JOURNAL CLUB

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108.03.19

臨床動機

醫院對疼痛控制之重視

無痛醫院

疼痛控制現況

- The WHO est. worldwide every year 5.4 million cancer patients, 1 million HIV pain patients, 0.8 million people with lethal injuries and btw 8-40 million surgery patients are **not treated for their pain.**
- For 2010, WHO considered a per capita consumption of 216.7 mg morphine equivalents adequate, while Taiwan had a per capita consumption of 0.05 mg morphine equivalents in 2007.

World Health Organization Briefing Note —April 2012

- There is a huge disparity of approximately a 4300 times between the adequate level and the Taiwanese consumption level.

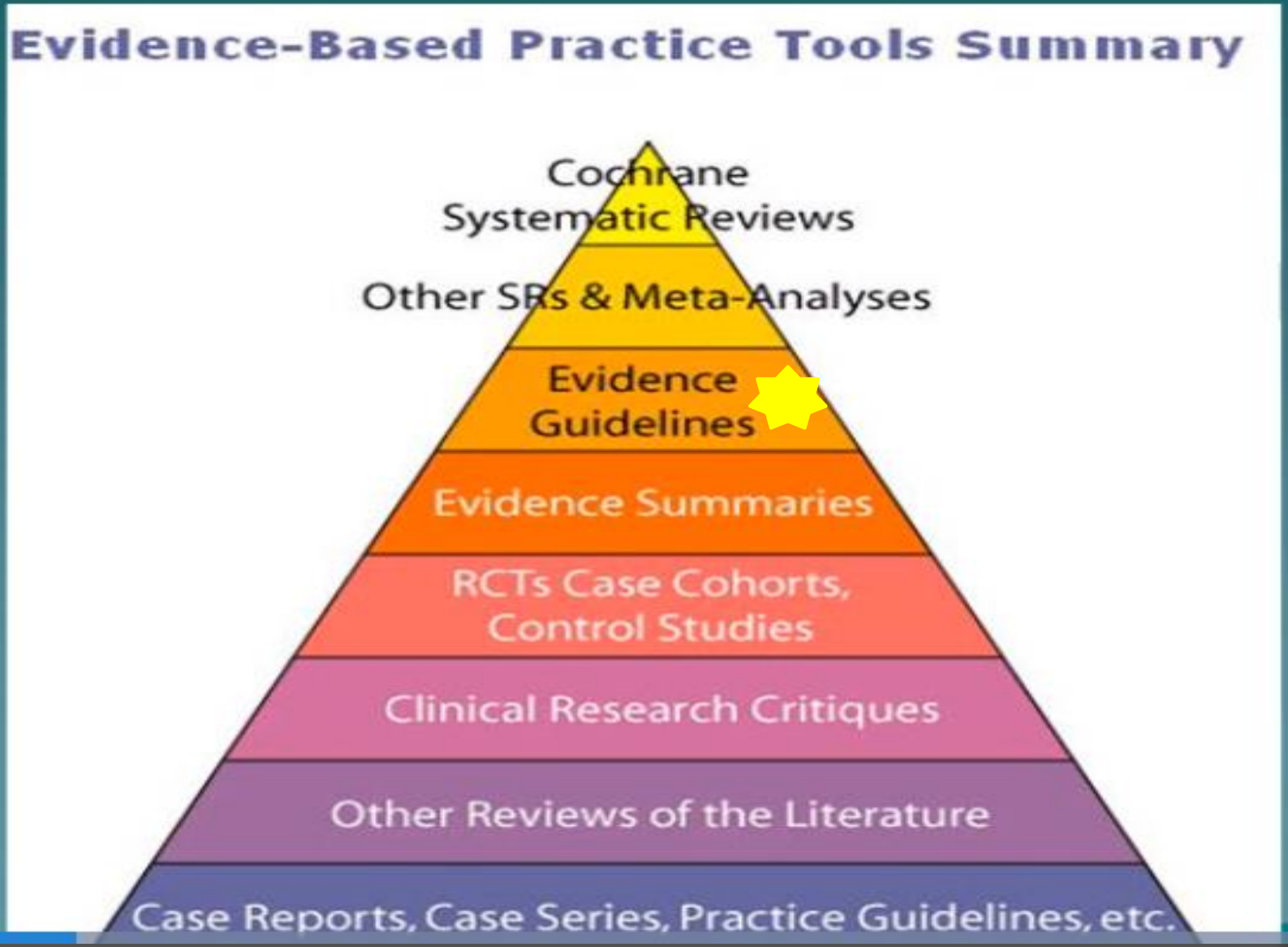
Acta Anaesthesiologica Taiwanica 53 (2015) 62-65

疼痛管理 評估工具選擇

- WHO: Evaluate the effect of pain management by morphine consumption, especially for cancer pain management.
- Pain management index：Developed by Cleeland et al. (1994), the PMI is an **assessment tool** that utilizes the guidelines outlined by WHO analgesic ladder to determine whether a patient is being adequately treated for their pain.

