BOOKLET FOR PROCEDURE OF VIBROACOUSTIC THERAPY

THE SOUNDBEAM PROJECT LTD

Procedure for Vibroacoustic Therapy

This information is adapted from a document produced by Professor Tony Wigram (1995), Horizon NHS Trust Vibroacoustic Therapy Service (now Hertfordshire Partnership NHS Trust).

The procedure, which should be adhered to, can be categorised in six, clearly defined stages.

a. Pre-session Preparation.

b. Acclimatising the client.

c. Commencing the Treatment.

d. Monitoring the Treatment.

e. Ending the Treatment.

f. Post-Treatment Work.

Pre-Session Preparation
As part of the preparation for any session utilising Vibroacoustic equipment, the environment needs to be carefully prepared for the specific client who is to be treated. This type of treatment demands an atmosphere which is free of interruptions.

The room must be comfortable and the position in which the client will be lying, or sitting, should be prepared in advance. In the case of clients with physical disabilities, it is necessary to ensure that the correct amount of support, in the way of pillows or wedges, is available.

The equipment itself must be ready. The CD's must be set prior to the commencement of a session, and the volume controls should be turned down to zero. This last point is important for, if you start a Vibroacoustic session with the volume turned up, the client will be subjected to a sudden jolt of sound. The stimulus, therefore, should be introduced gradually and with sensitivity.

Finally, the appropriate forms and noting charts must be easily accessible.

Acclimatising the Client
If this is the first time that a client has attended for Vibroacoustic therapy, an explanation of what is going to happen will be important. It may be necessary to reassure him/her that he/she has control over the situation. For example, if he/she finds the stimulus uncomfortable or irritating, he/she has permission to get off the bed or chair, or request that the volume be turned down.

This period of reassurance is equally important for those clients who are severely disabled or suffering from a profound mental illness. Tone of voice and choice of words help to promote a secure and relaxed environment.

As in any other therapy, this is a vital stage in the building of a trusting, therapeutic relationship.

Prior to commencement of the treatment, it may be necessary to help the client onto the Vibroacoustic bed/chair and position him/her comfortably.

Position a pillow or cushion behind the client's head. This is partly for the sake of comfort, but also to ensure that the head does not make direct contact with the bed / chair and hence the low frequency vibrations.

The treatment will usually involve the loss of body heat. A blanket should be provided.

Commencing the Treatment

Vibroacoustic Therapy is a unique combination of music and low frequency sound. When using low frequency vibration, it is important to introduce the stimulus in a sensitive fashion. Hence, a short period of response to the low frequency sine tone alone is necessary, prior to the gradual introduction of the music. The volume levels of both the low frequency sine tone & the music should be increased slowly & subtly, until the client feels acceptable levels of stimulation from each.

Experience has shown that many clients initially want the stimulus of the Low Frequency Sine Tone to be quite strong and will ask for the volume or intensity to be increased. However, after a period of time, perhaps ten minutes, it may be found that the stimulus has become too powerful to tolerate. Until the therapist has established the tolerance level of each individual client, a period of assessment will be required.

It is worth noting that the client's tolerance level may vary from one treatment to another, according to his / her psychological or physiological state. Sensitivity is an essential requisite, on the part of the therapist, at all times.

Monitoring the Treatment

The procedure is likely to vary for each client. Some clients will need comfort and reassurance and the therapist may decide to remain in the room. However, others will require absolute privacy and solitude. It is important that clients who prefer solitude are able to call the therapist back if necessary, by means of an inter-com or similar.

Those clients who are severely disabled, or who have mental health problems, will necessitate closer observation during the course of treatment. It is important, however, that the client does not feel that he/she is being watched, as this is a passive form of treatment. For this reason, the therapist's observations must be carried out as unobtrusively as possible. Observation of facial expression and body movement may be vital for some clients, especially those who cannot express discomfort through the normal channels of verbal communication.

Ending the Treatment

Vibroacoustic Therapy treatments should last for between 20 to 30 minutes. At the end of the treatment the relationship between client and therapist will be particularly important. During Vibroacoustic Therapy, a client may drift into quite a deep state of relaxation. He/she may fall asleep, dream and wake up feeling quite vulnerable at the end of a treatment. As in guided imagery in music (GIM) the client may enter an altered state of consciousness during treatment and will need the therapist for reassurance, guidance and support.

As at the beginning of the treatment, fade down the volumes of the Low Frequency Sine Tone & the music very slowly. Fade out the Low Frequency Sine Tone first, followed by the music a minute or so later.

