# DRUG THERAPY OVERVIEW DIABETES MELLITUS

2/2/10

| Drug Class | Generic Name (Brand Name) | Adverse Effects | Comments |
|---|---|---|---|
| **Biguanide**<br>• Inhibits hepatic glucose output<br>• ↑uptake of peripheral glucose<br>• ↓HbA1c 0.8%-2% | Metformin (Glucophage) | GI* distress<br>Metabolic acidosis | • Extended release may have better GI tolerance<br>• Administer with meals<br>• Less associated weight gain<br>• 5% weight loss may occur |
| **Combination Product**<br>• Same action as single agents, in combination<br>• ↓HbA1c | Glyburide/Metformin (Glucovance)<br>Rosiglitazone/metformin (Avandamet)<br>Sitagliptin/metformin (Janumet)<br>Pioglitazone/metformin (ActoPlusMet)<br>Rosiglitazone/glimepiride (Avandaryl) | | |
| **Second Generation Sulfonylurea**<br>• Stimulates insulin release from the pancreas<br>• ↓HbA1c 0.9%-1.8% | Glyburide (Diabeta), (Micronase)<br>Glipizide (Glucotrol)<br>Glimepiride (Amaryl) | Weight gain<br>Hypoglycemia | |
| **Thiazolidinedione**<br>• Enhances insulin sensitivity<br>• ↓HbA1c 1.1%-1.6% | Pioglitazone (Actos)<br>Rosiglitazone (Avandia) | Edema<br>Weight gain(3-6 lb)<br>Heart failure<br>Hepatic toxicity | • ↓ glucose may not be apparent for 4wk<br>• Administer with or without food<br>• Avoid in patients with liver disease<br>• Use only if at low risk for heart disease |
| **Glinide**<br>• Stimulates insulin secretion | Repaglinide (Prandin)<br>Nateglinide (Starlix) | Hypoglycemia<br>Weight gain | • Administer 15-30 minutes before meal |
| **Alpha-Glucosidase Inhibitor**<br>• Delays carbohydrate absorption from the GI tract thereby ↓ postprandial hyperglycemia | Acarbose (Precose)<br>Miglitol (Glyset) | Dose related :<br>Diarrhea<br>Abdominal pain<br>Flatulence | • Administer with first bite of each main meal<br>• Avoid in cirrhosis<br>• Avoid in digestive diseases<br>• Concurrent use w/sulfonylurea: treat hypoglycemia with oral glucose not sucrose |
| **Dipeptidyl peptidase –IV**<br>• Slows inactivation of incretin hormones<br>• ↓HbA1c 0.6%-1.05% | Sitagliptin (Januvia) | Nasopharygitis<br>Headache<br>URI | • Administer with or without food<br>• Reduce dosage in patients w/renal insufficiency |
| **Incretin mimetic**<br>• Stimulates production of insulin<br>• Suppresses postprandial glucagon<br>• Slows rate of gastric emptying<br>• ↓HbA1c 0.6%-0.8% | Exenatide (Byetta) | Hypoglycemia<br>Nausea<br>Vomiting<br>Diarrhea | • Do not use if patient has gastroparesis |
| **Neuroendocrine-amylin analog**<br>• Slows rate of gastric emptying by suppressing postprandial glucagon<br>• Decreases appetite<br>• ↓HbA1c 0.3%-0.66% | Pramlintide (Symlin) | Hypoglycemia<br>Nausea | • Administer before major meals |