QRS Fact Sheet No: B1
http://www.quantronresonancesystems.com

How QRS assists in the healing of bones and ligaments

QRS fact sheets are issued to explain the general application of QRS technology. It is envisaged that they will be supported by more detailed advice provided by QRS Consultants

QRS can reduce the time for bone healing by as much as 50%.

The Principle

Bone is essentially a calcium structure that contains trace elements. One particular element recently identified is Alpha Quartz. This is the same type of material that is used in computers and digital or electronic watches. When this material is compressed, it develops a voltage across its two compressive faces, a phenomenon known as the piezo-electric effect. The old crystal pick-ups on record players used this effect to generate electrical sound signals. Gas appliances and some cigar lighters also utilise the same effect to generate a spark for ignition.

In bone, areas of stress generate small electric charges that are greater than those of less stressed areas, so that polarized bone-laying cells (osteoblasts) are believed to be attracted to these areas and begin to build up extra bone material to counter the stress.

With bone injuries, bleeding occurs to form a hematoma in which capillaries quickly form, transporting enriched blood to the injury site.

The pulsed electromagnetic field therapy applied using the QRS contains the exact frequency packages and the optimum intensity to cause vaso and capillary dilation, so helping to speed up the process of callus formation. Within the bone itself, pulsed electro-magnetism causes the induction of small eddy currents in the trace elements, which in turn purify and strengthen the crystal structures. These have the same effect as the stress-induced voltages caused by the alpha quartz and as such, attract bone cells to the area under treatment. This can therefore accelerate the bone healing process to allow earlier mobilization and eventual full union. Ligaments and tendons are affected in similar ways to solid bone by pulsed electromagnetic therapy, since they are uncalcified bone structures in themselves.

Users can expect the time required for bone healing to be reduced by 20% to 50%. In elderly patients where it is often very difficult to initiate the healing process, results can be even more spectacular.

According to Bassett [1] (1983) the method of pulsed electromagnetic fields in bone repair has been used by more than 6,000 surgeons in the USA. The success rate was over 80% for tibial lesions. No patient suffered complications and biological side - effects included improved healing and increased neural function.

In depth research carried out to investigate this shows that magnetic fields influence the process of bone formation in the intercellular medium. Madonero2 (1990) showed that bone healing was promoted by means of the influence of the magnetic field on the crystal formation of calcium salts.

References: 1. Bassett C.A., Professor of Orthopedic Surgery, Columbia University, New York
2. Madonero A. Influence of Magnetic Fields on Calcium Salts Chrystal Formation: "An explanation of the pulsed magnetic field technique for bone healing". BES Journal 1990

QRS Application

The settings below are for a healthy person who has sustained an injury. A person who is not in a good state of health may find the high settings uncomfortable. If so, the settings should be reduced until the therapy is comfortable. It is the resonance effect from the frequency package (the same package for each setting) that has the major effect. The intensity (setting) is less important. QRS has been invented to be a gentle and longer term therapy and the "no pain no gain" principle is not valid with QRS (see Information Sheet Q2).

Mat Applicator

Morning	Mid-day	Late Afternoon
Setting 9	Setting 6	Setting 6

Pillow Applicator
Four (4) hourly to complement
Setting - see page 16 of the QRS User's manual

QRS Information Sheet No: T1
http://www.quantronresonancesystems.com

How QRS helps with soft tissue injuries

QRS fact sheets are issued to explain the general application of QRS technology. It is envisaged that they will be supported by more detailed advice provided by QRS Consultants

QRS can reduce the time for soft tissue healing by as much as 50%

The Principle

Research has shown that QRS effectiveness is not through heat production - as is the case with some modern treatments. It is at the cellular level. One significant outcome of this is the effect it has on soft tissue injuries. As early as 1940 it was suggested that magnetic fields might influence membrane permeability. It has since been established that magnetic fields can influence ATP (Adenosine Triphosphate) production, increase the supply of oxygen and nutrients via the vascular system, improve the removal of waste via the lymphatic system and help to re-balance the distribution of ions across the cell membrane. Healthy cells in tissue have a membrane potential difference between the inner and outer membrane. This causes a steady flow of ions through its pores. In a damaged cell the potential is raised and an increased sodium inflow occurs. As a result, interstitial fluid is attracted to the area, resulting in swelling and edema.

The application of the QRS pulsed electromagnetic field to damaged cells accelerates the re-establishment of normal potentials, thereby increasing the rate of healing and reducing swelling. This can help to disperse bruising also. The QRS magnetic field has the same (but enhanced) effect as an ice pack.

QRS has the following effects:

a. Blood viscosity is reduced and the blood moves faster.
b. The risk of infection is reduced due to the increased flow of oxygenated blood.
c. The more porous cell membrane increases the production of ATP and the detoxification of the cells.
d. The expected reduction in the time for soft tissue healing is of the order of 50%.
e. The amount of scar tissue is reduced because the injury heals more quickly and with more uniformity.
f. The patient has a feeling of wellbeing accompanied by significant pain reduction. This has a beneficial effect on recovery time.

QRS Application

Mat Applicator

Morning	Mid-day	Late Afternoon
Setting 6	Setting 6	Setting 3

Pillow Applicator

Four (4) hourly to complement Mat applicator

Settings – See page 16 of the user's manual

QRS Fact Sheet No: P1
http://www.quantronresonancesystems.com

How QRS reduces pain

Revised 21 July 2000

QRS fact sheets are issued to explain the general application of QRS technology. It is envisaged that they will be supported by more detailed advice provided by QRS Consultants

QRS is able to significantly reduce or remove pain caused by a wide range of health problems.

