

**Pramlintide (Symlin®)**  
[Developed, February 2006; Revised, May 2006]  
MEDICAID DRUG USE REVIEW CRITERIA FOR OUTPATIENT USE

Information on indications for use or diagnosis is assumed to be unavailable. All criteria may be applied retrospectively; prospective application is indicated with [\*].

**1.\* Dosage/Administration**

**A. Adults**

Pramlintide, a synthetic analog of human amylin, is approved for use in both type 1 and type 2 diabetics who require mealtime insulin and are in need of additional glucose control. Amylin is a neuroendocrine hormone secreted concurrently with insulin to decrease hepatic glucose output and slow gastric emptying, which results in reduced carbohydrate absorption and lower postprandial glucose levels. Recommended pramlintide dosages are summarized in Table 1.

<b>Table 1</b>			
<b>Recommended Pramlintide Dosages</b>			
	<i>Initial Dose</i>	<i>Dosage Titration</i>	<i>Maximum Dose</i>
Type 1 Diabetes Mellitus	15 mcg subcutaneously immediately prior to each major meal	15 mcg increments	60 mcg subcutaneously immediately prior to each major meal
Type 2 Diabetes Mellitus	60 mcg subcutaneously immediately prior to each major meal	60 mcg increments	120 mcg subcutaneously immediately prior to each major meal

In type 1 diabetics, dosage titrations should be initiated when clinically significant nausea has been absent for at least 3 days. If nausea persists with the 45 mcg or 60 mcg dose, the dosage may be reduced to 30 mcg. If patients do not tolerate the 30 mcg dose, discontinuing therapy may be necessary. In type 2 diabetics, dosage titrations may be initiated when significant nausea is absent for 3 to 7 days. If the 120 mcg dose is not tolerated, the dosage may be decreased to 60 mcg. In both type 1 and type 2 diabetics, pre-prandial rapid or short-acting insulin dosages, including fixed-mixed insulin, should be decreased by 50% when adjunctive pramlintide therapy is instigated to minimize hypoglycemic episodes. Insulin doses may be titrated upward as needed when a maintenance pramlintide dose is established. Patient profiles containing pramlintide prescription quantities of greater than 2 vials per month for type 1 diabetics or 4 vials per month for type 2 diabetics will be reviewed.

Pramlintide should not be administered to patients who:

- have been diagnosed with gastroparesis within the last 2 years
- have recurrent episodes of hypoglycemia requiring intervention in the last 6 months and/or hypoglycemia unawareness
- have an HbA1c > 9%

**B. Pediatrics**

Safety and efficacy of pramlintide injections in pediatric patients have not been established.

## 2. Duration of Therapy

Pramlintide is indicated for the management of diabetes mellitus and may be continued indefinitely based on patient need to achieve desired glucose control.

## 3.\* Drug-Drug Interactions

Patient profiles will be assessed to identify those drug regimens which may result in clinically significant drug-drug interactions.

The following drug-drug interactions are considered clinically relevant for pramlintide. Only those drug-drug interactions identified as clinical significance level 1 or those considered life-threatening which have not yet been classified will be reviewed:

- a. ***Drugs that Slow Gastrointestinal Motility (e.g., alosetron, antimuscarinics, diphenoxylate, loperamide, octreotide, opiate agonists, tricyclic antidepressants) [clinical significance level – contraindicated (WebMD); high (CPonline)]***

Adjunctive administration of pramlintide with agents that slow gastrointestinal motility may produce additive pramlintide pharmacologic effects and the potential for additional blood glucose reductions and increased risk of hypoglycemia. Patient profiles containing concurrent prescriptions for pramlintide and drugs that slow gastrointestinal motility will be reviewed as this treatment combination is not recommended by the manufacturer until further clinical data become available.

- b. ***Gastric Stimulants (e.g., metoclopramide, tegaserod) [clinical significance level – contraindicated (WebMD)]***

Concurrent administration of pramlintide with gastric stimulants such as metoclopramide may result in attenuated clinical effects of both agents. The manufacturer recommends that the pramlintide/gastric stimulant drug combination be avoided until further clinical data becomes available. Concurrent administration of pramlintide and gastric stimulants is not recommended and will be reviewed.

- c. ***Alpha-Glucosidase Inhibitors [e.g., acarbose (Precose®), miglitol (Glyset®)] [clinical significance level – contraindicated (WebMD); moderate (CPonline)]***

Alpha-glucosidase inhibitors are known to slow nutritive absorption. Pramlintide administered concurrently with alpha-glucosidase inhibitors may potentially produce enhanced pharmacologic effects leading to additional reductions in blood glucose and increased risk of hypoglycemia. Concomitant administration of pramlintide and alpha-glucosidase inhibitors is not recommended by the manufacturer. Patient profiles containing concurrent prescriptions for pramlintide and alpha-glucosidase inhibitors will be reviewed.

- d. ***Orally Administered Drugs Requiring Threshold Concentrations for Effect (e.g., antibiotics, oral contraceptives) [clinical significance level – unknown]***

Pramlintide delays gastric emptying, which may alter the rate and extent of absorption of orally administered drugs. This may adversely impact the effectiveness of drugs for which threshold concentrations are necessary for effect, such as antibiotics and oral contraceptives. If concurrent administration of pramlintide with either antibiotics or oral contraceptives is required, patients should administer the oral agent one hour prior to administering pramlintide to maintain optimal therapeutic effects. If the orally administered medication is to be administered with food, administer the oral agent with a snack at a time when a pramlintide dose is not necessary.

## **REFERENCES**

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