Clinical Practice Guideline: Hypnotherapy

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Date of Implementation: July 13, 2006

Product: Specialty

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GUIDELINES

American Specialty Health – Specialty (ASH) considers Hypnotherapy medically necessary for the following conditions/settings:

- Labor and childbirth
- Breast cancer care
- Pediatric oncology procedures

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Hypnosis is considered unproven for all other conditions/settings.

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DESCRIPTION/BACKGROUND

Hypnosis is a field with many applications. The American Psychological Association's definition of hypnosis states that in hypnosis, one person (the patient) is guided by another (the hypnotist) to respond to suggestions for changes in perceptions, sensations, thoughts, or behavior. The Society of Psychological Hypnosis defines hypnosis as "a state of consciousness involving focused attention and reduced peripheral awareness characterized by an enhanced capacity for response to suggestion." The American Society of Clinical Hypnosis gives a similar description, stating "hypnosis is a state of inner absorption, concentration, and focused attention." They state that when our minds are concentrated, we are able to use our minds more powerfully. ASCH also states that professionals use "clinical hypnosis to bring about both psychological and physiological change" in several ways including using mental imagery, presenting suggestions or ideas compatible with the patient's goal, or to encourage unconscious exploration of underlying thoughts and motivations. Hypnosis is currently hypothesized to bypass critical observation and interference of the conscious mind. One of the myths surrounding hypnosis is that it makes a patient lose control and surrender his/her will to the hypnotist. In fact, only a very small percentage of patients (and practitioners) practice hypnosis at a very deep level of trance referred to as somnambulism. In this state, suggestions by the therapist may be more powerful, but it is estimated that only about 20-30% of people are even susceptible to this deeper level of trance, while only 5 - 10% of the population can be hypnotized to the point of experiencing visual hallucinations. The primary clinical application of hypnosis is what is referred to as hypnotherapy. Hypnotherapy is the application of hypnosis as a form of treatment, and it is generally used for relieving and managing pain, situational distress, and for psychological disorders. Hypnotherapy is used as an adjunct to the practice of licensed physicians and psychologists.

Franz Mesmer, a German physician, introduced hypnosis to the medical community in the late 18th century as Mesmerism. Mesmer soon fell out of favor in the medical community and later the term was changed by a British physician to hypnosis from the Greek "hypnos," to sleep. The field of hypnosis has grown and changed in the past 150 years and is now used in many ways, including medicine, entertainment, and business.

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Hypnotherapy practice, as a branch of hypnosis, is further divided into two camps, the traditional or script-based approach and the modern, Eriksonian approach. They are also sometimes better known as the direct or authoritative hypnosis, and indirect, or permissive hypnosis, respectively. The authoritarian hypnotists' practice descends from the oldest schools of hypnosis and is based on the concept that the hypnotist is the authority, imposing both the trance state and the resolution upon the subject. It is believed that this traditional approach is the simplest and easiest form of hypnotherapy, and it can even be undertaken by oneself. Eriksonian hypnotists, on the other hand, base their work on the teachings of Milton Erikson, M.D. a physician and psychiatrist in the mid-20th century. Erikson held that trance was not a deep state that needed induction but rather a lighter drifting of the mind that occurred in people every day such as when minds wander while one is waiting for a train or involved in strenuous exercise. This conceptualization of trance is more patient controlled than therapist controlled and is related to becoming relaxed and clearing the mind of other thoughts. Additionally, this approach is a subtle, respectful method that uses indirect suggestions. It is advantageous over the traditional approach in that it's more accommodative, more ethical, and more effective. In this way one can focus one's own mental state. The most common clinical application of this is in the management and relief of pain.

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A typical session for pain management includes relaxation and guided imagery exercises. A session may also include hypnotic suggestions of analgesia that a patient can use as a cue to induce pain relief outside of the hypnotherapy session. Hypnotherapy embraces several methods used in other mind/body techniques such as relaxation and guided imagery and the self-hypnosis training that most pain management patients receive is similar to many mental imagery exercises.

