

RadioFrequency Treatment

A treatment with pulsed radiofrequency has been proposed to you and this letter is intended to give you some detailed information on the method.

Radiofrequency is a special type of electricity. The electricity that you use at home alternates with a frequency of 50/sec. In radiofrequency that frequency is much higher; it is 500,000/sec. Radiofrequency has been used in the treatment of pain for over 30 years. A special type of needle was positioned near to the nerve causing the pain. This had to be done very accurately using X-ray control to make sure that the effect would be optimal. Radiofrequency current was then sent through the needle and this caused heating of the needle tip. This caused some damage to the nerve, just enough to relieve the pain.

Pulsed radiofrequency is different. It uses the same type of electrical current but the current is not applied continuously but in short bursts. When this technique is used the trip of the needle does not heat up and there is no destruction of the nerve at all. What happens is that the nerve reacts to the electricity by changing its behavior. This is sufficient to relieve the pain. As we look at it now this has been the working mechanism of radiofrequency in the past just as well.

Before doing the treatment we must of course know which nerve to treat best. This is done by so-called diagnostic blocks. A diagnostic block is a very precisely located injection with some local anesthetic. If the nerve is injected that causes your pain, the pain will go away for a period of up to a couple of hours. If a nerve is injected that has nothing to do with your pain, there will be no effect. The injection may cause numbness or weakness in your leg or arm; this will go away when the local anesthetic stops working. At that time the pain will probably come back too. It just may even be worse for one or two days.

Your cooperation following a diagnostic block is of course very important. You are the only one who can tell us whether or not the pain goes away. Try to make some movements that are normally painful or press on a normally painful spot, this will make it easier for you to tell us something meaningful about the result. We may also examine you again to see whether or not painful spots are still present. You must realize that diagnostic blocks are done to get information about the structure of the spine or about the nerve

that causes your pain. The block does not predict what the result of treatment will be. As mentioned above the mechanism of radiofrequency is completely different from the mechanisms of local anesthesia.

When we are satisfied about the proper diagnosis the actual treatment will follow. This is usually done on another day, because treatment is not possible while the nerve is still numb from the diagnostic block. This is because for treatment we are even more precise in localizing the needle. In most cases we are not content with a perfect position on the X-Ray screen, we also verify the proper position by stimulation. A small current is applied to the needle and this will cause a tingling sensation. It is important that you fully cooperate at this stage and that you let us know the first moment when you notice this. We need to know at which intensity of the current you just start feeling the sensations. That way we shall know how close we are to the nerve.

The actual treatment with pulsed radiofrequency may exceptionally cause very faint sensations or some muscle contractions. Please let us know if there is any unpleasant sensation. In the majority of cases the treatment is not noticed at all. Injections of local anesthesia is generally unnecessary so there is not numbness in leg or arm like after a diagnostic block.

Some words on what you can expect next. As said pulsed radiofrequency changes the behavior of the nerves but this takes time. During the first four weeks following treatment anything may happen. On one side of the scale you may be free of pain immediately after treatment and remain free of pain. On the other side you may have to go through a couple of weeks of increased pain before you reap the benefit. We have no explanation for these differences. Also there is no predictive meaning. You may feel great the first days and have a disappointing end-result and the other way around.

For this reason the first appointment after treatment is usually made after four weeks. What will happen next depends entirely on the result of your treatment. The spine is a very complicated structure and it is well possible that you may need additional treatment. If that is the case we shall have to wait another four weeks before we know the final results. Radiofrequency treatment may therefore be extended over several months. We regret that, we would like to have results as soon as possible too. There is just no way we can hurry nature.

Hopefully you will have a good result at the end of treatment. A thing you should know is that at some stage the pain is likely to come back. That is because of the mechanism of pulsed radiofrequency. The change in behavior of the nerve is not permanent. When no more electricity is applied to the nerve, it gradually slips back into its original state and the procedure will have to be repeated.

The duration of action is very different individually. In the majority of patients it is between four months and several years.

Will the treatment be painful? Generally not and there is much that you can contribute yourself to your own comfort. The initial needle stick is a very superficial one and therefore it is not really painful. Then comes the stage that the needle is advanced to the nerve. This is like playing golf, trying to get to the nerve with as few changes of direction as possible. If you relax your muscles, the number of changes will be small and you will have less pain. If you tense your muscles, you should know that we are David and you are Goliath. Your muscles are so strong that our very thin needles will be displaced completely. We then have to start from hole nr. 1 again. This adds greatly to your discomfort. A second moment where you can help us in your own interest is when the needle approaches the nerve. We know when this is about to happen and we move the needle very slowly at this stage to avoid any pain. If you let us know as soon as you feel some slight sensation away from where the needle is you save yourself discomfort and you will help us greatly.

Are there any complications? The method of pulsed radiofrequency to the best of our knowledge has no complications. It is a harmless, non-destructive method. This is not to say that complications are totally impossible. Sticking a needle into a human body may cause bleeding around the needle for instance. In practice that is very, very exceptional but even so we have to tell you. It is therefore essential that you let us know if you are on anticoagulant therapy or if you take aspirin regularly.

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