

AORN Guideline for Complementary Care
Evidence Table

REFERENCE #	CITATION	EVIDENCE TYPE	SAMPLE SIZE/ POPULATION	INTERVENTION(S)	CONTROL/ COMPARISON	OUTCOME MEASURE(S)	CONCLUSION(S)	CONSENSUS SCORE
1	Gan TJ, Diemunsch P, Habib AS, et al. Consensus guidelines for the management of postoperative nausea and vomiting. <i>Anesthesia & Analgesia</i> . 2014;118(1). https://journals.lww.com/anesthesia-analgesia/Fulltext/2014/01000/Consensus_Guidelines_for_the_Management_of.13.aspx .	Guideline	n/a	n/a	n/a	n/a	Consensus guidelines for management of PONV.	IVA
2	Donoghue TJ. Herbal medications and anesthesia case management. <i>AANA J</i> . 2018;86(3):242-248.	Expert Opinion	n/a	n/a	n/a	n/a	Review of guidance for herbal medications and anesthesia case management.	VA
3	Fatma A, Serife K. Experience of pain in patients undergoing abdominal surgery and nursing approaches to pain control. <i>INT J CARING SCI</i> . 2017;10(3):1456-1464. http://search.ebscohost.com/login.aspx?direct=true&db=ccm&AN=127731939&site=ehost-live&scope=site .	Nonexperimental	103 patients	n/a	n/a	VAS severity and nature of pain, patient reports of RN approach	Patients with a history of surgery reported higher severity pain, no scale for RN evaluation or nature of pain; recommend in-service training for pain management, standard use of forms.	IIIB
4	Wang S, Peloquin C, Kain ZN. The use of auricular acupuncture to reduce preoperative anxiety. <i>Anesthesia & Analgesia</i> . 2001;93(5). https://journals.lww.com/anesthesia-analgesia/Fulltext/2001/11000/The_Use_of_Auricular_Acupuncture_to_Reduce.24.aspx .	RCT	91 ASC patients	auricular acupuncture - TCM kidney, heart, shen men	auricular acupuncture - relaxation, tranquilizer, master cerebral versus control - sham points	STAI	Significantly less anxiety with relaxation versus control, TCM group no difference; less-than-1 minute intervention produced significant improvement.	IA
5	Dolatian M, Hasanpour A, Montazeri S, Heshmat R, Alavi Majd H. The effect of reflexology on pain intensity and duration of labor on primiparas. <i>Iranian Red Crescent medical journal</i> . 2011;13(7):475-479. https://pubmed.ncbi.nlm.nih.gov/22737514/ ; https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3371987/ .	RCT	120 parturient low-risk women	40 minutes of reflexology massage at 4-5 cm cervical dilation	emotional support versus routine care	VAS pain, severity at different dilation stages	Significantly lower at all 3 stages with reflexology, emotional support nonsignificant but less than routine care; reflexology useful to decrease pain intensity and duration of labor.	IA
6	Notte BB, Fazzini C, Mooney RA. Reiki's effect on patients with total knee arthroplasty: A pilot study. <i>Nursing</i> . 2016;46(2):17-23. http://search.ebscohost.com/login.aspx?direct=true&db=ccm&AN=112362408&site=ehost-live&scope=site . doi: 10.1097/01.NURSE.0000476246.16717.65.	RCT	43 patients	preoperative and postoperative Reiki	POD 2 Reiki	VAS pain, patient satisfaction	Significant decrease in pain preoperatively and POD1-3 except PACU, confounded by patients falling asleep before assessment; successful intervention requiring more RNs to be trained.	IB
7	Cho HK, Park U, Jeong YM, Lee YJ, Hwang SH. Can perioperative acupuncture reduce the pain and vomiting experienced after tonsillectomy? A meta-analysis. <i>The Laryngoscope</i> . 2016;126(3):608-615. https://doi.org/10.1002/lary.25721 . doi: 10.1002/lary.25721.	Systematic Review w/ Meta-Analysis	n/a	n/a	n/a	n/a	12 RCTs for acupuncture, significantly lower pain at 4 and first 48 hours, significantly lower PONV, no major adverse effects; recommend standardize technique.	IA
8	Quinlan-Woodward J, Gode A, Dusek J, Reinstein A, Johnson J, Sendelbach S. Assessing the impact of acupuncture on pain, nausea, anxiety, and coping in women undergoing a mastectomy. <i>Oncol Nurs Forum</i> . 2016;43:725-732. doi: 10.1188/16.ONF.725-732.	RCT	30 female patients	acupuncture points based on symptoms	standard care	pain, nausea, anxiety, coping VAS	Significant reduction in all POD 1 and pain POD 2, younger patients significantly lower; standards require more testing.	IA
9	Asay K, Olson C, Donnelly J, Perlman E. The use of aromatherapy in postoperative nausea and vomiting: A systematic review. <i>Journal of PeriAnesthesia Nursing</i> . 2019;34(3):502-516. http://www.sciencedirect.com/science/article/pii/S1089947218303526 . doi: https://doi.org/10.1016/j.jopan.2018.08.006 .	Systematic Review	n/a	n/a	n/a	n/a	60 RCTs aromatherapy, adjunct to antiemetic, cost effective compared to medication; recommend standardized nausea scale and RN staff training.	IA
10	Complementary, alternative, or integrative health: What's in a name? https://www.nccih.nih.gov/health/complementary-alternative-or-integrative-health-whats-in-a-name . Updated 2018. Accessed 11/5, 2020.	Expert Opinion	n/a	n/a	n/a	n/a	Overview of CAM by NIH.	VA
11	Black LI, Clarke TC, Barnes PM, Stussman BJ, Nahin RL. Use of complementary health approaches among children aged 4-17 years in the united states: National health interview survey, 2007-2012. <i>National health statistics reports</i> . 2015(78):1-19. https://pubmed.ncbi.nlm.nih.gov/25671583/ ; https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4562218/ .	Qualitative	17321 national interviews children ages 4-17 years old	n/a	n/a	CAM use	Older more likely to use, significantly less likely to use in Hispanic or lower education in parents, fish oil most common, increased use of melatonin.	IIIA

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12	Ho TF, Rowland-Seymour A, Frankel ES, Li SQ, Mao JJ. Generational differences in complementary and alternative medicine (CAM) use in the context of chronic diseases and pain: Baby boomers versus the silent generation. <i>J Am Board Fam Med</i> . 2014;27(4):465. http://www.jabfm.org/content/27/4/465.abstract . doi: 10.3122/jabfm.2014.04.130238.	Nonexperimental	7732 baby boomers versus 4682 silent generation national survey	n/a	n/a	CAM use	Significant increase use with chronic pain, baby boomers significantly more likely to use CAM, increased in younger, male respondents; patient-centered communication for risk and benefits of CAM for effective coping.	IIIA
13	Clarke TC, Black LI, Stussman BJ, Barnes PM, Nahin RL. Trends in the use of complementary health approaches among adults: United states, 2002-2012. <i>National health statistics reports</i> . 2015(79):1-16. https://pubmed.ncbi.nlm.nih.gov/25671660/ ; https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4573565/ .	Nonexperimental	88962 national survey of adults compared to previous survey	n/a	n/a	CAM use	Nonvitamin and nonmineral dietary supplements most popular, yoga/tai chi/qigong increased.	IIIA
14	de Moura LA, Dias IMG, Pereira LV. Prevalence and factors associated with preoperative anxiety in children aged 5-12 years. <i>Rev Lat Am</i> . 2016;24:e2708. https://pubmed.ncbi.nlm.nih.gov/27305179/ ; https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4916978/ . doi: 10.1590/1518-8345.0723.2708.	Nonexperimental	210 pediatric patients ages 5-12 years old interviews	n/a	n/a	mYPAS, sociodemographics, clinical variables	42% report anxiety; pediatric assessment including age and socioeconomic factors.	IIIA
15	ERAS society. https://erasociety.org/ . Accessed 4/20, 2020.	Guideline	n/a	n/a	n/a	n/a	Guidance by ERAS Society, including CAM modalities.	IVA
16	<i>Position statement: Care coordination and registered nurses' essential role</i> . American Nurse's Association; 2012.	Position Statement	n/a	n/a	n/a	n/a	ANA information for care coordination.	IVA
17	Bischoff-Ferrari H, Dawson-Hughes B, Platz A, et al. Effect of high-dosage cholecalciferol and extended physiotherapy on complications after hip fracture: A randomized controlled trial. <i>Arch Intern Med</i> . 2010;170(9):813-820. https://doi.org/10.1001/archinternmed.2010.67 . doi: 10.1001/archinternmed.2010.67.	RCT	173 patients over 65 years old	2000 versus 800 IU of cholecalciferol	extended physical therapy PT	fall incidence, readmission to hospital	Cholecalciferol reduced fall incidence by 39% and extended PT reduced by 25%; use both to reduce incidence of falls after hip fracture.	IA
18	Chapuy MC, Arlot ME, Duboeuf F, et al. Vitamin D3 and calcium to prevent hip fractures in elderly women. <i>N Engl J Med</i> . 1992;327(23):1637-1642. https://doi.org/10.1056/NEJM199212033272305 . doi: 10.1056/NEJM199212033272305.	RCT	3270 females ages 69-106 years old	1.2 g calcium and 800 IU vitamin D3	placebo	clinical fractures over 18 months	Resulted in less nonvertebral and hip fractures; safe to decrease fracture incidence.	IB
19	Seidi J, Ebnerasooli S, Shahsawari S, Nzarian S. The influence of oral ginger before operation on nausea and vomiting after cataract surgery under general anesthesia: A double-blind placebo-controlled randomized clinical trial. <i>Electronic physician</i> . 2017;9(1):3508-3514. https://pubmed.ncbi.nlm.nih.gov/28243400/ ; https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5308488/ . doi: 10.19082/3508.	RCT	122 patients	1 g single dose ginger	500 mg night and morning of surgery versus placebo	NV VAS	Significantly less NV with 500 mg x2 in PACU 2-6 hours postoperative, significantly less nausea PACU admission and 2 hour intensity, decrease frequency vomiting; safe and effective.	IA
20	Aytekin A, Doru Ö, Kucukoglu S. The effects of distraction on preoperative anxiety level in children. <i>Journal of PeriAnesthesia Nursing</i> . 2016;31(1):56-62. https://doi.org/10.1016/j.jopan.2014.11.016 . doi: 10.1016/j.jopan.2014.11.016.	Quasi-experimental	83 pediatric patients ages 9-18 years old	distraction methods	control	STAI	Significantly decreased anxiety and separation anxiety.	IIA
21	Hooper VD. SAMBA consensus guidelines for the management of postoperative nausea and vomiting: An executive summary for Perianesthesia nurses. <i>Journal of PeriAnesthesia Nursing</i> . 2015;30(5):377-382. http://www.sciencedirect.com/science/article/pii/S1089947215003111 . doi: https://doi.org/10.1016/j.jopan.2015.08.009 .	Guideline	n/a	n/a	n/a	n/a	Guidelines for PONV by Perianesthesia Nurses.	IVB
22	Rajabpour S, Rayyani M, Mangolian shahrbabaki P. The relationship between iranian patients' perception of holistic care and satisfaction with nursing care. <i>BMC Nursing</i> . 2019;18(1):48. https://doi.org/10.1186/s12912-019-0374-7 . doi: 10.1186/s12912-019-0374-7.	Qualitative	100 oncology patients	n/a	n/a	holistic caring inventory, patient satisfaction	Significant correlation of patient perception of holistic care and overall satisfaction with care; recommend nurses evaluate the patients' physical, mental, emotional care.	IIIA

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23	<i>Position statement: Position on the role of nurses in the practice of complementary & integrative health approaches (CIHA)</i> . American Holistic Nurses' Association; 2016.	Position Statement	n/a	n/a	n/a	n/a	Guidance for nurses and complementary and integrative health approaches.	IVA
24	Best M, Butow P, Olver I. Do patients want doctors to talk about spirituality? A systematic literature review. <i>Patient Educ Couns</i> . 2015;98(11):1320-1328. http://www.sciencedirect.com/science/article/pii/S0738399115001974 . doi: https://doi.org/10.1016/j.pec.2015.04.017 .	Literature Review	n/a	n/a	n/a	n/a	Review of literature, appropriate to enquire about spiritual needs, patient preference not straightforward; due diligence to find patients who would benefit most.	VA
25	Guo P. Preoperative education interventions to reduce anxiety and improve recovery among cardiac surgery patients: A review of randomised controlled trials. <i>J Clin Nurs</i> . 2015;24(1-2):34-46. https://doi.org/10.1111/jocn.12618 . doi: https://doi.org/10.1111/jocn.12618 .	Systematic Review	n/a	n/a	n/a	n/a	6 RCTs found conflicting evidence that preoperative education improves physical or psychosocial recovery; recommend staff training to develop and deliver interventions.	IA
26	Kekacs Z, Nagy T, Varga K. The effectiveness of suggestive techniques in reducing postoperative side effects: A meta-analysis of randomized controlled trials. <i>Anesthesia & Analgesia</i> . 2014;119(6). https://journals.lww.com/anesthesia-analgesia/Fulltext/2014/12000/The_Effectiveness_of_Suggestive_Techniques_in.28.aspx .	Systematic Review w/ Meta-Analysis	n/a	n/a	n/a	n/a	26 RCTs found hypnosis more effective than therapeutic suggestion or recorded hypnosis to decrease anxiety and pain.	IA
27	Kain ZN, Caldwell-Andrews A, Krivutza DM, et al. Interactive music therapy as a treatment for preoperative anxiety in children: A randomized controlled trial. <i>Anesthesia & Analgesia</i> . 2004;98(5). https://journals.lww.com/anesthesia-analgesia/Fulltext/2004/05000/Interactive_Music_Therapy_as_a_Treatment_for.13.aspx .	RCT	123 pediatric patients ages 3-7 years old	interactive music	oral midazolam versus control	mYPAS, ICC, EASI, STAI	Significantly less anxiety with midazolam than both, even controlling for one therapist had significantly less anxious patients; may be helpful depending on the therapist, not cost effective.	IC
28	Institute of Medicine (U.S.). Committee on the Use of Complementary and Alternative Medicine by the American Public. APPENDIX E, model guidelines for the use of complementary and alternative therapies in medical practice. In: <i>Complementary and alternative medicine in the united states</i> . Washington, DC: National Academies Press; 2005. http://site.ebrary.com/id/10078702 ;	Guideline	n/a	n/a	n/a	n/a	Guidelines for CAM by IOM.	IVB
29	Levy I, Attias S, Ben-Arye E, et al. Perioperative risks of dietary and herbal supplements. <i>World J Surg</i> . 2017;41(4):927-934. doi: 10.1007/s00268-016-3825-2 [doi].	Nonexperimental	526 survey interviews	n/a	n/a	DHS use and knowledge of interactions	44% reported use; 16.5% knowledgeable of interactions; males who reported one additional DHS increased risk by 29%; recommend increase training for perioperative management.	IIIB
30	Wang C, Moss J, Yuan C. Commonly used dietary supplements on coagulation function during surgery. <i>Medicines (Basel, Switzerland)</i> . 2015;2(3):157-185. https://pubmed.ncbi.nlm.nih.gov/26949700 ; https://www.ncbi.nlm.nih.gov/pmc/articles/PMC477343/ . doi: 10.3390/medicines2030157 .	Systematic Review	n/a	n/a	n/a	n/a	186 descriptive articles of DHS-drug interactions.	IIIA
31	Herbal products and your anesthesia. https://www.aana.com/patients/herbal-products-and-your-anesthesia . Accessed 4/22, 2020.	Guideline	n/a	n/a	n/a	n/a	AANA guidance for herbal products and anesthesia.	IVA
32	Faith J, Thorburn S, Tippens KM. Examining the association between patient-centered communication and provider avoidance, CAM use, and CAM-use disclosure. <i>Altern Ther Health Med</i> . 2015;21(2):30-35.	Nonexperimental	cross-sectional survey data from the Health Information National Trends Survey (HINTS) 3	n/a	n/a	CAM use, disclosure, avoidance of doctors, patient-centered communication, compared with demographics	Concluded that patients may be more likely to avoid seeing their doctors and more likely to use CAM when they perceive low levels of patient-centered communication.	IIIA

