

**Table 3. Antihyperglycemic Agents for Use in Type 2 Diabetes**

Class	Usual dosage ranges*	Therapeutic considerations
<b>Alpha-glucosidase inhibitor</b> acarbose (Prandase®) †	<ul style="list-style-type: none"> <li>• 50 mg OD slowly titrating up to 100 mg TID</li> <li>• Always before meals</li> <li>• Cost: \$1.05/day (3 x 100 mg)</li> </ul>	<ul style="list-style-type: none"> <li>• Not recommended as initial therapy in people with severe hyperglycemia (A1C ≥ 9.0%)</li> <li>• Mostly used in combination with other oral antihyperglycemic agents</li> <li>• Gastrointestinal side effects</li> <li>• Treat hypoglycemia with dextrose tablets, milk or honey</li> </ul>
<b>Biguanide</b> metformin (Glucophage®, generic) †	<ul style="list-style-type: none"> <li>• 250 or 500 mg BID to max 2.55 g/day (850 mg TID or 5X 500 mg in divided doses)</li> <li>• Always with food to decrease GI side effects</li> <li>• Cost: \$0.64/day (3 x 850mg)</li> </ul>	<ul style="list-style-type: none"> <li>• Contraindicated in patients with renal or hepatic dysfunction, or cardiac failure</li> <li>• Use eGFR (see <a href="#">Nephropathy</a>) to estimate creatinine clearance (&lt; 60 mL/min indicates caution or contraindicates the use of metformin)</li> <li>• Associated with less weight gain than sulfonylureas and does not cause hypoglycemia</li> <li>• Gastrointestinal side effects</li> </ul>
<b>Insulin</b> See Table 2	<ul style="list-style-type: none"> <li>• Individualized</li> <li>• Novolin and Humulin R and NPH insulin</li> <li>• Cost \$20 per 10 ml vial</li> <li>• 1 ml = 100 units</li> <li>• Cartridge 5X3 ml \$40</li> <li>• Lantus® 10 ml \$60</li> </ul>	<ul style="list-style-type: none"> <li>• When initiating insulin, consider adding bedtime intermediate-acting insulin, long-acting insulin or extended long-acting insulin analogue to daytime oral antihyperglycemic agents (although other regimens can be used)</li> <li>• Intensive insulin therapy regimen recommended if above fails to attain glycemic targets</li> <li>• Causes greatest reduction in A1C and has no maximum dose</li> <li>• Increased risk of weight gain relative to sulfonylureas &amp; metformin</li> </ul>
<b>Insulin secretagogues</b> <b>sulfonylureas:</b> <ul style="list-style-type: none"> <li>• gliclazide (Diamicon®, Diamicon® MR, generic) □</li> <li>• glimepiride (Amaryl™) ◇</li> <li>• glyburide (Diabeta®, Euglucon®, generic) † (note: chlorpropamide and tolbutamide are still available in Canada, but rarely used)</li> </ul> <b>nonsulfonylureas:</b> <ul style="list-style-type: none"> <li>• nateglinide (Starlix®) ◇</li> <li>• repaglinide (GlucosNorm®) ◇</li> </ul>	<ul style="list-style-type: none"> <li>• gliclazide - 80 mg OD to 160 mg BID ) \$0.30/80 mg</li> <li>• gliclazide MR (modified release): 30 mg OD to 120 mg OD \$0.30/ 30 mg</li> <li>• glimepiride - 1 mg OD to 8 mg OD (not covered)</li> <li>• glyburide - 5 mg OD (or 2.5 mg BID) to 10 mg BID \$0.07/ 5 mg</li> <li>• nateglinide - 60 mg TID to 180 mg TID (always before meals) (not covered)</li> <li>• repaglinide - 0.5 mg TID to 4 mg QID (always before meals) \$2.16/ 4 mg</li> </ul>	<ul style="list-style-type: none"> <li>• All insulin secretagogues reduce overall glycemia similarly (except nateglinide)</li> <li>• Postprandial glycemia is especially reduced by nateglinide and repaglinide</li> <li>• Hypoglycemia and weight gain are especially common with glyburide</li> <li>• Consider using other class(es) of antihyperglycemic agents first in patients at high risk of hypoglycemia (e.g. the elderly)</li> <li>• If a sulfonylurea must be used in such individuals, gliclazide and glimepiride are associated with less hypoglycemia than glyburide</li> <li>• Nateglinide and repaglinide are associated with less hypoglycemia in the context of missed meals</li> </ul>
<b>Insulin sensitizers (TZDs)</b> <ul style="list-style-type: none"> <li>• pioglitazone (Actos®) □</li> <li>• rosiglitazone (Avandia®) □</li> </ul>	<ul style="list-style-type: none"> <li>• pioglitazone - 15 mg OD to 45 mg OD Cost \$3.06/day (30 mg)</li> <li>• rosiglitazone - 2 mg OD to 8 mg OD (or 4 mg BID) Cost \$2.16/day (4 mg)</li> </ul>	<ul style="list-style-type: none"> <li>• Contraindicated in patients with hepatic dysfunction (ALT &gt; 2.5 times ULN) or significant cardiac failure</li> <li>• Between 6 and 12 weeks required to achieve full BG-lowering effect</li> <li>• Triple therapy: addition of TZD to metformin plus sulfonylurea is acceptable</li> <li>• May induce mild edema, fluid retention</li> <li>• When used in combination with insulin, may increase risk of edema and CHF. The combination of a TZD plus insulin is currently not an approved indication in Canada</li> </ul>
Combined formulation of rosiglitazone and metformin (Avandamet™) ◇	<ul style="list-style-type: none"> <li>• 2 mg/500 mg BID to start, not to exceed 8 mg/day of rosiglitazone or 2500 mg/day metformin</li> </ul>	<ul style="list-style-type: none"> <li>• See rosiglitazone and metformin</li> </ul>
Antiobesity agent orlistat (Xenical®) ◇	<ul style="list-style-type: none"> <li>• 120 TID Always before meals</li> </ul>	<ul style="list-style-type: none"> <li>• Associated with weight loss</li> <li>• Gastrointestinal side effects</li> </ul>

\* Dosage ranges based on expert opinion and CPS.

Pharmacare coverage – valid at date of printing:

† Regular Pharmacare coverage □ Pharmacare Special Authority ◇ No Pharmacare coverage