

HYPNOTHERAPY & BURN MANAGEMENT

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A burn injury can be one of the most painful injuries seen in medicine. Burns may be of chemical, electrical or thermal origin. According to one survey in Britain, 55% of burns are flame injuries, 40% are scalding injuries and 5% are electrical or chemical.¹ In children, scalding is one of the more common causes of burns leading to hospitalization.² A study analyzing scalding injuries in children showed the wide variety of ways these injuries can occur: 8.7% of injuries occur when a child is opening a microwave unattended to remove hot substances and 16.3% of children are scalded when an older child carries a hot cooking substance while supervising a younger child.³ The complications from burn injuries are many including disfigurement, contractures and hypertrophic scarring. Common psychological problems include post-traumatic stress disorder, anxiety and depression. Twenty-five percent of people with severe burns also experience acute renal failure.⁴ Other complications can occur with smoke inhalation or direct heat injury to the airways.

Burns are described by their thickness and the extent of body surface area involved. Superficial burns, causing only redness of the skin are first-degree burns. Burns that involve more layers of the skin thus causing blistering and sloughing of skin layers are second-degree burns. Burns that involve the full thickness of the dermis are third-degree. When deeper tissue layers such as muscle or bone are involved, these are fourth-degree burns. With respect to body surface area, one applies "the rule of nines": 9% head, 18% anterior trunk, 18% posterior trunk, 9% each upper extremity, 18% each lower extremity, 1% genitalia.

continuing burn, usually with cold applications or cold sterile dressings. Initial or immediate management also includes fluid resuscitation and airway management. One study, from 1983, showed that hypnotherapy applied within ten hours of injury, could have a beneficial effect on overall fluid needs and kidney function.⁵ A patient should be managed in hospital if greater than 2% body surface area is involved as a third degree burn or if there are areas of high risk such as face, hands, feet, genitalia or flexion areas (knees, elbows which can develop flexion contractures). Judith Simon-Prager has done considerable work in using

mind/body techniques and "verbal first aid" to further minimize the extent of injury related to trauma.⁶

Standard burn care involves maintaining fluids, nutrition and measures to prevent infection. Newer treatments in children may include recombinant growth hormone and an androgen called oxandrolone.⁷ Burn wound care involves cleaning and debridement (removal of devitalized tissue) followed by daily dressing changes. Burn wounds are often extremely painful and daily care of wounds can be excruciating, traumatic and anxiety provoking. Care-providers working in burn units have been interested in finding complementary methods of helping with the pain, stress and anxiety. Many standard hypnotherapy pain management strategies can work well with burn patients.

Even as a first responder one can have a significant impact in the first minutes after a serious trauma. First response work will be quite different from that done later in patient care. A patient, who has experienced a serious burn, as with any acute trauma, is in a very suggestible state. The words that a first responder speaks can direct the recovery of a patient and can have a profound effect on their emotional state. "Saying the right words at the right time in the right way can change the outcome of critical care, and can set the course for recovery for people before they even arrive in the emergency room".⁹ One can create a feeling of safety for the patient by guiding and directing in a calm manner. For example saying: "I am (state name). I am going to help you... I've called 911 and the ambulance is on its way. I can see that your (whatever body part or injury) needs attention. Why don't you scan the rest of your body now to see that everything else is alright. Let your body do what needs to be done to protect your life and begin healing. As your body tends to the healing, you can allow your mind to go someplace else, someplace you really love. and you can be comfortable being in that place right now".¹⁰ One's language can include words like "Comfortable coolness". A memory can be elicited of a time when the patient may have walked into cool lake water or played in the snow, or walked in the crisp winter air. Bringing those memories and feelings back into the present time can help tremendously. One could have the patient imagine or visualize changing the redness of a burn to a more comfortable pink, reminding the patient that

their body knows how to heal injuries; it heals cuts and wounds all the time and it can go to work healing itself right now. Michael Ellner talks about creating imagery "that could include a hypnotic body suit that soothes discomfort from the top of the head to the bottom of the feet and imagining that the client is taking the most powerful painkiller on the planet and focusing on how that would feel" ¹¹

Burn pain, as with any pain, is described in its quality as well as context. One can think of five different clinical settings in which burn pain manifests itself after the acute injury. (1) Procedural pain: a brief but intense pain related to procedural activities such as wound care. Poor control of procedural pain will lead to increased anxiety around these procedures. (2) Resting pain, which is the on-going pain that is present regardless of activity or circumstance. (3) Breakthrough pain, which is related to spikes in pain intensity. (4) Post-operative pain, which is related to operative procedures such as excision and grafting of burn wounds. Usually the pain is worse at the donor site. (5) Chronic pain, which persists after wounds have healed. Opioid analgesia is the standard of care in managing pain but is often inadequate. In fact one study showed that despite the use of morphine the majority of patients rated their pain during wound care as severe or excruciating. ¹² A wide spectrum of opioids and routes of administration are available. Non-opioid analgesics include non-steroidal anti-inflammatory drugs, which may be used adjunctively with opioids or in milder injuries. Anxiety increases pain and anxiolytics are also useful adjuncts for pain management, especially in advance of procedures. Conscious sedation using medications such as fentanyl or ketamine provide anesthesia for procedures that are short in duration. Regional anesthetic blockade may also be considered.

