

The background is a dark blue gradient with abstract white and light blue geometric patterns. On the left side, there is a large circular scale with degree markings from 40 to 260 in increments of 10. Several concentric circles and curved arrows are scattered across the slide, some solid and some dashed, creating a sense of motion and design.

MANAGEMENT OF ACUTE PAIN: COMMON CLINICAL SITUATIONS

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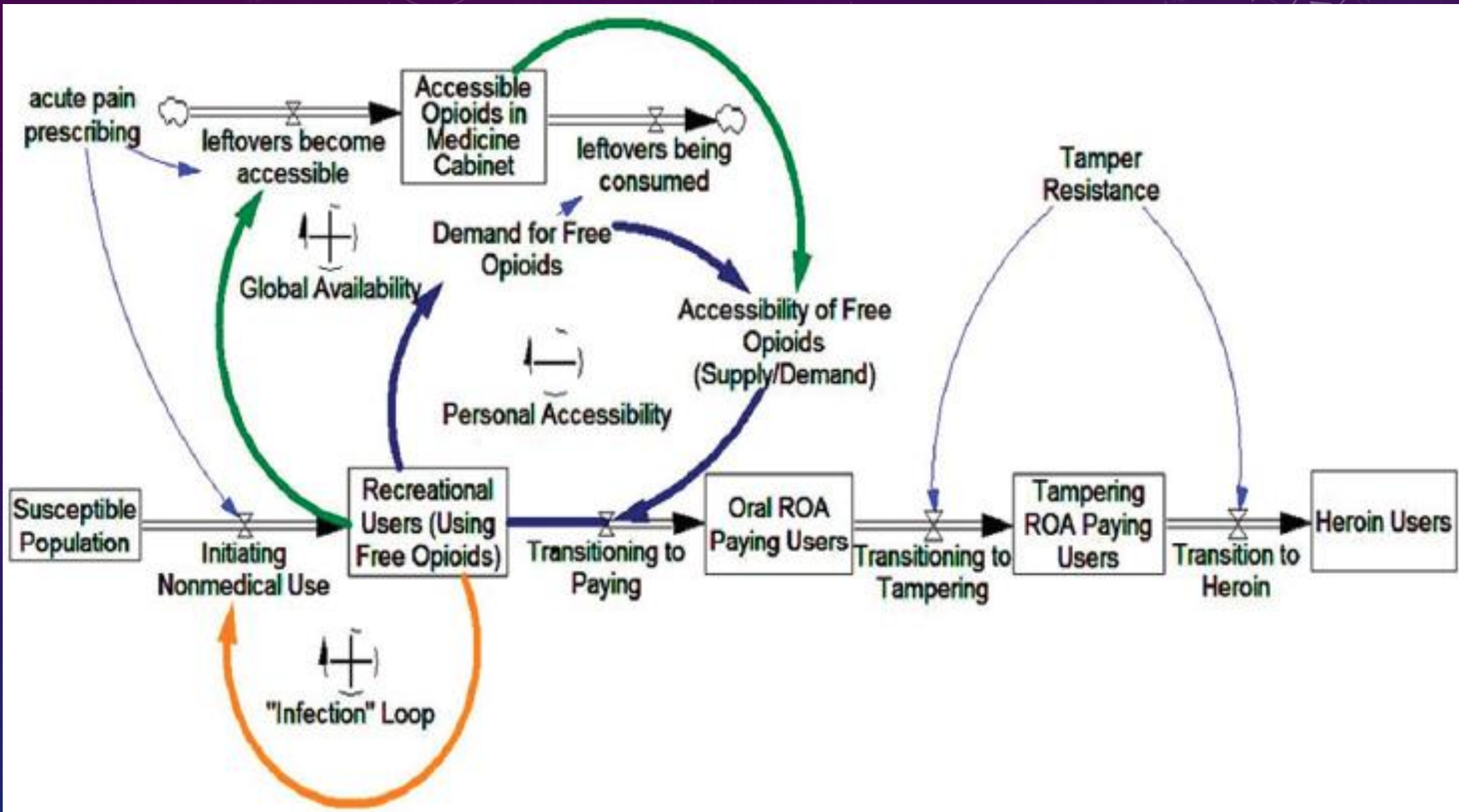
CLINICAL ASSOCIATE PROFESSOR

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BRODY SCHOOL OF MEDICINE AT ECU