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33	Shere-Wolfe K, Tilburt JC, D'Adamo C, Berman B, Chesney MA. Infectious diseases physicians' attitudes and practices related to complementary and integrative medicine: Results of a national survey. <i>Evidence-based complementary and alternative medicine : eCAM</i> . 2013;2013:294381-294381. https://pubmed.ncbi.nlm.nih.gov/23935658/ ; https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3725713/ . doi: 10.1155/2013/294381.	Nonexperimental	1000 randomly selected Infectious Disease practitioners	n/a	n/a	familiarity and recommendation, beliefs and attitudes, and use of CAM/IM modalities	Greater interest in integrative medicine than CAM, clinical efficacy and safety important factors.	IIIA
34	Kramlich D. Complementary health practitioners in the acute and critical care setting: Nursing considerations. <i>Crit Care Nurse</i> . 2017;37(3):60-65. http://search.ebscohost.com/login.aspx?direct=true&db=ccm&AN=123102060&site=ehost-live&scope=site . doi: 10.4037/ccn2017181.	Expert Opinion	n/a	n/a	n/a	n/a	Top 6 inpatient modalities included pet therapy, massage therapy, music or art therapy, guided imagery, relaxation therapy, and Reiki and therapeutic touch; credentials, experience, and competence of nurses and volunteers providing complementary health approaches, as well as about institutional policies and scope of practice.	VB
35	Calcium and vitamin D: Moderate evidence supports use of supplemental vitamin D and calcium in patients following hip fracture surgery. OrthoGuidelines Web site. http://www.orthoguidelines.org/guideline-detail?id=1287 . Accessed 9/3, 2020.	Guideline	n/a	n/a	n/a	n/a	Guidance for DHS to prevent fractures.	IVA
36	Van Wicklin SA. Guideline for positioning the patient. In: Conner R, ed. <i>Guidelines for perioperative practice</i> . Denver, CO: AORN; 2021.	Guideline	n/a	n/a	n/a	n/a	Considerations for positioning the patient and complementary care devices used intraoperatively.	IVA
37	Burlingame B. Guideline for electrosurgical safety. In: Kyle E, Wood A, eds. <i>Guidelines for perioperative practice</i> . Denver, CO: AORN; 2021.	Guideline	n/a	n/a	n/a	n/a	Considerations for electrosurgical safety and complementary care devices used intraoperatively.	IVA
38	Malley A, Kenner C, Kim T, Blakeney B. The role of the nurse and the preoperative assessment in patient transitions. <i>AORN Journal</i> . 2015;102(2):181.e1-181.e9. https://doi.org/10.1016/j.aorn.2015.06.004 . doi: 10.1016/j.aorn.2015.06.004.	Qualitative	24 perioperative nurse interviews	n/a	n/a	nursing contribution to transitions in care, identify the role of preoperative assessment	4 themes emerged regarding patient assessment and communication of expectations.	IIIB
39	Oh H, Kim BH. Comparing effects of two different types of nei-guan acupuncture stimulation devices in reducing postoperative nausea and vomiting. <i>Journal of PeriAnesthesia Nursing</i> . 2017;32(3):177-187. http://www.sciencedirect.com/science/article/pii/S1089947216000976 . doi: https://doi.org/10.1016/j.jopan.2015.12.010 .	RCT	54 female patients	nei-guan wrist band with TENS stimulation	nei-guan wrist band with button versus standard care	PONV, Rhode's index NVR, request for antiemetic drugs	Significantly lower analgesics, PONV severity, incidence over time, significantly lower INVR in TENS; effective wrist band with TENS to aid and improve postoperative recovery.	IA
40	Sankar-Maharaj S, Chen D, Hariharan S. Postoperative shivering among cannabis users at a public hospital in trinidad, west indies. <i>J Perianesth Nurs</i> . 2018;33(1):37-44. http://search.ebscohost.com/login.aspx?direct=true&db=ccm&AN=128108635&site=ehost-live&scope=site . doi: 10.1016/j.jopan.2016.03.010.	Nonexperimental	55 patients	n/a	n/a	frequency and intensity of shivering, treatment needed	Nonsignificant decrease of incidence and intensity of shivering in patients who did not use cannabis, none of which needed meperidine treatment.	IIIB
41	<i>Herbal and dietary supplements and anesthesia</i> . American Society of Anesthesiologists; 2018.	Guideline	n/a	n/a	n/a	n/a	Guidance for anesthesia providers to include all vitamins and bring bottles of all DHS, may recommend discontinuing 2 weeks before surgery.	IVB
42	Buyukilmaz F, Ast[latin dotless i],T. The effect of relaxation techniques and back massage on pain and anxiety in turkish total hip or knee arthroplasty patients. <i>Pain management nursing</i> . 2013;14(3):143. http://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=cctr&NEWS=N&AN=CN-00984782 .	RCT	60 patients undergoing total joint procedures	30 minutes relaxation techniques and 10 minutes Chin and Sendir back massage	standard care	McGill pain, SAI state anxiety inventory, vital signs	Significantly lower pain intensity, anxiety, and vital signs; should be used but may not be generalizable outside this population.	IB

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43	Nagata K, Iida N, Kanazawa H, et al. Effect of listening to music and essential oil inhalation on patients undergoing screening CT colonography: A randomized controlled trial. <i>Eur J Radiol</i> . 2014;83(12):2172-2176. https://doi.org/10.1016/j.ejrad.2014.09.016 . doi: 10.1016/j.ejrad.2014.09.016.	RCT	224 patients	music and aromatherapy	music versus aromatherapy versus control	VAS pain and vital signs	Nonsignificant results, patient satisfaction and desired repeat ; allow patient selection of music in future.	IB
44	Cronin SN, Odom-Forren J, Roberts H, Thomas M, Williams S, Wright MI. Effects of controlled breathing, with or without aromatherapy, in the treatment of postoperative nausea. <i>Journal of PeriAnesthesia Nursing</i> . 2015;30(5):389-397. http://www.sciencedirect.com/science/article/pii/S1089947215003019 . doi: https://doi.org/10.1016/j.jopan.2015.03.010 .	Quasi-experimental	228 female patients consented, 102 experienced nausea, 82 included	controlled breathing with isopropyl alcohol	controlled breathing without aromatherapy	nausea severity, rescue medication	Nausea severity decreased significantly over time, but no difference between groups; instruct the patient with slow deep breaths as the initial response.	IIB
45	Hasanzadeh F, Kashouk NM, Amini S, et al. The effect of cold application and lavender oil inhalation in cardiac surgery patients undergoing chest tube removal. <i>EXCLI journal</i> . 2016;15:64-74. https://pubmed.ncbi.nlm.nih.gov/27047319/ ; https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4817427/ . doi: 10.17179/excli2015-748.	RCT	80 patients during chest tube removal	lavender oil EO with cold application	cold application versus lavender oil versus control	VAS intensity pain and anxiety, SFM-MPQ, STAI	Significant lower pain intensity and anxiety immediately, 5, 10, 15 minutes after with lavender, significant decrease anxiety compared to cold alone.	IA
46	Kim B, Kang H, Choi E. Effects of handholding and providing information on anxiety in patients undergoing percutaneous vertebroplasty. <i>J Clin Nurs</i> . 2015;24(23-24):3459-68. doi: https://dx.doi.org/10.1111/jocn.12928 .	Quasi-experimental	94 patients	hand holding while providing intraoperative information	hand holding versus control	Amsterdam anxiety scale, vital signs	Significant decrease of blood pressure with hand holding, and anxiety in the experimental group with information; concluded the intervention may be beneficial.	IIA
47	Wang S, Gaal D, Maranets I, Caldwell-Andrews A, Kain ZN. Acupressure and preoperative parental anxiety: A pilot study. <i>Anesthesia & Analgesia</i> . 2005;101(3). https://journals.lww.com/anesthesia-analgesia/Fulltext/2005/09000/Acupressure_and_Preoperative_Parental_Anxiety_A.13.aspx .	RCT	61 one parent of pediatric patients	yingtang acupressure	sham point	STAI, vital signs, BIS bispectral index monitor	Significantly less anxiety after 20 minutes; may be used to reduce parental anxiety.	IB
48	Cetinkaya F. Effect of listening to music on postoperative cognitive function in older adults after hip or knee surgery: A randomized controlled trial. . Updated 2019. Accessed 5, 34.	RCT	60 elderly patients over 65 years old	postoperative Turkish music	standard care	MMSE, NNECHAM confusion	Significant decrease in confusion, nonsignificant MMSE; safe easy inexpensive intervention to prevent cognitive dysfunction.	IB
49	Sultan J, Griffin SM, Di Franco F, et al. Randomized clinical trial of omega-3 fatty acid-supplemented enteral nutrition versus standard enteral nutrition in patients undergoing oesophagogastric cancer surgery. <i>Br J Surg</i> . 2012;99(3):346-355. https://pubmed.ncbi.nlm.nih.gov/22237467/ ; https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3625735/ . doi: 10.1002/bjs.7799.	RCT	195 patients	omega 3 fatty acid enteral immunoenhancing diet	standard enteral nutrition	fatty acid concentration, blood levels	Significantly higher concentration and improved omega 3:6 ratio; current practice of preoperative supplementation for malnourished patients only as benefit is uncertain.	IA
50	Grode L, Bang MScPH B, Sgaard A, MScN RN. Improvement of nutritional care after colon surgery: The impact of early oral nutrition in the postanesthesia care unit. <i>J Perianesth Nurs</i> . 2014;29(4):266-274. http://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=ovftp&NEWS=N&AN=00062704-201408000-00002 . doi: 10.1016/j.jopan.2013.09.009.	RCT	46 patients	early nutritional supplementation in PACU	traditional water or lemonade	energy and protein intake, PONV, pain, PACU LOS, NGT needed	POD 2 significantly higher energy and protein intake, not powered for pain and ileus complication; may be used to optimize nutrition during admission.	IA
51	Fujita T, Daiko H, Nishimura M. Early enteral nutrition reduces the rate of life-threatening complications after thoracic esophagectomy in patients with esophageal cancer. <i>Eur Surg Res</i> . 2012;48(2):79-84. https://www.karger.com/DOI/10.1159/000336574 . doi: 10.1159/000336574.	RCT	154 patients	early enteral nutrition	parenteral nutrition	complications, clinical pathway completion	Significantly lower life-threatening complications earlier in recovery, higher completion rate and decreased LOS; identify best candidates for intervention.	IB
52	Huet A, Lucas-Polomeni M, Robert J, Sixou J, Wodey E. Hypnosis and dental anesthesia in children: A prospective controlled study. <i>Int J Clin Exp Hypn</i> . 2011;59(4):424-440. https://doi.org/10.1080/00207144.2011.594740 . doi: 10.1080/00207144.2011.594740.	RCT	29 pediatric patients ages 5-12 years old	intraoperative hypnosis	standard care	mYPAS, VAS and mOPS pain	Significantly lower mYPAS and mOPS anxiety, significantly lower pain scores; hypnosis effective to decrease anxiety and pain.	IA

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53	Liguori S, Stacchini M, Ciofi D, Olivini N, Bisogni S, Festini F. Effectiveness of an app for reducing preoperative anxiety in children: A randomized clinical trial. <i>JAMA Pediatr</i> . 2016;170(8):e160533-e160533. https://doi.org/10.1001/jamapediatrics.2016.0533 . doi: 10.1001/jamapediatrics.2016.0533.	RCT	40 pediatric patients ages 6-11 years old	video of OR tour with clowns	verbal information	mYPAS	Significant decrease in anxiety; intervention is suitable and cost effective.	IC
54	Burke CN, Voepel-Lewis T, Hadden S, et al. Parental presence on emergence: Effect on postanesthesia agitation and parent satisfaction. <i>Journal of PeriAnesthesia Nursing</i> . 2009;24(4):216-221. https://doi.org/10.1016/j.jopan.2009.03.014 . doi: 10.1016/j.jopan.2009.03.014.	RCT	84 pediatric patients and their parents	presence during intubation	standard care	yPAS, VAS parental anxiety, observed cooperation	Nonsignificant agitation results in pediatric patients; however, parents felt better earlier.	IA
55	Ozkalayci O, Araz C, Cehreli SB, Tirali RE, Kayhan Z. Effects of music on sedation depth and sedative use during pediatric dental procedures. <i>J Clin Anesth</i> . 2016;34:647-653. http://www.sciencedirect.com/science/article/pii/S0952818016303634 . doi: https://doi.org/10.1016/j.jclinane.2016.07.001 .	RCT	180 pediatric patients	intraoperative music	isolation versus control without headphones	BIS, propofol, vital signs, Aldrete, complications, patient satisfaction, BIS	Significantly prolonged postoperative recovery without music, sound isolation alone may be helpful as well.	IA
56	Kassai B, Rabilloud M, Dantony E, et al. Introduction of a paediatric anaesthesia comic information leaflet reduced preoperative anxiety in children. <i>Br J Anaesth</i> . 2016;117(1):95-102. https://pubmed.ncbi.nlm.nih.gov/27317708/ ; https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4913405/ . doi: 10.1093/bja/aew154.	RCT	115 pediatrics ages 6-17 years old	comic leaflet	routine information from anesthesia	STA, influences of education, parental anxiety, STAI intelligence and Wechsler intelligence	Significant decrease in anxiety; inexpensive and effective intervention, patients with higher baseline STAI anxiety benefited most.	IA
57	van Stijn, Mireille F. M., Korkic-Halilovic I, Bakker MSM, van der Ploeg T, van Leeuwen, Paul A. M., Houdijk APJ. Preoperative nutrition status and postoperative outcome in elderly general surgery patients. <i>Journal of Parenteral and Enteral Nutrition</i> . 2013;37(1):37-43. https://doi.org/10.1177/0148607112445900 . doi: 10.1177/0148607112445900.	Systematic Review	n/a	n/a	n/a	n/a	15 retrospective studies and up, preoperative nutrition in elderly patients significant predictor of outcomes for serum albumin and weight loss; difficulty screening and nonstandardized guidance.	IA
58	Lili H, Lei X, Yan S, Fen G. Effect of electric acupoint stimulation on gastrointestinal hormones and motility among geriatric postoperative patients with gastrointestinal tumors. <i>Journal of Traditional Chinese Medicine</i> . 2016;36(4):450-455. http://www.sciencedirect.com/science/article/pii/S0254627216300619 . doi: https://doi.org/10.1016/S0254-6272(16)30061-9 .	RCT	40 elderly patients	electrical acupoint stimulation at 1) 2/100Hz, 2) 2 Hz, 3) 100 Hz	control	gastrin, motilin, cholecystokinin, EKG, time to flatus, SE,	Significant increase in GAS, MOT; simple safe efficient painless to promote GI recovery.	IB
59	Myint MWW, Wu J, Wong E, et al. Clinical benefits of oral nutritional supplementation for elderly hip fracture patients: A single blind randomised controlled trial. <i>Age Ageing</i> . 2012;42(1):39-45. https://doi.org/10.1093/ageing/afs078 . doi: 10.1093/ageing/afs078.	RCT	126 elderly adults over 60 years old	oral liquid nutritional support	hospital diet	serum albumin, BMI, FIM, EMS, complications, LOS, mortality, readmission	Significant decrease in BMI, shorter LOS in rehabilitation (rehab) ward, infection; nonsignificant albumin FIM EMS; concluded a protein diet is not contraindicated, has some clinical nutritional benefits but none related to physical rehab.	IB
60	Kulason K, Nouchi R, Hoshikawa Y, Noda M, Okada Y, Kawashima R. The beneficial effects of cognitive training with simple calculation and reading aloud (SCRA) in the elderly postoperative population: A pilot randomized controlled trial. <i>Frontiers in aging neuroscience</i> . 2018;10:68-68. https://pubmed.ncbi.nlm.nih.gov/29643802/ ; https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5882834/ . doi: 10.3389/fnagi.2018.00068.	RCT	12 elderly patients	12 weeks of SCRA	control	MMSE, FAB, GHQ12, GDS, QoL	Significant improvement FAB, GDS, QoL; tailor towards cognitive or emotional state improvement.	IA