The Principle
Pulsed magnetic field therapy has been shown to bring about a reduction of pain, which is due to action at the cellular level. The following explanation is taken from a paper by D.C. Laycock

Chemical Synapse Action Potential in a Neuron
NERVE
IMPULSE +30……..
Pre-Synaptic Depolarisation
Neuron Synaptic Na^4, Ca^2 inflow Repolarisation
Vesicle 0……..…….....….. K^4 outflow…..…..

Membrane
Transmitter -55……
-70……..……..
Synaptic Cleft

Post Synaptic -90……..…….
Receptor Neuron Membrane
Sites Potential mV Hyperpolarisation
(2a) (2b)

Nerve Synapses Cell Potentials
Fig. 2

Pain is transmitted as an electric signal that encounters gaps at intervals along its path (see Fig 2a). The signal is transferred in the form of a chemical signal across the synaptic gap and this is detected by receptors on the post-synaptic membrane. A charge of about -70mV exists across the inner and outer membranes, but when a pain signal arrives it raises this to +30mV (see Fig 2b). This action causes channels to open in the membrane, triggering the release of a chemical transmitter and allowing ions to flow into the synaptic gap. The cell then re-polarizes to its previous resting level.

Research suggests that PMFT affects the quiescent potential of the membrane, lowering it to a hyper - polarised level of -90mV. Transmission is effectively blocked since the pain signal is unable to raise the potential to the level required to trigger the release of the chemical transmitter. Again, the frequency of the applied magnetic field is important, as the most effective frequency to produce this effect was found to be a base frequency of 200Hz pulsed at between 5 and 25 pulses per second.

Clinical Applications
The value of pulsed magnetic field therapy has been shown to cover a wide range of conditions, with well documented trials carried out by hospitals, rheumatologists and physiotherapists. For example, the department of rheumatology at Addenbrookes Hospital[1] (1984), carried out investigations into the use of PMFT for the treatment of persistent rotator cuff tendinitis. The treatment was applied to patients who had symptoms refractory to steroid injection and other conventional treatments. At the end of the trial, 65% of these were symptom free, with 18% of the remainder being greatly improved.

Lau[2] (School of Medicine, Loma University, USA) reported on the application of PMFT to the problems of diabetic retinopathy. Patients were treated over a 6 week period. 76% of the patients had a reduction in the level of numbness and tingling. All patients had a reduction of pain, with 66% reporting that they were totally pain-free.

Many research studies, including Lau [3], reported on the application of PMFT for conditions such as sports injuries and for patients with joint and spinal problems. Although these are too numerous to mention individually, in almost every instance there was a reduction, if not complete resolution of symptoms. Soft tissue injuries and joint pains tended to be resolved within 5 days of treatment. Patients with cervical problems and low back pain were also successfully treated, whereas previous treatment with ice, traction and other therapies had been unsuccessful. In yet another trial, the effect of applying PMFT to sufferers of Multiple Sclerosis was investigated (Geseo A. [4] 1987). 70% of sufferers had a reduction of weakness, pain and spasticity, with 50% reporting improvement of their bladder incontinence.

QRS Application

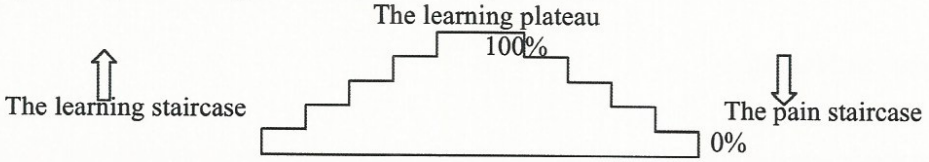
The scientists who invented QRS bundled the optimum frequencies into packets (0.1Hz to 1,000Hz) and applied them to the body by means of the Mat applicator and the Pillow applicator. The settings 1 to 10 on the control panel only change the intensity of the field (average 1.5mT to 15mT).

Most chronic and degenerative pain can be controlled by applying the Mat applicator only. This has the benefit of providing the optimum therapy to the body as a whole. Every cell is treated and so all cell dysfunctions (not only pain) receive a beneficial effect. The applications should generally be up to three times per day for eight minutes each application. Settings most appropriate for the control of pain are in the range 4 to 8 however a person with an active sympathetic nervous system should use a lower setting (see Information Sheet Q2).

In some cases (eg. Injuries to a part of the body), it is appropriate to treat the injured or painful part with the pillow applicator. This is seen as supplementary and can be as often as every four hours. Page 16 of the User's Manual shows the appropriate setting to correspond to the part of the body treated. Do not wrap the Pillow applicator around the body part – place it flat under or above the body part.

The pain memory

The pain memory learning process works in steps, up and down. After every improvement a slight pain can start again, until the pain level is brought down to 0%. The longer the pain has been experienced, the longer it may take to negotiate the pain memory staircase



QRS is suitable for use with all other modalities. As pain reduces, it will normally be possible to reduce the level of medication prescribed in consultation with the person's health professional.

QRS Result

With the optimum application of QRS, it is possible to maintain a significantly lower level of pain or to be pain free.

References:

1. Binder A., Parr G., Hasleman B., Department of Rheumatology, Addenbrookes Hospital. "*Pulsed Elec tro Magnetic Field Therapy of Persistent Rotator Cuff Tendinitis*", Lancet, March 1984.

2,3 Lau B., School of Medicine, Lomo Linda, USA. "*Effect of Low Intensity Electromagnetic Fields on Diabetic Retinopathy*".