At the end of the session, the therapist will need to evaluate the client's response. Physically disabled clients may require actual manipulation, in order to check whether there has been any significant improvement or not.

It may take some time for a client to recuperate after a Vibroacoustic Therapy treatment. Experience has shown that some people need to rest and some need to have a good stretch or move around a little. Research has indicated that reductions in heart rate, blood pressure and muscle tone, frequently occur during Vibroacoustic Therapy and it may take a little time for the client to come out of such a deeply relaxing form of treatment.

A client may become emotional after a session and need comfort and reassurance. It is important for the therapist to provide emotional support, without talking too much or making demands of the client.

Post Treatment Work

Record keeping is of the utmost importance in Vibroacoustic Therapy. The client's responses and reactions must be noted, along with any specific change in his/her condition.

As a final measure, following treatment, the equipment must once again be checked. It is also good practice to ensure that the controls are reduced to zero, prior to the next client's attendance.

Wigram, T. (1995*), Procedure for Vibroacoustic Treatment*. Radlett: Horizon NHS Trust, Unpublished, with some small additions by Doug Bott, The Soundbeam Project, 2003.

This information is reproduced with permission from the Author and published by The Soundbeam Project. TSP produce vibrotactile equipment suitable for giving Vibroacoustic therapy.

Vibroacoustic therapy - Contraindications

There are some circumstances in which people should NOT use Soundbed, Sound-chair, Soundbox or Minibox for Vibroacoustic Therapy. Below is Professor Wigram's 'Current List of Contraindications for Vibroacoustic Therapy' (1995b).

Vibroacoustic Therapy has been used as a treatment within Hertfordshire Partnership NHS Trust (formerly Horizon NHS Trust), for a number of years, with clearly observ-able beneficial results. The following contraindications are observed:-

1. ACUTE INFLAMMATORY CONDITIONS. These include conditions where inflammation is exacerbated, such as the acute phase of rheumatoid arthritis. Other such conditions are earache, toothache and back pain caused by a prolapsed intravertebral disc (slipped disc).

2. CLIENTS PRESENTING WITH PSYCHOSES. Psychotic clients may be unable to perceive, or understand the precise stimulus that they are receiving. It is possible to treat them, but only when someone is present who understands their condition and can explain what is happening to them.

3. PREGNANCY. Trials involving pregnant women have not taken place, as the effect on an unborn foetus is not known. Pregnant women should not, therefore, be treated.

4. HAEMORRHAGING OR ACTIVE BLEEDING. Due to the physical effect of Vibroacoustic Therapy, this treatment is contraindicated in any condition where there is a possibility of bleeding, e.g. following a recent operation; cardiovascular attack; or where blood is present in the urine (this excludes menstruation).

5. THROMBOSIS. Clients suffering from thrombosis, or any suspected embolism, will not be treated with Vibroacoustic Therapy, as this may have an adverse effect.

6. HYPOTENSION. Blood pressure should be monitored in clients known to have low blood pressure.

7. PACEMAKERS. Vibroacoustic Therapy should ***not*** be used with clients fitted with pacemakers, since these are adversely affected by strong magnetic fields.

A high proportion of the clients of Hertfordshire Partnership NHS Trust are known to have epilepsy and have shown no adverse effects when treated with Vibroacoustic Therapy (Wigram, 1996).

NB - PRECAUTIONS
Where someone is currently being treated for an acute medical condition, advice should be sought from a medical practitioner before undertaking Vibroacoustic Therapy.

Conditions which Respond Well to Treatment with Vibroacoustic Therapy

**** OSF followed by a frequency in Hertz indicates Olav Skille's recommendations for low frequency sine tone for the current condition.***

ABDOMINAL PAINS

'Moan School and Day Centre (Norway) reported relief from stomach and colic pain. Osterbo Central Institution reports relief of both muscular and menstrual pain'.

Skille, O., Wigram, A. and Weekes, L. (1989) Vibroacoustic Therapy: The Therapeutic Effect of Low Frequency Sound on Specific Physical Disorders and Disabilities. *Journal of British Music Therapy*. 3, 6-10.

Anxiety (OSF - 52 HZ, 68 HZ)

'There is already evidence that the nature of the relaxation that occurs is enormously valuable in preparing clients with muscular difficulties for subsequent treatment of a more physical nature, and there is further evidence that clients with emotional problems and anxiety relax to the extent that they find it easy - and often necessary - to talk with the therapist after a treatment period.'

Skille, O. and Wigram, A. (1995) The effects of music, vocalisation and vibrations on brain and muscle tissue. Studies in vibroacoustic therapy. In Wigram, A., Saperston, B. and West, R. (Eds.) *The Art and Science of MusicTherapy: a Handbook*. London: Harwood Academic.

