



Basic Instruction of QRS-101:



General note:

- This document includes a customer friendly explanation of how to start using the QRS-101 system.
- It is a summary of the key information which is included in the “operating manual” and in the “treatment settings” document. This document does not replace the operating manual or treatment settings document. It merely serves to assist the new customer with starting to use QRS-101 system so effectively as possible so as to realize quick results.



1) What is the QRS-101 system:

- a. QRS-101 is Magnetic Stimulation using extremely low (and safe) intensities and frequencies. These Pulsed Electromagnetic fields result first of all in a sharp improvement of the blood flow, oxygen intake & delivery to the cells, metabolism of the cells and tissues. And in addition works in various ways on improvement of all cells and tissues of the human body. In short: **QRS-101 is very effective as a complementary treatment in all diseases where you need Oxygen for 'repair'**. The QRS-101 is the "Home" system which can be safely used by customers at home. In addition to this home system, QRS also has systems for doctors and hospitals which normally use higher intensities and frequencies and which can only be operated by a trained doctor.

2) Management of Expectations before you start with QRS-101

- a. Do NOT expect that you will feel anything during the treatment. The intensity of the magnetic field and the frequencies used are extremely low (and safe). Most adult people do not feel anything. People who are more sensitive and children often do feel the improved blood circulation and some other sensations during the treatment. The fact that we are not able to feel with our skin cells the working of the QRS-101 (no vibration, no massage movements) does not mean that it does not work. The human body consists of trillions of cells and these cells they do recognize the magnetic fields. The results of QRS-101 you often feel after the QRS-101 treatment and normally after various QRS-101 treatments when the pain that you are trying to treat is decreasing.
- b. Quick results are possible for some indications (i.e. migraine, depression, small reduction of back pain) but for certain chronic diseases where the patient has been suffering significant pain for many years, these will take time to realize the significant improvements (2 months, 3 months using every day). QRS-101 is not a wonder machine which takes away all the chronic pain in 1 or 2 sessions. QRS-101 helps the improvement of the body and thereby helps that the body starts "curing" itself.

3) Installation:

- a. The QRS-101 home mat can be used by the customer on every location that he/ she wishes. Most customers install the QRS-101 home mat into the bed, directly under the sheets. In this way it is more easy to use the mat directly before sleep and directly after wake up.
- b. Do NOT use the QRS-101 in close proximity to another electrical device. I.e. do not use within 1 meter of an electrical heater or an electrical air-conditioning unit or do not use on your bed together with an electrical heater. QRS-101 system uses pulsed magnetic field therapy under patented frequencies. Other electrical systems will have an influence and can disturb these pulsed frequencies. For example if the QRS-101 is used within 1 meter of the electrical heater then this can alter the magnetic field from a pulsed magnetic field into a static magnetic field. And the efficacy of static magnetic fields is not so good as the effectiveness of QRS-101 pulsed magnetic fields.
- c. Also, it is preferred to not use the QRS-101 in a bed with iron or with other metals which have magnetic or paramagnetic properties.
- d. Additional notes:
 - i. You can use the full body mat on both sides. There is no 'up' side or 'down' side. The mat can be flipped over and used on either side. The pulsating magnetic fields go in both directions.
 - ii. Put the mat on a surface where the mat will not bend, indent or deform from being flat. The copper coils inside the mat must not be bet. Be careful with folding the mat. Transport the mat using the travel bag that has been designed for this purpose.



- 4) Wellness and Medical: The QRS-101 system can be used both for Wellness purposes, as well as, complementary to other treatments, for medical purposes.
- a. For Wellness purposes the QRS-101 is very effective in relaxation, in reducing stress and in promoting sleep for persons who have difficulty sleeping. It is recommended to use the Full Body Mat at Frequency Program “RELAX” and use lower intensities (between level 0 and level 5). See further details later in this document. There is no health risks with QRS-101 but there are some important “contra-indications” for which it is important to first consult your doctor. And there are some notes in relation to “how to use QRS-101 in case of high blood pressure”. Please refer to these paragraphs in this document. Basic attention point to note is that Relax-Sensitive program for first time users it can lead to an increase rather than a decrease of blood pressure during and immediately after the 1st treatment. Please see separate paragraph on Blood Pressure.
 - b. For Medical purposes, please note that the QRS-101 has been certified as a Medical Device, according to the European Medical Device Directive. Despite the fact that there are hundreds of clinical trials available in relation to different indications (for example early rehabilitation after stroke), QRS, like all medical/ pharmaceutical solutions, does NOT make any medical claims in relation to that “QRS-101 is able to CURE...”. Also, note that QRS-representatives will never advise a patient to stop a treatment that was prescribed or recommended by a doctor. Instead, QRS-101 is most effective when it is used complementary to other treatments. In particular QRS-101 is very effective when used in combination with homeopathic medicine & nutrients (for example “Magnesium”).



5) What is the key effect of QRS-101:

