



MEDICAL MANAGEMENT OF CHRONIC PAIN

Monika Patel, MD
Assistant Professor
University of Florida

PRESENTATION INFORMATION

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WHAT IS CHRONIC PAIN?

Begins with an acute injury

Pain lasting longer than 6 months

Influenced by psychosocial environment

- Influenced by secondary gain or legal issues
- Pain catastrophizing

Multidisciplinary Treatment Approach

- **Medications, rehabilitation, psychiatry**, interventional procedures, surgeries

EVALUATION OF THE PATIENT

Chief complaint

History of Present Illness

- What where and why
- Numerical pain score
- Past treatments
- Therapeutic trials effect

Functional Impact

- Including work activities
- Fear-avoidance behaviors

Goals of Care

Current Medications

- Number of pills a day
- Adverse effects

Prior imaging

Past Medical History

Past Surgical History

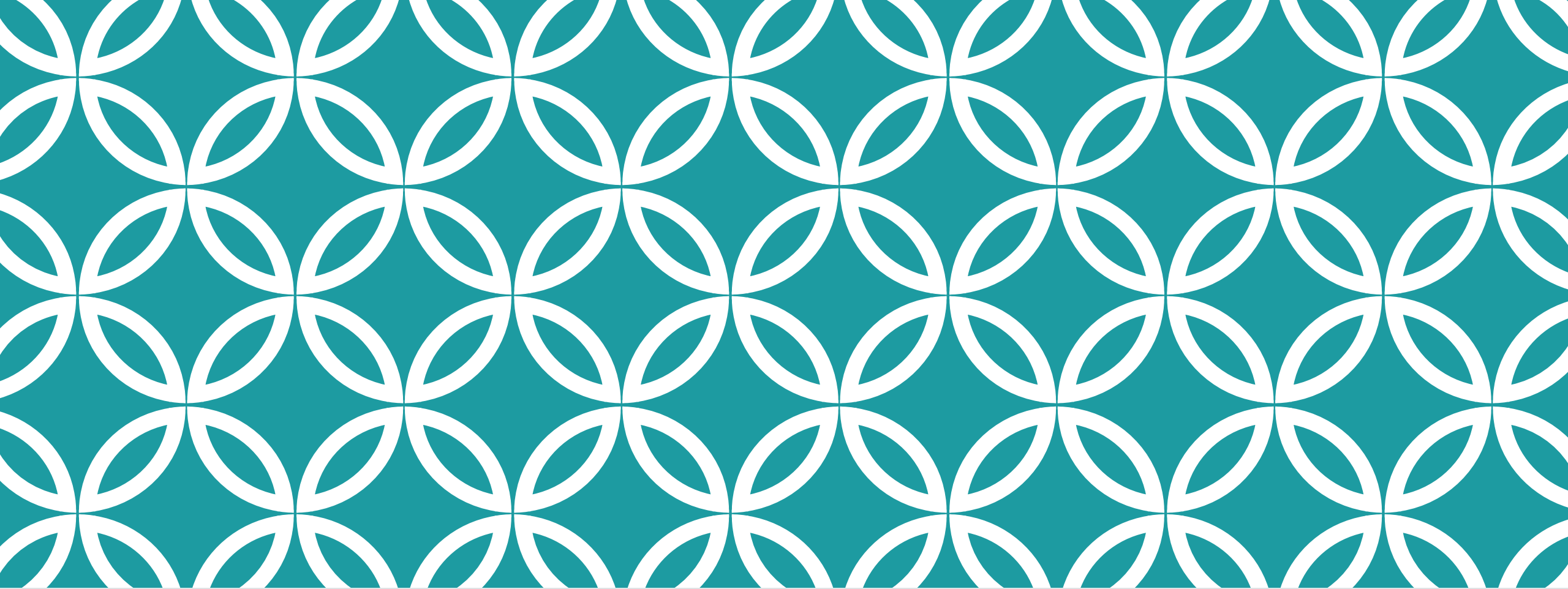
Social History

- Substance abuse history

Family History

Physical Exam

- Neurological
- Focused musculoskeletal



PT/OT AND DME REFERRAL



PHYSICAL MODALITIES

Exercises

- Low impact
- Walking
- Aquatic therapies
- Passive and active stretching
- Activity of Daily Living
- Transition to a home exercise program

Durable Medical Equipment

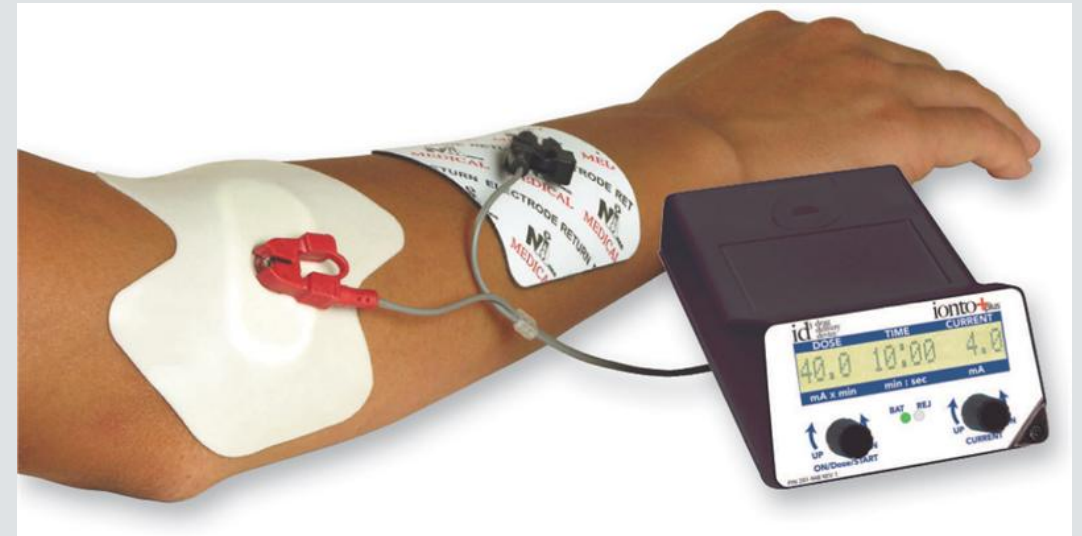
- Wheelchair
- Walker
- Cane
- Graspers
- Braces
- Orthotics