APHASIA (OSF - 40 HZ, 60 HZ)

Vibroacoustic Therapy combined with Speech Therapy is positive, and increases the effect of the Speech Therapy.

ASTHMA (OSF - 50 HZ)

'Problems of excretion of lung secretion may be eased by using frequencies in the middle range. The effect may last 1 to 2 days. In serious asthmatic conditions, the use of the equipment up to 15 times per day may be necessary.'

Skille, O. (1989) *Conditions responding well to treatment,* cited in Skille, O. and Wigram, A. (1995) The effects of music, vocalisation and vibrations on brain and muscle tissue: Studies in Vibroacoustic Therapy.
In Wigram, A., Saperston, B. and West, R. (Eds) *The Art and Science of Music Therapy: a Handbook.* London: Harwood Academic.

AutisM (OSF - 40 HZ, 68 HZ)

'Autistic children became so engaged by the vibration effect that they could permit the staff to give them more skin contact/skin stimulation than they permitted in other situations. We may see the outline of a therapy setting where contact training during vibroacoustic therapy may be transferred to other situations where the music could be gradually withdrawn.'

Skille, O. (1989) *Conditions responding well to treatment,* cited in Skille, O. and Wigram, A. (1995) The effects of music, vocalisation and vibrations on brain and muscle tissue: Studies in Vibroacoustic Therapy. In Wigram, A., Saperston, B. and West, R. (Eds) *The Art and Science of Music Therapy: a Handbook.* London: Harwood Academic.

BACK PAIN (OSF - 52 Hz)

'Pains in the low-back area were relieved by the use of frequencies in the low middle region. Acute back pains because of sprained muscles or muscle cramps are relieved by daily treatments for 2 -5 days.

Pains from muscular tensions of diverse causes have been reduced by treatments 2 - 3 times per week for up to 4 weeks.'

Skille, O. (1989) *Conditions responding well to treatment,* cited in Skille, O. and Wigram, A. (1995) The effects of music, vocalisation and vibrations on brain and muscle tissue: Studies in Vibroacoustic Therapy. In Wigram, A., Saperston, B. and West, R. (Eds) *The Art and Science of Music Therapy: a Handbook.* London: Harwood Academic.

BLOOD PRESSURE (OSF - 40 Hz, 60 Hz)

'..... in the group we treated we found that we had a significant result in the reduction of systolic blood pressure after vibroacoustic therapy.'

Skille, O. and Wigram, A. (1995) The effects of music, vocalisation and vibrations on brain and muscle tissue. Studies in vibroacoustic therapy. In Wigram, A., Saperston, B. and West, R. (Eds.) *The Art and Science of MusicTherapy: a Handbook*. London: Harwood Academic.

CEREBRAL PALSY (AND OTHER SPASTIC CONDITIONS) (OSF 40Hz, 60 Hz)

'With spastic conditions following cerebral palsy, vibroacoustic therapy has demonstrated a considerable effect. Alone, or in combination with physiotherapy, the method has given very good results in reducing muscle tone.'

Skille, O. (1989) *Conditions responding well to treatment,* cited in Skille, O. and Wigram, A. (1995) The effects of music, vocalisation and vibrations on brain and muscle tissue: Studies in Vibroacoustic Therapy. In Wigram, A., Saperston, B. and West, R. (Eds) *The Art and Science of Music Therapy: a Handbook.* London: Harwood Academic.

Circulatory deficiency (OSF – 40 HZ, 50HZ)

'Patients suffering from severe circulatory deficiency in the extremities may find effective relief of this condition. These observations relate to polyclinical patients as well as to institutionalised patients with oedema'.

Skille, O. (1989) *Conditions responding well to treatment,* cited in Skille, O. and Wigram, A. (1995) The effects of music, vocalisation and vibrations on brain and muscle tissue: Studies in Vibroacoustic Therapy. In Wigram, A., Saperston, B. and West, R. (Eds) *The Art and Science of Music Therapy: a Handbook.* London: Harwood Academic.

Constipation (OSF – 40 HZ)

'In some cases there has been observed spontaneous relief of constipation in institution-alised patients in whom natural mobility has been impaired. It is possible that the mech-anical vibrations given by vibroacoustic therapy are giving new vigour to the natural processes in the digestive system.' **(40 Hz area - OS)***

Skille, O. (1989) *Conditions responding well to treatment,* cited in Skille, O. and Wigram, A. (1995) The effects of music, vocalisation and vibrations on brain and muscle tissue: Studies in Vibroacoustic Therapy. In Wigram, A., Saperston, B. and West, R. (Eds) *The Art and Science of Music Therapy: a Handbook.* London: Harwood Academic.

