

Advanced Concepts: When Referral is Not an Option – Advanced Migraine Management

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Duren "Michael" Ready, MD

- Consultant or Advisory Board: Alder, Amgen, Allergan, and Springer (Headache).
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The FMX logo is located in the bottom right corner of the first disclosure box. It consists of the letters "FMX" in a bold, white, sans-serif font, set against a dark orange background with diagonal white stripes.

D. Michael Ready, MD

Program Director, Central Texas Headache Fellowship at Scott & White/Senior Staff Physician, Headache Clinic, Baylor Scott & White Health, Temple, Texas

Dr. Ready earned his medical degree from Texas Tech University Health Science Center in Lubbock and completed his family medicine residency at the Brazos Valley Family Medicine Residency Program in Bryan, Texas. He is one of the first family physicians to be certified in headache medicine by the United Council of Neurologic Subspecialties (UCNS). In 2014, he was awarded the National Headache Foundation Lectureship Award. He has authored many articles and book chapters on headache topics, and his first book, *Discussing Migraine With Your Patients: A Common Sense Guide for Clinicians*, was published in 2017 by Springer. Dr. Ready is a fellow of the American Headache Society. In January Dr Ready, his wife, and son completed the Dopey Challenge at Walt Disney World in Orlando.

The FMX logo is located in the bottom right corner of the second disclosure box. It consists of the letters "FMX" in a bold, white, sans-serif font, set against a dark orange background with diagonal white stripes.

Learning Objectives

1. Develop a plan for engaging the patient as an active participant in their care.
2. Identify and develop a plan for medication overuse headache.
3. Identify and address risk factors for migraine progress.

FMX

Audience Engagement System



FMX

AES Question 1

I presently perform local anesthetic injections for Headaches

- A. Yes
- B. Yes, but I'd like to do more
- C. No
- D. No. I'm not interested in adding these injections to my practice

AES Question 2

- Bupivacaine because it has a longer duration of action is a superior local anesthetic to Lidocaine

- A. True
- B. False

AES Question 3

When a patient tells you they have “real” pain, behavioral pain management is not appropriate.

- A. True
- B. False

AES Question 1 Follow up

I am more likely to perform local anesthetic injections for
Headaches

- A. Already performing them when appropriate
- B. Yes
- C. No
- D. No. I'm not interested in adding these injections to my practice

AES Question 2 Answer

- Bupivacaine because it has a longer duration of action is a superior local anesthetic to Lidocaine
- A. True
- **B. False**

AES Question 3 Answer

When a patient tells you they have “real” pain, behavioral pain management is not appropriate.

- A. True
- B. False**

Regional Headache Societies

- Many have blogs or list serves where cases are discussed
- Headache Cooperative of New England
 - <https://hacoop.org/>
- Headache Cooperative of the Pacific
 - <https://www.hcop.com/>
- Southern Headache Society
 - <https://southernheadache.org/>
- Great Lakes Regional Headache Society
 - <https://greatlakesheadache.org/>

Case # 1

- 48 yo CF
- PHx Primary Pulmonary HTN, PE, Hep C, Tobacco abuse
- Enrolled in AMBITION clinical trial PDE5 inhibitor
- Breathing improved but developed HA
- Started on HC/APAP 5/500 1-2 pills a day
- Increased to 40mg / day within 6 weeks
- 120mg / day @ HA Clinic Intake

Case # 2

- 61yo H ♂ TBI /c LOC
- >30y HAs now 25/30 days
- Primarily L sided /c N/V, Allodynia, Neck Pain
- Sleep Non-restorative, Onset delayed 1 hour
- Often awakens with headaches
- No prior preventive meds. Uses APAP

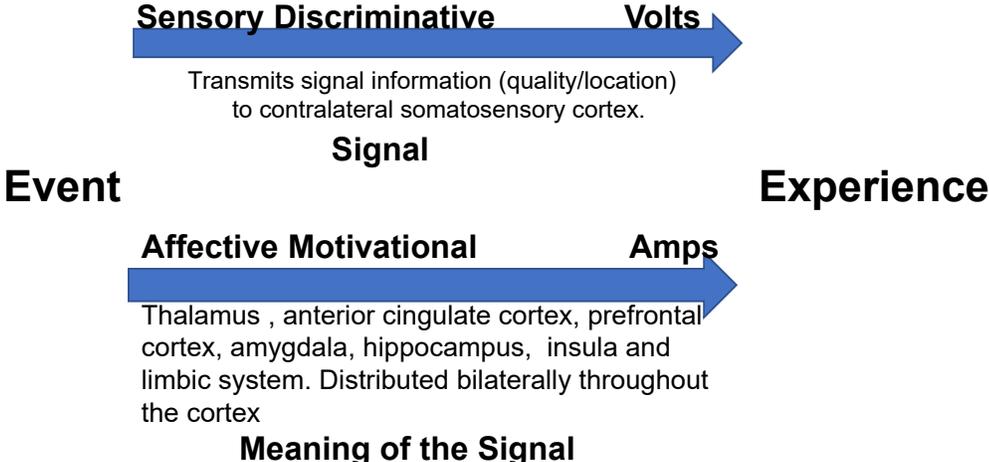
IASP Definition of Pain

- An unpleasant sensory AND emotional experience associated with actual or potential tissue damage, or described in terms of such damage.
- Sensory – Sensory Discriminative pathway
- Emotional – Affective Motivational pathway

Pain Basics



Pain Basics



Identifying the Pattern

Tease out patterns: Primary or Secondary HA

Is there more than one HA?

What would super-imposed HA look like?