PHYSICAL MODALITIES

▪ Pain Palliation Modalities

- Heat
- Cold (cryotherapy)
- TENS/E-stim
- Ultrasound
- Iontophoresis
 - Low level current to drive topical medication into the deeper tissue
- Manual therapy
- Myofascial release techniques
- Massage



PHYSICAL MODALITIES

Alternative Therapies

- Yoga
- Tai Chi
- Aromatherapy
- Herbal therapy
- Acupuncture



VOCATION REHABILITATION

Work-Conditioning program

- Structured progressive reconditioning that relies on endurance and physical fitness
- 1-2 hours, 3-5 times week, for 2 to 6 weeks

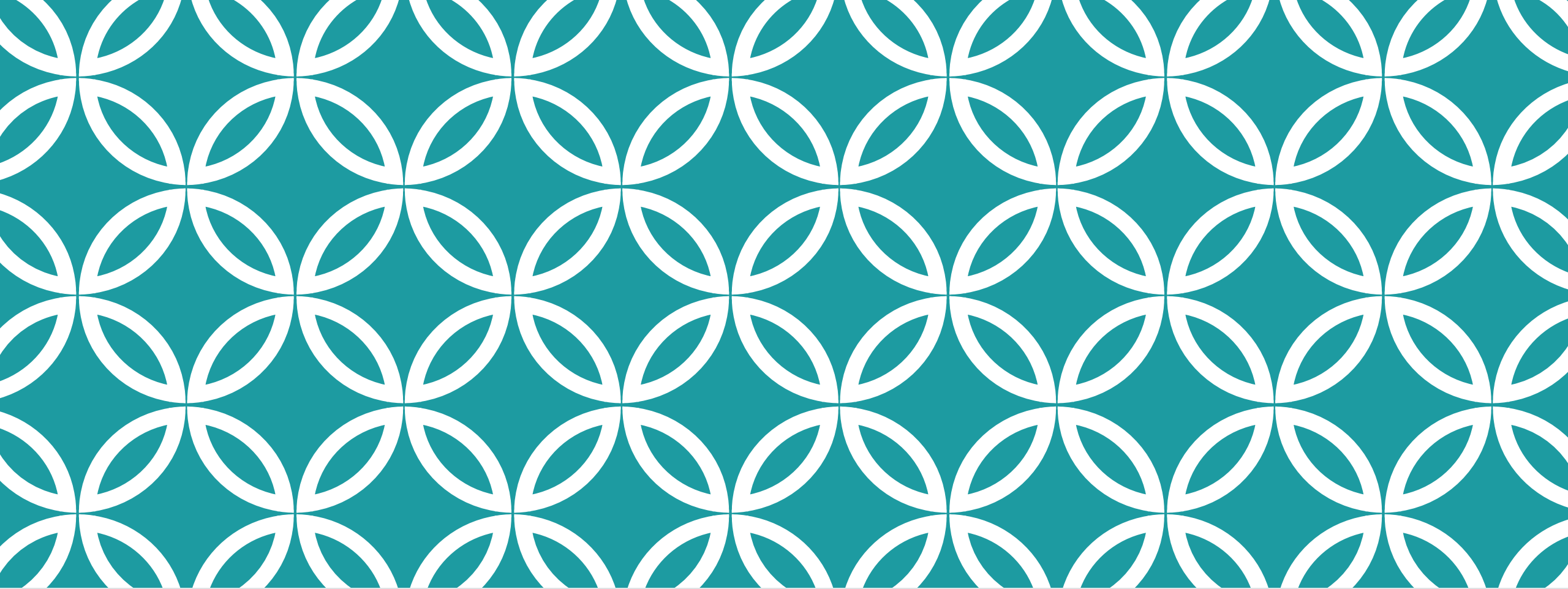
Work-Hardening Program

- For patients that have been off work for prolonged period of time
- Job specific work simulation
- Address psychological and vocational issues

Goal is to return to work after injury

- Vocational counseling for job placement
- Education proper body mechanics, safe lifting techniques, healthy lifestyle





MEDICATION PRESCRIPTION



PHARMACOLOGIC THERAPIES

- Opioids
- Antidepressants
- Anticonvulsants
- NSAIDS
- Skeletal Muscle Relaxants
- Topical Treatments



OPIOIDS

- 1980 to 2000 a net increase of 4.6 million prescribed opioid visits (9% increase)
- The illicit use of opioid prescriptions has risen faster than the legal use of this drug
- 50% of patients are noncompliant
 - Early refill requests
 - Lost prescriptions
 - Multiple providers of opioid



OPIOID AGREEMENT “CONTRACT”

1. Take your medication as prescribed
2. No disruptive behaviors or illegal drug use
3. No early refills
4. No missed appointments
5. No replacement for lost or stolen medications
6. Inform physician of side effects or medical condition change
7. Must submit to random drug screening
8. Disciplined by termination from clinic