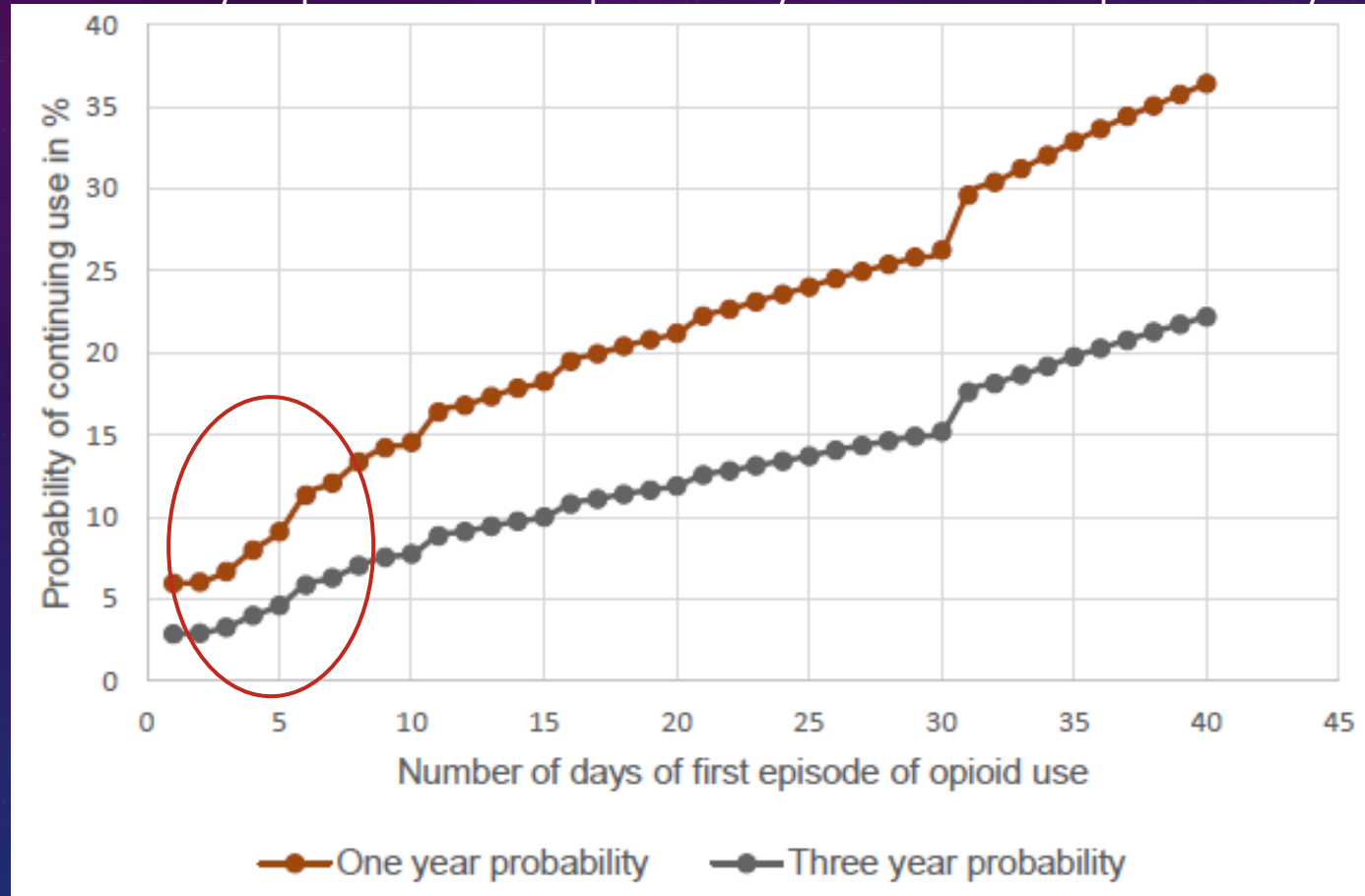
OBJECTIVES

- Evaluate the extent of narcotic prescribing in areas beyond primary care
- Appreciate the role early narcotic prescribing has on extended use of opiates
- Learn alternative management techniques to minimize use of narcotics in common clinical situations
- Study approaches to evaluation and management of many acute pain conditions.

