Doing NOHARM:
Descriptive Results and Initial Progress of a HEAL-Funded Pragmatic Trial of Non-Pharmacological Perioperative Pain Care

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Pain Management 2023 CNE Conference
April 25-26, 2023
LEARNING OBJECTIVE

• Describe the importance of non-pharmacologic management of pain and how it can be used as a strategy to impact the opioid epidemic.

• Review the goals and the preliminary outcomes of the NOHARM intervention

• Identify how the NOHARM intervention aligns with the mission of the Mayo Opioid Stewardship Program?
Managing Pain – Historical Context

Pain Management History Time Line – Pain Management Collaboratory
Pain – Defined by IASP 2020

Pain
is an unpleasant sensory and emotional experience associated with actual or potential tissue damage

• Personal experience – influenced by biological, psychological and social factors
• Through life experiences - individuals learn the concept of pain
• A person's report of their pain experience should be respected.
• Adverse effects on function, social and psychological well-being
• Verbal affirmation of pain is only one pain behavior, for those unable to communicate, need to monitor all pain behaviors

Nociception vs. Pain

My pain is an 11!

The Revised IASP definition of pain: concepts, challenges, and compromises - PMC (nih.gov)
Two decades of data reveal overall increase in pain, opioid use among U.S. adults | NCCIH (nih.gov)
Opioid Use Doubled 1997-2014

Two decades of data reveal overall increase in pain, opioid use among U.S. adults | NCCIH (nih.gov)
Three Waves of Opioid Overdose Deaths

Wave 1: Rise in Prescription Opioid Overdose Deaths
Wave 2: Rise in Heroin Overdose Deaths Started in 2010
Wave 3: Rise in Synthetic Opioid Overdose Deaths Started in 2013

In 2015...

- **12.5 million** People misused prescription opioids
- **2.1 million** People misused prescription opioids for the first time
- **33,091** People died from overdosing on opioids
- **2 million** People had prescription opioid use disorder
- **15,281** Deaths attributed to overdosing on commonly prescribed opioids
- **828,000** People used heroin
- **9,580** Deaths attributed to overdosing on synthetic opioids
- **135,000** People used heroin for the first time
- **12,989** Deaths attributed to overdosing on heroin
- **$78.5 billion** In economic costs (2013 data)
A Call to Action

• **Joint Commission**
  - Organizations are required to provide non-pharmacologic pain treatment modalities relevant to its patient population and assessed needs of the patient. These modalities serve as a complementary approach for pain management and may potentially reduce the need for opioid medication in some circumstances.

  Additionally, it is important to have non-pharmacologic pain treatment modalities available for patients that refuse opioids or for whom physicians believe may benefit from complementary therapies

• **National Institutes of Health (NIH) HEAL (Helping to End Addiction Long-termSM) Initiative**, launched in April 2018 to provide scientific solutions to the national opioid overdose crisis, including improved treatment strategies for pain as well as opioid use disorders (OUDs).
Florida Non-Opioid Alternatives Law

- Before administering anesthesia using a Schedule II controlled substance or prescribing or ordering a Schedule II controlled substance for pain treatment, a health care provider must talk to the patient about the risks of controlled substance abuse, and the advantages and disadvantages of nonopioid alternatives.

- The health care provider must give the patient or their representative, a copy of the Alternatives to Opioids pamphlet, created by the Florida Department of Health. The pamphlet can be provided in either printed or electronic format.

• **Opioid Stewardship Program**
  • The Enterprise Opioid Stewardship Program (OSP) has been developed to build on current opioid stewardship activities across Mayo Clinic and to address the new Joint Commission Opioid Prescribing guidelines.
  • Inappropriate opioid use is common and often results in opioid addiction, patient safety concerns, and adds to cost of patient care.