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REFERENCE #	CITATION	EVIDENCE TYPE	SAMPLE SIZE/ POPULATION	INTERVENTION(S)	CONTROL/ COMPARISON	OUTCOME MEASURE(S)	CONCLUSION(S)	CONSENSUS SCORE
61	Chandra A., Dixit M.B., Banavaliker J.N., Thakur V., Ranjan R. Transcutaneous electrical nerve stimulation as an adjunct to non-steroidal anti-inflammatory medications for pain management during pleurodesis. <i>Anaesth Pain Intensive Care</i> . 2013;17(2):154-157. http://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=emed14&NEWS=N&AN=370085926 .	RCT	60 patients	postoperative TENS	diclofenac	vital signs, VAS pain	Significantly lower SBP, HR., pain, less analgesic consumption; concluded intervention is a useful adjunct.	IB
62	Bice AA, Wyatt TH. Holistic comfort interventions for pediatric nursing procedures: A systematic review. <i>J Holist Nurs</i> . 2017;35(3):280-295. https://doi.org/10.1177/0898010116660397 . doi: 10.1177/0898010116660397.	Systematic Review	n/a	n/a	n/a	n/a	33 quasi-experimental and up for holistic comfort measures, music, amusement, and caregiver-provided entertainment multifaceted approach best.	IB
63	Akhter S., Qureshi A.R., El-Khechen H.A., et al. Efficacy of electrical stimulation for spinal fusion: A systematic review and meta-analysis of randomized controlled trials. <i>Sci Rep</i> . 2020;10(1):4568. http://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=emexb&NEWS=N&AN=631240027 . doi: http://dx.doi.org/10.1038/s41598-020-61266-x .	Systematic Review w/ Meta-Analysis	n/a	n/a	n/a	n/a	7 RCTs found moderate quality support to adjunct spinal fusion therapy with electrical stimulation to increase the odds of a successful fusion.	IA
64	Silva RPJ, Rampazzo ARP, Nascimento LAd, Fonesca LF. Discomfort patients expect and experience in the immediate postoperative period. <i>Rev Baiana Enferm</i> . 2018;32:e26070. doi: 10.18471/rb3.v32.26070.	Nonexperimental	160 patients	n/a	n/a	expected and actual discomfort, monetary measures to prevent postoperative discomfort	Thirst, hunger, weakness, coldness surpassed patients' expected discomfort.	IIIB
65	<i>American college of surgeons statements on principles</i> . American College of Surgeons; 2016Statements.	Position Statement	n/a	n/a	n/a	n/a	Surgeon principles statement.	IVA
66	Hole J, Hirsch M, Ball E, Meads C. Music as an aid for postoperative recovery in adults: A systematic review and meta-analysis. <i>The Lancet</i> . 2015;386(10004):1659-1671. https://doi.org/10.1016/S0140-6736(15)60169-6 . doi: 10.1016/S0140-6736(15)60169-6 [2020]	Systematic Review w/ Meta-Analysis	n/a	n/a	n/a	n/a	73 RCTs found music reduced pain, anxiety, analgesic use, and increased patient satisfaction; need to balance patient-selection, volume, communication, and imposition on OR team.	IA
67	Stallings-Welden L, Doerner M, Ketchem E, Benkert L, Alka S, Stallings JD. A comparison of aromatherapy to standard care for relief of PONV and PDNV in ambulatory surgical patients. <i>Journal of PeriAnesthesia Nursing</i> . 2018;33(2):116-128. http://www.sciencedirect.com/science/article/pii/S1089947216303343 . doi: https://doi.org/10.1016/j.jopan.2016.09.001 .	RCT	254 patients	aromatherapy blend (lavender, peppermint, ginger, spearmint)	standard care	NRS nausea, antiemetic and analgesic doses, PACU LOS, patient satisfaction	Significant patient satisfaction, 100% effective PDNB postoperative delayed onset nausea vomiting, significant higher doses if reported PONV; aromatherapy is effective, provide holistic comfort, standard screening tools needed.	IA
68	Kiberd MB, Clarke SK, Chorney J, d'Eon B, Wright S. Aromatherapy for the treatment of PONV in children: A pilot RCT. <i>BMC complementary and alternative medicine</i> . 2016;16(1):450-450. https://pubmed.ncbi.nlm.nih.gov/27829428 ; https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5103370/ . doi: 10.1186/s12906-016-1441-1.	RCT	80 pediatric patients ages 4-16 years old	aromatherapy personal device (peppermint, ginger, lavender, spearmint)	saline	BARF scale	Significantly more wanted to continue use, but nonsignificant results; could improve anxiety and pain.	IA
69	Lee YR, Shin HS. Effectiveness of ginger essential oil on postoperative nausea and vomiting in abdominal surgery patients. <i>The Journal of Alternative and Complementary Medicine</i> . 2017;23(3):196-200. https://doi.org/10.1089/acm.2015.0328 . doi: 10.1089/acm.2015.0328.	Quasi-experimental	60 patients	essential oils (EO) inhalation	saline in necklace	Korean INVR index of nausea, vomiting, retching	Significantly lower with EO, decrease significant in first 6 hours; cannot be generalized but inexpensive and easy to administer.	IIIB
70	Zhang ZS, Wang XL, Xu CL, et al. Music reduces panic: An initial study of listening to preferred music improves male patient discomfort and anxiety during flexible cystoscopy. <i>J Endourol</i> . 2014;28(6):739-744. doi: 10.1089/end.2013.0705 [doi].	RCT	124 male patients	patient-selected music	standard care	VAS pain, STAI-S anxiety, HR.	Reduction in all outcomes; offer music to male patients.	IB

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71	Mifflin KA, Hackmann T, Chorney JM. Streamed video clips to reduce anxiety in children during inhaled induction of anesthesia. <i>Anesthesia & Analgesia</i> . 2012;115(5). https://journals.lww.com/anesthesia-analgesia/Fulltext/2012/11000/Streamed_Video_Clips_to_Reduce_Anxiety_in_Children.23.aspx .	RCT	89 pediatric patients ages 2-10 years old	video clip of preference during induction	transdictional distraction	mPAS, STAI parents	Significantly less anxious; valid useful alternative intervention.	IA
72	Pedroso JL, Henriques Aquino CC, Escórcio Bezerra ML, et al. Ginkgo biloba and cerebral bleeding: A case report and critical review. <i>The Neurologist</i> . 2011;17(2). https://journals.lww.com/theneurologist/Fulltext/2011/03000/Ginkgo_biloba_and_Cerebral_Bleeding__A_Case_Report.6.aspx .	Case Report	n/a	n/a	n/a	n/a	Case report of chronic use of ginkgo biloba causing cerebral bleeding.	VB
73	Dunne DF, Jack S, Jones RP, et al. Randomized clinical trial of prehabilitation before planned liver resection. <i>Br J Surg</i> . 2016;103(5):504-512. doi: 10.1002/bjs.10096 [doi].	RCT	35 patients	high intensity cycle interval training prehabilitation	standard care	oxygen uptake, CPET, QoL	Significant association between QoL and overall mental health; provided additional time for education.	IA
74	Sadati L, Pazouki A, Mehdizadeh A, Shoar S, Tamannaie Z, Chaichian S. Effect of preoperative nursing visit on preoperative anxiety and postoperative complications in candidates for laparoscopic cholecystectomy: A randomized clinical trial. <i>Scand J Caring Sci</i> . 2013;27(4):994-998. doi: 10.1111/scs.12022 [doi] [IB].	RCT	100 female patients	2 preoperative interviews, day before and before procedure	routine care	STAI, VAS pain, nausea/vomiting (N/V), complications	Significantly lower STAI before OR entrance, postoperative complications all improved; could decrease anxiety and complications.	IB
75	Bagheri H, Ebrahimi H, Abbasi A, Atashsokhan G, Salmani Z, Zamani M. Effect of preoperative visitation by operating room staff on preoperative anxiety in patients receiving elective hernia surgery. <i>Journal of PeriAnesthesia Nursing</i> . 2019;34(2):272-280. https://doi.org/10.1016/j.jopan.2018.04.005 . doi: 10.1016/j.jopan.2018.04.005.	Quasi-experimental	70 patients	scrub personnel visit night before, and after transfer to OR	standard interviews	STAI	Significant decrease in anxiety.	IIA
76	Donker JMW, de Vries J, de Lepper CC, et al. A novel finding: The effect of nurse practitioners on the relation to quality of life, anxiety, and depressive symptoms in vascular surgery. <i>Ann Vasc Surg</i> . 2014;28(3):644-650. http://www.sciencedirect.com/science/article/pii/S0890509613004512 . doi: https://doi.org/10.1016/j.avsg.2013.05.012 .	Quasi-experimental	214 patients	nurse practitioner assisting with procedure	surgeon-only	WHOQOL, STAI, CES-D	Significant increase in physical QoL, decrease in anxiety, nonsignificant depression; NP competent to explain procedure and guide patient through interventions.	IIB
77	Perry JN, Hooper VD, Masiongale J. Reduction of preoperative anxiety in Pediatric surgery patients using age-appropriate teaching interventions. <i>Journal of PeriAnesthesia Nursing</i> . 2012;27(2):69-81. https://doi.org/10.1016/j.jopan.2012.01.003 .	Systematic Review	n/a	n/a	n/a	n/a	12 qualitative studies found that age-appropriate counseling reduces pediatric patient preoperative anxiety.	IIIA
78	Rhodes L, RN D, Nash C, et al. Does preoperative orientation and education alleviate anxiety in posterior spinal fusion patients? A prospective, randomized study. <i>J Pediatr Orthop</i> . 2015;35(3):276-279. http://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=referenc Ryu J, Park J, Nahm FS, et al. The effect of gamification through a virtual reality on preoperative anxiety in pediatric patients undergoing general anesthesia: A prospective, randomized, and controlled trial. <i>Journal of clinical medicine</i> . 2018;7(9):284. https://pubmed.ncbi.nlm.nih.gov/30227602/ ; https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6162739/ . doi: 10.3390/jcm7090284.e&D=ovftq&NEWS=N&AN=01241398-201504000-00011. doi: 10.1097/BPO.0000000000000260.	RCT	65 pediatric patients ages 11-21 years old	preoperative education and 30 minute orientation tour	control	STAI, patient satisfaction, care giver anxiety, LOS, morphine consumption	Significantly higher anxiety and patient satisfaction with tour; promote age-appropriateness for efficacy.	IA

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79	Fernandes SC, Arriaga P, Esteves F. Providing preoperative information for children undergoing surgery: A randomized study testing different types of educational material to reduce children's preoperative worries. <i>Health Educ Res</i> . 2014;29(6):1058-1076. https://doi.org/10.1093/her/cyu066 . doi: 10.1093/her/cyu066.	RCT	125 pediatric patients ages 8-12 years old	board game versus video versus booklet with education	board game versus video versus booklet without education versus control without material	CSWQ worries for patients, STAI-Y for parents	Significantly lower worried patients regardless of intervention; however, parents anxiety was nonsignificant; concluded interventions are all beneficial.	IA
80	Batuman A, Gulec E, Turktan M, Gunes Y, Ozcengiz D. Preoperative informational video reduces preoperative anxiety and postoperative negative behavioral changes in children. <i>Minerva Anesthesiol</i> . 2016;82(5):534-542. doi: R02Y9999N00A150135 [pii].	RCT	42 pediatric patients ages 5-12 years old	video information	verbal information	mYPAS, postoperative hospitalization behavior POMB	Significantly lower anxiety and poor postoperative behaviors, with correlation between anxiety and behaviors.	IA
81	West AM, Bittner EA, Ortiz VE. The effects of preoperative, video-assisted anesthesia education in spanish on spanish-speaking patients' anxiety, knowledge, and satisfaction: A pilot study. <i>J Clin Anesth</i> . 2014;26(4):325-329. http://www.sciencedirect.com/science/article/pii/S0952818014000440 . doi: https://doi.org/10.1016/j.jclinane.2013.12.008 .	RCT	20 patients who speak Spanish	preoperative video-assisted education in Spanish	standard care	VAS anxiety, knowledge, satisfaction	Significant decrease anxiety, increase in satisfaction.	IA
82	Tou S, Tou W, Mah D, Karatassas A, Hewett P. Effect of preoperative two-dimensional animation information on perioperative anxiety and knowledge retention in patients undergoing bowel surgery: A randomized pilot study. <i>Colorectal Dis</i> . 2013;15(5):e256-e265. https://doi.org/10.1111/codi.12152 . doi: 10.1111/codi.12152.	RCT	31 patients	13 minute cartoon video for anxiety and retention	standard care	STAI, VAS anxiety, knowledge retention and feedback	Significant immediate decrease anxiety and at discharge, 88% reported benefit from intervention.	IA
83	Zhang C, Jiang Y, Yin Q, et al. Impact of nurse-initiated preoperative education on postoperative anxiety symptoms and complications after coronary artery bypass grafting. <i>J Cardiovasc Nurs</i> . 2012;27(1):84-88. http://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=ovftm&NEWS=N&AN=00005082-201201000-00012 . doi: 10.1097/JCN.0b013e3182189c4d.	RCT	40 patients	structured education 3 days preoperative	standard	SAS anxiety	Significantly lower complications, lower SAS with less higher scores; reduces anxiety and complications.	IA
84	Bahrami N, Soleimani MA, Sharifnia H, Shaigan H, Sheikhi MR, Mohammad-Rezaei Z. Effects of anxiety reduction training on physiological indices and serum cortisol levels before elective surgery. <i>Iranian journal of nursing and midwifery research</i> . 2013;18(5):416-420. https://pubmed.ncbi.nlm.nih.gov/24403946/ ; https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3877466/ .	RCT	60 female patients	anxiety reduction techniques	standard care	vital signs, cortisol	Smaller nonsignificant increments of vital signs, significantly lower cortisol levels.	IB
85	Amini K, Alihossaini Z, Ghahremani Z. Randomized clinical trial comparison of the effect of verbal education and education booklet on preoperative anxiety. <i>Journal of PeriAnesthesia Nursing</i> . 2019;34(2):289-296. http://www.sciencedirect.com/science/article/pii/S108994721830282X . doi: https://doi.org/10.1016/j.jopan.2018.06.101 .	RCT	60 patients	education booklet	verbal education versus control	STAI	Significant decrease in both education groups; conclude well-designed booklets can reduce anxiety.	IA
86	Lin S, Huang H, Lin S, Huang Y, Wang K, Shi H. The effect of an anaesthetic patient information video on perioperative anxiety: A randomised study. <i>Eur J Anaesthesiol</i> . 2016;33(2):134-139. http://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=ovftq&NEWS=N&AN=00003643-201602000-00011 . doi: 10.1097/EJA.0000000000000307.	RCT	100 patients	8 minute education video	verbal brief	STAI, patient satisfaction	Larger effect size and significantly higher satisfaction, significantly lower anxiety and decrease in intensity of anxiety.	IA
87	Lindstrom D, MD P, Azodi O, et al. Effects of a perioperative smoking cessation intervention on postoperative complications: A randomized trial. <i>Ann Surg</i> . 2008;248(5):739-745. http://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=ovftj&NEWS=N&AN=00000658-200811000-00008 . doi: 10.1097/SLA.0b013e3181889d0d.	RCT	117 patients	preoperative smoking cessation program	standard care	complications, nicotine dependency	Significant decrease of overall complication rate and type of surgery.	IA

