Clinical Opioid Withdrawal Scale (COWS) with Frontline Nursing: Improving Opioid Withdrawal Management

Sigma Theta Tau International
45th Biennial Convention

Lilian Canamo, BSN, RN, PCCN
Disclosure

I have no financial disclosure or conflicts of interest with the presenter material in this presentation

● **Objectives:**
  ○ Learner will be able to understand the Clinical Opioid Withdrawal Scale and its use
  ○ Learner will be able to identify comprehensive interventions for patients in opioid withdrawal
  ○ Learner will be able to understand cultural phenomenon related to opioid use
  ○ Learner will be able utilize evidence-based practice frameworks to assess and apply interventions in the acute care setting

● **Employer:** University of California – San Diego; Hillcrest Campus – Level 1 Trauma
JAMIE LEE CURTIS

HOW I SURVIVED OPIOID ADDICTION

The Halloween star opens up about her 10-year struggle with painkillers. Plus: growing up in Hollywood, her 33-year marriage & more
Demi Lovato Still Hospitalized, Reportedly Suffering ‘Complications’ From Overdose
Deadly weekend overdoses of cocaine laced with fentanyl prompt warning
America's Current State

San Diego Too

20% of trauma patients have preexisting controlled substance use

U.S. consumed 90% of the world's hydrocodone

20-30% of users misuse opioids

In SD, admissions for opioid overdoses are on the rise

Almost 8k ED admits diagnosed with opioid abuse
Demi Lovato, Mac Miller, Prince
CULTURAL ISSUE

Poor baseline data
NO CAPTURE

No policy/protocol in place like CIWA is for alcohol
NO MANAGEMENT

The Joint Commission Standard - LD.04.03.13

WHO and American Society of Addiction Medicine
GUIDELINES

COWS!
Conclusion: poor identification, poor management
COWS

The Clinical Opioid Withdrawal Scale

An 11-item validated tool used to assess the severity of opioid withdrawal

0-4: No withdrawal
5-12: Mild
13-24: Moderate
25-36: Moderately Severe
Over 36: Severe
In adult trauma step-down patients experiencing opioid withdrawal (P), does implementing the COWS tool (I) in comparison to current practice (C) affect frequency of opioid withdrawal nursing management (O) over an 8-week period (T)?
EBP Framework: SD Evidence Based Practice Institute Model

2018 Fellow

2019 Mentor

Acquire/Appraise

Standards/Guidelines:
- American Society of Addiction Medicine (ASAM)
- World Health Organization (WHO)
- Project SHOUT Standards and Guidelines

Risks: Differentiating polysubstance withdrawal
Acquire/Appraise

- All the guidelines say the following...
  - Use a validated tool (ex. COWS)
  - Urine drug testing is recommended
  - Obtain social history (ex. do you get sick when you do not take opiates?)
  - Confirm with a physician withdrawal diagnosis
  - Supportive/symptomatic care
    - Non-opioid pain medications
    - Zofran, Benadryl, Loperamide
    - Clonidine for moderate to severe withdrawal
Acquire/Appraise

- Recommend social work consult
- Provide safe opioid use education inpatient and at discharge
- Provide psychosocial rehab sources at discharge
- Encourage fluid intake to replace fluid loss
- Recommend psych for concern of opioid abuse
- Care planning specific to prevention of altered safety related to drugs
5West Pilot Clinical Opioid Withdrawal Scale (COWS) Bundle: Improving Opioid Withdrawal Management

**ASSESSMENT**

Patient indicates of the following:\[^3\]:
- Urine Drug Screen positive for opioids

Use **COWS Screening Tool[^1,^2,^3]**:
- If scoring>5
  - Notify MD for confirmation of diagnosis[^3]
- Proceed to following interventions based on score

Additional Nursing Interventions:
- Start altered safety - risk for drug withdrawal care plan
- Opioid safety education inpatient
- Opioid safety education at discharge
- Consult psych if needed[^1]

**MILD Withdrawal (Score 5-12)**

1. Recommend initiation of **supportive PRN treatment set[^1,^2,^3]**:
   - Insomnia/Anxiety – Diphenhydramine 25-50mg PO TID
   - Nausea – Ondansetron 4mg PO Q6H
   - Pain
     - Ibuprofen 400-800mg PO QID
     - Acetaminophen 650mg PO QID
   - Diarrhea - Loperamide 4mg PO x1 then 2mg each additional loose stool (NTE 16mg/24 hours)