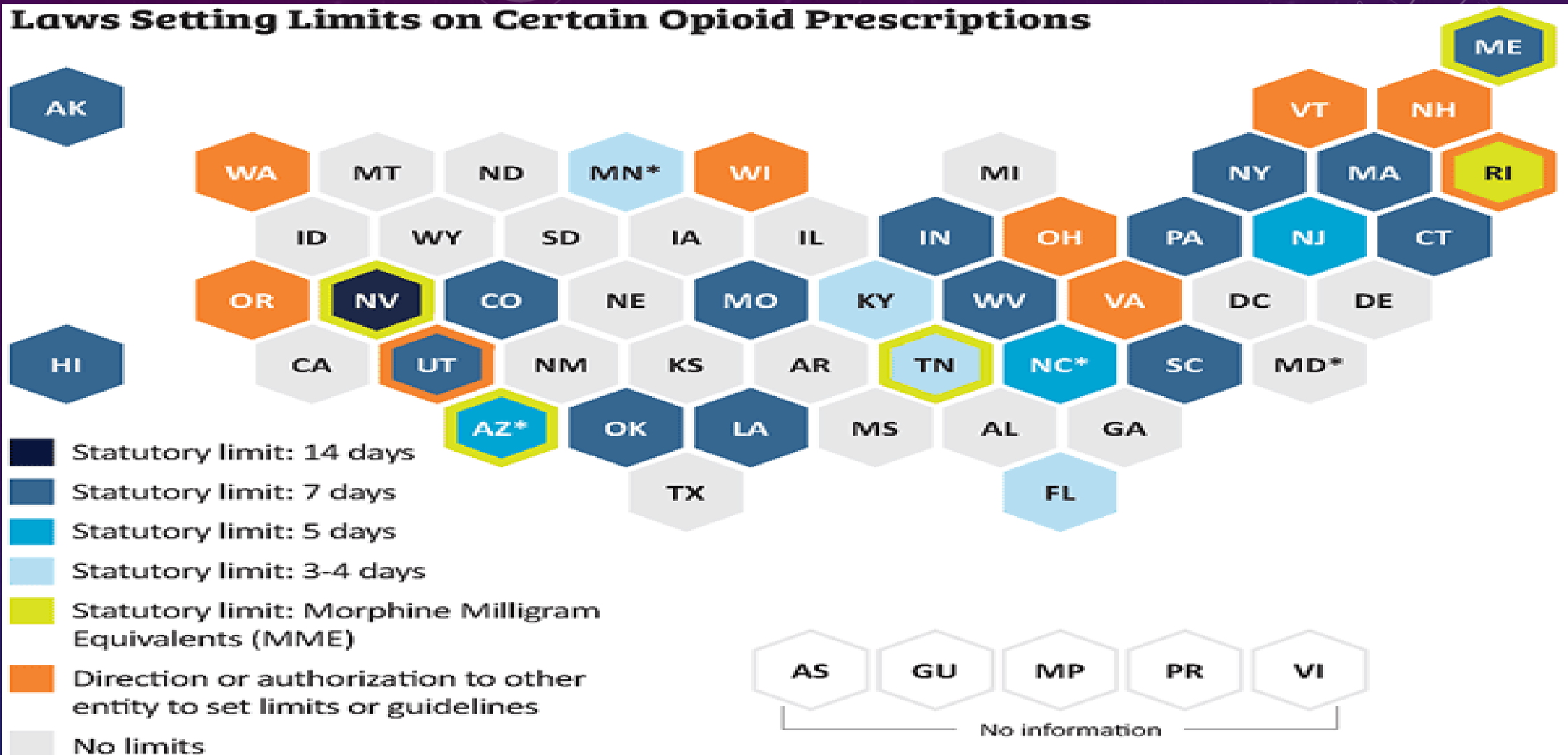


Acute Pain Treatment Leading to Long Term Use⁴

One-and 3-year probabilities of opioid use by duration of first episode in days



Laws Setting Limits on Certain Opioid Prescriptions



* **Note:** The map displays the state's primary opioid prescription limit and does not include additional limits on certain providers or in certain settings. Arizona allows prescriptions up to 14 days following surgical procedures and North Carolina allows up to seven days for post-operative relief. Maryland requires the "lowest effective dose." Minnesota's limit is for acute dental or ophthalmic pain. The map also does not reflect limits for minors that exist in at least eight states.

Source: NCSL, StateNet



THE DENTIST OFFICE

- 37yohm comes to ED with severe tooth pain x 2 wks worsened over 2 days + severe epigastric pain
 - Left lower molar broke off
- ED-0.5% bupivacaine nerve block
 - Rx 5mg Hydrocodone
 - 10d course of Clindamycin
- Did not fill Clindamycin but did get Hydrocodone (lasted 5 days)
- Went to alternating Goody powder with 2-4 Tylenol q3hrs for pain
- ED #2-On exam: T 100, BP 158/90, swollen Lt side of face, diffuse dental decay noted + dental abscess
 - Can't get to dentist for another 6 days

MANAGEMENT OF ACUTE DENTAL PAIN

- Comprehensive review from American Dental Association
- 27 randomized placebo-controlled trials
 - Endodontic pain trt pre and post intervention
- Pathophysiology shows that overall infection tends to predominate, and this occurs over time
 - Thus more inflammatory mediators and mast cells, macrophages, etc
 - T cells come in during acute phase
 - B cells come in during advanced phase-destruction of pulp tissue by proteolytic enzymes
 - Net effect is inflammation sensitizes neural tissue both centrally/peripherally-hyperalgesia

MANAGEMENT OF ACUTE DENTAL PAIN

- Recommendations split into two situations
 - Preoperative to control existing pain
 - Postoperative to prevent pain and post-procedure flareups
 - Did not evaluate topicals or blocks
- Preoperative
 - Combination therapy was superior with NSAIDs as a base
 - Steroids sig reduced postprocedural pain
- Postoperative
 - NSAIDs were effective
 - NSAIDs and Tylenol were synergistic and had augmented effect
 - Short course of steroids post-procedure effective in pain reduction (again Decadron drug of choice)
- Two studies reported NSAIDs > Tramadol or Tylenol + Codeine
- Overall: NSAIDS if able. If not consider steroids + Ultram +/- Tylenol. For severe disease very short course opiate then de-escalate

