

## Hypnosis for treatment of pain in children

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### ABSTRACT

**QUESTION** Many children suffer from chronic and painful illnesses. Hypnosis was found to be effective for analgesia in adults. Is it effective for managing pain in children?

**ANSWER** Children can be easier to hypnotize than adults. Studies have shown clinical hypnosis and self-hypnosis to be effective as adjunct treatments for children in pain. Examples include painful medical procedures, such as bone marrow aspiration and lumbar puncture in pediatric cancer patients, postoperative pain and anxiety in children undergoing surgery, and chronic headache.

### RÉSUMÉ

**QUESTION** De nombreux enfants souffrent de maladies chroniques et douloureuses. L'hypnose s'est révélée efficace comme analgésie chez l'adulte. Est-ce efficace pour la prise en charge de la douleur chez les enfants?

**RÉPONSE** Les enfants sont habituellement plus faciles à hypnotiser que les adultes. Des études ont démontré que l'hypnose clinique et l'autohypnose sont efficaces comme traitement auxiliaire pour les enfants qui souffrent de douleurs. Au nombre des exemples de telles situations figurent des interventions médicales douloureuses comme l'aspiration de moelle osseuse et la ponction lombaire chez les patients pédiatriques atteints de cancer, les douleurs postopératoires et l'anxiété des enfants qui doivent subir une chirurgie, ainsi que la céphalée chronique.

Hypnosis, known since the late 18th century, was recently accepted by the American Medical Association as a medical treatment when administered by an appropriately trained practitioner. A survey of 783 US primary care physicians found that 19.9% of them had used hypnosis, and 62.9% of pediatricians had used or would use hypnotherapy.<sup>1</sup> Twenty percent of surveyed Canadian general practitioners had had training in complementary and alternative medicine, including hypnosis.<sup>2</sup>

The most important factor for determining the analgesic effect of hypnosis is the hypnotic susceptibility of patients. It is high in 10% to 15% of the population and moderate in 70% to 80%; women have substantially higher hypnotizability scores than men. Many studies have shown hypnosis and self-hypnosis to be effective in adults for treatment of acute pain caused by burn wound débridement and dressing changes, invasive medical procedures, surgery, and labour.<sup>3,4</sup> Hypnotherapy is also beneficial for chronic pain conditions, such as chronic tension headache and migraine, irritable bowel syndrome dominated by pain, and pain caused by cancer therapy.<sup>4</sup> Since the 1980s, hypnotic pain-management techniques have been systematically applied to pediatric patients. Surprisingly, children are easier to hypnotize than adults are and usually respond better to hypnotherapy given for both acute and chronic pain. Unlike adults, children are not burdened with cognitive stereotypes, and their boundaries

between imagination and reality are less substantial. Hypnotic ability in children is limited in those younger than 3 years old, appears at 5 to 6 years old, and peaks at 7 to 14 years old.<sup>5</sup>

The hypnotic process usually includes the following steps:

- assessment of hypnotic ability;
- induction of analgesia, dissociation from the environment, and development of individual pain management strategies;
- suggestion, imagery of a favourite safe place, and metaphors; and
- termination of hypnosis, psychodynamic reprocessing of emotional factors, and posthypnotic suggestions.

Children behave differently from adults under hypnosis. While adults are usually cataleptic, children often fidget or appear restless during procedures. Highly hypnotizable children need no induction. Children's vivid imaginations combined with stressful experiences elevate their receptivity to hypnosis.

Pediatric hypnosis has been used not only for pain control, but also in treatment of many disorders, including anxiety, phobias, posttraumatic stress, sleep walking, behavioural disorders, conversion reactions, anorexia nervosa, enuresis, soiling, intractable cough, speech and voice problems, tics, learning disabilities, drug abuse, dermatologic problems, diabetes, and juvenile rheumatoid arthritis.<sup>6</sup>

