

NET™ TREATMENT MANUAL

(NEUROELECTRIC THERAPY)

EN.03.22.00 Release 005, April-02-2009



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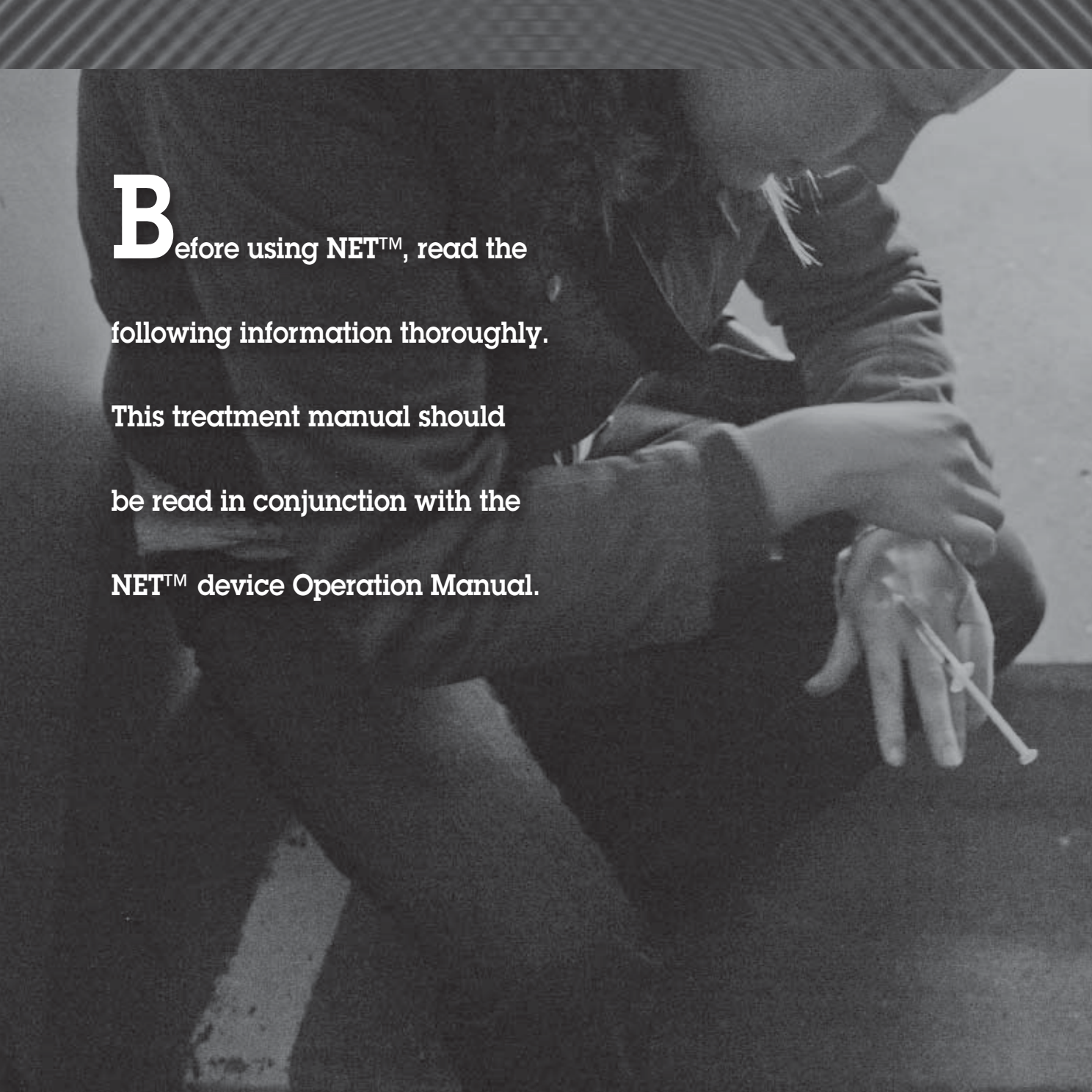
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NEUROELECTRIC THERAPY



Before using NET™, read the following information thoroughly. This treatment manual should be read in conjunction with the NET™ device Operation Manual.