Aminoshariae et al 2016

OROFACIAL PAIN

Burning Mouth Syndrome (BMS)

- Burning sensation in mouth with clinically healthy oral mucosa
 - F 10X>M age 50s-70s
- Two types
 - Primary-no organic cause
 - Secondary-identified local/systemic disease
- BMS ↔ Anxiety & Depression
- Education given supportively a must
- TCAs, Neurontin, Topiramate, benzos, CBT

Persistent Idiopathic Facial Pain

- Persistent facial/oral pain with varying presentation
 - Daily, >2hrs/day, >3mths, no + neuro deficit
 - Dull, aching, poorly localized
- Primary demographic women age 30-50
- Felt to be a central sensitization syndrome
 - Often seen post dental procedures
- Inc incidence MDD and OCPD
- Trt: TCAs, Cymbalta, Neurontin, Lyrica, CBT

OROFACIAL PAIN

Temporomandibular Joint Pain

- One of most common pain conditions (F, 30-50)
- 3 diagnostic criteria
 - Pain in TMJ joint, mastication muscles TTP
 - Pain evoked by function
 - No other attributable diagnosis
- Not neuropathic but due to central and peripheral sensitization+ ?overuse
- Chronic TMJ induces MDD which impacts course of disease
- Acute-NSAIDs, Valium, limited opening
- Chronic/severe-Oral surgery

Trigeminal Neuralgia

- Affects branches of trigeminal nerve
 - See severe, brief, episodic bursts of severe pain in nerve distribution
 - Spontaneous or triggered by wind, eating, touch
- Classical TN-see structural or vascular lesions
- Idiopathic TN- no compression or pathology seen
- Debilitating
- Dx by history and exam, needs dental eval.
 - Seen most women peak age 45-59
- Ignition hypothesis
- Trt- Tegretol, Trileptal, local blocks, Neurontin, antidepressants



ACUTE HEADACHE

- About 80% of population suffers from a HA at some point each year
 - 1/5 go to primary care doctors about it.
- Most common headache subtypes (except for sinus) all stress related
 - Tension (#1)
 - Cluster
 - Migraine
- 98% of time medical workup is negative
 - Be careful how this is approached
- Medications usually take one of two fronts
 - Vascular
 - Beta blockers
 - Calcium channel blockers
 - Triptans
 - Neurologic
 - SSRIs
 - Tricyclic antidepressants
 - Neurontin
 - Depakote
 - Topamax



Type	Chronic Migraine (CM)	Chronic Tension-Type Headache (CTTH)	Hemicrania Continua (HC)	New Daily Persistent Headache (NDPH)
Features	<ul style="list-style-type: none"> • ≥ 5 HAs lasting 4-72 hours with 2 of the following: <ul style="list-style-type: none"> o Unilateral location o Throbbing pain o Moderate/severe pain o Worsening upon exertion o PLUS nausea/vomiting OR combination of photophobia and phonophobia 	<ul style="list-style-type: none"> • Bilateral • Pressing • Diffuse in nature • Lack light/sound sensitivity • Not associated with nausea/vomiting • Mild-moderate intensity • Do not interfere with activities of daily living 	<ul style="list-style-type: none"> • Unilateral • Daily, continuous • Moderate intensity with exacerbations to severe intensity • Responds to indomethacin 	<ul style="list-style-type: none"> • Onset over a short period (typically within 24 hours) • Onset is distinct and clearly remembered • May follow viral infection • Frequently occurs in patients without prior HA history

HEADACHE

- One of the biggest commonalities in HA is muscle tension (esp TTH)
- Muscle nociceptors can be activated 2 ways
 - Chemically
 - Mechanically
- Pericranial myofascial tissues are more tender in TTH and other HA subtypes vs controls
 - Propensity to neck pain also more prevalent
- Activation of trigger points over time leads to
 - Radiation
 - Sensitization

Bendtsen, Ashina, Moore 2016

HEADACHE

- Based on pathophysiology
 - Relaxation exercises (active>passive)
 - PT
- Pharmacotherapy
 - NSAIDs (Ibuprofen, Mobic)
 - Combination products with caffeine
 - 2nd line
 - Limit use
- Overall studies looking at options for both acute and preventative trt are lacking