4. Guseo A., Department of Neurology, Szekesfeheruar, Hungary. "*Pulsing Electro-Magnetic Field Therapy of Multiple Sclerosis*", Journal of Bioelectricity 6 (1), 1987

Pulsed Magnetic Field Therapy and the Physiotherapist by Dr. D. C. Laycock Ph.D. (Med. Eng.); MIPEM*; B.Ed. (Hons)(Phys. Sciences); MBES; CGLI (Ind. Electronics); Consultant Clinical Engineer, Westville Associates and Consultants (UK). July 1997

*Member of the Institute of Physics and Engineering in Medicine

QRS Information Sheet No: B2
http://www.quantronresonancesystems.com

How QRS helps with loose endoprotheses

QRS fact sheets are issued to explain the general application of QRS technology. It is envisaged that they will be supported by more detailed advice provided by QRS Consultants

Experience from Europe over the past 15 years is that when hip joint endoprotheses became loose or in danger of becoming loose the doctors did not need to replace them. They were able to stabilize them with QRS

The Principle

One of the main focal points of orthopedics is the preservation of artificial joints, especially endoprotheses. When they loosen or are in danger of loosening, QRS is always able to stabilize the joints with magnetic field therapy. The phenomenon can be explained through studies conducted at the University of Wuppertal. Under the influence of magnetic fields the metabolic exchange between the blood stream and the cells improves. The calcium level increases.

In bone, areas of stress generate small electric charges that are greater than those of less stressed areas, so that polarized bone-laying cells (osteoblasts) are believed to be attracted to these areas and begin to build up extra bone material to counter the stress.

With bone injuries, bleeding occurs to form a hematoma in which capillaries quickly form, transporting enriched blood to the injury site. The pulsed electromagnetic field therapy applied using the QRS contains the exact frequency packages and the optimum intensity to cause vaso and capillary dilation, so helping to speed up the process of callus formation. Within the bone itself, pulsed electro-magnetism causes the induction of small eddy currents in the trace elements, which in turn purify and strengthen the crystal structures. These have the same effect as the stress-induced voltages caused by the alpha quartz and as such, attract bone cells to the area under treatment. This can therefore accelerate the bone healing process to allow earlier mobilization and eventual full union. Ligaments and tendons are affected in similar ways to solid bone by pulsed electromagnetic therapy, since they are uncalcified bone structures in themselves.

QRS Application

For a healthy person the optimum settings are as below. This Information Sheet should be read in conjunction with Information Sheet Q2 to establish optimum settings.

Mat Applicator

Morning	Mid-day	Late Afternoon
Setting 9	Setting 6	Setting 3

Pillow applicator

Four (4) hourly to complement the Mat applicator

Setting – see page 16 of the User's Manual

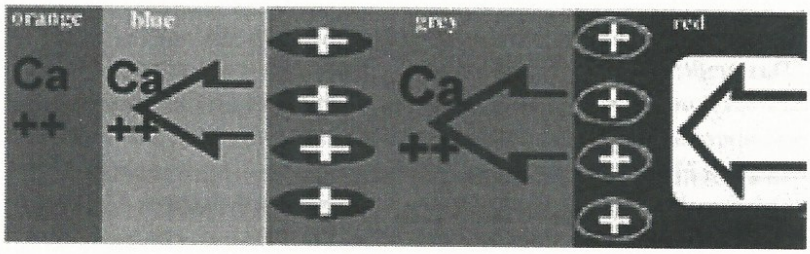
QRS Information Sheet No: Q1
http://www.quantronresonancesystems.com

How QRS creates the calcium cascade

QRS fact sheets are issued to explain the general application of QRS technology. It is envisaged that they will be supported by more detailed advice provided by QRS Consultants

"It is possible for the first time to supply cells of the organism with both components of a dissociated chemical substance" *Patent 667475 page 19*

The Principle



The above diagram is an example of Quantronic ion shifting. Positive H ions from the blood (red) are pushed against the vascular wall (grey), where they create an acidic environment that urges calcium ions from the vascular wall into the cellular fluid (blue). From there they move into the cells (orange). (Decalcification of blood vessels and building up of Ca in the bones).

The calcium cascade

The Ca++ ions, which have moved into the inner cell, create effects similar to the "visit of the rich aunt". The cells are shaping up. Depending on the previous condition the following processes, amongst others start. In the field of Quantronic these are called "calcium cascade"' as they all relate to the release of calcium.

1. **Macrophages are activated.** Macrophages are an important component of the immune system. They dispose of cell refuse and eat pathogens e.g. bacteria.
2. **Enzymes are activated, stimulated or restrained.** Due to this the metabolic processes are accelerated.
3. **NO-gas (nitrogen monoxide) is produced.** It vaporises into the blood and the surrounding tissue. It dilates blood vessels and is therefore an important therapeutic element. NO also is an effective part of nitroglycerine, which is used as a first aid in the case of heart attacks. NO gas as a vasodilator is also an indispensable part of male erection.
4. **Cell division is stimulated.** For a long time it has been noticed that the magnetic field influence directs itself preferentially onto cells which are in the process of division. This is one of the reasons why the classic magnetic field therapy, prior to Quantronic, had its successes mainly in the area of regeneration. (that is eg. in orthopedics.) It is important to understand the difference between a healthy cell and a cancer cell. Healthy cells in a nutrient bowl nestle themselves into their environment and stop growing as they touch each other. Cancer cells don't keep contact with the bowl and keep growing indefinitely as long as they receive nutrients, even if they touch each other. They don't know limitations to growth because they have no other task than growth. QRS has been proved in two clinical studies not to stimulate the growth of cancer cells.

