Pain Control™

by Thomas H. Budzynski, Ph.D.

- **Explore new and innovative ways to control your pain.**
- **Let GSR 2 Biofeedback guide you to deeper levels of relaxation and mind quieting.**
- **Take control of your pain and your future.**
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- **Developed and field tested at St. Luke Medical Center Behavioral Medicine Associates.**

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Introduction

Congratulations for reading this. As a former engineer I know that many people tend not to read the instructions until all else fails. Let me say at the start that you should be under the care of a physician if you have pain – that's just good common sense.

I left engineering to become a psychologist in the magical 60's and since then I have managed to see a rather large number of chronic pain clients. I have even taken it upon myself to injure my own back about 12 years ago. After "The Injury" in my forties, I had an intermittent very sore back along with radiating pain and numbness down one leg, and I became very aware of the phenomenon known as chronic pain. In the intervening years I have used biofeedback and other techniques to handle the pain and I can now state quite truthfully that I seem to have reached some sort of arrangement with my body where it doesn't need to pain me nearly as much as before. It wants me to exercise at least three times a week and preferably five if I am to lose weight as well. My body also wants me to do some special back exercises each day. Finally, I know how easily my back muscles can tense up under stressful conditions. I try to be aware of that and, if I have to do something stressful such as working under a deadline on the word processor I'll take a break every hour and do 10 minutes of stretching and relaxing. I also keep a device called the "Pro Massager" nearby. It is a curved metal rod with small wooden spheres on the end of various length "branches" and you can use it

to get considerable pressure on sore trigger points or acupressure points ─ it really feels great! You can find it listed under resources at the end of the book. Oh yes, I almost forgot ─ I do at least on period of deep relaxation or meditation each day. If things get really rough I try to get in two of those sessions each day.

When I say a relaxation session I mean a quiet time where I will usually sit in a recliner chair or lie on a bed while I listen to a relaxation, pre-conscious, or hypnotic tape as I let all the tension flow out of my body along with busy thoughts from my mind. At times I will meditate with one of my subliminal tapes that feature an ocean or mountain stream as a background for the meditation (see Resources).

Ok, that's my store, now let's get into some theory and the applications to chronic pain, after which I'll talk about the bases from the processes I've created for you.

We all have felt pain and some of us feel a lot of it on a daily basis. In his book *Mastering Pain,* Dr. RichardSternbach noted that some 73 percent of adults (127 million) had one or more headaches in the previous year. Morethan 56 percent (97.4 million) had back pain, 53 percent (97.2 million) had muscle pain, and 51 percent (88.7 million) had joint pain. Sternbach also found that 12.8 percent or 20.8 million adults reported that they had chronic pain, which they suffered from at least 101 days during the preceding year. Even more amazing according to Sternbach was the fact that the average individual adult lost 23 days a year due to pain.

The estimated lost productivity cost was $55 billion for full-time work. If the cost of disability payments for pain-related problems and the loss of productivity of part-time workers is included the figure comes to $80 billion per year!

Now those figures are shocking but at least it shows you're not alone with your pain. I will say one thing however – whether you go to work with pain or are at home with it, you can learn to control (read that decrease) your pain by carefully reading through this manual, following the instructions contained within it, and then listening to one or more of the CDs each day. I know, you want to get right to the CDs, but trust me, it's extremely important that you read this first.

The Experience of Pain

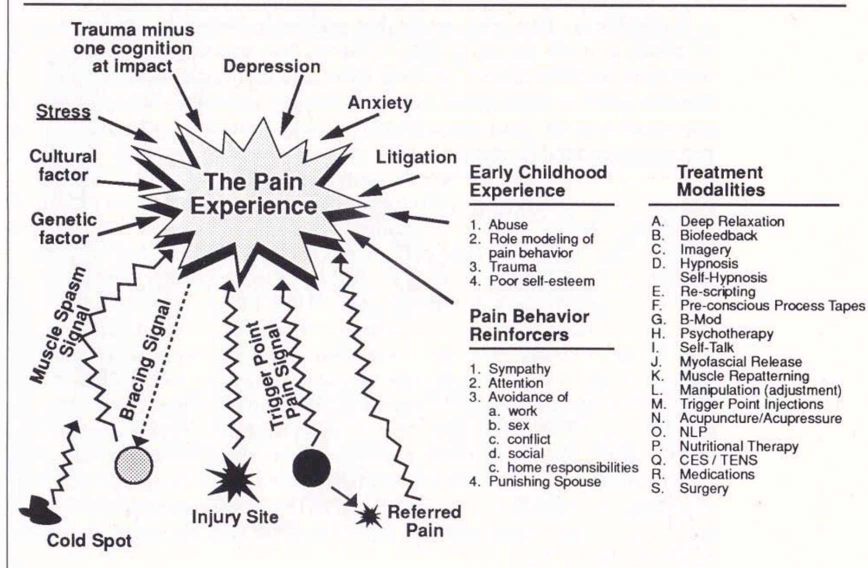
Did you realized that the experience of pain is created in the brain? I know it feels like it's right there at the pain site, but the actual fact is that the feeling of pain is generated up in the brain. There is, for example, a phenomenon called "phantom limb" pain from which a patient with an amputated limb can suffer. He feels pain in his toes for example, when, in fact, he no longer has a leg. His brain is creating the pain and it feels very real to the patient. Yes, the brain can manufacture its own pain sensations even when there is no signal from an injured part, and it can create slight to intense degrees of pain, and, like the phantom limb, it can make the pain feel like it's in a certain part of the body. (It's important to remember this last sentence because it will be pertinent to the later discussion).

So let's look at the Pain Experience diagram now and see if we can make some sense of the whole picture. Begin with the injury site – imagine it's the low back and it sends a signal to the brain that says damage has occurred down here. The brain will now do remarkably complex thing. It will begin to register the pain in consciousness and it will send "bracing" signals down to the muscles surrounding the injury.

The bracing of the muscles is "Nature's splint" and it tends to stiffen the joint until the ligaments, tendons and other soft tissues have healed. As time goes on the brain will also scan back in its memory banks for all sorts of possibly

related events that have been experienced before and which may be relevant now. The famous example of the difference between the soldier's response to a grievous battlefield wound that will send him home and, therefore, possibly save his life, and the response of someone with the same damage caused in everyday civilian life is revealing. The soldier is happy, even joking with medics; the civilian is in shock, unable to speak, devastated by the wound, perhaps moaning or even crying out in pain. The difference is the meaning assigned to each wound. In the case of the soldier, it means I'm going home ─ no more war for me. In the civilian's mind the wound is disruptive, embarrassing, possibly costly, etc., in other words, there is no good outcome in his situation. The point is THE BRAIN DECIDED HOW EACH PERSON WOULD REACT TO THE WOUND DEPENDING UPON THE MEANING OF IT FOR THEM.