Secondary / Primary Headache

Migraine / New Daily Persistent Headache

Cluster / Episodic Migraine

Episodic Migraine / Idiopathic Intracranial HTN

Hemicrania Continua/Medication Overuse HA

The Daily Headaches

- New Daily Persistent Headache (NDPH)
- Hemicrania Continua (HC)
- Trigeminal Neuralgia (TN)
- Chronic Migraine (CM)
- Medication Overuse Headache (MOH)

New Daily Persistent Headache

Headache that with 72 hours of onset becomes 24/7

Symptoms must be present > 3months to make diagnosis

≈ 30% preceded by minor viral illness

Two variants – 1 lasts several years 2 Forget about it

May have many migraine-like characteristics

More often bilateral

Tends to be one of the most refractory headache clinicians treat

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Hemicrania continua (HC)

Under-recognized cause of chronic daily headache

Characterized by **continuous unilateral headache** of mild to moderate severity

Superimposed exacerbations of pain lasting minutes to days occur and are associated with one or more ipsilateral autonomic features typical of cluster headache

Exacerbations may also be associated /c migrainous features of nausea, vomiting, photophobia, & phonophobia,

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Hemicrania continua (HC)

Patients report stabbing “ice pick” like headaches or **foreign body** sensation in the ipsilateral eye.

Indomethacin is the treatment of choice.

25mg TID increase 25mg Q 3 days until relief. May take 225mg /day – Use GI protection & Watch Renal fxn

Melatonin (10-20mg QPM), Boswellia (300mg TID) & topiramate may relieve the pain

- should be tried in patients who are intolerant of or prohibited from taking indomethacin

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Trigeminal Neuralgia

Trigeminal neuralgia - short-lasting unilateral attacks of severe lancinating pains affecting in V1, V2, or V3

- On rare occasions /c mild ipsilateral/bilateral cranial autonomic symptoms.
- Distinguished from SUNCT/SUNA by individual attack duration, V2 & V3 involvement in 95% of cases
- Mild cranial autonomic symptoms
- Presence of a refractory period
- Trigger zones

Trigeminal Neuralgia Treatment

Carbamazepine (CBZ)

Start @ 100- 200mg BID increase 200mg

Maintenance dose 600 – 1200mg /day

Auto-induction of CYP3A4 reduces T $\frac{1}{2}$ to 10-12 hours. Therapeutic blood level of 4 to 12 ug/ml.

Screen Asian population for (HLA)-B*15:02 allele - Risk of Stevens-Johnson syndrome

Common AE's: drowsiness, dizziness, nausea.

Severe AE's: aplastic anemia, hyponatremia, and abnormal liver function tests.

Monitor CBC, LFTs, Na⁺ . May develop tachyphylaxis

Oxcarbazepine (CBZ analog) greater tolerability, predictable metabolism, ↓drug interactions

Serum sodium levels should be periodically monitored in patients taking OXC.

Small, open-label studies pregabalin, gabapentin, topiramate, levetiracetam, valproic acid

Cureus 10(12): e3750. DOI 10.7759/cureus.3750

The 1st Question to Answer

Passive

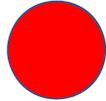
- Oral Medications
- Procedures
 - Occipital Nerve Blocks
 - Sphenopalatine Ganglion Block
 - Pericranial Bupivacaine Injections
 - Peripheral Nerve Blocks
 - Onabotulinumtoxin A
- CGRP Antibodies
- Migraine Sunglasses
- Transcranial Magnetic Stimulation

Active

- Need to know where you are and where you're going!
- Answer these Questions
 - How are your Headaches affecting your life?
 - What would you be able to do if your Headaches were better controlled?
 - What would your life look like if your Headaches worsened

Mapping Migraine

The Way the Patient see what they need



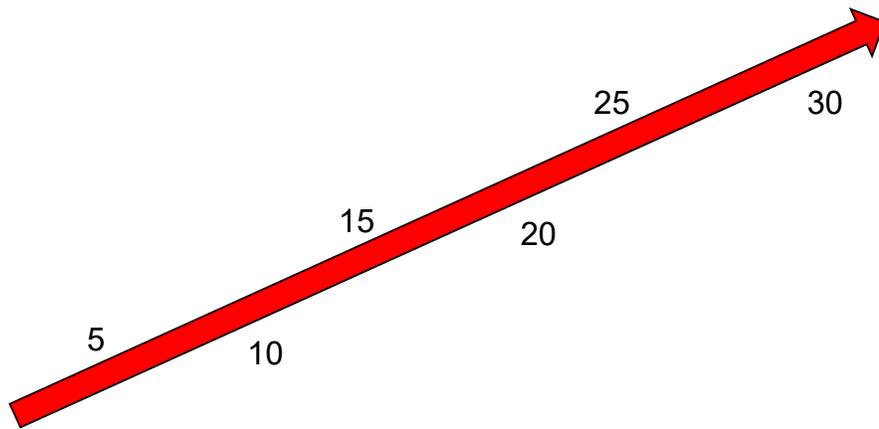
What do I take for my Migraine?

The Way the Clinician sees what the Patient needs



What is making you vulnerable for so many attacks?

Mapping Migraine The Way that it Really is



The More Days a Month with Headache the More You will Need to Do!

Expectations

Patient

No headaches – Not realistic

Less often, less intense, responding better to your right
now medication -- Realistic

Provider

Diaries

Appointments

Phone Calls

Must engage your life

Expectations

There will be pain

Focus on what's important – Prevention! You're fighting a war,
not a Battle!

Learning to Live (Well/Better) with the Pain

Have to use Behavioral Interventions

Start at the Beginning – Simple no longer an option!

Migraine preventive therapy

Education

- www.Managingmigraine.org
- www.Severe-Headache-Expert.com
 - Sign up & receive about 10 emails
 - Refers to The Headache Friendly Lifestyle
 - Download free for Kindle Unlimited

<https://www.bontriage.com/>

Does a HA Hx for you. Written by HA experts

The Woman's Migraine Toolkit – Dawn Marcus

The Woman's Guide to Managing Migraine– S. Hutchinson

Knock Out Headache - Gary Ruoff

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Modifiable Progression Factors

Template for the Map

Modifiable Progression Factors	Education	Pharmacological Prevention	Pharmacological Acute	Behavioral	Exercise	Diet		
Headache Frequency								
Acute Treatment								
Sleep								
Stress Past Present								
Obesity								
Medication overuse								
Caffeine								

Migraine Progression Risk Factors Attack Frequency

Them that gots, gets!