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88	EMILSSON S, SVENSK A-, TAVELIN B, LINDH J. Support group participation during the post-operative radiotherapy period increases levels of coping resources among women with breast cancer. <i>European Journal of Cancer Care</i> . 2012;21(5):591-598. https://doi.org/10.1111/j.1365-2354.2012.01343.x . doi: 10.1111/j.1365-2354.2012.01343.x.	Quasi-experimental	67 patients	peer support group postoperatively	none	coping resources inventory	Significant increase in social and emotional domain, increased coping; concluded it's beneficial to share experience.	IIA
89	Li C, Carli F, Lee L, et al. Impact of a trimodal prehabilitation program on functional recovery after colorectal cancer surgery: A pilot study. <i>Surg Endosc</i> . 2013;27(4):1072-1082. https://doi.org/10.1007/s00464-012-2560-5 . doi: 10.1007/s00464-012-2560-5.	Quasi-experimental	87 patients	prehabilitation aerobic, calisthenics, nutrition, anxiety reduction techniques	control	6MWT, CHAMPS, QoL, HADS	Walking significantly improved during prehabilitation, higher recovery at 8 weeks postoperative; prehabilitation leads to better recovery.	IIA
90	Carli F, Charlebois P, Stein B, et al. Randomized clinical trial of prehabilitation in colorectal surgery. <i>Br J Surg</i> . 2010;97(8):1187-1197. doi: 10.1002/bjs.7102 [doi].	RCT	112 patients	structure prehabilitation bike and strength	structure prehabilitation walking and breathing	function 6MWT	Nonsignificant 6MWT difference, almost significant increase in walking capacity in walking group; unexpected benefit but adherence to intervention is low.	IA
91	Gillis C, Li C, Lee L, et al. Prehabilitation versus rehabilitation: A randomized control trial in patients undergoing colorectal resection for cancer. <i>Anesthesiology</i> . 2014;121(5):937-947. https://doi.org/10.1097/ALN.0000000000000393 . doi: 10.1097/ALN.0000000000000393.	RCT	77 patients	prehabilitation and rehabilitation	rehabilitation only	function, depression, anxiety - 6MWT, PA, QoL, CHAMDS, RAND, SF36, HADS, complications	Walking capacity significantly increased; meaningful results with prehabilitation.	IA
92	Murata K, Yoshimoto M, Takebayashi T, Ida K, Nakano K, Yamashita T. Effect of cryotherapy after spine surgery. <i>Asian spine journal</i> . 2014;8(6):753-758. https://pubmed.ncbi.nlm.nih.gov/25558317/ ; https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4278980/ . doi: 10.4184/asj.2014.8.6.753.	Quasi-experimental	36 patients undergoing spinal procedures	cryotherapy icing system	standard care	temperature, labs, VAS pain, bleeding	Significantly lower temperature of wound, but nonsignificant change in labs, VAS, and bleeding.	IIB
93	Adie S, Kwan A, Naylor JM, Harris IA, Mittal R. Cryotherapy following total knee replacement. <i>Cochrane Database of Systematic Reviews</i> . 2012(9). https://doi.org/10.1002/14651858.CD007911.pub2 . doi: 10.1002/14651858.CD007911.pub2.	Systematic Review	n/a	n/a	n/a	n/a	12 quasi-experimental trials, cryotherapy has small effect on blood loss, improved VAS pain at 48 hours, may significantly improve ROM at discharge; potential inconveniences and expenses too high to justify use.	IIB
94	Demoulin C, Brouwers M, Darot S, Gillet P, Crielaard J-, Vanderthommen M. Comparison of gaseous cryotherapy with more traditional forms of cryotherapy following total knee arthroplasty. <i>Annals of Physical and Rehabilitation Medicine</i> . 2012;55(4):229-240. http://www.sciencedirect.com/science/article/pii/S1877065712000486 . doi: https://doi.org/10.1016/j.rehab.2012.03.004 .	RCT	66 patients undergoing TKA	gaseous cryotherapy	cold pack versus traditional cryotherapy	pain, mobility, girth	Significant decrease in temperature, pain increased significantly immediately after surgery in gaseous and cold pack group; gaseous cryotherapy not more beneficial than regular cryotherapy.	IA
95	Quinlan P, Davis J, Fields K, et al. Effects of localized cold therapy on pain in postoperative spinal fusion patients: A randomized control trial. <i>Orthop Nurs</i> . 2017;36(5):344-349. http://search.ebscohost.com/login.aspx?direct=true&db=ccm&AN=125413090&site=ehost-live&scope=site . doi: 10.1097/NOR.0000000000000382.	RCT	148 patients with 63 completed data sets	crushed ice to lower back for 20 minutes	side lying for 20 minutes	NRS pain, analgesic use, perceived benefit	Significantly less morphine consumed, but all decreased pain; results potentially confounded by inadvertent increased time with nursing attention.	IA
96	Curry AL, Goehring MT, Bell J, Jette DU. Effect of physical therapy interventions in the acute care setting on function, activity, and participation after total knee arthroplasty: A systematic review. <i>Journal of Acute Care Physical Therapy</i> . 2018;9(3). https://journals.lww.com/jacpt/Fulltext/2018/07000/Effect_of_Physical_Therapy_Interventions_in_the_2.aspx .	Systematic Review	n/a	n/a	n/a	n/a	40 quasi-experimental and RCT found physical therapy interventions may not be administered by a physical therapist, cryotherapy reduces pain and increases ROM and walking, early and aggressive mobility and neurostimulation improved pain.	IIB

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97	Marx W, McKavanagh D, McCarthy AL, et al. The effect of ginger (zingiber officinale) on platelet aggregation: A systematic literature review. <i>PLoS one</i> . 2015;10(10):e0141119-e0141119. https://pubmed.ncbi.nlm.nih.gov/26488162/ ; https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4619316/ . doi: 10.1371/journal.pone.0141119.	Systematic Review	n/a	n/a	n/a	n/a	9 observational trials, lack of standardization of ginger dose and route difficult to conclude; 4 potential reports of platelet aggregation.	IIIB
98	Begtrup KM, Krag AE, Hvas AM. No impact of fish oil supplements on bleeding risk: A systematic review. <i>Dan Med J</i> . 2017;64(5):A5366. doi: A5366 [pii].	Systematic Review	n/a	n/a	n/a	n/a	52 controlled trials found fish oil supplements reduced platelet aggregation, but did not increase bleeding or blood transfusions; concluded that discontinuing supplement preoperatively not required.	IIA
99	Chen B, Zhou Y, Yang P, Wan H, Wu X. Safety and efficacy of fish Oil–Enriched parenteral nutrition regimen on postoperative patients undergoing major abdominal surgery. <i>Journal of Parenteral and Enteral Nutrition</i> . 2010;34(4):387-394. https://doi.org/10.1177/0148607110362532 . doi: 10.1177/0148607110362532.	Systematic Review	n/a	n/a	n/a	n/a	13 RCTs, positive effects of fish oil for LOHS, ICU LOS, infection rate, no adverse events or difference in mortality, cardiac complications; intervention safe and improved clinical outcomes.	IA
100	Kinross JM, Markar S, Karthikesalingam A, et al. A meta-analysis of probiotic and synbiotic use in elective surgery: Does nutrition modulation of the gut microbiome improve clinical outcome? <i>JPEN J Parenter Enteral Nutr</i> . 2013;37(2):243-253. http://search.ebscohost.com/login.aspx?direct=true&db=ccm&AN=104312606&site=e-host-live&scope=site . doi: 10.1177/0148607112452306.	Systematic Review w/ Meta-Analysis	n/a	n/a	n/a	n/a	13 RCTs found significant reduction in sepsis with probiotics and symbiotics separately, symbiotics associated with significant decrease in antibiotic use.	IA
101	Arumugam S, Lau CSM, Chamberlain RS. Probiotics and synbiotics decrease postoperative sepsis in elective gastrointestinal surgical patients: A meta-analysis. <i>Journal of Gastrointestinal Surgery</i> . 2016;20(6):1123-1131. https://doi.org/10.1007/s11605-016-3142-y . doi: 10.1007/s11605-016-3142-y.	Systematic Review w/ Meta-Analysis	n/a	n/a	n/a	n/a	15 RCTs found probiotics and symbiotics significantly decreased the risk of sepsis; consider using to supplement.	IA
102	Short V, Herbert G, Perry R, et al. Chewing gum for postoperative recovery of gastrointestinal function. <i>Cochrane Database of Systematic Reviews</i> . 2015(2). https://doi.org/10.1002/14651858.CD006506.pub3 . doi: 10.1002/14651858.CD006506.pub3.	Systematic Review	n/a	n/a	n/a	n/a	81 RCTs found chewing gum decreased time to flatus, LOHS, bowel movement.	IA
103	Yoshikawa K, Shimada M, Nishioka M, et al. The effects of the kampo medicine (japanese herbal medicine) “Daikenchuto” on the surgical inflammatory response following laparoscopic colorectal resection. <i>Surg Today</i> . 2012;42(7):646-651. https://doi.org/10.1007/s00595-011-0094-4 . doi: 10.1007/s00595-011-0094-4.	Quasi-experimental	30 patients	kampo	control	vital signs, WBC, lymphocytes, CRP, B-D-glucan, candida index	Significantly shorter time to flatus, CRP levels lower on POD 3.	IIB
104	Yasunaga H, Miyata H, Horiguchi H, Kuwabara K, Hashimoto H, Matsuda S. Effect of the japanese herbal kampo medicine dai-kenchu-to on postoperative adhesive small bowel obstruction requiring long-tube decompression: A propensity score analysis. <i>Evidence-based complementary and alternative medicine : eCAM</i> . 2011;2011:264289-264289. https://pubmed.ncbi.nlm.nih.gov/21584269/ ; https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3092181/ . doi: 10.1155/2011/264289.	Quasi-experimental	288 matched patients	dai-kenchu-to	standard care	long tube decompression success, shorter requirement LTD, charges	Nonsignificant results, but intervention decreased LTD duration and costs.	IIB
105	Al Sebaee HA, Elhadary SM. Effectiveness of A care bundle on postoperative thirst relief and oral condition among patients undergoing abdominal surgeries. <i>IOSR Journal of Nursing and Health Science (IOSR-JNHS)</i> . 2017;6(5):82-90. https://scholar.cu.edu.eg/?q=nur/publications/effectiveness-care-bundle-postoperative-thirst-relief-and-oral-condition-among-pati .	Quasi-experimental	60 patients	ice cold normal saline with menthol	routine care	thirst relief VAS and oral health assessment tool	Significant thirst intensity, saliva and tongue improvement; teach as nursing intervention.	IIA

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REFERENCE #	CITATION	EVIDENCE TYPE	SAMPLE SIZE/ POPULATION	INTERVENTION(S)	CONTROL/ COMPARISON	OUTCOME MEASURE(S)	CONCLUSION(S)	CONSENSUS SCORE
106	Garcia AKA, Fonseca LF, Aroni P, Galvão CM. Strategies for thirst relief: Integrative literature review. <i>Rev Bras Enferm.</i> 2016;69(6):1215-1222. https://www.scielo.br/pdf/reben/v69n6/en_0034-7167-reben-69-06-1215.pdf . doi: 10.1590/0034-7167-2016-0317.	Systematic Review	n/a	n/a	n/a	n/a	10 nonexperimental studies found colder temperatures predominant and effective, though combining strategies, assessing the patient, and providing early oral interventions increased patient satisfaction.	IIIA
107	Garcia AKA, Furuya RK, Conchon MF, Rossetto EG, Dantas RAS, Fonseca LF. Menthol chewing gum on preoperative thirst management: Randomized clinical trial. <i>Rev Lat Am</i> . 2019;27:e3180-e3180. https://pubmed.ncbi.nlm.nih.gov/31596415 ; https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6781380/ . doi: 10.1590/1518-8345.3070.3180.	RCT	102 patients	menthol gum	standard care	thirst intensity NVS, perioperative thirst discomfort scale	Significant decrease in intensity and discomfort; intervention is effective, feasible, and safe.	IA
108	Toth B, Lantos T, Hegyi P, et al. Ginger (zingiber officinale): An alternative for the prevention of postoperative nausea and vomiting. A meta-analysis. <i>Phytomedicine</i> . 2018;50:8-18. http://www.sciencedirect.com/science/article/pii/S0944711318302885 . doi: https://doi.org/10.1016/j.phymed.2018.09.007 .	Systematic Review w/ Meta-Analysis	n/a	n/a	n/a	n/a	10 RCTs, oral ginger significantly decreased VAS nausea severity, nonsignificant decrease incidence or antiemetic drug consumption, may be confounded by underdosing; safe and well-tolerated alternative to antiemetic medication.	IA
109	Soltani E, Jangjoo A, Afzal Aghaei M, Dalili A. Effects of preoperative administration of ginger (zingiber officinale roscoe) on postoperative nausea and vomiting after laparoscopic cholecystectomy. <i>Journal of traditional and complementary medicine</i> . 2017;8(3):387-390. https://pubmed.ncbi.nlm.nih.gov/29992109 ; https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6035306/ . doi: 10.1016/j.jtcme.2017.06.008.	RCT	100 patients	oral ginger 500 mg	ondansetron 4 mg IV	VAS N intensity, V frequency, complications	Significantly lower nausea hour 0, 2, 4, vomiting frequency significantly lower at hour 2, 16; intervention is inexpensive and effective without adverse events.	IA
110	<i>21 CFR 501.22 animal foods; labeling of spices, flavorings, colorings, and chemical preservatives.</i> U.S. Food and Drug Administration; 2020.	Regulatory	n/a	n/a	n/a	n/a	Approved use of essential oils as flavoring.	
111	Hsu C, Chen S, Lee P, Lin P. The effect of music listening on pain, heart rate variability, and range of motion in older adults after total knee replacement. <i>Clin Nurs Res</i> . 2019;28(5):529-547. https://doi.org/10.1177/1054773817749108 . doi: 10.1177/1054773817749108.	Quasi-experimental	49 patients undergoing TKA	25 minutes of music during CPM	CMP	vital signs, ROM, pain	Significantly less pain, increased function; intervention is effective.	IIA
112	Forooghy M, Mottahedian Tabrizi E, Hajizadeh E, Pishgoo B. Effect of music therapy on patients' anxiety and hemodynamic parameters during coronary angioplasty: A randomized controlled trial. <i>Nursing and midwifery studies</i> . 2015;4(2):e25800-e25800. https://pubmed.ncbi.nlm.nih.gov/26339666 ; https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4557407/ . doi: 10.17795/nmsjournal25800.	RCT	64 patients	20-40 minutes of light instrumental music intraoperatively	standard care	STAI, hemodynamic parameters	Significantly lower anxiety, decrease in BP; intervention is safe, simple, inexpensive, and noninvasive method to alleviate anxiety.	IA
113	Martindale F, Mikocka-Walus A, Walus B, Keage H, Andrews J. The effects of a designer music intervention on patients' anxiety, pain, and experience of colonoscopy: A short report on a pilot study. <i>Gastroenterol Nurs</i> . 2014;37(5):338-342. http://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=ovftp&NEWS=N&AN=00001610-201409000-00004 . doi: 10.1097/SGA.0000000000000066.	Quasi-experimental	34 patients	Bach music	muted headphones	STAI and pain, sedation dose	State anxiety decreased over time, 100% desired music with future procedures.	IIA