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EVIDENCE REVIEW

There are numerous randomized controlled trials (RCTs) evaluating hypnosis for therapeutic purposes; the majority of them are small and provide promising, but low-quality evidence for the effectiveness of hypnosis (Bissonnette et al., 2022; Chamine et al., 2018; Fisch et al., 2017; Lam et al., 2015; Madden et al., 2016; Pathak et el., 2020) Many of them evaluate the use of hypnosis for pain, with headache being the most common topic. They all use differing outcome measures which makes it difficult to compare or evaluate the body of research cumulatively. For example, a review by Jensen and Patterson (2006) was expansive and thorough, critically evaluating studies of hypnosis for pain due to various conditions. They found that the findings concerning pain treatment with hypnosis

were consistently positive; however, they point out the need for improving methodological process in hypnosis studies including the use of a workable placebo for hypnosis, rather than evaluating hypnosis only in comparison to other treatment methods.

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Of note, most studies do find hypnosis outcomes to be remarkably similar to relaxation and other mind/body therapies, highlighting the frequent overlap between these mind/body techniques. In addition, Patterson & Jensen (2003) noted that hypnotic procedures affect the central nervous system indicating some physiological mechanism as the basis of hypnotic analgesia. More recently, Vanhaudenhuyse et al. (2014) documented the brain mechanisms underlying the modulation of pain perception under hypnotic conditions involve the anterior cingulate and prefrontal cortices, basal ganglia, and thalami.

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Labor and Childbirth

Cyna et al. (2004) concluded hypnosis decreased the need for other analgesia during childbirth. However, in a Cochrane review by Jones et al. (2012), summarized the evidence from Cochrane systematic reviews on the efficacy and safety of non-pharmacological and pharmacological interventions to manage pain in labor. If Cochrane did not have a review, authors considered non-Cochrane reviews. Each Cochrane review included comparisons with placebo, standard care or with a different intervention according to a predefined hierarchy of interventions. 15 Cochrane reviews (255 included trials) and three non-Cochrane reviews (55 included trials) for inclusion within this overview. The authors concluded that most methods of non-pharmacological pain management are non-invasive and appear to be safe for mother and baby, however, their efficacy is unclear, due to limited high quality evidence. There is more evidence to support the efficacy of pharmacological methods, but these have more adverse effects. Thus, epidural analgesia provides effective pain relief but at the cost of increased instrumental vaginal birth and risk of nerve/spinal cord injury. With regards to hypnosis, there was insufficient evidence to make judgments on whether or not hypnosis is more effective than placebo or other interventions for pain management. Authors noted that it was difficult to pool results and draw conclusions on all of the evidence because of the variation in outcome measures.

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Madden et al. (2012) completed a Cochrane review on hypnosis for pain management during labor and childbirth. They concluded that there remain only a small number of studies assessing the use of hypnosis for labor and childbirth. Although the intervention shows some promise, further research is needed before recommendations can be made regarding its clinical usefulness for pain management in maternity care.

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Madden et al. (2016) updated an earlier version of the review completed in 2012. This review examined the effectiveness and safety of hypnosis for pain management during labor and childbirth. Nine trials randomizing a total of 2954 women were included. In this updated review authors compared hypnosis interventions with all control groups (main comparison) and also with specific control conditions: standard care (nine RCTs),

supportive counselling (two RCTs) and relaxation training (two RCTs). Authors concluded that there are still only a relatively small number of studies assessing the use of hypnosis for labor and childbirth. Hypnosis may reduce the overall use of analgesia during labor, but not epidural use. No clear differences were found between women in the hypnosis group and those in the control groups for satisfaction with pain relief, sense of coping with labor or spontaneous vaginal birth.

Catsaros & Wendland (2020) conducted a systematic review on the impact of hypnosis-based interventions during pregnancy and childbirth. Nine articles met their inclusion criteria, but the methodological value of the articles was limited for half of the studies (as four studies scored 60% or less on the Mixed Methods Appraisal Tool). Despite this methodological limitation, the results suggest hypnosis-based interventions alleviate fear and pain and enhance sense of control during labor. An updated systematic review of the psychological impact of hypnosis on pregnancy and childbirth by Catsaros & Wendland (2023) found that two studies of hypnosis during pregnancy showed an association between the hypnosis during pregnancy and improved women's postnatal wellbeing.