• **Mayo Clinic has developed hundreds of opioid-related resources for prescribers, allied health staff, and patients. These focus on:**
  • Opioid prescribing workflows, policies, and procedures
  • Patient education (>50 patient handouts and videos related to this topic are available)
  • Patient risk stratification
  • Dashboard monitoring of quality metrics
  • **Pair opioids with non-opioid therapies. These might be scheduled non-opioid medications (like acetaminophen or ibuprofen), or non-medication treatments like PT/OT, daily exercise, and mind-body therapies.**
NOHARM

NON-PHARMACOLOGICAL OPTIONS IN POST-OPERATIVE HOSPITAL-BASED AND REHABILITATION PAIN MANAGEMENT

PRAGMATIC TRIAL - A HEAL UH3 DEMONSTRATION PROJECT

ANDREA CHEVILLE, MD, MSCE & JON TILBURT, MD
NOHARM Goals

1. **Support patient education and decision-making around non-pharmacologic options for pain management in the peri-operative setting**

2. **Support patients in their use of** non-pharmacologic pain management modalities
### Stepped Wedge, Cluster-randomized Trial

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Non-Pharmacological Pain Care Techniques

Movement
• Walking
• Yoga
• Tai Chi

Relaxation
• Meditation
• Relaxed Breathing
• Music Listening
• Guided Imagery
• Muscle Relaxation
• Aromatherapy

Physical
• Acupressure
• Massage
• Cold or Heat
• TENS

National Center for Complementary and Integrative Health (nih.gov)
## OUTCOMES

### ePRO Collection

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<td>Pain, Physical Function, and Anxiety PROMIS-CATs; Opioid Use; NPPC Use</td>
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Four Stages of NOHARM

PAIN CARE PLANNING ACROSS THE CARE CONTINUUM

All care team members work collaboratively with patients to ensure non-pharmacologic options are presented, considered, and supported.

Choosing Surgery
Outpatient staff prepare patients to engage with the NOHARM intervention and a portal-based decision tool.

Pre-operative Planning
Patients review non-pharmacologic pain management options and inform care team of selections via portal-based decision tool.

The Inpatient Stay
Inpatient staff notice, acknowledge, discuss, and support provision of non-pharmacologic pain management modalities.

Post-operative Recovery
Patients continue to access and use non-pharmacologic pain management resources and modalities.
Once patient is scheduled for surgery, they're automatically enrolled into the NOHARM intervention.

During consultation or other pre-op education visit, outpatient staff encourage the patient to access and complete the "Healing After Surgery Guide" in their portal and educate patient about what to expect.

Healing After Surgery booklet used to guide discussion and support their non-pharm care plan.
Healing After Surgery message auto populates in Mychart

• Introduction to Healing After Surgery Message sent to patient online portal

  • Emphasizes the importance of having a pain management plan.
  • Explains that combining Pain medications with non-medication techniques is best practice for managing pain after surgery.
  • Link to an interactive Healing After Surgery Guide (questionnaire) which includes evidence based instructions and videos to facilitate patient knowledge and preparation to use such non-pharm modalities.
  • Patient response to Guide (questionnaire) populates their non-pharm plan in EHR for the Care Team to support
Healing After Surgery Follow up Messaging

After completion of the HAS Guide and submission of non-pharm selections follow up HAS portal messaging includes additional HAS resources:

- Healing After surgery website
- Informational and Experiential Videos
- Tips for using the modalities and how to source local resources
- Group Zoom Calls and Toll-free support
THE INPATIENT STAY

- Care team members view, acknowledge, discuss modality selection with patient; deliver as feasible
- Many modalities deliverable via MayoTV or videos on the website: healingaftersurgery.mayo.edu
- After-visit summary auto-populated with selection to incorporate in pain management plan discussed at discharge by RN
Non-pharm modalities supported by Acute Care Team

Walking

TENs

Aromatherapy

Massage Therapy

Experiential Videos

Cold - Heat
POST-OP RECOVERY

• Patient continues to access videos and other non-pharmacologic resources through the portal and our website during recovery

• Ambulatory care team inquires about and supports non-pharmacologic preference during post-op phone calls and follow-up visits
Multidisciplinary Training and Collaboration