### Hypnosis in painful medical procedures

Hypnosis has been used to alleviate pain during bone marrow aspirations and lumbar punctures, which are the most painful and distressing procedures in treatment of children with cancer. A randomized controlled trial involving 30 children aged 5 to 15 years undergoing bone marrow aspiration found that children under hypnosis reported reduced pain compared with their own baseline and compared with a control group.<sup>7</sup> Children with leukemia undergoing bone marrow aspiration reported similar pain and fear with hypnosis and with undirected play, but both hypnosis and play groups reported less pain and fear compared with baseline.<sup>8</sup> Although 3- to 6-year-old patients with leukemia undergoing bone marrow aspirations under hypnosis reported no less pain, external observers reported immediate decreases in pain, anxiety, and distress in the hypnotic imaging group compared with distraction and control groups.<sup>9</sup>

A study of the effects of direct and indirect hypnotic suggestions on lumbar puncture pain in 30 pediatric patients showed that levels of pain, anxiety, and distress were significantly lower after hypnotic analgesia ( $P < .001$ ).<sup>10</sup> Hypnotherapy alleviated pain, distress, and anxiety much more than distraction during venipuncture, bone marrow aspiration, and lumbar puncture in highly hypnotizable children in another study of 27 patients aged 3 to 8 years.<sup>11</sup> Similarly, hypnosis substantially reduced pain and anxiety during painful medical procedures in children and adolescents with cancer.<sup>12</sup>

Hypnosis was also successfully used to diminish pain and anxiety from angulated forearm fracture reduction in 4 pediatric emergency patients who had no access to other analgesia.<sup>13</sup> Similarly, postoperative pain and anxiety were substantially lower in the hypnosis and guided imagery group than in the control group of a randomized controlled trial of 52 children undergoing surgery.<sup>14</sup>

### Hypnosis for chronic pain

Hypnotherapy and self-hypnosis can be effective for managing chronic pain in children as well. Among more than 300 patients who presented to a pediatric pulmonary centre and received hypnotherapy, 80% of children with persistent chest pain reported improvement. No symptoms became worse and no new symptoms appeared following the treatment.<sup>15</sup> Four of 5 children who received hypnotherapy for chronic functional abdominal pain experienced resolution of pain within 3 weeks.<sup>16</sup>

Self-hypnosis, which most children can learn, can be effective in managing recurrent headaches. Twenty-eight self-hypnotized children aged 6 to 12 years recorded fewer migraine headaches in their diaries than children in placebo and propranolol treatment groups did.<sup>17</sup>

Hypnosis combined with other methods, such as acupuncture, is also acceptable for chronic pediatric pain. One trial conducted in 21 girls aged 6 to 18 years demonstrated that the treatment was not associated with adverse effects and resulted in substantial alleviation of both child- and parent-rated pain and anticipatory anxiety.<sup>18</sup>


Because of the lack of treatment specification, however, some authors suggest that hypnotizing children does not qualify as efficacious according to criteria for empirically supported therapies.<sup>19</sup>

### Adverse effects and regulation

Most complications occur after hypnosis has been performed by a layperson, when a symptom was removed by a direct command, or following an inadvertent post-hypnotic suggestion. Adverse effects are mostly short-term (fatigue, anxiety, confusion, fainting, dizziness, nausea), but can include such serious reactions as stupor, chronic psychological problems, spontaneous dissociative episodes, resurrection of memories of previous trauma, and seizures.<sup>20</sup> Therefore, screening for vulnerable individuals is recommended before beginning treatment.

Hypnosis regulation varies from province to province, and in many jurisdictions hypnotherapy is not regulated. Professional organizations, such as the Canadian Society of Clinical Hypnosis, offer training courses for health professionals and provide help with locating hypnotherapists.

### Summary

Results of controlled studies demonstrated that clinical hypnosis and self-hypnosis can be beneficial for children in pain. Studies found pediatric hypnosis effective for painful medical procedures, such as bone marrow aspiration and lumbar puncture during cancer treatment, for alleviating postoperative pain and anxiety in children undergoing surgery, and for headaches and some other conditions involving chronic pain. Hypnosis might have serious adverse effects in vulnerable subjects and should be administered by appropriately trained and experienced health professionals. 

**Children's vivid imaginations combined with stressful experiences elevate their receptivity to hypnosis.**

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