5. **Cells become differentiated.** The mere division of cells does not mean regeneration. What matters is that the new cells undertake to do their tasks that relate to certain tissues; that a bone cell becomes a bone cell and a liver cell becomes a liver cell.According to research, this effect forms part of the calcium cascade. Whether cells are stimulated into division or concentrate more on their specific tasks depends on how much calcium there is in the cell before the in stream.
6. **Blood pressure sensors optimise blood pressure.** In the so-called medulla oblongata, a part of the brain on the extension of the spinal cord, there are vibration producers for the blood pressure that react positively to the calcium effect of the magnetic field and lower or raise the blood pressure.
7. **The adrenalin sensitivity decreases** with a similar effect to that of cortisone
8. **The response to insulin is activated**
9. **The membrane "gates" open and increase the ion exchange**
10. **The sensitivity of free nerve ends increases**
11. **The fatty-acid metabolism is normalized**

The effects of the calcium cascade are far from the only therapy effects of QRS but they explain the successes of classic magnetic field therapy described with a scientifically understandable performance model. The recognition of the calcium cascade as a fundamental effect of certain pulsating magnetic fields was the basis for the continuing improvement of the signals of the magnetic coils, until the Quantronic impulse was finally discovered.

The following summary reiterates the important other magnetic field effects, the immediate indicators for the effectiveness of pulsating magnetic fields.

a. **Heart effect.** Heart beat slows (relaxes) and frequency decreases.
b. **Blood pressure effect.** Blood pressure decreases.
c. **Blood flow speed.** The blood flows faster.
d. **Blood viscosity.** The viscosity of the blood decreases (ie. blood thins).
e. **Respiratory volume.** Humans immediately breathe more deeply.
f. **Increase in circulation and blood/heat radiation.** Heat radiation of the body increases significantly. It is a real circulatory reaction of the body caused by the resonance effect.

QRS Application

QRS has been designed as a long term and gentle therapy without side effects. For general preventive health the Mat applicator should be used twice per day for eight minutes per therapy.

QRS is being asked to help in the alleviation of the symptoms of very complex indications resulting from cellular dysfunction. People often present with several indications at once (eg. High blood pressure, high cholesterol, arthritis, blood sugar problems and fatigue). QRS applications will prove **beneficial in any situation where the health problem results from cellular dysfunction.** Such complex situations call for special instructions from the QRS consultant. Therapies may be more frequent, the recommended intensity may vary and the Pillow applicator may be an appropriate application method.

It is important to remember that, as every person has different DNA, so every person has a different metabolism and optimisation of QRS therapy may be required beyond the general (although very relevant) instructions contained in the User's Manual. Please refer to Information Sheet Q2 How to select the optimum QRS setting.

QRS Information Sheet No: I1
http://www.quantronresonancesystems.com

How QRS assists in the management of diabetes

QRS fact sheets are issued to explain the general application of QRS technology. It is envisaged that they will be supported by more detailed advice provided by QRS Consultants

QRS can increase the production of insulin, make better use of available insulin, lead to reduced medication (under medical practitioner's supervision) and prevent late complications of diabetes like blindness, non-healing wounds, polyneuropathy, heart attacks and impotence.

What is Diabetes

Food is a source of energy for the body. Through the process of digestion, most of the food that we consume is eventually broken down into a simple sugar called glucose. Glucose then passes into the bloodstream where it becomes available for the body to use for growth and energy. In order for glucose to be transported to other cells in the body, a hormone produced by the pancreas, called insulin, is needed.

In diabetes, the pancreas produces little or no insulin, or the cells throughout the body are unable to utilize the insulin that is being produced. The end result is a build-up of glucose in the blood, which eventually spills over into the urine before leaving the body. Elevated blood glucose levels are responsible for the many health problems associated with diabetes.

There are two main types of diabetes:

- **Type 1 Diabetes.** Also known as insulin dependent diabetes mellitus (IDDM) or juvenile-onset diabetes. In this type of diabetes the pancreas produces little or no insulin. Treatment always involves injections of insulin along with diet modifications to control blood glucose levels. This form of diabetes accounts for about 5-10% of all cases.
- **Type 2 Diabetes.** Also known as non-insulin dependent diabetes mellitus (NIDDM) or adult onset diabetes. In this type of diabetes the pancreas produces insulin but it is not working effectively to control blood sugar. Treatment may involve diet modification and exercise alone, oral medications and/or insulin injections to control blood glucose levels. This form of diabetes accounts for 90 - 95% of all cases. The end result is the same as in type 1 diabetes - a build up of glucose in the blood, due to the body's inability to use it as a major source of fuel and energy.

Risk factors for type 2 diabetes include obesity, heredity, age, race, sedentary life style, possibly a virus and stress.

Diabetes management requires periodic medical examination, frequent testing, medication, diet and exercise. Diabetes often leads to the development of other indications that require treatment.