Chronic pain, which by the way is defined as pain lasting more than 6 months, it constantly being redefined in your brain, and its meaning, and therefore, it severity, is as well. Everything happening to us is considered in light of our past experiences and the upgraded "pain report" is generated by the brain. Say that on a given day you pain level is a 4 on a scale of 0 to 10, and you get a phone call from a creditor saying that if a certain bill isn't paid in two days that they will resort to legal action. This event echoes back to early scripts about making a mistake and feeling ashamed. You do feel ashamed or angry again. Guess what ─ your pain now feels like a 7 and worsening by the minute. Now let's take this process apart and look at all the factors shown on the diagram.


The Pain Experience
Trauma minus one cognition at impact
Depression
Anxiety
Stress
Cultural factor
Genetic factor
Litigation
The Pain Experience
Muscle Spasm Signal
Bracing Signal
Trigger Point Pain Signal
Cold Spot
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Referred Pain
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B. Biofeedback
C. Imagery
D. Hypnosis
Self-Hypnosis
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F. Pre-conscious Process Tapes
G. B-Mod
H. Psychotherapy
I. Self-Talk
J. Myofascial Release
K. Muscle Repatterning
L. Manipulation (adjustment)
M. Trigger Point Injections
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O. NLP
P. Nutritional Therapy
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S. Surgery

Let's imagine that you had an accident. You had just stopped at an intersection and the driver behind you doesn't see you stop and slams into you. For a split second you saw him coming but there was no time to react. The shock is incredible ─ like your world has suddenly blown apart! For a few moments you are dazed, unable to move. You stumble out of the car in confusion and it is difficult to think. Later, medical tests indicate only tissue damage and you walk out with a stiff, white cervical collar. Your neck aches and so does your head. As a matter of fact, your low back seems to be protesting as well. Some days later the pain seems to worsen. You have trouble concentrating and there are mood swings. A hyperirritability develops and occasional crying spells come on suddenly. Your memory is faulty and though you try hard, it's very difficult to focus on your job. After a while you give up on the cervical collar even though the pain has seemingly worsened. Travelling in a car is an anxiety-filled experience especially if someone else is driving. As time passes you lose friends as you pull back on social interactions because of the pain. A lawyer gets involved and impending litigation enters as a new factor into the pain experience. You are required to see a variety of doctors, physical therapists, biofeedback therapists, and sometimes, psychologists and psychiatrists. These appointments take the place of your dwindling social life. At least these professionals listen to you, are usually sympathetic, and they will try their best to help you cope with the pain. If you are fortunate enough to see a psychologist, psychiatrist or counsellor you will receive additional aid in handling the psychological residue of the accident. Anxiety and depression are common accompaniments of chronic pain.

Trauma Minus One (Cognition at Impact):

This factor, as seen in the upper left side of the diagram, refers to whatever you were thinking just before impact. Often this thought is impressed on the unconscious part of the mind as a script to be acted upon over time. Let me give you an example. A woman in a small sports car was entering an intersection on a green light when a pickup truck came through a red light and struck her broadside. Surprisingly she suffered only minor injuries although she was quite shaken-up. Three months later she was diagnosed as having Graves Disease. What was interesting was the fact that her last thought before impact was, "I am dead."

Was the unconscious carrying out the last command or was it just a coincidence? Negative scripts like that above are sometimes repressed or hidden from the conscious mind and need to be recovered with what are called "re-scripting" processes. We'll get back to re-scripting later. Now let's continue with this diagram.

Trigger Points:

Note that symbol marked "trigger point pain signal." It is a small knot-like bump or firm band of muscle that lies in a muscle that is visibly shortened around the trigger point. This T.P. produces a "referred pain" or myofascial pain, at some point distant from it. When a T.P. is found and treated and the affected muscle passively stretched, there may be a restoration of normal muscle functioning. Treatment for T.P.'s include dry needling to locate the T.P. and then

injection of an anesthetic which seems to "unfreeze" it. For a while afterward there may be some slight discomfort from the injection, however, the referred pain of the T.P. will be reduced or eliminated, at least temporarily. During this resulting "quiet" period the muscle can be passively stretched to a normal length. Biofeedback as well is especially effective during this time.

Myofascial Release:

If you have chronic pain you've no doubt heard of myofascial release, but, just in case you haven't been made aware of this treatment, let's go over this briefly. You have probably seen the clear, plastic-like covering over skeletal muscles. One can see the fascia under the skin and over the muscle. What it tends to do is fit tightly over the muscle and if the muscle becomes foreshortened through chronic tensing and trigger points, the fascia shrinks to fit the foreshortened muscle. Now it's more difficult for the muscle to stretch out to its former length even if you try to relax it. However, once the T.P. is taken care of, the muscle can be passively stretched and the fascia released. So, myofascial release and T.P. treatment go hand-in-hand. But, what if the brain still has a brace signal that will once again tighten up the muscle and start the cycle all over again. Right, back comes the pain, T.P.s, muscle and start the cycle all over again. Right, back comes the pain, T.P.s, tight fascia and all. For a long-term result therefore, one needs to get rid of the brain's bracing program which, however, operates on the unconscious level.

Bracing Programs:

What are these brain programs that send signals to muscles and keep them tightened over a long period of time without our being aware of it? Well, we spoke of “Nature’s Brace” earlier, and that’s a phenomenon that happens every time an injury of that sort occurs. Of course, the brace is supposed to let go when the parts have healed (usually within 10 weeks). Experts say that chronic pain is any pain that’s been around more than 6 months. In either case the brace is often still there after this period of time ─ why? It could be that the parts keep getting reinjured and that indeed is a possibility, however, much more often, the brace is still there because a part of the brain wants it there, for reasons not clear or possibly even unknown to the conscious mind. Whoah! You say, do you mean to tell me that a part of my brain that is unconscious wants to keep me in pain by maintaining the brace? Actually yes, that is what can happen. Referring again to the Pain Experience figure note that pending litigation can factor into the maintenance of chronic pain. When there is the possibility of a large settlement for the injury, and it is known (as it almost always is) that the worse your pain and the longer lasting, the larger the settlement, it does not take a genius to see that this “carrot” will act to maintain pain even if it is the unconscious mind that takes care of this. Most often the conscious mind will deny or minimize this factor, rationalizing that, “I really do have pain ─ I’m not kidding!” ─ or “Heck, I really want to get back to work.”