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REFERENCE #	CITATION	EVIDENCE TYPE	SAMPLE SIZE/ POPULATION	INTERVENTION(S)	CONTROL/ COMPARISON	OUTCOME MEASURE(S)	CONCLUSION(S)	CONSENSUS SCORE
114	Palmer JB, Lane D, Mayo D, Schluchter M, Leeming R. Effects of music therapy on anesthesia requirements and anxiety in women undergoing ambulatory breast surgery for cancer diagnosis and treatment: A randomized controlled trial. <i>J Clin Oncol</i> . 2015;33(28):3162-8. doi: https://dx.doi.org/10.1200/JCO.2014.59.6049 .	RCT	207 female patients	patient-selected live music to therapist-selected recorded intraoperatively	patient-selected recorded then therapist recorded intraoperative, versus usual preoperative care with noise blocking earmuffs intraoperative	VAS anxiety, BIS, recovery time, patient satisfaction, CAHPS	Significant decrease in preoperative anxiety, live music shorter recovery than recorded music, time to discharge readiness shorter in both music groups; intervention safe and time efficient.	IA
115	Ko C, Chen Y, Wu K, et al. Effect of music on level of anxiety in patients undergoing colonoscopy without sedation. <i>Journal of the Chinese Medical Association</i> . 2017;80(3):154-160. http://www.sciencedirect.com/science/article/pii/S1726490116301940 . doi: https://doi.org/10.1016/j.jcma.2016.08.010 [2020]	RCT	138 patient	Kern light music	Tolley classical music versus standard care	STAI	Kern music had lowest odds ratio, women more effect; intervention safe, convenient and effective.	IA
116	Weeks BP, Nilsson U. Music interventions in patients during coronary angiographic procedures: A randomized controlled study of the effect on patients' anxiety and well-being. <i>European Journal of Cardiovascular Nursing</i> . 2011;10(2):88-93 [IC].	RCT	98 patients	patient-focused music, audio pillow versus loudspeaker	control	numeric rating scale anxiety, wellbeing questionnaire	Significant improvement in both groups for anxiety and wellbeing; loudspeaker may distract OR staff.	IA
117	Padmanabhan R, Hildreth AJ, Laws D. A prospective, randomised, controlled study examining binaural beat audio and pre-operative anxiety in patients undergoing general anaesthesia for day case surgery*. <i>Anaesthesia</i> . 2005;60(9):874-877. https://doi.org/10.1111/j.1365-2044.2005.04287.x . doi: 10.1111/j.1365-2044.2005.04287.x.	RCT	100 patients	binaural beat audio	no tones versus standard care	STAI	Decrease anxiety in both music groups, significant decrease in binaural; has the potential to decrease acute preoperative anxiety.	IA
118	Klassen JA, Liang Y, Tjosvold L, Klassen TP, Hartling L. Music for pain and anxiety in children undergoing medical procedures: A systematic review of randomized controlled trials. <i>Ambulatory Pediatrics</i> . 2008;8(2):117-128. http://www.sciencedirect.com/science/article/pii/S1530156707002857 . doi: https://doi.org/10.1016/j.ambp.2007.12.005 .	Systematic Review w/ Meta-Analysis	n/a	n/a	n/a	n/a	19 RCTs found significant decrease in pain and anxiety; adjunct to reduce pharmacologic requirements.	IC
119	Bradt J, Dileo C, Shim M. Music interventions for preoperative anxiety. <i>Cochrane Database of Systematic Reviews</i> . 2013;6:006908 [IIA].	Systematic Review	n/a	n/a	n/a	n/a	26 quasi-experimental trials, preoperative music decreases anxiety, small effect on heart rate and diastolic blood pressure.	IC
120	Bashiri M, Akçali D, Coşkun D, Cindoruk M, Dikmen A, Çıfdalöz BU. Evaluation of pain and patient satisfaction by music therapy in patients with endoscopy/colonoscopy. <i>The Turkish journal of gastroenterology : the official journal of Turkish Society of Gastroenterology</i> . 2018;29(5):574-579. https://pubmed.ncbi.nlm.nih.gov/30260780/ ; https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6284616/ . doi: 10.5152/tjg.2018.18200.	RCT	154 patients	33 conscious sedation with music, 41 deep sedation with music	25 conscious sedation, 55 deep sedation	medication consumption, STAI, NRS pain, Aldrete recovery, NRS satisfaction	Decrease anxiety and propofol use, increase in patient satisfaction, heart rate and MAP significantly lower with music, deep sedation groups had significantly less medications, both deep and conscious with music significantly lower anxiety, without music significantly higher pain.	IA
121	Jimenez-Jimenez M, Garcia-Escalona A, Martin-Lopez A, De Vera-Vera R, De Haro J. Intraoperative stress and anxiety reduction with music therapy: A controlled randomized clinical trial of efficacy and safety. <i>Journal of Vascular Nursing</i> . 2013;31(3):101-106 [IA].	RCT	40 patients	music during varicose vein surgery	routine care	STAI, vital signs, adrenaline and noradrenaline levels	Significant decrease in anxiety and stress, more profound with previous music experience; easy and safe to implement.	IA
122	Wu J, Chaplin W, Amico J, et al. Music for surgical abortion care study: A randomized controlled pilot study. <i>Contraception</i> . 2012;85(5):496-502 [IC].	RCT	26 females undergoing abortion	music	local anesthesia alone	11 NRS pain, anxiety, coping, 4 point patient satisfaction	Music decreased anxiety faster but not significantly, music group reported better coping, both had high patient satisfaction.	IA

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123	Easter B, RN C, DeBoer L, et al. The impact of music on the PACU patient's perception of discomfort. <i>J Perioper Nurs</i> . 2010;25(2):79-87. http://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=ovftk&NEWS=N&AN=00062704-201004000-00004 .	RCT	163 patients	music in PACU	standard care	vital signs, opioid consumption, LOS, satisfaction, perception of PACU	Music significantly lower respiratory rate and increased satisfaction; may be used as alternative to cope with postoperative pain.	IA
124	Hosseinpour M, Memarzadeh M. Use of a preoperative playroom to prepare children for surgery. <i>Eur J Pediatr Surg</i> . 2010;20(6):408-411. doi: 10.1055/s-0030-1265172 [doi].	RCT	200 pediatric patients under 6 years old	preoperative playroom	standard care	mYPAS, parent interview of behavior	Significant decrease in anxiety; effective method to decrease anxiety.	IA
125	Kerimoglu B, Neuman A, Paul J, Stefanov DG, Twersky R. Anesthesia induction using video glasses as a distraction tool for the management of preoperative anxiety in children. <i>Anesthesia & Analgesia</i> . 2013;117(6). https://journals.lww.com/anesthesia-analgesia/Fulltext/2013/12000/Anesthesia_Induction_Using_Video_Glasses_as_a.18.aspx .	RCT	96 pediatric patients ages 4-9 years old	video glasses VG during induction	VG and midazolam versus midazolam alone	mYPAS, vital signs	Significant but not clinically meaningful increase in anxiety without VG; not inferior compared to preoperative anxiolysis, safe noninvasive alternative.	IA
126	Bekelis K, Calnan D, MD P, Simmons N, MacKenzie T, Kakoulides G. Effect of an immersive preoperative virtual reality experience on patient reported outcomes: A randomized controlled trial. <i>Ann Surg</i> . 2017;265(6):1068-1073. http://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=ovfts&NEWS=N&AN=00000658-201706000-00008 . doi: 10.1097/SLA.0000000000002094.	RCT	127 patients undergoing cranial and spinal procedures	virtual reality VR immersive experience	standard care	vecu de l'anes generale, Amsterdam anxiety and satisfaction, VAS stress, POD 30 spine pain	VR significantly lowered stress and increased preparedness and satisfaction; immersive environment minimized stress.	IA
127	Park JW, Nahm FS, Kim JH, Jeon YT, Ryu JH, Han,S.H. The effect of mirroring display of virtual reality tour of the operating theatre on preoperative anxiety: A randomized controlled trial. <i>IEEE journal of biomedical and health informatics</i> . 2019;23(6):2655. http://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=cctr&NEWS=N&AN=CN-02008227 .	RCT	80 pediatric patients 4-10 years old	4 minutes immersive Virtual Reality (VR) OR tour	watching video with parents	mYPAS anxiety, ICC compliance with induction, satisfaction of parents NRS scale	Significantly lower anxiety, higher parental satisfaction; effective in reducing preoperative anxiety in pediatric patients and their parents.	IA
128	Dehghan F, Jalali R, Bashirir H. The effect of virtual reality technology on preoperative anxiety in children: A solomon four-group randomized clinical trial. <i>Perioperative Medicine</i> . 2019;8. doi: 10.1186/s13741-019-0116-0.	RCT	40 pediatric patients ages 6-12 years old	5 minutes of VR OR exposure	standard care	yPAS	Significant lower vocalization and change state - apparent arousal; distraction and drawing in VR decreases preoperative anxiety.	IA
129	Ryu J, Park J, Nahm FS, et al. The effect of gamification through a virtual reality on preoperative anxiety in pediatric patients undergoing general anesthesia: A prospective, randomized, and controlled trial. <i>Journal of clinical medicine</i> . 2018;7(9):284. https://pubmed.ncbi.nlm.nih.gov/30227602 ; https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6162739/ . doi: 10.3390/jcm7090284.	RCT	69 pediatric patients age 4-10 years old	gamification VR	control VR	ICC, PBRS, mYPAS	Significant decrease preoperative anxiety and increase intraoperative compliance; PBRS and parental satisfaction nonsignificant changes.	IA
130	Ryu JH, Park SJ, Park JW, Kim JW, Yoo HJ, Kim TW, Hong JS, Han,S.H. Randomized clinical trial of immersive virtual reality tour of the operating theatre in children before anaesthesia. <i>British journal of surgery</i> . 2017;104(12):1628. http://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=cctr&NEWS=N&AN=CN-01419678 . doi: 10.1002/bjs.10684.	RCT	69 pediatric patients age 4-10 years old	4 minute VR tour of OR	standard	mYPAS, ICC, procedural behavior rating scale	Significantly lower anxiety, higher compliance during induction and the procedure; effective in alleviating anxiety and increasing compliance.	IA
131	Agostini F, Monti F, Neri E, Dellabartola S, de Pascalis L, Bozicevic L. Parental anxiety and stress before pediatric anesthesia: A pilot study on the effectiveness of preoperative clown intervention. <i>J Health Psychol</i> . 2014;19(5):587-601. https://doi.org/10.1177/1359105313475900 . doi: 10.1177/1359105313475900.	RCT	50 pediatric patients ages 3-12 years old	clown doctors, toys and humor, parent presence during induction	standard care	STAI, rapid stress assessment scale	Significant decrease in anxiety and perceived stress in older children's parents; recommend as positive influence.	IA

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132	Berger J, Wilson D, Potts L, Polivka B. Wacky wednesday: Use of distraction through humor to reduce preoperative anxiety in children and their parents. <i>Journal of PeriAnesthesia Nursing</i> . 2014;29(4):285-291. https://doi.org/10.1016/j.jopan.2013.06.003 . doi: 10.1016/j.jopan.2013.06.003.	Quasi-experimental	32 pediatric patients ages 4-17 years old	humor distraction with mother	standard care	VAS anxiety, vital signs	Significantly lower anxiety on hospital admission and before surgery for both patients and parents; effective to improve experience.	IIB
133	Birnie KA, Noel M, Parker JA, et al. Psychological interventions for needle-related procedural pain and distress in children and adolescents (review). <i>Cochrane Database of Systematic Reviews</i> [CD005179]. 2018(10):783-808. doi: 10.1002/14651858.CD005179.pub4.	Systematic Review	n/a	n/a	n/a	n/a	59 RCTs support complementary care interventions for pediatric interventions to reduce pain and distress during painful procedures.	IA
134	Kain ZN, Wang S, Mayes LC, Krivutza DM, Teague BA. Sensory stimuli and anxiety in children undergoing surgery: A randomized, controlled trial. <i>Anesthesia & Analgesia</i> . 2001;92(4). https://journals.lww.com/anesthesia-analgesia/Fulltext/2001/04000/Sensory_Stimuli_and_Anxiety_in_Children_Undergoing.18.aspx .	RCT	70 pediatric patients ages 2-7 years old	low sensory stimulation with music	standard care	mYPAS, ICC, post hospitalization behavior	Significantly less anxious entrance to OR, introducing the anesthesia face mask, compliance significantly better, nonsignificant postoperative changes; low cost of environmental manipulation to decrease anxiety.	IA
135	Cagiran E, Sergin D, Deniz MN, Tanatti B, Emiroglu N, Alper I. Effects of sociodemographic factors and maternal anxiety on preoperative anxiety in children. <i>J Int Med Res</i> . 2014;42(2):572-580. https://doi.org/10.1177/0300060513503758 . doi: 10.1177/0300060513503758.	Nonexperimental	100 pediatric patients ages 3-12 years old and their mothers	n/a	n/a	STAI of mothers, Frankle Behavior rating scale, Venhman picture test	Significantly lower STAI, picture test, lower material anxiety with more information; maternal knowledge and experience decreases their anxiety, which decreased their child's anxiety; intervention requires quality training and support.	IIIA
136	Manyande A, Cyna AM, Yip P, Chooi C, Middleton P. Non-pharmacological interventions for assisting the induction of anaesthesia in children. <i>Cochrane Database of Systematic Reviews</i> . 2015(7):1-122. https://doi.org/10.1002/14651858.CD006447.pub3 . doi: 10.1002/14651858.CD006447.pub3.	Systematic Review	n/a	n/a	n/a	n/a	28 RCTs found parental presence was nonsignificant to assist in pediatric patient induction, further studies are required for promising interventions.	IA
137	CHAN CSM, MOLASSIOTIS A. The effects of an educational programme on the anxiety and satisfaction level of parents having parent present induction and visitation in a postanaesthesia care unit. <i>Pediatric Anesthesia</i> . 2002;12(2):131-139. https://doi.org/10.1046/j.1460-9592.2002.00790.x . doi: 10.1046/j.1460-9592.2002.00790.x.	Quasi-experimental	50 pediatric patient's parents ages 1-9 years old	education program with presence during induction and PACU	standard care	STAI, parental satisfaction with care	Significant decrease in anxiety, increase in satisfaction, and inverse relationship between anxiety and satisfaction.	IIB
138	In W, Kim YM, Kim HS, et al. The effect of a parental visitation program on emergence delirium among postoperative children in the PACU. <i>J Perianesth Nurs</i> . 2019;34(1):108-116. http://search.ebscohost.com/login.aspx?direct=true&db=ccm&AN=134274618&site=ehost-live&scope=site . doi: 10.1016/j.jopan.2018.04.003.	Quasi-experimental	93 pediatric patients ages 3-6 years old	parental presence in PACU	no parental presence	ED emergence delirium, PABS anxiety	Significant treatment effect in girls, significant decrease in the experimental group over time, nonsignificant overall; could be effective to reduce the degree of ED.	IIB
139	Pagnard E, Sarver W. Family visitation in the PACU: An evidence-based practice project. <i>J Perianesth Nurs</i> . 2019;34(3):600-605. http://search.ebscohost.com/login.aspx?direct=true&db=ccm&AN=136581275&site=ehost-live&scope=site . doi: 10.1016/j.jopan.2018.09.007.	Organizational Experience	29 RNs and 80 families' experience of family visitation in PACU	n/a	n/a	n/a	RNs thought visitation would be stressful, but all participants were positive after a brief visit in the PACU intervention.	VA
140	Wendler MC, Smith K, Ellenburg W, Gill R, Anderson L, Spiegel-Thayer K. "To see with my own eyes": Experiences of family visits during phase 1 recovery. <i>Journal of PeriAnesthesia Nursing</i> . 2017;32(1):45-57. http://www.sciencedirect.com/science/article/pii/S1089947216301769 . doi: https://doi.org/10.1016/j.jopan.2015.03.015 .	Nonexperimental	62 patients with family visits in PACU	n/a	n/a	vital signs, STAI, satisfaction VAS, interview - qualitative	Significant decrease in anxiety and higher satisfaction; intervention feasible, safe and useful.	IIIA