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NeuroElectric Therapy (NET™) is a form of Cranial Electrotherapy Stimulation (CES) optimized specifically for drug addiction. Minute amounts of electricity re-establish or stabilize natural levels of brain neurotransmitters and receptors which have been disrupted through chronic drug misuse.

Multiple combinations of precisely controlled electrical current parameters are tailored to the patient's substance use profile to achieve rapid drug detoxification and relief of both acute and chronic withdrawal symptoms. Combined with rehabilitation, NET increases the probability that the patient will remain drug-free for an extended period of time. NET has been found to be effective for heroin, methadone, cocaine, amphetamines, methamphetamine, Diazepam, benzodiazepines, nicotine, alcohol, and other drugs and poly-drug combinations.

NET devices are portable, carry their own power source (typically a 9V battery), and deliver low-current bi-phasic electrical waveforms (with no net DC component) through two adhesive transcutaneous electrodes attached to the head at the mastoid processes (behind the ears). For device operating instructions, see the Operation Manual packaged with your device, or download the appropriate Operation Manual from www.netdevice.com.

INTENDED USE / INDICATIONS

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NeuroElectric Therapy (NET™) is intended for detoxification from and amelioration of the symptoms of acute and chronic withdrawal from licit and illicit addictive substances.



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CONTRAINDICATIONS

- *Co-occurrence of psychoactive substances during active NET treatment has been found to delay or negate NET's detoxification effects.*



- *Detoxification often reveals underlying physical and psychological conditions. Use under the supervision of a physician.*
- *Detoxification reduces tolerance. Patients who elect to resume drug-taking after NET should use a dosage appropriate to a drug-naïve state.*



- *The safety of NET for use during pregnancy, in breastfeeding females or in patients under 18 years of age has not been established.*
- *The safety of NET for patients with serious heart conditions or by those who are fitted with a cardiac pacemaker of the ‘on demand’ type has not been established.*
- *The safety of NET for patients who have suffered a stroke, brain tumor or brain injury has not been established.*
- *The safety of NET for patients who have epilepsy has not been established.*
- *The safety of NET for subjects suffering psychotic illness has not been established.*
- *The safety of NET for subjects taking medications such as neurotransmitter blockers or beta-blockers has not been established.*
- *NET should only be administered by trained clinicians who have been certified by NET Device Corp or an authorized representative.*
- *NET electrodes are for single patient use only. Do not reuse electrodes from other patients. Do not use electrodes if the package is damaged or opened.*

- *As with all conductive adhesive skin electrodes, use carries the risk of dermal rash or inflammation. Exercise care in cleaning and use approved electrodes to minimize the risk of dermal rash.*
- *Do not apply electrodes to broken skin.*
- *The NET stimulator should not be connected to electrodes placed over the carotid sinus (on each side of the neck), inside mouth, or across heart area.*



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INDIVIDUALIZATION OF TREATMENT

NET has been found to be effective for heroin, methadone, cocaine, amphetamines, methamphetamine, Diazepam, benzodiazepines, nicotine, alcohol, and other drugs and poly-drug combinations. Multiple combinations of precisely controlled electrical current parameters are tailored to the patient's substance use profile to achieve rapid drug detoxification and relief of both acute and chronic withdrawal symptoms.

NET varies the waveform parameters based on the patient's presenting drugs, the quantity of those drugs in the patient's system, how long ago the drugs were consumed and the present time of day. The patient's drug history is typically obtained through patient interview, drug test (oral fluid or urine tests are common, hair or blood tests are less common), and review of patient medical records. The method for loading appropriate waveform parameters into the NET device is device dependent. See the Operation Manual packaged with your device, or download the appropriate Operation Manual from www.netdevice.com.

NET equipment is supplied as a carton containing one NET device, an Operation Manual, Treatment Manual, one or more sets of lead wires, one or more sets of electrodes, and other accessories appropriate to the specific NET device.

Additional accessories may be downloaded and/or purchased at www.netdevice.com.



NET Treatment Day 1



NET Treatment Day 3



NET Treatment Day 6



NET-based detoxification is based on returning a drug user as rapidly as possible to state of physical well-being, mental clarity, and emotional stability so that they are best prepared to confront the critical factors underlying and reinforcing their addictive habit.