Cystic Fibrosis (OSF – 50 HZ)

'The gentle vibratory effect of low frequency sound waves on pulmonary tissue has been found to loosen lung secretions, thus affording better gaseous exchange in patients with cystic fibrosis, bronchiectasis and chest infections.'

Skille, O., Wigram, A. and Weekes, L. (1989) Vibroacoustic Therapy: The Therapeutic Effect of Low Frequency Sound on Specific Physical Disorders and Disabilities. *Journal of British Music Therapy*. 3, 6-10.

Emphysema (OSF – 40 HZ, 50 HZ)

'There have been reports of very encouraging relief of symptoms in patients suffering from pulmonary emphysema'.

Skille, O. (1989) *Conditions responding well to treatment,* cited in Skille, O. and Wigram, A. (1995) The effects of music, vocalisation and vibrations on brain and muscle tissue: Studies in Vibroacoustic Therapy. In Wigram, A., Saperston, B. and West, R. (Eds) *The Art and Science of Music Therapy: a Handbook.* London: Harwood Academic.

Fibromyositis / Fibromyalgia

'Patients suffering from this condition of cryptic pain seem to obtain some relief when they are exposed to single frequencies in the lower frequency range, directly followed by a multi-frequency tape*.'

- **'Multi-frequency tape'. Olav Skille and The Soundbeam Project can supply tapes or CDs with sequences of 3 - 8 different frequencies**.

Skille, O. (1989) *Conditions responding well to treatment,* cited in Skille, O. and Wigram, A. (1995) The effects of music, vocalisation and vibrations on brain and muscle tissue: Studies in Vibroacoustic Therapy. In Wigram, A., Saperston, B. and West, R. (Eds) *The Art and Science of Music Therapy: a Handbook.* London: Harwood Academic.

HIGH MUSCLE TONE

See under ***SPASTICITY***

Hypertension (OSF – 40 HZ, 60 HZ)

A summary of results of research into the effects of vibroacoustic therapy on patients suffering from neurosis and hypertension found:

1. The treatment of elderly patients was more effective
2. Women are more easily cured than men
3. During the course of treatment the blood circulation was improved

a) Acro-Cyanosis is diminished, temperature of limbs rises
b) Systolic and diastolic blood pressure drop
c) Headache and nausea vanish, improvement of cerebral blood circulation
d) ECG - no remarkable improvement after one procedure - studies to continue
e) EEG - large individual differences - needs more research

The effect of the treatment is:

Rise of self confidence, fewer stomach troubles, fewer headaches, less depression and asthenia. Greater willingness to work'.

'VA methods can play a considerable part in the treatment of neurotic patients and patients with hypertension.'

Skille, O. (1986) Manual of Vibroacoustics. Levanger, Norway: ISVA Publications.

Insomnia (OSF – 40 HZ)

'Patients easily fall asleep during treatment and they have reported that after treatment they have less difficulty in falling asleep at their normal time for retiring and the duration of sleep is longer than they normally experience. This led to specific use as therapy for insomnia. Treatment for insomnia has best effects when it is carried out in the late afternoon.'

Skille, O. (1989) *Conditions responding well to treatment,* cited in Skille, O. and Wigram, A. (1995) The effects of music, vocalisation and vibrations on brain and muscle tissue: Studies in Vibroacoustic Therapy. In Wigram, A., Saperston, B. and West, R. (Eds) *The Art and Science of Music Therapy: a Handbook.* London: Harwood Academic.

Menstrual Pains, Premenstrual tension, Dysmenhorrea

(OSF – 52 Hz)

'Such pains and tension conditions have been relieved by using frequencies in the lower middle region and using calm, harmonic music. Treatment every day in the "acute" phase and once per week - repeated over 3 - 4 cycles - may give an effect of long duration.'

Skille, O. (1989) *Conditions responding well to treatment,* cited in Skille, O. and Wigram, A. (1995) The effects of music, vocalisation and vibrations on brain and muscle tissue: Studies in Vibroacoustic Therapy. In Wigram, A., Saperston, B. and West, R. (Eds) *The Art and Science of Music Therapy: a Handbook.* London: Harwood Academic.

Morbus Bechterew (OSF – 40 HZ, 60 HZ)

'The effective diminishment of pain and discomfort from this rheumatic condition has been reported by several institutes. However, in the active phase of this disease one may find an increase of discomfort. Therefore Vibroacoustic Therapy should be used with caution when the inflammations are active.'