Little evidence opioid agreements improve compliance

LONG TERM OPIOID USE PITFALLS

Central Hypogonadism- decreased testosterone and sex drive

Impaired immunity- decreased natural killer cell cytotoxicity

1. Opioid Induced Hyperalgesia
2. Opioid Tolerance
3. Opioid Dependence
4. Opioid Addiction
5. Opioid Pseudoaddiction

TAMPER RESISTANT FORMULATION

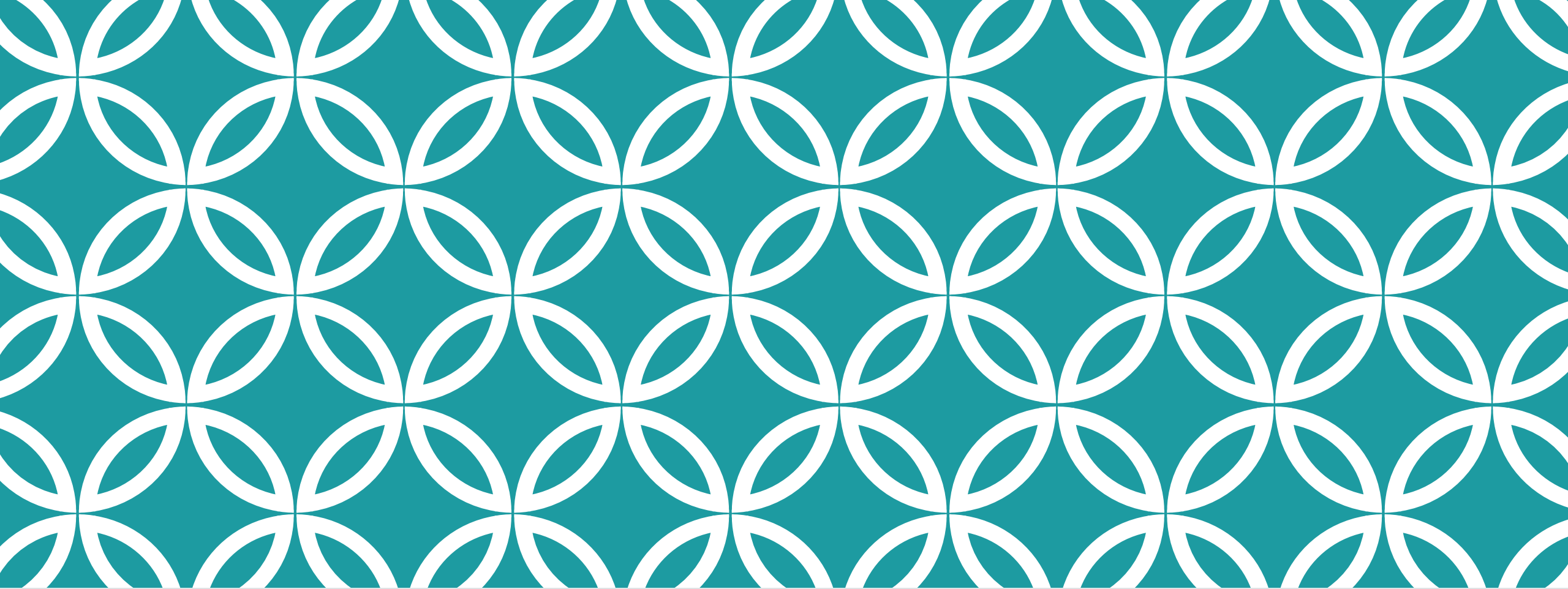
OxyContin

- more difficult to crush or dissolve

Embeda

- Morphine extended release, with a naltrexone core
- When crushed naltrexone is released and can cause withdrawal symptoms





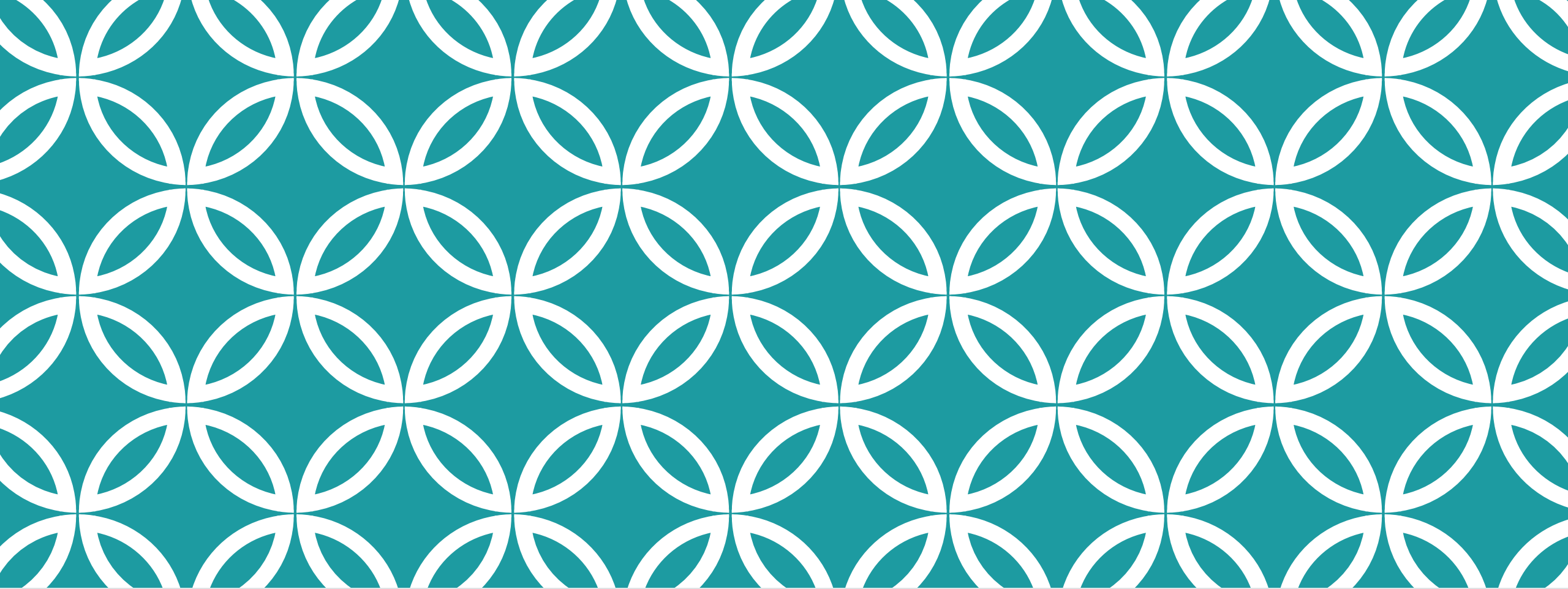
BURNING PAIN!



