5 Years of Age		Neonate through 5 Years of Age
[see Use in Specific Populations (8.4)].	6	[see Use in Specific Populations (8.4).
Children and Adolescents 6 through 16 Years of Age		Children and Adolescents 6 through 16 Years of Age
The pharmacokinetics of pantoprazole sodium delayed-release tablets were evaluated in children ages 6 through 16 years with a clinical diagnosis of GERD. The PK parameters following a single oral dose of 20 mg or 40 mg of pantoprazole sodium delayed-release	1	The pharmacokinetics of PROTONIX Delayed-Release Tablets were evaluated in children ages 6 through 16 years with a clinical diagnosis of GERD. The PK parameters following a single oral dose of 20 mg or 40 mg of PROTONIX in children ages 6 through 16 years were

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tablets in children ages 6 through 16 years were highly variable (%CV ranges 40 to 80%). The geometric mean AUC estimated from population PK analysis after a 40 mg pantoprazole sodium delayed-release tablet in pediatric patients was about 39% and 10% higher respectively in 6 to 11 and 12 to 16 year-old children, compared to that of adults (Table 7).

Table 7 PK Parameters in Children and Adolescents 6 through 16 Years with GERD Receiving 40 mg Pantoprazole Sodium Delayed-Release Tablets

	6 to 11 years (n=12)	12 to 16 years (n=11)
C _{max} (mcg/mL) ^a	1.8	1.8
$t_{max} (h)^b$	2	2
AUC (mcg•h/mL)a	6.9	5.5
CL/F (L/h) ^b	6.6	6.8

^a Geometric mean values

Male and Female Patients

There is a modest increase in pantoprazole AUC and C_{max} in women compared to men. However, weight-normalized clearance values are similar in women and men.

In pediatric patients ages 1 through 16 years there were no clinically relevant effects of gender on clearance of pantoprazole, as shown by population pharmacokinetic analysis.

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highly variable (%CV ranges 40 to 80%). The geometric mean AUC estimated from population PK analysis after a 40 mg PROTONIX in pediatric patients was about 39% and 10% higher respectively in 6 to 11 and 12 to 16 year-old children, compared to that of adults (Table 7).

Table 7 PK Parameters in Children and Adolescents 6 through 16 years with GERD receiving 40 mg PROTONIX

	6 - 11 years (n=12)	12 - 16 years (n=11)
$C_{max} (\mu g/mL)^a$	1.8	1.8
$t_{max}(h)^b$	2.0	2.0
AUC (μg•h/mL) ^a	6.9	5.5
CL/F (L/h) ^b	6.6	6.8

^a Geometric mean values

Male and Female Patients

There is a modest increase in pantoprazole AUC and C_{max} in women compared to men. However, weight-normalized clearance values are similar in women and men.

In pediatric patients ages 1 through 16 years there were no clinically relevant effects of gender on clearance of pantoprazole, as shown by population pharmacokinetic analysis.

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^b Median values

b Median values

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Patients with Renal Impairment		Patients with Renal Impairment
In patients with severe renal impairment, pharmacokinetic		In patients with severe renal impairment, pharmacokinetic parameters
parameters for pantoprazole were similar to those of healthy subjects.		for pantoprazole were similar to those of healthy subjects.
Patients with Hepatic Impairment		Patients with Hepatic Impairment
In patients with mild to severe hepatic impairment (Child-Pugh A to C cirrhosis), maximum pantoprazole concentrations increased only slightly (1.5-fold) relative to healthy subjects. Although serum half-life values increased to 7 to 9 hours and AUC values increased by 5-to 7-fold in hepatic-impaired patients, these increases were no greater than those observed in CYP2C19 poor metabolizers, where no dosage adjustment is warranted. These pharmacokinetic changes in hepatic-impaired patients result in minimal drug accumulation following once-daily, multiple-dose administration. Doses higher than 40 mg/day have not been studied in hepatically impaired patients.	6	In patients with mild to severe hepatic impairment (Child-Pugh A to C cirrhosis), maximum pantoprazole concentrations increased only slightly (1.5-fold) relative to healthy subjects. Although serum half-life values increased to 7 - 9 hours and AUC values increased by 5-to 7-fold in hepatic-impaired patients, these increases were no greater than those observed in CYP2C19 poor metabolizers, where no dosage adjustment is warranted. These pharmacokinetic changes in hepatic-impaired patients result in minimal drug accumulation following once-daily, multiple-dose administration. Doses higher than 40 mg/day have not been studied in hepatically impaired patients.
<u>Drug Interaction Studies</u>		<u>Drug Interaction Studies</u>
Effect of Other Drugs on Pantoprazole		Effect of Other Drugs on Pantoprazole
Pantoprazole is metabolized mainly by CYP2C19 and to minor extents by CYPs 3A4, 2D6, and 2C9. In <i>in vivo</i> drug-drug interaction studies with CYP2C19 substrates (diazepam [also a CYP3A4 substrate] and phenytoin [also a CYP3A4 inducer] and clopidogrel), nifedipine, midazolam, and clarithromycin (CYP3A4 substrates), metoprolol (a CYP2D6 substrate), diclofenac, naproxen and		Pantoprazole is metabolized mainly by CYP2C19 and to minor extents by CYPs 3A4, 2D6, and 2C9. In <i>in vivo</i> drug-drug interaction studies with CYP2C19 substrates (diazepam [also a CYP3A4 substrate] and phenytoin [also a CYP3A4 inducer] and clopidogrel), nifedipine, midazolam, and clarithromycin (CYP3A4 substrates), metoprolol (a CYP2D6 substrate), diclofenac, naproxen and

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piroxicam (CYP2C9 substrates), and theophylline (a CYP1A2 substrate) in healthy subjects, the pharmacokinetics of pantoprazole were not significantly altered.

Effect of Pantoprazole on Other Drugs

Clopidogrel

Clopidogrel is metabolized to its active metabolite in part by CYP2C19. In a crossover clinical study, 66 healthy subjects were administered clopidogrel (300 mg loading dose followed by 75 mg per day) alone and with pantoprazole (80 mg at the same time as clopidogrel) for 5 days. On Day 5, the mean AUC of the active metabolite of clopidogrel was reduced by approximately 14% (geometric mean ratio was 86%, with 90% CI of 79 to 93%) when pantoprazole was coadministered with clopidogrel as compared to clopidogrel administered alone. Pharmacodynamic parameters were also measured and demonstrated that the change in inhibition of platelet aggregation (induced by 5 μM ADP) was correlated with the change in the exposure to clopidogrel active metabolite. The clinical significance of this finding is not clear.

Mycophenolate Mofetil (MMF)

Administration of pantoprazole 40 mg twice daily for 4 days and a single 1000 mg dose of MMF approximately one hour after the last dose of pantoprazole to 12 healthy subjects in a cross-over study resulted in a 57% reduction in the C_{max} and 27% reduction in the AUC of MPA. Transplant patients receiving approximately 2000 mg

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per day of MMF (n=12) were compared to transplant patients receiving approximately the same dose of MMF and pantoprazole 40 mg per day (n=21). There was a 78% reduction in the C_{max} and a 45% reduction in the AUC of MPA in patients receiving both pantoprazole and MMF [see Drug Interactions (7)].

Other Drugs

In vivo studies also suggest that pantoprazole does not significantly affect the kinetics of the following drugs (cisapride, theophylline, diazepam [and its active metabolite, desmethyldiazepam], phenytoin, metoprolol, nifedipine, carbamazepine, midazolam, clarithromycin, diclofenac, naproxen, piroxicam, and oral contraceptives [levonorgestrel/ethinyl estradiol]). In other *in vivo* studies, digoxin, ethanol, glyburide, antipyrine, caffeine, metronidazole, and amoxicillin had no clinically relevant interactions with pantoprazole.