QRS Therapy

QRS has been found to be effective in the management of diabetes and there is the advantage that QRS is suitable to be used with all other modalities. In particular:

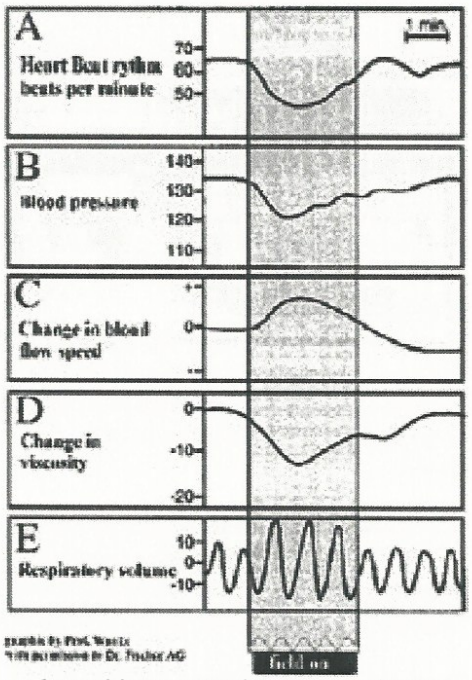
- QRS therapy can stimulate persistent Langerhans-cells in the pancreas (endocrine part of the organ) and so raise the production of insulin. This insulin is then distributed to the cells and used more effectively.
- Enhanced production and better use of insulin can result in a lower requirement for medication. It is emphasized that any decision to reduce medication must be taken in consultation with a medical practitioner.
- Due to augmented microcirculation and better use of oxygen, QRS can prevent late complications of diabetes like blindness, non-healing of wounds, polyneuropathy, heart attacks and impotence.
- QRS' ability to prevent or reverse the development of complications will result in a reduced need

for medication. It is emphasised that any decision to reduce medication must be taken in consultation with a medical practitioner.

QRS works at the cellular level to "normalize" the function of cells. Every cell has its own frequency and the frequency package that is embodied in the QRS pulsed electromagnetic signal produces a resonance effect. This patented "key to the cells" is the double saw tooth wave. The transmembrane potential of the cell (the potential difference across the cell wall) is increased. This stimulates the metabolic processes and increases the production of insulin. The cell membrane also becomes more porous, thereby facilitating the QRS' ion transport effect where both positive and negative ions are simultaneously transported out of the electrolytic fluids and into surrounding cells.

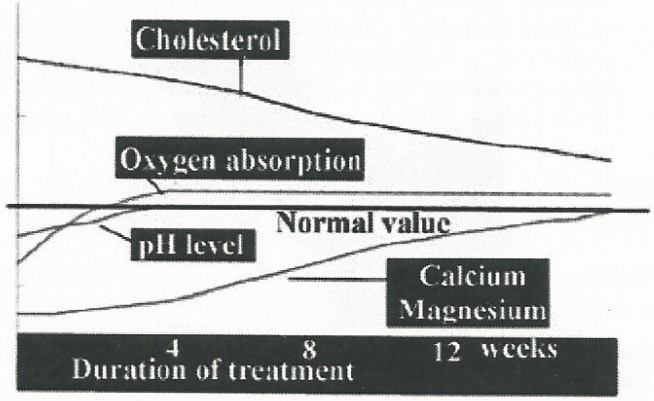
The combination of wave pattern, frequency package and amplitude produces significant effects on blood. The graphic shows what happens to the blood during the course of a QRS therapy.

A. **The heart effect**: Heart beat slows (relaxes) frequency decreases
B. **The blood pressure effect**: Blood pressure decreases
C. **Blood flow speed:** The blood flows faster
D. **Blood Viscosity:** The viscosity of the blood decreases (i.e. Blood thins)
E. **Respiratory Volume:** Humans immediately breathe more deeply



QRS therapy has been designed as a non-invasive, natural, gentle and long-term therapy. Whilst the effects can be felt quite quickly with some ailments, the aim is to produce positive results over the longer term without side effects.
The graphic below shows the effects of QRS therapy over a period of 12 weeks. Values move towards normal and the oxygen absorption increases to exceed normal values. This is very positive for diabetes sufferers. In additon, the calcium/magnesium concentration increases.

QRS Application
QRS therapy is applied two to three times per day for eight minutes each application. Use the Mat applicator because a whole body treatment is required if every cell is to be influenced and the microcirculation improved. Settings depend on body mass, blood pressure/pulse (refer to Information Sheet Q2) and other ailments to be treated.



The Pillow Applicator may be applied twice a day in circumstances where there is a significant loss of circulation to an extremity (eg. Foot). The setting to be used is listed in the User's Manual.

Remember to drink a glass of water before and after therapy. This will help the ion transport and facilitate the elimination of toxins.

Very positive results can be expected within about two months. In some cases a shorter or longer time may be required but it will occur. It should be remembered that quite complex changes are required to create a positive outcome and diabetes sufferers often present with a range of complicating indications.

QRS Information Sheet

How QRS assists in the management of stress & depression

1 November 2000 http://www.quantronresonancesystems.com

QRS fact sheets are issued to explain the general application of QRS technology. It is envisaged that they will be supported by more detailed advice provided by QRS Consultants

QRS can significantly reduce stress and depression within a short period of time and it can be applied simultaneously with all other modalities.

What is stress?

Stress is a process, not a diagnosis. The level and extent of stress a person may feel depends a great deal on their attitude to a particular situation. An event, which may be extremely stressful for one person, can be a mere hiccup in another person's life. When used in a clinical sense, the word 'stress' refers to a situation that causes discomfort and distress for a person. A variety of factors contribute to a person feeling stressed. This may include environment (work, home, school, etc.), lifestyle and emotional issues. Sometimes this stress can be resolved by dealing with the particular cause. When unresolved, stress can lead to disease. Stress management is normally achieved by regular exercise, avoiding conflict, relaxation, eating a balanced diet and maintaining a good sleep routine.

What is depression?