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141	Amraoui J, Pouliquen C, Fraisse J, et al. Effects of a hypnosis session before general anesthesia on postoperative outcomes in patients who underwent minor breast cancer surgery: The HYPNOSEIN randomized clinical trial. <i>JAMA network open</i> . 2018;1(4):e181164. http://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=cctr&NEWS=N&AN=CN-01990976 .	RCT	150 patients undergoing breast procedures	15 minutes hypnosis	sham hypnosis	VAS pain, NV, fatigue, comfort, anxiety, PACU LOS, operative time, use and dose of antiemetics, analgesic consumption, number of failed procedures,	Significantly higher pain in hypnosis group immediately after admission to PACU and longer PACU stay, fatigue significantly lower on evening of surgery; hypnosis does not improve pain may reduce propofol requirements which may increase pain after surgery, but improves intraoperative anesthesia management.	IB
142	Lang EV, Berbaum KS, Pauker SG, et al. Beneficial effects of hypnosis and adverse effects of empathic attention during percutaneous tumor treatment: When being nice does not suffice. <i>Journal of Vascular & Interventional Radiology</i> . 2008;19(6):897-905 [IA].	RCT	201 patients	self-hypnotic relaxation with empathetic attention	empathetic attention, standard treatment	STAI preoperatively, VAS pain and anxiety, medication consumption, adverse events	Significantly less pain and anxiety and fewer median drug units than either group, empathetic group significantly more adverse events; nonspecific support without managing acute pain and anxiety may be more harmful.	IB
143	Álvarez-García C, Yaban Z. The effects of preoperative guided imagery interventions on preoperative anxiety and postoperative pain: A meta-analysis. <i>COMPLEMENT THER CLIN PRACT</i> . 2020;38:N.PAG-N.PAG. http://search.ebscohost.com/login.aspx?direct=true&db=ccm&AN=141784928&site=ehost-live&scope=site . doi: 10.1016/j.ctcp.2019.101077.	Systematic Review w/ Meta-Analysis	n/a	n/a	n/a	n/a	21 qualitative and up studies, guided imagery effective in relieving preoperative state anxiety in pediatrics, trait anxiety in adults, and postoperative pain in adults.	IB
144	Gonzales EA, Ledesma RJ, McAllister DJ, Perry SM, Dyer CA, Maye JP. Effects of guided imagery on postoperative outcomes in patients undergoing same-day surgical procedures: A randomized, single-blind study. <i>AANA J</i> . 2010;78(3):181-188.	RCT	44 patients	28 minutes of guided imagery CD	standard care	APAIS pain and VAS anxiety, analgesic consumption, PACU and operative time, patient satisfaction	Significant reduction in anxiety with less pain and earlier discharge but not significant; could be beneficial immediately after procedure.	IA
145	Ko YL, Lin PC. The effect of using a relaxation tape on pulse, respiration, blood pressure and anxiety levels of surgical patients. <i>J Clin Nurs</i> . 2012;21(5-6):689-697 [IIIB].	Nonexperimental	80 patients	n/a	n/a	STAI, vital signs	10 minutes of deep breathing and guided imagery can significantly lower vital signs and STAI, increased time increases effect; recommend including in standard care.	IIIA
146	Lin P. An evaluation of the effectiveness of relaxation therapy for patients receiving joint replacement surgery. <i>J Clin Nurs</i> . 2012;21(5):601-608. https://doi.org/10.1111/j.1365-2702.2010.03406.x . doi: 10.1111/j.1365-2702.2010.03406.x.	Quasi-experimental	93 patients	breathing and guided imagery relaxation therapy	standard care	STAI, vital signs, pain	Significantly less severity of pain and anxiety, only SBP significantly improved; intervention is useful adjunct.	IIA
147	Chandrasegaran A. Case study: Clinical management of claustrophobia and cold sensitivity towards operating room environment with preoperative hypnosis. <i>Sleep Hypnosis</i> . 2018;20(4):294-298. http://search.ebscohost.com/login.aspx?direct=true&db=ccm&AN=132179339&site=ehost-live&scope=site . doi: 10.5350/Sleep.Hypn.2018.20.0165.	Case Report	n/a	n/a	n/a	n/a	Hypnosis with accidental trigger words caused surgery cancelation, but without trigger words (associated with successful induction in claustrophobic and cold sensitive patient) anesthesia and surgery conducted without concern.	VB
148	Kuttner L. Pediatric hypnosis: Pre-, peri-, and post-anesthesia. <i>Pediatric Anesthesia</i> . 2012;22(6):573-577. https://doi.org/10.1111/j.1460-9592.2012.03860.x . doi: 10.1111/j.1460-9592.2012.03860.x.	Expert Opinion	n/a	n/a	n/a	n/a	Review of hypnosis reducing anxiety and LOHS in pediatric patients, less long term pain and discomfort when used to complement anesthesia care; easy and cost effective Magic Glove intervention.	VB

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REFERENCE #	CITATION	EVIDENCE TYPE	SAMPLE SIZE/ POPULATION	INTERVENTION(S)	CONTROL/ COMPARISON	OUTCOME MEASURE(S)	CONCLUSION(S)	CONSENSUS SCORE
149	Tefikow S, Barth J, Maichrowitz S, Beelmann A, Strauss B, Rosendahl J. Efficacy of hypnosis in adults undergoing surgery or medical procedures: A meta-analysis of randomized controlled trials. <i>Clin Psychol Rev</i> . 2013;33(5):623-636. http://www.sciencedirect.com/science/article/pii/S0272735813000457 . doi: https://doi.org/10.1016/j.cpr.2013.03.005 .	Systematic Review w/ Meta-Analysis	n/a	n/a	n/a	n/a	34 RCTs support single hypnosis session to reduce emotional distress, pain, medication consumption, physiological parameters, recovery and operative time; training required.	IA
150	Lang EV, Benotsch EG, Fick LJ, et al. Adjunctive non-pharmacological analgesia for invasive medical procedures: A randomised trial. <i>The Lancet</i> . 2000;355(9214):1486-1490. https://doi.org/10.1016/S0140-6736(00)02162-0 . doi: 10.1016/S0140-6736(00)02162-0.	RCT	241 patients	self-hypnotic relaxation	structured attention versus control	pain and anxiety	Significantly less pain, higher analgesic consumption without hypnosis, shorter procedures, higher stability with hypnosis; hypnosis more effective for pain and anxiety.	IA
151	Takahashi M, Mouillet G, Khaled A, et al. Perioperative outcomes of adjunctive hypnotherapy compared with conscious sedation alone for patients undergoing transfemoral transcatheter aortic valve implantation. <i>International Heart Journal</i> . 2020;61(1):60-66. doi: 10.1536/ihj.19-296.	Quasi-experimental	143 undergoing TAVI	intraoperative hypnosis	standard care	ICU LOS, 30-day mortality, complications	Significantly lower ICU LOS, anesthesia (propofol, remifentanyl) and norepinephrine significantly lower; requires more studies to confirm efficacy.	IIA
152	Duparc-Alegria N, Tiberghien K, Abdoul H, Dahmani S, Alberti C, Thiollier, A.F. Assessment of a short hypnosis in a paediatric operating room in reducing postoperative pain and anxiety: A randomised study. . Updated 2018. Accessed 1-2, 27.	RCT	120 pediatric patients age 10-18 years old	5-10 minute hypnosis, personalized imaginary journey	standard care	VAS anxiety, FACES pain or NRS, total morphine consumed 24 hours	Significant reduction of postoperative anxiety, not significant at 24 hours for anxiety or pain; preoperative nurse interviews trained in hypnosis may be more beneficial.	IB
153	Trambert R, Kowalski MO, Wu B, Mehta N, Friedman P. A randomized controlled trial provides evidence to support aromatherapy to minimize anxiety in women undergoing breast biopsy. <i>Worldviews on Evidence-Based Nursing</i> . 2017;14(5):394-402. https://doi.org/10.1111/wvn.12229 . doi: 10.1111/wvn.12229.	RCT	87 female patients	lavender-sandalwood versus orange-peppermint	placebo	STAI	Significant decrease in state anxiety with lavender.	IB
154	Hosseini S, Heydari A, Vakili M, Moghadam S, Tazyky S. Effect of lavender essence inhalation on the level of anxiety and blood cortisol in candidates for open-heart surgery. <i>Iranian journal of nursing and midwifery research</i> . 2016;21(4):397-401. https://pubmed.ncbi.nlm.nih.gov/27563324/ ; https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4979264/ . doi: 10.4103/1735-9066.185582.	RCT	90 patients undergoing open heart surgery	2 drops of lavender inhalation 20 minutes before surgery	distilled water	STAI, cortisol levels	Significant decrease in anxiety and cortisol level, significant decrease vital signs, significant correlation of cortisol and anxiety; recommend adopting as complementary care intervention.	IA
155	Jaruzel CB, Gregoski M, Mueller M, Faircloth A, Kelechi T. Aromatherapy for preoperative anxiety: A pilot study. <i>Journal of PeriAnesthesia Nursing</i> . 2019;34(2):259-264. https://doi.org/10.1016/j.jopan.2018.05.007 . doi: 10.1016/j.jopan.2018.05.007.	Quasi-experimental	30 patients	aromatherapy patch	standard care	VAS anxiety, vital signs	Significant decrease anxiety; beneficial intervention.	IIA
156	Hu PH, Peng YC, Lin YT, Chang CS, Ou MC. Aromatherapy for reducing colonoscopy related procedural anxiety and physiological parameters: A randomized controlled study. <i>Hepatogastroenterology</i> . 2010;57(102-103):1082-1086 [IC].	RCT	27 patients	neroli oil	sunflower oil	STAI-S, VAS pain, vital signs	No significant difference in STAI-S or VAS pain, significant decrease in systolic blood pressure in all groups, and diastolic pressure in experimental group.	IA
157	Hoya Y, Matsumura I, Fujita T, Yanaga K. The use of nonpharmacological interventions to reduce anxiety in patients undergoing gastroscopy in a setting with an optimal soothing environment. <i>Gastroenterology Nursing</i> . 2008;31(6):395-399 [IC].	RCT	50 patients undergoing outpatient procedures	lavender essential oil burner with digital video Flow	control	anxiety FACE scale, blood pressure, RN-categorized anxiety	Anxiety and systolic blood pressure did not increase before gastroscopy; inexpensive and safe intervention.	IC
158	Hines S, Steels E, Chang A, Gibbons K. Aromatherapy for treatment of postoperative nausea and vomiting. <i>The Cochrane database of systematic reviews</i> . 2018;3(3):CD007598-CD007598. https://pubmed.ncbi.nlm.nih.gov/29523018/ ; https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6494172/ . doi: 10.1002/14651858.CD007598.pub3.	Systematic Review	n/a	n/a	n/a	n/a	16 trials aromatherapy for PONV, not effective at reducing severity, but significantly less likely to request rescue antiemetics, alcohol significantly decreased nausea score time.	IA

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159	Olapour A, Behaen K, Akhondzadeh R, Soltani F, Al Sadat Razavi F, Bekhradi R. The effect of inhalation of aromatherapy blend containing lavender essential oil on cesarean postoperative pain. <i>Anesthesiology and pain medicine</i> . 2013;3(1):203-207. https://pubmed.ncbi.nlm.nih.gov/24223363/ ; https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3821145/ . doi: 10.5812/aapm.9570.	RCT	60 females undergoing cesarean sections	3 drops of 10% lavender	placebo	VAS and vitals, complications, patient satisfaction	Significantly less pain at 4, 8, 12 hours, heart rate, increase patient satisfaction, significantly higher use of diclofenac in control group; need to implement multimodal pain relief.	IA
160	Braden R, Reichow S, Halm MA. The use of the essential oil lavandin to reduce preoperative anxiety in surgical patients. <i>Journal of PeriAnesthesia Nursing</i> . 2009;24(6):348-355 [IA].	RCT	150 patients	lavandin essential oil	sham, control	100 point VAS anxiety, previous use, history of anxiety disorder, preoperative anxiety medications, length of stay	Significantly lower anxiety during OR transfer, males in sham group had significantly lower anxiety; low risk and cost effective intervention to improve preoperative outcomes and patient satisfaction.	IC
161	Lane B, Cannella K, Bowen C, et al. Examination of the effectiveness of peppermint aromatherapy on nausea in women post C-section. <i>J Holist Nurs</i> . 2012;30(2):90-104. https://doi.org/10.1177/0898010111423419 . doi: 10.1177/0898010111423419.	RCT	35 patients	peppermint and isopropyl alcohol	placebo versus antiemetic standard	VAS nausea	Significantly lower at 2, 5 minutes; adjunct intervention useful.	IA
162	Lee A, Chan SKC, Fan LTY. Stimulation of the wrist acupuncture point PC6 for preventing postoperative nausea and vomiting. <i>The Cochrane database of systematic reviews</i> . 2015;2015(11):CD003281-CD003281. https://pubmed.ncbi.nlm.nih.gov/26522652/ ; https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4679372/ . doi: 10.1002/14651858.CD003281.pub4.	Systematic Review	n/a	n/a	n/a	n/a	59 trials with pediatric patients, acupoint PC6 for PONV, electrical stimulation significant decrease NV and rescue antiemetics, combined therapy reduced vomiting but not nausea, adverse events minor, wrist bands higher likelihood; PC6 acupoint stimulation comparable to antiemetics efficacy.	IIA
163	Albooghobeish M., Mohtadi A., Saidkhani V., et al. Comparative effects of the stimulation of BL10, BL11, and GB34 acupuncture points with P6 point using a low-level laser on the prevention of vomiting after strabismus surgery: A randomized, double-blind, controlled clinical trial. <i>Iran Red Crescent Med J</i> . 2019;21(2):e64713. https://neoscriber.org/cdn/serve/314ae/41e075360dcbd821fb61f10a920afdae206152b9/ircmj-21-2-64713.pdf ; http://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=emexa&NEWS=N&AN=2001628515 . doi: http://dx.doi.org/10.5812/ircmj.64713 .	RCT	63 patients	BL10 BL 11 GB 34 acupuncture	P6 acupuncture versus control	postoperative vomiting episodes	P6 significantly less V episodes; most effective acupoint is P6.	IA
164	Yang C, Hao Z, Zhang L, Guo Q. Efficacy and safety of acupuncture in children: An overview of systematic reviews. <i>Pediatr Res</i> . 2015;78(2):112-119. https://doi.org/10.1038/pr.2015.91 . doi: 10.1038/pr.2015.91.	Systematic Review	n/a	n/a	n/a	n/a	24 RCTs acupuncture in pediatric patients effective to reduce pain, potentially reduces nausea and vomiting.	IA
165	Acar HV, Cuvas O, Ceyhan A, Dikmen B. Acupuncture on yintang point decreases preoperative anxiety. <i>Journal of Alternative & Complementary Medicine</i> . 2013;19(5):420-424 [IA].	RCT	52 adults	20 minutes acupuncture yintang point	sham	BIS, STAI	Significantly lower BIS and STAI-state; ear-press needle acupuncture is effective.	IA
166	Wu S, Liang J, Zhu X, Liu X, Miao D. Comparing the treatment effectiveness of body acupuncture and auricular acupuncture in preoperative anxiety treatment. <i>Journal of Research in Medical Sciences</i> . 2011;16(1):39-42 [IC].	RCT	35 ASC patients	acupuncture	auricular acupuncture	Zung self-rating anxiety	Both acupoint intervention groups had significant decrease in anxiety.	IA
167	Chen Y, Wu W, Yao Y, Yang Y, Zhao Q, Qiu,L. Transcutaneous electric acupoint stimulation at jiaji points reduce abdominal pain after colonoscopy: A randomized controlled trial. <i>International journal of clinical and experimental medicine</i> . 2015;8(4):5972. http://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=cctr&NEWS=N&AN=CN-01713588 .	RCT	229 patients undergoing colonoscopy	30 minutes preoperatively electrical acupoint stimulation jiaji	sham	VAS pain, incidence of distension, PONV, PACU LOS, patient satisfaction and acceptance	Significantly less pain, distention, LOS, and improved patient satisfaction and acceptance; intervention is efficient medical resource utilization.	IC