- PIs pursue endorsement by Surgical Division Leadership
- Our team identifies and collaborates with appropriate supervisors and education specialists
- Role-specific (e.g. PT, RN) MyLearning Modules assigned ~45 days prior to go-live
- Virtual or in-person Q&A sessions with ambulatory care teams prior to go-live and after as needed/requested
- At-the-elbow just-in-time training and technical assistance available through duration of project
Care Team My Learning Modules

HEALING AFTER SURGERY OVERVIEW (NOHARM)
Part of the NIH funded Non-pharmacological Options in post-operative Hospital-based and Rehabilitation pain Management (NOHARM) clinical trial
For POE Clinic Staff

HEALING AFTER SURGERY OVERVIEW (NOHARM)
Non-pharmacological Options in post-operative Hospital-based and Rehabilitation pain Management
For PACU and post-operative nurses

HEALING AFTER SURGERY OVERVIEW (NOHARM)
Non-pharmacological Options in post-operative Hospital-based and Rehabilitation pain Management
For inpatient nurses

NOHARM- A Pragmatic Clinical Trial
For physical therapists and occupational therapists
How do Care Teams identify Healing After Surgery (NOHARM) patients:

• All Healing After Surgery (NOHARM) patients will have a clickable pink banner on the Summary Page

Clicking on the pink banner will open a Just in Time Healing After Surgery document pertinent to the care team role and workflow and outlines how to support the intervention.
Best Practice Advisory with non-pharm selections

Important (1)

NOHARM PATIENT: A pain score of 1 or greater was documented. Patient non-pharmacologic pain preferences should be recorded and supported.

Patient Selected Movement Techniques: Tai Chi
Patient Selected Relaxation Techniques: Aromatherapy
Patient Selected Physical Techniques: Acupressure

COMPLETED: Venus has entered preferences in the linked Pain Preferences Flowsheet.

TO DO: Complete “Healing After Surgery” in the Education Activity.

Document  Do Not Document  Pain Preferences Flowsheet

CLICK HERE to enter Education Activity
Important (1)

NOHARM PATIENT: A pain score of 1 or greater was documented. Patient non-pharmacologic pain preferences should be recorded and supported.

TO DO: Encourage Martha to review options on Mayo TV. and enter up to 3 of preferences in the linked "Pain Preferences Flowsheet."

TO DO: Complete "Healing After Surgery" in the Education Activity.

Document  Do Not Document  Pain Preferences Flowsheet  Collapse

Non-Pharmacological Pain Care Selections

Patient Selected Movement Techniques
- [ ] Tai Chi
- [x] Walking
- [ ] Yoga
- [ ] None

Patient Selected Relaxation Techniques
- [ ] Aromatherapy
- [ ] Guided Imagery
- [ ] Meditation
- [ ] Muscle Relaxation
- [ ] Music Listening
- [x] Relaxed Breathing
- [ ] None

Patient Selected Physical Techniques
- [ ] Acupressure
- [x] Cold or Heat
- [ ] Massage
- [x] TENS
- [ ] None

CLICK HERE to enter Education Activity
Documenting Healing After Surgery Education

Important (1)

NOHARM PATIENT: A pain score of 1 or greater was documented. Patient recorded and supported.

Patient Selected Movement Techniques: Tai Chi
Patient Selected Relaxation Techniques: Aromatherapy
Patient Selected Physical Techniques: Acupressure

COMPLETED: Venus has entered preferences in the linked Pain...

TO DO: Complete "Healing After Surgery" in the Education Activity...

CLICK HERE to enter Education Activity
Healing approaches will help you control pain and recover more quickly after surgery. You can use relaxation, movement, and physical techniques alone or with pain medications.

The Mayo Clinic Healing After Surgery program will support your use of complementary practices to assist in your recovery. The Healing After Surgery Guide has been sent to your patient portal. You can use the guide to select different pain management and healing approaches.

We encourage you to visit the Healingafter surgery.mayo.edu webpage for more information on the different healing techniques.

