<table>
<thead>
<tr>
<th>Generic</th>
<th>Pregnancy</th>
<th>Trade Rating</th>
<th>ONSET; &amp; DURATION of effect</th>
<th>SA NODE AUTOMATIVITY</th>
<th>AV NODE CONDUCTION</th>
<th>Periph. Vascular Resistance</th>
<th>HEART RATE</th>
<th>CONTRACTILITY</th>
<th>CARDIAC OUTPUT</th>
<th>APPROVED INDICATIONS</th>
<th>COMMENTS</th>
<th>INITIAL &amp; (MAX Dose)</th>
<th>USUAL DOSE RANGE</th>
<th>COST/MONTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amlodipine NORVASC 5 &amp; 10mg tab</td>
<td>G</td>
<td>~6 hr; 24 hr</td>
<td>⇐</td>
<td>⇐</td>
<td>⇐</td>
<td>IVA</td>
<td>⇐</td>
<td>/↑</td>
<td>/</td>
<td>HTN (2.5-10mg od)</td>
<td>Stable Angina (ALT systolic Dysfx CND 2003)</td>
<td>2.5-5mg OD</td>
<td>5mg po OD</td>
<td>10mg OD VALUE 16</td>
</tr>
<tr>
<td>Felodipine RENEDIL,PLENDIL 2.5, 5 &amp; 10mg tab ext, liquid</td>
<td>G</td>
<td>2-6 hr; 24 hr</td>
<td>⇐</td>
<td>⇐</td>
<td>⇐</td>
<td>IVA</td>
<td>⇐</td>
<td>/↑</td>
<td>/</td>
<td>HTN (ALT systolic Dysfx CND 2003)</td>
<td>2.5-5mg OD</td>
<td>5mg po OD</td>
<td>10mg OD HOT</td>
<td>31</td>
</tr>
<tr>
<td>Nifedipine ADALAT/Generic</td>
<td>C</td>
<td>&lt;20 min; 6 hr</td>
<td>⇐</td>
<td>⇐</td>
<td>⇐</td>
<td>IVA</td>
<td>⇐</td>
<td>/↑</td>
<td>/</td>
<td>HTN (PA &amp; XL forms)</td>
<td>Stable Angina (Reg. &amp; XL)</td>
<td>5mg TID</td>
<td>10mg PA BID</td>
<td>30mg XL OD</td>
</tr>
<tr>
<td>Diltiazem CARDIZEM/Generic</td>
<td>C</td>
<td>&lt;30min; 4-8 hr</td>
<td>⇐</td>
<td>⇐</td>
<td>⇐</td>
<td>IVA</td>
<td>⇐</td>
<td>/↑</td>
<td>/</td>
<td>HTN (SR &amp; CD &amp; Tiazac forms)</td>
<td>Stable Angina (All dosage forms; initial titration with reg. tabs recommended)</td>
<td>30mg TID</td>
<td>60mg SR BID</td>
<td>120mg CD po OD</td>
</tr>
<tr>
<td>Verapamil ISOPTIN/Generic REG</td>
<td>C</td>
<td>&lt;30min; ~8 hr</td>
<td>⇐</td>
<td>⇐</td>
<td>⇐</td>
<td>IVA</td>
<td>⇐</td>
<td>/↑</td>
<td>/</td>
<td>HTN (Reg. &amp; SR)</td>
<td>Stable Angina &amp; Coronary Artery Spasm (Reg. Tabs)</td>
<td>40-80mg TID</td>
<td>120mg SR OD</td>
<td>(480mg/d)</td>
</tr>
</tbody>
</table>

**Drug Class:**
- **Dihydropyridine:** Amlodipine, felodipine, nicardipine, nifedipine, nimodipine (relatively: more peripheral vasodilation, less effect on heart).
- **Phenytoalkylamine:** Verapamil (relatively: more negative chronotrophic effect on heart, less on peripheral vasodilation).

**Dosage Adjustments:** every 2-4 weeks in HTN (HTN dose often higher than anti-anginal dose). Combination with ACE inhibitors & diuretics reasonable; Dihydropyridines (e.g. nifedipine) may be given with a beta blocker to prevent reflex tachycardia; however use PRECAUTION as possible negative inotropic effects. Generally neutral effect on lipids & glucose tolerance.

**Side Effects** (General): dizziness, headache, edema, flushing, rash, gingival hyperplasia; constipation esp. with verapamil; dyspnea & pulmonary edema in pts. with LV dysfunction, may worsen HF.

**Grapefruit juice** can inhibit metabolism via the cytochrome-P-450 system (CYP 3A4) resulting in significant increases in drug levels, especially with felodipine.

**Role:** Long acting dihydropyridines for *Uncomplicated HTN, Isolated Systolic HTN & Left Ventricular Hypertrophy*

- Long acting Calcium Channel Blockers: Preferred in vasospastic angina pt’s; Alternate in diabetics & angina. Non-dihydropyridines (diltiazem & verapamil) useful for atrial fibrillation & SVT’s.
- **Other Uses:** blacks, esophageal disorders, ↓ migraines (flunarizine SIBELIUM), ↓ panic attacks, Raynaud’s phenomenon (dihydropyridines), thyrotoxicosis, tardive dyskinesia & Tourette’s Sx.

**Contraindications:** severe hypotension (SBP<90), recent MI with pulmonary edema, sick sinus syndrome or 2nd or 3rd degree AV block; & if Systolic dysfx or CHF avoid diltiazem & verapamil.

**CAPITAL**
- **Diltiazem & IV verapamil indicated for atrial fibrillation/flutter & paroxysmal supraventricular tachycardia.**
- **Drug Class:**
  - **Dihydropyridine:** Amlodipine, felodipine, nicardipine, nifedipine, nimodipine (relatively: more peripheral vasodilation, less effect on heart).
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11 Treatment Guidelines: Drugs for Hypertension from The Medical Letter Feb 2003

12 The 2004 Canadian Hypertension Education Program Recommendations www.chs.md


