

# Using deep relaxation in children and adolescents with diabetes

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## Introduction

This article is an introduction to hypnosis or deep relaxation as used in a therapeutic way in order to promote health and well-being in children with diabetes. It looks at deep relaxation and diabetes then covers deep relaxation and children. The article concludes with two case studies demonstrating how these techniques can be used effectively in practice. As suggested by Waxman (1989), the term 'deep relaxation' rather than 'hypnosis' has been chosen in order to avoid any misconceptions related to hypnosis or any association with stage hypnotism and, furthermore, to allay any resulting anxiety in children or their parents.

Deep relaxation is a tool. It is especially effective in the management of pain and allaying anxiety, and the following description from The British Society of Medical and Dental Hypnosis (Simons, 2002) outlines its medical uses:

*[Relaxation techniques] are used for nervous dental and medical patients; as an adjunct to chemical sedation and anaesthesia; as relaxation therapy in the handling of stress and related disorders; in obstetrics and antenatal care; in the management of intractable pain, cancer and terminal illness; as an adjunct to psychotherapy, and in the management of a wide range of phobic, anxiety and other medical and psychological problems.*

Deep relaxation of the mind is a natural safe state between sleeping and waking. Children and adults are often in this state without being aware of it – for example, when daydreaming or absorbed in a play or listening to a story. A relaxed state of mind may be induced by one person in another as described by Waxman (1989) or may be induced by oneself. It is usually accompanied by deep physical relaxation.

Deep relaxation is a method of delivering a therapy more effectively (e.g. by suggesting that a child will cooperate with the administration of their medication). It is best described as the use

of the daydreaming state where external stimuli are 'tuned out' and the focus of concentration is narrowed (Mantle, 1999).

Throughout history many different civilisations have used this therapy to aid healing, with the Greeks being one of the most famous examples. Hippocrates (430BC) recognised that whatever affects the mind affects the body, and that health is a sign of harmony between mind and body (Fanning, 1994).

## Deep relaxation and children

Deep relaxation has been used in the medical treatment of children. Olness and Kohen (1996) state that many children respond to hypnotherapy, and a number of reports (Gardner and Olness, 1981) conclude that hypnosis is a crucial element in treatment. However, if a child has an existing psychiatric or emotional problem then a referral to the appropriate psychological or psychiatric service is required (Gardner and Olness, 1981).

Deep relaxation can be achieved in different ways depending on the age of a child, and children between the ages of seven and 12 are the best subjects due to age-related differences in hypnotic susceptibility (Olness and Kohen 1996).

Parents instinctively induce a relaxed state in their young baby or toddler by cuddling them or rocking and making soothing noises or singing to them (Olness

## ARTICLE POINTS

**1** Deep relaxation is a tool that is effective in the management of pain and allaying anxiety.

**2** The technique can be used in a therapeutic way to promote health and well-being in children and adolescents with diabetes.

**3** This article provides two case studies on the use of the technique in the management of diabetes in children.

**4** The case studies were successful for a number of reasons.

**5** Deep relaxation is a natural state of mind which can facilitate positive change.

## KEY WORDS

- Deep relaxation
- Children
- Adolescents
- Type 1 diabetes
- Self-management

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*Figure 1. A six-year-old girl undergoes deep relaxation by focusing all her attention on the object in front of her.*



and Kohen, 1996). Older children respond to stories – speaking through dolls or teddy bears. Games such as sleeping lions, pretending to watch a favourite television programme, or imagining a favourite place may be used to achieve a relaxed state.

Teenagers may be asked to practise breathing deeply and to use progressive muscle relaxation (systematic relaxation of specific muscle groups in the body, working either from the head downwards or the feet upwards) whilst sitting comfortably in a chair. Some young people may respond well to fixing their gaze on an object (see *Figure 1*) or listening to music in order to become relaxed. The level of relaxation may be deepened by counting down from 10 to one and suggesting that they imagine themselves in their favourite place.

Depending on the particular needs of a child, once deep relaxation has been achieved suggestions can then be made to promote the required change (e.g. to change from wriggling and being tense at injection time to remaining calm, quite relaxed and in control as insulin is being administered). For younger children this often takes the form of storytelling. Cowles (1998) suggests that: ‘Fixation of attention is most often achieved by the magical words “Once upon a time”’.

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most effectively when a child faces an ordeal of some kind. If a child is anxious about having a blood test, for example, they may be encouraged to use their imagination and pretend to be in a favourite place whilst the test is performed. When the child has used this technique effectively once then it can be applied for subsequent procedures.

While in a relaxed state, older children and teenagers are more likely to accept direct suggestions and act upon them if they are within their capabilities (Waxman, 1989). Suggestions may include, for example, praise and encouragement for areas of diabetes self-management already acted upon, or motivational recommendations in areas of diabetes care that they struggle with.

