ABOUT US

- **ماهو بنك الدواء المجاني؟**
  - هو مشروع تطوعي لا يهدف للربح المادي وانما يهدف الى توفير الدواء بالمجان لغير القادرين من مرضى مستشفى الباطنة وبعض الاقسام الاخرى بمستشفى قصر العيني
  - ويعتمد بنك الدواء المجاني في مصادر الادوية على تبرعات الادوية سواء من الاطباء او غيرهم ممن يعرفون بنشاط البنك وبعض الجمعيات الخيرية
  - ويقوم بادارة هذا المشروع بعض المتطوعين من اطباء الامتياز كل عام ويعاونهم طلبة كلية طب قصر العيني ومتطوعين اخرين من داخل وخارج المجال الطبي

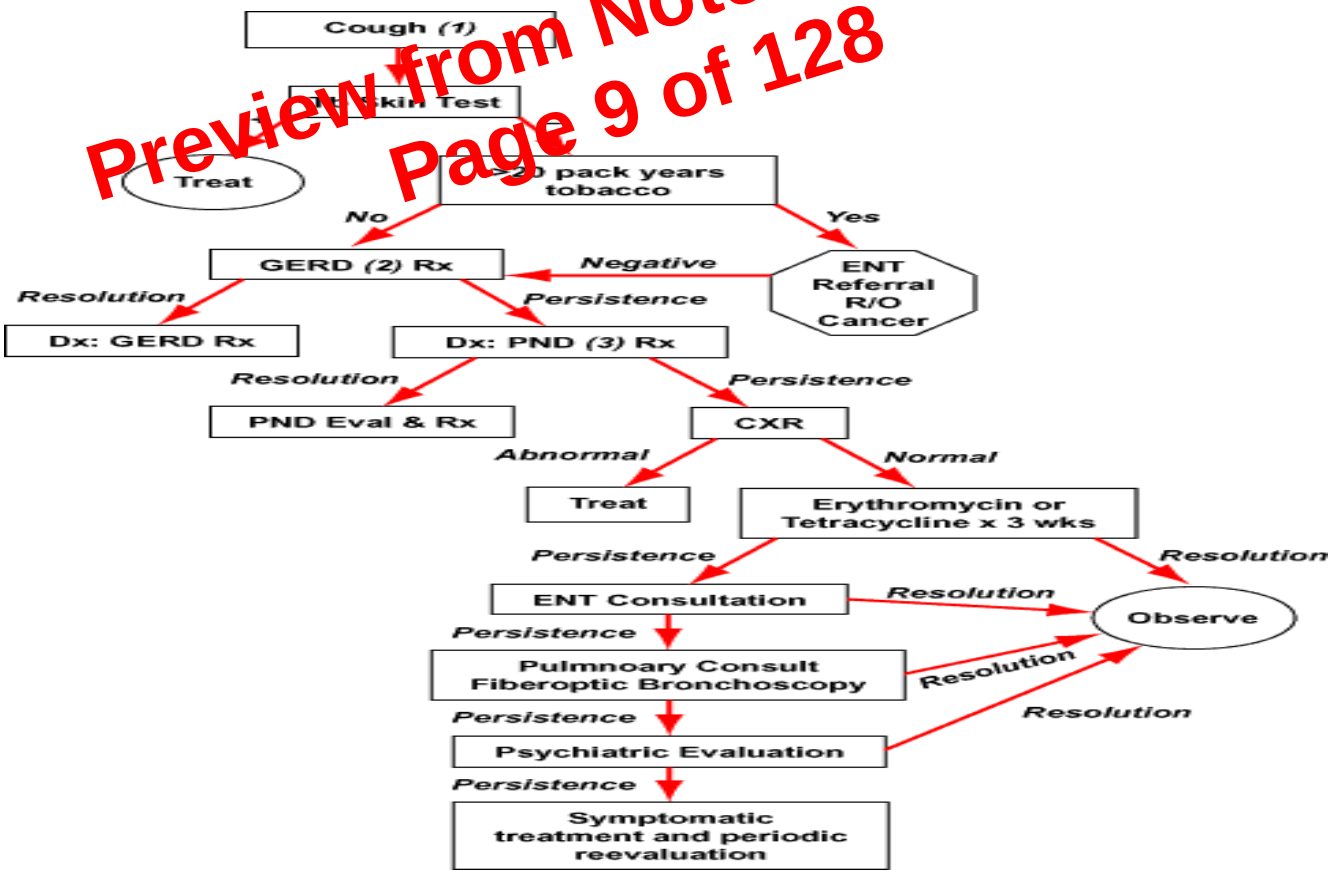
- **قصة بنك الدواء المجاني:**
  - بدأ بنك الدواء المجاني في ديسمبر ٢٠٠٤ بفكرة من طبيبة امتياز تدعى شيرين
  - كانت البداية بصيدلة بكمية ادوية قليلة في استقبال مستشفى الباطنة
  - مع الوقت تطورت الفكرة وتطور معها عدد اطباء الامتياز المشاركين وكمية الادوية المتاحة
  - اصبح الان بنك الدواء المجاني بقصر العيني صيدلية متخصص في خدمة المرضى خدمة مجانية بكفاءة عالية