- a. QRS-101 works in various ways. Some of these ways is very technical and difficult to explain. QRS therefore prefers to focus not on “how QRS-101 works” but instead of its effects (“what are the results of QRS-101 treatment”). As stated above, QRS-101 does not make medical claims in relation to curing of diseases but QRS does claim the following:
 - i. QRS-101 strongly improves the “**micro-circulation**”. Blood becomes thinner. Blood takes up more oxygen. Blood pressure reduces. Cholesterol reduces. Calcium-magnesium improves. Ph Value improves. And Capillaries dilate (because of Nitric Oxide).
 1. How does it realize this?
 - a. Key function of your blood is to transport oxygen from the lungs to the cells/tissues; and to transport/remove the CO2/toxics from the cells back to the lungs.
 - b. The older we get we have two key issues with our blood circulation:
 - i. Blood becomes thicker. Red blood cells ‘glue’ together and this reduces the amount of oxygen that the cell can bind to. Also, if blood gets thicker it is getting more difficult to flow through all the 40 billion capillaries.
 - ii. Capillaries get more narrow. Capillaries lose their flexibility. Partially because of calcium deposits. The result is that it becomes even more difficult for the blood to flow through the capillaries. The result is that the blood flow is no longer able to reach all the cells and tissues and deliver oxygen and remove toxics. The result is that cells and tissues start to lose energy and become sick, and, in the total absence of oxygen, will die.
 - iii. Each Red Blood Cell (a human being has about 20 to 25 trillion red blood cells) consists of 4 Iron atoms. These atoms are responsible for binding with oxygen and with CO2.
 - iv. QRS-101 is magnetic therapy. As soon as you start the QRS-101 system, all the iron atoms are triggered. The red blood cells become loose from each other. The blood becomes thinner. A person is now able to breathe in more oxygen. This effect is realized within 8 minutes and will last 6 to 10 hours. This is also why it is normally recommended to only do 8 minutes of treatment. The blood flow will not further improve after 8 minutes.
 - v. In addition, QRS-101 Magnetic pulses have a direct effect on the ‘electrolytes’ in the water contents of the human body. The most important electrolytes are sodium and potassium as well as calcium and magnesium. These electrolytes have a very important role. In order to increase the effectiveness of the QRS-101 treatment it is recommended to always drink some extra water before the start of the treatment, if possible taken with some magnesium.
 - vi. The other effect of QRS-101 is that it helps ‘dilate’ (= widen) the capillaries. This is caused by a technical process via Nitric Oxide.
 - vii. The combined effect of the improved oxygen intake and dilation of the capillaries is a much improved blood flow. With the QRS-101 all the cells and tissues get new oxygen which is the driver for metabolism and increase of oxygen and the cells are able to restore or prevent the diseases.
 - ii. **QRS-101 improves delivery of oxygen and nutrients to the cells.**
And at the same time **QRS-101 helps in removing CO2 and toxics from the cell.**
The result is an improved “**Metabolism**”.
 - iii. QRS-101 does lead to reduction of **Chronic Pain**
 - iv. QRS-101 is 100% safe and has **no negative side effects**. The system has been sold in Europe and USA > 300.000 times since 1990 to private customers without doctor prescription and no negative side effects have ever been reported. The intensity of the magnetic field is extremely low (intensity level 10 = only 30 micro tesla). The frequencies used are extremely low (basic frequencies are the natural Alfa, Theta, Delta frequencies of the brain = lower than 20 Herz)
 - v. Contra-indications. See separate paragraph



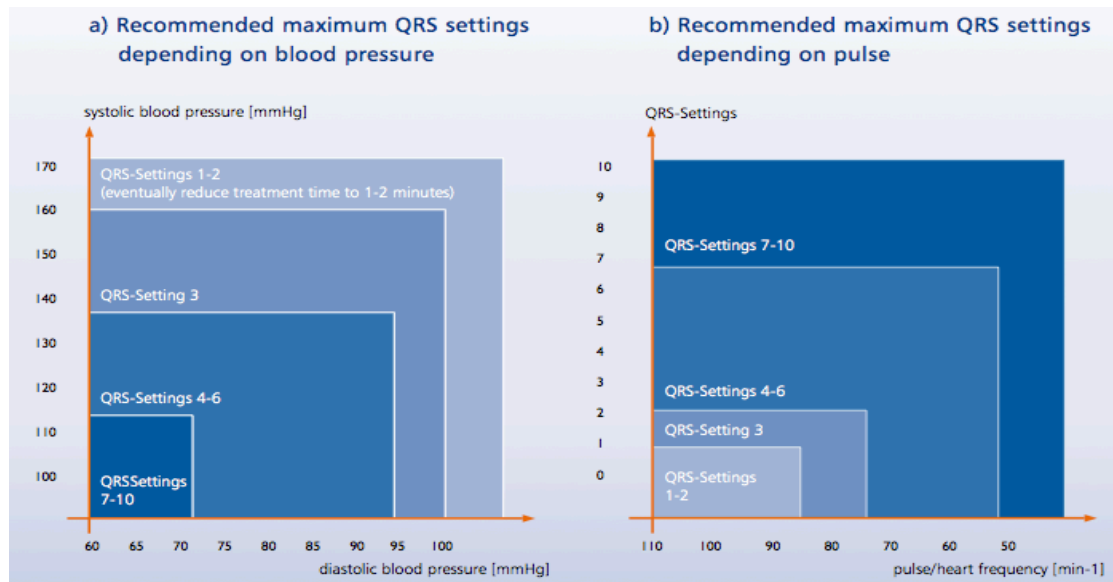
6) Key notes on Blood Pressure

QRS-101 can be used as a complementary tool to help reduce blood pressure. But it is important that the correct protocol is used and correct settings are used.