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168	Sun R, Dai W, Liu Y, et al. Non-needle acupoint stimulation for prevention of nausea and vomiting after breast surgery: A meta-analysis. <i>Medicine</i> . 2019;98(10):e14713-e14713. https://pubmed.ncbi.nlm.nih.gov/30855464/ ; https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6417514/ . doi: 10.1097/MD.00000000000014713.	Systematic Review w/ Meta-Analysis	n/a	n/a	n/a	n/a	14 RCTs of female non-needle acupoint stimulation on PONV, 2 hours postoperative nonsignificant, at 48 hours significant reduction, stimulation wristband more likely to cause adverse reactions; electrical stimulation PC6 for 30 minutes before induction to end of surgery promising.	IA
169	Martin CS, Deverman SE, Norvell DC, Cusick JC, Kendrick A, Koh, J. Randomized trial of acupuncture with antiemetics for reducing postoperative nausea in children. <i>Acta anaesthesiologica scandinavica</i> . 2018;(no pagination). http://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=cctr&NEWS=N&AN=CN-01668694 . doi: 10.1111/aas.13288.	RCT	161 pediatric patients ages 3-9 years old	bilateral acupuncture at P6	antiemetics	PONV	Recovery phase I and II significantly less vomiting, no difference in nausea or at 24 hours for either; study was discontinued after interim analysis.	IA
170	Carr KL, Johnson FE, Kenaan CA, Welton, J.M. Effects of P6 stimulation on postoperative nausea and vomiting in laparoscopic cholecystectomy patients. <i>Journal of perianesthesia nursing : official journal of the american society of perianesthesia nurses</i> . 2015;30(2):143. http://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=cctr&NEWS=N&AN=CN-01264974 .	RCT	56 female patients	P6 electrical acupressure stimulation	placed without electricity	PONV occurrence, severity, treatment, antiemetic medication consumption	Significantly lower PONV upon PACU admission; clinically meaningful results.	IA
171	El-Deeb A, Ahmady MS. Effect of acupuncture on nausea and/or vomiting during and after cesarean section in comparison with ondansetron. <i>Journal of Anesthesia</i> . 2011;25(5):698. https://doi.org/10.1007/s00540-011-1198-0 . doi: 10.1007/s00540-011-1198-0.	RCT	450 females undergoing c-section	acupuncture on P6 bilaterally before spinal anesthesia	4 mg ondansetron versus placebo	NV VAS, first emetic event, operative time, ephedrine consumed, complications, satisfaction	Significantly less NV and satisfaction in both treatment groups intraoperative and 6 hours postoperative; inexpensive simple technique comparable to ondansetron.	IA
172	Kwon J, Shin Y, Juon H. Effects of nei-guan (P6) acupressure wristband: On nausea, vomiting, and retching in women after thyroidectomy. <i>Cancer Nurs</i> . 2016;39(1). https://journals.lww.com/cancernursingonline/Fulltext/2016/01000/Effects_of_Nei_Guan_P6_Acupressure_Wristband_On.8.aspx .	Quasi-experimental	60 female patients	P6 acupressure wristband 30 minutes before anesthesia	placebo versus control	INVR	Nausea significantly lower; short term effects may benefit from other acupoints as well.	IIA
173	Feng CL, Popovic J, Kline RP, et al. Auricular acupressure in the prevention of postoperative nausea and emesis A randomized controlled trial. <i>Bulletin of the hospital for joint disease (2013)</i> . 2017;75(2):114. http://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=cctr&NEWS=N&AN=CN-01446959 .	RCT	150 patients	auricular acupressure shen men, point zero, subcortex point	sham versus placebo	antiemetic rescue and 24 hour nausea, vomiting, retching	Significant decrease of nausea in PACU and at 24 hours, no difference of vomiting or PACU LOS; nausea is subjective result, as sham performed better than the placebo group.	IB
174	He BJ, Tong PJ, Li J, Jing HT, Yao XM. Auricular acupressure for analgesia in perioperative period of total knee arthroplasty. <i>Pain Med</i> . 2013;14(10):1608-1613. https://doi.org/10.1111/pme.12197 . doi: 10.1111/pme.12197.	RCT	90 patients undergoing TKA	vaccaria seeds at 4 auricular acupressure points	sham	VAS pain, PCA consumption, adverse effects, HSS knee score, ROM	Significantly lower pain POD 3,4,5,7, lower analgesic consumption, adverse events, higher HSS at 2 years; lower cost with high safety and easy application.	IA
175	Chang L, Hsu C, Jong G, Ho S, Tsay S, Lin K. Auricular acupressure for managing postoperative pain and knee motion in patients with total knee replacement: A randomized sham control study. <i>Evidence-based complementary and alternative medicine : eCAM</i> . 2012;2012:528452-528452. https://pubmed.ncbi.nlm.nih.gov/22844334/ ; https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3403627/ . doi: 10.1155/2012/528452.	RCT	62 patients undergoing TKA	auricular acupressure over 3 days	sham	VAS and McGill pain, analgesic consumption, ROM	Significantly less drug use, POD 3 ROM significantly better; decreases opioid requirement and improves ROM.	IA

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176	Gavronsky S, Koeniger-Donohue R, Steller J, Hawkins, J.W. Postoperative pain: Acupuncture versus percutaneous electrical nerve stimulation. . Updated 2012. Accessed 3, 13.	RCT	18 female patients	acupuncture	percutaneous electrical nerve stimulation	VAS pain and McGill pain	After 48 hours, equivalent pain relief, PENS more profound; either intervention may restore normal bowel motility faster.	IA
177	Chen J, Tu Q, Miao S, Zhou Z, Hu S. Transcutaneous electrical acupoint stimulation for preventing postoperative nausea and vomiting after general anesthesia: A meta-analysis of randomized controlled trials. <i>International Journal of Surgery</i> . 2020;73:57-64. http://www.sciencedirect.com/science/article/pii/S1743919119303036 . doi: https://doi.org/10.1016/j.ijssu.2019.10.036 .	Systematic Review w/ Meta-Analysis	n/a	n/a	n/a	n/a	14 RCTs found TEAS acupoint stimulation significantly lowered PONV, rescue medication, dizziness, pruritus; intervention is reasonable modality.	IA
178	Cheong KB, Zhang J, Huang Y, Zhang Z. The effectiveness of acupuncture in prevention and treatment of postoperative nausea and vomiting - A systematic review and meta-analysis. <i>PLOS ONE</i> . 2013;8(12):e82474. https://doi.org/10.1371/journal.pone.0082474 .	Systematic Review w/ Meta-Analysis	n/a	n/a	n/a	n/a	30 RCTs acupuncture decreased early vomiting and total nausea, PC6 pressure decreased total nausea vomiting, other points also decreased total nausea vomiting; low-quality but supportive evidence; reusable bands may be more effective but also more expensive.	IB
179	Yang X-, Xiao J, Chen Y-, et al. Dexamethasone alone vs in combination with transcutaneous electrical acupoint stimulation or tropisetron for prevention of postoperative nausea and vomiting in gynaecological patients undergoing laparoscopic surgery. <i>Br J Anaesth</i> . 2015;115(6):883-889. https://doi.org/10.1093/bja/aev352 . doi: 10.1093/bja/aev352.	RCT	157 female patients	electrical acupoint stimulation 2 Hz/1 mA before induction to PACU discharge	dexamethasone versus dexamethasone with tropisetron	PONV, pain VAS, antiemetic drugs, length of anesthesia and operation, PACU LOS, time to food intake, ambulation, discharge, fentanyl dose, patient satisfaction	Dexamethasone-alone group had significantly higher PONV, VAS; with similar need for rescue drugs and patient satisfaction in all groups.	IA
180	Zhan W., Tian W. Addition of transcutaneous electric acupoint stimulation to transverse abdominis plane block for postoperative analgesia in abdominal surgery: A randomized controlled trial. <i>Eur J Integr Med</i> . 2020;35:101087. http://www.elsevier.com/journals/european-journal-of-integrative-medicine/1876-3820 ; http://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=emexb&NEWS=N&AN=2005232354 . doi: http://dx.doi.org/10.1016/j.eujim.2020.101087 .	RCT	90 patients	bilateral abdominal blocks and electrical acupuncture stimulation zusanli ST and neiguan	abdominal blocks versus routine care	VAS pain, vital signs, NV, dizziness,	Significantly lower pain, vital signs, and adverse events in experimental group, hemodynamic effect in control group; intervention is ideal postoperative analgesic strategy.	IA
181	Nakamura N., Mihara T., Hijikata T., Goto T., Ka K. Unilateral electrical stimulation of the heart 7 acupuncture point to prevent emergence agitation in children: A prospective, doubleblinded, randomized clinical trial. <i>PLoS ONE</i> . 2018;13(10):e0204533. https://journals.plos.org/plosone/article/file?id=10.1371/journal.pone.0204533&type=printable ; http://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=emexa&NEWS=N&AN=624371500 . doi: http://dx.doi.org/10.1371/journal.pone.0204533 .	RCT	100 pediatric patients age 18-96 months	unilateral H7 stimulation intraoperative acupuncture	unilateral H7 acupuncture	mYPAS, PAED, Aono's, severity of EA, PACU LOS, postoperative pain	No difference in outcomes; however, underpowered analysis due to low EA incidence in control group.	IA

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182	Huang S, Peng W, Tian X, et al. Effects of transcutaneous electrical acupoint stimulation at different frequencies on perioperative anesthetic dosage, recovery, complications, and prognosis in video-assisted thoracic surgical lobectomy: A randomized, double-blinded, placebo-controlled trial. . Updated 2017. Accessed 1, 31.	RCT	80 patients in 4 groups	electrical acupoint stimulation at 1) 2/100Hz, 2) 2 Hz, 3) 100 Hz	4) control	anesthetic dose, blood gas analysis, lung function indexes, PACU status, postoperative complications, quality of life (QoL)	Significantly less opioids, one-lung arterial oxygen partial pressure, shorter extubation, lower VAS, PACU LOS, PONV, all had lower physical scores than baseline; acupoint stimulation safe adjunct.	IA
183	Wang S, Constable RT, Tokoglu FS, Weiss DA, Freyle D, Kain ZN. Acupuncture-induced blood oxygenation level-dependent signals in awake and anesthetized volunteers: A pilot study. <i>Anesthesia & Analgesia</i> . 2007;105(2). https://journals.lww.com/anesthesia-analgesia/Fulltext/2007/08000/Acupuncture_Induced_Blood_Oxygenation.36.aspx .	Quasi-experimental	11 volunteers	S36 acupuncture under general anesthesia	S36 acupuncture while awake/self-control	blood oxygen level dependent signals under MRI, regional cerebral blood flow x6 areas	BOLD signals were not related to changes in regional cerebral blood flow; further work needed.	IIB
184	White PF, Zhao M, Tang J, et al. Use of a disposable acupressure device as part of a multimodal antiemetic strategy for reducing postoperative nausea and vomiting. <i>Anesthesia & Analgesia</i> . 2012;115(1). https://journals.lww.com/anesthesia-analgesia/Fulltext/2012/07000/Use_of_a_Disposable_Acupressure_Device_as_Part_of.9.aspx .	RCT	100 patients	acupressure bilateral P6 preoperatively	sham	NV, rescue medication request, recovery time and quality, patient satisfaction	Significant decrease vomiting overall and at 72 hours, significant increase patient satisfaction and quality at 48 hour; use in combination with antiemetic drugs.	IA
185	Majholm B, Møller A.M. Acupressure at acupoint P6 for prevention of postoperative nausea and vomiting: A randomised clinical trial. <i>European Journal of Anaesthesiology (EJA)</i> . 2011;28(6). https://journals.lww.com/ejanaesthesiology/Fulltext/2011/06000/Acupressure_at_acupoint_P6_for_prevention_of.6.aspx .	RCT	112 healthy female patients	P6 acupressure wristband	sham	PONV	Nonsignificant PONV, 1/3 of patients reported side effects; recommend standardized PONV assessment, use of multimodal approach.	IA
186	Cooke M, Rapchuk I, Doi SA, et al. Wrist acupressure for post-operative nausea and vomiting (WrAP): A pilot study. <i>Complement Ther Med</i> . 2015;23(3):372-380. http://www.sciencedirect.com/science/article/pii/S0965229915000400 . doi: https://doi.org/10.1016/j.ctim.2015.03.007 .	RCT	80 patients	beaded acupressure wristband	placebo	feasibility, NV VAS, rescue drugs, recovery quality, AE	Feasible and justified intervention, though 6 wristbands became tight.	IB
187	Valiee S, Bassampour SS, Nasrabadi AN, Pouresmaeil Z, Mehran A. Effect of acupressure on preoperative anxiety: A clinical trial. <i>Journal of PeriAnesthesia Nursing</i> . 2012;27(4):259-266 [IB].	RCT	70 patients	acupressure on third eye and shen men	sham	VAS anxiety, vital signs	Significant decrease in anxiety, though there was a perceived benefit of placebo; potential to train patient to perform intervention.	IA
188	Rosen J, Lawrence R, Bouchard M, Doros G, Gardiner P, Saper R. Massage for perioperative pain and anxiety in placement of vascular access devices. <i>Adv Mind Body</i> . 2013;27(1):12-23 [IB].	RCT	60 cancer patients	20 minutes pre and postoperative massage	structured attention	STAI and 11 point pain	Significantly lowered anxiety after first intervention and adjusting for baseline anxiety, significantly lower pain after surgery and POD1; however, underpowered to detect meaningful difference.	IA
189	Brand LR, Munroe DJ, Gavin J. The effect of hand massage on preoperative anxiety in ambulatory surgery patients. <i>AORN Journal</i> . 2013;97(6):708-717. https://doi.org/10.1016/j.aorn.2013.04.003 . doi: 10.1016/j.aorn.2013.04.003.	Quasi-experimental	86 patients	hand massage preoperatively	standard care	VAS anxiety	Significant decrease in anxiety; easy to implement and did not affect flow or timing.	IIB
190	Wentworth LJ, Briese LJ, Timimi FK, et al. Massage therapy reduces tension, anxiety, and pain in patients awaiting invasive cardiovascular procedures. <i>Prog Cardiovasc Nurs</i> . 2009;24(4):155-161 [IB].	RCT	130 patients	20 minutes of massage 30 minutes before cardiovascular procedure	standard care	VAS pain, tension, anxiety	Significant decrease of pain, tension, anxiety.	IA