- **المستفيدين من الخدمة:**
  - يخدم بنك الدواء المجاني يوميا مابين ٧٠ الي ١٠٠ مريض على النحو التالي:
  - المرضى المحجوزين لتلقى العلاج بالادوار بمستشفى امراض الباطنة
  - مرضى استقبال مستشفى الامراض الباطنة
  - مرضى وحدة الملك فهد لامراض الكلى
  - مرضى العيادات الخارجية بقصر العيني
  - بعض التبرعات يتم اعطاؤها لعيادات النساء والاطفال والذكورة والنفسية والرعايات
  - يتم تجهيز بعض القوافل الطبية بالادوية اللازمة

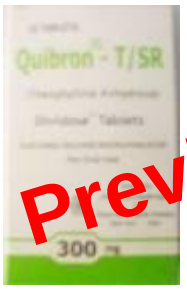
- **مصادر الادوية:**
  - الاطباء سواء بقصر العيني او خارجه
  - طلبة كليات الطب والصيدلة
  - الممرضات والعاملين بقصر العيني
  - العينات المجانية من شركات الادوية ومندوبيها
  - بعض الجمعيات الخيرية
  - الافراد الذين يعرفون عن المشروع من خلال فريق الدعاية لدينا

- ***Types of cough:***
  1. **Dry cough**: all causes can cause dry cough
     - No mucus is present
     - Usually due to a minor irritation in the throat or larynx
  2. **Productive cough**: specially tracheo-broncho-alveolar causes
     - Mucus is present
     - Usually due to an infection
     - Can be blood-streaked in smokers with COPD
  3. **Acute cough**:
     - New < 3 weeks
     - Usually due to an infection
  4. **Chronic cough**:
     - Longstanding > 3weeks
     - Due to an underlying illness, such as smokers cough caused by COPD

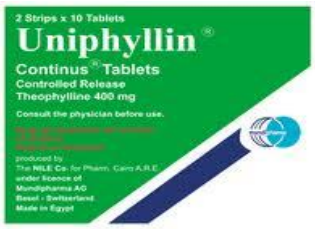
- Management:
  1. Cough preparations are adjuvant therapy or supportive treatment and the actual treatment is treatment of the definitive cause
  2. If u can't suggest the cause by history and clinical examination you can follow this algorithm



- Side effects:
  - It has a narrow therapeutic index, so its use must be monitored to avoid toxicity***. (Therapeutic serum level ranges 10 to 20mcg/mL. At higher levels (>20mg/L), serious toxic effects such as arrhythmias and convulsions may occur without warning.)***
  - It can also cause nausea, diarrhea, increase in heart rate, arrhythmias, and CNS excitation (headaches, insomnia, irritability, dizziness and lightheadedness).
  - Seizures can also occur in severe cases of toxicity and is considered to be a neurological emergency.
  - Its toxicity is increased by erythromycin, cimetidine, and fluoroquinolones, such as ciprofloxacin. It can reach toxic levels when taken with fatty meals
  - Theophylline toxicity can be treated with beta blockers. In addition to seizures, tachyarrhythmias are a major concern.
- Preparations:
  - **Minophylline syrup, 300mg tabs. , 500mg supp & amp.**
  - **Quibron-T SR 300mg tabs.**
  - **Theo SR 100, 200, 300 mg caps.**
  - **Uniphylline 300, 400 caps.**