It is critical to ensure that a support network of non-using family/significant others, rehabilitation professionals or organizations, community activists, and/or ex-users, is established for each individual prior to actual detoxification. Social isolation is a notorious factor in relapse.

Rehabilitation is a change of lifestyle and the formation of new coping strategies. As a key aspect of preparing the individual mentally and emotionally for treatment, emphasize that recovery will be a long-term, gradual process and that there are no 'quick-fix' or pain-free solutions to addiction or the life-problems that underlie it. Realistic goals, expandable as change occurs, are critical to on-going stability.

- *Physical and psychological assessment*
- *Social, family, and work/education histories*
- *Drug/alcohol history – **drug test**. Oral fluid is the easiest to administer; results are obtained immediately and without sending specimens to a lab. Urine tests also produce immediate results, but are relatively easy to fake (patients will use concealed urine samples from a prior time or from another person), are often time-consuming to obtain, and suffer logistics issues when accompanying the patient to and from a private bathroom for sample collection. Hair tests have the advantage of providing data regarding quantity, and time and duration of drug use, but like blood tests require a lab for processing. The time delay is often incompatible with the need to know presenting drugs at the time of commencement of NET treatment.*
- *Drug/alcohol history – **interview**. Since many drug tests don't reveal information regarding quantity of drugs or how recently they were taken, interviews remain the best way to obtain this information. While interview questions regarding presenting drugs demonstrate trust and respect towards the patient, it is common for the patient to be unaware of the composition of their street drugs, to be unwilling to accurately discuss certain drug use, or to consider certain pharmaceuticals as "not drugs" when prescribed by a physician (e.g. anxiolytics, benzodiazepines, sleeping pills, pain medications).*

- *Drug/alcohol history – **medical records**. Medical records are an important source of information regarding actual usage data for maintenance drugs (e.g. methadone), use of prescribed medications, or relevant medical conditions (e.g. elevated liver function).*
- *Educate the patient and family/significant other regarding addiction treatment and NET-based detoxification. Note that detoxification is rapid (often less than 1 week), producing significant emotional and behavioral changes in the patient that will be viewed by the family/significant other in the context of (often) years or decades of substance abuse.*
- *Ensure post-detox rehabilitation placement/support based upon assessment data. This may include medical or psychiatric re-assessments.*
- *Instruct the patient when their last dose of primary drug should be taken (according to safety criteria). NET is most effective when the patient experiences the beginnings of acute withdrawal just before NET treatment commences. This allows the patient to experience the immediate (15-20 minutes) relief from acute symptoms, and gives confidence that NET will be effective over the next several days. NET alleviates the majority of acute symptoms, but patients will still suffer minor dysphoria and malaise, not unlike symptoms of the flu.*

Presenting Drug	Last dose before NET commencement
Anti-depressant (MAOI, SSRI, TCA)	7 days
Alcohol	12 hrs
Amphetamines (e.g. Dexedrine, Ephedrine, Ecstasy, MDMA)	12 hrs
Benzodiazepines (e.g. diazepam, lorazepam chlordiazepoxide)	12 hrs
Caffeine	0 hrs ¹
Cocaine	12 hrs
Codeine (Dihydrocodeine)	12 hrs
Heroin	12 hrs
Methadone	30 hrs
Methamphetamine (e.g. Ice, Crank, Speed)	12 hrs
Nicotine (incl. Chewing tobacco and nicotine gum)	n/a ²
Synthetic Pain Killers (e.g. Oxycodone, Fentanyl, Percodan)	12 hrs

¹ Caffeine should be strictly restricted during NET treatment. See NET Detoxification Period below.

² Nicotine may be permitted in acknowledgement of its use as a psychological support during the acute withdrawal phase. The patient should always be informed that it is a psychoactive a drug and will impact upon the withdrawal process. See NET Detoxification Period below.