Everyone can feel sad, particularly when faced with loss or grief. Depression, however, is more than a low mood and sadness at a loss. It is a serious medical illness. It is the result of chemical imbalances in the brain. The sufferer feels extremely sad, dejected and unmotivated. One in four women and one in six men suffer from depression at some time in their life. Only about 20% of people are correctly diagnosed because depression can mask itself as a physical illness (like chronic pain, sleeplessness or fatigue). The symptoms of depression can include, feeling sad or depressed, a loss of interest and pleasure in normal activities, loss of appetite or weight, inability to get to sleep or waking up early, feeling tired all the time, having trouble concentrating, feeling restless, agitated, worthless or guilty, and feeling that life isn't worth living. Help may be provided in the form of drug therapy, psychological therapies, education and counselling and avoiding situations, which may contribute to the depression.

QRS Therapy

People who use QRS for stress and depressions most frequently suffer from more than one indication (disease). The alleviation of the symptoms of stress and depression is often seen as a side issue whereas it may be the cause of the other health problems. Whatever the sequence of events leading up to the situation, QRS works at the cellular level to resolve all problems simultaneously. It can be applied safely with all other modalities. A reduction in the amount of medication may be appropriate under medical supervision.

There are two distinct ways in which QRS works in this situation:

a. Cellular dysfunction is reduced and general health increases. This causes the user to feel 'better' and leads to a general sense of wellbeing. This is QRS' normalising effect.
b. The frequencies encapsulated in the double - sawtooth signal trigger beneficial responses in that part of the brain responsible for the symptoms of stress and depression, leading to more complete rest, relaxation, deep sleep and regeneration.

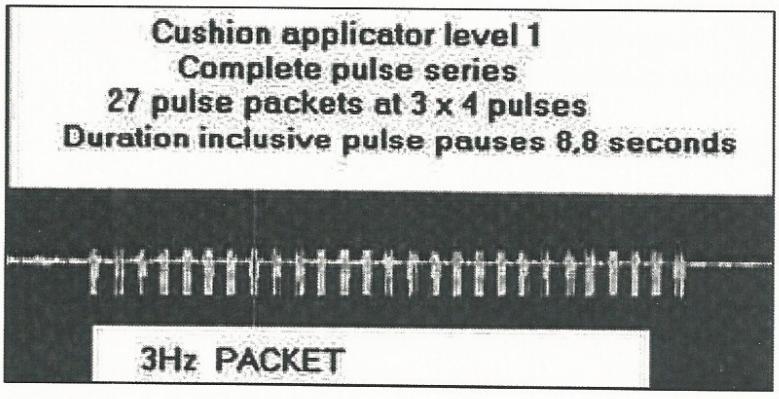
Our aim is to normalise all functions across the organism. The human brain is a complex organ. Individual parts have their own resonances and sometimes one part sets the tone, other times another part. The more activated the conscious part of the brain, the faster it seems to vibrate, or lets call it the part that processes perception.

The oscillations associated with various states include:

a. **Beta rhythm** 13Hz to 27Hz The waking state
b. **Alpha rhythm** 8Hz to 12Hz The resting state
c. **Theta rhythm** 4Hz to 7Hz The dream state
d. **Delta rhythm** 1Hz to 3Hz The deep sleep state

Whereas Beta, Alpha and Theta rhythms can be produced through the eyes and ears, sensory organs cannot stimulate the Delta deep sleep rhythm. The electromagnetic field, due to its specific characteristics, does not need to be smuggled into the body via sensory organs. The field penetrates the body everywhere and is experienced as a whole. The body is virtually a receiver for the frequencies stored as information in the magnetic field.

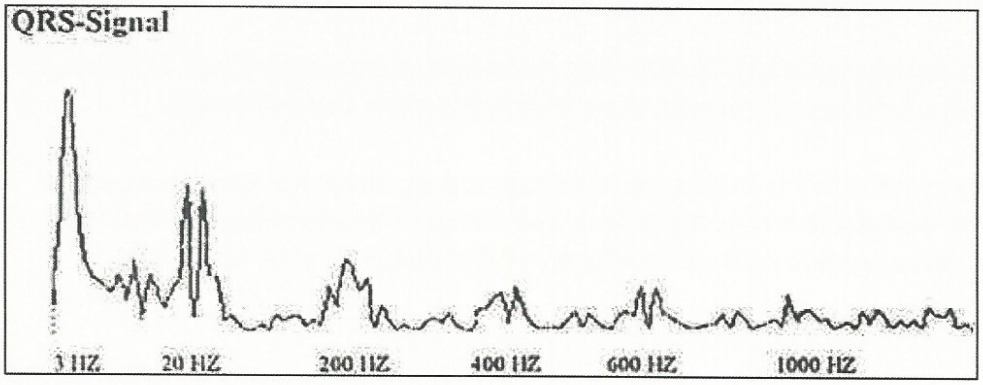
It is therefore possible, through the frequencies stored as information in the magnetic field, to penetrate the body effectively outside the perception state and to trigger resonance vibrations in the suitable parts. The 3Hz component of the Quantronic impulse is used for that. It belongs to the Delta rhythm, which is the rhythm where the body regenerates itself and the brain is switched off, the deep sleep state. To create this artificially is, even for the QRS system, not always possible if a person is well rested and awake, interested in sound and with the eyes open. The frequency 'cocktail' offers a variety of stimulations, which are physiologically useful and suitable for the body.



If the person is exhausted and tired the brain becomes receptive to the low frequency magnetic stimuli. It searches for the delta rhythm that is on offer in the large frequency variety of the Quantronic signal. The 3Hz packet is so to speak the contrabass to daily activity, which with the help of the magnetic field is brought into resonance and therefore increased. The brain searches for the3Hz component of the Quantronic signal when it is receptive to it.

