



## Support Group Leader Training – Section 2-Lesson 2

### Subject: Medication - Anti-depressants

**Antidepressants** Also used for over 30 years for neuropathic pain

- Direct analgesic effect and also relieve of other symptoms, such as sleep disorder
  - Lower doses (10-25mg) required c.f 100-150mg for mood
  - Occurs faster (3-4 days) than anti-depressant effects
  - SE's: Anticholinergic effects – Sedation, dry mouth, blurred vision, urinary retention
  - Life-threatening cardiovascular effects – arrhythmia

*Anticholinergics are drugs that block the action of acetylcholine. Acetylcholine is a neurotransmitter, or a chemical messenger. It transfers signals between certain cells to affect how your body functions.*

#### **McQuay – systematic review 1996 – NNT 3 in DN, NNH 2.8**

The **Number Needed to Treat** (NNT) is the number of patients you need to treat to prevent one additional bad outcome (death, stroke, etc.). For example, if a drug has an NNT of 5, it means you have to treat 5 people with the drug to prevent one additional bad outcome.

The **Number Needed to Harm** (NNH) is an important measure in evidence-based medicine and helps physicians decide whether it is prudent to proceed with a particular treatment which may expose the patient to harms while providing therapeutic benefits. If a clinical endpoint is devastating enough without the drug (e.g. death, heart attack), drugs with a low NNH may still be indicated in particular situations if the NNT is smaller than the NNH. However, there are several important problems with the NNH, involving bias

and lack of reliable confidence intervals, as well as difficulties in excluding the possibility of no difference between two treatments or groups.

- Tricyclic anti-depressants
  - Amitriptyline (Endep)
  - Nortriptyline (Allegron)
  - Doxepin (Deptran)
  - Prothiaden

- Selective serotonin reuptake inhibitors (SSRI)

Serotonin is a chemical that has several important jobs in the body. It's a natural mood stabiliser that controls wellbeing and happiness. Not having enough serotonin is thought to contribute to depression. Serotonin is manufactured by the body's nerve cells. It is formed during a chemical reaction involving a protein called tryptophan.

- Paroxetine (Aropax)
- Fluoxetine (Prozac / Lovan)
- Citalopram (Cipramil)
- Seretiline (Zoloft)

- **Mixed (SNRI)** - Serotonin and norepinephrine reuptake inhibitors (SNRIs) are a class of medications that are effective in treating depression. SNRIs are also sometimes used to treat other conditions, such as anxiety disorders and long-term (chronic) pain, especially nerve pain. SNRIs may be helpful if you have chronic pain in addition to depression.

### How SNRIs work

SNRIs ease depression by affecting chemical messengers (neurotransmitters) used to communicate between brain cells. Like most antidepressants, SNRIs work by ultimately effecting changes in brain chemistry and communication in brain nerve cell circuitry known to regulate mood, to help relieve depression.

SNRIs block the reabsorption (reuptake) of the neuro-transmitters serotonin (ser-o-TOE-nin) and norepinephrine (nor-ep-ih-NEF-rin) in the brain.

- Mirtazapine (Avanza)
- Venlafaxine (Efexor)
- Reboxetine (Edronax)
- Duloxetine (Cymbalta)
- Duloxetine

### Selective serotonin and *NAR* reuptake inhibitor

A norepinephrine reuptake inhibitor (NRI, NERI) or adrenergic reuptake inhibitor (ARI), is a type of drug that acts as a reuptake inhibitor for the neurotransmitters norepinephrine (noradrenaline) and epinephrine (adrenaline) by blocking the action of the norepinephrine transporter (NET).

- 30 mg daily for 1 month then 60 mg daily
- Increasing use and effect independent of mood effect
- Recent diabetic PN study – within 1 week, 50% reduction in pain in 50% of patients
- SE's: Nausea, somnolence, constipation

*Please complete the Knowledge Test – Medication - Anti-Depressants Quiz 2  
- before moving to the next training file*