- a. New customers must always start slowly with the QRS-101 system.
 - i. Despite the fact that most people normally do not “feel” the magnetic fields of the mat, despite this fact the impact of the QRS-101 must not be underestimated. So always start slowly. For a new customer who has high blood pressure maximum 8 minutes on the full body mat. And start at lower intensities (BASIS level 1 or 2). After your body gets used to the treatments you can in further settings increase the intensities or duration or use another program (relax or vital).
- b. During the QRS-101 treatment the Blood Pressure can increase a little bit.
 - i. Remember that QRS-101 has various biological effects. One effect is the strong improvement of the micro-circulation and the metabolism and energy production. Immediately after the start of the treatment all your body cells start producing energy (“ATP = Adeno Tri Phosphate, which is the energy of the body). Even at low intensities the treatment of 8 minutes can be compared to a walk/ exercise of 2 hours. Often for new persons the blood pressure during the treatment can increase a little bit. This is normal and this is comparable to a person doing intensive exercise (jogging). The positive effect of blood pressure reduction will happen after the treatment (or after the intensive physical walking exercise).
- c. Effects of structurally reducing BP will happen after regular use of QRS-101.
 - i. One treatment will normally show a positive effect (when measured a few minutes after the QRS-101 treatment and when using the correct settings) but the real improvements will become noticeable only after continuously using the QRS-101 system for a 1 up to 3 months (2 times per day 8 minutes). This is also comparable to physical exercise. Untrained persons need to start slowly and then after continuing to do the exercise everyday their blood pressure is starting to reduce significantly.
- d. Start with BASIS LEVEL 1 for 8 minutes:
 - i. So when you are a first use customer with high BP and you want to focus specifically on blood pressure reduction then it is advised to start slowly with the mat and use the full body mat 2 times per day for 8 minutes at low intensity (Program “BASIS”; intensity level 1 or 2).
 - ii. As a first use customer with high BP we advise you to NOT use RELAX-SENSITIVE. Relax-sensitive is an effective program for relaxation and for preparing for sleep. But for first-use customers there can be a risk that temporarily the blood pressure increases with this program. This is because the body is not yet used to the QRS-101 signal and because the combination of RELAX and SENSITIVE focuses on suppressing the sympathetic nervous system (responsible for ‘fight-or-flight’ behaviour). Now for a first time user the body is not used to this signal and it can try to ‘resist’ this suppression. For first time users it is possible that after the first few treatments on QRS-101 Relax-sensitive the blood pressure temporarily increases rather than decreases. This is in cases where the body is going to resist the “suppression” of the sympathetic nervous system and fights against it, resulting in increase of BP. This is a temporary effect only (few hours) and only happens at some patients and only happens at the first few treatments. Therefore for customers with high BP the advise is to start using the system for various days at BASIS-Level 1 (8 minutes) and when the body is fully used to the system then for further relaxation you can in the evening use RELAX-level 1 or RELAX-Sensitive. If you wish you can then also use the Relax-sensitive program for longer duration (24 minutes).
- e. Always drink water before the treatment.



- f. Improve breathing technique during QRS-101 treatment:
 - i. Try during the treatment to breathe in more deeper and breathe out more deeper. QRS-101 quickly and strongly improves the capacity of the red blood cells to breathe in oxygen and to breathe out CO₂ and this process is helped if the customer during the treatment is breathing in/ breathing out more strongly. However, do not 'overdo' it.
- g. Ask your doctor for advise:
 - i. In a hospital environment the doctor normally uses the QRS-101 system together with a biofeedback or Hart Rate Variability (HRV) system. This is because the optimal QRS-101 settings are different for each patient and with the HRV system the doctor can monitor already during the treatment what the best settings are (frequency and intensity of the magnetic field).
- h. In case you have high or low blood pressure (over 160/95 or under 100/60), please consult with your doctor before using QRS-101.
 - i. In case of High BP, start using QRS-101 slowly (8 minutes, Basic and low intensities, 1, 2). It is possible that when measured directly after the treatment that the BP increases after the first few treatments. But regular use will result in stabilization of BP at lower levels.
 - ii. In case of low BP, when using QRS-101 at low intensities there is a risk of sudden blood pressure decreases resulting in vertigo or fainting. This is normally a temporary reaction and disappears after 30 minutes and after a few treatments, adaptation begins.
 - iii. Please use the picture below for general guidance on what intensities to use.





- 7) Key notes on Contra-indications:
- Please refer to Appendix 3 of this document.
- 8) Full Body Mat or Local Pillow Applicator:
- The QRS-101 system consists of a Control Unit and a Full Body Mat and a Local Pillow Applicator. The customer can optionally also buy a pen applicator (for example to treat the joints in the hand; or to treat the acupuncture treatment points) or an Eye Applicator or Ear Applicator (for Tinnitus).
 - Always start every treatment first with the Full Body Mat. 8 minutes is enough. This is important to ensure strong improvement of the blood circulation and general well-being first. Normally the Full Body Mat is used at low intensities (between level 0 = Sensitive to level 5 = Medium). High intensities is not always better. Very often the best results with the Full Body Mat are realized with only low intensities. See further.
 - After the 8 minutes Full Body Mat use the Local Pillow Applicator in case you are suffering from local pain. For example neck pain or back pain or pain in the knees. Now, depending on the type of pain you can use higher intensities (between level 5 and 10 = Intensive) and also use for longer period (24 minutes or much more).

9) **Always Drink Water before QRS-101 treatment and if possible also take Magnesium**

- Drinking water before the treatment strongly improves the effectiveness of the treatment.
- It is recommended to drink electrolyte water: Will increase hydrogen ion transport
- Drinking water will avoid cramps and will help with removal of toxins.
- Sometimes a customer can feel a little bit dizzy after the first treatment with QRS-101. This normally only happens after the first treatment and only when the customer has not drunk enough water.



- 10) Operating the QRS-101 system is SIMPLE. There are only 3 buttons you have to choose. You can use the Treatment Settings for advise on which buttons to choose for what disease:
- Frequency Program (Relax, Basis, Vital).
 - Intensity of the Magnetic Field (level 0 = Sensitive; level 5 = Medium; level 10 = Intensive)
 - Duration of the treatment (8 minutes or longer)
 - Also, before you start you must double check on whether the Full Body Mat is working or the Local Pillow Applicator. You can check this by clicking on the “A/B” button (see below).
 - After clicking the above buttons then you can click on “Start” and the program starts.



