

MAYO CLINIC


An Integrative Approach to Pain Management

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LEARNING OBJECTIVES

1. Describe an integrative approach to care and integrative modalities that can be used for pain management.
2. Review the background and research to support integrative nursing approaches for pain management.
3. Understand how integrative modalities are used in specialty practices through patient exemplars.
4. Experience hands-on integrative exercises.

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GUIDED MEDITATION



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CASE STUDY

Ed: 41-year-old healthy male

- Married, works as a nurse on a med/surg floor
- Fell on ice last winter
- Chronic back pain now
- Doesn't want to take a lot of medication
- GME: Inquires about integrative options for back pain



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THE EVIDENCE

Why are integrative approaches important?

PHOTO: MAYER / GETTY

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PAIN EVIDENCE

- National Health Interview Survey**
 - Over 20% of adults had chronic pain in 2019
 - 7.4% of adults had high impact chronic pain that frequently limited their life or work activities.
 - It is estimated that chronic pain affects 30% of the world's population
- Untreated pain has individual and systemic consequences**
 - Increased anxiety, depression, sleep disorders, and substance misuse
 - Highly impacts individuals' quality of life and ability to function
 - Increased clinic visits, longer hospital stays, higher readmission rates
 - Lost worker productivity, increased overall healthcare costs

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PAIN MANAGEMENT

- Pain is best managed with a combination of approaches including pharmacologic and non-pharmacologic approaches
- Complementary and Integrative strategies can provide:**
 - Pain relief
 - Distraction from pain
 - A sense of patient control and empowerment

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WHATS IN A NAME?

Complementary	Alternative	Integrative Medicine	Integrative Nursing
A non-mainstream practice is used together with conventional practice	A non-mainstream practice is used in place of conventional medicine	"The practice of medicine that reaffirms the importance of the relationship between practitioner and patient, focuses on the whole person, is informed by evidence, and makes use of all appropriate therapeutic approaches, healthcare professionals, and disciplines to achieve optimal health and healing." - Consortium of Academic Health Centers for Integrative Medicine	"A way of being-knowing-doing that advances the health and wellbeing of persons, families, and communities through caring/healing relationships. Integrative nurses use evidence to inform traditional and emerging interventions to support the person and whole systems healing."

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INTEGRATIVE NURSING

- Human beings are **whole systems** inseparable from and influenced by environments.
- Human beings have an **innate capacity for health and wellbeing**.
- Integrative nursing is **person-centered** and **relationship-based**.
- Nature** has healing and restorative properties that contribute to health and wellbeing.
- Integrative nursing is **informed by evidence** and uses a **full range of conventional and integrative approaches**, employing the least intensive intervention possible depending on the need and context.
- Integrative nursing focuses on the **health and wellbeing of caregivers** as well as those they serve.

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MN BOARD OF NURSING: STATEMENT OF ACCOUNTABILITY FOR INTEGRATIVE THERAPIES

Highlights

- Patient safety
- Need for specialized knowledge, judgment, skill
- Utilization of recognized bodies of knowledge to support validity and efficacy
- Patient informed decision making
- Team collaboration
- Maintenance of ethical and quality standards of care
- Plan of care alignment
- Therapy regulations

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AMERICAN SOCIETY OF PAIN MANAGEMENT NURSING

- The American Society of Pain Management Nursing® supports the use of complementary pain therapies **used alone or in conjunction** with conventional medical interventions
- Integrative pain techniques can be used for all ages, genders and pain presentations
- Interventions can be time efficient such as using deep breathing or can be time extensive such as multiple sessions of acupuncture.