You should have also received a Healing after Surgery workbook that provides information about the different pain management techniques, including important safety precautions, and lists local resources that can help support you in using your preferred techniques. If you have questions or need help using these techniques as part of your healing, please call (833)-919-1432, toll free.

You can also join group calls that will help you get the most from your non-medication pain management. Caregivers, family members, and friends are welcome to join the call with you. You can join these calls by telephone or by video conference at the following days/times. Calls will start promptly at the top of the hour.

- Monday 5:00-5:30 pm (ET) / 4:00-4:30 pm (CT)
Ongoing Care Team Engagement

Healing After Surgery newsletter

Healing After Surgery Inpatient Settings – January 2023
Thank you for your continued engagement and partnership! This month we would like to highlight TENS and answer some FAQs.

TENS
- Indications: Treatment for chronic or acute pain
- Contraindications:
  - Pregnancy
  - Telemetry (cardiac monitoring)
  - Implantable Devices: Pacemaker, Automatic Implantable Cardioverter Defibrillator, Deep Brain Stimulator or Neurostimulator
  - If a patient has cancer, TENs may be used if placed distant to the site of cancer, but you should consult the patient’s oncologist.

How to Use (see attached QRG for more detailed instructions):

******** A Brief TENS training video is available here *******

1. Provide a new set of electrodes for each patient
2. Plug the end of the lead wires with black and red tips into each electrode
3. Lift the clear plastic lid on the top of the TENs 7000 unit and plug the other end of the lead wires into the sockets on either side of the on-off dials.

On-site Rounding – Care Team Education

- Lunch and Learn
- Drop in Sessions
- TENs tutorial
- Wellness Baskets

Secure Chat – Friendly reminders

Good Morning! This is a Healing After Surgery patient who has yet to make non-pharm pain management selections, if you could please introduce the patient to the Healing After Surgery booklet or the videos (on Mayo TV, Patient Education) and if they do make selections please document in Flowsheets (Under Pain). If you have any questions, please contact our pager: 35519, Thank you!
Mayo News: Spreading wellness to patients — and their care teams

Healing After Surgery Integrative Wellness Event

- Massage
- Guided Imagery
- Aromatherapy
- Yoga
- Relaxed Breathing

Come Enhance Your Wellness!

Drop in for a free hand massage, learn about acupuncture and myofascial release for sore feet, experience essential oils, a 5 minute Relaxed Breathing, Guided Imagery or Chair Yoga experience!

Enjoy light refreshments! Sign up for a Raffle Prize!

WHEN/WHERE: Wednesday August 24, 1:30 PM Family Birthplace, SF-5-54 and 2:30-3:15 PM, CAMS Conference Room 3-41

WHY: To inspire your Wellness and to Thank You for your support of NOHARM!

Sponsored by the NOHARM Healing After Surgery Team
HAS Guide Completion – February ‘23

Healing After Surgery Guide Completion Rate
Most common non-pharm preferences: Walking, Heat and Cold and Deep breathing
Care Team HAS Education Completion Rates across Enterprise
Toll Free Utilization

Participants per month

% of Toll-Free Call participation per month

Toll-Free Call participation per month of the year
**Website Traffic by State**

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<tr>
<td>Virginia</td>
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**ANALYSIS:** High midwest concentration along with other large Mayo campuses (Arizona, Florida).

Date Range: 03/01/2021 to 01/31/2023
AIM 3: Patient Interview Feedback

• High favorability of NPPC overall

• High utilizers had more familiarity with NPPC and recalled more pre-op and inpatient discussions with their care teams and receipt of handouts.

• Those with low utilization tended to not remember receiving portal-based materials or handouts and conversations with their care team both pre-operatively and during the inpatient stay were less common.