- 11) Points of Attention: 3 things that can go ‘wrong’:
- a. If your objective is to manage your blood pressure, QRS-101 can be used very effectively. But it is important that the right settings are used (intensities/ frequency program). Please refer to separate paragraph in this document.
 - b. Check whether the Full Body Mat is working or the Local Pillow Applicator.
 - i. Explanation:
 1. Only one of these applicators can work and the two applicators do not work together at the same time. It happens often that a customer is lying on the mat but instead the local pillow applicator is working or vice versa.
 - ii. How can you check whether Full Body Mat or Local Pillow Applicator is working?
 1. The mat and the pillow applicator have a green light. If this light works then this is an indication which of these two is working.
 2. Check by clicking on the “A/B” button. In the screen you will see which applicator is active. The Full Body Mat or the local pillow applicator. If you click 2 times on the “A/B” applicator then it changes to the other mat etcetera.
 3. Measuring the intensity of the magnetic field with a simple magnetic field tester.
 - iii. How to avoid that you use the wrong applicator
 1. Learn to check everytime before you start the treatment by clicking on the A/B button.
 2. More easy: just take out one of the applicators from its connection to the Control Unit. If there is only one applicator connected then QRS-101 will automatically use this one.
 - c. The Magnetic field intensity on the right hand side of the controller does not have only 3 possibilities (sensitive/ medium/ intensive) but instead it has 11 different levels. See the treatment settings. Often these settings ask for intensity level 5 or 6. But you only see 3 buttons. It is important that you learn how to find the 11 different intensities. Level 3 does NOT mean ‘intensive’ but it means the intensity which is in between “sensitive” (level 0) and “medium” (level 5).
 - i. There are thus 11 different intensities on the QRS-101 machine. However, there are only 3 buttons (Sensitive; Medium; Intensive). Please press on button “Medium” for 2 seconds and then you can change to other levels.
 - d. Please see the table below for the different intensity levels and their strength in Microtesla. Table shows that intensity “Sensitive” is only 0.3 microtesla and intensity 10 only 30 microtesla. Comparison: Earth Magnetic Field has an intensity of 50 microtesla.

Level	Mat (µT)	Pillow (µT)	Pen (µT)
sensitive	0.3	0.4	0.15
1	3	4	1.5
2	6	8	3
3	9	12	4.5
4	12	16	6
5 medium	15	20	7.5
6	18	24	9
7	21	28	10.5
8	24	32	12
9	27	36	13.5
10 intensive	30	40	15



- 12) About the duration of the treatment:
- a. When using the Full Body Mat, 8 minutes is normally enough for realizing the effect of improved blood circulation. If patients are suffering from back pain or other pain then a higher duration can be used (for example 25 minutes or even more). Standard recommendation is that every person uses the system 2 times or 3 times per day for 8 minutes to maximum 16 minutes. The effect of improved microcirculation normally last for 6 to 8 hours.
 - i. Please note that there is NO risk in using the system for a longer period. The QRS-101 system is 100% safe. Even if you use it 24 hours per day for 365 days per year. However, the optimal effects that the full body mat has on the blood flow are realized already after 8 minutes.
 - ii. Also please note that if your objective is to reduce blood pressure then we recommend in the beginning to use the system only 8 minutes and we advise you not to be too ambitious in wanting to do 16 or 24 minutes. Especially in the beginning of using QRS-101 with Relax-Sensitive there can be a temporary increase in Blood Pressure rather than reduction.
 - b. For patients suffering from serious chronic pain it is recommended to use higher duration.
 - i. Normally this longer duration is done with the local pillow applicator (instead of with the full body mat) and focused only on the spot of the pain. You can use for example 3 times per day at 24 minutes. But if you wish you can also use longer. People who have recently broken their bones normally use QRS-101 for several hours. You can set the exact time by clicking for 2 seconds on the “16 minute” button.
 - c. Summary: “more is not always better”. “higher intensity is not always better”. The best results with the QRS-101 are realized by using the full body mat 2 (or 3 times) per day for 8 minutes each (or maximum 16 minutes) at low intensities. Although there is no health risk it is advised not to use the full body mat longer than 1 hour per day in total. Theoretically it is possible for cells to get adjusted to the electromagnetic fields when you ‘overdo’ the treatment and thereby after a longer period resulting in reduced effectiveness. If you are in serious pain, then (after using the 8 minute full body mat at low intensities) switch to the local pillow applicator and use higher duration and higher intensities. In case of serious pain you can use the local pillow applicator for longer duration, for example after a broken bone you can use the local pillow applicator a few hours per day.
- 13) About the Intensity of the Magnetic Field:
- a. The intensity of the Magnetic Field is set via the buttons on the right (sensitive/relax/intensive). Please note that “higher intensity is NOT always better”. Very often the best results are realized at lower intensity (especially in relation to cardiovascular and blood flow related issues), except for the situations of local serious pain and bone related issues (i.e. osteoporosis) where the higher intensities are important.
 - b. Please check the Treatment Settings document for advise on which settings to use.
 - c. In case of doubt and you do not know what program to choose, the use BASIS – MEDIUM (intensity level 5)
 - d. Normally, for Cardiovascular related diseases please use an intensity between level 0 and level 5 (Medium). Especially for patients suffering from high blood pressure. You can also see this in the Treatment Settings.
 - e. Normally, only use higher intensities (level 6 to level 10) for:
 - i. In case of serious PAIN
 - ii. In case of BONE related issues, i.e. Osteoporosis (requires level 10)
 - iii. In case of INFLAMMATION related issues. Higher intensities (level 6 to level 10) reduce the release of Nitric Oxide and thus reduce the inflammations.
 - f. Additional remark:
 - i. In general, the older you are, the longer your health has been compromised, the more fatigued you are, the thinner you are and the more nervous you are, the lower the intensity you should use the whole body mat.
 - ii. In general, the younger you are, the more athletic, the more recent the onset of an illness, the better balanced, or the larger you are in the body type, the higher the intensity you can do.