Although no significant drug-drug interactions have been observed in clinical studies, the potential for significant drug-drug interactions with more than once-daily dosing with high doses of pantoprazole has not been studied in poor metabolizers or individuals who are hepatically impaired.

Antacids

There was also no interaction with concomitantly administered antacids.

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12.5 Pharmacogenomics

CYP2C19 displays a known genetic polymorphism due to its deficiency in some subpopulations (e.g., approximately 3% of Caucasians and African-Americans and 17% to 23% of Asians are poor metabolizers). Although these subpopulations of pantoprazole poor metabolizers have elimination half-life values of 3.5 to 10 hours in adults, they still have minimal accumulation (23% or less) with once-daily dosing. For adult patients who are CYP2C19 poor metabolizers, no dosage adjustment is needed.

Similar to adults, pediatric patients who have the poor metabolizer genotype of CYP2C19 (CYP2C19 *2/*2) exhibited greater than a 6-fold increase in AUC compared to pediatric extensive (CYP2C19 *1/*1) and intermediate (CYP2C19 *1/*x) metabolizers. Poor metabolizers exhibited approximately 10-fold lower apparent oral clearance compared to extensive metabolizers.

For known pediatric poor metabolizers, a dose reduction should be considered.

13 NONCLINICAL TOXICOLOGY

13.1 Carcinogenesis, Mutagenesis, Impairment of Fertility

In a 24-month carcinogenicity study, Sprague-Dawley rats were treated orally with pantoprazole doses of 0.5 to 200 mg/kg/day, about 0.1 to 40 times the exposure on a body surface area basis of a 50 kg person dosed with 40 mg/day. In the gastric fundus, treatment with

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0.5 to 200 mg/kg/day produced enterochromaffin-like (ECL) cell hyperplasia and benign and malignant neuroendocrine cell tumors in a dose-related manner. In the forestomach, treatment with 50 and 200 mg/kg/day (about 10 and 40 times the recommended human dose on a body surface area basis) produced benign squamous cell papillomas and malignant squamous cell carcinomas. Rare gastrointestinal tumors associated with pantoprazole treatment included an adenocarcinoma of the duodenum with 50 mg/kg/day and benign polyps and adenocarcinomas of the gastric fundus with 200 mg/kg/day. In the liver, treatment with 0.5 to 200 mg/kg/day produced dose-related increases in the incidences of hepatocellular adenomas and carcinomas. In the thyroid gland, treatment with 200 mg/kg/day produced increased incidences of follicular cell adenomas and carcinomas for both male and female rats.

In a 24-month carcinogenicity study, Fischer 344 rats were treated orally with doses of 5 to 50 mg/kg/day of pantoprazole, approximately 1 to 10 times the recommended human dose based on body surface area. In the gastric fundus, treatment with 5 to 50 mg/kg/day produced enterochromaffin-like (ECL) cell hyperplasia and benign and malignant neuroendocrine cell tumors. Dose selection for this study may not have been adequate to comprehensively evaluate the carcinogenic potential of pantoprazole.

In a 24-month carcinogenicity study, B6C3F1 mice were treated orally with doses of 5 to 150 mg/kg/day of pantoprazole, 0.5 to 15 times the recommended human dose based on body surface area. In the liver, treatment with 150 mg/kg/day produced increased

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incidences of hepatocellular adenomas and carcinomas in female mice. Treatment with 5 to 150 mg/kg/day also produced gastric-fundic ECL cell hyperplasia.	incidences of hepatocellular adenomas and carcinomas in female mice. Treatment with 5 to 150 mg/kg/day also produced gastric-fundic ECL cell hyperplasia.
A 26-week p53 +/- transgenic mouse carcinogenicity study was not positive.	A 26-week p53 +/- transgenic mouse carcinogenicity study was not positive.
Pantoprazole was positive in the <i>in vitro</i> human lymphocyte chromosomal aberration assays, in one of two mouse micronucleus tests for clastogenic effects, and in the <i>in vitro</i> Chinese hamster ovarian cell/HGPRT forward mutation assay for mutagenic effects. Equivocal results were observed in the <i>in vivo</i> rat liver DNA covalent binding assay. Pantoprazole was negative in the <i>in vitro</i> Ames mutation assay, the <i>in vitro</i> unscheduled DNA synthesis (UDS) assay with rat hepatocytes, the <i>in vitro</i> AS52/GPT mammalian cell-forward gene mutation assay, the <i>in vitro</i> thymidine kinase mutation test with mouse lymphoma L5178Y cells, and the <i>in vivo</i> rat bone marrow cell chromosomal aberration assay.	Pantoprazole was positive in the <i>in vitro</i> human lymphocyte chromosomal aberration assays, in one of two mouse micronucleus tests for clastogenic effects, and in the <i>in vitro</i> Chinese hamster ovarian cell/HGPRT forward mutation assay for mutagenic effects. Equivocal results were observed in the <i>in vivo</i> rat liver DNA covalent binding assay. Pantoprazole was negative in the <i>in vitro</i> Ames mutation assay, the <i>in vitro</i> unscheduled DNA synthesis (UDS) assay with rat hepatocytes, the <i>in vitro</i> AS52/GPT mammalian cell-forward gene mutation assay, the <i>in vitro</i> thymidine kinase mutation test with mouse lymphoma L5178Y cells, and the <i>in vivo</i> rat bone marrow cell chromosomal aberration assay.
pantoprazole was given at oral doses up to 500 mg/kg/day in male rats (98 times the recommended human dose based on body surface area) and 450 mg/kg/day in female rats (88 times the recommended human dose based on body surface area).	pantoprazole was given at oral doses up to 500 mg/kg/day in male rats (98 times the recommended human dose based on body surface area) and 450 mg/kg/day in female rats (88 times the recommended human dose based on body surface area).
14 CLINICAL STUDIES	14 CLINICAL STUDIES
Pantoprazole sodium delayed-release tablets were used in the following clinical trials.	PROTONIX Delayed-Release Tablets were used in the following clinical trials.

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14.1 Erosive Esophagitis (EE) Associated with Gastroesophageal Reflux Disease (GERD)

Adult Patients

A U.S. multicenter, double-blind, placebo-controlled study of pantoprazole sodium delayed-release tablets 10 mg, 20 mg, or 40 mg once daily was conducted in 603 patients with reflux symptoms and endoscopically diagnosed EE of grade 2 or above (Hetzel-Dent scale). In this study, approximately 25% of enrolled patients had severe EE of grade 3, and 10% had grade 4. The percentages of patients healed (per protocol, n = 541) in this study are shown in Table 8.

 Table 8
 Erosive Esophagitis Healing Rates (Per Protocol)

	Pantoprazol	Placebo					
		Tablets					
	10 mg daily	10 mg daily 20 mg daily 40 mg daily					
Week	(n = 153)	(n = 158)	(n = 162)	(n = 68)			
Week 4	$(n = 153)$ $45.6\%^+$	$(n = 158)$ $58.4\%^{+#}$	$(n = 162)$ $75\%^{+*}$	(n = 68) 14.3%			

⁺ (p < 0.001) pantoprazole sodium delayed-release tablets versus placebo

In this study, all pantoprazole sodium delayed-release tablets treatment groups had significantly greater healing rates than the placebo group. This was true regardless of *H. pylori* status for the 40 mg and 20 mg pantoprazole sodium delayed-release tablets treatment groups. The 40 mg

14.1 Erosive Esophagitis (EE) Associated with Gastroesophageal Reflux Disease (GERD)

Adult Patients

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 Table 8
 Erosive Esophagitis Healing Rates (Per Protocol)

		Placebo		
Week	10 mg daily (n = 153)	20 mg daily (n = 158)	40 mg daily (n = 162)	(n = 68)
4	45.6%+	58.4%+#	75%+*	14.3%
8	66%+	83.5%+#	92.6%+*	39.7%