Consequently deep sleep is reached faster and is more restful.

There are clear indications that the Quantronic field boosts the production of the sleep, regeneration and anti-cancer hormone melatonin. There needs to be more research into whether this happens through the delta stimulation or another mechanism.



The graph above shows the make up of the Quantronic signal on control unit setting one (field strength approximately 3 microTesla). The 3HZ frequency takes up all the amplitude window and the higher frequencies are represented but with minimal intensity (amplitude). Setting one is therefore most appropriate to trigger Delta waves for deep sleep.

QRS Application

Factors that may influence the ability of QRS to trigger delta waves include the:

a. presence of external stimuli (sound and light)
b. physical position assumed during application
c. time of day.
d. level of pain or physical discomfort
e. individual's metabolism and personal sensitivity to electromagnetic fields

The environment most suitable for application is:

a. lying prone on the mat applicator with hands by the side and eyes closed
b. darkened room
c. absence of sound

Therapy Duration

Setting one is the optimum setting. In general, a full eight-minute therapy is appropriate however this is an artificial time duration and some people may require less time. Much of the effect is achieved in the first two minutes and this may be long enough. Because the state of wakefulness is very variable, so the appropriate duration will vary. The ideal duration is very individual and users need to be prepared to experiment with various durations.

Time of Day

The aim is to reduce the level of stress/depression through better rest and deeper sleep. This will conserve energy otherwise wasted by the need to manage the symptoms of stress/depression. Only when this is achieved can QRS daytime settings be increased. It will probably never be appropriate for a person who suffers from

stress or depression to use settings higher than five. QRS should be used twice per day – morning and afternoon/night.

The morning therapy should be applied soon after waking. Only when the symptoms of stress/depression reduce should higher set tings be selected to provide energy and, if the symptoms start to return, a return to lower settings is appropriate.

Some people find that using QRS later than about 5pm on setting three or more causes activation and sleeplessness. In such cases only setting one should be used.

In most cases where QRS is to be applied to induce deep sleep, the most appropriate time is within the hour before going to bed. The therapy should not be followed by significant external stimuli such as television or other than soft, slow and gentle music.

The QRS Strategy to Combat Chronic Fatigue Syndrome

http://www.quantronresonancesystems.com

QRS Information sheets are issued to explain the general application of QRS technology. It is envisaged that they will be supported by more detailed advice provided by QRS Consultants

QRS is the critical factor in the comprehensive 5-way health management strategy we propose to combat CFS. Execute the strategy exactly and there is a high likelihood of significant relief in a few weeks and the prospect of overcoming the symptoms completely within a few months.

What is Chronic Fatigue

Chronic fatigue syndrome, or CFS (also called Myalgic Encephalomyelitis (ME) in UK and Chronic Fatigue and Immune Dysfunction Syndrome (CFIDS) in USA), is a debilitating and complex disorder characterized by profound fatigue that is not improved by bed rest and that may be worsened by physical or mental activity. Persons with CFS most often function at a substantially lower level of activity than they were capable of before the onset of the illness. In addition to these key defining characteristics, patients report various non-specific symptoms, including weakness, muscle pain, impaired memory and/or mental concentration, insomnia, and post-exertional fatigue lasting more than 24 hours. In some cases, CFS can persist for years. The cause or causes of CFS have not been identified and no specific diagnostic tests are available. Moreover, since many illnesses have incapacitating fatigue as a symptom, care must be taken to exclude other known and often treatable conditions before a diagnosis of CFS is made.

A patient must satisfy two criteria:

1. Have severe chronic fatigue for six months or longer duration with other known medical conditions excluded by clinical diagnosis.
2. Concurrently have four or more of the following symptoms: substantial impairment in short-term memory or concentration; sore throat; tender lymph nodes; muscle pain; multi joint pain without swelling or redness; headaches of a new type, pattern or severity; unrefreshing sleep; and post-exertional malaise lasting more than 24 hours. The symptoms must have persisted or recurred during six or more consecutive months of illness and must have predated the fatigue.

The above information is from the United States National Center For Infectious Diseases. The detail is succinct. A visit to their web site at www.cdc.gov is recommended.

Duration and Demographics

According to the CDC, 45% of patients return to normal (80% of previous functional capabilities) in 5 years; but another 45% are still dramatically ill (50% or worse) after 10 years. Reports indicate that relapse is likely and one report concluded that after 15 years, 83% remained seriously ill.

Whilst the incidence of CFS is lower in children, in adolescents it is equal to that of adults. CFS occurs disproportionately more in women than men (7:3) and roughly the same in all racial and income groups.

A Possible Cause

In Dr. Fischer's book (Grundlagen der Quanten Therapie, G. Fischer; Hecateus Verlagsanstalt, FL 9497 Triesenberg, 1996 pp.269-274), Dr. Warnke (one of the QRS inventors) describes the very low results of 6000 measurements of "normal" oxygen partial pressure (oxygen content of the blood) on students, that is, young, mostly considered as relatively healthy people. It goes on to describe how carbon monoxide (CO) (e.g. from car fumes) has a 300 times stronger tendency to hitch on to the oxygen transporter hemoglobin than oxygen (O2) from the air. Unless the oxygen partial pressure is increased dramatically, the blood cell remains for the rest of its life, about 50 to 120 days, hitched to the CO and can, once it is affected by the gas, never again serve the body as an oxygen supplier. This

together with other factors including the too many nitrates in our water and air, stress, etc. all combine to vampirize the blood cells.