Ok, let’s get one thing very straight. Most (95%) of these individuals do experience pain. And let’s grant that the ones we’re considering now have no organic lesions although they may have tense muscles. The question is why the tensed muscles? – why the pain?

Pending Litigation:

Pain specialists often cringe when a chronic pain client says that there is litigation pending. Even though a certain number of clients need legal help in order that justice be served, the introduction of such help seems often to delay the elimination of the pain. Some psychologists and psychiatrists who treat pain clients will tell those who say that litigation is forthcoming, to go away and not return until the litigation is over. They know that the client, either on the unconscious or conscious level, or both, will be hesitant to give up reporting pain if, in fact, it seems that the amount of settlement is dependent to a great extent upon the degree and duration of pain experienced. Clients learn that the case may not be settled for two or three years and the implication is that the more pain over the waiting period, the greater the reward at the end.

My philosophy is that it is difficult to know if a client is resistant to getting better and so I will, in good faith, in most instances, attempt to do my best to teach the client all I can about pain control. The client then can choose to use it or not, but at least he or she has knowledge.

Early Childhood Experiences:

Note on the diagram that early childhood experiences of a negative nature factors in as well. Sexual or physical abuse can undermine self-worth.

Critical parents, teachers, or other authority figures can deflate self-esteem. Severe physical trauma can produce long-standing psychological difficulties in some individuals. The role-modelling of abusive, addictive or otherwise dysfunctional behaviour also contributes to low self-worth it is likely that adult life in general is fraught with insecurity and anxiety. There may be tendency to react to an insecure world by tensing muscles and overreacting to situations. Chronic pain often allows this person to retreat from his painful life and enter a world in which responsibilities are minimized (if the pain keeps him off the job). In contrast, a person who was fortunate enough to have a normal childhood and how, therefore, brought a good self-worth into adulthood, would be more likely to enjoy her work and life in general. A painful condition would remove her from these positive situations and she would strive to get back to a normal life. Which of these individuals do you think would recover faster?

The brain will, of course, choose whichever situation brings the most pleasure and the least pain. And please remember, the brain is not just one unified organ. In fact, let’s take a look at some of the latest brain theory now.

Our Divided Brain

The latest theory on how this most complex structure operates states that there are numerous functional modules in the brain, of which the conscious module is just one. All the others are unconscious or, as one researcher labels them, nonverbal co-conscious. Furthermore, most of the experts agree that these modules can come into conflict with each other at times. When this happens we feel split, indecisive, depressed, or some other negative emotion. With regard to chronic pain, our conscious module usually wants to get back to work and life as it was. However, one or more of the unconscious modules may want to stay away from a demeaning or unpleasant job; or another module may strive to get more attention or sympathy. Still another might wish to avoid sex, or perhaps the drudgery or housework. More than once I have seen clients who, without conscious intent, have used the unpleasantness of chronic pain to punish spouse. One individual developed excruciating headaches whenever she had to host a party or go to one with her husband. It turned out that even though she was attractive, she had poor self-esteem and a 7th grade education. The result was that women at the party, envious of her good looks, would take turns embarrassing her by asking such questions as, "Didn't you just love the … (e.g., the latest bestselling fiction work)."

Therapy was aimed at teaching this client to respond more adequately to these inquiries. She also joined a Book-of-the-month club and subscribed to Newsweek. Now armed with more adaptive coping responses she no longer needed to avoid parties by getting headaches. This successful outcome is illustrative of the elimination of a long-standing

pain problem by the development of coping skills that effectively took away the need to have pain. One might also say that her unconscious stopped giving her pain because it no longer feared parties. In the context of the new brain model the left brain, or conscious, need to be with her husband at feared parties was in conflict with the right brain, or unconscious, desire to avoid them because of the ridicule. The unconscious learned to use a headache to avoid a psychologically painful situation. Because of the client's new, effective coping skills however, the unconscious no long had to fear embarrassment. The left/right conflict had been resolved.

Communicating with the right brain (unconscious)

I suppose that all chronic pain in some way gets the client some attention and sympathy, as well as the avoidance of certain aversive situations. The problem arises when these payoffs are greater than the reward for getting better and resuming normal life again. For example, if Joe hates his job because it's demanding or dangerous, and he injures his shoulder one day, the resulting pain may still be there 2 years later. By this time Joe has made the rounds of doctors, chiropractors, physical therapists, and psychologists. All medical tests are negative yet Joe still feels the pain and says so. He's tried to work again but is forced to go home because of the pain. Joe feels depressed because he senses that everyone thinks he's lying. He realizes that he doesn't miss his job but it never dawns on him that the unconscious part of his mind is generating the pain because it really hates that job and doesn't want to go back. Joe's situation is a perfect example of a mind divided against itself. The macho conscious mind wants to get back to work even though

it’s difficult and dangerous. In contrast, one might say that his unconscious is fearful and wishes to stay away from work. Staying away from work reduces the fear; and any response that reduces fear is reinforced. As long as the avoidance of work is a greater reinforce than that of going to work, Joe’s unconscious will want to keep the pain.

How can this dilemma be resolved? Is it fair to force Joe to go back to a hated job with pain? Of course not, so occupational therapists and vocational rehabilitation personnel try to match Joe to a job that he might be able to do given the pain condition. Actually, Joe would probably do better in a job that he really enjoyed. Under these circumstances the unconscious could let the pain go.

If it is suspected that the unconscious harbors a pain program for some reason how do you find out about it and change it? Well, like the case of Joe above one might surmise after asking Joe how he feels about his job that on some level (unconscious at least) he’d like to quit and do something else. Security, seniority, and kids getting ready for college are left brain or conscious reason to go back, but a powerful part of his mind very much wants to get out. If Joe can manage financially and psychologically to train for a new job, and subsequently gets one that he enjoys, he may experience a dramatic reduction in the pain.

Almost any factor on the pain experience diagram can act through the unconscious even that of litigation. Many clients temporarily forget or suppress the fact that they may receive a large settlement some 2-3 years in the future.

The pain behaviour reinforcers (see diagram) usually can be identified in fairly short order with the help from a competent mental health specialist. However, the early childhood experience factors, if applicable are sometimes difficult to find because often they are well hidden by the repression forces of the unconscious mind. Specialized techniques have been developed for uncovering evidence of childhood abuse or other trauma. I prefer using guided imagery and/or hypnosis sometimes aided by biofeedback equipment which can facilitate the accessing of the unconscious mind and the re-scripting of negative memories.

