Non-Insulin Injectables Drug	What it is	Action	Dosing	Side effects	
Symlin (Pramlintide)	Synthetic analog of human amylin, for type 1 or 2	Decrease gastric emptying Increases satiety Decreases after meal glucagon Decreases after meal glucose excursion	Subcutaneous injection, 15-120 micrograms at main part of meal (use conversion chart below for units needed in U-100 syringe) Inject in abdomen, thigh, not arm, 2 inches from insulin injection, not mixing with insulin SymlinPen 120 (doses 60 mcg and 120 mcg) and Symlin Pen 60 (doses 15, 30, 45, and 60 mcg);(disposable pens)	(As a class, all GLP-1s contraindicated if history of c-cell thyroid tumers, pancreatitis, MEN-2, pregnant, nursing) Hypoglycemia (Decrease premeal insulin dosages 30-50%, including premixed insulins), anorexia, nausea, vomiting (titrate dose weekly if tolerated)	
GLP-1	Incretin Mimetic	All GLP-1s Increase insulin secretion, decrease liver glucose output, rate glucose enters blood, suppress appetite			
Byetta (Exenatide)		2 pens per box 5 mcg pen = 60 doses,1.2 mL 10 mcg = 60 doses, 2.4 mL	Pen injection: 5 micrograms 1st month, 10 micrograms next month if tolerated. Twice daily, within 60 minutes before 1st meal and evening meal, at least 6 hours apart	Hypoglycemia with sulfonylureas, nausea, vomiting, dizzy, feeling jittery, headache, weight loss, not with moderate renal impairment	
Bydureon (ExenatideXR)			2 mg weekly, any time of day, with or without meal. If missed dose, can take if next scheduled dose is > 3 days later. Provides as single dose tray/vial+diluent or prefilled pen 4 pens/30 days. Needle provided Can store at room temp up to 4 weeks	Nausea, diarrhea, small nodules at injection site (can last as ~ a month), increased INR, weight loss, altered renal function Not recommended if crcl < 30 mL, Use caution 30-50 mL/min, alopecia	
Victoza (Liraglutide)		Pen delivers 0.6, 1.2, or 1.8 mg dose. 1.2 mg=2 pack; 1.8 mg=3 pack	Prefilled Pen: Injection once daily, 0.6mg (2,3 mL pens), 1.2 mg, 1.8 mg (3,3ml pens); Start with 0.6mg, increase dose in 1 week. With or without food NovoFine Plus pen needles	Hypoglycemia with sulfonylureas, Headache, nausea, diarrhea, allergic reaction such as hives, weight loss. Do not use with moderate renal impairment	
Trulicity (Dulaglutide)			Prefilled Pen: 0.75 mg/0.5 mL, 1.5 mg/0.5 mL, 4 pens per box, needle provided anytime of day with or without food, once weekly If missed, can take if next scheduled dose is > 3 days later	Side effects same as Vitoza. Stay hydrated. Monitor renal function No dose adjustment for renal impariment	
Tanzeum (Albiglutide)			Prefilled Pen: 30-50mg 4 pens per box, needle provided taken weekly If dose is missed, can take if next scheduled dose is ≥ 4 days later.	OK for renal impariment	

Non-Insulin Injectables						
Drug	What it is	Action	Dosing	Side effects		
Adlyxin (Lixisenatide)			Not marketed alone only as part of Soliqua			
Ozempic (semaglutide)		0.25/0.5 mg pen= 1 pen per month 1mg pen=2 pens/month Comes with needles	0.5 or 1 mg doses; Start at 0.25 mg once weekly. After 4 weeks, increase the dose to 0.5 mg once weekly. If after at least 4 weeks additional glycemic control is needed, increase to 1 mg once weekly • Administer once weekly at any time of day, with or without meals	Once opened, store at room temp for up to 56 days. OK for mild to moderate renal impariment;		