OPIOIDS FOR NEUROPATHIC PAIN

NMDA agonists

- Methadone
 - Treats neuropathic pain and cancer pain when first line agents are ineffective
 - Opioid induced hyperalgesia
 - Monitor for QT prolongation and sudden cardiac death in high doses
 - Heroin addiction much higher doses prescribed
- Ketamine
 - Hyperalgesia states and neuropathic pain
 - Deleterious side effect reduced with use of concomitant benzodiazepine therapy



MUSCLE SPASMS



MUSCLE RELAXANT

Commonly used for acute muscle spasm:

- Cyclobenzaprine, methocarbomal, metaxalone

Commonly used for chronic muscle spasm:

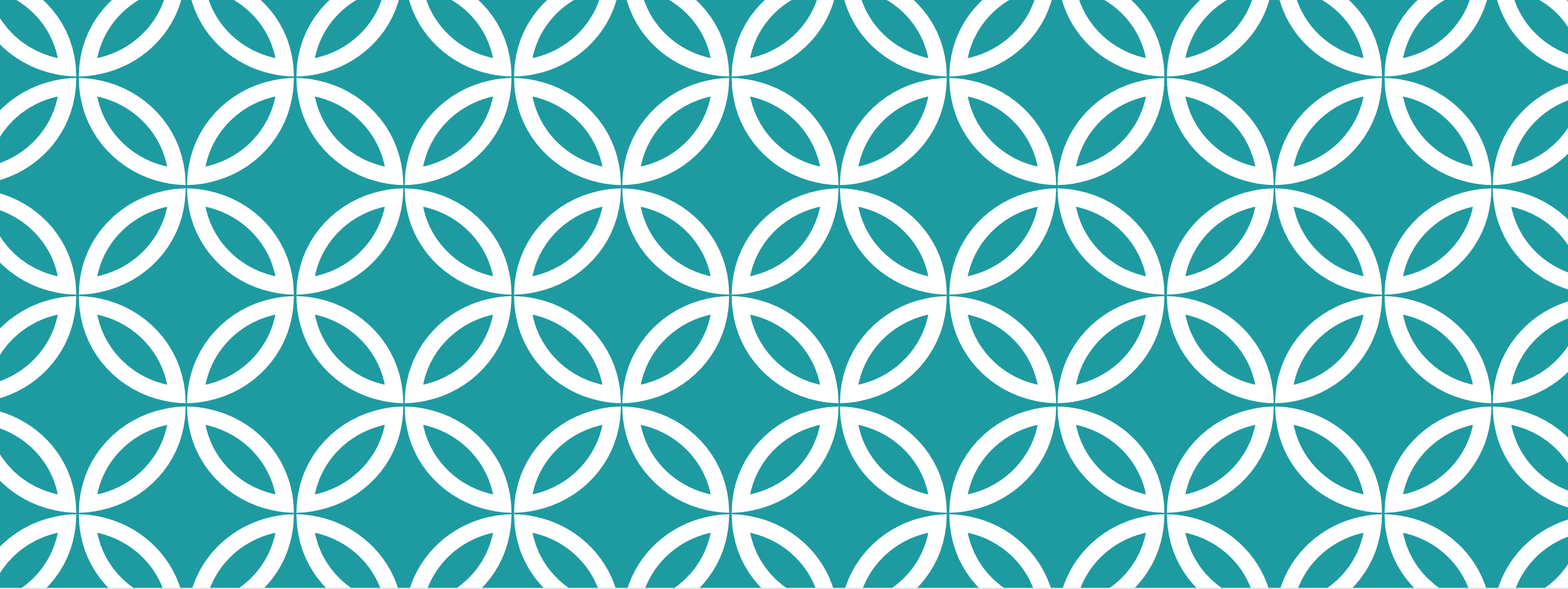
- Baclofen
 - NOT prescribed as needed
 - Withdrawal includes seizures and death
- Tizanidine
 - Less drowsiness

Benzodiazepines

- 2016 CDC guidelines do not recommend the concomitant use of opioids and benzodiazepines
- Higher incidence of overdoses resulting in death

Carisoprodol

- Metabolite meprobamate potent anxiolytic and sedative
- High abuse potential
- Causes physical and psychological dependence
- Not recommended for clinical use