- 14) About the Frequency Programs (Relax ; Basic ; Vital)
- In case of doubt and in case of treating medical conditions use BASIS.**
 - You can use RELAX when, in addition to treating the medical condition, you also want to relax and reduce the stress. Normally QRS doctors often recommend patients/ customers to use RELAX in the evening. It strongly helps and improves with sleeping (especially when also used at low intensities, i.e. level 0, 1, 2 or 3). It is recommended to use RELAX in evening times. RELAX uses extremely low frequencies and these frequencies push your brain to follow the same frequencies and thereby you very quickly fall asleep. People with sleeping problems will notice already in the first treatment that the results of QRS-101 at HOME (in your bed) are fantastic. However, in situations of treating diseases it is not recommended to use RELAX during the day. The focus must be on BASIS and in some situations VITAL. Do in the beginning not overdo with the RELAX-Sensitive program. 8 minutes is normally in the beginning enough for the positive effects.
 - Use VITAL only in the morning and when you are treating older people with very low energy. If you use VITAL please note that you will feel that you get more energy. Vital uses somewhat higher frequencies. Do not use VITAL during evening time because it will keep you awake for a few hours.
- 15) Local pillow applicator:
- Patients are advised to use the local pillow applicator for local pains. For example back-pain; neck-pain; knee-pain.
 - In all these cases it is advised to:
 - Always drink WATER before start of QRS treatment. Water with electrolytes/ minerals (i.e. calcium, magnesium). If patient wishes to take in some supplements one of the best supplements which works very well with QRS-101 is Magnesium.
 - First use the full body mat for 8 minutes. To ensure better blood circulation throughout the whole body. In general use LOW settings on the full body mat (level 5/ Medium or Lower)
 - After that, use the local pillow applicator for local pain. Please note:
 - Now higher intensities can be used (up to level 10)
 - Now duration can be increased (25 minutes, one hour, if desired even more).
- 16) Summary: when to use QRS-101?
- For Wellness purposes:
 - Improve Micro Circulation. Improve delivery of oxygen to the cells & tissues. Improve Metabolism of the cells (= increased energy), improve removal of CO₂ from the cells.
 - Relaxation & improved sleeping
 - Reduction of chronic pain
 - All diseases where you need oxygen (and improved blood flow) for ‘repair’ you have to use QRS-101 as complementary medicine.** For example:
 - Cardiovascular (arrhythmia; high blood pressure)
 - Migraine/ headache
 - Improve symptoms after stroke or symptoms of Morbus Parkinson
 - Diabetic ulcers, gout, back pain, joint pain, muscle injuries, erectile dysfunction, sleeping problems.
 - Please check the “Treatment Setting brochure for list of diseases and how to treat those diseases”. QRS is Evidence Based Medicine and in last 25 years has carried out hundreds of clinical trials. Please refer to book with hundreds of clinical trial explaining how QRS works in treating a lot of different chronic diseases.
 - QRS-101 is **complementary** medicine. If doctor prescribes certain medication then please continue. If homeopathic doctor prescribes certain vitamins or minerals then with QRS the effectiveness of these vitamins/ minerals is increased because QRS ensures that the minerals are delivered to the cells that need it and are also taken up by the cells that need it.



Appendix 1: Quick Start

Step 1:
Connect the power cable and connect the Full Body Mat and the Pillow applicator on the QRS-101 Control Unit.



Step 2: Put on the QRS-101 system via the ON/OFF button.



Step 3: Click on A/B and select which applicator you want to use. Note that only one applicator can work at the same time. In case of confusion please remove one of the mats.



Step 4: Select on the left side one of the 3 Frequency programs (in case of doubt use „BASIS“)



Step 5: Select the duration of the treatment (8, 16, 24). Click 2 seconds on the button in order to select another duration



Step 6: Select the intensity of the magnetic field Note that there are only 3 buttons but there are 11 different intensities! (click 2 seconds on Medium to adjust)



Step 7: Click on „Start“



Step 8: Check whether the mat is working by checking the green light (important: only one mat can work at the same time!)





Appendix 2: HOW does QRS-101 realize improvement of blood flow

Appendix 2.1 Introduction

This appendix describes the process of how QRS-101 helps as a complementary treatment in improving the micro-circulation (“blood flow in the capillaries”) and as a result of that the improvement in breathing in more oxygen and metabolism.

The contents of this appendix are as follows:

- 2.1 Introduction
- 2.2 Summary
- 2.3 Detailed description
- 2.4 Flowchart
- 2.5 Example picture of blood BEFORE QRS-101 and after 8 minutes QRS-101



Appendix 2.2 Summary explanation of how QRS-101 improves blood flow

- A. The key function of Blood is to:
- 1) **TRANSPORT oxygen** from the lungs to the cells/ tissues (where the oxygen is needed for metabolism process resulting in Energy with by-product CO₂); and to
 - 2) **TRANSPORT CO₂** back from the cells/ tissues to the lungs.
- B. Responsible for the key function of transportation are the Red Blood Cells (erythrocytes) and in particular the **Haemoglobin (=Hb)** molecule of the red blood cell. Each Hb molecule consists of 4 Iron Atoms (Fe²⁺). **Each Iron Atom (Fe²⁺) binds with 1 oxygen molecule (O₂)**. And is also able to bind with CO₂.
- C. When people get older, there is typically 2 important changes in the blood circulation:
- When people get older, very often the blood gets thicker (viscosity). This means that the red blood cells are sticking together (this is called the “**Rouleaux effect**”). This means that the total superficial area of the red blood cells which can bind with oxygen decreases. The result is that when people get older, then they breathe in less oxygen and less oxygen is transported via blood to the cells and tissues.
 - Another important point is that, normally, when people get older the capillaries start to narrow. The capillaries lose their elasticity, become hardened by calcium and other deposits. The result of this is that the blood does no longer flow so easily through all the capillaries and is not reaching all the cells and tissues. This leads to reduction of cell metabolism.
- D. Now, when you use QRS®. QRS-101 uses Pulsed Electro Magnetic Field technology. A changing magnetic field is created which constantly changes (north-south) in line with the frequency pattern used (frequency = number of cycles per second). The **iron** atoms of the red blood cells attract to the **magnetic** fields which are created by QRS®. The constantly changing magnetic fields means that all the red blood cells start to come apart. The viscosity of the blood improves which means that blood gets thinner and more red blood cells are now able to breathe in oxygen.
- E. In addition to oxygen, the hemoglobin molecule (Hb) also carries the important regulatory molecule nitric oxide, releasing it at the same time as oxygen. Nitric oxide has various important functions for the human body. One important function is that it leads to dilation of the capillaries. Thus QRS-101 leads to dilation of the capillaries. The combined result is that the thinner blood is now carrying more oxygen through wider capillaries and is able to reach all the cells and tissues in the human body that need oxygen for their metabolism process. In other words: the hemoglobin carries oxygen from the lungs to the rest of the body (i.e. the tissues) where it releases the oxygen to burn nutrients to provide energy to power the functions of the organism, and collects to resultant carbon dioxide to bring it back to the respiratory organs.