Re-Scripting:

If negative, unhappy, traumatic memories are recovered can they be changed? Well, probably not; but you can install in that "memory location" a number of positive outcomes that tend to counter the original memory. After this the effect of the original trauma on present day experience is lessened because of the offsetting of the negative by the new, positive outcome memory images.

I believe that re-scripting can be accomplished, at least in part, through the use of pre-conscious or subliminal process. The CDs direct positive scripting to the unconscious mind. Over time, with enough exposure (listening time), the results begin to be felt on the conscious level. Please see the Resources Section for information on these tapes.

Finally, with some individuals who have suffered particularly severe, long-term childhood trauma, the necessary therapy may takes several years. Dysfunctional family and co-dependency groups meet regularly in most communities and are reasonably priced.

Cultural and Genetic Factors:

Would you believe that the culture in which you were raised could make a difference in how much you hurt? Well, "they" say it's true enough. Supposedly, the American Indian is the most stoic of the cultures tested while Latins are the most reactive to pain. I don't remember the other rankings except that the Nordics scored fairly high on the stoicism side. While it's fun to consider cultural factors it is perhaps more enlightening to look at our genetic endownment. Put very briefly, some of us were born were born with extremely sensitive nervous systems that are more reactive to stimuli including pain stimuli. It is possible that you could be one of these individuals. If this is the case, it does not mean you can't benefit from a self-help program like this one.

Chronic Pain as a “Muscle Habit”

OK, we’ve covered so far some of the more esoteric causes of chronic pain. Now let’s look at perhaps the most common denominator of these factors, the chronic tensing of certain muscles. When none of the above factors appear to apply, it seems as if the brain just forgot to let go of the brace. More likely the client simply learned to guard the formerly injured part every time stress enters the picture. Some of us are stress muscle responders who suffer from tense sore muscles when things get difficult. Usually it’s the very muscles which were braced after the injury that tend to do this. Hearkening back to the example at the beginning where “you” suffered a back injury after an auto accident, one could easily imagine you several years later tightening up the low back muscles automatically while driving in heavy traffic or when struggling with your income tax. Perhaps the muscles tighten enough to constrict blood vessels and therefore reduce blood flow in the muscle. Pain sensors activate, trigger points from and fascia tightens up. Sometimes the brain bracing pattern sends erroneous signals to the muscles when you try to turn bend forward or rotate your trunk. Your back stiffens and eventually hurts. Possibly it hurts enough to cause you to skip work that day, or for several days. Eventually you might go to your family doctor or a pain clinic for pain treatment. The “Pain Experience” diagram has a list entitled “Treatment Modalities.” It is fairly long list and we’ll go through it quickly.

Would you have believed there are all these treatments available for chronic pain? And this is only a partial list. With the exception of surgery, I've included only those treatments available at the clinic where I work. I'll just say a few words about each one because I know you are eager to learn more about the unique CDs that you are going to be using shortly.

Treatment Modalities

A. Deep Relaxation
B. Biofeedback
C. Imagery
D. Hypnosis
   Self-Hypnosis
E. Re-scripting
F. Pre-conscious Process Tapes
G. B-Mod
H. Psychotherapy
I. Self-Talk
J. Myofascial Release
K. Muscle Repatterning
L. Manipulation (adjustment)
M. Trigger Point Injections
N. Acupuncture/Acupressure
O. NLP
P. Nutritional Therapy
Q. CES / TENS
R. Medications
S. Surgery

Deep Relaxation:

Isn't it amazing that the simple act of relaxing deeply each day can do wonders for chronic pain? Well, that's what a lot of research indicates. If you give our CDs a daily listen for a month you'll feel for yourself what a marvellous effect relaxation can have on your life. And the biofeedback technique can accelerate your learning to relax. When you relax deeply, generally a number of things happen. Your heart rate slows, muscles relax, hands warm and skin conductance decreases.

Biofeedback:

Biofeedback assists you to reach deep relaxation levels and is also extremely useful for correcting maladaptive muscle bracing. As you probably know, there are several types of biofeedback. In general, the term means the feeding back to the client, through visual

or audio displays, of some aspect of physiological responding such as muscle tension (EMG), peripheral skin temperature, heart rate, brain waves (EEG), and electrodermal response (EDR or GSR). One of the more useful of the biofeedback forms is the GSR or Galvanic Skin Response. It's the biofeedback type featured in this program. The GSR2 is a very good measure of your level of stress or relaxation, depending on how excited you are to begin with. Special sweat glands on the palmar surfaces of the hands and feet secrete small amounts of moisture when we are experiencing stress. The small GSR2 detects the moisture and changes the frequency of the tone as you will hear. A rising tone means increasing stress. As you relax the tone goes down. If you happen across a troublesome thought, the GSR will probably increase its tone. So the GSR2 serves as a sensitive guide to a QUIETING OF YOUR MIND AND THE RELAXING OF YOUR BODY.

EMG (Electromyogram) such as the MyoTrac or the Personal Muscle Trainer measures tiny changes in muscle-tension. The ability to 'tune in' to your muscles allows you to relax a muscle that it tight or in spasm, (or in the case of stroke victims, they learn to increase activity).

Relaxed Concentration with the GSR2

Relaxed concentration is the first step to self-control. Most people do not think too much about their thoughts. Our thought processes are so much a part of us, we take them for granted. The following exercise will help you get in

touch with your ‘unconscious’ flow of thoughts. Using your GSR2 in a comfortable position, take an everyday object such as a spoon or glass, and place it in front of you. Look at this object for one minute – let it become the object of your attention. Should distracting thoughts arise, and they invariably will, simply acknowledge them and let them pass. This seemingly simple task takes most people a while to master. Extend this practice and continue for a week or longer, until you have been able to hold the object in your unbroken concentration for a minute. Next, to assist your concentration, choose a restful image, such as a flower or a candle flame. Allow your gaze to rest on this object. Let your eyes relax and ‘unfocus.’ Be aware of your breathing. If thoughts should occur, acknowledge them and let them go. The purpose of this exercise to quiet your mind.