Using complementary approaches to pain management can provide adjuvant interventions. Relaxation techniques are aimed at reducing anxiety and the pain that is intensified as a result. This can take a variety of forms such as progressive muscle relaxation or operant conditioning. Cognitive behavioural therapy to modify patient's thought processes can also be useful. Disassociation in various forms may be beneficial. This can take the form of literal distraction or guided imagery. Another form of distraction, the use of virtual reality, seems to show considerable promise. ¹³

There have been some studies and literature reviews assessing the role of hypnotherapy in the management of burn pain. One of the earlier studies at Royal Perth Hospital in Australia was a case-control series using rapid induction analgesia (RIA) for the alleviation of procedural pain during burn care. They followed 15 patients who underwent the intervention along with 15 control patients. Their findings showed that RIA had an impact on pain perception as well

as anxiety. There was a decrease in analgesic requirements following the use of RIA. ¹⁴

Berger and colleagues, in Lausanne Switzerland, used a case-control series to look at the impact of a pain protocol that included hypnosis for patients with severe burns admitted to the ICU. They followed 23 patients who accepted to try hypnosis and who were matched with 23 control patients. They found that "hypnosis reduced pain intensity, improved opioid efficiency, and reduced anxiety, improved wound outcome while reducing costs."¹⁵

A group at the University of Washington conducted a randomized control trial of hypnosis for burn wound care (using attention-only as their placebo comparison). They followed 46 patients in this trial. Their findings are interesting in that it was only when using a pain questionnaire, which included affective and qualitative components of pain that a significant difference in pain scores between subjects and controls was found. This study highlights that it is the experiential component of pain that appears most impacted by hypnosis. ¹⁶

One of the challenges for patients experiencing severe burns is the post-traumatic stress associated with the injury. The acute stress symptoms related to the trauma of severe burns includes nightmares, flashbacks, hyper arousal and sleep disturbances. Post-traumatic stress disorder following burns is well recognized and in one study was found to have a prevalence ranging from 8-45%. ¹⁷ The range relates to severity of burn and the pain associated with wound care. Symptoms can be long-standing and may go on to cause prolonged adjustment difficulties. ¹⁸ One group from Iran looked specifically at the impact of hypnotherapy on the re-experience of trauma (such as nightmares and flashbacks) in burn patients using a randomized controlled trial. Fortyfour patients were randomly assigned to hypnotherapy or a control group. They found not only significantly lower pain ratings in the hypnotherapy group but also a significant reduction in trauma re-experience. ¹⁹

There does not seem to be a great deal of published literature describing or researching the use of hypnotherapy for pediatric burn patients. There is a great deal written around hypnotherapy and procedural pain in children as well as pain management in general. The authors have written previously on these subjects.²⁰ One could extrapolate and suggest that hypnotherapy for pediatric burn patients would work as well as for any other procedural pain. However, some further research in this area is necessary to see how hypnotherapy can play a role in pediatric burn units. Bayat and colleagues published a literature review in 2010 and conclude that non pharmacological therapies "such as virtual reality, relaxation, cartoon viewing, music, massage and hypnosis are necessary components of procedural sedation

and analgesia for children."²¹ One older randomized control study looking at 23 children undergoing burn-dressing changes, compared guided imagery to social support, however, found no significant difference in pain scores between the two groups.²² This study depended on external observers (i.e. caretakers rating an observed pain response) to evaluate the experience of pain rather than rating the subject's own feelings. As Askay and her colleagues showed in the much more recent study in adults, it is the experiential component of pain that is most affected by hypnotherapy which is not measured in this older study. Admittedly it is challenging to rate the inner pain experience of a younger child.

Treating the emotional aspects of a traumatic injury such as a burn should always be a part of hypnotherapy session work. There may be guilt or anger over how the injury occurred. There may be an enormous sense of loss and fear on many levels: loss of the life that once was, loss of the previous physical appearance, loss of employment, loss of relationships and more. Ensuing depression often needs to be addressed. Suggestions for rapid healing can be given as well as imagery for the body to produce more of its own natural brain chemicals to reduce the pain and suffering. A hypnotherapist working in a burn unit can work to facilitate comfort and healing in many ways. Some of the methods listed here are standard techniques that can be applied in any pain situation:

- Dialing down the pain
- Changing the reaction to pain
- Various methods of release work
- Dissociation to another time and place
- Sensory alteration (temperature)
- Future pacing (in a healthy body)
- Ease in moving limbs
- Anesthetic glove
- Reducing numbers to create comfort
- Healing light / healing water
- Addressing skin tightness
- Increasing the effectiveness of medication and treatments
- Re-interpreting pain signals
- Reducing anxiety
- Increasing healing potential
- Reframing
- Adequate nutrition
- Blocking the inflammatory response
- Confidence building
- Focusing on assets

- Belief systems
- Time line work
- And much more....

David Patterson and Hunter Huffman, both PhD's at The University of Washington are changing the face of burn care with their innovative approach. They have teamed up to create virtual reality software called "SnowWorld" to help patients manage their pain relief through distraction techniques. In clinical trials, burn patients using their program reported 35 to 50 percent reductions in pain.²³ The game simulates the same actions that are required during physical therapy to help patients stretch painful skin areas. One report by Science Central shows the rehabilitation of a soldier with severe burns using SnowWorld.²⁴

Another possible consideration in conjunction with burn treatment may be the use of binaural beats or isochronic tones. These methods of brain entrainment cause a frequency following response that allows the brain waves to slow to a desired level. This may help with anxiety and stress and allow a patient to focus more on their recovery. The authors feel that using virtual reality together with hypnotic analgesia and alpha relaxation through isochronic tone may well be cumulative in its effects to treat burn pain.

As a broader approach to burn care that includes hypnotherapy is more accepted, it is possible that one day it could become a part of mainstream treatment. Pain management of burn care needs to continue to improve. Studies in wound outcome related to surgery would suggest that there is potential to improve wound outcomes through the use of hypnotherapy,²⁵ which could have a tremendous long-term impact. An immense opportunity exists for hypnotherapists to become involved in burn units to help alleviate the distressing suffering these patients experience.

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