⁽p < 0.001) PROTONIX versus placebo

In this study, all **PROTONIX** treatment groups had significantly greater healing rates than the placebo group. This was true regardless of *H. pylori* status for the 40 mg and 20 mg **PROTONIX** treatment groups. The 40 mg

^{* (}p < 0.05) versus 10 mg or 20 mg pantoprazole sodium delayed-release tablets

^{# (}p < 0.05) versus 10 mg pantoprazole sodium delayed-release tablets

^{*} (p < 0.05) versus 10 mg or 20 mg PROTONIX

 $^{^{\#}}$ (p < 0.05) versus 10 mg PROTONIX

REFERENCE LISTED DRUG PACKAGE INSERT PROPOSED GENERIC DRUG PACKAGE INSERT LABELING **LABELING** GRAVITI PHARMA WYETH PHARMACEUTICALS LLC. dose of pantoprazole sodium delayed-release tablets resulted in healing dose of **PROTONIX** resulted in healing rates significantly greater than those rates significantly greater than those found with either the 20 mg or 10 mg found with either the 20 mg or 10 mg dose. dose. A significantly greater proportion of patients taking **PROTONIX** 40 mg A significantly greater proportion of patients taking pantoprazole sodium 1 experienced complete relief of daytime and nighttime heartburn and the delayed-release tablets 40 mg experienced complete relief of daytime and absence of regurgitation, starting from the first day of treatment, compared nighttime heartburn and the absence of regurgitation, starting from the first with placebo. Patients taking **PROTONIX** consumed significantly fewer day of treatment, compared with placebo. Patients taking pantoprazole sodium delayed-release tablets consumed significantly fewer antacid 1 antacid tablets per day than those taking placebo. tablets per day than those taking placebo. PROTONIX 40 mg and 20 mg once daily were also compared with Pantoprazole sodium delayed-release tablets 40 mg and 20 mg once daily nizatidine 150 mg twice daily in a US multicenter, double-blind study of were also compared with nizatidine 150 mg twice daily in a U.S. 6 243 patients with reflux symptoms and endoscopically diagnosed EE of multicenter, double-blind study of 243 patients with reflux symptoms and grade 2 or above. The percentages of patients healed (per protocol, n = 212) endoscopically diagnosed EE of grade 2 or above. The percentages of are shown in Table 9. patients healed (per protocol, n = 212) are shown in Table 9. **Table 9** Erosive Esophagitis Healing Rates (Per Protocol) **Table 9** Erosive Esophagitis Healing Rates (Per Protocol) **PROTONIX Nizatidine** Pantoprazole Sodium Delayed-**Nizatidine** 40 mg daily Week 20 mg daily 150 mg twice Release Tablets (n = 72)(n = 70)daily Week 20 mg daily 40 mg daily 150 mg twice (n = 70)daily (n = 72)(n = 70)4 61.4%+ 64%+ 22.2% (n = 70) $79.2\%^{+}$ 82.9%+ 41.4% 61.4%+ 64%+ 22.2% 1 + (p < 0.001) PROTONIX versus nizatidine 79.2%+ 82.9%+ 41.4% (p < 0.001) pantoprazole sodium delayed-release tablets versus nizatidine 1 Once-daily treatment with **PROTONIX** 40 mg or 20 mg resulted in Once-daily treatment with pantoprazole sodium delayed-release tablets 40 mg or 20 mg resulted in significantly superior rates of significantly superior rates of healing at both 4 and 8 weeks compared healing at both 4 and 8 weeks compared with twice-daily treatment with twice-daily treatment with 150 mg of nizatidine. For the 40 mg

with 150 mg of nizatidine. For the 40 mg treatment group,

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significantly greater healing rates compared to nizatidine were achieved regardless of the <i>H. pylori</i> status.		treatment group, significantly greater healing rates compared to nizatidine were achieved regardless of the <i>H. pylori</i> status.
A significantly greater proportion of the patients in the pantoprazole sodium delayed-release tablets treatment groups experienced complete relief of nighttime heartburn and regurgitation, starting on the first day and of daytime heartburn on the second day, compared with those taking nizatidine 150 mg twice daily. Patients taking pantoprazole sodium delayed-release tablets consumed significantly fewer antacid tablets per day than those taking nizatidine.	1	A significantly greater proportion of the patients in the PROTONIX treatment groups experienced complete relief of nighttime heartburn and regurgitation, starting on the first day and of daytime heartburn on the second day, compared with those taking nizatidine 150 mg twice daily. Patients taking PROTONIX consumed significantly fewer antacid tablets per day than those taking nizatidine.
Pediatric Patients Ages 5 Years through 16 Years		Pediatric Patients Ages 5 Years through 16 Years
The efficacy of pantoprazole sodium delayed-release tablets in the treatment of EE associated with GERD in pediatric patients ages 5 years through 16 years is extrapolated from adequate and well-conducted trials in adults, as the pathophysiology is thought to be the same. Four pediatric patients with endoscopically diagnosed EE were studied in multicenter, randomized, double-blind, parallel-treatment trials. Children with endoscopically diagnosed EE (defined as an endoscopic Hetzel-Dent score \geq 2) were treated once daily for 8 weeks with one of two dose levels of pantoprazole sodium delayed-release tablets (20 mg or 40 mg). All 4 patients with EE were healed (Hetzel-Dent score of 0 or 1) at 8 weeks.	1	The efficacy of PROTONIX in the treatment of EE associated with GERD in pediatric patients ages 5 years through 16 years is extrapolated from adequate and well-conducted trials in adults, as the pathophysiology is thought to be the same. Four pediatric patients with endoscopically diagnosed EE were studied in multicenter, randomized, double-blind, parallel-treatment trials. Children with endoscopically diagnosed EE (defined as an endoscopic Hetzel-Dent score \geq 2) were treated once daily for 8 weeks with one of two dose levels of PROTONIX (20 mg or 40 mg). All 4 patients with EE were healed (Hetzel-Dent score of 0 or 1) at 8 weeks.
14.2 Long-Term Maintenance of Healing of Erosive Esophagitis		14.2 Long-Term Maintenance of Healing of Erosive Esophagitis
Two independent, multicenter, randomized, double-blind, comparator-controlled trials of identical design were conducted in		Two independent, multicenter, randomized, double-blind, comparator-controlled trials of identical design were conducted in

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adult GERD patients with endoscopically confirmed healed EE to demonstrate efficacy of pantoprazole sodium delayed-release tablets in long-term maintenance of healing. The two U.S. studies enrolled 386 and 404 patients, respectively, to receive either 10 mg, 20 mg, or 40 mg of pantoprazole sodium delayed-release tablets once daily or 150 mg of ranitidine twice daily. As demonstrated in Table 10, pantoprazole sodium delayed-release tablets 40 mg and 20 mg were significantly superior to ranitidine at every timepoint with respect to the maintenance of healing. In addition, pantoprazole sodium delayed-release tablets 40 mg were superior to all other treatments studied.