Meditation with the GSR2

Meditation is thought directed by will. In its most general sense, it is thinking in a controlled manner. You decide how you wish to direct your mind for a length of time, and then do it. When extraneous thoughts occur, you return to the focus of your meditation. The thought you direct your attention to could be anything from writing a story to floating down a stream. Or you could direct your attention to a word or concept such as Beauty; Love; Truth; or HEALING power of your own body. When you enter a state of meditation, all your body functions slow down and the GSR2 monitors your skin resistance and the tone may indicate when a disruptive thought interferes with your meditation. The GSR2 can be used as a centering device, or it can be experienced as a ‘clock ticking in the

background' which although not attended to, is giving you information on your state of focus or detachment. Dr. Hebert Benson studied meditators in the 1960's and documented the 'Relaxation Response.' These meditators used a 'Mantra', which is an eastern word which means 'a word or phrase repeated over and over as a meditative exercise.' Mantra meditation works through habituation. Just as you become habituated to the noise from an air conditioner, you erase all thought from your mind while reciting the mantra. Dr. Benson used the word 'one' and stretched it out 'wwoooooonnnnnnn' on the outbreath; or you can use the word 'calm' or the eastern 'ohm' or a nonsense syllable. Remember, whatever word you choose, it is the half hour daily for 30 days that produces the results, so stick with the one method that feels right for YOU.

Accessing your unconscious:

Brainwave (EEG) studies indicate that an altered state is characterized by a shift in EEG over the left and right hemispheres such that there is a relative decrease in left hemisphere cortical arousal as right brain arousal increases. Put another way, the right brain increases in relative dominance as the left brain decreases, and the right thus becomes more available for input and output of information because of the relinquishing of critical screening by the left brain.

When in a state of relaxation or meditation, you are most open to the positive suggestions that are presented for re-scripting purposes. Sounds like brainwashing you say — well, so is schooling, T.V., certain high excitement religious

services, cognitive therapy (in fact all psychotherapies), and rock concerts. The nice thing about the positive self suggestion approach is that you, the client, talk over with the therapist beforehand the suggestions that will be offered during the altered state. Only positive suggestions are used (contrast this with what's presented during the other procedures noted above).

You might be thinking, why not just present these suggestion in the normal awake state? The reason is a complex one but let me give you a quick answer in the interest of time. In our childhood the brain is developing very fast. It is learning about the environment and part of this learning is that all the situations, people and things that cause us physical or emotional pain are marked by the brain for avoidance. In other words, the brain tries to protect itself from further discomfort by setting up certain defense mechanisms (DMs) that may involve avoidance, distortion of perception, denial and others. If, for example, we are criticized often by parents when we try something we will begin to feel that we can't do anything right and we develop a poor self-esteem. The brain always tries to protect or maintain our self-esteem no matter how poor it is. The more we've been hurt the more DMs we develop and the poorer our self-image. When conscious suggestions are made that we are worthwhile our DMs will deny this. Haven't we all known attractive individuals who worry constantly about how they look, and yet reject any suggestions that they look great? Now, this is important, most of the DMs lie close to or at, the conscious "surface" and, as such, will resist any attempts to change positively, because, "That's not me!" However, if you can present the positive

suggestions below the conscious or near conscious DMs, you can get the positive suggestions to the part of the mind that is noncritical and willing to listen. And that is the benefit of hypnosis, pre-conscious or subliminal process, meditation, re-scripting and imagery.

Imagery:

In our divide brain, imagery is processed primarily in the right or non-dominant hemisphere. This is the same hemisphere which contains the majority of the unconscious processing. It is assumed therefore that imagery impacts more effectively on the unconscious than verbal suggestions. Indeed, imagery process can be used to directly modify pain as you will experience on one of the CDs. Going through the exercise of thoroughly describing you pain, both visually and tactually, thus producing a metaphor of the pain itself, will many times reduce the pain considerably. It even helps if you make a drawing of this metaphor. Finally, you are then instructed to find a way to change this image, to decrease it, to remove it, to make it disappear. Here’s an example: A lawyer complaining of chronic pain in his lower left abdominal region was diagnosed with irritable bowel syndrome or IBS. He did not wish to take medication so was asked to design a metaphor. His image was a sort of shiny, sharp-pointed NASA “nose-cone.” The tip of the cone would pierce the abdominal wall and cause pain. His “curing” image involved two small NASA mechanics who would use speed drills to take apart the structure and carry it away. It would take the mechanics about 10 minutes or so to dismantle the nose cone. This technique was quite successful as long as the work didn’t get done

too quickly. To shift to right brain function to make your imagery most effective, you should enter a deeply relaxed state.

Hypnosis/Self-Hypnosis:

A valuable aid in uncovering unconscious factors and in the temporary alleviation of severe pain. Self-hypnosis can be taught to the client so that he or she can increase their control over the worst pain.

Re-Scripting:

As mentioned earlier, if negative memory traces have been identified they can be “defused” or weakened in their effect by the addition of visualized positive outcome versions of the original. This technique can be done with hypnosis, subliminal process, or biofeedback.

Pre-Conscious Process Tapes:

Sometimes known as subliminal process, this technique enables positive suggestions to be placed at the level of the unconscious for purposes of re-scripting.

B-Mod:

Behavioural Modification refers to any of the many procedures that are used to change maladaptive to more adaptive responding. In the example of the woman earlier, the response of avoidance of social events was modified by getting the woman to acquire certain skills that countered the fear. B-Mod can be used to get the client to maintain an exercise program or alter other health habits. One can include in this category the modification of thought process as well.

Psychotherapy/Counselling:

When it has been determined or strongly suspected that there are some underlying problems of a psychological nature that are delaying progress, psychotherapy or counselling can be employed to resolve conflict on that level. Often this therapy can result in a breakthrough in difficult pain cases.

Self-Talk:

After a period of chronic pain a client will begin to develop a rather negative perspective on life. The therapist will analyze the client's thought process to determine the type of negative statements dwelt-on by the client. After these thoughts have been defined the therapist and the client design counter thoughts which are then used to challenge the negative ones.

Myofascial Release:

I think we've covered this earlier, but very briefly: This type of physical therapy involves the loosening of the tight fascia around the foreshortened muscles. A vigorous massage technique is used to carry out this very important part of the chronic pain program.

Muscle Re-Patterning:

Just above you read of one kind of muscle re-patterning, that with the aid of biofeedback. There are a variety of bodywork therapists that also work with re-patterning. The object of course is to get the client's muscles working properly.

Manipulation (Adjustment):

Tight muscles often pull bone structures out of alignment. Osteopaths and chiropractors are trained to manipulate the skeletal structure so as to place it back into alignment.