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EFFECTS OF AN INTEGRATIVE NURSING INTERVENTION ON PAIN IN CRITICALLY ILL PATIENTS: A PILOT CLINICAL TRIAL

- **Background:** Pain, a persistent problem in critically ill patients, adversely affects outcomes.
- **Objectives:** To investigate the effects of a multimodal integrative intervention on the incidence of pain and on secondary outcomes: intensity of pain, hemodynamic indices (systolic and mean arterial pressure, heart rate), anxiety, fear, relaxation, optimism, and sleep quality.
- **Methods:** A randomized, controlled, double-blinded repeated-measures trial with predetermined eligibility criteria was conducted. The intervention included relaxation, guided imagery, moderate pressure massage, and listening to music.
- **Results:** Among the 60 randomized critically ill adults in the sample, the intervention group experienced significant decreases in the incidence ($P = .003$) and ratings of pain ($P < .001$). Adjusted models revealed a significant trend for lower incidence ($P = .002$) and ratings ($P < .001$) of pain, systolic arterial pressure ($P < .001$), anxiety ($P = .01$), and improved quality of sleep ($P = .02$).
- **Conclusion:** A multimodal integrative intervention may be effective in decreasing pain and improving pain related outcomes in critically ill patients.

Elizabeth et al., (2018)

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NCCIH Clinical Digest
for health professionals

Complementary Health Approaches for Chronic Pain: What the Science Says

September 2022

[Clinical Guidelines, Scientific Literature, Info for Patients: Complementary Health Approaches for Chronic Pain](#)

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COMPLEMENTARY HEALTH APPROACHES FOR CHRONIC PAIN: LOW BACK PAIN

- Evidence supports a variety of therapies
 - Acupuncture
 - Biofeedback
 - Cayenne (topical)
 - Low-level laser therapy
 - Massage
 - Mindfulness based stress reduction (MBSR)
 - Progressive muscle relaxation
 - Spinal manipulation
 - Tai Chi
 - Yoga



(NCCIH, 2022)

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CLINICAL PRACTICE GUIDELINES: ACUTE, SUBACUTE & CHRONIC LOW BACK PAIN

- Three over-arching recommendations

#1 For **acute/subacute** pain first offer nonpharmacologic treatments such as heat, massage, acupuncture, spinal manipulation and if need NSAIDS or muscle relaxants

#2 For **chronic pain** recommend exercise, physical rehab, acupuncture, MBSR, Tai Chi, yoga, progressive relaxation, biofeedback, CBT, or spinal manipulation

#3 If no response to nonpharmacologic, offer **NSAID as first line**, then tramadol or duloxetine. Only consider opioids if other treatments have failed and benefits outweigh the risks

(Qaseem, 2017)

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INTEGRATIVE PAIN INTERVENTIONS

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PAIN INTERVENTIONS
TIER 1

- Foundational Integrative Nursing Behaviors
- Breathing (relaxation response)*
- Guided Imagery (mind-body)
- Music (mind-body)
- Distraction (mind-body)
- Prayer (mind-body)
- Ice/heat



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**FOUNDATIONAL
INTEGRATIVE NURSING
BEHAVIORS**



- Therapeutic listening**
 - Listening beyond words
 - Suspending judgement, extending curiosity
- Therapeutic use of self**
 - Presence
 - Co-creative relationships
 - Eye contact
 - Sitting at patients level
 - Appropriate touch
 - Emotional validation
- Ice/heat/repositioning**
- Environment**

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"One of the most important role nurses can play in pain management is listening beyond words."



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THE RELAXATION RESPONSE

- The relaxation response turns off the stress response
--> better able to manage pain
- Stimulation of the parasympathetic nervous system-->
BP lowers, stress hormones reduced
- Multiple ways to stimulate the relaxation response
 - Breath practices
 - Meditation
 - Mantras/Affirmations

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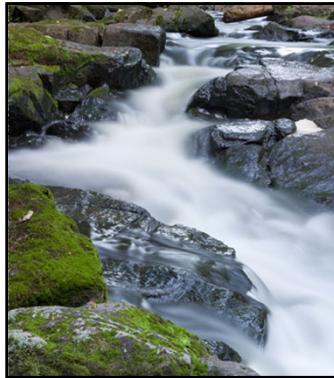


BREATHING EXPERIENTIAL

Place yourself into a comfortable but upright seated position, with your back straight. Place the tip of your tongue against the ridge of tissue just behind your upper front teeth. Exhale completely through your mouth, making a 'whoosh' sound.

- Close your mouth and inhale quietly through your nose to a mental count of four.
- Hold your breath for a count of seven.
- Exhale completely through your mouth, making a 'whoosh' sound to a count of eight.
- That was one complete breath. Now, inhale again and repeat the cycle three more times for a total of four breaths.

