

## Diabetes Drug Chart

	Drug	Action	Use	Side Effects	Nursing Implications
	<b>Insulin</b>  Lispro-rapid acting Regular-short acting NPH-intermediate acting Ultralente-long acting	-stimulates glucose uptake by fat and muscle cells -promotes glycogen formation in liver & muscle cells	-used for Type 1 diabetes -used for Type 2 diabetes, not controlled by diet and/or oral hypoglycemics	-metabolic derangements w/ inadequate therapy—ketoacidosis or hypoglycemic coma -lipoatrophy at injection sites -allergies	-teach proper monitoring and management of blood sugar levels -teach S/Sx of hypo/hyperglycemia -rotate injection sites  DDIs: moderate to high alcohol consumption inc. hypoglycemic action of insulin -beta-adrenergic agents or corticosteroids may antagonize actions of insulin and mask hypoglycemic state
Incr. INSULIN  SECRETION	<b>Sulfonylureas</b>  1 <sup>st</sup> gen: tolbutamide (ORINASE) 2 <sup>nd</sup> gen: glipizide (GLUCOTROL)	-blocks K channel in the membrane of pancreatic β cells; depolarizes cell & stimulates release of insulin -may also decr. hepatic glucose production (glyconolysis and gluconeogenesis) and incr. tissue responsiveness to insulin	-for Type 2 diabetics  <u>2nd generation:</u> -fewer side effects -more predictable action times & half-lives -fewer DDIs-bind to proteins differently -more expensive	-GI distress -dizziness, drowsiness, HA -allergies—skin rxs -hypoglycemia - <b>weight gain</b>	-not to be used w/ renal or liver impaired patients  DDIs: sulfonamides, salicylates, phenylbutazon : hypoglycemia -thiazides: hyperglycemic activity -beta-adrenergic blocking agents -disulfiram-like rx or possible hypoglycemia w/ alcohol
	<b>Insulin Enhancers</b>  Repaglinide, (PRANDIN)	-promotes insulin secretion by the pancreas	-for type 2 diabetics	-hypoglycemia	-patients must eat w/i 30 minutes of administration
	Nateglinide (STARLIX)	-stimulates insulin secretion by pancreas - extent of insulin release is glucose dependent ( <b>‘smart drug’</b> )	-used alone or in combo therapy w/ Metformin or Glyburide -for type 2 diabetes	-GI: same as metformin	- Give 1-30 minutes before meals - Category C: do not use during pregnancy - Avoid in patients w/ severe liver insuff - Works more quickly than Prandin
Decr. Glucose production	<b>Biguanides</b>  Metformin (GLUCOPHAGE)	- decr. hepatic glucose production - incr. peripheral insulin sensitivity esp. in muscle tissue	-for treatment of type 2 diabetes, alone or w/ a sulfonylurea - <b>does not cause hypoglycemia</b> -an antihyperglycemic drug	-GI effects— <b>anorexia</b> , flatulence, metallic taste, N/V, stomach pain, weight loss - <b>Weight loss</b> - Decr. absorption of vitamin B12 and folic acid	-Avoid in patients w/ severe liver or renal dx, cardiorespiratory insufficiency, CHF  DDIs: avoid alcohol—hypoglycemic cimetidine, digoxin, morphine, rantidine, trimethorprim, furosemide, vancomycin—incr. blood concentration of metformin
Stop Gut N-Zymes	<b>Alpha-glucosidase inhibitors</b>  acarabose (PRECOSE) miglitol (GLYSET)	-prolongs digestion of CHO -decr. peak plasma glucose levels by inhibiting intestinal enzymes in SI that break complex carbohydrates into smaller molecules	-for treatment of type 2 diabetes  <b>aka “starch-blockers”</b>	-GI: flatulence, abdominal pain, distention, diarrhea, borborygmi -Incr. in liver enzymes	-used as mono or combo therapy w/ sulfonylureas -TID w/ first bite of food -SE diminish w/ time—usually 3 wks  DDIs: corticosteroids & thiazides—interfere w/ control of hyperglycemia

	Drug	Action	Use	Side Effects	Nursing Implications
Decr. insulin resistance	<b>Thiazolidinediones (Glitazones)</b> rosiglitazone (AVANDIA) pioglitazone (ACTOS)	-acts on target tissues to decr. <b>insulin resistance</b> in skeletal muscle -may also decr. glucose output by the liver	-for treatment of type 2 diabetes; mono or combo therapy	-edema, weight gain -anemia	-cytochrome P450 inducer so <b>check liver function: 1<sup>st</sup> six months-check monthly; 2<sup>nd</sup> six months-check every 2 months</b> -teach patient of liver failure signs  DDIs: Ca channel blocking agents corticosteroids, statins and BC pills

### BLOOD GLUCOSE LOWERING EFFECTS

#### Glucose Lowering Effect

Acetaminophen  
 Alcohol  
 Allopurinol  
 Aspirin (large doses)  
 Alpha-glucosidase inhibitors  
 Beta-adrenergic blockers  
 Biguanides  
 Clofibrate  
 Histamine antagonists  
 Insulin  
 MOA inhibitors  
 Probenecid  
 Sulfonylureas  
 Troglitazone  
 Tricyclic antidepressants  
 Urinary acidifiers

#### Glucose Raising Effect

Beta-adrenergic blockers  
 Birth control pills  
 Cholestyramine (Questran)  
 Corticosteroids  
 Ethacrynic acid  
 Morphine  
 Epinephrine  
 Furosemide (LASIX)  
 Glucagons  
 Lithium  
 Nicotine  
 Nifedipine  
 Phenobarbital  
 Pnenothiazines  
 Phenytoin (DILANTIN)  
 Rifampin  
 Thiazide diuretics  
 Urinary alkalizing agents