Skille, O. (1989) *Conditions responding well to treatment,* cited in Skille, O. and Wigram, A. (1995) The effects of music, vocalisation and vibrations on brain and muscle tissue: Studies in Vibroacoustic Therapy. In Wigram, A., Saperston, B. and West, R. (Eds) *The Art and Science of Music Therapy: a Handbook.* London: Harwood Academic.

Multiple Sclerosis (OSF – 40 HZ)

'Reduction of rigidity and considerable palliative effect has been reported'.

SKILLE, O. (1989) *CONDITIONS RESPONDING WELL TO TREATMENT,* CITED IN SKILLE,

O. AND WIGRAM, A. (1995) THE EFFECTS OF MUSIC, VOCALISATION AND VIBRATIONS ON BRAIN AND MUSCLE TISSUE: STUDIES IN VIBROACOUSTIC THERAPY.

IN WIGRAM, A., SAPERSTON, B. AND WEST, R. (EDS) *THE ART AND SCIENCE OF*

MUSIC THERAPY: A HANDBOOK. LONDON: HARWOOD ACADEMIC.

MUSCLE TONE SEE UNDER **Spasticity**

NECK AND SHOULDER PAINS (OSF – 68 Hz)

'Such pains - caused by occupational myalgia or as a result of stress from natural causes - were considerably relieved by using frequencies in the upper middle area. Repeated treatments over 1 to 3 weeks (up to 10 x 30 minutes) gave relief which last-ed for a long period.'

Skille, O. (1989) *Conditions responding well to treatment,* cited in Skille, O. and Wigram, A. (1995) The effects of music, vocalisation and vibrations on brain and muscle tissue: Studies in Vibroacoustic Therapy. In Wigram, A., Saperston, B. and West, R. (Eds) *The Art and Science of Music Therapy: a Handbook.* London: Harwood Academic.

Parkinsonism (OSF – 40 HZ)

'During the year 1994/95 we undertook a study that supported the value of vibroacoustic stimulation as a beneficial treatment for Parkinson symptoms.

We designed a double-blind randomized study of vibroacoustics (vibroacoustic therapy combining music and pulses of low frequency sinewaves) versus music without vibro acoustics. 60 patients with Parkinson's disease from Txagorritxu Hospital, Basque Health Service, took part in the experiment. To assess the the efficiency of this treatment we have set up a follow-up of each patient through four assessment visits throughout one year. We have used the Scale of Daily Activities and the Exploration of Motor Aspects (both according to the Unified Scale of Parkinson-ian Assessment - UPDRS ii and iii) as well as subjective assessment by the patients themselves and by the doctor.

The assessment of the results has been positive, indicating that within the group of subjects under research their UPDRS changes significantly between the first and the fourth assessment in the areas of movement, personal autonomy and memory.'

San Vicente, P. del C., Manchola, I.F., and Serna, E.T. (1997) The use of vibroacoustics in idiopathic Parkinson's Disease. In Wigram, A. and Dileo, C. *Music Vibration and Health*. Cherry Hill, New Jersey: Jeffery Books.

POLYARTHRITIS (OSF – 40 Hz)

'Physiotherapists using vibroacoustic equipment have reported some relief of symptoms in patients suffering from polyarthritis, especially in smaller joints of the hands and chest.'

Skille, O. (1989) *Conditions responding well to treatment,* cited in Skille, O. and Wigram, A. (1995) The effects of music, vocalisation and vibrations on brain and muscle tissue: Studies in Vibroacoustic Therapy. In Wigram, A., Saperston, B. and West, R. (Eds) *The Art and Science of Music Therapy: a Handbook.* London: Harwood Academic.

Psycho-physiological effects

'At the Tallinn (Estonia) Pedagogical University good results have been obtained using music (including vibroacoustics) as a means for relaxation in combination with psycho-logical counselling to treat stress related to psycho-physiological health complaints. According to the clients subjective assessments of changes in their health condition during the course of vibroacoustic therapy, the treatment has positive effects on heart troubles, anguish, nervousness, sleep disorders, headaches, etc.'

Ruutel, E. (1996) *The psycho-physiological effect of music and vibroacoustics in combination with psychological counselling*. ISME.

