Why are we here?
• 72,000 deaths related to Opiate use in 2017
  — Improve the management of pain
  — Reduce the dependence on narcotics
  — Focus on the interdisciplinary team
Who Started This

Early history of cultivating opium poppies
Mesopotamia 3,400 B.C.
Greece, Persia, Egyptians 1,300 B.C.
Spread to Asia along Silk Road 600 A.C.
India becomes the largest producer by 1700’s
Colonial powers use opium to force China to trade
Chinese workers spread opium use around the world
Morphine was refined from opium 1803
Heroin from morphine 1874

Why

• Prevented death
  – Diarrhea
• Reduced acute pain
  – Tolerate injury
• Controlled pain of care
  – Advance medical and surgical treatment
• Minimized suffering
  – Live with chronic painful illness

At the cellular level
How

- Opiate receptors
  - Cell membrane protein
  - G-protein-coupled receptor
    - Mu(μ)
    - Kappa(κ)
    - Delta(δ)

<table>
<thead>
<tr>
<th></th>
<th>Mu (μ)</th>
<th>Kappa (κ)</th>
<th>Delta (δ)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effects</td>
<td>Supraspinal and spinal analgesia, euphoria,</td>
<td>Extrapyramidal, sedation, constipation,</td>
<td>Supraspinal and spinal analgesia</td>
</tr>
<tr>
<td></td>
<td>nausea, vomiting, addiction, hormonal changes</td>
<td>respiratory depression</td>
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Mu (μ)

- First opiate receptor identified
- Used morphine to find it
- High concentration in the brain

Morphine and Mu receptor

Dopamine Model

Dependency producing result
- Morphine binds to Mu receptor
- Reduces GABA release
- Less GABA, more Dopamine
The Dopamine Model

- Unexpected rewards induce dopamine-dependent positive emotion–like state changes in bumblebees
  Clint J. Perry*, Luigi Baciadonna, Lars Chittka

- demonstrate that bumblebees exhibit dopamine-dependent positive emotion–like states across behavioral contexts
- behavioral changes were abolished with topical application of the dopamine antagonist

Now

- In 2017, 883 people in Wisconsin alone died from opioid-related overdoses.
- Nationally, that number was more than 47,000, according to the Centers for Disease Control and Prevention.

At the Peak

Rx/100 people
Changing Prescribing Rules

Kenneth Simon
Chairperson
Timothy Westlake
Vice Chairperson
Mary Jo Capodilupo
Secretary

Wisconsin Medical Examining Board Opioid Prescribing Guideline – April 19, 2018

Scope and purpose of the guideline: To help providers make informed decisions about acute and chronic pain treatment - pain lasting longer than three months or past the time of normal tissue healing. The guideline is not intended for patients who are in active cancer treatment, palliative care, or end-of-life care. Although not specifically designed for pediatrics, many of the principles upon which they are based could be applied there, as well.

Responsible Opioid Prescribing for Chronic Pain

Before Prescribing

- Summarize goals for pain and function and discuss treatment plan
- Ensure non-opioid therapies have been tried and optimized
- Assess Pain, Function and Appropriate use of Opioids
- Discuss risks, limitations, and side effects of opioid use
-阐述阿片类药物的使用
- Discuss proper use of opioids, safe storage and proper disposal

Non-opioid therapies include:
- Physical Therapy
- Acupuncture
- Massage
- TENS
- Weight loss
- Non-opioid meds
- Cognitive-behavioral therapy
- Proven/behavioral

Access pain, function, and appropriate use:
- FIM
- SF-36
- Pain interference
- Time
- Pain interference
- Mood
- Sleep

Assess risk factors for harm/interaction:
- Medical history
- Psychiatric history
- Substance use/abuse
- Social history
- Drug/medication
- Laboratory tests
- Stabilization
- Concurrent therapy use

CDC Guideline for Prescribing Schedules for Chronic Pain
- Schedule 1: Varies
- Schedule 2: Varies
- Schedule 3: Varies
- Schedule 4: Varies
- Schedule 5: Varies
Why does it Hurt?