Table 10 Long-Term Maintenance of Healing of Erosive Gastroesophageal Reflux Disease (GERD Maintenance): Percentage of Patients Who Remained Healed

	Pantoprazole Sodium Delayed-Release Tablets	Pantoprazole Sodium Delayed- Release Tablets	Ranitidine
	20 mg daily	40 mg daily	150 mg twice daily
Study 1	n = 75	n = 74	n = 75
Month 1	91*	99*	68
Month 3	82*	93*#	54
Month 6	76*	90*#	44
Month 12	70*	86*#	35
Study 2	n = 74	n = 88	n = 84
Month 1	89*	92*#	62
Month 3	78*	91*#	47
Month 6	72*	88*#	39
Month 12	72*	83*	37

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Table 10 Long-Term Maintenance of Healing of Erosive Gastroesophageal Reflux Disease (GERD Maintenance): Percentage of Patients Who Remained Healed

	PROTONIX	PROTONIX	Ranitidine
	20 mg daily	40 mg daily	150 mg twice daily
Study 1	n = 75	n = 74	n = 75
Month 1	91*	99*	68
Month 3	82*	93*#	54
Month 6	76*	90*#	44
Month 12	70^*	86*#	35
Study 2	n = 74	n = 88	n = 84
Month 1	89*	92*#	62
Month 3	78*	91*#	47
Month 6	72*	88*#	39
Month 12	72*	83*	37

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* $(p < 0.05 \text{ vs. ranitidine})$ # $(p < 0.05 \text{ vs. pantoprazole sodium delayed-release tablets} 20 \text{ mg})$ Note: Pantoprazole sodium delayed-release tablets 10 mg were superior $(p < 0.05)$ to ranitidine in Study 2, but not Study 1.		1 1, 7	#(p < 0.05 vs. PROTONIX 20 mg) Note: PROTONIX 10 mg was superior (p < 0.05) to ranitidine in Study 2, bu Study 1.		ne in Study 2, but not			
Pantoprazole sodium delayed-release tablets 40 mg were superior to ranitidine in reducing the number of daytime and nighttime heartburn episodes from the first through the twelfth month of treatment. Pantoprazole sodium delayed-release tablets 20 mg, administered once daily, were also effective in reducing episodes of daytime and nighttime heartburn in one trial, as presented in Table 11. Table 11: Number of Episodes of Heartburn (mean ± SD)		1, 7 1, 7	daytime and ni month of treatr effective in red trial, as present	ghttime heartburn ent. PROTONIX ducing episodes of ted in Table 11.	to ranitidine in reduction to ranitidine in reduction the first 20 mg, administered adaytime and nighttine todes of Heartburn	through the twelfth once daily, was also ne heartburn in one		
		Pantoprazole Sodium	Ranitidine		-		PROTONIX	Ranitidine
		Delayed-Release Tablets		1			40 mg daily	150 mg twice daily
		40 mg daily	150 mg twice daily		Month 1	Daytime	5.1 ± 1.6*	18.3 ± 1.6
Month 1	Daytime	5.1 ± 1.6*	18.3 ± 1.6			Nighttime	$3.9\pm1.1^*$	11.9 ± 1.1
	Nighttime	$3.9 \pm 1.1^*$	11.9 ± 1.1		Month 12	Daytime	$2.9 \pm 1.5^*$	17.5 ± 1.5
Month 12	Daytime	$2.9\pm1.5^*$	17.5 ± 1.5			Nighttime	$2.5\pm1.2^*$	13.8 ± 1.3
	Nighttime	$2.5 \pm 1.2^*$	13.8 ± 1.3		*(p < 0.001 vs. r)	anitidine, combined	data from the two US st	udies)
*(p < 0.001 vs. ranitidine, combined data from the two U.S. studies) 14.3 Pathological Hypersecretory Conditions Including Zollinger-Ellison Syndrome		6		logical Hypers ison Syndrome	secretory Condit	tions Including		
In a multicenter, open-label trial of 35 patients with pathological hypersecretory conditions, such as Zollinger-Ellison Syndrome, with or without multiple endocrine neoplasia-type I, pantoprazole sodium			hypersecretor	y conditions, such	rial of 35 patients as Zollinger-Elliscine neoplasia-type	on Syndrome, with		

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delayed-release tablets successfully controlled gastric acid secretion. Doses ranging from 80 mg daily to 240 mg daily maintained gastric acid output below 10 mEq/h in patients without prior acid-reducing surgery and below 5 mEq/h in patients with prior acid-reducing surgery.	1	successfully controlled gastric acid secretion. Doses ranging from 80 mg daily to 240 mg daily maintained gastric acid output below 10 mEq/h in patients without prior acid-reducing surgery and below 5 mEq/h in patients with prior acid-reducing surgery.
Doses were initially titrated to the individual patient needs, and adjusted in some patients based on the clinical response with time [see Dosage and Administration (2)]. Pantoprazole sodium delayed-release tablets were well tolerated at these dose levels for prolonged periods (greater than 2 years in some patients).	1, 7	Doses were initially titrated to the individual patient needs, and adjusted in some patients based on the clinical response with time [see Dosage and Administration (2)]. PROTONIX was well tolerated at these dose levels for prolonged periods (greater than 2 years in some patients).
16 HOW SUPPLIED/STORAGE AND HANDLING How Supplied	1, 8, 2	16 HOW SUPPLIED/STORAGE AND HANDLING How Supplied
Pantoprazole sodium delayed-release tablets USP, 20 mg are supplied as yellow colored, round shaped tablets imprinted with '52' in black ink on one side and plain on other side. Tablets are supplied in bottles of:		PROTONIX (pantoprazole sodium) Delayed-Release Tablets are supplied as yellow, oval biconvex delayed-release tablets imprinted with PROTONIX (brown ink) on one side containing 40 mg pantoprazole and are available as follows:
Bottles of 30 Tablets with child- resistant closure Bottles of 90 Tablets with child- resistant closure Bottles of 500 Tablets NDC 69844-116-02 NDC 69844-116-03		• NDC 0008-0841-81, bottles of 90 PROTONIX (pantoprazole sodium) Delayed-Release Tablets are supplied as yellow oval biconvex delayed-release tablets imprinted with P20 (brown ink) on one side containing 20 mg pantoprazole and are available as follows:
		• NDC 0008-0843-81, bottles of 90

PROPOSED GENERIC DRUG PACKAGE INSERT LABELING GRAVITI PHARMA		REFERENCE LISTED DRUG PACKAGE INSERT LABELING WYETH PHARMACEUTICALS LLC.
Pantoprazole sodium delayed-release tablets USP, 40 mg are supplied as yellow colored, oval shaped biconvex tablets imprinted with '53' in black ink on one side and plain on other side. Tablets are supplied in bottles of:		PROTONIX (pantoprazole sodium) For Delayed-Release Oral Suspension is supplied as pale yellowish to dark brownish, entericcoated granules containing 40 mg pantoprazole in a unit-dose packet and are available as follows:
Bottles of 30 Tablets with child-resistant closure Bottles of 90 Tablets with child-resistant closure Bottles of 500 Tablets NDC 69844-117-02 resistant closure Bottles of 500 Tablets NDC 69844-117-03 Storage Storage Storage Storage Store at 20° to 25°C (68° to 77°F); excursions permitted to 15° to 30°C (59° to 86°F) [see USP Controlled Room Temperature].		• NDC 0008-0844-02, unit-dose carton of 30 Storage Store PROTONIX For Delayed-Release Oral Suspension and PROTONIX Delayed-Release Tablets at 20° to 25°C (68° to 77°F); excursions permitted to 15° to 30°C (59° to 86°F) [see USP Controlled Room Temperature].
17 PATIENT COUNSELING INFORMATION		17 PATIENT COUNSELING INFORMATION
Advise the patient to read the FDA-approved patient labeling (Medication Guide).	2	Advise the patient to read the FDA-approved patient labeling (Medication Guide and Instructions for Use).
Gastric Malignancy		Gastric Malignancy
Advise patients to return to their healthcare provider if they have a suboptimal response or an early symptomatic relapse [see Warnings and Precautions (5.1)].		Advise patients to return to their healthcare provider if they have a suboptimal response or an early symptomatic relapse [see Warnings and Precautions (5.1)].