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GUIDED IMAGERY

- Uses the power of the imagination and senses to help visualize experiences and images that promote rest, relaxation and healing
- Our bodies do not discern whether an image is real or imagined

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**GUIDED IMAGERY:
EXPERIENTIAL**

Script: Take a few easy, slow breaths as you scan your body. Try to relax any areas of tension that you notice.

- When you are ready, imagine a safe, comforting, relaxing place.
- Imagine that you are in this place right now. You might notice that you feel relaxed and comfortable.
- Now take some time to notice each of your senses in this place
- Take some time to imagine what this place looks like-what do you see here. Take some time to notice and remember what it smells like in this place
- What do you feel when you are in this place. Really imagine what your body is feeling here.
- Notice what you are doing in this place and how your whole body is feeling here. You can go back to this place whenever you need and recall this feeling of being relaxed, safe and comfortable
- When you are ready, bring your attention back to your body by wiggling your fingers and toes. Notice your breathing and start to open your eyes and notice the room.



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**PAIN INTERVENTIONS
TIER 2**

- Progressive Muscle Relaxation (Mind-Body)*
- Yoga/Tai Chi/Qigong (Movement)
- Aromatherapy*



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PROGRESSIVE MUSCLE RELAXATION

- A practice that:
 - Helps teach how to effectively relax muscles
 - Builds awareness of sensations of tension and relaxation
 - Increases body awareness
- Slow tensing and relaxing of muscle groups (ex. Tense for 5 seconds, relax for 30)
 - Create tension--> notice what tension feels like
 - Relax --> notice what this feels like
 - Work progressively up or down the body
- Can be combined with other modalities such as guided imagery



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RESEARCH-PROGRESSIVE MUSCLE RELAXATION

- Progressive Muscle Relaxation (PMR) and Interactive Guided Imagery (IGI) for Cancer patients
- RCT
- Hospice patients (n=104)
 - Group A-received PMR/IGI
 - Group B- usual care
- Assessed pain outcomes (prior to intervention & 2 hours post)
 - Edmonton Symptom Assessment Scale
 - Numerical rating scale

Results:

- Mean total symptom distress score declined by
 - 8.83 in Group A
 - 1.84 in Group B

Practice Implications:

- PMR-IGI can be considered as a helpful adjuvant for pain-related distress in cancer patients

(De Padis et al. 2019)

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PROGRESSIVE MUSCLE RELAXATION

- Tense a muscle group after cue to "tense" and release the tension after cue to "relax"; tension is held for about 7 seconds
 - Forehead, face, lower face and jaw
 - Neck
 - Hands, forearms
 - Upper arms
 - Chest, shoulders and upper back
 - Abdomen
 - Thighs, calves and feet



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AROMATHERAPY

- Aromatherapy is the therapeutic use of essential oils from herbs and other plants to promote a sense of health and well-being, relaxation, stress reduction, and to alleviate some symptoms such as anxiety, insomnia, pain, and nausea.
- In many parts of the world, plant medicines continue to be relied upon in health care (self-care and provider-based).
- Essential oils are available in the US for inhalation/topical treatments (safely). They are not widely used by ingestion

Lavender - relaxing, balancing, soothing

Indications:

- Colds, asthma, insomnia, headaches



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RESEARCH-AROMATHERAPY

- Observational Survey (15 questions)
- Nurses (n=55)
- Lavender** used by 100% of participants (inhalation)
- Recommendation most helpful for
 - Educating patients
 - Reducing pain

Practice Implications: Aromatherapy can be used as a safe/cost effective intervention to [improve quality outcomes](#)



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MOVEMENT THERAPIES

Movement therapy consists of a variety of Eastern and Western movement techniques that are used to foster physical, psychological, emotional, and spiritual health.