The Brain learns Pain

Inflection point starts at about 5 attacks a month

Use a Bridge Therapy to suppress Headaches

Naproxen BID X 30 days

Steroids burst or taper

Repeated Blocks

Methergonivine 0.2mg 1-2 PO TID X 14 – 28 days

Migraine Progression Risk Factors Poor Acute Migraine Treatment

Results from AMPP study

Progression from EM to CM 3.1%/1 year

Acute treatment evaluated as

- Moderately effective, Poor, Very Poor

Moderately effective 2.7% progressed

Poor 4.4% progressed

Very Poor 6.8% progressed

Neurology. 2015 Feb 17; 84(7): 688-695

Migraine Progression Risk Factors Poor Acute Migraine Treatment

Use Stratified Care

Suit the treatment to the attack

Mild – distract, ignore, eat, rest, ice, ...

Moderate – NSAID +/-Triptan

Severe – Nasal or Parental; bypass the gut.

Olanzapine 10 or 20mg PO & go to bed

Augment with Magnesium, Metoclopramide, Prochlorperazine.

Migraine Progression Risk Factors Obesity/Dietary

Weight loss shown ↓HA frequency; intensity, disability & acute med usage @ 60 months/c improvement thru 12 months.

Improvement also seen /p bariatric surgery.

Calorie restricted diets enhance neuroplasticity affecting pain sensation & cognitive function

- Believed to stimulate neuroplasticity & increased resistance to oxidative stress

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Migraine Progression Risk Factors

Obesity/Dietary
Diet as Medicine- Prevention

Chronic Migraine pts randomized to

Diet high on Omega 3

Diet low in Omega 6

Both groups improved but Omega 3 group better 8.8 days vs 4.6 days.

30% improvement in HA days/attacks /c IgG elimination diet

Small trial in pts /c comorbid migraine & IBS showed improvement with IgG elimination diet was observed antibodies were eliminated.

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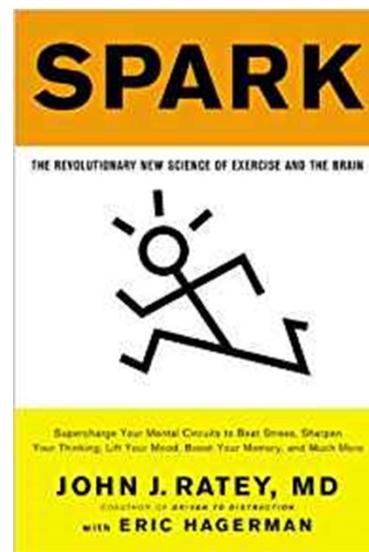
The Case for Activity

Decreased activity grt physical deconditioning, decreased flexibility, and decreased endurance

Diminished endurance impairs resilience provoking pain in previously painless activities

Worsening pain mistakenly attributed to disease progression

Progressing pains continue to diminish activity



Pursuing Function

Decrease in function associated /c decreased endogenous endorphins.
Leads to increased pain

Focus on function not pain relief

Develop written functional goals : Desirable, measurable, achievable

Goals should be specific (increase walking) not general (reduced pain)

Follow up at every visit -- Emphasize measurement –consider wearable technology
Sleep, Awake/active time, Exercise, Work

Pursuing Function

Pain is not an excuse for inactivity or avoidance of responsibilities

encourage effort

acknowledge accomplishments

Identify specific behaviors appropriate to pain treatment

Taking medications as directed

Increasing physical activity

Keeping appointments

Reading educational information

Pursuing Function

Watch out for splitting redirect when necessary

"Let's stay focused on our work today"

Minimize conversation that focuses on pain

"How are you feeling today?" instead of "How's your pain?"

Focus on function - "What have you done since the last appointment?"

If they reply "nothing," look confused and ask "So where did the day go? How did you spend your time?"

Staying Still is Staying Ill

Migraine Progression Risk Factors

Stressful life events

Above all, do not lose your desire to walk.

Everyday, I walk myself into a state of well-being & walk away from every illness.

I have walked myself into my best thoughts, and I know of no thought so burdensome that one cannot walk away from it.

But by sitting still, & the more one sits still, the closer one comes to feeling ill. Thus if one just keeps on walking, everything will be all right."

-- Kierkegaard

Walking \geq 3 Kilometers a day is associated with positive neuroplastic changes!

Instead of Headache Diary Use an Activity Diary

Record activity for 2 weeks

Fill through the day - Not at the end of the day

Total amount of active time

Average active time – Provides average

- Encourage this as “floor” even during flares
- Addressing maladaptive behavior of diminished activity in response to pain

Once stabilized goal to increase 15 min/day intervals each week

Max 15/24 hours

- Allows for 8 hours sleep
- Relaxation or other productive activities

Never Underestimate the Power of a Goal!



Walt Disney World January 2017



Walt Disney World January 2019
After finishing the Dopey Challenge

Migraine Progression Risk Factors Sleep Disorders

Poor sleep (not rested most mornings)

- worsen additional migraine comorbidities
 - Depression/anxiety/fibromyalgia

May mean the difference between success & failure

Simple behavioral instructions provided to chronic female migraineurs

- 58% remission to episodic migraine @ 12 weeks
- No remission in sham group @ 6 weeks, then crossover
- Crossover 43% remission to episodic migraine @ 6 weeks
- Improvement correlated /c adherence to instructions⁴⁵

Simple Sleep Hygiene

Eliminate stimulants (caffeine, nicotine). Initially, no caffeine after 13:00. If still with sleeping difficulties then keep moving back the last caffeine intake.

Discontinue naps

Regular exercise improves sleep. However, exercise within 5 hours of bedtime may raise core body temperature & delay sleep. If that is the only time you can exercise then take a cool shower to cool off.