Appendix 2.3 Detailed explanation

- 1) Blood. The key function of blood is to:
 - a. Transport oxygen from the lungs to the cells and tissues
 - b. Transport CO₂ (waste product from metabolism process) from the cells/ tissues back to the lungs

- 2) The human blood (about 5 liters) consists of:
 - a. Plasma
 - b. Red Blood cells (erythrocytes)
 - c. White blood cells (leukocytes): help to fight infection
 - d. Platelets/ thrombocytes: part of cells that the body uses for clotting

- 3) Red Blood Cells are the key cells responsible for TRANSPORT of oxygen.
 - a. Some interesting facts about Red Blood Cells:
 - i. Red blood cells account for 40%- 50% of the blood (=hematocrit level)
 - ii. An average human being has about 20 to 25 trillion (= 25.000.000.000.000) Red Blood Cells. This is about 25% of the total number of cells that a human being has.
 - iii. Ratio of Red blood cells to white blood cells is 600 to 1
 - iv. Red blood cells develop in the bone marrow and circulate for about 100-120 days in the body before their components are recycled by macrophages. Each circulation takes about 20 seconds.
 - v. Red Blood Cells consist mainly of water and of Haemoglobin (Hb).
 - 34% of the Red Blood Cell consists of water.
 - When only looked at the dry content (excluding the liquid mass) hemoglobin makes up 90% (Wikipedia: 97%) of the red blood cell.

- 4) Haemoglobin: Red Blood Cells contain Hemoglobin (Hb), a molecule specially designed to hold oxygen and carry it to the cells that need it.
 - a. Some interesting facts about Haemoglobin:
 - i. The weight of the total hemoglobin in average human being is about 0.8kg. This 0.8 kg can hold about 1.12 liter of oxygen.
 - ii. Haemoglobin is also responsible for the red color of blood. Red blood cells mainly consists of water. 34% of the red blood cells consists of haemoglobin. When only looked at the dry content (excluding the liquid mass) hemoglobin makes up between 90% and 97% of the red blood cells.