- Yoga
- Tai Chi
- Qigong
- Dance
- Alexander Technique

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PAIN INTERVENTIONS

TIER 3

- Acupressure (energy)*
- Reiki (energy)
- Massage*
- Hypnosis (mind-body)
- CBT (mind-body)
- MBSR (mind-body)
- Biofeedback (mind-body)
- Over the counter analgesics



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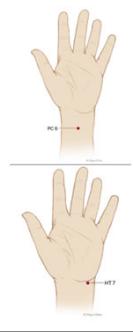
ACUPRESSURE

- Origins in Eastern Asian Medicine
- Gentle pressure is applied to acupoints on the body to relieve symptoms
- Hundreds of acupoints throughout the body
- Stimulates blood flow and releases tension
- Helps promote healing, balance, and restoration of function
- Safety considerations
- Application
 - Use of fingers or thumb
 - 30 seconds to 3 minutes
 - Steady, gentle pressure

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ACUPRESSURE: A STUDY FOCUSED ON PAIN MANAGEMENT

- Randomized control trial (RCT)
- Acupressure for postoperative pain-thoracoscopic surgery
- 100 patients (49 experimental; 51 control)
- Stimulated two acupoints (Pericardium-6 and Heart-7) BID for two days
- On both days 1 & 2 pain scores were lower for the experimental group
- **Practice Implications:** Acupressure is helpful in managing postoperative pain
 - Nurses can use acupressure to help control pain in patients post thoracoscopic surgery

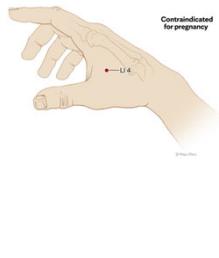


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ACUPRESSURE

Acupressure Point **Li4**

- Indication:
 - Headache
 - Pain
- Location:
 - In the fleshy web between the thumb and forefinger



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REIKI

- Stress reduction, relaxation technique
- A non-directive, light touch, that helps restore balance and promote healing
- Often results in relaxation, which can lead to decreases in **pain** and **anxiety**
- Safe, well tolerated
- Small research studies



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EFFECTS OF REIKI ON PAIN, ANXIETY, AND BLOOD PRESSURE IN PTS UNDERGOING A KNEE REPLACEMENT: A PILOT STUDY

- 46 Patients
- 3 groups (Reiki group, sham Reiki, standard of care)
- Reiki group showed significant reductions in pain, BP, R, and state anxiety
- Reiki enhanced post operative pain management
- Decreased opioid use



(Baldwin et al, 2017)

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MASSAGE

- One of the earliest tools to help relieve pain
 - Used in Eastern and Western cultures
- Many massage types for different indications (ex: Swedish massage)
- Therapeutic soft tissue manipulation to enhance wellness, promote healing

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RESEARCH-HAND MASSAGE

- **Hand Massage** for Cardiac surgery patients
- RCT, 3 parallel groups, n=46
- Hospice patients (n=104)
 - Group A (n=18)- 20-minute hand massage
 - Group B (n=16)- hand holding
 - Group C (n=12)- standard care + 20-minute rest
- Assessed pain intensity, pain-related interference with functioning and sleep quality on POD 2
 - Brief Pain Inventory
 - Likert Scale 0-10
 - Richards-Campbell Sleep Questionnaire

Results:

- Group A:
 - Lower intense pain score-5.75
 - Little or no interference with walking

Practice Implications:

- Patients may have longer periods without pain
- Lower levels of maximum pain intensity

Bolter et al. 2017

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RESEARCH-HAND MASSAGE

- **Hand Massage** for cancer patients undergoing chemotherapy
- Pilot, quasi-experimental, pre/post study
- Cancer patients (n=40)
 - Received 20-minute hand massage
- Assessed pain, fatigue, anxiety, muscular discomfort, nervousness, stress, happiness, energy, relaxation, calmness, emotional wellbeing
 - VAS
 - Satisfaction survey post therapy

Results:

- Significant improvement post hand massage for:
 - Fatigue, anxiety, muscular discomfort, nervousness, stress, happiness, energy, relaxation, calmness, emotional wellbeing

Practice Implications:

- Significant reduction in common cancer-associated symptoms post-hand massage
- High degree of patient satisfaction
 - 37 participants were interested in follow up
 - All patients would recommend to others

Cuthill, et al. 2017

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Hand Massage M Technique

- Massage strokes are done in series of 3's
- Start with strokes across the top of the hand making with a M pattern starting at the wrist crease.
- Massage each finger make gentle circles over each knuckle
- Turn hand over and massage the palm of the hand with a M pattern starting at the wrist crease.
- Massage each finger with strokes down each finger and touch the tip of each finger.
- End by holding the hand between your hands wishing the person well.