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REFERENCE #	CITATION	EVIDENCE TYPE	SAMPLE SIZE/ POPULATION	INTERVENTION(S)	CONTROL/ COMPARISON	OUTCOME MEASURE(S)	CONCLUSION(S)	CONSENSUS SCORE
191	Hudson BF, Davidson J, Whiteley MS. The impact of hand reflexology on pain, anxiety and satisfaction during minimally invasive surgery under local anaesthetic: A randomised controlled trial. <i>Int J Nurs Stud</i> . 2015;52(12):1789-97. doi: https://dx.doi.org/10.1016/j.ijnurstu.2015.07.009 .	RCT	100 patients	Ingham hand reflexology massage	standard care	Aberdeen QoL, McGill pain, 11 point anxiety, patient satisfaction 6 scale	Intraoperative anxiety significantly lower, pain duration significantly shorter.	IA
192	Alameri R., Dean G., Castner J., Volpe E., Elghoneimy Y., Jungquist C. Efficacy of precise foot massage therapy on pain and anxiety following cardiac surgery: Pilot study. <i>Pain Manag Nurs</i> . 2019. http://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=emexb&NEWS=N&AN=629882593 . doi: http://dx.doi.org/10.1016/j.pmn.2019.09.005 .	RCT	31 patients	10 minutes foot massage after cardiac surgery	Boitor hand massage	VAS pain and anxiety, Richards Campbell sleep questionnaire, Hospital Anxiety and Depression scale, American Pain society patient outcome questionnaire - developed for study	Significant decrease pain intensity and anxiety.	IB
193	Ucuzal M., Kanan N. Foot massage: Effectiveness on postoperative pain in breast surgery patients. <i>Pain Manag Nurs</i> . 2014;15(2):458-465. http://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=emed15&NEWS=N&AN=602159504 . doi: http://dx.doi.org/10.1016/j.pmn.2012.03.001 .	Quasi-experimental	70 patients	10 minute for each foot massage	analgesics	McGill pain, vital signs	Significantly less pain, overall vital signs decreased but heart rate increased in control group; beneficial to give foot massages for postoperative pain.	IIB
194	Bagheri-Nesami M, Shorofi SA, Zargar N, Sohrabi M, Gholipour-Baradari A, Khalilian A. The effects of foot reflexology massage on anxiety in patients following coronary artery bypass graft surgery: A randomized controlled trial. <i>Complementary Therapies in Clinical Practice</i> . 2014;20(1):42-47. http://www.sciencedirect.com/science/article/pii/S1744388113000753 . doi: https://doi.org/10.1016/j.ctcp.2013.10.006 .	RCT	80 CABG patients	foot reflexology postoperatively	gentle foot rub	STAI, VAS anxiety	Significant decrease in anxiety; potential confounders and lower population generalizability.	IB
195	Molavi Vardanjani M, Masoudi Alavi N, Razavi NS, Aghajani M, Azizi-Fini E, Vaghefi SM. A randomized-controlled trial examining the effects of reflexology on anxiety of patients undergoing coronary angiography. <i>Nursing and midwifery studies</i> . 2013;2(3):3-9. https://pubmed.ncbi.nlm.nih.gov/25414869/ ; https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4228540/ . doi: 10.5812/nms.12167.	RCT	100 male patients	30 minutes foot reflexology massage - solar, pituitary gland, heart	massage	STAI	Significant decrease in anxiety in both, significant higher baseline in the reflexology group, reflexology explains 7.5% of anxiety reduction model; recommends a holistic nurse perform intervention.	IA
196	<i>Massage laws across the USA</i> . Reflexology Association of America; 2017.	Regulatory	n/a	n/a	n/a	n/a	Massage versus reflexology laws.	
197	Collarile M., Sambri A., Lullini G., Cadossi M., Zorzi C. Biophysical stimulation improves clinical results of matrix-assisted autologous chondrocyte implantation in the treatment of chondral lesions of the knee. <i>Knee Surg Sports Traumatol Arthrosc</i> . 2018;26(4):1223-1229. http://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=emed19&NEWS=N&AN=623604853 . doi: http://dx.doi.org/10.1007/s00167-017-4605-8 .	RCT	30 patients	PEMF 4 hours/day/60 days	control	IKDC, VAS pain, SF36, QoL	Significant improvement IKDC, SF36, QoL, and pain; properly select compliant patients for maximum benefit.	IB
198	Khooshideh M, Latifi Rostami S, Sheikh M, MD P, Ghorbani Yekta B, Shahriari A. Pulsed electromagnetic fields for postsurgical pain management in women undergoing cesarean section: A randomized, double-blind, placebo-controlled trial. <i>Clin J Pain</i> . 2017;33(2):142-147. http://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=yrovfts&NEWS=N&AN=00002508-201702000-00007 . doi: 10.1097/AJP.0000000000000376.	RCT	72 women after cesarean section	PEMF	standard care	pain VAS, analgesic consumption, healing	Significantly lower VAS pain, fewer reporting severe pain, lower total dose over POD 1-7, better wound healing; high patient satisfaction recommend use.	IA
199	N,Osti L, Buono AD, Maffuli. Pulsed electromagnetic fields after rotator cuff repair: A randomized, controlled study. . Updated 2015. Accessed 3, 38.	RCT	66 patients	PEMF	placebo	VAS pain, ROM, UCLA	Significant improvement in ROM and UCLA and less pain.	IA

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200	N,Osti L, Del Buono A, Maffulli. Application of pulsed electromagnetic fields after microfractures to the knee: A mid-term study. . Updated 2015. Accessed 7, 39.	RCT	60 patients	PEMF 6 hours/day/60 days	placebo	IKDC, Lysholm, self-reported activity	Significant improvement at 2 and 5 years of IKDC, Lysholm; effective intervention for microfractures.	IA
201	Stocchero M, Gobbato L, De Biagi M, Bressan E, Sivoletta S. Pulsed electromagnetic fields for postoperative pain: A randomized controlled clinical trial in patients undergoing mandibular third molar extraction. <i>Oral Surg Oral Med Oral Pathol Oral Radiol</i> . 2015;119(3):293-300. http://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=ovftq&NEWS=N&AN=01653899-201503000-00007 . doi: 10.1016/j.oooo.2014.11.017.	RCT	120 patients	PEMF jaw	placebo versus control	pain VAS, analgesic consumption, complications	Significantly less dehiscence, decrease VAS pain with time, VAS pain and hours of PEMF significantly correlated; improved soft tissue healing.	IA
202	Rohde C, Taylor E, Alonso A, Ascherman J, Hardy K, Pilla A. Pulsed electromagnetic fields reduce postoperative interleukin-1[beta], pain, and inflammation: A double-blind, placebo-controlled study in TRAM flap breast reconstruction patients. <i>Plast Reconstr Surg</i> . 2015;135(5):808e-817e. http://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=yrovftq&NEWS=N&AN=00006534-201505000-00004 . doi: 10.1097/PRS.0000000000001152.	RCT	32 patient	PEMF	sham	VAS pain, narcotic use, wound exudate with IL1b	Significant lower pain, narcotic use and exudate volume 2x higher, IL1b concentration 5x higher in sham group.	IB
203	Svaerdborg M, Momsen O, Damsgaard T, Engberg MD P. Pulsed electromagnetic fields for postoperative pain treatment after breast augmentation: A double-blind, placebo-controlled study. <i>Aesthet surg j</i> . 2016;36(6):NP199-NP201. http://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=ovftr&NEWS=N&AN=00146797-201606000-00020 . doi: 10.1093/asj/sjw027.	RCT	49 female patients	PEMF one breast	placebo opposite side	VAS pain, ROM, pain medications	Nonsignificant results.	IA
204	P,Menini M, Bevilacqua M, Setti P, Tealdo T, Pesce P, Pera. Effects of pulsed electromagnetic fields on swelling and pain after implant surgery: A double-blind, randomized study. <i>International journal of oral and maxillofacial surgery</i> . 2016;45(3):346. http://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=cctr&NEWS=N&AN=CN-01138765 .	RCT	11 patients	PEMF one cheek	placebo opposite side	38 hours swelling and VAS pain	Nonsignificant results.	IB
205	Erden S, Senol Celik S. The effect of transcutaneous electrical nerve stimulation on postthoracotomy pain. <i>Contemp Nurse</i> . 2015;51(2-3):163-170. http://search.ebscohost.com/login.aspx?direct=true&db=ccm&AN=115706726&site=ehost-live&scope=site . doi: 10.1080/10376178.2016.1166971.	RCT	40 patients	TENS 85 hz, 180 us, 30 minutes	standard care	pain, analgesic consumption	Significant lower pain and analgesic consumption in intervention group; TENS easy and reliable analgesic method.	IB
206	Rakel BA, Zimmerman MB, Geasland K, et al. Transcutaneous electrical nerve stimulation for the control of pain during rehabilitation after total knee arthroplasty: A randomized, blinded, placebo-controlled trial. <i>Pain</i> . 2014;155(12):2599-2611. https://pubmed.ncbi.nlm.nih.gov/25270585/ ; https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4250415/ . doi: 10.1016/j.pain.2014.09.025.	RCT	317 patients undergoing TKA	TENS postoperatively	placebo versus standard care	VAS pain, ROM and function tests, STAI, depression scale	Significantly less pain during active extension and fast walking, lower anxiety and pain, less hyperalgesia; placebo influence exists and effect only through 6 weeks, anxiety and pain outcomes may benefit the most.	IB
207	Borckardt J, Reeves S, MD M, et al. Transcranial direct current stimulation (tDCS) reduces postsurgical opioid consumption in total knee arthroplasty (TKA). <i>Clin J Pain</i> . 2013;29(11):925-928. http://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=ovfto&NEWS=N&AN=00002508-201311000-00001 . doi: 10.1097/AJP.0b013e31827e32be.	RCT	40 patients undergoing TKA	transcranial direct current stimulation tDCS	sham	tracking PCA use, VAS pain	Significantly less opioid consumption; feasible adjunct for pain.	IA
208	Nigam AK, Taylor DM, Valeyeva Z. Non-invasive interactive neurostimulation (InterX™) reduces acute pain in patients following total knee replacement surgery: A randomised, controlled trial. <i>Journal of orthopaedic surgery and research</i> . 2011;6:45-45. https://pubmed.ncbi.nlm.nih.gov/21864362/ ; https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3182948/ . doi: 10.1186/1749-799X-6-45.	RCT	58 patients	postoperative non-invasive neurostimulation NIN	standard care	pain, ROM	Significantly reduced pain and increased ROM; intervention has clear benefits.	IA

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209	Thrane S, Cohen SM. Effect of reiki therapy on pain and anxiety in adults: An in-depth literature review of randomized trials with effect size calculations. <i>Pain Management Nursing</i> . 2014;15(4):897-908. http://www.sciencedirect.com/science/article/pii/S1524904213000805 . doi: https://doi.org/10.1016/j.pmn.2013.07.008 .	Systematic Review	n/a	n/a	n/a	n/a	12 RCTs found Reiki may be effective for pain and anxiety.	IA
210	Bourque A, L., Sullivan M, E., Winter M, R. Reiki as a pain management adjunct in screening colonoscopy. <i>Gastroenterol Nurs</i> . 2012;35(5):308-312 [IIC].	Quasi-experimental	30 patients, 300 charts reviewed	10 minutes of Reiki	placebo	meperidine administration	Not a significant difference; however, 16% of patients who received Reiki also received less than 50 mg meperidine.	IIA
211	Goldberg DR, Wardell DW, Kilgarriff N, Williams B, Eichler D, Thomlinson P. An initial study using healing touch for women undergoing a breast biopsy. <i>J Holist Nurs</i> . 2016;34(2):123-134. https://doi.org/10.1177/0898010115585414 . doi: 10.1177/0898010115585414.	RCT	73 female patients	healing touch 15 minutes before biopsy	standard care	STAI, coping resources inventory, vital signs	Significant decrease anxiety in intervention, significant decrease coping in control, vital signs decreased but not clinically significant; may have benefits, need to test empirical value.	IA
212	Bulette Coakley A, Duffy ME. The effect of therapeutic touch on postoperative patients. <i>J Holist Nurs</i> . 2010;28(3):193-200. https://doi.org/10.1177/0898010110368861 . doi: 10.1177/0898010110368861.	Quasi-experimental	21 patients	therapeutic touch Kriger's	control	pain, blood levels	Significantly lower pain, cortisol, higher natural killer cells; beneficial intervention.	IIA
213	McCormack GL. Using non-contact therapeutic touch to manage post-surgical pain in the elderly. <i>Occup Ther Int</i> . 2009;16(1):44-56. https://doi.org/10.1002/oti.264 . doi: 10.1002/oti.264.	RCT	90 elderly patients	energy field work 10 minutes	placebo versus control	memorial pain scale, tellegen absorption scale, health attribution scale, heart rate, pupil sign	Significant decrease in pain, improved participation; implications for occupational therapy promising.	IA
214	Feng F, Tuchman S, Denninger JW, Fricchione GL, Yeung A. Qigong for the prevention, treatment, and rehabilitation of COVID-19 infection in older adults. <i>The American Journal of Geriatric Psychiatry</i> . 2020;28(8):812-819. http://www.sciencedirect.com/science/article/pii/S1064748120303419 . doi: https://doi.org/10.1016/j.jagp.2020.05.012 .	Literature Review	n/a	n/a	n/a	n/a	Review of qigong in elderly patients; recommended for stress reduction and enhancing immunity.	VA
215	MacIntyre B, Hamilton J, Fricke T, Ma W, Mehle S, Michel M. The efficacy of healing touch in coronary artery bypass surgery recovery: A randomized clinical trial. <i>Altern Ther Health Med</i> . 2008;14(4):24-32.	RCT	120 inpatient, 117 outpatient	87 full HT v 63 partial HT/volunteer visitor v 87 control - preop ed, preop day before, preop, POD 1, 2 providers	standard care	LOHS, anxiety, SF-12 (physical and mental function), morphine equivalent	LOS, anxiety reduced for inpatients; LOS reduced outpatients.	IA
216	<i>AORN position statement on patient safety</i> . AORN, Inc.; 2017.	Position Statement	n/a	n/a	n/a	n/a	Patient safety as number 1 priority.	IVA
217	<i>2. AORN position statement on a healthy perioperative practice environment</i> . AORN, Inc.; 2015.	Position Statement	n/a	n/a	n/a	n/a	Description of a healthy perioperative practice environment.	IVA