PROPOSED GENERIC DRUG PACKAGE INSERT		REFERENCE LISTED DRUG PACKAGE INSERT
LABELING		LABELING
GRAVITI PHARMA		WYETH PHARMACEUTICALS LLC.
Acute Tubulointerstitial Nephritis		Acute Tubulointerstitial Nephritis
Advise patients to call their healthcare provider immediately if they experience signs and/or symptoms associated with acute tubulointerstitial nephritis [see Contraindications (4), Warnings and Precautions (5.2)].		Advise patients to call their healthcare provider immediately if they experience signs and/or symptoms associated with acute tubulointerstitial nephritis [see Contraindications (4), Warnings and Precautions (5.2)].
Clostridium difficile-Associated Diarrhea		Clostridium difficile-Associated Diarrhea
Advise patients to immediately call their healthcare provider if they experience diarrhea that does not improve [see Warnings and Precautions (5.3)].		Advise patients to immediately call their healthcare provider if they experience diarrhea that does not improve [see Warnings and Precautions (5.3)].
Bone Fracture		Bone Fracture
Advise patients to report any fractures, especially of the hip, wrist or spine, to their healthcare provider [see Warnings and Precautions (5.4)].		Advise patients to report any fractures, especially of the hip, wrist or spine, to their healthcare provider [see Warnings and Precautions (5.4)].
Severe Cutaneous Adverse Reactions		Severe Cutaneous Adverse Reactions
Advise patients to discontinue pantoprazole sodium delayed-release tablets and immediately call their healthcare provider for further evaluation [see Warnings and Precautions (5.5)].	1	Advise patients to discontinue PROTONIX and immediately call their healthcare provider for further evaluation [see Warnings and Precautions (5.5)].
Cutaneous and Systemic Lupus Erythematosus		Cutaneous and Systemic Lupus Erythematosus

PROPOSED GENERIC DRUG PACKAGE INSERT LABELING GRAVITI PHARMA		REFERENCE LISTED DRUG PACKAGE INSERT LABELING WYETH PHARMACEUTICALS LLC.
Advise patients to immediately call their healthcare provider for any new or worsening of symptoms associated with cutaneous or systemic lupus erythematosus [see Warnings and Precautions (5.6)].		Advise patients to immediately call their healthcare provider for any new or worsening of symptoms associated with cutaneous or systemic lupus erythematosus [see Warnings and Precautions (5.6)].
Cyanocobalamin (Vitamin B ₁₂) Deficiency	6	Cyanocobalamin (Vitamin B-12) Deficiency
Advise patients to report any clinical symptoms that may be associated with cyancobalamin deficiency to their healthcare provider if they have been receiving pantoprazole sodium delayed-release tablets for longer than 3 years [see Warnings and Precautions (5.7)].	1	Advise patients to report any clinical symptoms that may be associated with cyancobalamin deficiency to their healthcare provider if they have been receiving PROTONIX for longer than 3 years [see Warnings and Precautions (5.7)].
Hypomagnesemia and Mineral Metabolism		Hypomagnesemia and Mineral Metabolism
Advise patients to report any clinical symptoms that may be associated with hypomagnesemia, hypocalcemia, and/or hypokalemia, to their healthcare provider, if they have been receiving pantoprazole sodium delayed-release tablets for at least 3 months [see Warnings and Precautions (5.8)].	1	Advise patients to report any clinical symptoms that may be associated with hypomagnesemia, hypocalcemia, and/or hypokalemia, to their healthcare provider, if they have been receiving PROTONIX for at least 3 months [see Warnings and Precautions (5.8)].
<u>Drug Interactions</u>		<u>Drug Interactions</u>
Instruct patients to inform their healthcare provider of any other medications they are currently taking, including rilpivirine-containing products [see Contraindications (4)], digoxin [see Warnings and Precautions (5.8)] and high dose methotrexate [see Warnings and Precautions (5.13)].		Instruct patients to inform their healthcare provider of any other medications they are currently taking, including rilpivirine-containing products [see Contraindications (4)], digoxin [see Warnings and Precautions (5.8)] and high dose methotrexate [see Warnings and Precautions (5.13)].
<u>Pregnancy</u>		Pregnancy

PROPOSED GENERIC DRUG PACKAGE INSERT		REFERENCE LISTED DRUG PACKAGE INSERT
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Advise a pregnant woman of the potential risk to a fetus. Advise females of reproductive potential to inform their healthcare provider of a known or suspected pregnancy [see Use in Specific Populations (8.1)].		Advise a pregnant woman of the potential risk to a fetus. Advise females of reproductive potential to inform their healthcare provider of a known or suspected pregnancy [see Use in Specific Populations (8.1)].
Administration		Administration
 Do not split, crush, or chew pantoprazole sodium delayed-release tablets. Swallow pantoprazole sodium delayed-release tablets whole, with or without food in the stomach. Concomitant administration of antacids does not affect the absorption of pantoprazole sodium delayed-release tablets. 	1, 2 2 1 2 2 2 2 2	 Do not split, crush, or chew PROTONIX For Delayed-Release Oral Suspension and PROTONIX Delayed-Release Tablets. PROTONIX oral suspension packet is a fixed dose and cannot be divided to make a smaller dose. Swallow PROTONIX Delayed-Release Tablets whole, with or without food in the stomach. Concomitant administration of antacids does not affect the absorption of PROTONIX Delayed-Release Tablets. Take PROTONIX For Delayed-Release Oral Suspension approximately 30 minutes before a meal. Administer PROTONIX For Delayed-Release Oral Suspension in apple juice or applesauce, as described in the Instructions for Use. Do not administer in water, other liquids, or foods. For patients with a nasogastric (NG) or gastrostomy tube, PROTONIX For Delayed-Release Oral Suspension can be administered with apple juice, as described in the Instructions for Use.
• Take a missed dose as soon as possible. If it is almost time for the next dose, skip the missed dose and take the next dose at the		Take a missed dose as soon as possible. If it is almost time for the next dose, skip the missed dose and take the next dose at

PROPOSED GENERIC DRUG PACKAGE INSERT		REFERENCE LISTED DRUG PACKAGE INSERT
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regular scheduled time. Do not take 2 doses at the same time.		the regular scheduled time. Do not take 2 doses at the same time.
	15	This product's label may have been updated. For the most recent prescribing information, please visit www.pfizer.com .
For Medical Information about pantoprazole sodium delayed-release tablets, call 1-855-298-4506.	5	For Medical Information about PROTONIX, please visit www.pfizermedinfo.com or call 1-800-438-1985.
Manufactured by: Graviti Pharmaceuticals Pvt Ltd. Telangana-502307, INDIA. Manufactured for: Graviti Pharmaceuticals Inc., Wilmington, Delaware-19801, USA.	13 15	Distributed by Wyeth Pharmaceuticals LLC A subsidiary of Pfizer Inc. Philadelphia, PA 19101 under license from Takeda GmbH D78467 Konstanz, Germany
MEDICATION GUIDE Pantoprazole Sodium (pan toe' pra zole soe'dee um) Delayed- Release Tablets, USP	1, 16	MEDICATION GUIDE PROTONIX (pro-TAH-nix) (pantoprazole sodium) delayed-release tablets and PROTONIX (pro-TAH-nix)
Dispense with Medication Guide available at:	2	(pantoprazole sodium) for delayed-release oral suspension