2. Encourage **fluid intake** to replace fluid loss with sweating and diarrhea\[^2\]

3. Recommend to MD to **consult Social Work** for substance use resources to be given to patient\[^3\]

4. **Reassess COWS qDaily** until score is under 5\[^3\]

**MODERATE to SEVERE Withdrawal (13-36)**

1. Recommend initiation supportive PRN treatment set

**AND**

2. **Clonidine 0.1 mg PO Q4H PRN (Do not give if SBP <90 or HR<50)** – Continue use of PRN treatments[^1,^2,^3]

3. **Reassess COWS Q4H** until score is under 12 – Can be changed to daily assessment once score is under 12 \[^3\]

5. Encourage fluid intake to replace fluid loss with sweating and diarrhea

6. Recommend to MD to consult Social Work for substance use resources to be given to patient
COMPREHENSIVE (but simple!) CARE
Clinical Opioid Withdrawal Scale (COWS) Bundle: Improving Opioid Withdrawal Management

**PHASE 1: EDUCATION + RELIABILITY TESTING**

**JUNE 18-25**
- Finalize COWS Smartphrase with Epic
- Create written opioid withdrawal scenarios with use of COWS for TEST
- Obtain report of UDS positive for opiates in PAST for EMPIRICAL OUTCOMES (Chart review to see if opioid withdrawal was identified w/ UDS)
- Train COWS Superusers as IT and process support for RNs
- Danisha, Trisha, Faye, and Nicole EDUCATE and TEST frontline RN

**JUNE 25 - AUGUST 31**
- Obtain report of UDS positive for opiates + COWS use for PROCESS COMPLIANCE
- Assess barriers
  - Yes: Proceed to PHASE 2
  - No
- Pass (>80% correct)?
  - Yes: RN Can begin COWS scoring at bedside
  - No: Retake TEST until pass
- Retest with opioid withdrawal scenarios 2 months later
- Analyze use of COWS with UDS positive for opiates
  - Yes: Analyze assessment RELIABILITY
  - No: Assess barriers
- Compare # of identifications vs. previous practice (EMPIRICAL OUTCOME)
- Write results
- Compliance >80%
  - Yes: Proceed to PHASE 2
  - No: Assess barriers
Clinical Opioid Withdrawal Scale (COWS) Bundle: Improving Opioid Withdrawal Management

Evidence Based Practice Institute
UCSD: 5West - Trauma PCU

Fellow: Lilian Canamo, BSN, RN, PCCN
Mentor: Nicole Tronco, MSN, RN, PCCN
SMARTPHRASE
INTERDISCIPLINARY NOTE
.COWS
CLINICAL OPIOID WITHDRAWAL SCALE (COWS) BUNDLE
UCSD 5WEST TRAUMA PCU PILOT

REASON FOR THIS ASSESSMENT (ex. Patient states he is a substance abuser and took some opioids recently; withdrawal symptoms noted, UDS is positive for opioids and indicates withdrawal symptoms):

<table>
<thead>
<tr>
<th>ITEM</th>
<th>INITIAL SCORE</th>
<th>4 HOURS LATER IF INITIAL SCORE IS 12 OR MORE</th>
<th>4 HOURS LATER IF SECOND SCORE IS 12 OR MORE</th>
</tr>
</thead>
</table>

**Resting Pulse Rate:**
Measured after patient is sitting or lying for one minute
- 0: pulse rate 80 or below
- 1: pulse rate 81-100
- 2: pulse rate 101-120
- 4: pulse rate greater than 120

**GI Upset:**
Over last 1/2 hour
- 0: no GI symptoms
- 1: stomach cramps
- 2: nausea or loose stool
- 3: vomiting or diarrhea
- 5: multiple episodes of diarrhea or vomiting

**Sweating:**
Over past 1/2 hour not accounted for by room temperature or patient activity
- 0: no report of chills or flushing
- 1: subjective report of chills or flushing
- 2: flushed or observable moistness on face
- 3: beads of sweat on brow or face
- 4: sweat streaming off face