Move dinner to at least 4 hours before bedtime.

Curtail liquids within 2 hours of bedtime. Limit alcohol intake.

Prepare a dark sleeping environment. Limit nocturnal light. If⁴⁶ nightlights are needed to prevent falls, use the dimmest light possible.

Simple Sleep Hygiene

Schedule an initial consistent bedtime and awakening that allows for eight hours in bed, seven days a week— weekdays & weekends

The bed is only for sleep and adult intimacies.

No distractions while in bed. No television, reading, smart phones, pets or other children while in bed.

White noise such as a fan or relaxing music is OK.

Search [www.youtube](http://www.youtube.com) for “Weightless” by Marconi Union.

This song has been shown to help people fall asleep faster.

Use visualization technique (guided imagery), autogenic phrases, or progressive muscle relaxation to start to get to sleep.

Autogenic Training Exercise for Sleep

My mind is quiet and at
peace.

I am calm and at peace.

It is time to sleep and restore.

My right arm is heavy.

My left arm is heavy.

I am calm and at peace.

My shoulders are heavy.

My jaw is heavy and relaxed.

I am calm and at peace.

My right leg is heavy.

My left leg is heavy.

It is time to sleep and restore.

I am calm and at peace.

Sleep Restriction Therapy

Not for Bipolar!

Do not nap

Use bed only for sleep and adult intimacies.

Go to sleep only you are likely to fall asleep within 10 - 20 minutes. Repositioning twice trying to fall asleep is equivalent to 20 minutes.

Don't watch the clock. Face clock away from your vision.

If unable to fall asleep in 20 minutes, leave the bedroom & come back only when sleepy again.

Get up at the same time every day. Do not "snooze".

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Migraine Progression Risk Factors

Stressful life events

Leading Single Migraine Trigger

Adverse Childhood Experiences increase risk

What is Stress? - anything that acts on you to provoke a response

Goal of "Stress Management" is to build resilience

Timex watch

Migraine Progression Risk Factors

Stressful life events

They Can't Find Anything Wrong – David Clarke MD

www.stressillness.com

Breathe2Relax app

No Charge

Available in multiple formats

≥ 10min/Day associated with ↓ BP

DawnBuse.com

Relaxation exercises download for free

Hypnotize Yourself Out of Pain now! – Bruce Eimer Ph.D.

The Relaxation and Stress Reduction Workbook- M. Davis

Migraine Progression Risk Factors

Symptomatic Medication Overuse

AKA “Rebound” – not best term

- Overuse isn't much better
- Migraine frequency ↑ /c increasing acute medication use

HA that occurs in an individual with a pre-existing 1' HA when in the presence of MO develops a new type of HA or a marked worsening of their pre-existing HA – ICHD IIIβ

Patients do not understand this condition

- See usage as a direct response to their headaches

Incidence in Primary Care Clinic ≈ 21%

- Much higher in specialty clinic

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Defining Symptomatic Medication Overuse

Typical doses of commonly used migraine drugs that have been linked with worsening migraine and medication overuse headache

Medication	Typical treated days/ month for at least 3 months	Average # of doses/month among those /c MOH
Analgesics	15	114
Barbiturates (butalbital combinations)	5	Not reported
Opioid	8–10	Not reported
Triptans	10	18
Ergotamine	10	37

Diener and Limmroth 2004; Diener 2001; Bigal 2008

Migraine Progression Risk Factors Symptomatic Medication Overuse

SMO ↑cerebral cortex/trigeminal neuronal excitability.

Hyper excitability makes the migraine brain more susceptible to cortical spreading depression

Shares similarities with addiction

- Genetic basis
- Continued use despite harm
- See use as restoring order / relieving pain

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The Problem with Butalbital

- Five doses a month associated with migraine progression
- Banned in the E.U. because of this (triptans OTC there)
- Causes cognitive impairment which can be long lasting
- High degree of patient satisfaction (80%)
 - So people who are likely to get into trouble with it get into trouble
- If on \geq Butalbital 150 mg/day, transition to phenobarbital @ 30 mg per 100 mg of butalbital & titrate down 30 mg/day until discontinued.

Medication Overuse Headache:

Tastes Great! Less Filling

Medication Overuse Headache: an entrenched idea in need of scrutiny.
Scher, Rizzoli, Loder Neurology 2017;89:1296–1304

Weak current evidence for causal relation between med use & \uparrow HA frequency

Confounded by Chicken / Egg

Medication Withdrawal studies typically uncontrolled /c a high dropout rate.

Medication withdrawal or limitation may benefit some.

What are the ethics of withholding symptom relieving medication?

Risk with simple analgesics (ASA, ibuprofen, Naproxen) is especially weak.

The concept of MOH should be **viewed with more skepticism**. Until the evidence is better, **we should avoid dogmatism** about the use of symptomatic medication. Frequent use of symptom-relieving headache medications should be **viewed more neutrally**, as an indicator of poorly controlled headaches, and not invariably a cause.

SMO/MOH Real World

- Not everyone who uses frequently develops MOH
- I have two patients that I prescribe Butalbital for
 - I limit them to four pills a month
- I have three patients on daily Sumatriptan
 - There usage is not escalating & no increase in Migraine frequency
- I have four patients on daily Buprenorphine
 - There usage is not escalating & no increase in Migraine frequency

Migraine Progression Risk Factors Symptomatic Medication Overuse

Patient must be educated about limits on acute medications.

Average monthly goal 10-12 d/m

Need to know that HAs unlikely to get better if continue to overuse

May need to withdraw in a controlled setting

Headaches worsen during withdrawal

- Use a “Bridge” therapy

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SMO Bridge Therapies

Non-steroidal bridge therapy

Naproxen 500 mg BID 7-10 days

Ketorolac 60 mg IM BID X for 5 days (should use PPI or H2 blocker if using ketorolac).