PROPOSED GENERIC DRUG PACKAGE INSERT		REFERENCE LISTED DRUG PACKAGE INSERT
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https://www.gravitipharma.com/medication-guide/Pantoprazole.pdf	14	
What is the most important information I should know about pantoprazole sodium delayed-release tablets?		What is the most important information I should know about PROTONIX ?
You should take pantoprazole sodium delayed-release tablets	1	You should take PROTONIX exactly as prescribed, at the lowest
exactly as prescribed, at the lowest dose possible and for the	1	dose possible and for the shortest time needed.
shortest time needed.		
Pantoprazole sodium delayed-release tablets may help your		PROTONIX may help your acid-related symptoms, but you
acid-related symptoms, but you could still have serious stomach	1	could still have serious stomach problems. Talk with your doctor.
problems. Talk with your doctor.		DDOTONIV can cause serious side effects including
Pantoprazole sodium delayed-release tablets can cause serious side effects, including:	1	PROTONIX can cause serious side effects, including:
 A type of kidney problem (acute tubulointerstitial nephritis). Some people who take proton pump inhibitor (PPI) medicines, including pantoprazole sodium delayed-release tablets, may develop a kidney problem called acute tubulointerstitial nephritis that can happen at any time during treatment with pantoprazole sodium delayed-release tablets. Call your doctor right away if you have a decrease in the amount that you urinate or if you have blood in your urine. Diarrhea caused by an infection (Clostridium difficile) in your intestines. Call your doctor right away if you have watery stools or stomach pain that does not go away. You may or may not have a fever. Bone fractures (hip, wrist, or spine). Bone fractures in the hip, wrist, or spine may happen in people who take multiple daily doses of PPI medicines and for a long period of time (a year or longer). Tell your doctor if you have a bone fracture, especially in the hip, wrist, or spine. 	1 1	 A type of kidney problem (acute tubulointerstitial nephritis). Some people who take proton pump inhibitor (PPI) medicines, including PROTONIX, may develop a kidney problem called acute tubulointerstitial nephritis that can happen at any time during treatment with PROTONIX. Call your doctor right away if you have a decrease in the amount that you urinate or if you have blood in your urine. Diarrhea caused by an infection (Clostridium difficile) in your intestines. Call your doctor right away if you have watery stools or stomach pain that does not go away. You may or may not have a fever. Bone fractures (hip, wrist, or spine). Bone fractures in the hip, wrist, or spine may happen in people who take multiple daily doses of PPI medicines and for a long period of time (a year or longer). Tell your doctor if you have a bone fracture, especially in the hip, wrist, or spine. Certain types of lupus erythematosus. Lupus erythematosus is

PROPOSED GENERIC DRUG PACKAGE INSERT		REFERENCE LISTED DRUG PACKAGE INSERT
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 Certain types of lupus erythematosus. Lupus erythematosus is an autoimmune disorder (the body's immune cells attack other cells or organs in the body). Some people who take PPI medicines, including pantoprazole sodium delayed-release tablets, may develop certain types of lupus erythematosus or have worsening of the lupus they already have. Call your doctor right away if you have new or worsening joint pain or a rash on your cheeks or arms that gets worse in the sun. Low magnesium and other mineral levels in your body can happen in people who have taken pantoprazole sodium delayed-release tablets for at least 3 months. Tell your doctor if you have symptoms of low magnesium levels, including seizures, dizziness, irregular heartbeat, jitteriness, muscle aches or weakness, and spasms of hands, feet or voice. Talk to your doctor about your risk of these serious side effects. Pantoprazole sodium delayed-release tablets can have other serious side effects. See "What are the possible side effects of pantoprazole sodium delayed-release tablets?" 	1 1 1	an autoimmune disorder (the body's immune cells attack other cells or organs in the body). Some people who take PPI medicines, including PROTONIX, may develop certain types of lupus erythematosus or have worsening of the lupus they already have. Call your doctor right away if you have new or worsening joint pain or a rash on your cheeks or arms that gets worse in the sun. • Low magnesium and other mineral levels in your body can happen in people who have taken PROTONIX for at least 3 months. Tell your doctor if you have symptoms of low magnesium levels, including seizures, dizziness, irregular heartbeat, jitteriness, muscle aches or weakness, and spasms of hands, feet or voice. Talk to your doctor about your risk of these serious side effects. PROTONIX can have other serious side effects. See "What are the possible side effects of PROTONIX?"
 What are pantoprazole sodium delayed-release tablets? A prescription medicine called a proton pump inhibitor (PPI) used to reduce the amount of acid in your stomach. In adults, pantoprazole sodium delayed-release tablets are used for: up to 8 weeks for the healing and symptom relief of acid-related damage to the lining of the esophagus (called erosive esophagitis or EE). Your doctor may prescribe another 8 weeks of pantoprazole sodium delayed-release tablets in patients whose EE does not heal. 	1 1	 What are PROTONIX? A prescription medicine called a proton pump inhibitor (PPI) used to reduce the amount of acid in your stomach. In adults, PROTONIX is used for: up to 8 weeks for the healing and symptom relief of acid-related damage to the lining of the esophagus (called erosive esophagitis or EE). Your doctor may prescribe another 8 weeks of PROTONIX in patients whose EE does not heal. maintaining healing of EE and to help prevent the return of

PROPOSED GENERIC DRUG PACKAGE INSERT		REFERENCE LISTED DRUG PACKAGE INSERT
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 maintaining healing of EE and to help prevent the return of heartburn symptoms caused by GERD. It is not known if pantoprazole sodium delayed-release tablets are safe and effective when used for longer than 12 months for this purpose. the long-term treatment of conditions where your stomach makes too much acid. This includes a rare condition called 	1	heartburn symptoms caused by GERD. It is not known if PROTONIX are safe and effective when used for longer than 12 months for this purpose. • the long-term treatment of conditions where your stomach makes too much acid. This includes a rare condition called Zollinger-Ellison Syndrome.
Zollinger-Ellison Syndrome. In children 5 years of age and older, pantoprazole sodium delayed-release tablets are used for: • up to 8 weeks for the healing and symptom relief of EE.	1, 7 1, 7	 In children 5 years of age and older, PROTONIX is used for: up to 8 weeks for the healing and symptom relief of EE. It is not known if PROTONIX is safe if used longer than 8 weeks in children.
It is not known if pantoprazole sodium delayed-release tablets are safe if used longer than 8 weeks in children. Pantoprazole sodium delayed-release tablets are not for use in children under 5 years of age. It is not known if pantoprazole sodium delayed-release tablets are	1, 7 1, 7	PROTONIX is not for use in children under 5 years of age. It is not known if PROTONIX is safe and effective in children for treatment other than EE.
safe and effective in children for treatment other than EE.	1	Do not take PROTONIX if you are:
 Do not take pantoprazole sodium delayed-release tablets if you are: allergic to pantoprazole sodium, any other PPI medicine, or any of the ingredients in pantoprazole sodium delayed-release tablets. See the end of this Medication Guide for a complete list of ingredients. taking a medicine that contains rilpivirine (EDURANT, COMPLERA, ODEFSEY, JULUCA) used to treat HIV-1 (Human Immunodeficiency Virus). 	1	 allergic to pantoprazole sodium, any other PPI medicine, or any of the ingredients in PROTONIX. See the end of this Medication Guide for a complete list of ingredients. taking a medicine that contains rilpivirine (EDURANT, COMPLERA, ODEFSEY, JULUCA) used to treat HIV-1 (Human Immunodeficiency Virus). Before taking PROTONIX, tell your doctor about all of your medical conditions, including if you: have low magnesium levels, low calcium levels and low

PROPOSED GENERIC DRUG PACKAGE INSERT LABELING GRAVITI PHARMA		REFERENCE LISTED DRUG PACKAGE INSERT LABELING WYETH PHARMACEUTICALS LLC.
 Before taking pantoprazole sodium delayed-release tablets, tell your doctor about all of your medical conditions, including if you: have low magnesium levels, low calcium levels and low potassium levels in your blood. are pregnant or plan to become pregnant. Pantoprazole sodium delayed-release tablets may harm your unborn baby. Tell your doctor if you become pregnant or think you may be pregnant during treatment with pantoprazole sodium delayed-release tablets. are breastfeeding or plan to breastfeed. Pantoprazole can pass into your breast milk. Talk with your doctor about the best way to feed your baby if you take pantoprazole sodium delayed-release tablets. Tell your doctor about all the medicines you take, including prescription and over-the-counter medicines, vitamins and herbal supplements. Especially tell your doctor if you take methotrexate (Otrexup, Rasuvo, Trexall, XATMEP), digoxin (LANOXIN), or a 	1 1 1 1	 are pregnant or plan to become pregnant. PROTONIX may harm your unborn baby. Tell your doctor if you become pregnant or think you may be pregnant during treatment with PROTONIX. are breastfeeding or plan to breastfeed. PROTONIX can pass into your breast milk. Talk with your doctor about the best way to feed your baby if you take PROTONIX. Tell your doctor about all the medicines you take, including prescription and over-the-counter medicines, vitamins and herbal supplements. Especially tell your doctor if you take methotrexate (Otrexup, Rasuvo, Trexall, XATMEP), digoxin (LANOXIN), or a water pill (diuretic). How should I take PROTONIX?
water pill (diuretic). How should I take pantoprazole sodium delayed-release		Take PROTONIX exactly as prescribed by your doctor.
tablets? • Take pantoprazole sodium delayed-release tablets exactly as prescribed by your doctor. Pantoprazole sodium delayed-release tablets:	1	PROTONIX delayed-release tablets (PROTONIX tablets): O Do not split, chew, or crush PROTONIX tablets. Swallow PROTONIX tablets whole, with or without food.
 Do not split, chew, or crush delayed-release tablets. Swallow pantoprazole sodium delayed-release tablets 	1 1	 Tell your doctor if you are not able to swallow your PROTONIX tablet. You may use antacids while taking PROTONIX tablets.