- *It has been clinically observed that NET is optimally effective when the brain's receptor sites are as empty as possible of exogenous material. Stimulation should not be commenced until the patient presents in acute withdrawal.*
- *The time between the last dose of drug and the onset of discomfort due to withdrawals varies considerably with the different drugs of addiction. Methadone addicts can be off their drug for between 30-48 hours before the onset of notable discomfort; heroin addicts should take their last dose 12-15 hours before treatment. Acute withdrawals are typically characterized by sweating, shakiness, achiness, pallid skin, nausea, and nervousness and/or agitation. In opiate withdrawal, this is further characterized by running of the eyes and nose.*
- *Record presenting drugs (see Assessment above).*
- *Record patient handedness. NET treatment waveforms have polarity, and incorrectly polarized attachment has been shown to adversely affect the efficacy and duration of treatment.*
- *Record the patient's first Withdrawal Symptom Severity; 'WSS' (available for download at www.netdevice.net).*
- *If necessary, shave a small, half-inch rim of hair behind each ear. If the site is not restricted by the hair-line, this will not be required.*

- *Clean the patient's skin behind the ears (on the mastoid processes) thoroughly with acetone or an alcohol solution. The electrodes are coated with an electrically conductive adhesive which is water-soluble, and they will not adhere well if any lotion, oil, cream, etc. is left on the skin. Dry the skin thoroughly. If the skin is very oily, Nuprep EEG gel maybe used. The electrodes are going to remain in place for several days. This step is important to ensure that the electrodes maintain good adhesion and conductivity through the period of treatment. Time spent here will avoid the necessity of re-application later.*
- *Remove an electrode from the liner. Lightly wet the surface of the electrode with tap or other clean water. Wait for at least thirty seconds for the surface to become tacky.*
- *Feel for slight indentation in the upper half of the mastoid bone behind the ear. This 'dip' should be covered by the electrode.*
- *Press the electrode firmly in place. The electrode should be close to the back of the ear but not touching it (about a 2 mm space). If the electrode edge touches the ear, it will cause an unpleasant sensation. The final angle should be at '1/7 o'clock' and '11/5 o'clock' positions for the right and left ears, respectively.*
- *Use the electrodes shipped with the NET device or approved electrodes available at **www.netdevice.net**. Approved electrodes are manufactured at an appropriate size and shape, have conductive adhesive gel that performs well over several days of application, support removal and reattachment, have pigtails that hang comfortably beneath the ear, and have the correct mating connector for approved lead wires.*



- *Apply a strip of micropore tape to affix the electrodes firmly into place, and to provide strain relief on the pigtails.*
- *Insert lead wires into the electrode pigtails. Ensure that for right-handed patients, the red lead wire connects to the patient's right electrode ("red to right"). For left-handed patients, connect the red lead wire to the left electrode. Insert the pins of the lead wire into the electrode pigtail connectors so that no metal is visible.*
- *If glasses are worn, make sure the arms go on top of the micropore tape and do not lift the tape up at the edges.*

- See the Operation Manual for instructions on how to program the NET device for each patient's individualized treatment.
- Always turn down the intensity before attaching or removing electrodes.
- See the Operation Manual for instructions on how to connect the NET device to the lead wires. The Operation Manual came packaged with your device, or may be downloaded from www.netdevice.com.



- *Instruct the patient to slowly turn up the intensity until sensation is felt in either one or both ears, and then moderate the intensity until the sensation is perceived as comfortable. The patient should maintain the intensity at a subjective level of comfort throughout the NET treatment period. More intensity does not impact the safety or efficacy of NET, nor does it reduce the time in treatment. The patient should be encouraged to maintain a personally comfortable level.*
- *Within 15 to 20 minutes of commencement of treatment, acute withdrawal symptoms will noticeably ease. This sensation of relief is very helpful to the patient, who will feel reduced withdrawal symptoms over the next 2-3 days. Removal of the device will cause a re-appearance of withdrawal symptoms in approximately 15 to 20 minutes. NET has been noted to reduce assessed symptomatology by 50-75% in the majority of patients, and by 75-95% in a minority. The degree of withdrawal relief has not been observed to be dosage-related.*
- *Record the patients' Withdrawal Symptom Severity at morning, noon and evening using the WSS sheet available at www.netdevice.net.*
- *Reinforce primary therapeutic instruction to the patient - keep busy, keep active, especially during the day. Clinical experience suggests that the combination of sunshine and exercise is very effective in relieving the minor acute withdrawal symptoms that remain during NET treatment.*
- *Caffeine should be strictly restricted during NET treatment. Caffeine has been found to delay or otherwise adversely affect NET's detoxification effects.*