RETT'S SYNDROME (OSF – UNDER 60 HZ)

'It is apparent from these vignette reports *(of assessment studies)* **that some positive responses are being achieved in almost all our subjects. In general, the children relaxed while on the bed, and there was a reduction in hyperventilation and tension levels. Sometimes with encouragement, and sometimes spontaneously, the client's handwringing or hand plucking decreased. Many of the clients showed signs of sleep-iness. As a result, their general activity level was reduced, including a slowing of breathing rate, reduced movement and relaxation of muscle tone.'** *(Subjects from the National Rett Therapy Clinic, Harper House Children's Service)*

Wigram, T. (1997) Vibroacoustic Therapy in the treatment of Rett Syndrome. In Wigram T, and Dileo C. Eds, *Music Vibration and Health* 1997 New Jersey: Jeffrey Books.

Rheumatoid Arthritis - Pain Relief (OSF – 40 HZ)

'The purpose of this study was to determine the pain reducing effect of musical vibro- tactile stimulation as compared to just music and placebo. Twenty four subjects with Rheumatoid Arthritis participated. MVTtm technology was used to provide measur-able experimental stimuli. Using accepted pain measures, the pain relief of the music and vibration group was significantly greater than the group with just music or pla-cebo. Results prove that music vibration is an effective pain reducing modality for people with Rheumatoid Arthritis pain.'

Chesky, K.S., Rubin, B. and Frische, E. (1992) *The Pain Relieving Effect of Music Vibration on Rheumatoid Arthritis Patients as Related to Just Music and Placebo***.** ISME.

Spasticity (OSF – 40 HZ, 60 HZ)

'The results we obtained showed clearly in all of our subjects that, when low frequency sound is combined with music, one can expect a greater range of movement - indicating a reduction of muscle tone - than when music is used on its own.

Of particular value to us were the results with certain subjects in certain measurements. For example, Subject 9 has severe abductor spasm and the 9th measurement we took from her - showing a 31% improvement in her range of movement when we used low frequency sound - indicated that abduction was much easier after this treat-ment, thus lessening the danger of a fixed deformity which might well have led on to dislocation of the hip. This treatment was therefore welcomed, both from a long term point of view and as a short-term treatment..... In conclusion, these were objective, blind trials and gave a very positive result in favour of the use of low frequency sound to reduce muscle tone.'

Skille, O. and Wigram, A. (1995) The effects of music, vocalisation and vibrations on brain and muscle tissue. Studies in vibroacoustic therapy. In Wigram, A., Saperston, B. and West, R. (Eds.) *The Art and Science of MusicTherapy: a Handbook*. London: Harwood Academic.

SPORTS INJURIES

'Therapists treating sports injuries have found vibroacoustic therapy a useful method of relieving pain. In over-use syndromes low frequency sound waves are reported to relieve pain and to reduce the length of the rehabilitation period. When treating injuries, it is at present advised that vibroacoustic therapy should not be used where there is any internal or external bleeding.'

Skille, O., Wigram, A. and Weekes, L. (1989) Vibroacoustic Therapy: The Therapeutic Effect of Low Frequency Sound on Specific Physical Disorders and Disabilities. *Journal of British Music Therapy*. 3, 6-10.

'Several cases have been treated with positive results. Both acute muscle traumas and post-operative convalescence have shown positive reactions to harmonic frequency sequences which are built on a basic tone in the low frequency area. Generally, low frequencies are given to the big muscles and we move upwards in frequencies when we are treating smaller muscle masses. Thus, the thighs need lower frequencies than the shoulders. It is recommended to use multi-frequency tapes in order to avoid too much stress placed on a single type of muscle tissue. Muscles and sinews are more easily stretched after tough muscular efforts.'

Skille, O. (1989) *Conditions responding well to treatment,* cited in Skille, O. and Wigram, A. (1995) The effects of music, vocalisation and vibrations on brain and muscle tissue: Studies in Vibroacoustic Therapy. In Wigram, A., Saperston, B. and West, R. (Eds) *The Art and Science of Music Therapy: a Handbook.* London: Harwood Academic.

Stress-induced depression (OSF – 40 HZ, 68 HZ)

'Relief may be observed after the first treatment session. The positive effect is dependent on the right choice of both frequency and music. The choice of music must be made in co-operation with the patient, and the therapist must have a varied choice of relaxing music. Often "New Age" music may have a good effect. At the end of the treatment period various frequencies and activating music are used.

When dealing with general stress and discomfort, if the client is placed in a sheltered environment - protected as much as possible from external influence - a 30 minute vibroacoustic programme combining slow pressure waves with 'floating' music will alleviate stress symptoms and give the client new vitality.'

Skille, O. (1989) *Conditions responding well to treatment,* cited in Skille, O. and Wigram, A. (1995) The effects of music, vocalisation and vibrations on brain and muscle tissue: Studies in Vibroacoustic Therapy. In Wigram, A., Saperston, B. and West, R. (Eds) *The Art and Science of Music Therapy: a Handbook.* London: Harwood Academic.