Steroidal bridge therapy

Dexamethasone 4 mg BID X 7 days or

4 mg BID X 4 days, then 4 mg daily X 4 days, then stop.

Dose packs typically are not effective.

Prednisone taper 60 mg daily for 2 days, then 40 mg daily for 2 days, then 20 mg daily for 3 days, then stop.

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SMO Bridge Therapies

Triptan bridge therapy

- Short acting: sumatriptan 25 mg TID X 10 d or until the patient is pain free for 24 hours.
- Long acting: naratriptan 2.5 mg BID X 7 days

Ergotamines bridge therapy

- DHE 1 mg sub Q BID 7-10 days (likely to be most effective).
- DHE NS BID/TID X 7-10 days (more available than injections but less effective).
- Methylergonovine 0.2 mg 1-2 pills TID X 14d – Expensive

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SMO Bridge Therapies

- Prochlorperazine 10 mg ± diphenhydramine 25-50 mg TID.
- Metoclopramide 10 mg ± diphenhydramine 25--50 mg TID (do not take with prochlorperazine).
- Olanzapine 10-20-mg PO QHS times 5-7 days. Start dosing with 10 mg, repeating the dose in 1 hour if not sleepy.
 - 20mg dose is often needed if there is significant anxiety or insomnia.

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Buprenorphine

Partial mu-receptor agonist

Considered an alternative to full mu agonists

Demonstrated efficacy in chronic pain

FDA indicated for Pain & outpt txt disease of addiction

Pain: Schedule III

Addiction: Need special DEA # (≈ 8 hour CME course)

Increased interest 2' to thought that it could control pain and reduce risk of addiction

Injection, SL Tablet, SL Film, and compounded /c naloxone

Buprenorphine Cautions

Serious & fatal drug interaction can occur in individuals who are concurrently taking buprenorphine /c BZD

- BZD also cleared by CYP 450
- Increase drug metabolites
- Caution /c other CYP 450meds fluconazole clarithromycin, fluoxetine

If You Have to Prescribe...

**Pre-prescribing conversation how meds will be started, used, & if necessary, d/c'd.
Patients at this point often believe these meds are essential for their survival**

- Episodic
- Use is to keep out of Urgent care & E.D.
- Limit to 7 days / month Max
- Continuous Opiate Therapy
- Typical COT prescribing protocol
- Function should be maintained or improved
- Migraine frequency should not be progressing

Case # 1

- Started on Buprenorphine 4mg SL BID
- Titrated to 8mg SL BID
- Stable for the past 5 years

Migraine Progression Risk Factors

Caffeine overuse

- Just say no!
- Taper off to minimize withdrawal headache
- If you must...
 - Limit to two servings a day
 - $\leq 200\text{mg/day}$

Procedures

Lower Cervical Intramuscular Injections

Occipital Nerve Block

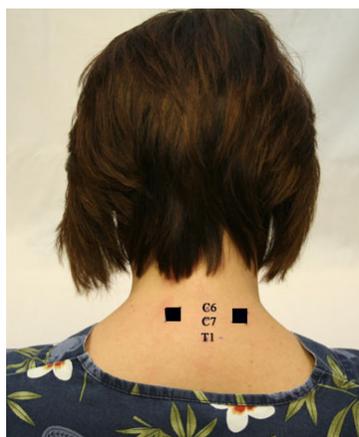
Sphenopalatine Ganglion Block

Pericranial Injections

Peripheral Nerve Blocks

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Lower Cervical Intramuscular Injections



Headache 10/06

417 ED Pts / 1 yr

65% relief in 15m

Repeat injection brought
additional relief

Worsened HA in 1%

Lower Cervical Intramuscular Injections



3mL bupivacaine 0.5%

25g 1.5" / 27g 1.25"

2-3cm lateral to the spinous
processes between
C6 & C7

AE /CI - Vasovagal, Neck stiffness,
usual injection risks

Occipital Nerve Block

Local anesthetic (bupivacaine) .5% xylocaine 1%

-- Duration of anesthesia doesn't correlate to duration of relief

Steroid (triamcinolone 40mg/mL) evidence doesn't support general
use

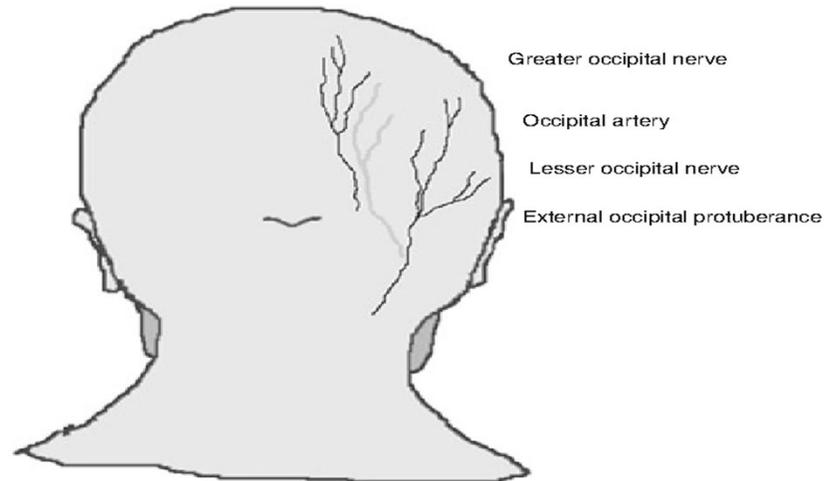
3mL total per side

25 or 27 gauge needle

May place as a "ridge" or point of maximum tenderness.