- *Nicotine is often found to be a helpful distraction to patients during the NET treatment process. Clinical experience has led to the allowance of nicotine during opiate or stimulant treatment, followed by a recommended nicotine treatment 3 weeks later when rehab is well underway.*
- *If the patient is unable to feel the treatment, it may be because the skin beneath the electrodes is drying out, or because the electrodes need to be cleaned and hydrated (or replaced). See *Electrode Removal Mid Treatment* below.*
- *If the patient is unable to feel the treatment, it may be because the battery is low. See the *Operation Manual* that was shipped with your device, or download the appropriate *Operation Manual* from **www.netdevice.net**.*
- *If the patient is unable to feel the treatment, but electrodes have been cleaned and replaced and the battery is not low, it may be because the particular waveform at that time in the treatment has a low liminal level.*
- *Typically around the fourth day of treatment, the patient will experience a return of appetite and an awareness of sights, sounds and smells.*
- *Once the withdrawal symptom severity has substantially subsided, the patient may wish to take a bath or shower. The electrodes may be removed to accommodate this; see *Electrode Removal Mid Treatment*.*
- *Once acute withdrawals pass and sense of well-being returns, stress to the patient that this is not the end of treatment, but the beginning of recovery/rehabilitation.*



- *Electrodes should be removed prior to showering: Always turn intensity to minimum when removing or re-applying electrodes. When removing electrodes, it is easiest to leave the lead wires connected and lift each electrode with its attached lead wire and the tape in situ.*
- *If the skin under the micropore tape or electrode becomes irritated, aloe vera ointment may prove effective between electrode changes. It is often sufficient to simply leave the skin open to air for a while.*
- *Electrodes should not be removed for showering or skin care for periods longer than 1 hour.*
- *On occasion, electrodes dry out causing a diminishment of sensation. Remove the electrodes as above, and clean and rehydrate them prior to re-application. If this is ineffective, the electrodes may need to be replaced.*
- *The active life of electrodes varies depending on a number of factors including skin conditions, amount and toxicity of sweating, and amount of current used. Re-wetting or re-gelling may be required to ensure adequate levels of stimulation.*
- *Once opened, keep the electrode packets in a re-sealable bag in a cool (not cold) place.*
- *Electrodes should be used for a single patient only. Do not re-use electrodes with multiple patients.*
- *Do not apply electrodes to broken skin.*

The degree of withdrawal relief experienced under NET varies considerably from patient to patient. NET has been noted to reduce assessed symptomatology by 50-75% in the majority of patients, and by 75-95% in a minority. Whilst this latter group has consisted of some of the most heavily addicted patients, this factor has not been found to be a constant and it would appear that withdrawal severity is not linked to drug dosage.

The significant degree to which withdrawal symptoms are ameliorated, combined with the rapidity of return of good health, makes NET an unusually acceptable form of detoxification as substantiated by the low drop-out rate associated with this modality.

The timetable for the acute phase of withdrawal symptomatology varies with each group of psychoactive drugs, and even varies within some of the various groups. The peak of withdrawals for heroin can be found on Day 2/3 after the last dose. Those for codeine occur 24 hours later, on Day 3/4, while methadone withdrawals do not peak until Day 4/5. The benzodiazepine, hypnotic and antidepressant group of drugs tend to be less obvious in peaking but more prolonged in receding. Alcohol also peaks Day 2/3. Whatever the acute withdrawal timetable, once the acute stage is past, recovery is rapid and substantial.



There is almost always one period of physical or emotional crisis, usually during the night when withdrawals peak. During this event patients have to dig deep within themselves to persevere with treatment, and require particular support from the clinical staff. The best way to cope during the acute withdrawal period is to keep as busy and as active as possible.