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PAIN INTERVENTIONS
TIER 4

- Non-opioid analgesics
- TENS
- Chiropractic
- Whole Systems
 - Traditional Chinese Medicine
 - Homeopathy

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PAIN INTERVENTIONS
TIER 5

- Opioid management
- Surgical procedures



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Case Study

Aaron: 38-year-old

- Previously very active flight nurse
- Osteoarthritis and lower back pain now
- Started a Tai Chi class, gets acupuncture a few times a month, does some imagery to help relax his muscles at night along with some self-massage and takes some Turmeric, glucosamine and fish oil for supplements
- He has done some physical therapy work and occasionally will take a pain pill when he is active
- Prefers to keep pain managed by using a variety of approaches



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Panel of Integrative Nurses: Practice Share

Integrative Medicine and Health

Integrative Palliative Care

Integrative Oncology

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ADDITIONAL RESOURCES

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Pause for Presence

- Use the time you wash your hands before entering a patient's room to clear your mind and send a kind intention such as "I am here for the greatest good of this patient."
- Send a silent good wish to a patient or a coworker. Commit to kindness. Kindness for yourself and kindness for your patients and coworkers.
- Take a 3-minute walk or stretch break.

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Pain Relief Toolkit for Patients & Self-Care

<https://www.ahna.org/American-Holistic-Nurses-Association/Resources/Holistic-Pain-Tools>

<ul style="list-style-type: none"> • Aromatherapy • Physical / Healing Touch • Energy & Thermal applications • Progressive Muscle Relaxation (PMR) 	<ul style="list-style-type: none"> • Meditation • Mindfulness Based Stress Reduction • Visualization • Yoga & Tai Chi
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PRINCIPLES OF INTEGRATIVE NURSING

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COURSERA COURSES

- <https://www.coursera.org/specializations/integrative-nursing> (Integrative Nursing Specialization)
 - Introduction to Integrative Nursing
 - Aromatherapy: Clinical Use of Essential Oils
 - Acupressure
 - Guided Imagery
 - Mindfulness in Integrative Healthcare

NATIONAL CENTER FOR COMPLEMENTARY& INTEGRATIVE HEALTH (NCCIH)

- [National Center for Complementary and Integrative Health \(nih.gov\)](https://www.nccih.nih.gov)

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AMERICAN HOLISTIC NURSES ASSOCIATION

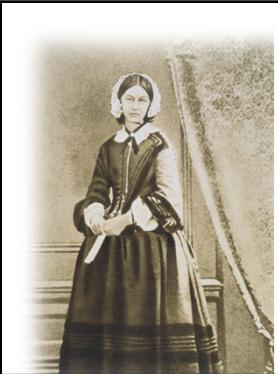
<https://www.ahn.org/>
<https://www.ahncc.org/certification/>

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BOOKS

- **Integrative Nursing:** 2nd Edition by Mary Jo Kreitzer & Mary Kothan
- **Integrative Medicine** by David Rakel
- **Acupressure Potent Points: A Guide to Self-Care for Common Ailments** by Michael Reed Gach
- **Staying Well with Guided Imagery: How to Harness the Power of your Imagination for Health and Healing** by Belleruth Naparstek
- **Transformative Imagery** by Leslie Davenport
- **Clinical Aromatherapy: Essential Oils in Healthcare** by Jane Buckle

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Summary

- Integrative Medicine includes a diverse range of modalities in use for managing pain
- Integrative Nursing is an approach that uses the best evidence-based practices, based on context and need, to enhance conventional care
 - Integrative nursing is inherent to all nursing practices
- **Role of the nurse**
 - “Put the patient in the best possible condition so that nature can act and healing occur.” *Florence Nightingale*
- **What did you learn today?/What will you take away and into your practice?**

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QUESTIONS & ANSWERS



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