Bendtsen, Ashina, Moore 2016

DRUG	INITIAL DOSE	ADVERSE EFFECTS	COMMENTS
NSAIDs			
Aspirin	500–1000 mg	Nausea, vomiting, dizziness, somnolence, bleeding, pre-renal azotemia, HTN	Ibuprofen has the most evidence; precaution in patients with a history of PUD, renal disease, HTN, HF, hepatic cirrhosis with ascites
Ibuprofen	400–2400 mg		
Naproxen	550–1250 mg		
Diclofenac potassium	50–100 mg		
Serotonin Agonists (Triptans)			
Sumatriptan		Heavy sensation in head or chest, fatigue, dizziness, flushing, tingling, somnolence, chest tightness	Contraindicated in patients with ischemic cardiac, cerebrovascular, or peripheral vascular disease, uncontrolled HTN
SQ Injection	6 mg		
Nasal Spray	5–20 mg		
Oral Tablet	25–100 mg		
Zolmitriptan	2.5–5 mg		
Naratriptan	1–2.5 mg		
Rizatriptan	5–10 mg		
Almotriptan	6.25–12.5 mg		
Frovatriptan	2.5–7.5 mg		
Eletriptan	40 mg		
Ergot Alkaloids			
Ergotamine Tartrate		Nausea, vomiting, weakness, fatigue, muscle pain, cold or painful extremities	Contraindicated in liver or renal disease, uncontrolled hypertension, coronary, cerebral or peripheral vascular disease
Oral Tablet	1–4 mg		
SL Tablet	1–4 mg		
Suppository	1–2 mg		
Dihydroergotamine			
Injection	0.25–1 mg		
Nasal Spray	2 mg		

NSAID=nonsteroidal anti-inflammatory drugs; SQ=subcutaneous; SL=sublingual; PUD=peptic ulcer disease; HTN=hypertension; HF=heart failure

Drug	Efficacy	Adverse events	Comorbid condition	
			Relative contraindication	Relative indication
Beta blockers	4+	2+	Asthma, depression, congestive heart failure, Raynaud disease, diabetes	Hypertension, angina
Antiserotonin				
Pizotifen	4+	2+	Obesity	
Methysergide	4+	2+	Angina, vascular disease	Orthostatic hypotension
Ca channel blockers				
Verapamil	2+	1+	Constipation, hypotension	Aura, hypertension, angina, asthma
Flunarizine	4+	2+	Parkinson's, depression	Dizziness, vertigo
Antidepressants				
TCAs	4+	2+	Mania, Urinal retention, heart block	Depression, anxiety, insomnia, pain
SSRIs	2+	1+	Mania	Depression, OCD
MAOIs	4+	4+	Unreliable patient	Refractory depression
Anticonvulsants				
Divalproex/Valproate	4+	2+	Liver disease, bleeding disorders	Mania, epilepsy, anxiety
Gabapentin	2+	2+	Liver disease, bleeding disorders	Mania, epilepsy, anxiety
Topiramate	4+	2+	Kidney stones	Mania, epilepsy, anxiety
NSAIDs	2+	2+	Ulcer disease, gastritis	Arthritis, other pain disorders

Ratings are on a scale from 1+ (lowest) to 4+ (highest) based on strength of evidence.

Data from Silberstein SD, et al.³⁰



POST-OPERATIVE

- US is 4.6% of global population and uses 80% of the world's narcotic supplies
- Advances in technique, an aging population, and improved anesthesia have increased the number of people receiving surgical intervention
 - From 1992 to 2012 community-based surgery inc by 20% esp ambulatory surgery
 - 300% increase number of visits to surgical centers or hospitals from 1996 to 2006
 - 34.7 million surgical & non-surgical procedures done in 2006
- Over 80% patients experience moderate to extreme pain post-op
- Despite current opiate crisis patients perceive opiates as superior and expect them post-operatively.

SURGERY IN THE OPIATE USER

- Cross sectional study of 34,186 pt across all operations
 - 7894 (23%) had pre-operative use
- Risk factors for opiate use (?abuse)
 - Age 31-40 -**Illicit drug abuse**
 - **Smoking** -Fibromyalgia
 - Depression -lower life satisfaction
 - **Inc medical co-morbidities** -higher pain severity
- Highest risk- orthopedics (esp lower limb procedures), neurosurgical spine
 - Least associated thoracic procedures
- These risk factors increase need for alternative pain mgt, increased re-evaluation, de-escalation of opiates, naloxone rescue

SURGERY IN THE OPIATE NAÏVE PATIENT

- Retrospective cohort study on 1 million patients
 - Outcome was likelihood misuse/abuse
 - Duration of use post-op vs dosage of Opiate Rx
- With each refill & additional week of use
 - Adjusted rate of misuse went up 44%
 - Adjusted rate of hazard use increased 19.9%
- Total duration of use was strongest predictor of misuse
 - Even more than total dosage of medication

OPTIONS IN POST-OP FOLLOW-UP

- STOP ACT
 - Limits 1st-time Rx for targeted controlled substances for acute pain to ≤ 5 days
 - Limits post-surgical procedures to < 7 days
 - Requires re-eval for further refills
- EHR options
 - Pre/post intervention study on 1447 procedures pre to 1463 post-change
 - Lowering default pill count from 30 to 12 reduced opiate Rx $>15\%$
- Increased use of acetaminophen, Ibuprofen, Lidoderm, Gabapentin immediately post-op

NONOPIOID OPTIONS FOR PROCEDURAL PAIN

Nonopioid	Comments
Ketamine	Noncompetitive NMDA antagonist. Can produce sedation and analgesia. Rapid onset short duration. Not as effective for procedures with visceral pain. Contraindicated with uncontrolled HTN
Dexmedetomidine	Alpha-2 agonist provides sedation and analgesia. Can cause procedural hypotension & bradycardia. Be cautious in setting renal or liver disease. Has a continuous gtt
Ketorolac	COX-2 inhibitors with anti-inflammatory and analgesic properties. PO/IM/IV options. Limited use in setting of renal, cardiac, peptic ulcer disease. Inc bleeding risk.
Acetaminophen	Antipyretic and analgesic. May also act on COX pathway. IV form has faster peak plasma levels and less toxic metabolites. Potential hepatotoxicity
Gabapentin/Lyrica	Neuropathic agents.