**Tremor:**
Observation of outstretched hands
- 0: no tremor
- 1: tremor can be felt, but not observed
- 2: slight tremor observable
- 4: gross tremor or muscle twitching

**Restlessness:**
Observation during assessment
- 0: able to sit still
- 1: reports difficulty sitting still, but is able to
participation in the assessment is difficult

**Bone or Joint aches**
If patient was having pain previously, only the additional component attributed to opiates withdrawal is scored
0 - not present
1 - mild diffuse discomfort
2 - patient reports severe diffuse aching of joints/muscles
3 - patient is rubbing joints or muscles and is unable to sit still because of discomfort

**Gooseflesh skin**
0 - skin is smooth
1 - piloerection of skin can be felt or hairs standing up on arms
2 - prominent piloerection

**Runny nose or tearing**
Not accounted for by cold symptoms or allergies
0 - not present
1 - nasal stuffiness or unusually moist eyes
2 - nose running or tearing
3 - nose constantly running or tears streaming down cheeks

**TOTAL SCORE**

**WITHDRAWAL LEVEL BASED ON SCORE**

<table>
<thead>
<tr>
<th>WITHDRAWAL LEVEL</th>
<th>SCORE RANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>MILD</td>
<td>5-12</td>
</tr>
<tr>
<td>MODERATE</td>
<td>13-24</td>
</tr>
<tr>
<td>SEVERE</td>
<td>25-36</td>
</tr>
</tbody>
</table>

**INTERVENTIONS**

<table>
<thead>
<tr>
<th>YES/NO</th>
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</thead>
<tbody>
<tr>
<td>Was the MD notified for scores &gt;5?</td>
</tr>
<tr>
<td>Was the correct PRN treatment set started for withdrawal level?</td>
</tr>
<tr>
<td>Was social work consulted?</td>
</tr>
</tbody>
</table>

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**5West Pilot Clinical Opioid Withdrawal Scale (COWS) Bundle: Improving Opioid Withdrawal Management**

**ASSESSMENT**

<table>
<thead>
<tr>
<th>Patient Indicates (1) of the following:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine Drug Screen positive for opioids</td>
</tr>
<tr>
<td>History provided of opioid use disorder</td>
</tr>
<tr>
<td>Recent use of opioids</td>
</tr>
</tbody>
</table>

**Use COWS Screening Tool**

- If scoring >5
  - Notify MD for confirmation of diagnosis
  - Proceed to following interventions based on score

**MILD Withdrawal (Score 5-12)**

1. Recommend Initiation of supportive PRN treatment set
   - Insomnia/Amenorrhea - Diphenhydramine 25-50mg PO TID
   - Nausea - Ondansetron 4mg PO 6QH
   - Pain
     - Ibuprofen 400-800mg PO QID
     - Acetaminophen 650mg PO QID
   - Diarrhea - Loperamide 4mg PO x1 then 2mg each additional loose stool (NTE 16mg/24 hours)

2. Encourage fluid intake to replace fluid loss with sweating and diarrhea

3. Recommend to MD to consult Social Work for substance use resources to be given to patient

**MODERATE to SEVERE Withdrawal (12-36)**

1. Recommend Initiation supportive PRN treatment set
   - AND
2. Clonidine 0.1 mg PO Q4H PRN (Do not give if SBP <90 or HR<90) - Continue use of PRN treatments
3. Reassess COWS Q4H until score is under 12 - Can be changed to daily assessment once score is under 12
4. Encourage fluid intake to replace fluid loss with sweating and diarrhea
5. Recommend to MD to consult Social Work for substance use resources to be given to patient
Now an interactive flowsheet within our electronic medical record system that automatically calculates your COWS score.
Timeline of Project/Interventions

**COWS 2018 TIMELINE**
Clinical Opioid Withdrawal Scale (COWS) with Frontline Nursing: Improving Opioid Withdrawal Management

**APRIL**
- Assessed UCSD current state with regulatory req., PICO question, lit search w/ appraisal

**MAY**
- Created process flow map/pilot protocol, presented to Pain Committee, further talks/edits with major stakeholders, IRB approval