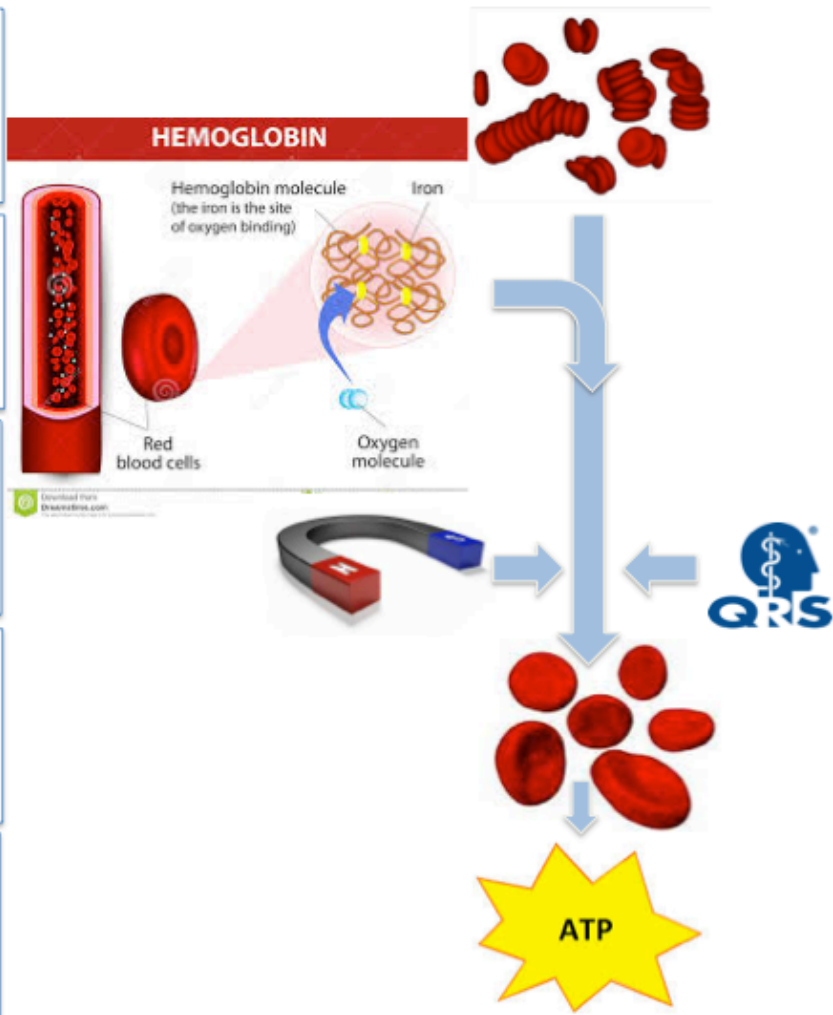


- 5) Each hemoglobin molecule (Hb) contains 4 iron atoms; each iron atom can bind with one molecule of oxygen (molecule O₂ which contains 2 oxygen atoms O). More specific:
- a. Hb consists of:
 - i. the protein Globin
 - = polypeptides: large nr
 - ii. the heme (“Häm”).
 - This “Heme” is relevant for the binding of oxygen. Each heme group contains one iron atom (Fe²⁺) that can bind one oxygen molecule through ion-induced dipole forces. The most common type of hemoglobin contains 4 such subunits.
- 6) How do Red Blood Cells remove CO₂?
- a. CO₂ is formed in the cells as a byproduct of many chemical reactions. It enters the blood in the capillaries and is brought back to the lungs and released there:
 - 23% of CO₂ combines directly with hemoglobin.
 - 70% is removed as follows: CO₂ combines with H₂O (water) forming a carbonic acid (H₂CO₃) which then separates into hydrogen ions (H⁺) and bicarbonate ions (HCO₃⁻). HCO₃⁻ goes into plasma. H⁺ combines with hemoglobin.
 - Note that hemoglobin also carries the important regulatory molecule nitric oxide, releasing it at the same time as oxygen.
- 7) Other interesting facts:
- a. Hb is normally red when oxygen is bound. And it turns blue/ purple when oxygen is not bound. This is why blood is red in the arteries and blue in the veins. This explains the purplish color that tissues develop during hypoxia.
 - b. Oxygen is only bound weakly to the Fe²⁺ atoms of haemoglobin (Hb). This is important because it needs to be able to pop on and pop off the iron when it is needed. Other toxic substances such as CO (carbon monoxide) and CN⁻ (cyanide) bind more strongly to the iron atoms. Increased oxygen levels in the blood can help remove these toxic substances from the Haemoglobin (Hb).
 - c. Oxygen (O₂) binding is pH dependent. When the blood is more acidic (low pH value due to high level of CO₂ which is the waste product of the metabolism process) then the oxygen is released more easily from the iron atoms and the iron atoms then bind with the CO₂ which it transports out of the body. The result is that the pH value of the body is stabilized to its normal values. Thus, indirectly and only after more treatments with the QRS-101 system, the acidity level of the blood improves.
 - d. In other words: there is more oxygen delivery to cells/ tissues where there is a lot of CO₂. For example in the muscle cells where there is high metabolism (“Bohr” effect). Conversely, in the lungs there is more delivery/ removal of CO₂ if there is higher volume of oxygen (“Haldane” effect).
 - e. The increased oxygen intake as a result of using QRS-101 can be measured with a **pulse oximeter**. The pulse Hb O₂ saturation (SpO₂) is an estimation of arterial Hb saturation, SaO₂ and measures the relative absorption (saturation) of the haemoglobin molecule with oxygen in an artery.



Appendix 2.4 Flowchart

1. Red Blood Cells are responsible for transporting oxygen to cells and tissues.
 When people get older, and as the result of various diseases, erythrocytes start to glue together ("Rouleaux" effect)
2. Erythrocytes consist of Haemoglobin
 Haemoglobin (Hb) consists of 4 Iron atoms (FE2)
 Each Iron Atom can bind with 1 Oxygen Molecule (O2)
3. QRS-101 uses pulsating magnetic fields. The changing magnetic fields directly impact the iron atoms.
 And the erythrocytes start to move and come apart
4. Result is that blood gets thinner.
 Blood can flow through all capillaries.
 Erythrocytes can bind with more oxygen.
5. Result is cells and tissues get more oxygen and nutrients. Metabolism of the cell increases (= energy production = ATP)
 Removal by the Hb of the CO2 from the cells & tissues.





Appendix 2.5 Example picture of blood BEFORE QRS-101 and after 8 minutes QRS-101

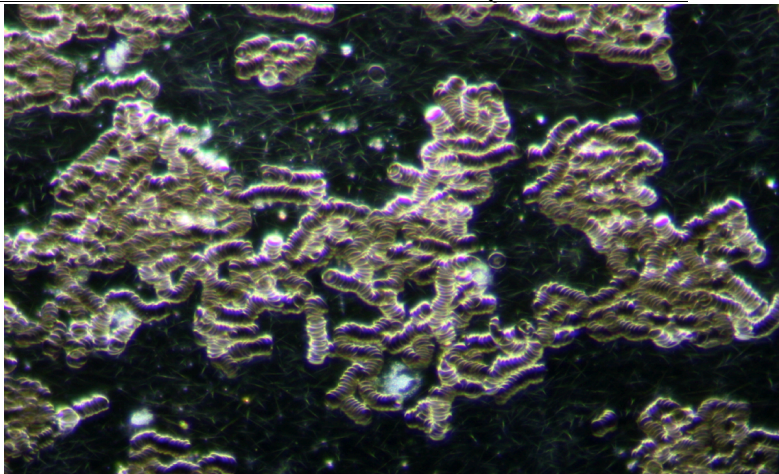
The following pictures have been taken with Live Blood Analysis.
And can easily be reproduced.

Protocol:

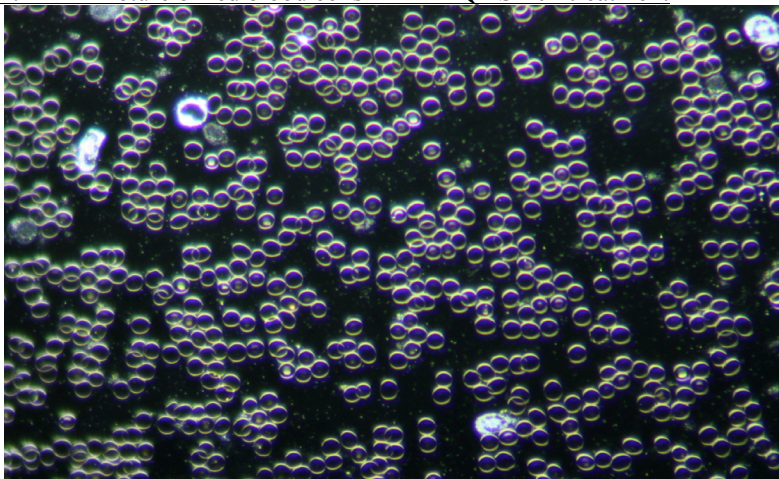
- Take a small drop of blood from the finger and put it under the microscope. What you will normally see is the “Rouleaux” effect. Red blood cells sticking together.
- Do 8 minute treatment with QRS-101
- Take again a small drop of blood from the finger of the patient and put it under the microscope. You will see, without exception, a strong improvement in the red blood cells coming apart, and thus the blood becoming thinner (viscosity).

