Pharmacology

The study of drugs

- Sources, characteristics and effects
- Always refer to drugs as *medications*
EMTs can *deliver* some medications and can *assist* the patient in delivering some other medications.

### Meds EMTs can deliver

- Oxygen
- Oral Glucose
- Albuterol via inhalation
- Epinephrine Auto Injector ("EpiPen")
Meds that EMTs can assist

- Prescribed inhalers
- Nitroglycerin

Drug Names

- Chemical
- Generic
  - E.g. Ibuprofin, Nitroglycerin
- Trade
  - E.g. Advil, Nitrostat
Important terms

- **Action**: The therapeutic effect that a drug is expected to have on the body
- **Indications**: Signs/Symptoms/Conditions for which a particular medication should be used
- **Contraindications**: Signs/Symptoms/Conditions or patient for which a particular medication should NOT be used
- **Side effects**: Any actions of a medication other than the desired ones

Drug Administration

- Before administering any drug, know the “four rights”
  - Right patient
  - Right medication
  - Right dose
  - Right “route”
Medication Routes

- Intravenous (“IV”)
- Oral (“PO”)
- Sublingual (“SL”)
- Intramuscular (“IM”)
- Intraosseous (“IO”)
- Subcutaneous (“SC”)
- Transcutaneous
- Inhalation
- Rectal (“PR”)

References

- PDR
- USP
- Merck Manual
- The Pill Book
  - Not an “official” guide, but a very good source
- ePocrates (for SmartPhones)
### Survey of commonly used drugs

#### Anti-hypertensives

<table>
<thead>
<tr>
<th>Drug 1</th>
<th>Drug 2</th>
<th>Drug 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accupril</td>
<td>Cozaar</td>
<td>Isoptin (Verapamil)</td>
</tr>
<tr>
<td>Lotensin</td>
<td>Monopril</td>
<td>Norvasc</td>
</tr>
<tr>
<td>Lopressor (Metoprolol)</td>
<td>Toprol XL</td>
<td>Tenormin (Atenalol)</td>
</tr>
<tr>
<td>Vasotec</td>
<td>Zestril</td>
<td>Calan (verapamil)</td>
</tr>
<tr>
<td>Prinivil</td>
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</tbody>
</table>
Diuretics

- Lasix (Furosemide)
- Bumex
- Diazide
- HCTZ
- Hydrodiuril

Combination HTN, diuretics

- Zestoretic
- Prinzide
- Vasaretic
- Glucovance
Potassium supplements

- K-Dur
- K-Tab
- Slo-K

Cholesterol Lowering

- Lipitor
- Mevacor
- Lopid
- Pravachol
- Zocor
### Antianginals

<table>
<thead>
<tr>
<th>Antianginal</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procardia XL (Nifedipine)</td>
<td><strong>Nitrostat</strong> (nitroglycerin)</td>
</tr>
<tr>
<td>Cardizem (Diltiazam)</td>
<td>Isordil (Isosorbide Dinitrate)</td>
</tr>
<tr>
<td>Inderal (propranalol)</td>
<td>Imdur (Isosorbide Mononitrate)</td>
</tr>
<tr>
<td>Capoten</td>
<td>Corgard</td>
</tr>
</tbody>
</table>

### Oral Anti-hyperglycemics

<table>
<thead>
<tr>
<th>Oral Antihyperglycemic</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabeta (Glyburide)</td>
<td>Diabenase</td>
</tr>
<tr>
<td>Glucotrol (Glipizide)</td>
<td>Glucophage</td>
</tr>
<tr>
<td>Glynase (Glyburide)</td>
<td>Micronase (Glyburide)</td>
</tr>
<tr>
<td>Avandia</td>
<td></td>
</tr>
</tbody>
</table>
Injected Anti-hyperglycemics

- Humulin
- Humalog
- Lente
- **Lantus**
- And many others

Anti-epilepsy

- Dilantin
- Phenobarbitol
- Depakote
- Tegratol
- Neurontin
  - Many others
Some cardiac meds

- Lanoxin
  - Digoxin
- Coumadin
  - Warfarin
- Many of the anti-hypertensives and anti-anginals are used for cardiac conditions

Assorted respiratory inhalers

- Atrovent
- Combivent
- Alupent
- **Proventil, Ventolin (Albuterol)**
- Intal
- Serevant
- Beclovent
- Azmacort
- Aerobid