Trigger Point Injections:

Again, this was discussed earlier however, this technique involves the locating of the tight modular trigger points and their injection with an anaesthetic which tends to dissolve them. This technique enables a temporary passive stretching of the muscle and a reduction or elimination of the pain.

Acupuncture/Acupressure:

A medicine form that has existed for over a thousand years yet is just now being examined by new world research methods, these procedures are based on an ancient Chinese system of energy meridians. Pain and/or illness can result in an unbalance of energy along these meridians. Restoration of energy balance through the acupuncture or acupressure treatment reduces or eliminates the condition. These techniques can certainly augment the others listed above.

NLP:

This therapy approach is called Neurolinguistic Programming or NLP for short. It is based on the work of three incredibly skilled and now deceased therapists: Milton Erickson, Fritz Perls and Virginia Satir. NLP is really a variety of procedures of which just part of one is presented in one of the tapes. We'll talk some more about this technique when this tape is described.

Nutritional Therapy:

Chronic pain can be exaccerbated by improper nutrition. As an example, a candida infection can produce a variety of symptoms which may worsen a chronic pain condition. High uric acid and certain arthritic conditions that cause pain may be helped significantly through nutritional therapy. It is recommended for many clients at our clinic.

CES/TENS:

CES or cranial-electric-stimulation is a relatively new modality that helps reduce anxiety, anger, depression and in some cases the pain itself. CES involves a small current that travels through the subcortical region. The current is hardly felt yet it results in the release of certain brain chemicals which reduce negative emotional experiencing. TENS, or transcutaneous electrical nerve stimulation, is used to block pain with a current applied above the level of the pain source TENS can produce remarkable reductions in pain in some people.

Medication:

Most chronic pain clients at some time will require medication. It's good to remember that many of the analgesics and anti-inflammatories can cause some depression. Other medications have side effects as well. Please ask your doctor about side effects and possible interactions between drugs.

Surgery:

When indicated by repeated medical tests, and hopefully with assenting second opinions, surgery may be required. Many people experience a significant reduction in symptoms following surgery although there is always an unknown element in this intervention. Neurosurgeons can benefit from the skill of a good therapist who can more accurately assess the psychological state of a client facing surgery. Clients can be trained in deep relaxation and healing imagery so that these skills can be incorporated into the post-op recovery program. Pre-post audio CDs can be of significant aid for surgery clients and the use of a third tape during the surgery itself (see Resources) has been demonstrated in a number of studies to improve healing, decrease the need for post-op medications and facilitate recovery in general. Remember, during a general anaesthetic operation the unconscious mind is quite able to incorporate relevant information of a verbal nature.

Quantifying Your Pain

We found out some years ago that if you really want to learn to control your pain and thereby decrease it, you need to be able to quantify it. Different schemes were tried but one seemed to work better than any other. If you take a look at the figure labelled "Pain Level" you'll see that it has a vertical scale of 0 to 10. The "10" represents a level of pain that is the worst you tend to experience. A "0" of course, would be a state of no pain. We leave it up to you to determine the levels in between. It seems that people can do this quite well after a short time. When you become aware on an hourly basis of the level of pain, you first have to go through the slightly difficult period of a seeming increase of pain. It's not, but it sure seems that way. After a while it gets to be routine and you begin to see patterns. One of our clients discovered her pain increased every Tuesday afternoon. It so happened that at 2:00 every Tuesday afternoon she had to give a weekly report to her supervisor. She was then able to discuss with us what it was about that meeting that produced the stress and fear the increased her pain. After that bit of psychotherapy she was able to have the meeting without growing tense and anxious.

The other reason for graphing your pain is that it is a sensitive indicator of change over time. You will be able to see a trend even before you are aware of it subjectively. One can also see the effects of various interventions. You'll be able to tell what works and what doesn't. You'll know what situations make it worse. B-mod researchers found out

some time ago that simply charting responses changed the frequency and/or intensity depending on the type of response. It was interesting to note that the trend was usually in the desired direction unless the unconscious really wanted it to go in the other direction.

Well, there's that troublesome unconscious again, but at least it's telling you something. If you graph your pain and you find that, all things being equal, your pain increases, you can suspect that your unconscious would like the pain to increase. If it does that you may need to first see your physician and, if there's no change in the pain condition as far as he can tell, then consider seeing a counsellor or psychologist.

I'd like you to choose your level and put a mark (a dot will do) on the graph every waking hour. Please carry your daily graph with you at work or wherever. (Yes, please make copies of the graph in this manual). At the end of the day you should connect the dots because this gives your right brain the visual picture it needs to process in memory. You can even calculate a daily average over time that really shows changes in your pain condition. We've even included blank daily and weekly average graphs so that you can make copies of these and develop your own graphs. Examples for calculating these daily and weekly averages are given as well.

Now, you have all the tools to do this very important job of quantifying your pain. It will help you change the pain as well as understand how and where the pain originates. Finally, it will let you test whatever pain reduction techniques you care to try.

Charting Your Pain

If you are really serious about decreasing your pain you'll need to chart it. This may seem compulsive but believe me it can make a big difference in the development of control.

Make photo copies of the blank charts, take them with you wherever you go and fill them out as often as you remember. If you've forgotten half a day, estimate as best you remember. Don't forget to connect the dots at bedtime. If you awaken during the night be sure to chart the pain level as well.

Calculating Average Daily and Weekly Scores

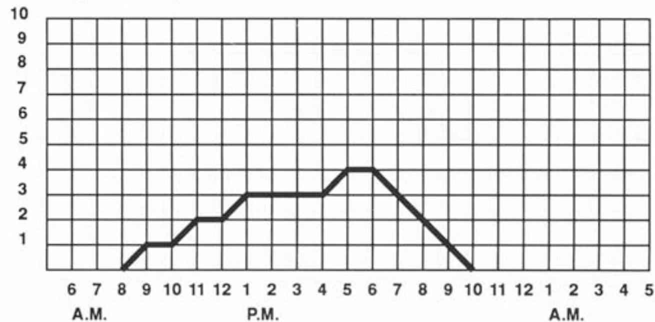
The whole quantification picture makes a lot of sense when you start to average the daily scores and plot them over days and weeks. The equations for ADS is not as bad as it looks. For example, N1 means the number of hours a "1" level pain; N2 means the number of hours at a "2" level pain; etc. Multiply each N by its level, add these up and divide by the number of waking hours. (Please force yourself to chart your pain on the crossing of two lines only, e.g. choose 4 rather than 4.5 and 3 o'clock rather than 2:30. Reason? It makes the quantification much easier).