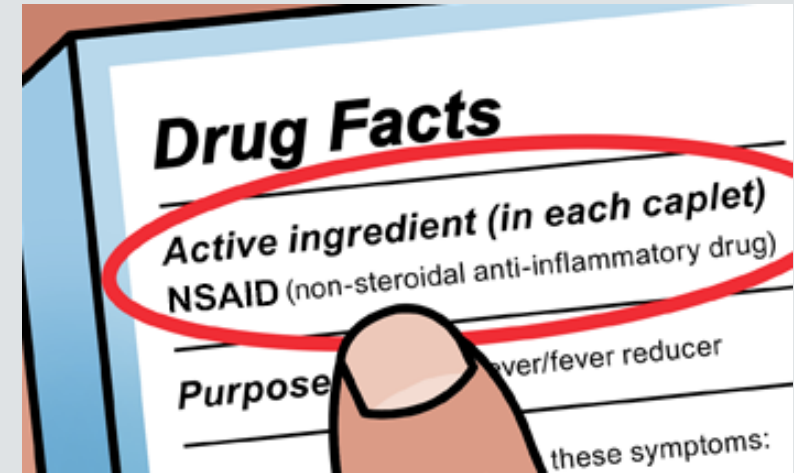


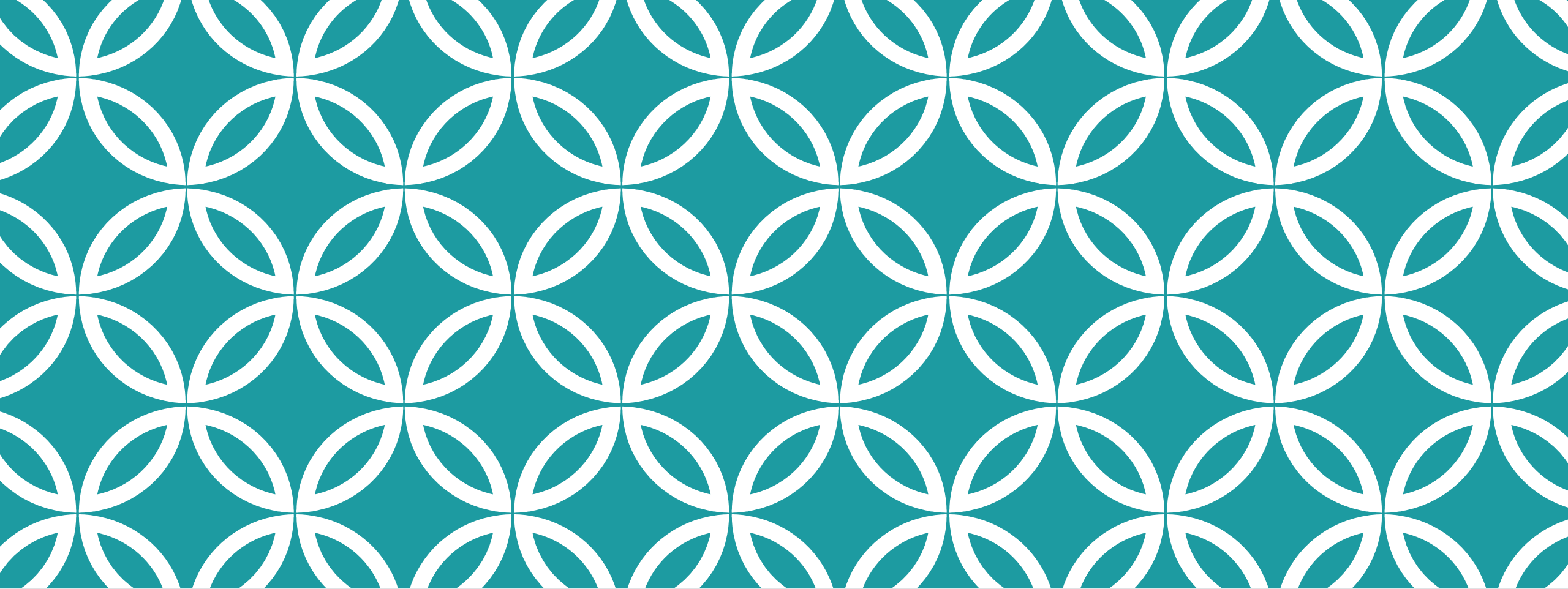
ARTHRITIS PAIN



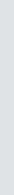
NSAIDS

- GI, renal and cardiovascular side effects
- Use with caution in patients older, debilitated, cachectic, critical illness, volume depleted, protein deficient state
- Celecoxib Long-Term Arthritis Safety Study (CLASS)
 - 20- 22% patient received low dose aspirin with celecoxib and protective against thrombotic events
 - Rofecoxib and valdecoxib taken off market due to increased cardiovascular events
- Some studies indicate that Tylenol has Cox 3 inhibition
 - Receptor expressed in the cerebral cortex and heart
 - Patient alcohol intake daily of 2 oz or more, limit dose max 2.5grams/day





PINS AND NEEDLES, BURNING



ANTIPILEPTIC

Gabapentin and Pregabalin

- Neuropathic Pain
- N-type calcium channel blocker
- Side effects: sedation, swelling, weight gain, blurry vision, renal elimination

Topiramate

- Treat migraine headaches
- Weight loss
- Side effect: cognitive slowing, fatigue, diarrhea

Carbamazepine

- Treat trigeminal neuralgia
- Similar to a TCA
- Side effect: agranulocytosis, aplastic anemia, impairs hepatic function, Steven Johnson syndrome, sedation, ataxia, diplopia, urinary retention



