Effects of Anti Depressants on our sleep

There still seems to be a lot of misunderstanding about all different kinds of Anti Depressants and what they do to our sleep. When to take them and especially the consequences for narcoleptics. Let's start with naming them.

1. **TCA** - Tricyclic antidepressants
   Chemical compounds primarily used as antidepressant, first discovered in 1950. Have been largely replaced in clinical use in most parts of the world by newer antidepressants such as SSRI.
   Amitriptyline, Butriptyline, Clomipramine, Desipramine, Dosulepin, Doxepin, Imipramine, Iprindole, Lofepramine, Nortriptyline, Protriptyline, Trimipramine.

2. **SSRI** - Selective Serotonin Reuptake Inhibitor
   A class of drugs that are typically used as antidepressant in the treatment of major depressive disorder and anxiety disorders.
   Citalopram, Escitalopram, Fluoxetine, Fluvoxamine, Paroxetine, Sertraline.

3. **SNRI** – Serotonin/norepinephrine reuptake inhibitors
   A class of antidepressant drugs used in the treatment of major depressive disorder (MDD) and other mood disorders. Sometimes also for anxiety disorders, OCD, ADHD, chronic neuropathic pain, and fibromyalgia syndrome (FMS), and for the relief of menopausal symptoms.
   Venlafaxine (Effexor), Desvenlafaxine (Pristiq), Duloxetine (Cymbalta, Yentreve), Milnacipran (Dalcipran, Ixel, Savella), Levomilnacipran (Fetzima), Sibutramine (Meridia, Reductil)

4. **SARI** - Serotonin antagonist and reuptake inhibitor
   A class of drugs used mainly as antidepressants, but also as anxiolytics and hypnotics.
   Nefazodone (Serzone, Nefadar), Trazodone (Desyrel)

5. **TeCA** - Tetracyclic antidepressant
   A class of antidepressants introduced in the 1970s that are closely related to the tricyclic antidepressants (TCAs). Most used is Mirtazapine
   Maprotiline (Deprilept, Ludiomil, Psymion), Mianserin (Bolvidon, Norval, Tolvon) Mirtazapine (Remeron, Avanza, Zispin)

6. **NDRI** – Norepinephrine/dopamine reuptake inhibitor
   An atypical antidepressant different from most commonly prescribed antidepressants and effective on its own, but is also popular as an add-on medication in cases of incomplete response to first-line SSRI antidepressants.
   Bupropion (Aplenzin, Budeprion, Elontril, Wellbutrin, Quomem, Prexaton, Voxra, Zyban)

Table Antidepressants and their effects on sleep physiology

Class/medication	Pharmacology	Effects on sleep
TCA	Serotonin and norepinephrine reuptake inhibition, histamine H_1 antagonism	Decreased sleep latency, REM suppression, increased REM latency
SSRI	Serotonin reuptake inhibition	REM suppression, increased REM latency
SNRI	Serotonin and norepinephrine reuptake inhibition	REM suppression, increased REM latency
SARI (Trazodone, nefazodone)	Serotonin-2 antagonism	Decreased sleep latency, increased slow wave sleep
TeCA (Mirtazapine)	Serotonin-2 and histamine H_1 antagonism	Decreased sleep latency, increased slow wave sleep
NDRI (Bupropion)	Norepinephrine and dopamine reuptake inhibition	Increased REM sleep

REM and non REM sleep. Which one we lack and need so badly.

REM sleep (Rapid eye movement sleep) is a unique phase of mammalian sleep characterized by random movement of the eyes, low muscle tone throughout the body, and the propensity of the sleeper to dream vividly.

Brain energy use in REM sleep, as measured by oxygen and glucose metabolism, equals or exceeds energy use in waking. The rate in non-REM sleep is 11–40% lower.

This clarifies why we need non REM sleep since we use less energy in this stage so we will rest more.

Some antidepressants like Imipramine, will only have a short suppression effect and turn into a stimulating effect. Your specialist will know which ones those are. And which ones you should only use at daytime, or day and night, or only at night.

Anti Depressants and cataplexy

Antidepressant medications have been used for decades to reduce cataplexy but there have never been large clinical studies examining the effects on cataplexy. Guidelines on their use are mainly based on the clinical experience of narcolepsy specialists. Most antidepressants strongly suppress rapid-eye-movement (REM) sleep and mainly suppress cataplexy by increasing levels of norepinephrine and serotonin in the brain.

Venlafaxine (Effexor) is the most commonly used medication for reducing cataplexy. Fluoxetine (Prozac) is also generally well tolerated and long lasting. A low dose of any antidepressant is believed to lower the peaks in your emotions (without altering your personality) and therefore lowers the change on triggering cataplexy. Hypnagogic hallucinations and sleep paralysis often improve with the medications that reduce cataplexy.

Anti Depressants and sleep

Most antidepressants suppress REM sleep but for a shorter period of time. So it's very common that antidepressants give you some deeper sleep but not enough hours. Sodium Oxybate (Xyrem) can be a solution in that case. For the severe cases a combination of both can reduce cataplexy up to 90% and in some cases eliminate it entirely.

Most antidepressants taking during daytime will result in tiredness within an hour, making it easier to nap. Naps like that will refresh you since the A.D. takes you in a deeper sleep. This can help avoiding stimulants of the amphetamine kind, which can be in the way of the working of the Oxybate at night time.

In short: antidepressants help you nap at daytime, lowers the peaks in your emotions, can almost eliminate your cataplexy.

Anti Depressants and Xyrem

Not all Anti Depressants are suited to take at night in combination with Xyrem. When on Xyrem more REM is seldom needed. Therefore most PWN shouldn't take their A.D. after 4:00 PM. Only the ones having a hard time to fall asleep, even on Xyrem, and can't stay asleep longer than 1 hour on the higher Xyrem doses could try a nighttime dose after consulting their specialist. It won't be a secret that antidepressants can help with anxiety too.