### Deep relaxation and diabetes

Type 1 diabetes is a condition that requires a person to self-medicate, monitor blood glucose levels (and take appropriate action depending upon the results), eat healthy meals and snacks (even if unwanted), and perform mathematical calculations in order to determine the insulin dose required for the starchy food taken. Vigilance is needed at all times so that the signs of hypoglycaemia and hyperglycaemia can be recognised and the correct action taken to avoid a hospital admission. The

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situation is further complicated by the ever present long-term risks associated with diabetes. Such problems may occur sooner rather than later if treatment regimens are not adhered to.

Puberty is a unique and challenging time for the individual with diabetes and the diabetes care team (International Society for Pediatric and Adolescent Diabetes, 2000). Commonly during this period there is a worsening of metabolic control, caused partly by physiological changes and partly by a decline in self-management (Hampson et al, 2001). If we accept that adolescents need to gain mastery over their diabetes treatment, then the healthcare team needs to develop treatment goals that are personally meaningful to them (Ratner et al, 1990). Deep relaxation can assist in promoting a positive attitude, increasing personal responsibility and boosting motivation for managing a long-term condition such as diabetes. As Olness and Gardner (1981) found, it is most effective when practised regularly and therefore needs to be taught in order to optimise the effect.

Treatment regimens for diabetes involve the giving of injections, obtaining blood samples and, from time to time, venepuncture and other investigations. Patients in general view these procedures as being unpleasant (Shull, 1994), and children especially find them problematic. Studies show that the need for venepuncture in particular is one of the most frightening aspects of attending hospital (Schechter et al, 1997). Duff (2003) describes this as 'anticipatory or procedural distress' and states that: 'Children and adolescents need assistance to develop trusting relationships with professionals and gain some control over what happens to them.'

The prospect of pain or its presence can generate fear and/or anxiety (Coniam and Diamond, 1994). Deep relaxation is a technique which can be used with children and their families in order to help reduce this anxiety. Suggestions given under deep relaxation can promote confidence in the way a child controls pain, and the anxiety that may be experienced about procedures they have to perform themselves or have

performed on them.

### Case studies

The following two case studies illustrate how deep relaxation can be used to help children adhere to their treatment regimens and to feel in control.

#### Case A

This first case was a girl of 12 years. She had developed type 1 diabetes at the age of two. She was initially treated with twice-daily injections of pre-mixed insulin and the usual meal/snack routine in order to balance blood glucose levels. As she grew, her insulin requirements changed and treatment was adjusted accordingly. At the age of 11 she commenced insulin pump therapy. This gave her greater flexibility and the whole family recognised a new found freedom from the meal/snack routine as she could now 'bolus' for all her starchy food via the pump whenever she wanted to eat, and could choose not to eat if she so wished.

After two months of insulin pump therapy, the girl began complaining of pain when delivering the insulin bolus for food. She described the pain as stinging and found that it prevented her from carrying out her activities for a short while after (sometimes up to half an hour after the bolus had been delivered). There was no pain associated with delivery of the basal insulin. Investigations revealed no obvious cause for the pain on bolus delivery. Her mother reported that she thought that this pain was psychosomatic. An explanation of deep relaxation was given appropriate to the girl's age and level of understanding, and both the girl and her mother consented to deep relaxation treatment.

The necessary state of mind for treatment was induced by progressive muscle relaxation. It was directly suggested that she allow each group of muscles in turn to feel warm and comfortable and to feel more relaxed and comfortable than she had ever felt before, from the top of her head to the tips of her toes. This state of relaxation was enhanced by counting slowly from 10 to one, and suggesting by the count of one that she could imagine herself in a 'favourite place' (real or

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**2** It is most effective when practised regularly and therefore needs to be taught in order to optimise the effect.

**3** The first case was a girl of 12 years. After two months of insulin pump therapy, the girl began complaining of pain when delivering the insulin bolus for food.

**4** Using deep relaxation, she was taught to imagine a 'dimmer switch' in her mind which she could use both to turn up the stinging pain and to turn it down.

**5** Subsequent follow-up showed there to be no further problems. The girl now uses deep relaxation whenever she feels it is appropriate for her to do so.

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**1** Case B is a shy boy of 14 years with type 1 diabetes. Initially he struggled with the administration of his insulin injections.

**2** Deep relaxation was taught to the boy and his mother and he was encouraged to practise daily.

**3** Review a week later revealed that he was able to perform injections into his abdomen with ease and little or no hesitation.

imagined) and that in this place she could feel, see, smell and hear everything and that would make her feel safe, secure, happy and comfortable.