**JUNE**
- COWS smartphrase and extractable data set up with IT, training frontline RNs + champions

**JULY-AUG**
- Data collection

**SEPT**
- Data analysis

**OCT-DEC**
- Dissemination to UCSD PCU Conference, manuscript, posters
Case Study

- 29 y.o. male admitted s/p assault to the face and arms from ED – Left elbow fracture and right forearm fracture
- PMHx via H&P: *daily heroin use*, anxiety, depression

- Notes on admission in ED prior to arrival to 5West:
  - Pt refusing gown, wants to go outside and smoke
  - Screaming “What the f***”
  - Yelling at staff and asking for mother and children
  - Combative, yelling for mother, refused peripheral IV, demanding to leave
  - Security was called – *heroin-like substances* in pockets and lighter
Case Study

- Arrived to 5West (Trauma Progressive Care Unit) -> grabbed urine
- Urine Drug Screen + for heroin and codeine

- RN documentation:
  - Verbally abusive, verbalized to staff he is a heroin addict and pain is uncontrollable, yelling, PT deferred d/t agitation
  - SW attempted to see patient – unable to participate in counseling – too agitated
Case Study

- Urine Drug Screen + for heroin and codeine (trigger)
- COWS Assessment Initiated
  - nausea/loose stool = 2
  - slight tachycardia (HR 101-120) = 2
  - frequent shifting/extraneous movements = 3
  - patient obviously irritable = 2
  - patient is rubbing joints or muscles and is unable to sit still because of discomfort = 3
  - pupils possibly larger for room light = 1

TOTAL = 13 (Moderate)

RN informed trauma team
Case Study

- Documentation:
  - **PRN symptom medications recommended** – clonidine, trazadone/Benadryl, Zofran ODT tabs
  - **Non-opioid pain meds recommended** - (gabapentin, menthol lotion, Tylenol, Toradol)
- Patient scored daily for tracking on withdrawal
  - Next day – 5
  - Next day – 4
  - Next day – 3
Case Study

- Next day - 2 – Psych consulted – During interview calm and cooperative. “Patient reports that he is planning on entering a rehab program after his hospitalization and expressed interest in resources.”. Medication Assisted Therapy (suboxone/methadone) discussed.
- Social work finally spoke to pt - Pt inquiring about SMART recovery. Ready to stop using heroin d/t the negative effects on his life.
- On discharge – RN education substance abuse recovery programs, opioid safety, proper pain control. D/C’d with clonidine.
THE RESULTS

Pre-COWS

Data was collected on a matched cohort of 28 consecutive symptomatic toxicology positive patients before and after the change.

- Nursing Tx Changed (25%)
- Nursing Tx NOT Changed (75%)
There was a significant improvement in appropriate changes to the treatment plan after the introduction of the COWs protocol (n= 28 pre and 28 post, chi-squared = 29, p<0.0001, 95% CI 41.71 to 83.74).
There was a statistically significant improvement in appropriate changes to the treatment plan after the introduction of the COWs protocol (n=28 pre and 28 post, chi-squared = 29, p<0.0001, 95% CI 42.71 to 83.74).
Analyse

Hillcrest 5 West
# Nursing Withdrawal Management Plan Changed Appropriately
NK3

<table>
<thead>
<tr>
<th></th>
<th>Pre (n=28)</th>
<th>Post (n=28)</th>
</tr>
</thead>
<tbody>
<tr>
<td># Nursing Management Plan Changed Appropriately</td>
<td>7</td>
<td>27</td>
</tr>
</tbody>
</table>

Consecutive Patients, Pre-Prior to July 1 2018
Post: July - August 2018
Lessons Learned

- Increased planning at reducing risk of drug withdrawal
- Increased general patient safety
- Reduced patient violence potential violence
- Increased interdisciplinary collaboration

- Correlation data once going system-wide
  - Reduced length of stay
  - Reduced restraint use
  - Reduced rates of workplace violence

Nurses are now advocates for this vulnerable population!
Next Steps...
Clinical Opioid Withdrawal Scale with Buprenorphine Induction in the Inpatient Setting

Currently working with toxicology physicians, emergency department and inpatient nurse educators, and administration of this new medication assisted treatment (MAT) process in the acute care setting.

This project combines both MAT and what was done with the COWS with frontline nursing evidence-based practice intervention to maximize care for this population.
Thank you!

Please feel free to contact me at any time!

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References