ANTIPILEPTIC

Levetiracetam

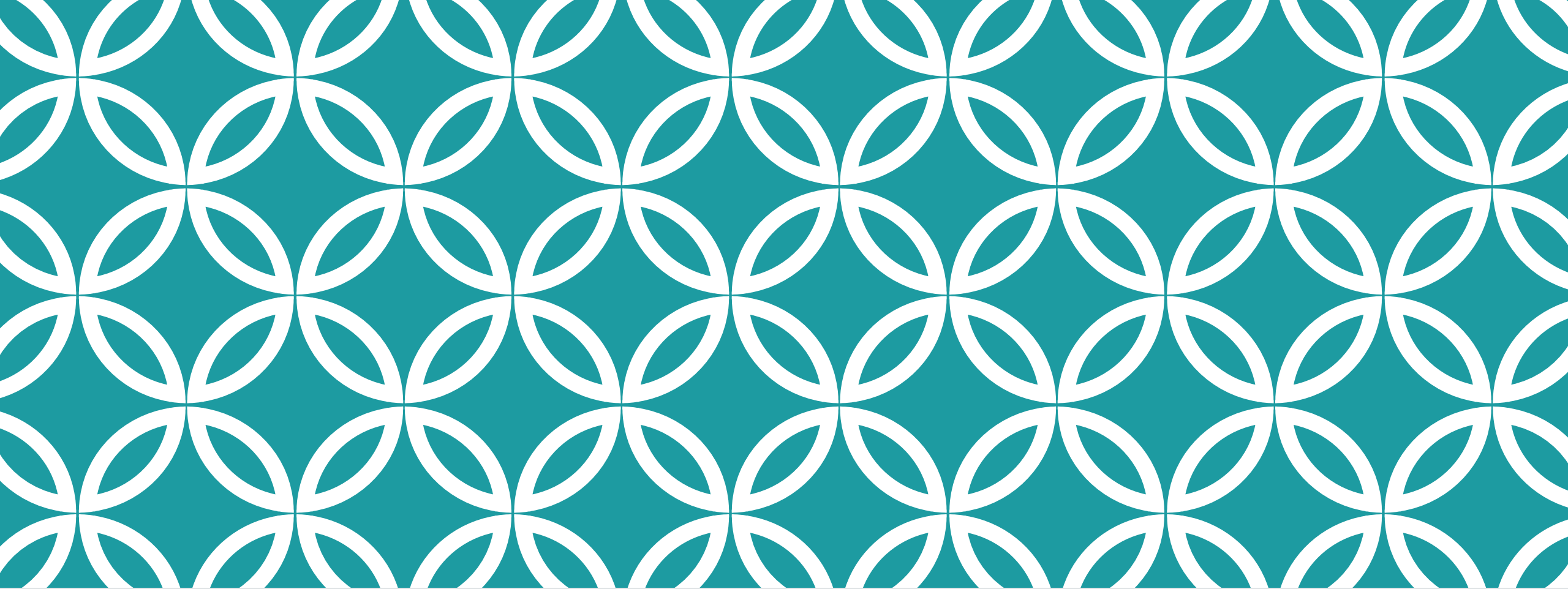
- Treat peripheral neuropathic pain
- Side effect: less cognitive slowing and drowsiness

Lamotrigine

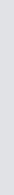
- Inhibits voltage gated Na-channels
- Studied to treat HIV associated neuropathy
- Side effect: Steven Johnson syndrome

IV phenytoin has been studied for acute flare of pain

Side effect: gingival hyperplasia, hirsutism, and rash



PAIN AND SLEEP



ANTIDEPRESSANTS: TCA

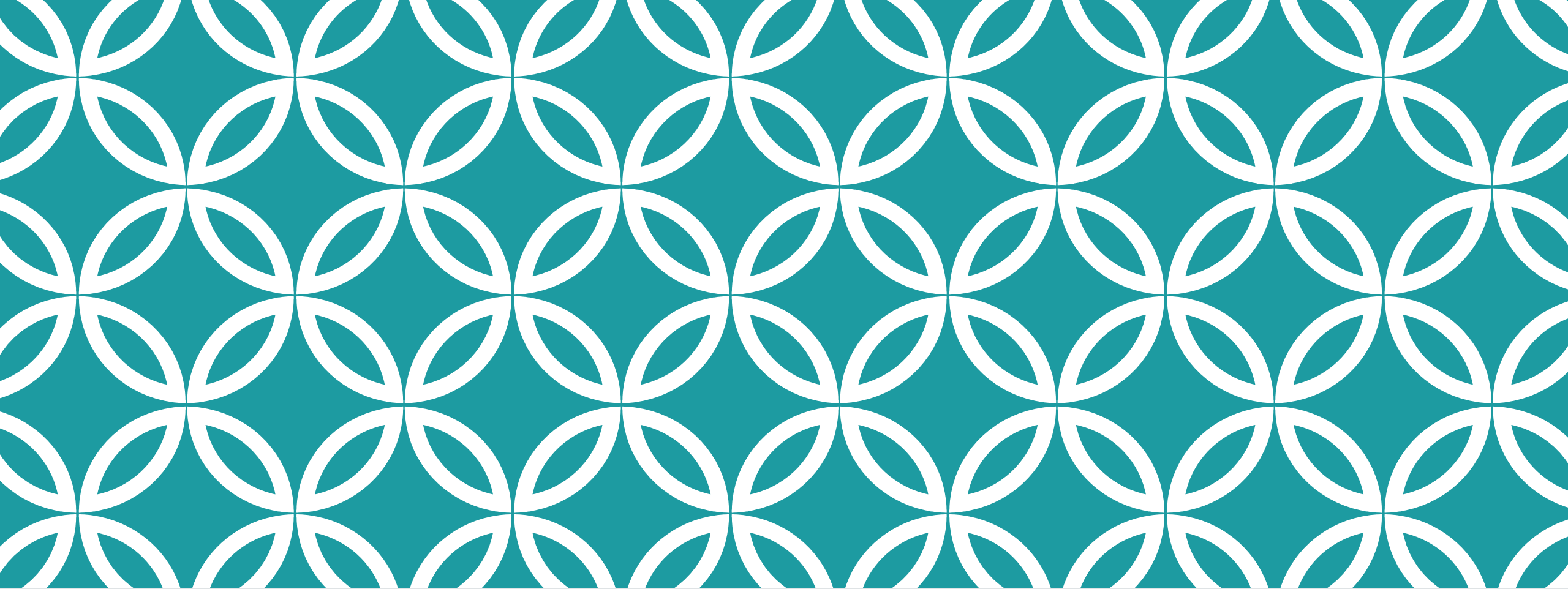
Can aid with Sleep Difficulties

Amitriptyline

- first generation TCA
- more intense side effects

Nortriptyline and Desipramine

- second generation TCAs
- less intense side effects
- Side effects: sedation, urinary retention, arrhythmia and cardiac disease, weight gain