A microscopic view of several sickle cells, which are red blood cells that have become rigid and misshapen. They appear as bright red, elongated, and often crescent-shaped structures against a dark background. The cells are clustered together, with some showing a distinct central indentation or 'beak' shape.

SICKLE CELL

- 1st description by James Herrick in 1910
 - Disease linked to abnormal Hb by Verne Mason
 - Carrying disease maliciously and unwittingly
- Pain is hallmark feature initially
 - “enveloping,” “a migraine throughout the body”
 - “I want to cut off the painful part”
- Major discrepancies exist between provider and patient
 - Chronicity disrupts indicators of pain
 - Drug seeking behavior is suspected
 - Negative attitude toward “frequent flyer”
 - Distraction is discounted/invalidated
 - Aberrant behavior is common- “difficult patient”
- Zempskey: “The realness of the patient’s pain is likely inversely proportional to the social distance between clinician and patient.”

Marsh et al 2013. Bergman, E & Diamond, N 2013

KETAMINE FOR SICKLE CELL VOC

- Exerts activity on Mu, Kappa, Delta receptors for analgesia
 - Activates NMDA receptors as well
- Zempsky et al
 - 5 pediatric patients presenting acute SCD pain-ketamine 0.06 to 2mg/kg
 - 4 got ketamine + PCA, 1 only ketamine
 - 2/4 had reduced opiate use and 4/5 reported sig reduction in pain
 - Dysphoria, hypertension, nystagmus
- Tawfic et al reviewed 9 patient
 - 16yo with VOC hospitalized 5days using 154mg/day IV morphine
 - Started ketamine bolus 0.25mg/kg -0.2mg/kg/hr
 - Opiate use dropped daily until D/C 5 days later on pre-admit regimen
 - Nausea was major issue (Zofran)
 - Similar course seen in 8 other patients
- May be powerful adjunct to reduce vs shorten hospitalization

Hagedorn, J. Monico, E. 2019

COULD ACUPUNCTURE WORK FOR SICKLE CELL?

- Subgroup from Study of Natural History of SCD program
- 47 pts 42 with homozygous SSD under retrospective review
 - 24 randomized to acupuncture vs std of care
 - 87% control group elected other complementary therapies
 - 9 inpt only, 11 outpt only, 4 both
 - Pain reduction was immediate with 2.1 pt reduction on numeric pain scores ($p < 0.0001$)
 - Median number sessions was 3
 - 75% pts described pain as progressively improving over successive sessions
- Limitations: availability, potential confounders, ?reporting bias

AV RELAXATION AND DISTRACTION

- 27 patients recruited from outpt SSD clinic
- 13 pts Instructed on guided relaxation intervention using app on tablet
- 14 pts engaged in sickle cell discussion group (control)
- Pain, stress levels assessed at baseline, daily x 14 d, then at a post-test
- Pain score reduced significantly in the trt group, nonsignificant reduction in stress intensity



Ezenwa, MO. Yao, Y. 2016



ACUTE BACK PAIN

- 49-90% will experience an episode LBP in life
 - Majority do recover completely
 - 20-40% will have a recurrent unrelated episode
 - 2-7% develop CLBP
- A know-do gap has been known in primary care
 - Overuse of imaging
 - Overuse of narcotics
- Many contributing factors we may not think of

Scott, Moga, Harstall 2010

ASSESSMENT AND DIAGNOSIS

- Diagnostic triage
 - Specific low back pain
 - Nonspecific low back pain
 - Sciatica/radicular pain
- Detailed H&P to look for red flags
- Neuro exam
 - Strength
 - Pinprick
- Assess psychosocial factors
- Imaging only if red flags or worrisome objective neurological signs

ACUTE LOW BACK PAIN

Symptoms or Signs	Normal Behavior	Illness Behavior
Symptoms		
Pain	Anatomic distribution	Whole leg, tailbone pain
Numbness	Dermatomal	Whole leg numbness
Weakness	Myotomal	Whole leg giving way
Time Pattern	Varies with time/activity	Never free of pain
Response to Treatment	Variable benefit	Intolerance to treatments, ED
Signs		
Tenderness	Anatomic distribution	Widespread distribution
Axial loading	No lumbar pain	Lumbar pain
Simulated rotation	No lumbar pain	Lumbar pain
Straight leg raise	Unchanged with distraction	Improves with distraction
Sensory	Dermatomal	Regional
Motor	Myotomal	Regional, jerky, giving way