- Etiology
  - Diagnostics
  - Therapeutics
  - Eliminate trigger

When Prescribing

- Establish agreement
- Notify physician agreement
- Notify nursing drug screen: contact nurse for result questions at (608) 792-2272
- OPR score at initial prescription
- Prescribe opioids at low-dose
- Prescribe short-acting low-dose upon initial prescription
- Limit morphine-milligram equivalent (MME)
  - 10 to 199 (eq.) increase frequency of follow-up; consider naloxone
  - If > 200 (eq.), justify need for dosing and prescribe naloxone
- Reassessment
  - Assess at least every 3 months, sooner when initiating or increasing dose
  - Assess pain function via PEG scale, side effects at each visit
  - Avoid risks (membrane or seizure)
  - Check iOPAB
  - Avoid concurrent benzodiazepine use
    - Consider naloxone if concurrent use
- Pain Instructions
  - Give patient Pain Management Basic handout or use managepain smartphone
  - Inpatient instructions

PEG Scale for Pain

PEG: A Three-Step Scale Assessing Pain Intensity and Treatment

1. Place marker at distance from pain adequate for treatment
2. Place marker at distance from pain adequate for treatment
3. Place marker at distance from pain adequate for treatment

PEG Score: 0 to 10

0: No pain
10: Severe pain
The Talk about treating Pain

- Refer to Handout.
  - Difference between acute and chronic pain
  - Treatment approach for chronic pain
  - Reason why opioids are bad choice
  - The limits on personal life during opioid use
  - The social responsibilities of opioid use
The 23rd rule

• HIPAA
  – US Department of Health and Human Services Office of Civil Rights, indicates that HIPAA regulations allow health professionals to share health information with a patient’s loved ones in emergency or dangerous situations such as opioid overdose
  – In my practice, opioid overdose = opioid misuse

Pain Treatment Team

• Administration
  – Director
  – Medical Director
  – Director of Nursing
  – Legal, Insurance, Board of Directors, Owners,
Pain Treatment Team

- Provider
  - Physicians
  - Nurse Practitioners
  - Physician Assistants
  - Specialists
  - Hospitalists
  - Systems
    - Locums
    - Virtual

- Pharmacy
  - Pharmacist/Pharm D
  - Monitoring Service Provider
    - Mandated GDR
    - EMR reconciler
    - Pharmacy Benefit Manager
    - Infusion services
    - Organics
    - Mandated GDR

- Nursing
  - Agent
  - Med tech
  - PRN pain assessor
  - Care coordinator
  - EMR manager
  - Systems

- Resident
  - Family
  - POAHC
  - Guardian
  - Crisis Manager
  - Benefits manager

Social Services

- Feelings expert
- Story teller
- Witness
- Advanced care coordinator
- Family counselor
- Ethicist
Care Givers

- CNA's
- Family
- Private employees
- Monitors/sitters

Change

- EMR
  - SureScript
- ePDMP
- GDR
  - Polypharmacy
  - Iatrogenesis
- Chronic pain is depressing
- Leave the Mu alone

Leave the Mu alone

- Oxycodone may deserve to be the last oral agent you try
- Fentanyl is a 1000 times more dangerous
- Renal failure often dictates drug
- Opiates are a poor choice for chronic abdominal pain
Life on Opiates

- Opioid-induced constipation (OIC)
- Narcotic bowel syndrome (NBS)
- Requires an intensive multidisciplinary approach to detoxification.
- OIC is the most common gastrointestinal side effect of opioids

Life on Opiates

- Who is responsible for maintaining Rx?
- Is Chronic Pain an indication for chronic opioid Rx?
- Is a team member obligated to support Plan of Care?

- UW Pain contract enforcement
- Available narcotics are not your parents morphine
- What are the team member’s belief’s.

Leave the Mu alone
### Leave the Mu alone

CR845: First-in-Class Selective Kappa Opioid Agonist

<table>
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<tr>
<th>CR845</th>
<th>Mu</th>
<th>Delta</th>
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<tbody>
<tr>
<td>0.14</td>
<td>115,000</td>
<td>100,000</td>
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**Selectivity:**
- Mu
- Delta

**Drug Administration:**
- Oral
- Subcutaneous

**Side Effects:**
- Respiratory depression
- Nausea
- Vomiting
- Constipation
- Euphoria, addiction

*Image credit: Gundersen Lutheran Medical Center*