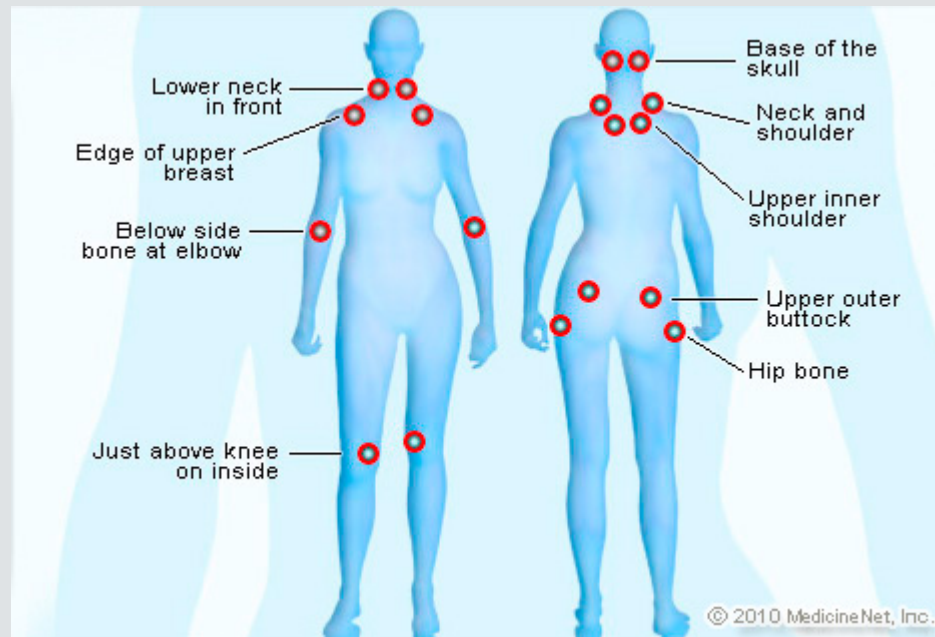


**THIS WILL TREAT DIFFUSE
TENDERNESS** |

ANTIDEPRESSANTS: SNRI

Neuropathic pain syndromes (Peripheral neuropathies)

Myofascial pain syndromes (Fibromyalgia)

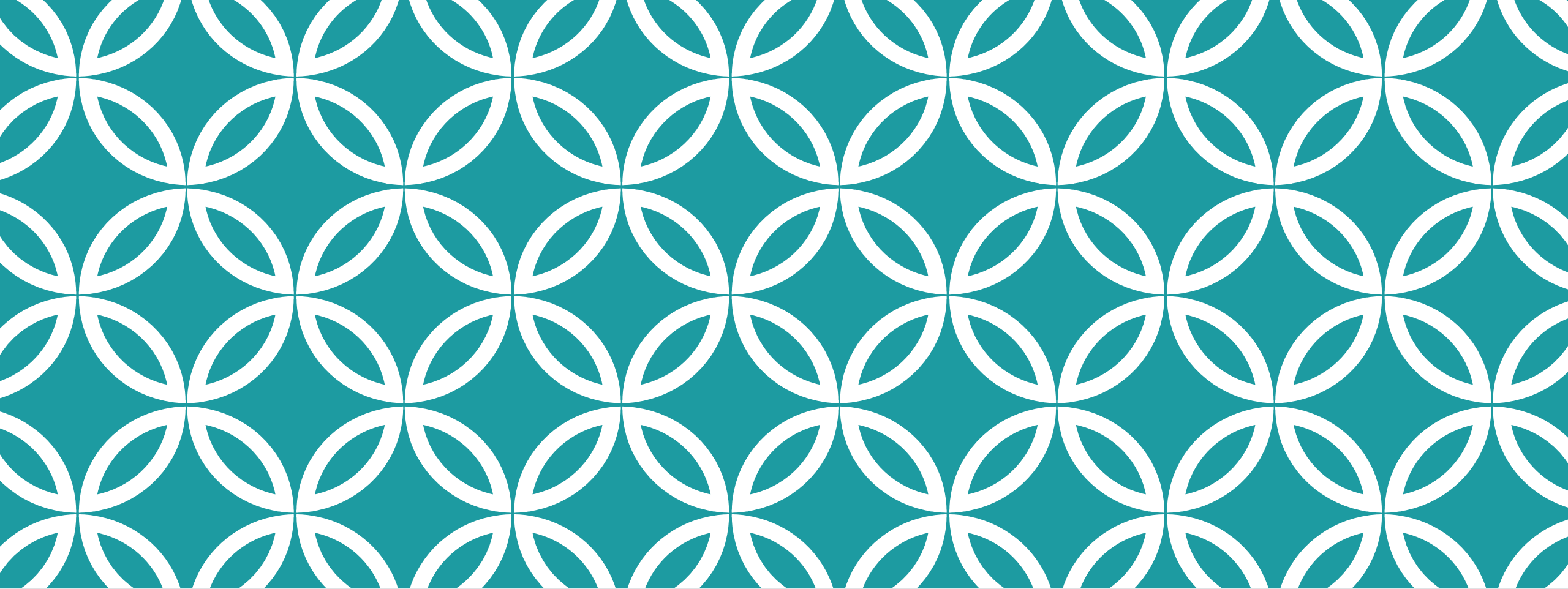


ANTIDEPRESSANTS: SNRI

Duloxetine

Side effects: minor risk of elevated transaminase levels

- Greater risk to those with preexisting liver disease
- GI upset
- Constipation
- Suicidal ideation