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whole, with or without food.		
o Tell your doctor if you are not able to swallow your	2	PROTONIX for delayed-release oral suspension (PROTONIX
pantoprazole sodium delayed-release tablet.	_	for oral suspension):
O You may use antacids while taking pantoprazole sodium		o Do not split, chew, or crush PROTONIX for oral
delayed-release tablets.		suspension.
		o Take PROTONIX for oral suspension about 30 minutes
		before a meal.
		o PROTONIX for oral suspension should only be given by
		mouth mixed in apple juice or applesauce or through a
		nasogastric (NG) tube or gastrostomy tube mixed in apple
		juice. Do not mix PROTONIX for oral suspension in liquids
		other than apple juice or foods other than applesauce.
		O Do not divide a packet of PROTONIX for oral suspension to
		make a smaller dose. O See the "Instructions for Use" at the end of this Medication
		Guide for instructions on how to mix and take PROTONIX
		for oral suspension by mouth in applesauce or apple juice or
		how to mix and give the suspension through an NG tube or
		gastrostomy tube mixed in apple juice.
	1	• If you miss a dose of PROTONIX , take it as soon as possible. If
		it is almost time for your next dose, do not take the missed dose.
		Take the next dose at your regular time. Do not take 2 doses at
		the same time.
• If you miss a dose of pantoprazole sodium delayed-release	1	• If you take too much PROTONIX , call your doctor or your
tablets, take it as soon as possible. If it is almost time for your		poison control center at 1-800-222-1222 right away or go to the
next dose, do not take the missed dose. Take the next dose at		nearest emergency room.
your regular time. Do not take 2 doses at the same time.		
• If you take too many pantoprazole sodium delayed-release	1	What are the possible side effects of PROTONIX ?
tablets, call your doctor or your poison control center at 1-800-		

PROPOSED GENERIC DRUG PACKAGE INSERT LABELING GRAVITI PHARMA		REFERENCE LISTED DRUG PACKAGE INSERT LABELING WYETH PHARMACEUTICALS LLC.
 What are the possible side effects of pantoprazole sodium delayed-release tablets? Pantoprazole sodium delayed-release tablets can cause serious side effects, including: See "What is the most important information I should know about pantoprazole sodium delayed-release tablets?" Low vitamin B₁₂ levels in your body can happen in people who have taken pantoprazole sodium delayed-release tablets for a long time (more than 3 years). Tell your doctor if you have symptoms of low vitamin B₁₂ levels, including shortness of breath, lightheadedness, irregular heartbeat, muscle weakness, pale skin, feeling tired, mood changes, and tingling or numbness in the arms and legs. 	1 1 6 1	 See "What is the most important information I should know about PROTONIX?" Low vitamin B-12 levels in your body can happen in people who have taken PROTONIX for a long time (more than 3 years). Tell your doctor if you have symptoms of low vitamin B₁₂ levels, including shortness of breath, lightheadedness, irregular heartbeat, muscle weakness, pale skin, feeling tired, mood changes, and tingling or numbness in the arms and legs.
 Stomach growths (fundic gland polyps). People who take PPI medicines for a long time have an increased risk of developing a certain type of stomach growths called fundic gland polyps, especially after taking PPI medicines for more than 1 year. Severe skin reactions. Pantoprazole sodium delayed-release tablets can cause rare but severe skin reactions that may affect any part of your body. These serious skin reactions may need to be treated in a hospital and may be life threatening: Skin rash which may have blistering, peeling or bleeding on any part of your skin (including your lips, eyes, mouth, nose, genitals, hands or feet). You may also have fever, chills, body aches, shortness of breath, or enlarged lymph nodes. Stop taking pantoprazole sodium delayed-release tablets and call 	1	 Stomach growths (fundic gland polyps). People who take PPI medicines for a long time have an increased risk of developing a certain type of stomach growths called fundic gland polyps, especially after taking PPI medicines for more than 1 year. Severe skin reactions. PROTONIX can cause rare but severe skin reactions that may affect any part of your body. These serious skin reactions may need to be treated in a hospital and may be life threatening: Skin rash which may have blistering, peeling or bleeding on any part of your skin (including your lips, eyes, mouth, nose, genitals, hands or feet). You may also have fever, chills, body aches, shortness of breath, or enlarged lymph nodes. Stop taking PROTONIX and call your doctor right away. These

PROPOSED GENERIC DRUG PACKAGE INSERT LABELING		REFERENCE LISTED DRUG PACKAGE INSERT LABELING
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your doctor right away. These symptoms may be the first sign of a severe skin reaction.		symptoms may be the first sign of a severe skin reaction.
The most common side effects of pantoprazole sodium delayed- release tablets in adults include: headache, diarrhea, nausea, stomach-area (abdominal) pain, vomiting, gas, dizziness, and joint pain.	1	The most common side effects of PROTONIX in adults include: headache, diarrhea, nausea, stomach-area (abdominal) pain, vomiting, gas, dizziness, and joint pain.
The most common side effects of pantoprazole sodium delayed- release tablets in children include: upper respiratory infection, headache, fever, diarrhea, vomiting, rash, and stomach-area (abdominal) pain.	1	The most common side effects of PROTONIX in children include: upper respiratory infection, headache, fever, diarrhea, vomiting, rash, and stomach-area (abdominal) pain.
These are not all the possible side effects of pantoprazole sodium delayed-release tablets. Call your doctor for medical advice about side effects. You may report side effects to FDA at 1-800-FDA-1088.	1	These are not all the possible side effects of PROTONIX . 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 pantoprazole sodium delayed-release tablets? Store pantoprazole sodium delayed-release tablets at room temperature between 68°F to 77°F (20°C to 25°C). Pantoprazole sodium delayed-release tablets come in a child- 	1 1 9	 How should I store PROTONIX? Store PROTONIX at room temperature between 68°F to 77°F (20°C to 25°C).
resistant bottle pack of 30's and 90's. Keep pantoprazole sodium delayed-release tablets and all medicines out of the reach of children.	1	Keep PROTONIX and all medicines out of the reach of children.