The equation for AWS of the weekly average is the simple sum of the seven day ADS divided by 7.

I think you will be fascinated by the changing graphs of pain over time. It will be invaluable to you and any professional that is working with you.

Examples

Daily Pain Rating



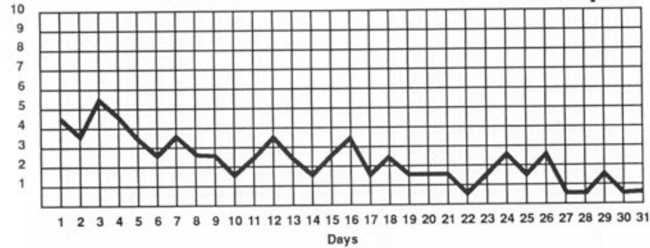
$$\text{ADS} = \frac{3\,(1) + 3\,(2) + 5\,(3) + 2\,(4)}{14} = 2.28$$

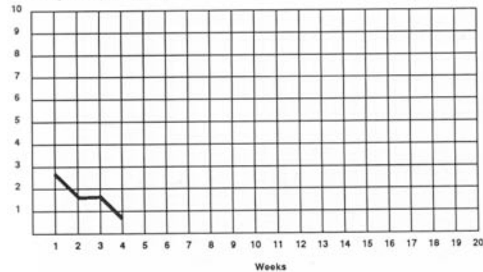
$$\text{ADS} = \frac{\text{N1}\,(1) + \text{N2}(2) + \text{N3}\,(3)\ldots\ \text{etc.}}{\text{NWH}}$$

Where: N1 = number of hours of #1 pain level, N2 at #2 pain level etc.

NWH = Number of Waking Hours

Examples





$$AWS = \frac{ADS}{7}$$

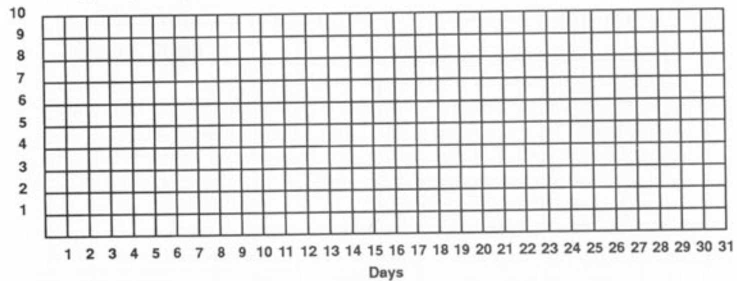
Daily Pain Rating

10
9
8
7
6
5
4
3
2
1

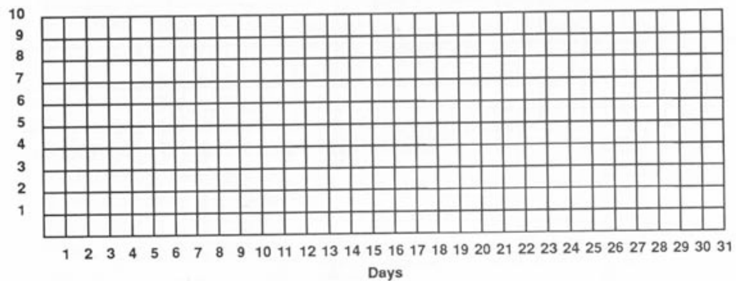
6 7 8 9 10 11 12 1 2 3 4 5 6 7 8 9 10 11 12 1 2 3 4 5
A.M. P.M. A.M.

10
9
8
7
6
5
4
3
2
1

6 7 8 9 10 11 12 1 2 3 4 5 6 7 8 9 10 11 12 1 2 3 4 5
A.M. P.M. A.M.



Average Daily Score (ADS)
10
9
8
7
6
5
4
3
2
1
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
Days



10
9
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4
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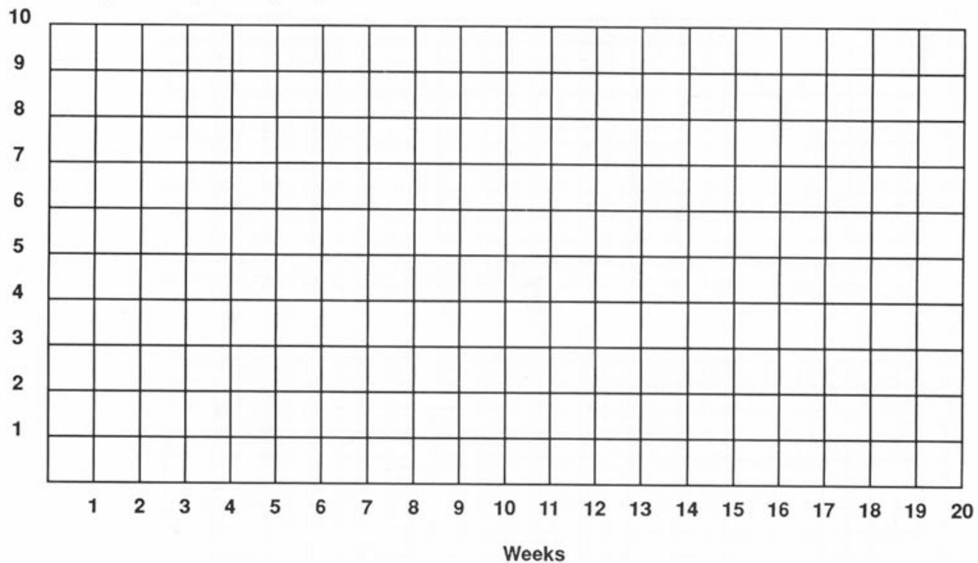
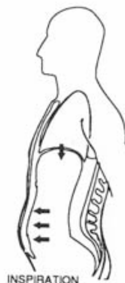
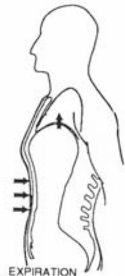
2
1
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
Days


Average Weekly Score (AWS)
10
9
8
7
6
5
4
3
2
1
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
Weeks

First Learn to Breathe



Before entering into a discussion of the audio program you'll be listening to I would like to state that all the processes on them work better if you can breathe properly ─ that is, from the diaphragm (some people call it "belly breathing"). Singlehandedly, this type of breathing can shift your body from a stress pattern to one of relaxation. Some catch on to this very quickly but for most people it's anything but natural. That's because we've been raised in a culture that punishes us if we don't maintain the stomach in, chest our military posture. Here we're asking you to do just the opposite. An easy way to learn how to do it is to lie on your back (a pillow under your knees if that feels more comfortable) and a heavy book on your abdomen just below of near your bellybutton. As you breathe in allow your stomach to push against the book. As you exhale let the pressure of the book push your stomach in. Continue to exhale until all the air has been expired. Do this while carefully observing the rising and



falling of the book. Try to breathe slowly in and slowly out; rhythmically and regular. Believe me this does get easier and easier until it turns into a habit. When do you do it? Whenever you can.