Breast Cancer Care

Elkins et al. (2004) found that hypnosis was effective at reducing hot flash symptoms in breast cancer patients. Cramer et al. (2015 completed a Cochrane review on hypnosis for breast cancer care. Thirteen RCTs with 1357 patients were included. In women undergoing diagnostic breast biopsy (3 RCTs), hypnosis positively influenced pain and distress; one RCT on breast cancer surgery found effects of hypnosis on pain, distress, fatigue, and nausea. For women undergoing radiotherapy (3 RCTs), hypnosis combined with cognitive-behavioral therapy improved distress and fatigue. In three RCTs on women with and without a history of breast cancer experiencing hot flashes, hypnosis improved hot flashes and distress. Three RCTs on women with metastatic breast cancer found effects on pain and distress. Authors found sparse but promising evidence for the effectiveness of hypnosis in breast cancer care. Additional research is needed to help address broader symptoms and populations (Carlson et al., 2018).

Potié et al., (2016) summarized the data published on the use of perioperative hypnosis in patients undergoing breast cancer surgery (BCS). Indeed, the majority of BCS patients experience stress, anxiety, nausea, vomiting, and pain. Authors conclude that because of its specific properties and techniques allowing it to be used as complementary treatment preoperatively, hypnosis has an impact most notably on distress and postoperative pain. During surgery, hypnosis may be applied to limit immunosuppression, while, in the postoperative period, it can reduce pain, anxiety, and fatigue and improve wound healing. Moreover, hypnosis is inexpensive, an important consideration given current financial concerns in healthcare.

A systematic review and meta-analysis by Zeng et al. (2022) examined preoperative anxiety that can worsen pain and tension as well as interfere with surgery and postoperative recovery. 1242 patients in 8 studies were included, and 630 patients received hypnosis prior to surgery, whereas 618 did not. Findings showed that the application of hypnosis before surgery not only decreased anxiety levels in patients, but also reduced postoperative pain. However, it should be noted that hypnosis did not shorten operation time, or improve postoperative nausea, or vomiting side effects.

Pediatric Oncology

Every year, about 15,600 children are diagnosed with cancer (Fuller et al., 2022). Pain and distress are common in children who undergo medical procedures. Geagea et al. (2023) reviewed 38 studies involving 2,205 children, finding that there is potential benefit from clinical hypnosis for procedural pain and distress in pediatric oncology. It is important to note that "...researchers implementing clinical hypnosis should adequately report interventions or use treatment manuals, follow recommended research guidelines, and assess the fidelity of intervention delivery to promote replicating and comparing interventions." (2023)

Landier and Tse (2010) reviewed the use of complementary and alternative medical interventions for the management of procedure-related pain, anxiety, and distress in pediatric oncology. A total of 32 articles met inclusion criteria. Results suggest that mind-body interventions, including hypnosis, distraction, and imagery, may be effective, alone or as adjuncts to pharmacological interventions, in managing procedure-related pain, anxiety, and distress in pediatric oncology. More recently, an evidence-based decision aid was developed to help guide parents of children with cancer about the use of complementary and alternative medicine (CAM) given parents' emphasis on the importance of having reliable information about alternative treatment modalities (Jong et al., 2019).

Irritable Bowel Syndrome

Tan et al. (2005) found that hypnosis was a highly efficacious treatment for irritable bowel syndrome. A systematic review with meta analysis performed by Markin et al. (2022) looked at 9 studies of 867 patients and confirmed that hynotherapy is more effective in the reduction of gastrointestinal symptoms in those with IBS compared to controls. It found that more than 7 sessions of hynotherapy more than once per week, with a minimum duration of 45 minutes per session was most effective. Krouwel et al. 2021 concurs that sample sizes tended to be small so more studies are needed to confirm findings.

Fibromyalgia

Zech et al. (2017) completed a systematic review and meta-analysis on the efficacy, 2 acceptability, and safety of guided imagery/hypnosis on those suffering from fibromyalgia. 3 Their findings indicate a 50% or greater rate of pain relief, a 20% or greater improvement 4 in health-related quality of life, psychological distress, disability acceptability, and safety 5 after a 3 month follow up. In total, 7 randomly controlled trials were reviewed, which 6 included 387 subjects where hypnosis and guided imagery were compared against controls. 7 Additionally, 2 studies combined hypnosis with cognitive-behavioral therapy (CBT) 8 demonstrated favorable outcomes. 9

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Low Back Pain

Powell et al. (2016) reviewed randomized controlled trials of the effects of psychological preparation on postoperative outcomes in adults (16 years or older) undergoing elective surgery under general anesthetic. They included studies testing a preoperative psychological intervention that included at least one of these seven techniques: procedural information; sensory information; behavioral instruction; cognitive intervention; relaxation techniques; hypnosis; emotion-focused intervention. They included studies that examined any one of four postoperative outcome measures (pain, behavioral recovery, length of stay, negative affect) within one-month post-surgery.

