DRUGS USED IN THE CATH LABS
• Drugs are used to either effect the body or are used to affect the body over a period of time
Actions of drugs on the body

1. Transmit substances
2. Block transmitters
3. Inhibit enzymes
4. Activate or inhibit receptors
5. Inhibit transport processes
6. Hormone action
Routes of administration

• Oral: must be absorbed into the blood stream via the gut wall.
• IV: directly enters the bloodstream and is rapidly distributed to the tissues. Route used where rapid effect is required, infusion or a large volume.
• IM / SC: fairly rapidly absorbed drugs
• Others: inhalation, topical, sublingual & rectal
Excretion and metabolism

• Renal excretion is ultimately responsible for the elimination of most drugs
• Liver is the main organ for metabolism, but GI tract and lungs have considerable activity
• Occasionally products of drug metabolism can become toxic especially to the liver
Contrast

- Used for the imaging of vessels to assess lumen diameter under fluroscopy
- Usually iodine based
- CIN
- Metformin
Drugs affecting blood coagulation

• These affect various parts of the clotting cascade of the blood
• Anticoagulant drugs
• Antiplatelet drugs
Blood coagulation *in vivo*

- Platelets
  - TF (tissue factor)
  - Activated platelets
- Initiation phase
  - TF-VIIa
  - IXa
  - Xa
  - X
  - VII
  - IX
  - (αTHR)
  - (APC)
- Amplification phase
  - XIa
  - XI
  - XIl
  - VIIIa
  - VIII
  - Va
  - V
  - (αTHR)
- Prothrombin
  - THROMBIN
  - Stabilised, cross-linked fibrin clot
  - Fibrinogen
  - Fibrin
  - XIIIa
  - XIII
Blood coagulation

- Anticoagulant drugs
- Antiplatelet drugs
- Thrombolytics
Diabetes

- There are 2 types: Type 1 and Type 2
- Type 1: Insulin dependent diabetes
- Type 2: non-insulin dependent
- It is a risk factor for CHD
Angina

- Antianginal drugs aim to reduce the work of the myocardium and hence its $O^2$ demand
- Nitrates
- Vasodilators
- B blockers
- Ca$^{2+}$ antagonists
Anti-arrhythmic drugs
Amiodorone =

![Image of Domestos cleaning product](image-url)
Anti-arrhythmic drugs – other uses…

- Adenosine in assessing Fractional Flow reserve (FFR)
- Verapamil – in radial access
- ISDN -
Analgesia

• Opiates

• Affects of opiates
Anaesthetics

- GA is the absence of sensation with reversible LOC
- Unconsciousness is usually maintained with an inhalation of anaesthetic
- Anaesthetics depress all excitable tissues
Sedation

- Conscious sedation is sometimes used to relax patients during long and often painful procedures
- Use of benodiazepines
Cardiac arrest situation

- Oxygen
- Adrenaline
- Atropine
- Amiodorone
- Calcium
- Magnesium
- Bicarb