A subsequent blood test can be carried out after 2 or 4 hours to prove that the positive effect of QRS-101 treatment remains for a couple of hours.

1. Picture of red blood cells BEFORE QRS-101 treatment



2. Picture of red blood cells AFTER QRS-101 treatment





Appendix 3: Contra-indications QRS-101

Key notes on Contra-indications:

- **Pregnancy**
 - Little research is available on the effects of QRS-101 on pregnant women. Given the limited research it is recommended not to use QRS-101 while being pregnant. QRS-101 can be used on small children but always at low intensities and preferably after consulting with a doctor.
- **Active tuberculosis or acute viral diseases.**
 - Please consult first with doctor before using QRS-101. There is a risk that white blood cell count responses be temporarily dampened, resulting in brief flares. QRS-101 will improve blood flow which can cause the risk that the viral disease spreads to other parts of the body.
- **Hyperthyroidism, adrenal gland, hypothalamic and hypophyseal/ pituitary dysfunctions.**
 - Please use QRS-101 only after consultation with doctor. QRS-101 can reduce hyperthyroidism but only when used at the right intensities. If QRS-101 is used excessively at high intensities then there is a risk that these organs might be over-stimulated.
- **Conditions with active bleeding**
 - QRS-101 results in making the blood thinner. If customer is already using blood thinners then there can be an aggravated effect, especially in the case of active bleeding. QRS-101 has strong positive effects with wound healing but it is recommended that first the bleeding is controlled before using QRS-101.
- **Myasthenia gravis.**
 - There are patient testimonials of patients suffering from myasthenia gravis who felt an improvement after using QRS-101. However, in general it is advised to first consult with your doctor in case of myasthenia gravis. There is a risk that QRS-101 may aggravate muscle weakness.
- **Additional notes:**
 - Pacemakers. QRS-101 system uses extremely low intensities (maximum 40 micro tesla) and extremely low frequencies. There is therefore no risk of using QRS-101 in combination with a certified pacemaker. There can be a theoretical risk with pacemakers which are not certified and do not comply with the minimum requirements.



Appendix 4: Additional notes on Oxygen and Water

- 1) Some additional notes on Oxygen:
 - a) Oxygen deficiency is the single greatest cause of all diseases.
 - i) The human body consists of about 65% of oxygen (O₂). Just like a car needs oil for combustion, the human cells need oxygen for metabolism. The initial signs of low oxygen intake are that you start to feel tired, headache, losing energy, weakening of the immune system, depression, dizziness, losing concentration and increase of blood pressure.
 - ii) Hundreds of diseases have their cause in low oxygen including lung problems, acid stomach, heart disease, stroke, fibromyalgia, autisms, back pain, asthma, allergies etcetera.
 - b) A human body consists of about 75 trillion cells and these cells need oxygen for metabolism and producing energy. This oxygen can only be delivered to the cells and the tissues by the blood flow.
 - c) The brain uses about 20% of the oxygen that a human being breathes. As a result, it is often the diseases in the brain where QRS-101 has very positive effects (for example early rehabilitation after stroke).
 - d) There are many reasons for poor oxygenation, including limited exercise ('morning walk'), poor breathing techniques, poor posture, obesity, stress (constriction of blood vessels and capillaries), smoking, poor quality of the air that we breathe, anemia, limited hydration (not drinking enough water), poor quality of the food that we eat and aging (poor micro-circulation when we get older).
 - e) Some doctors argue that the single cause of cancer is a mitochondrial dysfunction caused by the lack of oxygen delivery to the cells. In the absence of oxygen, cells try to survive by fermentation of sugars. Please note that QRS does not make any medical claims and does not claim that it is able to help with cancer. Patients with cancer must at all times visit their doctor for advise.
- 2) Water:
 - a) The human body consists of about 55%-60% of water (children and men more; elderly and women less)
 - b) Blood consists for 85% of water. Muscles consists for 75% of water. Brain, skin, lungs all consist for more than 70% of water.
 - c) The conductivity, the effect of QRS-101 is higher in bodies and in organs which contain a lot of (electrolyte) water (water with electrolytes such as silver, copper, calcium, iron, sodium, potassium, chloride, calcium, magnesium). Electrolytes are substances that become ions in solution and acquire the capacity to conduct electricity
 - d) It is recommended to drink electrolyte water before QRS-101 treatment. Electrolyte water and mineral water have higher pH value and include a lot of minerals/ electrolytes such as sodium/potassium/calcium. QRS-101 has an effect on these electrolytes and helps with the very important process of balancing the nutrients inside and outside of the cells.
- 3) Nitric Oxide:
 - a) QRS-101 has a strong positive effect on the synthesis of Nitric Oxide.
 - b) Nitric Oxide is a very important molecule and is often called the molecule of cardiovascular health. It is a mediator of vasodilation in blood vessels (widening of the capillaries); relaxation of the smooth muscles, regulation of blood flow and blood pressure, reduce inflammation, assist the immune system at fighting off bacteria, renal control of extracellular fluid homeostasis; and for men Nitric Oxide plays an important role in the erection of the penis.
- 4) pH values
 - a) Regular use of QRS-101 (couple of weeks) will stabilize the pH values and reduce the acidity of the blood. High acidity of the blood is often a key indication of many chronic diseases. Customers who want proof that QRS-101 is improving their health are advised to make a measurement of the pH value of their blood before start of QRS-101 and after 3 or 4 weeks of using QRS-101.