SKIN SENSITIVITY



TOPICAL AGENTS

Compound creams

- Combination of TCA, muscle relaxant and anesthetic agent

Lidocaine 5% patches

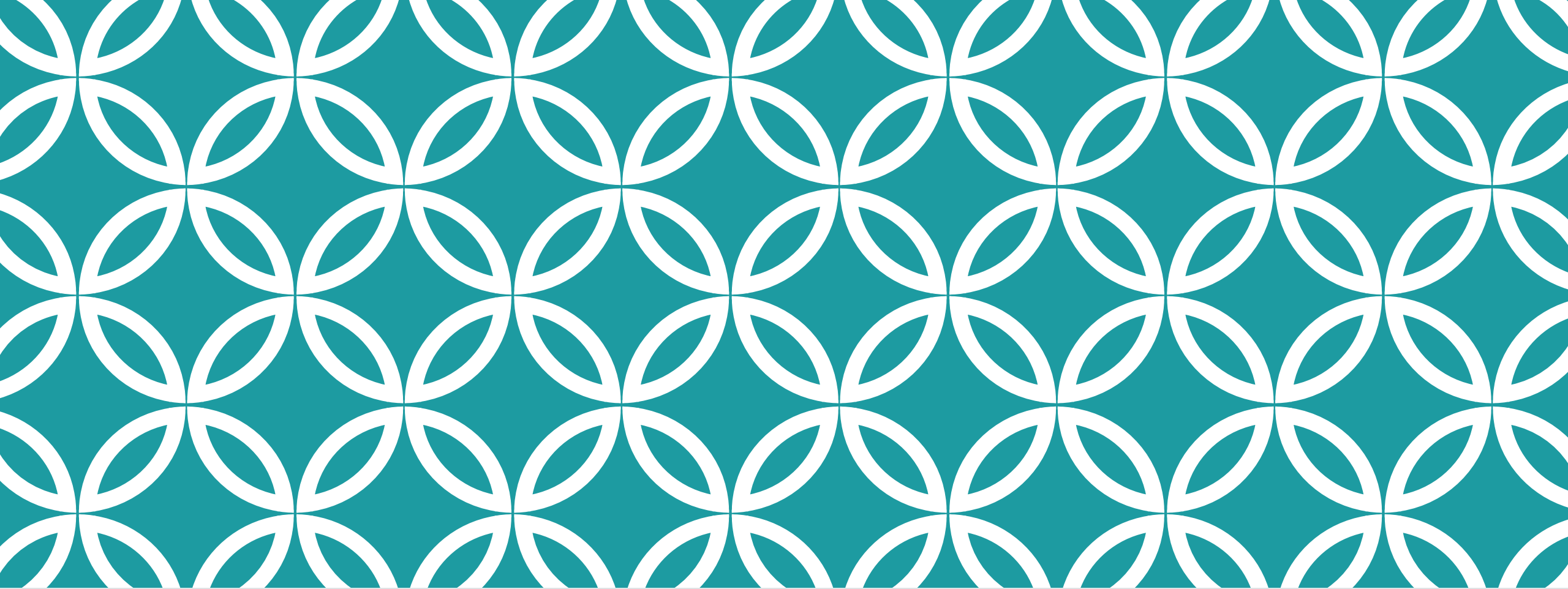
- Allodynia
- Myofascial pain

Diclofenac gel and patches

- Approved for application over joints for arthritis
- Less than 2% systemic absorption

Capsaicin

- Poorly tolerated due to increased pain during application
- Affects substance P



MENTAL HEALTH REFERRAL



PSYCHOLOGICAL MANAGEMENT

Pain Catastrophizing

- 1) magnification
- 2) rumination
- 3) helplessness

Chemical Coping

- “escaping” with meds

Affects women more than men



PSYCHOLOGICAL MANAGEMENT

Operant-Behavioral therapy

- Punishment for negative behavior

Cognitive Behavioral Therapy

- Develop positive coping skills

Biofeedback

- Relaxation
- Control of involuntary bodily functions (Heart Rate)

Guided Imagery

- Positive imaginary scenarios

Meditation

Relaxation Hypnosis



ADDICTION MEDICINE REFERRAL

- Red Flag signs of Opioid Misuse
- History of Substance Abuse
- Urine Drug Screen Positive for illegal substances
- Prescription Medication Abuse
- Referral Medication Assisted Treatment
- Buprenorphine-naloxone, Methadone
- Need xDEA license



REFERRALS

Surgical Referrals

Neurosurgery: Bowel or Bladder incontinence, progressive weakness

Orthopedics: Failure to improve with conservative treatment, significant anatomic pathology

Neurology: EMG/NCS

Additional Imaging: MRI, CT, X-ray



REFERENCES

Benzon, Honorio Raja, Srinivasa. Fishman, Scorr. Liu, Spencer. Cohen, Steven. Essentials of Pain Medicine: Edition 3. Elsevier Health Sciences. 2011.

PAMI Educational Videos: <http://pami.emergency.med.jax.ufl.edu/resources/pami-educational-pain-videos/>