1.World Health Organization. Cancer pain relief: with a guide to opioid availability. Geneva, Switzerland: WHO; 1996.
2.Support Care Cancer (2016) 24:887–892
N Engl J Med. 1994 Mar 3;330(9):592-6.

Levels of Evidence



HHS.gov

https://www.hhs.gov/ash/advisory-committees/pain/reports/2018-12-draft-report-on-updates-gaps-inconsistencies-recommendations/index.html

U.S. Department of Health & Human Services

Office of the Assistant Secretary for Health

Draft Report on Pain Management Best Practices: Updates, Gaps, Inconsistencies, and Recommendations

U.S. Department of Health & Human Services
美國衛生及公共服務部

- The Comprehensive Addiction & Recovery Act (CARA)
- Pain Management Best Practices Inter-Agency Task Force

The Comprehensive Addiction & Recovery Act (CARA)

- July 22, 2016
- President Obama
- Most comprehensive effort undertaken to address the opioid epidemic
  1. Prevention
  2. Treatment
  3. Recovery
  4. Law enforcement
  5. Criminal justice reform
  6. Overdose reversal

Pain Management Best Practices Inter-Agency Task Force

- Mission:
  - Determine gaps or inconsistencies btw best practices for acute & chronic pain Mx
- 29 experts
- Draft report
  - Preliminary recommendations before submission to Congress in 2019
  - 90-day public comment period

Key

- Balanced pain management – Bio-psycho-social model
- Individualized, patient-centered care.
- Ensure better & safer opioid stewardship
  - Risk assessment based on patients' medical, social, & family history.
- Multidisciplinary approach to chronic pain:

- Multidisciplinary:
  - Medications: Different classes (medical conditions & Hx)
  - Restorative movement therapies: PT & OT, massage therapy, aquatherapy etc.
  - Interventional procedures: Minimally invasive procedures.
  - Complementary & integrative health: Acupuncture, yoga, tai chi, meditation.
  - Behavioral health/ psychological interventions: Coping skills, cognitive behavioral therapy.

- Multi-modal approach to acute pain
- Addressing drug shortages
- Access to care is vital
- Stigma (汙名,烙印) - major barrier to treatment: Empathy & non-judgmental.
- Education: societal awareness, provider education & training patient education.

- Innovative solutions
  - Telemedicine / Telementoring
  - Mobile app, Newer medicines & devices
- Research
  - Mechanisms of pain, preventive measures, the use of innovative medical devices & medications to prevent the acute-to-chronic pain transition
- Special populations: Pediatric, women, geriatrics, special medical conditions (sickle cell disease)

Pain 疼痛

- National public health problem
- Physical, emotional & social costs
- Opioid Crisis (鴉片類藥物氾濫) – balance – pain Mx
- Inadequate assessment & Tx of pain
  - Public health issue

Institute of Medicine. *Relieving Pain in America: A Blueprint for Transforming Prevention, Care, Education, and Research. Washington (DC): National Academies Press (US); 2011.*

- "The 5th Vital sign"

J Gen Intern Med. 2006;21(6):607-612.

- Pain score, opioids & new formulations
- Multidisciplinary, multimodal– Time & resources
  - Challenging & complex conditions

Opioid Crisis- Fentanyl & Heroin

1

Better addiction prevention, treatment, and recovery services

2

Better data

3

Better pain management

4

Better targeting of overdose reversing drugs

5

Better research

U.S. Department of Health and Human Services. 5-Point Strategy To Combat the Opioid Crisis.

Comprehensive pain management

- Challenging
- Chronic pain
- Stigmatized
- Complicated by common mental health co-morbidities
- Addictive properties
- Task Force: various health care professionals:

Who's involved?

護理師	藥師	物理治療師	營養師
社工師	關懷師	心理學家	麻醉科醫師
疼痛科醫師	各外科醫師	精神科醫師	復健科醫師

2.1 Approaches to Pain Management

- Multimodal approach
  - Modality
    - Acute & chronic
    - Mechanism
    - synergy
  - Medical disciplines
- Multidisciplinary
  - Chronic, complex (Biopsychosocial)
  - Reduce pain severity, improve mood and overall QoL, and increase function

Am Psychol. 2014;69(2):119-130.
Psychol Bull. 2007;133(4):581-624.
Pain Forum. 1996;5(3):194-207.
*Pain Off J Am Pain Soc.*2006;7(11):779-793.
*Proc Bayl Univ Med Cent.*2009;22(3):211-214.