Breathing While Lying Down vs. Sitting Up

The muscular efforts involved in breathing are different depending on whether you are lying down or sitting up. When you are lying down on your back, gravity acts to push the abdomen in. Therefore, when you inhale the diaphragm tightens which pushes the abdomen outward. This is perceived as effort. Exhaling is effortless because gravity pushes the abdomen down and thereby pushes the diaphragm to go down.

When you are sitting or standing, a slight effort is required to pull the abdomen in so that the diaphragm a pushed back up at the end of the exhalation. Inhalation in the vertical position is effortless since you just relax the abdominal wall and allow the diaphragm to go down.

The “Meter”

On the cd you’ll hear about a visual aid called the “meter”. It’s a great device for quantifying your pain at the time you’re using the tapes. I hope you don’t get too confused with the 0-10 pain rating scale. For some reason people seem to prefer them like that. At least it’s just a factor of 10 to convert from one to another. It’s a very good idea to

do a meter reading on your pain level before and after each listening. You can add it to your hourly pain rating chart (scaled down by 10).

CD: An Overview

Yes, you're going to hear some of what you've just read but that's because so many people don't read manuals. But, don't worry if you indeed have read this, it does have some new information and it will introduce you to the first process and the meter. This process involves direct imagery of the meter and a rheostat that is loosely coupled to it. I found out some years ago that if a chronic pain client could visualize the meter reading changing downward as she very slowly turned a rheostat (like your dimmer switch in the living room) that the pain would decrease accordingly. It works in 95 percent of the cases. I believe it is effective because imagery is so impacting on the right brain. I hope it works as well for you.

CD: Bring Back a Great Memory

This cd features an NLP technique that will have you feeling a lot better. It's based on the theory that the brain's positive memories and the feelings connected with them can be brought forward and then associated with present and future situations. Since the brain is an association cortex it will tend to mix the past emotions (if they can be

recovered) with the present or future scenarios. It's a way of bringing back some great feelings and putting them to use right now.

CD: What is it?

I'm not at all sure why this technique works but I've used it for years. Perhaps if we force ourselves to "left-brain" this diffuse, amorphous "right-brain" pain sensation – to describe it fully and completely in words and pictures – we bring it under some degree of control. Maybe it's because we can do something with a well-described metaphor. At least we can figure out a definite way to modify it and thereby the pain itself. Stay with this one and maybe even draw a picture afterward of both the metaphor and the metaphorical "cure".

CD: Healing

This CD will ask you to generate some unusual imagery. It will ask you, while you are very deeply relaxed, to imagine a very special healing to take place. It is worded in a general sort of way so as to accommodate different beliefs. Please keep an open mind and realize this CD will be used by individuals from quite different spiritual backgrounds. You should be creative enough to bring your own special imagery to this process. Most of the world's great religions have some process that involves the quieting of the mind and then the mobilization of healing forces. I'm betting that you can do it!

I wish you great success with the program and, don’t forget to exercise some each day!

Tom Budzynski, Ph.D.

Resources

Books On Pain:

Tollison, C.D. & Kriegel, M.L. (Eds). Interdisciplinary Rehabilitation of Low Back Pain. Baltimore, Williams & Wilkins, 1989.

Pincknet, C. Callanetics. New York: William Morrow, 1988.

Sternbach, R.A. Mastering Pain. New York: Ballantine, 1987.

On the Divided Brain:

Springer, S.P. & Deutsch, G. Left Brain, Right Brain (3rd Edition). New York: W.H. Freeman, 1989.

On Pre-Conscious or Subliminal Process:

Dixon, N.F. Preconscious Processing. New York: John Wiley & Sons, 1981.

Budzynski, T.H., Clinical Applications of Non-Drug Induced States. In B.B. Wolman & M. Ullman (Eds.). Handbook of States of Consciousness. New York: Van Nostrand Reinhold, 1986.

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Rossi, E.L. The Psychobiology of Mind/Body Healing. New York: W.W. Norton, 1986.

Solomon, N. & Lipton, M. Sick & Tired of Being Sick & Tired. New York: Wynwood Press, 1989.

Bakken, K.L. & Hofeller K.H. The Journey Toward Wholeness. New York: The Crossroad 1988

On Unconscious Process, Defense Mechanisms

Goleman, D. Vital Lies, Simple Truths: The Psychology of Self-Deception. New York: Simon & Schuster, 1985.

Bowers, K.S. & Meichenbaum, D. (Eds.) The Unconscious Reconsidered. New York: John Wiley & Sons, 1984.

On Visualization:

Fanning, P. Visualization for Change. Oakland, CA: New Harbinger, 1988.

On NLP:

Bandler, R. & Grinder, J. (Edited by S. Andreas & C. Andreas) Reframing. Moab, UT: Real People Press, 1982.

Anchor Point (An International Journal For Effective NLP Communicators) P.O. Box 26790 Lakewood, CO 80226-0790.

Audio Cassette Tapes

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Pro-Massager Device:

On Pre/Post and During Surgery Tapes
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  by Adele Greenfield
- Take Tests with Confidence
  by Adele Greenfield
- Pain Control
  by Dr. Tom Budzynski
- Breathing for Health with Biofeedback
  by Dr. Erik Peper
- Just Say Know
  by Dr. Sheila Blume
- Mind Over Muscle
  by Major (Ret'd) Nory Laderoute

Other programs are being developed

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- Skin Conductance (SC)
- Electrocardiography (EKG)
- Electroencephalography (EEG)
- Respiration

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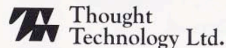
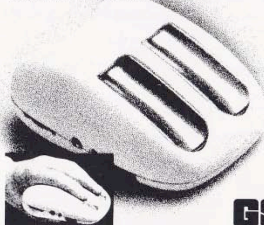
Pain Control by Thomas H. Budzynki, Ph.D. is a product of Thought Technology Ltd., leaders in the development of products and programs used by medical, educational, business and sports professionals worldwide.





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