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Chesky, K.S., Rubin, B. and Frische, E. (1992) *The Pain Relieving Effect of Music Vibration on Rheumatoid Arthritis Patients as Related to Just Music and Placebo.* ISME.

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Ruutel, E. (1996) *The psycho-physiological effect of music and vibroacoustics in combination with psychological counselling*. ISME.

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Skille, O. and Wigram, A. (1995) The effects of music, vocalisation and vibrations on brain and muscle tissue. Studies in Vibroacoustic Therapy. In Wigram, A., Saperston, B. and West, R. (Eds) *The Art and Science of Music Therapy: a Handbook* (pp.23-57) London: Harwood Academic.

Skille, O. and Wigram, A. (1990) The effect of Sound and Vibration on Brain and Muscle Tissue in Wigram, A. (ed.) *Music and the Healing Process - a Handbook of Music Therapy*. Chichester: Carden Publications.

Skille, O., Wigram, A. and Weekes, L. (1989) Vibroacoustic Therapy: The Therapeutic Effect of Low Frequency Sound on Specific Physical Disorders and Disabilities. *Journal of British Music Therapy*. 3, 6-10.

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Soundbeam Project Vibroacoustic Therapy information

How to use the Numark CD Mix-1

The Numark CD Mix-1 enables 2 CD's to be played simultaneously:

1. A CD of pulsed low frequency sine tones
2. A CD of relaxing music.

To turn the Numark CD Mix-1 on, use the POWER switch on the back.

CD's are inserted In the front of the machine. To open the CD doors for either CD's 1 or 2, press the relevant blue OPEN / CLOSE button to the left of each digital display. The Sine tone CD should go into CD 1, the music CD should go into CD 2.

Volume controls

There are 4 separate volume controls:
1. CD 1 Volume Control determines the volume level of CD 1 (Sine Tone CD)
2. CD 2 Volume Control determines the volume level of CD 2 (Music CD)
3. Master Volume To Soundchair determines the volume level at which both CD 1 (Sine Tone) & CD 2 (Music) are sent to the Soundchair.
4. Master Volume To Headphones determines the volume level at which CD 2 (Music CD) is sent to the headphones.

BEFORE PLAYING CD'S MAKE SURE THAT ALL FOUR VOLUME CONTROLS ARE TURNED RIGHT DOWN!

Playing CD's for Vibroacoustic Therapy

Each CD has it's own display & it's own set of controls, marked CD1 & CD2.

1. The Numark CD Mix 1 has Pitch Control functions, enabling the user to change the pitch of a CD. These are grey PITCH buttons below the right-hand end of each of the two digital displays with red lights next to them. Each time you switch the Numark CD Mix 1 on, you should turn these Pitch Control functions off, as they are not required & if left on they could make the music sound rather strange! Press each grey PITCH button once & ensure that the red light next to it is off.

2. To select the track you wish to play from each CD, use the white TRACK buttons (just above the big red CUE buttons). The button marked **I<<** moves through tracks in reverse, the button marked **>>I** moves them forward. The selected track number for each CD is shown in the display immediately above the TRACK buttons. You will need to perform this process separately for each CD.

3. The first CD to play is CD 1 (Sine Tone). Press the big green button for CD 1. The light above it will glow permanently green & the numbers in the CD1 display will move forward, indicating that the CD is playing. (However, you will not hear or feel any sound until you turn up the volume controls).

4. Turn 'Master Volume To Soundchair' up to the position marked with an arrow.

5. Turn 'CD 1 Volume Control' up very slowly. The patient should now begin to feel the Low Frequency Sine Tone through the Soundchair. Ask the patient to tell you when the Sine Tone is at a comfortable volume level.

6. Press the big green button for CD 2. The light above it will glow permanently green & the numbers in the CD2 display will move forward, indicating that the CD is playing. (However, you will not hear or feel any new sounds until you turn up the volume controls).

7. Turn 'CD 2 Volume Control' up very slowly. The patient should now begin to feel & hear the Music through the Soundchair. Ask the patient to tell you when the music is at a comfortable volume level.

8. Turn up 'Master Volume To Headphones' very slowly. The patient should now begin to hear the Music through the headphones. Ask the patient to tell you when the music through the headphones is at a comfortable volume level.