PROPOSED GENERIC DRUG PACKAGE INSERT LABELING GRAVITI PHARMA General information about the safe and effective use of pantoprazole sodium delayed-release tablets. Medicines are sometimes prescribed for purposes other than those listed in a Medication Guide. Do not use pantoprazole sodium delayed-release tablets for a condition for which it was not prescribed. Do not give pantoprazole sodium delayed-release tablets to other people, even if they have the same symptoms that you have. It may harm them. You can ask your doctor or pharmacist for information about pantoprazole sodium delayed-release tablets that is written for health professionals.	1 1 1	REFERENCE LISTED DRUG PACKAGE INSERT LABELING WYETH PHARMACEUTICALS LLC. General information about the safe and effective use of PROTONIX. Medicines are sometimes prescribed for purposes other than those listed in a Medication Guide. Do not use PROTONIX for a condition for which it was not prescribed. Do not give PROTONIX to other people, even if they have the same symptoms that you have. It may harm them. You can ask your doctor or pharmacist for information about PROTONIX that is written for health professionals.
What are the ingredients in pantoprazole sodium delayed-release tablets? Active ingredient: pantoprazole sodium, USP Inactive ingredients in pantoprazole sodium delayed-release tablets: calcium stearate, crospovidone, ferric oxide yellow, hydroxy propyl cellulose, hypromellose, mannitol, methacrylic acid and ethyl acrylate copolymer dispersion, sodium carbonate and triethyl citrate. Additionally, each tablet is printed with black pharmaceutical ink which contains ferrosoferric oxide, propylene glycol and shellac.	1 10 1 11 2	What are the ingredients in PROTONIX? Active ingredient: pantoprazole sodium sesquihydrate Inactive ingredients in PROTONIX delayed-release tablets: calcium stearate, crospovidone, hypromellose, iron oxide, mannitol, methacrylic acid copolymer, polysorbate 80, povidone, propylene glycol, sodium carbonate, sodium lauryl sulfate, titanium dioxide, and triethyl citrate. Inactive ingredients in PROTONIX for delayed-release oral suspension: crospovidone, hypromellose, methacrylic acid copolymer, microcrystalline cellulose, polysorbate 80, povidone, sodium carbonate, sodium lauryl sulfate, talc, titanium dioxide, triethyl citrate, and yellow ferric oxide.
For more information about pantoprazole sodium delayed-release tablets, call 1-855-298-4506.	5	For more information go to www.pfizer.com or call 1-800-438-1985.

PROPOSED GENERIC DRUG PACKAGE INSERT		REFERENCE LISTED DRUG PACKAGE INSERT
LABELING		LABELING
GRAVITI PHARMA		WYETH PHARMACEUTICALS LLC.
This Medication Guide has been approved by the U.S. Food and Drug Administration.		This Medication Guide has been approved by the U.S. Food and Drug Administration.
	15	This product's label may have been updated. For the most recent prescribing information, please go to www.pfizer.com .
The brand names listed are trademarks of their respective owners and are not trademarks of the Graviti Pharmaceuticals Private Limited.	12	
Manufactured by:		≥ Pfizer
Graviti Pharmaceuticals Pvt Ltd. Telangana-502307, INDIA.	13	Distributed by Wyeth Pharmaceuticals LLC A subsidiary of Pfizer Inc.
Manufactured for: Graviti Pharmaceuticals Inc.,		Philadelphia, PA 19101 under license from
Wilmington, Delaware-19801, USA.	15	Takeda GmbH D78467 Konstanz, Germany
Issued: 09/2023	17	LAB-0574-16.0 Revised: March 2022
	2	Instructions for Use PROTONIX (pro-TAH-nix)
		(pantoprazole sodium)
		for delayed-release oral suspension

PROPOSED GENERIC DRUG PACKAGE INSERT		REFERENCE LISTED DRUG PACKAGE INSERT
LABELING		LABELING
GRAVITI PHARMA		WYETH PHARMACEUTICALS LLC.
	2	PROTONIX for delayed-release oral suspension (PROTONIX for oral suspension): Important information: • Do not split, chew, or crush PROTONIX for oral suspension. • Take PROTONIX for oral suspension about 30 minutes before a meal. • PROTONIX for oral suspension: • should only be taken with applesauce or apple juice. • should not be mixed in water or other liquids, or other foods. • packet should not be divided to make a smaller dose. Taking PROTONIX for oral suspension with applesauce: 1. Open the packet of PROTONIX for oral suspension. 2. Sprinkle all of the granules in the packet on 1 teaspoon of applesauce. 3. Swallow the granules and applesauce within 10 minutes of putting the granules on the teaspoon of applesauce. 4. Take sips of water to make sure the granules are washed down into the stomach. Take more sips of water as needed.
		Taking PROTONIX for oral suspension with apple juice: 1. Open the packet of PROTONIX for oral suspension.
		2. Empty all of the granules in the packet into a small cup that
		 contains 1 teaspoon of apple juice. 3. Stir the granules-apple juice mixture for 5 seconds. The granules will not break up. 4. Swallow the mixture right away.

PROPOSED GENERIC DRUG PACKAGE INSERT LABELING GRAVITI PHARMA		REFERENCE LISTED DRUG PACKAGE INSERT LABELING WYETH PHARMACEUTICALS LLC.
	2	 To make sure that the entire dose is taken, add more apple juice to the cup, stir and swallow the apple juice right away. Repeat step 5 if there are granules left in the cup. Giving PROTONIX for oral suspension through a nasogastric (NG) tube or gastrostomy tube: PROTONIX for oral suspension may be given through an NG tube or gastrostomy tube that is size 16 French or larger. Do not give PROTONIX for oral suspension through an NG tube or gastrostomy tube smaller than size 16 French. Mix PROTONIX for oral suspension only in apple juice when giving through an NG tube or gastrostomy tube. Remove the plunger from a 60 mL (2 ounce) catheter-tip syringe. Throw away the plunger. Connect the tip of the catheter-tip syringe to the NG tube or gastrostomy tube. Hold the syringe attached to the NG tube or gastrostomy tube as high as possible while giving PROTONIX for oral suspension to prevent the tubing from bending. Open the packet of PROTONIX for oral suspension. Empty all the granules in the packet into the catheter-tip syringe. Add 10 mL (2 teaspoons) of apple juice into the catheter-tip syringe and gently tap or shake the syringe to help empty the syringe. Repeat step 6 at least 2 more times until there are no granules left in the catheter-tip syringe. How should I store PROTONIX?

PROPOSED GENERIC DRUG PACKAGE INSERT LABELING GRAVITI PHARMA		REFERENCE LISTED DRUG PACKAGE INSERT LABELING WYETH PHARMACEUTICALS LLC.
	2	Store PROTONIX at room temperature between 68°F to 77°F (20°C to 25°C). Keep PROTONIX and all medicines out of the reach of children. This Instructions for Use has been approved by the U.S. Food and Drug Administration. This product's label may have been updated. For the most recent prescribing information, please go to www.pfizer.com. under license from EPfizer Distributed by Wyeth Pharmaceuticals LLC A subsidiary of Pfizer Inc. Philadelphia, PA 19101 under license from Takeda GmbH D78467 Konstanz, Germany LAB-1511-1.0 Revised: March 2022

Annotated Side-by-Side Labeling Comparison [21 CFR 314.94 (a)(8)(iv)]

Similarities and Differences of Package Insert Labeling

PROPOSED GENERIC DRUG PRODUCT PACKAGE INSERT LABELING OF GRAVITI PHARMA

Vs

REFERENCE LISTED DRUG PACKAGE INSERT LABELING OF WYETH PHARMACEUTICALS LLC

A. Similarities

Labeling of Proposed Generic Drug Product and the Reference Listed Drug Product is similar except for the following differences.

B. Differences: The differences are as explained below.

- 1. Brand name has been replaced with generic name.
- 2. Other dosage forms related information has been removed.
- 3. Dosage forms and strengths section has been changed.
- 4. Description section has been changed as per generic product.
- 5. Generic company's contact details have been updated.
- 6. Formatting related changes have been done.
- 7. "is" and "was" replaced with "are" and "were" as per sentence structure.
- 8. How Supplied section has been changed.
- 9. Child-resistant statement has been incorporated in medication guide.
- 10. Drug substance has been claimed as USP.
- 11. Inactive ingredients related information has been changed as per generic product in the medication guide.
- 12. Trademark related information has been added.
- 13. Manufactured by statement has been incorporated and Distributed by statement has been changed.
- 14. Website address for online availability of medication guide has been incorporated.
- 15. Other information has been deleted.
- 16. Phonetic spelling has been changed.
- 17. Revision number has been mentioned as "Issued".