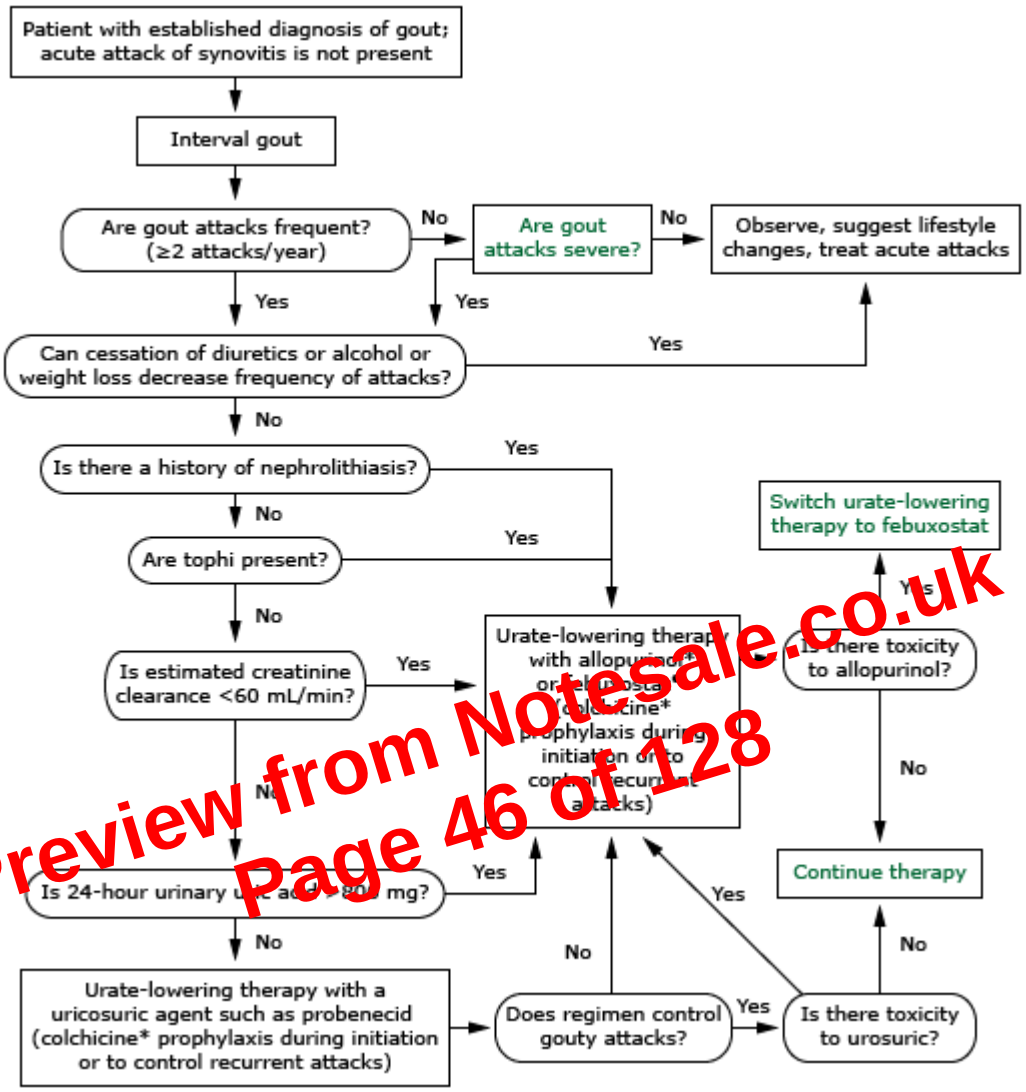



- Dosage :
  - 300-400 mg daily

- ***Nonsteroidal anti-inflammatory drugs: (for more details revise analgesics chapter)***
  - They are first-line therapy for most patients with for acute gouty arthritis.
  - Complete or nearly complete resolution of pain and disability typically occurs within several days to one week.
  - Aspirin is usually avoided because of the paradoxical effects of salicylates on serum urate
  - A number of randomized trials have compared different NSAIDs with each other, without any apparent differences in efficacy.
  - Significant pain relief was noted at the initial assessment four hours after the first dose

.

  - Caution is necessary in patients with known cardiovascular disease or with multiple risk factors for atherosclerotic coronary disease, since an increased risk of myocardial infarction, stroke, and heart failure have been associated with use of both selective COX-2 inhibitors and, perhaps to a lesser degree, nonselective NSAIDs.
  - ***Unless contraindicated (e.g., gastrointestinal, cardiovascular, or renal disease, or allergy), we suggest administration of a potent oral nonselective NSAID (such as naproxen or indomethacin) for reduction of acute gouty inflammation, especially if treatment is initiated within 24 hours of the onset of symptoms. A typical starting dose for naproxen is 500 mg twice daily and for indomethacin 150 mg/day given in three divided doses.***
  - In view of the frequent gastrointestinal intolerance associated with NSAIDs, the dose should be reduced by one-half as soon as objective and subjective improvement is noted, often within three days.
  - Further dose reductions and withdrawal over several more days is safe and practical.
  - Most patients are on NSAIDs until the attack has completely resolved; this may be a total of seven to ten days.
  - In an attack of several days duration a longer course of treatment may be necessary and an antiinflammatory agent with fewer gastroduodenal side effects (such as nabumetone or a selective COX-2 inhibitor) may be preferred.
  - In patients at high risk of gastric ulcer or gastrointestinal bleeding addition of an antiulcer medication to a nonselective NSAID may be helpful.



Dose adjustment of allopurinol and of colchicine in patients with renal insufficiency has been recommended. In the case of allopurinol, this recommendation is now controversial. No dose adjustment is required with febuxostat if creatine clearance ≥30 mL/min.

• Titration of dose of urate-lowering agent to serum urate goal of <6 mg/dL is recommended.

III. Drugs used for urinary incontinence:

- **Introduction:**
  - Urinary incontinence, the involuntary leakage of urine, often goes undetected by clinicians
  - A multicomponent stepped approach focused on the patient's most bothersome aspects of urinary incontinence is the key to successful therapy.
  - Treatment aimed at simply decreasing the number of incontinent episodes
  - Stepwise treatment strategies should be discussed with the patient.
  - In general, treatment should advance from least invasive (lifestyle changes, behavioral therapies, medications) to more invasive therapies
  - In older patients, correcting contributory factors such as comorbid conditions, functional impairment, and medications should be the initial focus
  - We will focus on ***PHARMACOLOGIC THERAPY***

- **Antimuscarinics:**
  - Anticholinergic drugs with antimuscarinic effects are the most frequently prescribed medications for urge incontinence.
  - The choice of agent for an individual patient depends on cost, dosing frequency, drug-drug interactions, potential side effects, and comorbid conditions that may increase adverse drug effects.
  - A lack of response to one agent does not preclude response to another.
  - Especially in older patients, antimuscarinics should be started at the lowest possible dose and titrated as needed.
  - ***Mechanism:***
    - These medications are thought to act primarily by increasing bladder capacity and decreasing urgency, and not decreasing involuntary detrusor contractions
  - ***Side effects:***
    - Significant peripheral adverse effects, attributed to blockade of muscarinic receptors throughout the body, may limit drug tolerability and dose escalation
    - Dry mouth, blurred vision for near objects, tachycardia, drowsiness, decreased cognitive function, and inhibition of gut motility (constipation).
    - Constipation and compensatory fluid intake for dry mouth may exacerbate urinary incontinence.
    - Dry mouth predisposes to caries; dentulous patients should have regular dental care if they are maintained on antimuscarinics.
    - Antimuscarinic agents are contraindicated in patients with gastric retention and angle closure glaucoma.
    - Drug interactions occur with drugs that are potent CYP3A4 inhibitors (azole antifungals, macrolide antibiotics, cyclosporine, vinblastine)