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Occipital Nerve Block



Marcus DA, Ready DM. Discussing Migraine. Springer 2017

Occipital Nerve Block Prevention

44 CM / 2 groups GON weekly X 4

Followed @ 4weeks, 2 months, 3 months

	Baseline HA Frequency	One Month	Two Months	Three Months
Bupivacaine	21.0 +/- 4.4	10.9 +/- 7.1	6.1 +/- 2.4	6.3 +/- 1.9
Saline	20.9 +/- 5.0	15.5 +/- 7.3	18.2 +/- 6.1	19.1 +/- 6.3
		4.6	12.1	12.8

No serious AEs

Bupivacaine – significant ↓ months 1,2,3

Saline – decrease @ month 1 only

Gul HL, et. al. Acta Neurol Scand. 2016 Dec 2.

Occipital Nerve Block Prevention

PGON: 25 Chronic Migraine patients on oral prophylaxis

GON: 53 Chronic Migraine patients medically refractive to oral medications

	Baseline HA Days	Month 3 HA Days	Δ	Baseline HA Severity	Month 3 HA Severity	Δ
PGON - 25	13.76±8.07	3.28±2.15	10.48	8.08±0.90	5.96±1.20	2.12
GON - 53	15.73±7.21	4.52±3.61	11.21	8.26±1.32	5.16±2.64	3.10

Inan N, et. al. Noro Psikiyatrs Ars. 2016 Mar;53(1):45-48.

Occipital Nerve Block

Adverse Events / Contraindications

Prior hx of craniotomy over injection site

AEs primarily related to steroid- fat atrophy, alopecia, pigment change

Vagal response – Happened to me X 4 in over 12K blocks

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Pericranial Bupivacaine Injections

Robert Kaniecki, MD University of Pittsburgh

218 Subjects

34 sites – 0.25% Bup

Q 12 weeks

87.1% Female

Age – 40.4 years

Migraine for 18 .5 years

21.4 / 28 days /c HA

15.5 Severe HA days

18.3 Treatment days

55.2 % > 50% reduction

• 35.3% achieved by 4 wk

↓HA days 22.8d to 9d

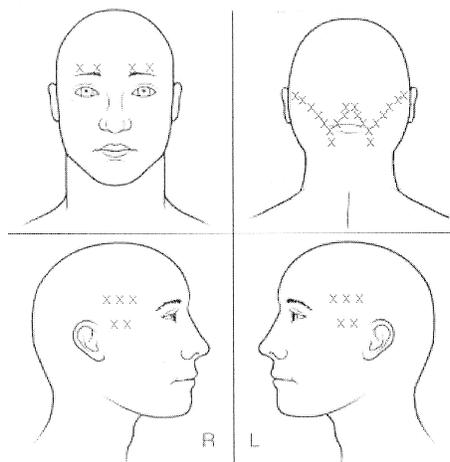
↓ Severe 15.9d to 6.1d

↓ Treatment 18.1d to 7.9d

11.5% no response/Lost-FU

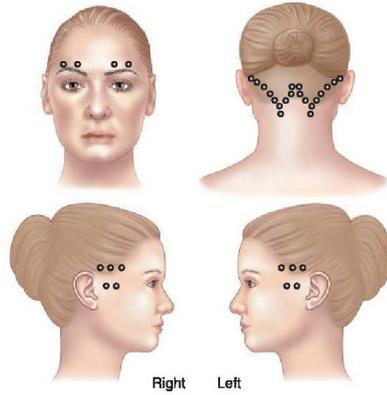
Pericranial Bupivacaine Injections

Robert Kaniecki, MD University of Pittsburgh



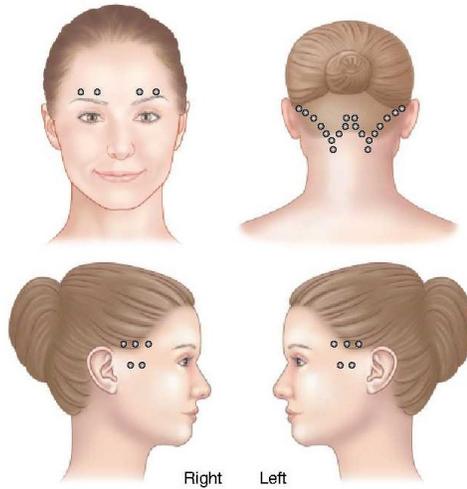
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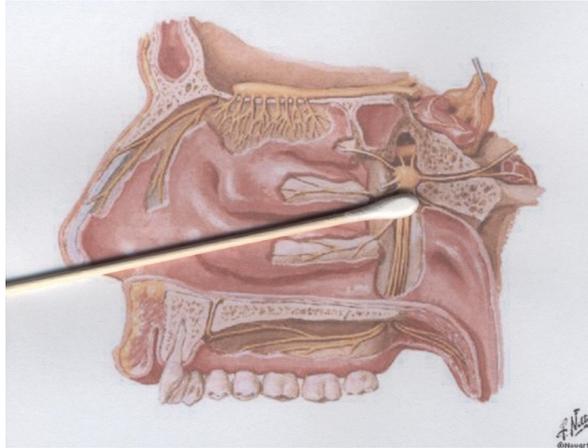
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Sphenopalatine Ganglion Block

- Over 100 years old
- Fell into disfavor
- Reemerged in '80s
- Patients may self administer
- Lidocaine
- May use cannula



Sphenopalatine Ganglion Block Disease Modifier?

ICHD Chronic Migraine > 3 months

Could remain on preventive meds if stable

41 subjects randomized 2:1 bupivacaine /saline

Biweekly SPG block X 6 weeks

Treated irrespective of pain @ time of visit

Measured: Pain, Activity, Mood, & Work Interference.

Sphenopalatine Ganglion Block Disease Modifier?