• High and low users noted that there was opportunity for more personalized discussions about NPPC from their care team.
AIM 3: Care Team Feedback

- Build off what practices are already doing. Build compatible with workflow
- Some modalities may not integrate as naturally. Sites may vary in resources
- Understaffing poses a challenge (and staffing with floats) Needing to focus on other skills first
- Report data is being shared with staff and leadership
- Leaders vary in how they’ve supported this. Renewed importance with leadership change and leadership buy in.
- Creating educational kiosk in break room
- Rounding on nurses with patients/directing nurses to NOHARM banner
- Drop NOHARM terminology-use Healing after Surgery

Key Informant Interview Guide: NOHARM/Healing After Surgery

INTRODUCTION:

Thank you for taking the time to chat with me today. As a stakeholder in surgical care delivery, you have special insight into the factors that impact the up-take and use of NOHARM/Healing After Surgery in practice. We are very interested in understanding your perspectives.

In this interview I will be asking you questions about your thoughts and experiences related to implementing the NOHARM/Healing After Surgery project. The interview will also be audio-recorded for analysis.

This is a research study. Your participation is voluntary, and you can choose to stop the conversation at any time. If a question makes you uncomfortable or you do not want to answer, that is fine; you do not have to. To respect your privacy, all your responses will be held in confidence and your name will be deleted from the audio transcripts. No one will be able to connect you to any of the things you say.

You should feel open to express your thoughts and experiences honestly and to ask for...
Nursing Practice Alignment

Nursing Scope and Standards of Practice 4th Edition

• Emphasizes the art and science of caring, compassionate presence, and the expectation that nurses be advocates for all.

• Makes frequent reference to whole-person are and highlights the importance of mindfulness by inviting nurses to reflect how they can incorporate mindfulness and other integrative therapies into their self-care and professional practice.

• A new standard explicitly states that advanced practice registered nurses should have competency to prescribe evidence based traditional and integrative treatments, therapies and procedures that are compatible with the consumers cultural preferences, norms and abilities.

• The specialty of Integrative and Holistic Nursing aligns with the ANA Scope and Standards of Practice.
Both non-medications and non-opioid medications are available to patients for pain management to avoid opioid use unless it is necessary. Options include:

- Physical therapy and occupational therapy
- Increasing activity
- Heat therapy/cold therapy
- Topical pain medications (lidocaine patches, capsaicin)
- Interventional procedures when options are necessary
- Acetaminophen, ibuprofen, antidepressants, and other non-opioid medications

Mayo also has the Pain Rehabilitation Program which assists patients with complex pain in getting off long-term pain medications such as opioids.

Patient Education written resources:

- Mindful Movements to Help You Heal and Recover, MC6734-01
- Using Relaxation Skills to Relieve Your Symptoms, MC4009

Patient Education video resources:

- Gentle Movements Tai Chi Qigong (MC5997) read more
- Living in the Moment (MC6696) read more
- Mindful Movements: Gentle Yoga (MC6734-02) read more
- Passive Muscle Relaxation - Spanish (MC5398SP) read more
- Relaxation and Relaxed Breathing (MC7698-10) read more
- Relaxation - Arabic (MC7235AR) read more
- Relaxation - Somali (MC7235SO) read more
- Relaxation and Guided Imagery Playlist (MC7194-14) read more
COLLABORATIVE SOLUTION

IASP -- 2023 the Global Year for Integrative Pain Care

• The aim: Increase the awareness of clinicians, scientists, and the public about the use of an integrative pain care approach, which emphasizes non-drug, self-management care.

• Culture change – Improve education at medical/healthcare curriculums

• Need to use multi-modal, low risk strategies FIRST and Opioids come as LAST resort

• Starts at Primary Care, starts at POE – continuum of messaging across disciplines
SUMMARY

• Goals of NOHARM
  • **Support patient education and decision-making** around non-pharmacologic options for pain management in the peri-operative setting
  • **Support patients in their pursuit** of non-pharmacologic pain management modalities

• Study will continue through 2023

• Implemented during COVID pandemic offered unique challenges

• Team will share final findings with recommendations for sustaining the Healing after Surgery program across all sites.
Thank YOU! The NOHARM Team 😊
BIBLIOGRAPHY


QUESTIONS & ANSWERS