Once the NET device has been programmed, the patient is free to participate in any of the activities designed to support the treatment process. This process has two distinct phases:

- *Supporting the patient through the acute withdrawal stage of detoxification: using exercise, saunas, massage, and other detoxifying and health promotion techniques.*
- *The introduction of psychotherapeutic aspects of treatment: individual/group therapy, drug and health counseling, and relapse prevention, which should be begun as soon as the acute withdrawals start to recede.*



Nutritional care, as with hydration, is a fundamental aspect of detoxification, overall and recovery of good health.

Preliminary assessment should detect whether there is significant instance of mineral and vitamin deficiency, common in chronic drug/alcohol use. It may be useful to ensure magnesium and zinc supplements prior to commencement of treatment, and, in methadone detoxifications, additional calcium. The use of fluids, especially water and fruit juices, is strongly encouraged to help flush the system of toxins.

As acute withdrawals recede and appetite returns, good diet will be based on healthy, balanced eating. Alcoholics, in particular, may have persistent problems with eating due to damage to the gastro-intestinal tract. Those who have consumed liquid codeine-based compounds are also likely to experience initial gastric distress and even vomiting. It has been suggested that long-term tranquilizer users may suffer from chronic malnutrition through stress, loss of appetite, nausea, ill-health, intolerances, etc, and other dietary disorders. Zinc, in particular, is known to be mal-absorbed.

Sleep is a highly individual component of good physiological and mental health, and NET seeks to restore the normal pattern of sleep by utilizing a special waveform designed to assist and restore sleep. After an initial night or two of vivid dreaming/ nightmares (which are common and disturbing features of withdrawal), NET has proved effective in rapidly reclaiming deep, restful sleep

An active day, physically and mentally, is the best possible preparation for a calm and restful night. This may be assisted by a milky drink or camomile tea, shower or bath before bedtime. Tea or de-cafeinated coffee should be taken before 6PM only, and water or milky drink only thereafter.

Occasionally it has been necessary to use night sedation when lack of sleep has brought about a critical clinical situation. This has occurred particularly in withdrawal from methadone and codeine. Patients whose normal sleep pattern is extremely poor and whose difficulties have been compounded by drug withdrawal will often be found to experience problems at night.

If psychoactive sleeping medication is deemed necessary, the NET stimulator should be disconnected prior to the medication being given. Both clinical staff and the patient should be aware that following pharmacological intervention a 'rebound' effect can be expected,

characterized by a 'hangover' the next day and a sleepless night the following night.

It is stressed that resorting to psychopharmacology for sleep is a measure of last resort. Use of psychopharmacology along with NET merely degrades the efficacy of both interventions.

Once a normal healthy pattern sleep pattern has been re-established, NET may be discontinued at night. The timing for this discontinuation should be made on an individual basis.

Predominantly, NET seems to impart satisfactory rest. The main sleep difficulties reported post-NET are frequent waking from sleep. Some people have specifically complained of 'bad dreams' rather than withdrawal-insomnia.

The duration of NET treatment depends significantly on the individual and does not appear to be dosage dependent.

Nevertheless, some sample typical durations are as follows:

Drug of Abuse	Typical Duration of Treatment
Heroin	5-7 Days
Cocaine	5-6 Days
Amphetamine/ Methamphetamine	5-6 Days
Alcohol	5-7 Days
Nicotine	4-6 Days
Methadone	6-10 Days
Benzodiazepines	8-10 Days
SSRI Antidepressants	8-10 Days
Tricyclic Antidepressants	8-10 Days
Codeine	6-9 Days

Once the WSS scores have dropped substantially and remained at a low value, the patient will begin to dislike having the NET device attached. It is often helpful to permit sleep without the device, based on patient request, starting around the fourth night. When the NET treatment is complete, the patient will find that the NET device no longer provides relief and, in fact, provides an unsettled feeling. The patient will typically express a strong desire to cease treatment, and should be allowed to do so.



- *Rehabilitation is based on addressing the issues underlying and reinforcing the addiction, and making significant changes. This is almost always a slow and difficult process. There are no shortcuts to recovery.*
- *Relapse-prevention is based on addressing specific problematic issues (for example, social isolation, co-occurring physical or mental health issues, family/marital difficulties, etc) as identified in particular at the Assessment stage of treatment.*



Any adverse incidents, product complaints or requests for information should be reported to:

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