HA reduction 5.7 day vs 1.9 @ 1 month

(similar to Onabot & topiramate)

Study was underpowered – Limits conclusions

Collective data suggests potential disease modification

81

Sphenopalatine Ganglion Block



82

Sphenopalatine Ganglion Block



83

Sphenopalatine Ganglion Block



84

Sphenopalatine Ganglion Block



85

Sphenopalatine Ganglion Block



86

Sphenopalatine Ganglion Block Patient Self Administered

- Using Viscous Lidocaine 2% 0.5mL
 - Insert a 1 ml syringe as far as they can comfortably as tolerable
 - Point towards the lateral side of the bridge of the nose
 - Tap in 0.1 - 0.2 ml at a time to a total of 0.5 ml
 - With each tap the patient takes a sharp sniff after each instill

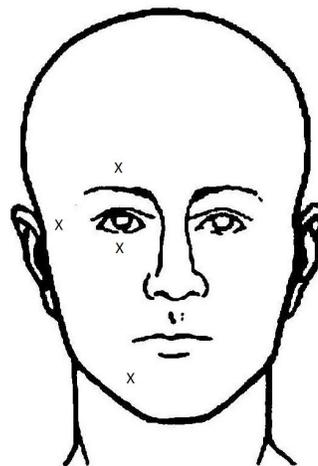
If burning or numbness occurs around the eye -- the lidocaine is where it needs to be.

May try with the patient lying on their side allowing the Lidocaine to pool in the SPG fossa.

Patients may perform at home as often as they like - pragmatically up to qid.

Peripheral Nerve Blocks for Trigeminal Neuralgia

- Retrospective
 - 9 Urgent Care pts Classic TN
 - Pain > 8/10 over V2-3 distribution
- Injections
 - 0.5mL (0.25 bupivacaine, 1.0 lidocaine)
 - Suprorbital, Infraorbital, Mental
 - 1.0mL injected in auriculotemporal
- All 9 had >50% pain improvement
 - 7/9 pain free
 - 6/9 sustained pain relief 1-8months
 - 3 tolerated pain /c currents meds
 - 2 pain free
 - Only 1/6 who responded had surgery



Peripheral Nerve Blocks for the Txt of HA in Older Adults:

A Retrospective Study

<http://onlinelibrary.wiley.com/doi/10.1111/head.12992/full>

Single center, retrospective chart review

Pts > 65 PNB / 6yr period. Average age 71

CM-50% / EM-12.5% / TAC 9.4% / ON – 7.8%

Average HA Days 23 / month

89% had 1 Beers criteria medication

PNB thought to be effective in 73% for all headaches

No AE's reported

Hascalovici, JR, Robbins, MS. Headache. 2017; 57: 80–86

Peripheral Nerve Blocks What to Inject?

Again no consensus – Local Anesthetics often mixed

Lidocaine 1-2%

- Advantage quicker onset of action & can be buffered (Lidocaine/Sodium Bicarb 9:1)

Bupivacaine 0.25 – 0.5%

Both Amide-- less allergenic than Esther LA

Typically 1.5 – 3.5mL per nerve

Inhibit nerve conduction by reversibly inhibiting Na⁺ channels

Preferentially act on C-fibers & A δ fibers that mediate pain.

Methemoglobinemia has been reported with LA treatment

rarely with those used routinely for ONB

90

Peripheral Nerve Blocks

Review Articles

- Expert Consensus Recommendations for the Performance of Peripheral Nerve Blocks for Headaches – A Narrative Review
- <http://onlinelibrary.wiley.com/doi/10.1111/head.12053/full>
- Trigger Point Injections for Headache Disorders: Expert Consensus Methodology and Narrative Review
- <http://onlinelibrary.wiley.com/doi/10.1111/head.12442/full>

Case # 2

- Initial placed on Magnesium, Tizanidine
- Placed B ONB
- ↓ Freq 3/7 days, + Memantine (NMDA receptor blocker)
- @ 1 yr HAs 1/7 days mild
- Severe HAs 1/60 days responds to ONB

Our Patients Speak



Behavioral Pain Management

Reframing the Pain

How did you “happen”?

Pain Basics

- Sensory Discriminative
 - Spinothalamic tract to Somatosensory cortex
- Motivation Affective
 - Parabrachial tract to Limbic system

If you can't change the signal then you have to change how you respond to it

95

Rating Your Pain

Doctor: On a scale of 1 – 10, with 10 being the most pain you can image, how would you rate your pain today?

Patient: 20!

Graphic Representation of 20/10 Pain



You get a 12oz
Coke
&
An 8oz Mess

Behavioral Pain Catastrophizing

Predicts poor response to minimally invasive procedures

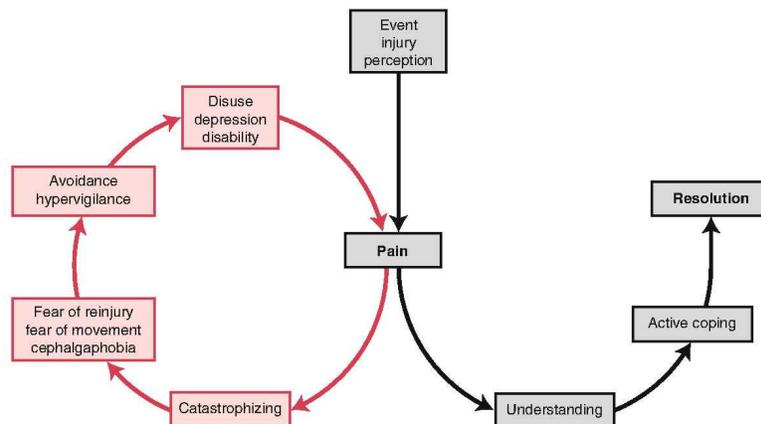
Predicts persistent pain @ two years.