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Authors concluded that the evidence suggested that psychological preparation may be beneficial for the outcomes postoperative pain, behavioral recovery, negative affect and length of stay, and is unlikely to be harmful. However, at present, the strength of evidence is insufficient to reach firm conclusions on the role of psychological preparation for surgery. Thus, further analyses are needed to explore the heterogeneity in the data of Powell et al. (2016), to identify more specifically when various intervention techniques are of benefit. As the current evidence quality is low or very low there is a need for well-conducted and clearly reported research.

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References

About hypnosis. American Society of Clinical Hypnosis. (n.d.). https://www.asch.net/aws/ASCH/pt/sp/about-hypnosis

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American Psychology Association's Division of Psychological Hypnosis. Retrieved November 12, 2021 from http://www.apa.org/topics/hypnosis/media.aspx?

353637

American Society of Clinical Hypnosis. Retrieved December 17, 2021 from https://www.asch.net/aws/ASCH/pt/sp/home_page

38 39 40

41

Anderson, J. A., Basker, M. A., & Dalton, R. (1975). Migraine and hypnotherapy. International Journal of Clinical and Experimental Hypnosis, 23(1), 48-58.

Page 6 of 11

Astin, J. A. (2004). Mind-body therapies for the management of pain. Clinical Journal of Pain, 20(1), 27-32.

3 4

5

Astin, J. A., Shapiro, S. L., Eisenberg, D. M., & Forys, K. L. (2003). Mind-body medicine: state of the science, implications for practice. Journal of the American Board of Family Medicine, 16(2), 131-147.

6 7

Bissonnette, J., Dumont, E., Pinard, A.-M., Landry, M., Rainville, P., & Ogez, D. (2022).

Hypnosis and music interventions for anxiety, pain, sleep and well-being in Palliative
Care: Systematic review and meta-analysis. *BMJ Supportive & Palliative Care*.

https://doi.org/10.1136/bmjspcare-2022-003551

12

Carlson, L. E., Toivonen, K., Flynn, M., Deleemans, J., Piedalue, K.-A., Tolsdorf, E., & Subnis, U. (2018). The role of hypnosis in cancer care. *Current Oncology Reports*, 20(12). https://doi.org/10.1007/s11912-018-0739-1

16

17 Catsaros, S., & Wendland, J. (2020.) Hypnosis-based interventions during pregnancy and 18 childbirth and their impact on women's childbirth experience: A systematic review. 19 *Midwifery*, 84. https://doi.org/10.1016/j.midw.2020.102666

20

Catsaros, S., & Wendland, J. (2023). Psychological impact of hypnosis for pregnancy and childbirth: A systematic review. *Complementary Therapies in Clinical Practice*, *50*, 101713. https://doi.org/10.1016/j.ctcp.2022.101713

2425

Chamine, I., Atchley, R., & Oken, B. S. (2018). Hypnosis intervention effects on sleep outcomes: A systematic review. *Journal of Clinical Sleep Medicine*, *14*(02), 271–283. https://doi.org/10.5664/jcsm.6952

2728

26

Cramer H, Lauche R, Paul A, Langhorst J, Kümmel S, Dobos GJ. (2015.) Hypnosis in breast cancer care: a systematic review of randomized controlled trials. Integr Cancer Ther. 14(1):5-15.

32 33

Cyna, A. M., McAuliffe, G. L., & Andrew, M. I. (2004). Hypnosis for pain relief in labour and childbirth: a systematic review. British Journal of Anaesthesia, 93(4), 505-511.

343536

Egner, T., Jamieson, G., & Gruzelier, J. (2005). Hypnosis decouples cognitive control from conflict monitoring processes of the frontal lobe. Neuroimage, 27(4), 969-978.

3738

Eimer, B. N. (2000). Clinical applications of hypnosis for brief and efficient pain management psychotherapy. American Journal of Clinical Hypnosis, 43(1), 17-40.

Elkins, G., Marcus, J., Palamara, L., & Stearns, V. (2004). Can hypnosis reduce hot flashes in breast cancer survivors? A literature review. American Journal of Clinical Hypnosis, 47(1), 29-42.