Check that the patient is happy with all the volume levels & if so adjust them as follows:

- If the volume of the Low Frequency Sine tone in the Soundchair needs adjusting, move 'CD 1 Volume Control' up or down.
- If the volume of the Music in the Soundchair needs adjusting, move 'CD 2 Volume Control' up or down.
- If the volume of the Music in the Headphones needs adjusting, move 'Master Volume to Speakers' up or down.

Stopping the CD's

Each track on the sine tone CD is 30 minutes long. The therapist needs to return to end the treatment about 20 to 25 minutes from when the CD started playing. It is important that the sine tone CD is not allowed to run on to the next track!

To end the treatment:

1. Fade down 'Master Volume To Soundchair' very slowly.
2. Fade down 'Master Volume To Headphones' very slowly. You may want to wait a while before you do this. If the patient is in a deeply relaxed state it could be a bit cruel to turn off all the music suddenly!

Troubleshooting

If you have any problems with the Numark CD Mix 1, the first thing to try is to turn all volume controls down, switch it off & then switch it back on again! When you turn it back on all functions will revert to their default settings.

Conversion Chart for using Vibroacoustic Therapy CD 1

This chart relates to the use of the Vibroacoustic Therapy CD 1
With the use of the Pitch control on the CD Mix 1 DJ mixer. The playback pitches of the CD playback of plus and minus 12% from the original 0% setting.

Vibroacoustic Therapy CD 1 Track 1 32.7hz (C1)	
Pitch Setting	Frequency
+12%	36.62hz
+11%	36.29hz
+10%	35.97hz
+9%	35.64hz
+8%	35.31hz
+7%	34.98hz
+6%	34.66hz
+5%	34.33hz
+4%	34.00hz
+3%	33.68hz
+2%	33.35hz
+1%	33.02hz
0%	32.70hz
-1%	32.37hz
-2%	32.00hz
-3%	31.79hz
-4%	31.39hz
-5%	31.00hz
-6%	30.73hz
-7%	30.41hz
-8%	34.22hz
-9%	29.75hz
-10%	29.43hz
-11%	29.10hz
-12%	28.77hz

Vibroacoustic Therapy CD 1 Track 2 41.2hz (E1)	
Pitch Setting	Frequency
+12%	46.14hz
+11%	45.73hz
+10%	45.32hz
+9%	44.90hz
+8%	44.50hz
+7%	44.00hz
+6%	43.67hz
+5%	43.26hz
+4%	42.84hz
+3%	42.43hz
+2%	42.00hz
+1%	41.61hz
0	41.20hz
-1%	40.78hz
-2%	40.37hz
-3%	39.96hz
-4%	39.55hz
-5%	39.14hz
-6%	38.72hz
-7%	38.31hz
-8%	37.90hz
-9%	37.49hz
-10%	37.00hz
-11%	36.66hz
-12%	36.25hz

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Conversion Chart for using Vibroacoustic Therapy CD 2

This chart relates to the use of the Vibroacoustic Therapy CD 2. With the use of the Pitch control on the CD Mix 1 DJ mixer. The playback pitches of the CD can be varied by plus and minus 12% from the original 0% setting.

Vibroacoustic Therapy CD 2 Track 1 51.90hz (G#1)	
Pitch Setting	Frequency
+12%	58.12Hz
+11%	57.60Hz
+10%	57.09Hz
+9%	56.71Hz
+8%	56.00Hz
+7%	55.53Hz
+6%	54.49Hz
+5%	55.00Hz
+4%	53.97Hz
+3%	53.45Hz
+2%	52.93Hz
+1%	52.41Hz
0%	51.90hz
-1%	51.38Hz
-2%	50.06Hz
-3%	50.34hz
-4%	49.82hz
-5%	49.30hz
-6%	48.78hz
-7%	48.26hz
-8%	47.74hz
-9%	47.22hz
-10%	46.71hz
-11%	46.19hz
-12%	45.67hz

Vibroacoustic Therapy CD 2 Track 2 65.40hz (C2)	
Pitch Setting	Frequency
+12%	72.84Hz
+11%	72.59Hz
+10%	71.94Hz
+9%	71.28Hz
+8%	70.63Hz
+7%	69.97Hz
+6%	69.32Hz
+5%	68.67Hz
+4%	68.01Hz
+3%	66.99Hz
+2%	66.70Hz
+1%	66.05Hz
0	65.40Hz
-1%	64.74Hz
-2%	64.92Hz
-3%	63.43Hz
-4%	62.78Hz
-5%	62.13Hz
-6%	61.47Hz
-7%	60.82Hz
-8%	60.16Hz
-9%	59.51Hz
-10%	58.86Hz
-11%	58.20Hz
-12%	57.55Hz

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