Clinical Opiate Withdrawal Scale (COWS): description, strengths and knowledge gaps[1]

Purpose

The 11 item Clinical Opiate Withdrawal Scale (COWS) is a clinician rating tool for assessing and monitoring opioid withdrawal symptoms.[2]

Drug(s) of Concern	Observation Period
Opioids/heroin	Thirty minutes

Populations Tested	Settings Tested
• Males & females[3] • Adults[2]	• AOD specialist services[4, 5] • Research[3]

Diagnostics

Utility:
- ✓ Easy to administer and score[2, 3, 5]
- ✓ Considered time-efficient
- ✓ Can be used in a variety of inpatient or outpatient settings[2, 3, 5]
- ✓ The combination of subjective and objective measurements increases accuracy and limits potential of feigned responses[2]
- ✓ Can be used to track changes over time or in response to treatment[2]
- ✓ Was initially used for buprenorphine treatment[2]

Psychometric properties:
- • Good reliability, content and concurrent validity in measuring acute opiate withdrawal[5]
- • No single underlying construct measured using the scale[3]

Clinical Opiate Withdrawal Scale (COWS)

Resting pulse rate

Beats/minute. 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 do so
- **3** frequent shifting or extraneous movements of legs/arms
- **5** unable to sit still for more than a few seconds

Yawning

Observation during assessment.

- **0** no yawning
- **1** yawning once or twice during assessment
- **2** yawning three or more times during assessment
- **4** yawning several times/minute

Pupil size

- **0** pupils pinned or normal size for room light
- **1** pupils possibly larger than normal for room light
- **2** pupils moderately dilated
- **5** pupils so dilated that only the rim of the iris is visible

Anxiety or irritability

- **0** none
- **1** patient reports increasing irritability or anxiousness
- **2** patient obviously irritable or anxious
- **4** patient so irritable or anxious that 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
- **4** patient is rubbing joints or muscles and is unable to sit still because of discomfort

Gooseflesh skin

- **0** skin is smooth
- **3** piloerection of skin can be felt or hairs standing up on arms
- **5** 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
- **4** nose constantly running or tears streaming down cheeks

TOTAL SCORE

The total score is the sum of all 11 items

Administrator, Rater, Scoring and Interpretation

Administrator:
- Clinician/Worker

Rater:
- Clinician/Worker

Scoring & interpretation:
The COWS assesses 11 opioid withdrawal symptoms.

Each symptom is scored differently:
- Resting pulse rate (0,1,2 or 4)
- Sweating (0,1,2,3 or 4)
- Restlessness (0,1,3 or 5)
- Pupil size (0,1,2, or 5)
- Bone or joint aches (0,1,2 or 4)
- Runny nose or tearing (0,1,2, or 4)
- GI upset (0,1,2,3 or 5)
- Tremor (0,1,2 or 4)
- Yawning (0,1,2 or 4)
- Anxiety or irritability (0,1,2 or 4)
- Gooseflesh (0,3 or 5).

A total score is calculated by summing the responses to all 11 items. The minimum total score possible is 0, and the maximum total score possible is 48 (i.e. total score range: 0-48).

COWS score interpretation

Score	Interpretation
5-12	Mild withdrawal
13-24	Moderate withdrawal
25-36	Severe withdrawal
37 or more	Very severe withdrawal

Resources

Tool citation:	Wesson, D.R. and Ling, W. *The Clinical Opiate Withdrawal Scale (COWS).* Journal of Psychoactive Drugs, 2003. 35(2): 253-259.[2]
Copyright:	Freely available. May be downloaded and used by clinicians.
Training & manual:	None found.
Other:	Moore, D.J. *A quick guide to the Clinical Opiate Withdrawal Scale. Nursing Made Incredibly Easy*, 2020. 18(3): 6-9.[6]
	Nuamah, J.K., Sasangohar, F., Erraguntla, M., and Mehta, R.K. *The past, present and future of opioid withdrawal assessment: a scoping review of scales and technologies.* BMC medical informatics and decision making, 2019. 19(1): 1-11.[7]

Knowledge Gaps

The COWS has been widely mentioned as a tool for monitoring opiate withdrawal.[2, 7]

Recent research conducted with the COWS suggests that males and females experience withdrawal differently.[3, 8] Further research is required to ascertain the validity, usefulness and acceptability of the COWS in Australian treatment settings, particularly gender differences in assessments.

References

1. Fischer, J.A., Roche, A.M., and Duraisingam, V. *Clinical Opiate Withdrawal Scale (COWS): description, strengths and knowledge gaps.* 2021, National Centre for Education and Training on Addiction (NCETA), Flinders University: Adelaide, South Australia. (overview citation)

2. Wesson, D.R. and Ling, W. *The Clinical Opiate Withdrawal Scale (COWS).* Journal of Psychoactive Drugs, 2003. 35(2): 253-259.

3. Barbosa-Leiker, C., McPherson, S., Mamey, M.R., et al. *Examining the factor structure of the clinical opiate withdrawal scale: a secondary data analysis from the National Drug Abuse Treatment Clinical Trials Network (CTN)* 0003. Drug and Alcohol Dependence, 2015. 152: 218-223.

4. Canamo, L.J. and Tronco, N.B. *Clinical Opioid Withdrawal Scale (COWS): implementation and outcomes.* Critical Care Nursing Quarterly, 2019. 42(3): 222-226.