IV. Urinary antiseptics & antispasmodics:

- **Nitrofurantoin:**
  - **Mechanism of action:**
    - The drug works by damaging bacterial DNA
  - **Medical uses:**
    - It is usually used in treating urinary tract infection.
    - Nitrofurantoin is only clinically proven for use against *E. coli* or *Staph. saprophyticus*.
    - Nitrofurantoin ***must never be used*** to treat pyelonephritis,prostatitis, renal abscess, and pyeloempyema because of extremely poor tissue penetration and low blood levels.
    - Urinary catheter infections may be treated with nitrofurantoin if there are no systemic features; the catheter must be changed after 48 hours of antibiotics and treatment is ineffective if the catheter is not replaced or removed.
  - **Side effects:**
    - The most common side effects with nitrofurantoin are nausea, vomiting, and diarrhea
    - Less common reactions include fever, chills, and various other hypersensitivity reactions.
    - It can also cause pulmonary fibrosis and Drug-induced autoimmune hepatitis.
    - All these side effects are much more common in the elderly hence this antibiotic is strongly not recommended for older adults
    - Patients should be informed that nitrofurantoin colors urine brown; this is completely harmless.
  - **Dosage:**
    - 50-100 mg/dose every 6 hours; administer for 7 days or at least 3 days
    - Nitrofurantoin should be taken with food, as this improves the absorption of the drug by 45%.
  - Preparations:
    - **Macrofuran 50, 100mg cap – mepafuran 100mg cap – uvamin 100mg cap**

- **Other antiseptic antispasmodics:**
  - They have different active ingredients
  - They have antiseptic antispasmodic effect
  - They prevent stone formation and help expulsion
  - They have different forms tab, cap, sachets
  - We will mention the common and famous agents:

1. **Cystone:**
   - Dose of 2 tablets 2-3 times daily

2. **Rowatinex & urinex:**
   - Dose of 1-2 capsules 3 times before meals

3. **Proximol compound:**
   - مكيال على نصف كوب ماء 3 مرات يوميا

4. **Coli-Urinal:**
   - كتال على نصف كوب ماء 3 مرات يوميا

5. **Spasmo-Urgenin:**
   - Dose of 1-2 tabs tds

6. **Genurin:**
   - Dose of 1-2 tabs tds

7. **Sham cap, Kellagon cap, Renal-S sach, Uricol sach …..etc**

Drug Dispensing Permission

Name: ..... Date: / /

Diagnosis: Urate Crystals In Urine Unit: .....

℞ Rowatinex cap.

كبسولة قبل الوجبات ٣ مرات يوميا

℞ Urivin eff.

كيس على ١/٢ كوب ماء ٣ مرات يوميا

℞ Cataflam 50mg tab.