While in her favourite place, it was suggested that she imagine having a 'dimmer switch' in her mind which she could use both to turn up the stinging pain and to turn it down. She found that with her dimmer switch she could adjust the pain to a warm comfortable sensation and with practise could even make it disappear. Towards the end of the treatment session lots of 'ego-strengthening' suggestions were given. This technique involves giving the child suggestions related to confidence, self esteem, mastery, coping and autonomy (Hartland, 1982).

The girl and her mother were encouraged to practise the relaxation techniques taught in order to optimise the effect of the treatment.

Follow-up a week later revealed that the child had practised the technique daily with support from her mother and had been able to use her 'dimmer switch' to eliminate the pain. She had not missed out on any of her usual activities and had reported that she had even used the technique prior to a history test at school and had found it to be particularly helpful.

Subsequent follow up at three and six months showed there to be no further problems. The girl now uses deep relaxation whenever she feels it is appropriate for her to do so.

**Case B**

Case B is a shy boy of 14 years. He had been diagnosed with type 1 diabetes at the age of 12 years and six months when he commenced twice-daily insulin injections. Initially he struggled with the administration of his medication. At injection time he would hesitate before inserting the needle and it commonly took up to half an hour to give himself his insulin.

An explanation of deep relaxation was given and permission sought from the boy and his mother to embark on treatment. A relaxed state was achieved by progressive muscle relaxation and further deepened by counting down slowly from 10 to one. By

the end of the count he was encouraged to imagine himself in a safe environment, a 'favourite place' where he could come to no harm. Ego-strengthening suggestions were given to foster feelings of control, confidence and self-belief in the child's own ability to manage the condition. He was told to imagine himself giving his insulin injections easily and swiftly whilst remaining calm and in control.

Deep relaxation was taught to him and his mother and he was encouraged to practise daily.

Review a week later revealed that he was able to perform injections into his abdomen with ease and little or no hesitation. He continued to practise relaxation daily with support from his mother.

Three months later, the boy made a decision that he would like to try the basal bolus regimen with 24-hour analogue insulin at night as he felt this would offer him greater flexibility in terms of food and lifestyle. He also requested further help through deep relaxation in order to rotate his injection sites.

It was decided to use a desensitisation technique in order to reduce injection anxiety and promote the rotation of his injection sites. This behavioural modification technique is frequently used in behavioural psychology, but is very effective when used in conjunction with deep relaxation.

A Subjective Unit of Disturbance Scale (SUDS) was explained so that the boy could score each of his injection sites. A SUDS scale involves constructing a ranking system where the highest item (in this case a score of 10) represents the worst anxiety ever experienced or imagined in relation to a particular anxiety-provoking stimulus and the lowest rank represents complete calm in relation to the same stimuli.

The following scores were assigned to each injection site:

- Bottom: 10
- Arms: 8
- Legs: 7
- Abdomen: 1.

Deep relaxation was achieved easily as before and once again lots of ego-

strengthening suggestions were given about having control and the confidence to give his injections and use all the sites easily – as he proved he could with the sites around his abdomen.

Another technique was to ask the boy to visualise giving his injections in one of the sites that ranked highly and to imagine himself feeling calm and positive throughout. When he had this scene in his mind's eye he was asked to signal by nodding his head. This procedure was then repeated for each injection site in turn.

At the end of the session he was once again asked to score the injection sites and the scores indicated a definite improvement:

- Bottom: 8
- Arms: 6
- Legs: 2
- Abdomen: 1

He was encouraged to practise the relaxation technique and give himself lots of positive suggestions for coping and gaining mastery over his own treatment.

Review two weeks later showed that he had begun rotating his injection sites and was even using his bottom, the site that had scored highest on the SUDS scale.

At present this boy is coping well with his new insulin regimen and continues to rotate his injection sites.

### Conclusions

The two case studies were successful for a number of reasons. This mode of treatment is non-invasive and the youngsters in question gained mastery over a particular aspect of diabetes management. They were in control over what happened and had parental support throughout. In addition they practised the relaxation technique regularly and were rewarded by the desired outcomes. One even found the technique useful in another aspect of her life.

Deep relaxation is a useful tool to facilitate existing diabetes care. It can be used alongside other skills used by healthcare professionals, such as teaching, motivational interviewing and counselling. It is a life skill that, once learnt, can have profound benefits to the person and their family. On the whole, deep relaxation is

pleasant to deliver, teach and receive and when practised at home can help promote the desired change. ■

*It should be noted that healthcare professionals providing deep relaxation treatment must have the appropriate qualifications in therapeutic hypnosis. The author has recently completed a diploma course in therapeutic clinical hypnosis, is a member of the hypnotherapy society and is working towards accreditation with the British Society of Medical and Dental Hypnosis.*

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