Shen, Samartzis, Andersson 2006

RED FLAGS

Possible condition	History	Signs/Exam
Fracture	Major trauma	Kyphosis
	Minor trauma (older)	Extreme point tenderness
Tumor	Age <15 or >50	
	Known cancer	
	Unexplained weight loss	
	Night pain	
Infection	Recent fever/chills	
	Recent bacterial infection (UTI)	
	IVDA	
	Immune suppression	
	Unrelenting pain	
Cauda Equina Syndrome	Saddle numbness	Weak anal tone
	Urinary retention, incontinence	Flaccid, perianal sensory loss
	Severe, prog LE neuro deficit	Hyporeflexia

TREATMENT OF ACUTE LOW BACK PAIN

- Provide information and reassurance
- Stay active and gradually increase activity level
- Discourage bed rest
 - If pain severe no more than a few days
- Consider spinal manipulation for relief (data is mixed)
- Advise against back-specific exercises
- Reduce risk factors
 - Weight loss
 - Psychosocial stress
- Medications
 - Tylenol vs NSAID (short course)
 - May add muscle relaxer
- Refer to specialist if red flag or failure to improve

MUSCULOSKELETAL

- OA is most common form of arthritis
 - 27 million US adults
 - Prevalence inc with age
 - Most common sx=pain
- Can have symptomatic and radiographic forms
- Lifetime risk of knee OA 45%
- As with back pain there are multiple contributors
 - Genetics
 - Joint pathology, weight
 - Others!!

Neogi 2013



NON-PHARMA OPTIONS FOR OSTEOARTHRITIS?

- Exercise
 - Reduced pain, disability, med use, improved function
 - Effect not as robust for hip, hand OA
 - Limited short term but good long-term evidence for water therapy
 - Key was suitability of exercise regimen to the individual
 - **Offer as core trt regardless of age, co-morbidity, pain level, disability**
 - Local muscle strengthening and general aerobic fitness
- Weight
 - Improves function
 - Level of loss must be significant
 - Less robust effect on pain!
 - Does not slow disease progression
 - **Regardless benefits for OA and general health outweigh any risk or lack of benefit for pain**

NON-PHARMA OPTIONS FOR OSTEOARTHRITIS

- Electrical Therapies
 - Ultrasound-no benefit
 - Laser treatment-no benefit
 - Pulses electromagnetic energy-no sustained benefit
 - TENS-primarily for knee if helpful, no data for periodic use during flares
- Neutraceuticals
 - **Do not offer glucosamine or chondroitin for management of OA**
- Acupuncture
 - **Do not offer acupuncture for management of OA**
- **Aides & Assistive Devices**
 - **Footwear should have shock-absorbing properties (a core treatment)**
 - **Bracing/joint supports/insoles for those with instability (core treatment)**
 - **Assistive devices offer as adjuncts if ADLs are reduced (OT consult)**

PHARMA OPTIONS FOR OSTEOARTHRITIS

- Acetaminophen
 - Good for mild pain, inferior to NSAIDs for mod to severe unless using IV
 - Fewer systemic side effects
 - Still a question of whether high dose use (4g/day) –liver damage
- NSAIDs
 - All non-aspirin NSAIDs work equally well
 - GI bleed risk increase with age esp >75
 - Celecoxib, high dose Ibuprofen, high dose Diclofenac highest cardiac risk
 - Naproxen not so
 - NSAID associated nephropathy with dose and time
- Capsaicin cream
 - May be helpful but takes significant time
 - Burning sensation at higher potencies



**IT IS OUR POSITION THAT THE USE OF OPIOIDS FOR THE TREATMENT OF OSTEOARTHRITIS OF THE HIP
AND KNEE SHOULD BE AVOIDED AND RESERVED FOR ONLY FOR EXCEPTIONAL CIRCUMSTANCES.**

AMERICAN ACADEMY OF HIP AND KNEE SURGEONS POSITION STATEMENT JANUARY 2019

WORKMAN'S COMP ISSUES

- WC is oldest widely adopted social insurance program in the US
- Laws removed workers right to sue in exchange for “quick, reliable benefits”
- Most common presentation is musculoskeletal
 - Lumbar spine most affected area
- Can often be a diagnostic, treatment nightmare
- Opiate Rx with 1st 12 wk see prolonged work disability
- Providers often conflicted
 - Advocate for patient
 - Document truthfully for employer
- Area of medicine EBM is used the least
 - Antidote to EBM= Lawyer



INJURED AT WORK? WE CAN HELP!

IF YOU FILE INCORRECTLY YOU COULD LOSE YOUR BENEFITS

CALL OUR WORK COMP EXPERTS TODAY FOR FREE CLAIMS ASSISTANCE!