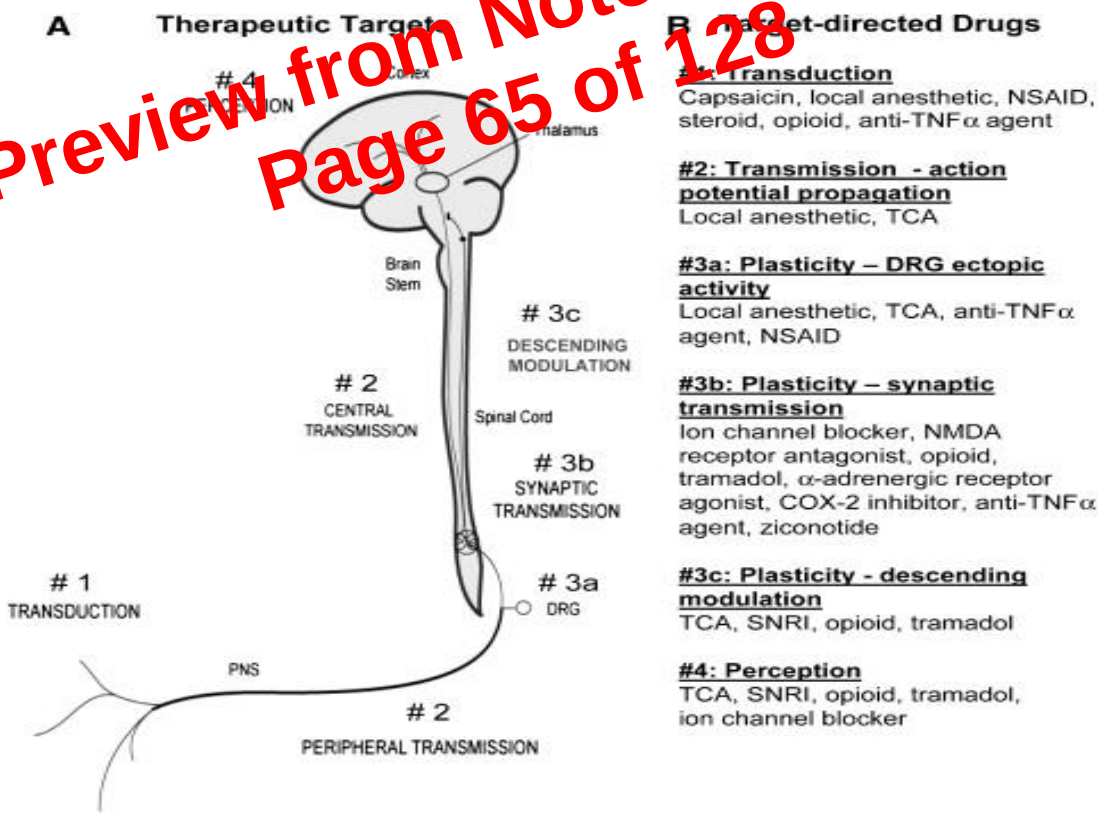
قرص ٣ مرات يوميا بعد الاكل

Signature

HINTS ON ANALGESICS

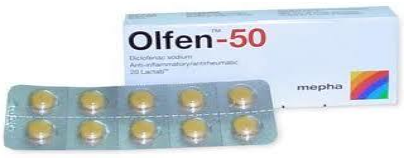
Hints on Analgesics

- **Introduction:**
  - An **analgesic** (also known as a **painkiller**) is any member of the group of drugs used to relieve pain
  - Analgesic drugs act in various ways on the peripheral and central nervous systems
  - There are many categories: paracetamol, NSAIDs & Opioids
  - They are distinct from anesthetics, which reversibly eliminate sensation.
  - In choosing analgesics, the severity and response to other medication determines the choice of agent
  - The WHO pain ladder, originally developed in cancer-related pain, is widely applied to find suitable drugs in a stepwise manner.
  - The analgesic choice is also determined by the type of pain: for neuropathic pain, traditional analgesics are less effective, and there is often benefit from classes of drugs that are not normally considered analgesics, such as tricyclic antidepressants and anticonvulsants.



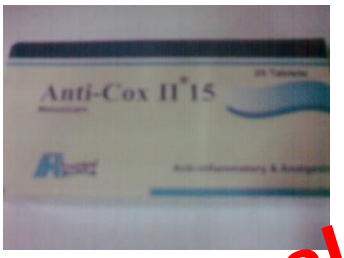
- Ketorolac:
  - Has more potent analgesic action than other NSAIDs
  - High incidence of side effects made some countries withdraw ketorlac
  - Common side effects are GIT bleeding and PU also hypersensitivity
  - Not recommended for children
  - Dosage:
    - ✓ Maximum duration of treatment should not exceed five days for tablets, or two days for continuous daily dosing with intravenous or intramuscular formulations.
    - ✓ Initially 30-60mg by IM then 10-30mg every 4-6 hours.
    - ✓ Maximum 150mg for 1st day and 120mg/day thereafter
  - **Preparations:**
    1. **Adolor 15, 30mg amp.**
    2. **Fam 10mg tab**
    3. **Ketolac 10mg tab and 30mg amp.**

- Diclofenac:
  1. Diclofenac sodium:
     - **Preparations:**
       1. Voltaren (most famous):
          - ✓ Tablets: voltaren 25, 50, 75mg – voltaren SR 100mg tab
          - ✓ Suppositories: voltaren 12.5, 25mg (ped.) 100mg (adult)
          - ✓ Ampoules: voltaren 75mg amp.
          - ✓ Gel: voltaren emulgel
       2. **Other trade names:**
          Olfen, Rheumafen, Rheumarene, Epifenac, Declophen ….etc



  - Dosage: 2-3 times after meal daily.

- Meloxicam:
  - ***Meloxicam has been shown, especially at its low therapeutic dose, selectively to inhibit COX-2 over COX-1.***
  - Rectal preparations should be avoided in patent with a history of proctitis, haemorrhoids or rectal bleeding
  - Dosage: 7.5-15 mg as a single dose after meal daily
  - **Preparations:**
    1. **Mobic: 7.5, 15mg tab – 15mg amp – 7.5mg supp**
    2. **Mobitil: 7.5, 15mg tab – 15mg amp – 15mg supp**
    3. **Other trade names: anti-cox II, melocam, meloxicam**



- Tenoxicam:
  - Dosage: course is initiated by one vial of 20mg im or iv daily for 1-2 days followed by oral therapy i.e. 20mg daily
  - **Preparations:**
    1. **Epicotil: 20mg tab, supp, vials**
    2. **Other trade names: soral, tenocam, tenoxicam, anoxicam**

- Lornoxicam:
  - Dosage: 12-16mg ***before*** meals daily on 2-3 doses
  - **Preparations:**
    1. **Lomoxicam: 4, 8mg tab**
    2. **Xefo: 4, 8mg tab – 8mg vials**
    3. **Other trade names: rheuxicam, zeficam, toprano** …..etc

- ***Fenamic acid derivatives (Fenamates)***
  - Mefenamic acid:
    - Should be stopped if diarrhea or rash occur or appearance of hematological changes e.g. thrombocytopenia or hemolytic anemia
    - Dosage: initially 500mg followed by 250mg every 6 hours ***with food***
    - **Preparation: mefenam 500mg cap –mefentan 250 cap and supp – ponstan 250mg cap** – ponstan forte 500mg tab …..etc

