

## What drugs affect this?

Inhibit this pulling back, releasing the restraint Opiates- poppy seeds Heroin- synthetic deritive of morphine. We have opiate receptors in the brain (endogenous receptors). They morphine activate dopamergic receptors in spinal cord (pain relief). We made natural ligands for these, the endorphins etc Involved in pain/mood Inhibit GABAergic neurones How?

## Slide 13



Opiate receptors are GPCRs, theres 3 types including mu,

Substances (morphine, heroin, methadone) trigger tis receptor, they have different distribution about the CNS. It's a Gi/o coupled receptor (inhibit adenyl cyclase to decrease cAMP) which means theres inhibition of voltage gated calcium channels. This reduces NT release (GABA). They also operate channels, which decreases the excitability of the operate membrane. This causes direct rate a ich of beta/gamma subunits. Overall effect of activating the GPCR is to decrease NT release.

## Slide 14



## Addictive behaviour is difficult to assess

Expose rodents to drug. Then they seek the environment again- box with 2 chambers with doors to either. Measure time in either compartment. This is the prestimulus time.

Give saline/drug injections in one compartment, then record now how long spent in each compartment and look at difference.

Time spent in each compartment is measured either by the experimenter or by motion detecting software; often the mean seconds per minute spent in each compartment is calculated. Scores calculated as the difference between postconditioning and preconditioning time spent in the compartment associated with morphine.