HHS

- National Pain Strategy
  - Population-based
  - Biopsychosocial approach
  - Scientific evidence
  - Integrated
  - Multimodal
  - Interdisciplinary
  - Tailored to an individual patient's needs

https://iprcc.nih.gov/sites/default/files/HHSNational_Pain_Strategy_508C.pdf.

Gaps and Recommendations

- Gap 1: Current inconsistencies & fragmentation of pain care limit best practices & patient outcomes.

- Recommendation 1a: Encourage coordinated and collaborative care→ best practices & improved patient outcomes.

2.1.1 Acute Pain

- Ubiquitous human experience *Proc Bayl Univ Med Cent.* 2002;15(2):143-145.
- Physiologic response to noxious stimuli that is sudden in onset and time limited

Pain Med Off J Am Acad Pain Med. 2017;18(5):947-958.

- Acute→ Chronic
  - Arthritis, neuropathies, spinal conditions, low-back pain, sickle cell disease (SCD), migraine, multiple sclerosis (MS), trigeminal pain or neuralgia, & complex regional pain syndrome (CRPS).

Optimal management

- Diagnosis & overall treatment plan with continuity of care
- Risk-benefit analysis
- Best possible patient-centered outcome
- Mitigating unnecessary opioid exposure
  - S/E: N&V, constipation, sedation, opioid use disorder [OUD], addiction
- Multimodal, nonopioid approaches
- Reevaluation

Recent advances in acute pain management: understanding the mechanisms of acute pain, the prescription of opioids, and the role of multimodal pain therapy. *F1000Research.* 2017;6:2065.

Gaps and Recommendations

- Gap 1: Multimodal, nonopioid therapies are underutilized in the perioperative setting.
- Recommendation 1a:
  - Procedure-specific, multimodal regimens
  - Various nonopioid medications, US-guided nerve blocks, analgesia techniques (e.g., lidocaine & ketamine infusions), & psychological & integrative therapies.
- Recommendation 1b:
  - Multidisciplinary & multimodal approaches
  - (e.g., joint camps, ERAS, Perioperative Surgical Home [PSH]).
  - Preoperative psychology screening & monitoring
  - Preoperative & postoperative consultation
  - Planning for managing pain of moderate to severe complexity
  - Preventive analgesia with preemptive analgesic nonopioid medications
  - Regional anesthesia techniques

- Recommendation 1c:
  - Develop appropriate reimbursement & authorization policies
    - Multimodal approach to acute pain in the perioperative setting & the peri-injury setting
    - Preoperative consultation to determine a multimodal plan for the perioperative setting.

- Gap 2: Lacking guidelines for multimodal Mx of common surgical interventions & trauma care.
- Recommendation 2a: Develop acute pain management guidelines for common surgical procedures & trauma management.

- Recommendation 2b:
  - Guidelines:
    - Individualized treatment
      - Patient variability: Comorbidities, Severity, Surgical variability, Geographic considerations, & Resources.
    - Pain control, faster recovery, improved rehabilitation with earlier mobilization, less risk for VTE, minimize excess opioid exposure

SPECIAL ARTICLES

Anesthesiology. 2012 Feb;116(2):248-73.

Practice Guidelines for Acute Pain Management in the Perioperative Setting

An Updated Report by the American Society of Anesthesiologists Task Force on Acute Pain Management

急性疼痛病人成癮性麻醉藥品使用指引

衛生福利部食品藥物管理署 106 年 11 月 7 日 FDA 管字第 1061800686 號函訂定

財團法人國家衛生研究院

建立健保門、住、急診給付前十大疾病臨床指引計畫

手術後疼痛臨床照護指引

Clinical Practice Guideline : Nursing Care of Postoperative Pain

2.4 Interventional Procedures

- Image-guided & minimally invasive procedures
- US, fluoroscopy & CT
- Diagnostic and therapeutic-- valuable options

•Epidural steroid injections
•Facet joint nerve block & denervation injection
•Cryoneuroablation
•RF Ablation
•Peripheral nerve injections
•Neuromodulation techniques

- Intrathecal Pain Pumps
- Vertebral augmentation
- Trigger points
- Joint Injections
- Interspinous Process Spacer Devices
- Regenerative/adult autologous stem cell therapy

- Gap 1: Lacking skilled pain specialist & often not involved in multidisciplinary approaches
  - Recommendation 1a: Collaboration of primary care & pain medicine
  - Recommendation 1b: Clinical research interventions work + goal-directed rehabilitation therapy
  - Recommendation 1c: Properly credentialing physicians

- Gap 2: Inconsistencies & frequent delays in insurance coverage for interventional pain techniques
  - Recommendation 2a: Provide consistent and timely insurance coverage – start early→ improve function & QoL.