- ***Selective COX-2 inhibitors (Coxibs)***
  - Celecoxib:
    - Non-steroidal anti-inflammatory drug (NSAID) and selective COX-2 inhibitor
    - Same uses as other NSAIDs & additionally used to reduce numbers of colon and rectum polyps in patients with familial adenomatous polyposis.
    - Its primary indication is in patients who need regular and long term pain relief; there is probably no advantage to using celecoxib for short term or acute pain relief over conventional NSAIDs, except in the situation where non-selective NSAIDs or aspirin cause cutaneous reactions (urticaria or "hives"). In addition, the pain relief offered by celecoxib is similar to that offered by paracetamol
    - Used cautiously in patient with previous history of IHD, CVD or PVD
    - Dosage: The usual adult dose of celecoxib is 100 to 200 mg once or twice a day after meal. The lowest effective dose should be used.
    - **Preparations:**
      1. **Celebrex 100, 200mg cap**
      2. Other trade names: **celoxib, arythrex, eurocox** ….etc

    - Drug interaction:
      1. Celecoxib is predominantly metabolized by cytochrome P450 2C9. Caution must be exercised with concomitant use of 2C9 inhibitors, such as fluconazole, which can greatly elevate celecoxib serum levels.
      2. In addition, celecoxib may increase the risk of renal failure with angiotensin converting enzyme-inhibitors, such as lisinopril, and diuretics, such as hydrochlorothiazide

- ***Contraindications:***

Drug	Contraindications and warnings
Baclofen	▪ Should be reduced slowly when discontinuing, as hallucinations and seizures have occurred on abrupt withdrawal of the drug. ▪ In patients with epilepsy, the clinical state and electroencephalogram should be monitored at regular intervals, since deterioration in seizure control and EEG have been reported occasionally in patients taking baclofen.
Carisoprodol	▪ dependence, withdrawal, and abuse have been reported with prolonged usage
Chlorzoxazone	▪ rarely hepatotoxic
Cyclobenzaprine	▪ patients with hyperthyroidism, congestive heart failure, during the acute recovery phase of myocardial infarction, and in patients with arrhythmias and heart block conduction disturbances. ▪ Use of cyclobenzaprine in patients with moderate to severe hepatic function impairment is not recommended.
Dantrolene	▪ It's hepatotoxic so contraindicated with liver disease. ▪ Dantrolene is not for use where spasticity is utilized to sustain upright balance/posture in ambulation or when spasticity is utilized to obtain or maintain increased function.
Orphinadrine	▪ contraindicated in patients with glaucoma, pyloric or duodenal obstruction, stenosing peptic ulcers, prostatic hypertrophy or obstruction of the bladder neck, and myasthenia gravis
Tizanidine	▪ concomitant use with ciprofloxacin (Cipro®) or fluvoxamine is contraindicated ▪ Tizanidine occasionally causes liver injury ▪ Tizanidine use has been associated with hallucinations. ▪ Upon discontinuation, especially in patients who have been receiving high doses for long periods, decrease the dose slowly to minimize the risk of withdrawal and rebound hypertension, tachycardia, and hypertonia.

Hints on antihistamines (H_1 antagonists)

- **Introduction:**
  - In type I hypersensitivity allergic reactions, an allergen (a type of antigen) interacts with and cross-links surface IgE antibodies on mast cells and basophils.
  - Once the mast cell-antibody-antigen complex is formed, a complex series of events that eventually leads to cell degranulation and the release of histamine (and other chemical mediators) from the mast cell or basophile occurs.
  - Once released, histamine can react with local or widespread tissues through histamine receptors.
  - Histamine, acting on H_1-receptors, produces pruritus, vasodilation, hypotension, flushing, headache, tachycardia, bronchoconstriction, increase in vascular permeability, potentiation of pain, and more.
  - While H_1-antihistamines help against these effects, they work only if taken before contact with the allergen.
  - Antihistamines suppress the histamine-induced wheal response (swelling) and flare response (vasodilatation) by blocking the binding of histamine to its receptors on nerves, vascular smooth muscle, glandular cells, endothelium, and mast cells. They exert a competitive antagonism to histamines.
  - it has been discovered that these H_1-antihistamines are actually inverse agonists at the histamine H_1-receptor, rather than antagonists
  - In severe allergies, such as anaphylaxis or angioedema, these effects may be so severe as to be life-threatening.
  - Additional administration of epinephrine is required by people with such hypersensitivities.
- **Mechanism of action:**
  - Antihistamines suppress the histamine-induced wheal response (swelling) and flare response (vasodilatation) by blocking the binding of histamine to its receptors on nerves, vascular smooth muscle, glandular cells, endothelium, and mast cells. They exert a competitive antagonism to histamines.
  - It has been discovered that these H_1-antihistamines are actually inverse agonists at the histamine H_1-receptor, rather than antagonists
- **Indications:**
  - H_1-antihistamines are clinically used in the treatment of histamine-mediated allergic conditions.
  - To be specific, these indications may include:
    1. Allergic rhinitis
    2. Allergic conjunctivitis
    3. Allergic dermatological conditions (contact dermatitis)
    4. Urticaria
    5. Angioedema
    6. Diarrhea
    7. Pruritus (atopic dermatitis, insect bites)
    8. Anaphylactic or anaphylactoid reactions—adjunct only
    9. Nausea and vomiting (first-generation H_1-antihistamines)
    10. Sedation (first-generation H_1-antihistamines)

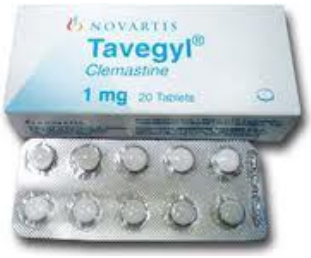
- a 1955 study of "antihistaminic drugs for colds," carried out by the U.S. Army Medical Corps, reported that "there was no significant difference in the proportion of cures reported by patients receiving oral antihistaminic drugs and those receiving oral placebos.
- The authors of the American College of Chest Physicians Updates on Cough Guidelines (2006) recommend that, for cough associated with the common cold, first-generation antihistamine-decongestants are more effective than newer, non-sedating antihistamines.