4 5

Evans, F. J. (2000). The domain of hypnosis: a multifactorial model. American Journal of Clinical Hypnosis, 43(1), 1-16.

6 7 8

9

Fisch, S., Brinkhaus, B., & Teut, M. (2017). Hypnosis in patients with perceived stress – A systematic review. *BMC Complementary and Alternative Medicine*, 17(1). https://doi.org/10.1186/s12906-017-1806-0

10 11

Fuller, C., Huang, H., & Thienprayoon, R. (2022). Managing pain and discomfort in children with cancer. *Current Oncology Reports*, 24(8), 961–973. https://doi.org/10.1007/s11912-022-01277-1

15

Geagea D, Tyack Z, Kimble R, et al. Clinical Hypnosis for Procedural Pain and Distress in Children: A Scoping Review. Pain Med. 2023;24(6):661-702. doi:10.1093/pm/pnac186

19

Gruzelier, J. H. (2002). A review of the impact of hypnosis, relaxation, guided imagery and individual differences on aspects of immunity and health. Stress, 5(2), 147-163.

22 23

Gueguen, J., Huas, C., Orri, M., & Falissard, B. (2021). Hypnosis for labour and childbirth: A meta-integration of qualitative and quantitative studies. *Complementary Therapies in Clinical Practice*, 43, 101380. https://doi.org/10.1016/j.ctcp.2021.101380

252627

24

Jensen, M., & Patterson, D. R. (2006). Hypnotic Treatment of Chronic Pain. Journal of Behavioral Medicine, 1-30.

29 30

31

Jones L, Othman M, Dowswell T, Alfirevic Z, Gates S, Newburn M, Jordan S, Lavender T, Neilson JP. (2012.) Pain management for women in labour: an overview of systematic reviews. Cochrane Database Syst Rev.;3:CD009234.

323334

35

36

Jong MC, Boers I, van Wietmarschen H, et al. Development of an evidence-based decision aid on complementary and alternative medicine (CAM) and pain for parents of children with cancer. Support Care Cancer. 2020;28(5):2415-2429. doi:10.1007/s00520-019-05058-8

373839

40

41 42 Krouwel, M., Farley, A., Greenfield, S., Ismail, T., & Jolly, K. (2021). Systematic Review, meta-analysis with subgroup analysis of hypnotherapy for irritable bowel syndrome, effect of intervention characteristics. *Complementary Therapies in Medicine*, *57*, 102672. https://doi.org/10.1016/j.ctim.2021.102672.

Lam, T. H., Chung, K. F., Yeung, W. F., Yu, B. Y., Yung, K. P., & Ng, T. H. (2015).
Hypnotherapy for insomnia: a systematic review and meta-analysis of randomized controlled trials. *Complementary therapies in medicine*, 23(5), 719–732. https://doi.org/10.1016/j.ctim.2015.07.011

5 6

7

Landier W, Tse AM. (2010.) Use of complementary and alternative medical interventions for the management of procedure-related pain, anxiety, and distress in pediatric oncology: an integrative review. J Pediatr Nurs.;25(6):566-79.

8 9

Langewitz, W., Izakovic, J., Wyler, J., Schindler, C., Kiss, A., & Bircher, A. J. (2005). Effect of self-hypnosis on hay fever symptoms - a randomized controlled intervention study. Psychotherapy and Psychosomatics, 74(3), 165-172.

13

Lin, Y. C., Lee, A. C., Kemper, K. J., & Berde, C. B. (2005). Use of complementary and alternative medicine in pediatric pain management service: a survey. Pain Medicine, 6(6), 452-458.

17

Lynn, S. J., Kirsch, I., Barabasz, A., Cardena, E., & Patterson, D. (2000). Hypnosis as an empirically supported clinical intervention: the state of the evidence and a look to the future. International Journal of Clinical and Experimental Hypnosis, 48(2), 239-259.

21

Madden K, Middleton P, Cyna AM, Matthewson M, Jones L. (2012.) Hypnosis for pain management during labour and childbirth. Cochrane Database Syst Rev. Nov 14;11:CD009356.

25

Madden K, Middleton P, Cyna AM, Matthewson M, Jones L. (2016.) Hypnosis for pain management during labour and childbirth. Cochrane Database Syst Rev.;(5):CD009356.