CFS is not a fashionable illness for lazy people. It is, as Dr Warnke explains in his book Risk of Affluent Society Illness (Risiko Wohlstandsleiden - Syndrom X, Erschopfungssyndrom, Pathologisches Energiedefizit, Ulrich Warnke; Popular Academic Veragsgellschaft, Saarbrucken 1993), an illness caused by a PED, **P**athological **E**nergy **D**eficit of the cells.

Dr Warnke has in experiments measure an increase in the oxygen partial pressure between 70% and 80% under the influence of QRS electromagnetic fields. In rare cases Dr Warnke has even measured increases of up to 900% but these are exceptions for which certain individual health conditions may be responsible.

The 5-way Strategy

The strategy requires **all** of the following employed simultaneously and exactly:

1. **QRS**
2. **Supplement program**
3. **Carbohydrate reduced diet**
4. **Daily exercise**
5. **Stress avoidance**

1. QRS Therapy

Working at the cellular level, QRS is the key that opens the door to the cells so the other elements in the strategy become effective. QRS is critical because CFS sufferers have impaired cellular metabolism.

In addition, frequencies encapsulated in the quantronic signal trigger rest and regeneration. Efficient sleep is essential for the recovery process.

The QRS program is as follows:

	Morning	Mid-day	Early Evening	Duration
Setting	1	1	1	1 week
Setting	2	2	1	1 week
Setting	3	3	1	2 weeks
Setting	4	4	1	2 weeks
Setting	5	4	1	2 weeks

Because each human is unique, listing the settings without some flexibility is potentially faulty. Only move to the next series of settings when there is a reduction in the symptoms. In other words, it is much better to delay increasing the settings if health is not improving. There are no prizes for reaching the end of the program early.

Drink a glass of water before and after each therapy.

Lie quietly without external stimulation (light, sound, movement). Remain on the mat applicator for 10 minutes after the end of the therapy.

When the QRS program is complete, experiment with settings to identify the setting that "feels best". Try to remain sensitive to the "experience and results" of particular settings at particular times of day. Higher (6 -10) settings may not be beneficial (and yet on the contrary they may be very beneficial), it is only the user who can ascertain this. The therapy effect continues to build for about 30 minutes after the control unit has switched off.

2. Supplement Program

The program requires a magnesium based anti-oxidant supplement and various vitamin and mineral supplements which can be pinpointed by your nutritional adviser.

Taking large quantities of supplements is not necessary and it may even be harmful. If the cells are unable to absorb the chemicals in their ionised form, it is a waste of money. QRS raises the transmembrane potential of cells and opens the channels in the membrane (they open and close about 100 times per second) to readily accept the introduction of nutrients and simultaneously remove wastes. QRS, with its patented double saw tooth signal, is able to transport ions out of the electrolytic fluids and into cells (for the first time we are able to supply cells of the organism with both components of a dissociated chemical substance). Regardless of the exhaustive steps you have taken in the past to overcome CFS, there is little likelihood of success without the cell communication and ion transport capabilities of QRS – the critical factor in the strategy.

Magnesium is a very important chemical and QRS will demand more of it than the body can supply naturally. There are many preparations that contain magnesium and they will be suitable. Muscle Ease (produced by Bioceuticals, available only through your pharmacist or naturopath) is a m**agnesium-based antioxidant** that has been found to be effective. As health improves, the amount of supplements can be reduced because QRS will make efficient use of nutrients.

3. Carbohydrate Modified Diet + Adequate Protein

The body needs time (about 12 hours) during each 24 - hour day when it does not have to metabolize carbohydrates. In particular, a reduction in carbohydrates from grains is very important. Other than the reduction in carbohydrate, a balanced diet is required and radical diets should be avoided. Without adequate protein, the immune system, nervous system and brain cannot repair or function optimally. The Zone diet is strict but good. "The Carbohydrate Addict's Healthy for Life" is excellent and easy to comply with.

The range of recipes that comply with a low carbohydrate diet is wide and the tastes are exciting. Visit the following web sites for more information:

a. http://www.enteract.com/~jldavid/lowcarb/pyramid.html
b. http://www.enteract.com/~jldavid/lowcarb/
c. http://people.delphi.com/elizjack/index.html
d. http://www.lowcarbluxury.com/lowcarb-recipes.html
e. http://www.ncenter.com/carbcharts/carbohydrate_chart.shtml

QRS will play an active role in improving the metabolic process. Expect to experience improved digestion.

4. Daily Exercise

CFS sufferers experience extreme fatigue after as little as ten minutes of exercise and therefore often avoid physical effort. As the recovery process increases in momentum under this 5 - way strategy, so exercise should be increased steadily.

As physical exertion is undertaken, CFS sufferers will experience a different type of fatigue – the fatigue that results from "feeling that there has been real and positive exercise". This is not an unpleasant feeling. Don't over do the exercise but be sure to exercise daily and increase the exercise steadily. Stretching, yoga, walking and gardening are best. Weights are good in moderation.

Expect to experience a feeling of more energy and a sense of well being within 30 minutes of a daytime QRS therapy.

5. Stress Avoidance

Not surprisingly, given the symptoms of the disease, CFS sufferers experience high levels of stress. It is important to make an effort to remove yourself from the source of the stress for at least the duration of the 5 - way strategy, by which time your state of health will be better able to operate within the prevailing environment. Learn strategies for mental calming such as meditation, Tai Chi etc. Structure your daily life for optimum stress - not too little - not too much - set reasonable goals. If you are highly anxious or "driven" get expert help to deal with this. A psychologist can help.