Leigh, J. Robbins, J. 2004. Carnide, N. 2017

WORKMAN'S COMP ISSUES

- Waddell's signs have been a mainstay for evaluation
 - Inter-rater reliability
 - ?time consuming
- As an occupational predictor (N=143)
 - Std H&P + Waddell's exam
 - Comparing + Waddell's exam to control
 - Most common signs axial load & rotation
 - +Waddell's exam 58 days RTW
 - -Waddell's exam 15 days RTW
- Historical predictors nonorganic pain (N=127)
 - Slip & Fall injury
 - Injury > 2 body areas
 - Cervical AND thoracic injury
 - Initial presentation to a chiropractor
 - Area of pain different than 1st report of injury

Appledorn et al 2008. Gaines, W. 1999. Rohrlich JT 2014

Categories	Non-organic tests	Non-organic signs
I. Tenderness	<i>Superficial</i>	Widespread tenderness to light pinches over a wide area of lumbar skin.
	<i>Non-anatomic</i>	Deep tenderness felt over a wide area, not localized to one structure and often extended to the thoracic spine, sacrum or pelvis.
II. Simulation	<i>Axial loading</i>	Low back pain reported when light pressure is given on the patient's head while standing.
	<i>Rotation</i>	Low back pain reported when the shoulders and pelvis are passively rotated in the same plane as the patient stands with the feet together.
III. Distraction	<i>Distraction</i>	Inconsistent limitation of straight leg raising in supine and seated positions.
IV. Regional disturbance	<i>Weakness</i>	Partial cogwheel 'giving way' in many muscle groups.
	<i>Sensory</i>	Sensory disturbances include diminished sensation to light touch, pinprick, and sometimes other modalities fitting a 'stocking' rather than a dermatomal pattern.
V. Over-reaction	<i>Over-reaction</i>	Disproportionate verbalization, facial expression, muscle tension and tremor, collapsing or sweating during examination.

WORKMAN'S COMP ISSUES

Another explanation for Waddell's

- Another correlate to explain Waddell's
- 68 pts (35 F) in multi-disciplinary program
 - Pts + ≥ 2 Waddell's signs vs ≤ 1 (control)
 - Full psychological testing, measure perceived disability, functional capacity, expectation of outcome
- Active group: depression, pain-related anxiety, catastrophizing, anticipatory pain intensity
- Consider pain modifying antidepressant, CBT, MI

Carleton, RN et al 2009

New test for nonorganic back pain

- Developed as 1-test alternative to Waddell's
- Heel tap test
 - Patient sits on exam table hips & knees flexed 90°
 - Suggest to pt test may flare back pain
 - Tap pts heel with base hand fairly lightly
 - active pain response is + test
- Correlated to Waddell's in 94 pts ($p < 0.001$)

Bloom, A. Taylor, A. 2002

COGNITIVE BEHAVIORAL THERAPY (CBT)

- #1 psychological treatment
 - Chronic low back pain, headaches, arthritis, orofacial pain, and fibromyalgia
 - Mood, anxiety, sleep disorders
- Goals of CBT
 - Reduce pain and psychological distress
 - Improve function by teaching patients to decrease maladaptive behaviors, increase adaptive behaviors, identify and correct maladaptive thoughts and beliefs, and increase self-efficacy for pain management

COGNITIVE BEHAVIORAL THERAPY FOR CHRONIC PAIN

- ⦿ An empirically validated treatment of the American Psychological Association , supported by multiple reviews and meta-analyses
- ⦿ The primary emphasis of CBT for chronic pain is increasing adaptive coping and personal control.
- ⦿ Elements of treatments may include
 - Psychoeducation (e.g., managing expectations)
 - Relaxation (e.g., diaphragmatic breathing, guided imagery)
 - Behavioral activation with pacing
 - Cognitive restructuring of maladaptive pain beliefs (e.g., “This pain is horrible and will never end”)
 - Sleep hygiene
 - Stress management and problem solving, with goal setting

ACCEPTANCE AND COMMITMENT THERAPY: THE FUTURE?

- ◎ CBT too close to the biomedical model
- ◎ ACT takes a different approach
 - Assumes pain is normal, and attempts to control pain cause suffering
 - Treatment focuses on using mindfulness and cognitive defusion to accept experience while committing to valued behavior
- ◎ ACT has been accumulating a promising evidence base, including for chronic pain though not yet comparable to that of traditional CBT
 - Specifically, evidence is growing for ACT with chronic pain across
 - case studies (Lunde & Nordhus, 2009; Wicksell et al., 2005),
 - individual treatment trials (Dahl et al., 2004; Wicksell et al., 2007; Wicksell et al., 2008),
 - group treatment programs (Vowles & McCracken, 2008; Vowles et al., 2009)

Dahl et al 2005

Hayes et al 2006

SUMMARY

- The path upon which we start is often the path upon which we finish.
- Opiates should be used for acute pain when indicated judiciously
 - Keen eye toward transitioning to alternatives sooner rather than later.
- Multi-disciplinary approaches offer best outcome even in acute settings
- Give complementary approaches a chance; the evidence is there
- Trust your history and your physical exam
- Always do your best to ally with your patient



THANK YOU FOR YOUR ATTENTION

QUESTIONS OR COMMENTS?

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