Affects supra spinal endogenous pain inhibition in pain processing

Associated with the dysfunctional cortisol response

May be linked to altered neuro-immunologic responses to pain

Behavioral Pain Catastrophizing



Marcus Ready Discussing Migraine with Your Patients

5 Coping Skills for Chronic Pain Patients

- Understanding
 - Educate, Hurt ≠ Harm, Prognosis, Plan
- Accepting – William James
 - Why Me?, Stop Catastrophizing, Don't "Should" on yourself
- Calming
 - Dial back fight/flight. What ever works
- Balancing
 - In & Out, Don't overdo, get good sleep
- Coping
 - Plan for pain, Distraction

Jones T. Practical Pain Management. 2014: 14 (1)

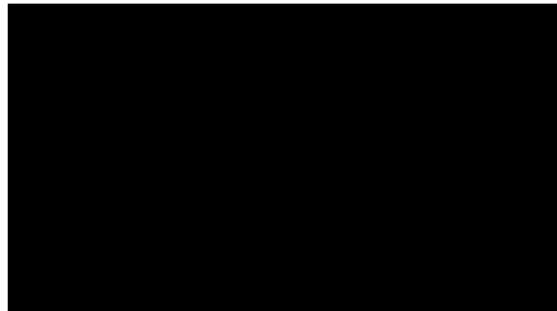
101

Youtube Pain Videos

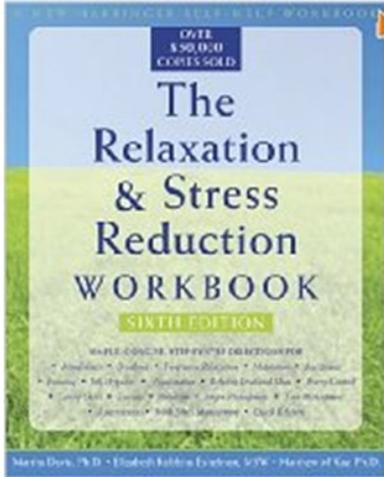
Allison Carr
22 Things I learned about Chronic Pain



Understanding Pain and
What to do About it in 5 Minutes

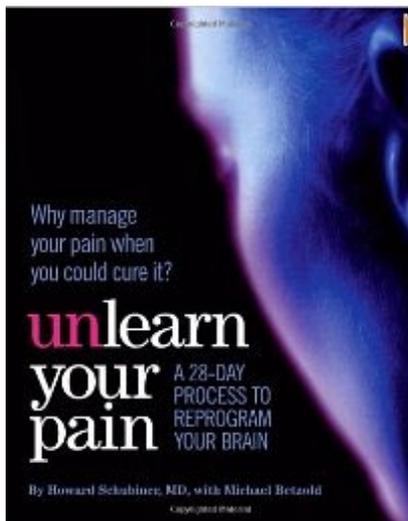


Books You Should Know



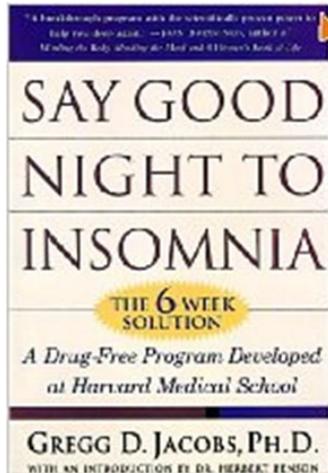
- Relaxation & Stress Reduction Workbook
- Martha Davis, Ph.D
- ****1/2 - 191 reviews
- Also available in Children's version
- Stock this book in your exam rooms instead of People

Books You Should Know



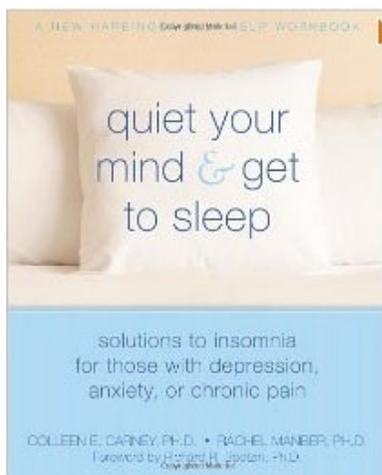
- Unlearn Your Pain
- A “how to” book on how to become more comfortable with being uncomfortable
- *****1/2 69 Reviews
- 1st 5 chapters free on Amazon Prime for Kindle

Books You Should Know



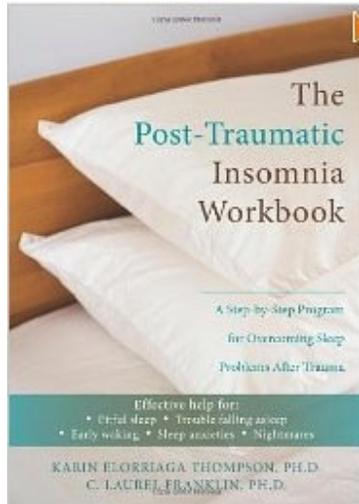
- Say Goodnight to Insomnia
- Gregg Jacobs, Ph.D
- ****1/2 217 reviews
- Benson Mind-Body Institute
- www.cbtforsomnia.com

Books You Should Know



- Quiet Your Mind & Get to Sleep
Colleen Carney
- ****1/2 - 28 Reviews
- Deals with Insomnia driven by comorbidities

Books You Should Know

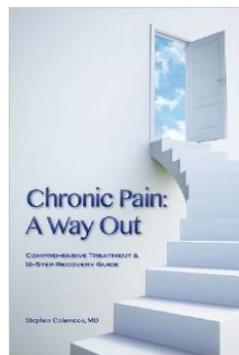


- The Post Traumatic Insomnia Workbook
- ****1/2 - 4 Reviews
- Karin Thompson Ph.D.

Books You Should Know

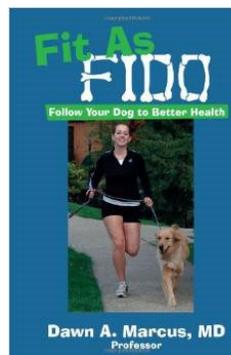
**** 12 reviews

12 Step approach to Chronic Pain



****1/2 5 reviews

Might not do it for themselves, but...



Best Practices Recommendations

- The greater the headache burden, the more the patient needs to participate
- Consider HC diagnosis for a continual unilateral headache with autonomic signs
- Get comfortable sticking needles in peoples head
- Learn home to use Buprenorphine
- Don't Ignore Behavioral Pain Management

Questions