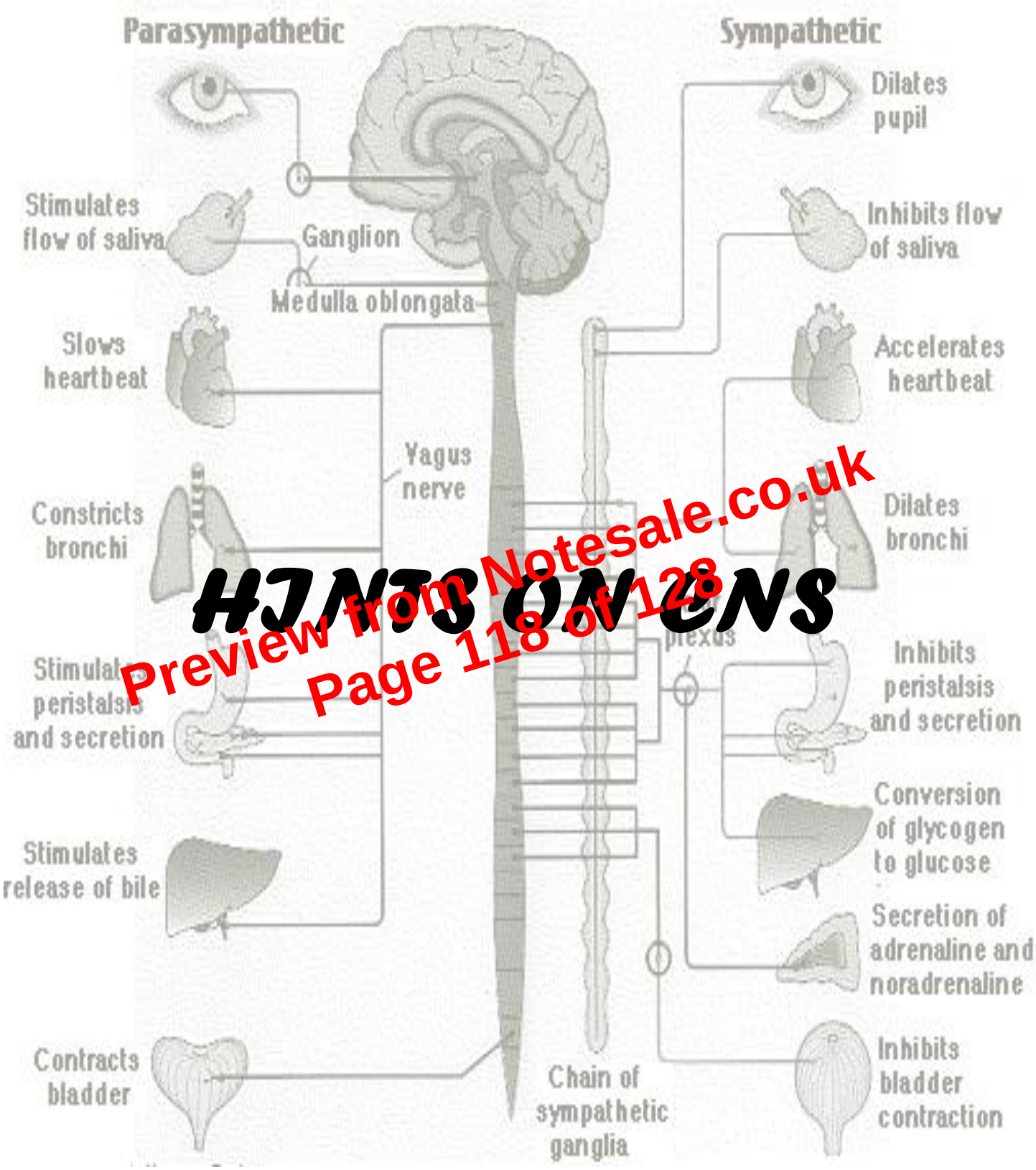
- **Side effects:**
  - Adverse drug reactions are most commonly associated with the first-generation H_1-antihistamines. This is due to their relative lack of selectivity for the H_1-receptor.
  - **1st generation:**
    - ***The most common adverse effect is sedation***
    - Other common adverse effects in first-generation H_1-antihistamines include dizziness, tinnitus, blurred vision, euphoria, uncoordination, anxiety, increased appetite leading to weight gain, insomnia, tremor, nausea and vomiting, diarrhea and ***antimuscarinic effects (dry mouth, constipation and dry cough).***
    - Infrequent adverse effects include urinary retention, palpitations, hypotension, headache, hallucination, and psychosis.
  - **2nd generation:**
    - The newer, second-generation H_1-antihistamines are far more selective for peripheral histamine H_1-receptors and have a far better tolerability profile compared to the first-generation agents.
    - The most common adverse effects noted for second-generation agents include drowsiness, fatigue, headache, nausea and dry mouth.
- **Classifications:**
  - 1st generation (sedating H1 antagonists, antimuscarinic effect and CNS effect)
  - 2nd generation (***non-sedating i.e. don't penetrate BBB so have no central side effects***)
  - 3rd generation (controversy)

