

INFORMATION FOR PATIENTS

The gate control theory of pain

The way in which we experience pain is very complex. All sorts of factors influence our experience, including our thoughts and feelings.

For example, you will probably be aware that there are times when, even though you have pain, you are only dimly aware of it. This may happen when you are really engrossed in doing something interesting or having to face a situation which demands all of your attention. A very good example of this is the stories you might have heard about wounded soldiers who, despite being seriously injured, will continue in battle and not really be aware of much pain until the danger has passed.

On the other hand, you will probably be aware of how, in some circumstances, your pain can feel much worse. Indeed, you may find that the more you think about your pain, the worse it can feel.

Nerves from all over the body run to the spinal cord, which is the first main meeting point for the nervous system. In the spinal cord, you might imagine a series of gates into which messages about pain arrive from all over the body.

These gates can sometimes be much more open than at other times. This is important because it is through these

gates that messages from your body pass towards your brain. If the gates are more open, a lot of pain messages pass through to the brain and you are likely to experience a high level of pain. If the gates are more closed, fewer messages get through and you are likely to experience less pain.

So, what are the factors that make a difference to how open or closed the gates are?

Factors that open the gate

There are three main ways in which the gates to pain can be made more open, so that the pain feels worse. These are to do with how we feel about things, how we think about things and what we are doing.

1. Stress and tension

All sorts of emotional states can lead to the gates to pain being more open. These include being **anxious, worried, angry** and **depressed**. Having a lot of tension in the body is a common way of opening the pain gates.

2. Mental factors

One of the most effective ways of opening the gates and increasing your pain is to **focus all your attention on it**. Boredom can also lead to the pain gates opening.

3. Lack of activity

Another factor that seems to open the gates to pain is to not move around, to have stiff joints and to lack fitness.

Factors that close the gate

In the same way as above, the way we feel, the way we think and what we do can all have a part to play in helping to close the gates to pain.

1. Relaxation and contentment

Feeling generally **happy** and **optimistic** has been found to help to close the gates of pain. Also, feeling **relaxed** in yourself seems to be a particularly useful way of closing the gates.

2. Mental factors

Being **involved** and **taking an interest in life** helps to close the gates. Also, if you concentrate intensely on something other than the pain (eg work, TV, book), this can **distract** you from any pain and help to close the gates.

3. Activity

Taking the right amount of exercise, so that you **develop your fitness**, can help to close the gates.

4. Other physical factors

You may also find that for you certain types of **medication** can help to close the gates, as might certain types of **counter-stimulation** (eg heat, massage, TENS machine, acupuncture).

Putting theory into practice

So, how can you apply the gate control theory of pain to you? The best way is to experiment with some of the ideas described above. How might you be able to use the fact that emotional factors can make a difference? Are there ways of becoming more relaxed, for example? What about mental factors? Are there ways you can become more involved in life? Can you use distraction more than you have been doing? And what about physical factors? Could you increase your fitness and activity levels (provided that you don't overdo it)? Might you be able to make more use of counter-stimulation?

Knowing about the gate control theory of pain can give you the opportunity to experiment with what opens and what closes the gates for you. Keep a record of your experiments. For example, you might have two headings "factors that open the gate" and "factors that close the gate". Put what you find into practice. You might not be able to remove your pain, but you might well find that, for at least some of the time, **you can influence just how much the gates are open or closed to your pain.**

Gate control exercise

List below some of the physical and mental factors that seem to open and close your "gate" to pain.

Factors that open my gate to pain

- 1.
- 2.

3.

4.

5.

Factors that close my gate to pain

1.

2.

3.

4.

5.

6.

7.

8.

Further sources of information

Our website: www.sfh-tr.nhs.uk

External websites may be referred to in specific cases. Any external websites are provided for your information and convenience. We cannot accept responsibility for the information found on them. Stating a web address does not imply we endorse a particular site. Neither does not stating a web address imply lack of endorsement.

Patient Advice and Liaison Service (PALS)

The PALS team is available to help with any of your comments, compliments or concerns and will ensure a prompt and efficient service. Contact details:

- King's Mill Hospital **01623 672222**
(out of hours answer phone)
Email: Pals.kmh@sfh-tr.nhs.uk
- Newark Hospital **01636 685692**
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If you need this information in a different language or format, please contact PALS, as above.

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To be completed by the Communications office
Leaflet code: PIL3075
Created: Feb 2012 / Review Date: Feb 2014