29

Markin, K. V., Temniy, A. V., & Dnov, K. V. (2022). Efficacy of hypnotherapy in the treatment of irritable bowel syndrome. A systematic review with meta-analysis. *Neurology Bulletin*, *LIV*(2), 44–55. https://doi.org/10.17816/nb107881

33

Matthews, W. J. (2000). Ericksonian approaches to hypnosis and therapy: where are we now? International Journal of Clinical and Experimental Hypnosis, 48(4), 418-426; discussion 433-417.

37

Milling, L. S., Levine, M. R., & Meunier, S. A. (2003). Hypnotic enhancement of cognitive-behavioral interventions for pain: an analogue treatment study. Health Psychology, 22(4), 406-413.

41

42 Mordeniz, C. (2020). *Hypnotherapy and hypnosis*. IntechOpen.

Nash, M. R. (2005). Salient findings: A potentially groundbreaking study on the neuroscience of hypnotizability, a critical review of hypnosis' efficacy, and the neurophysiology of conversion disorder. International Journal of Clinical and Experimental Hypnosis, 53(1), 87-93.

5 6

Nash, M. R., & Klyce, D. (2005). Salient findings: hypnosis in medical settings. International Journal of Clinical and Experimental Hypnosis, 53(4), 430-436.

7 8

Palsson, O. S. (2006). Standardized hypnosis treatment for irritable bowel syndrome: the North Carolina protocol. International Journal of Clinical and Experimental Hypnosis, 54(1), 51-64.

12

Pathak, A., Sharma, S., & Jensen, M. P. (2020). Hypnosis for clinical pain management:

A scoping review of systematic reviews. *OBM Integrative and Complementary*Medicine, 5(1). https://doi.org/10.21926/obm.icm.2001005

16

Patterson, D. R., & Jensen, M. P. (2003). Hypnosis and clinical pain. Psychological Bulletin, 129(4), 495-521.

19 20

21

22

23

Potié A, Roelants F, Pospiech A, Momeni M, Watremez C. (2016.) Hypnosis in the Perioperative Management of Breast Cancer Surgery: Clinical Benefits and Potential Implications. Anesthesiol Res Pract. 2016:2942416. doi: 10.1155/2016/2942416. Epub 2016 Aug 21.

2425

26

27

Powell R, Scott NW, Manyande A, Bruce J, Vögele C, Byrne-Davis LM, Unsworth M, Osmer C, Johnston M. (2016.) Psychological preparation and postoperative outcomes for adults undergoing surgery under general anaesthesia. Cochrane Database Syst Rev. 2016 May 26;(5):CD008646.

28 29 30

Saicheck, K. (2000). Hypnotherapy. In D. Novey (Ed.), Clinician's Complete Reference to Complementary and Alternative Medicine (pp. 53-63). St. Louis: Mosby.

313233

SECTION ON INTEGRATIVE MEDICINE. Mind-Body Therapies in Children and Youth. Pediatrics. 2016 Sep;138(3). pii: e20161896.

343536

37

38

Spinhoven, P., & ter Kuile, M. M. (2000). Treatment outcome expectancies and hypnotic susceptibility as moderators of pain reduction in patients with chronic tension-type headache. International Journal of Clinical and Experimental Hypnosis, 48(3), 290-305.

39 40 41

42

Stetter, F., & Kupper, S. (2002). Autogenic training: a meta-analysis of clinical outcome studies. Applied Psychophysiology and Biofeedback, 27(1), 45-98.

Stewart, J. H. (2005). Hypnosis in contemporary medicine. Mayo Clinic Proceedings, 1 80(4), 511-524. 2

3 4

Tan, G., Hammond, D. C., & Joseph, G. (2005). Hypnosis and irritable bowel syndrome: a review of efficacy and mechanism of action. American Journal of Clinical Hypnosis, 47(3), 161-178.

6 7

5

Vanhaudenhuyse, A., Laureys, S., & Faymonville, M. E. (2014.) Neurophysiology of 8 hypnosis. Neurophysiologie Clinique/Clinical Neurophysiology, 9 Volume 44, Issue 4, 343-353. https://doi.org/10.1016/j.neucli.2013.09.006. 10

11 12

13

Zeng, J., Wang, L., Cai, Q., Wu, J., & Zhou, C. (2022). Effect of hypnosis before general anesthesia on postoperative outcomes in patients undergoing minor surgery for breast cancer: A systematic review and meta-analysis. Gland Surgery, 11(3), 588-598. 14 https://doi.org/10.21037/gs-22-114 15