NON sélective COX inhibitor analgesics	therapeutic ACTIONS	Notes	toxicities +side effects and drug interactions
Aspirin acetylsalicylic acid = it's metabolite salicylate ☝	**1)Antipyretic (fever)** **2)anti-inflammatory**: -in gouts, Romatide arthritis, osteoarthritis and RF. **3) analgesic effects:** -low to moderate pain. - in musculoskeletal. -for headache, arthralgia myalgia. 4) **anti platelet: as prophylactic for (**TIAs, CVS diseases, angina, myocardial infraction)	-irreversible inactivation of COX-1 and COX-2. Given orally Meta: in liver Cleared by kidney	1.Respiratory : -fetal dose = both type of acidosis 2.blood : ↓aggregation, prolonged bleeding. 3. GI : nausea , vomiting, epigastric distress, ,GI bleeding . 4.children:Reye's syndrome. 5.Metabolic processes: uncoupled oxidative phosphorylation. C risk on pregnant at 1st and 2nd ⅓. D risk on 3rd Trimester. # **Toxicity of aspirin** :nausea, vomiting, marked hyperventilation, headache, mental confusion, dizziness, and tinnitus (ringing or roaring in the ears) .
Propionic acid derivatives: 1.Ibuprofen . 2., naproxen. 3.fenoprofe. 4.ketoprofen. 5.flurbiprofen.	All these drugs possess anti-inflammatory, analgesic, and antipyretic activity	-reversible inhibitors of the cyclooxygenases orally-liver -kidney. CAN **NOT** be taken by: Asthmatic patients . *Ibuprofen+ naproxen >>> increase the risk of CVT events +stroke+GI bleeding+MI #C or D risk on pregnant in 3⅓	1.The most common adverse effects are GI, ranging from dyspepsia to bleeding. 2.Side effects involving the central nervous system (CNS), such as headache, tinnitus, and dizziness, have also been reported.
Acetic acid derivatives : 1.indomethacin. 2.sulindac 3.Etodolac	All have anti-inflammatory, analgesic, and antipyretic activity.	reversibly inhibiting cyclooxygenase.	the toxicity of indomethacin☒ limits its use to the treatment of: 1. acute gouty arthritis. 2.ankylosing spondylitis .
Oxicam derivatives: 1.Piroxicam . 2. meloxicam	are used to treat RA, ankylosing spondylitis, and osteoarthritis.	-long half-lives -renally excreted in the urine.	meloxicam at moderate doses shows less GI irritation than piroxicam.
Fenamates: 1.Mefenamic	anti inflammatory.		GI: diarrhea (can be severe) and they are associated with inflammation of the bowel +hemolytic anemia
Heteroaryl acetic acids: 1.Diclofenac 2 tolmetin 3 ketorolac	long-term use in the treatment of RA, osteoarthritis. Treat inflammation in the joints >>> By accumulates in the synovial fluid	#CAN **NOT** be taken by: Asthmatic patients .\ patients with history of peptic ulcer orally / IM injection /ophthalmic preparation -liver -kidney **Diclofenac sodium :** orally after food, I.M. injection	similar to others Diclofenac sodium : *category C risk in pregnancy + can cause hypersensitivity

Selective COX-2 inhibitor		
Celecoxib, Meloxicam and Rofecoxib	celecoxib used in chronic inflammatory conditions e.g : RA. ☝	Adverse effects are slighter than other NSADs. *thrombomobilic events.

Acetaminophen (panadol, revanin or paracetamols)	analgesic, and antipyretic >>> patients with: gastric complications + prolongation of a bleeding + children with viral infection (((don't need inflammatory activity)))	absorbed in GI system meta : entestine and liver (luminal cells) excreting: kidney *does not affect platelet function or increase blood clotting time. *Weak anti-inflammatory	#Large doses/ prolong doses: (rare) renal tubular necrosis \ hypoglycemia coma #large/ toxic doses: hepatic necrosis >>> treated by : acetylcysteine

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