- Gap 3: Trend of inadequately trained physicians and nonphysicians performing interventional procedures.

  - Recommendation 3a: Establish credentialing criteria
  - Recommendation 3b: Only clinicians who are credentialed in interventional pain procedures should perform interventional procedures.

2.7 Special Populations

- Children
- Older adults
- Women
- Pregnant women
- Individuals with other Chronic relapsing pain conditions
- Individuals with Sickle Cell Disease
- Racial & ethnic minority populations
- Active-duty service members & veterans

2.7.1 Unique Issues Related to Pediatric Pain Management

- 5% - 38% of children & adolescents—Chronic pain
  - Congenital:
    - SCD
  - Noncongenital
    - Juvenile idiopathic arthritis, fibromyalgia, inflammatory bowel disease, headaches, chronic abdominal pain, chronic musculoskeletal pain, CRPS
- Pain sensitization & neuroplasticity.

Gaps & Recommendations

- **Gap 1:** significant shortage of pediatric pain specialists & comprehensive pain service centers
  - **Recommendation 1a:**
    - Pediatric pain services with pain expertise
  - **Recommendation 1b:**
    - Deliver and appropriately reimburse→ comprehensive + multidisciplinary
- **Gap 2:** **Peds → Adults→** gaps in care
  - **Recommendation 2a:**
    - Models of care → seamless care delivery

- Gap 3: Pain specialists are not credentialed in pediatric pain
  - Recommendation 3a: Encourage credentialing in pediatric pain

- Gap 4: Lacking pediatric opioid prescribing best practices + lack of RCTs & real-world evidence on nonopioid pharmacologic therapies
  - **Recommendation 4a:** Develop pediatric pain management guidelines
  - **Recommendation 4b:** Pediatric pain research- multimodal approach

2.7.2 Older Adults

- ↑ risk of falls, cognitive decline, respiratory depression, & renal impairment
- Gap 1: lack of opioid prescribing guidelines
  - Recommendation 1a:
    - Develop geriatric pain management guidelines.
  - Recommendation 1b:
    - Multidisciplinary approach, nonpharmacological, ↓ drug related S/E
  - Recommendation 1c:
    - Appropriate pain management education for physicians who treat older adults

2.7.3 Unique Issues Related to Pain Management in Women

- Gap: Unique challenges
  - Chronic high impact pain– woman specific
    - Endometriosis, MSK & orofacial pain, fibromyalgia, migraines, & abdominal and pelvic pain
- Recommendation 1a: ↑ research→ mechanisms sex differences in pain responses
- Recommendation 1b: Raise awareness unique challenges during pregnancy & in the postpartum period

2.7.4 Pregnancy

- Unique challenging
- Peripartum: lack CPGs for non-pharmacologic treatments
- Opioids: neonatal abstinence syndrome
- Gap 1: need for evidence-based guideline for peripartum analgesia
  - Recommendation 1a: guideline development with national specialty societies (ACOG, neonatologist, peds other specialist)
  - Recommendation 1b: Educate risks of opioids & other medications in pregnancy, fetus & newborn.

2.7.5 Individuals with other Chronic relapsing pain conditions (CRPC)

- Various degenerative, rheumatologic, neurologic conditions, cancer syndromes, trigeminal neuralgia, lupus, Parkinson's disease, Postherpetic neuralgia, porphyria, SLE, lumbar radicular pain, migraines, and cluster headaches
- **Gap 1:** lack of partnership btw specialists—multidisciplinary team
- Recommendation 1a: Referrals to a comprehensive pain program early→ optimal approach

The Eight Critical component

1. 使用國家的疼痛治療標準
2. 指派資深領導管理者
3. 疼痛管理者持續的監督
4. 各部門之間的團隊合作
5. 使用系統性的品質改善工具
6. 醫院應建立疼痛治療的基本架構
7. 促進患者持續學習
8. 提供連續無落差的疼痛照護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@2019/03/19

THANK YOU
FOR
YOUR ATTENTION