I. First generation antihistamines:

1. Chlorpheniramine maleate:
- Dosage: 15ml. or one tab 2-3 times daily
- **Trade names**: **allergy 4mg tab – anallerge 4mg tab**

2. Clemastin:
- Has moderate sedative effects and has long duration of action 10-12 hrs.
- **Trade names**: **tavegyl 1mg tab – 2mg amp**





- **Phenytoin sodium:**
  - **Mechanism of action:**
    - Phenytoin acts to suppress the abnormal brain activity seen in seizure by reducing electrical conductance among brain cells by stabilizing the inactive state of voltage-gated sodium channels.
  - **Medical uses:**
    - A commonly used antiepileptic.
    - Aside from seizures, it is an option in the treatment of trigeminal neuralgia in the event that carbamazepine or other first-line treatment seems inappropriate.
  - **Side effects:**
    - CNS:
      - ✓ At therapeutic doses, phenytoin may produce horizontal gaze nystagmus.
      - ✓ At toxic doses, patients experience sedation, cerebellar ataxia, and ophthalmoparesis, as well as seizures
    - Blood:
      - ✓ Reduction in folic acid levels, predisposing patients to megaloblastic anemia.
      - ✓ Other side effects may include: agranulocytosis, aplastic anemia, leukopenia, and thrombocytopenia.
    - Phenytoin is a known teratogen.
    - gingival enlargement
    - Hypertrichosis, rash, exfoliative dermatitis, pruritis, Hirsuitism, and coarsening of facial features
    - Phenytoin has been known to cause drug-induced lupus.
  - **Dosage:**
    - 150mg daily increased gradually to maxium 300-400mg daily into two divided doses
  - **Trade names:**
    - **Ipanten, Phenytoin 50, 100mg cap**
    - **Epanutin, phenytin ….etc**

- **Pregabalin:**
  - A successor of gabapentin.
  - Compared to gabapentin, pregabalin is more potent, absorbs faster and has greater bioavailability.
  - Higher potency means that less of the medication is required for the same effect. This does not necessarily result in fewer side effects
  - Medical uses:
    - Treatment of epilepsy (adjunctive therapy for adults with partial onset seizures)
    - Neuropathic pain associated with diabetes and with spinal cord injury
    - Fibromyalgia, post-herpetic neuralgia, and generalized anxiety disorder.
    - Treatment of Generalized anxiety disorder.The anxiolytic effects of prebabalin occur rapidly after administration, similar to the benzodiazepines, which gives pregabalin an advantage over many anxiolytic medications.
    - Pregabalin is also used off-label for the treatment of chronic pain, neuropathic pain, perioperative pain, and migraine

  - **Side effects:**
    - ***Very common (>10% of patients):***
      Dizziness & drowsiness.
    - ***Common (1–10% of patients):***
      blurred vision, diplopia, increased appetite, euphoria, confusion, vivid dreams, changes in libido (increase or decrease), irritability, ataxia, attention changes, abnormal coordination, memory impairment, tremors, dysarthria, parasthesia, vertigo, dry mouth and constipation, vomiting and flatulence, erectile dysfunction, fatigue, peripheral edema, drunkenness, abnormal walking, weight gain, asthenia, nasopharyngitis, increased creatine kinase level.
    - ***Infrequent (0.1–1% of patients):***
      depression, lethargy, agitation, anorgasmia, hallucinations, myoclonus, hypoaesthesia, hyperaesthesia, tachycardia, excessive salivation, sweating, flushing, rash, muscle cramp, myalgia, arthralgia, urinary incontinence, dysuria, thrombocytopenia, kidney calculus
    - ***Rare (<0.1% of patients):***
      neutropenia, first degree heart block, hypotension, hypertension, pancreatitis, dysphagia, oliguria, rhabdomyolysis, suicidal thoughts or behavior.
    - Pregabalin may also cause withdrawal effects after long-term use if discontinued abruptly.
    - Withdrawal symptoms include restlessness, insomnia, and anxiety.
    - Pregabalin should be reduced gradually when finishing treatment.
    - Because of complication risk associated with certain common side-effects in patients affected by other health issues, Pregabalin should not be used without regular medical supervision and any side effect should immediately be reported.

- **Vinpocetine:**
  - A derivative of vincamine
  - Used in cerebrovascular disorders and dementia
  - **Dosage:** one tab tds after meals
  - **Trade names:**
    - **Acapi-Cav, Angiovan, vinporal …etc 5mg tab**

- **Meclofenxate:**
  - **Actions:**
    - It aid cellular metabolism in the presence of diminished oxygen concentration
  - **Medical uses:**
    - In elderly patients, it has been clinically shown to improve memory, have a mentally stimulating effect, and improve general cognition.
    - Used to treat the symptoms of senile dementia and Alzheimer's disease.
  - **Dosage:**
    - One tablet tds
  - **Trade names:**
    - **Lucidril 250, 500mg tab – 1000mg amp**
    - **LuciForte 500mg vials il**