



MEDICATION FOR DESCENDING PAIN

Last weeks bulletin described that a person with constant pain has three components to the pain:

1. Ascending: bioelectricity transmitted from the site of injury or disease up the spinal cord to the brain.
2. Neuropathic: Accumulation of bioelectricity damage due to dysfunction of tissue in brain, spinal cord, or peripheral nerves.
3. Descending: bioelectricity transmitted from the brain down the spinal cord and vagus nerve.

To date, ascending and neuropathic pain have been the major treatment focus, but new scientific discoveries inform us that descending pain must be simultaneously treated to achieve good pain control. Three medication classes are used to treat descending pain. Medical practitioners and patients have choices and can experiment and decide on medications that bring the most comfort.

<u>THREE MEDICATION CLASSES</u>		
<u>Bioelectric Blockers</u>	<u>Receptor Activator (noradrenergic)</u>	<u>Precursor (Amino Acids) of Noradrenaline</u>
Tizanidine, propanolol, clonidine, tapentadol (Nucynta®)	Prescription: Modafanil (Provigil®), methylphenidate (Ritalin®), dextroamphetamine, Ampphetamine Salts (Adderall®), phentermine, lisdexamfetamine Vynanse®) Non-prescription: lion's mane mushroom extract, St. John's wort, rhodiola, mucuna, whole adrenal gland	Phenylalanine; 1000 to 2000 mg a day Tyrosine; 1000 to 2000 mg a day

KEY STUDIES: Chronic pain, inflammation, and autoimmunity, when not controlled, will deplete a number of neurotransmitters and hormones. In this case, noradrenalin (norepinephrine) will often be depleted. Supplements of either amino acid (phenylalanine or tyrosine) and daily protein intake may help reduce both background and flare pains. The precursors, phenylalanine and/or tyrosine need not be taken every day, but they are highly recommended on at least two days a week. They can and should be taken with a bioelectric blocker or receptor activator.

MISCONCEPTION: Noradrenergic receptor activators do not raise pulse rate or blood pressure in a constant pain patient like they do in a normal person. They may actually lower blood pressure and pulse rate. Reason: chronic pain, inflammation, and autoimmunity deplete noradrenalin.

SPECIAL MEDICATIONS: One medication, tapentadol (Nucynta®) is both an opioid and noradrenergic blocker. Highly recommended.

References

1. Millan MJ. Descending control of pain. *Prog Neurobiol* 2002;66:355-474.
2. Parent, et al. Relationship between blood and cerebrospinal fluid-bound neurotransmitter concentrations and conditioned pain modulation in pain free and chronic pain subjects. *J Pain* 2015;16:436-444.
3. Izenwasser S, et al. Potentiation of morphine analgesia by d-amphetamine is mediated by norepinephrine and not dopamine. *Pain* 1988;33:363-368.

This educational information is provided as a public service by "Arachnoiditis Hope."

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