



EMBED:

PRAGMATIC TRIAL OF USER-CENTERED CLINICAL DECISION
SUPPORT TO IMPLEMENT EMERGENCY DEPARTMENT-INITIATED
BUPRENORPHINE FOR OPIOID USE DISORDER

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November 15, 2021



Disclosures

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The EMBED Team

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Yale University School of Medicine

UNC HEALTH CARE

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Boulder | Colorado Springs | Denver | Anschutz Medical Campus

UAB HEALTH SYSTEM
Knowledge that will change your world

Yale New Haven Health

IT leads

Data Team

Design Team

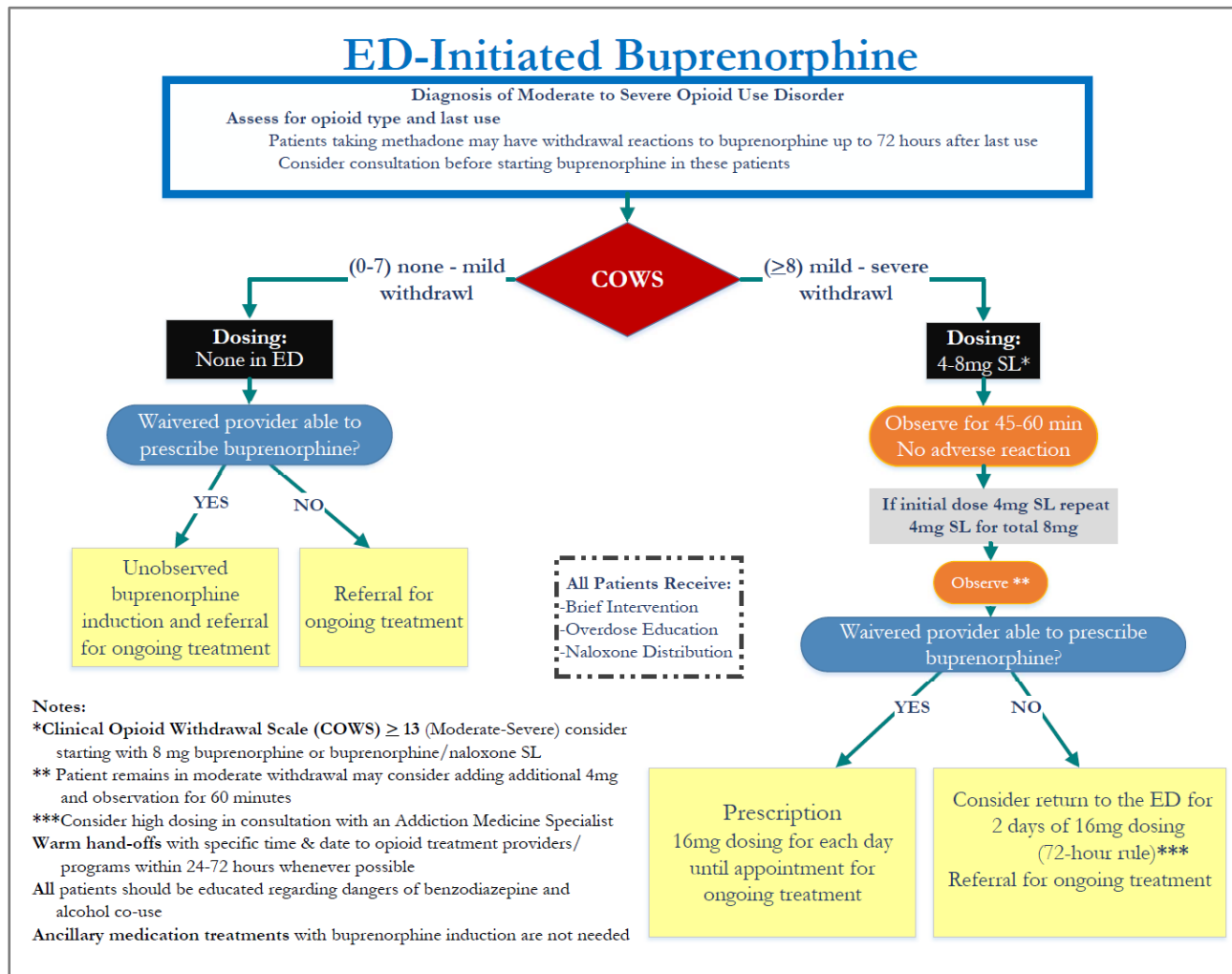
Yale New Haven Health

UP
INITIATION

Download on the **App Store**

GET IT ON **Google Play**

To simplify the process from a complicated algorithm...



...to a simple, automated application

Buprenorphine (BUP) Initiation

Do you have a waiver to prescribe Buprenorphine?

No Yes

Buprenorphine Treatment Options

right

Select from one of the four treatment options below

	Care Pathway #1	Care Pathway #2	Care Pathway #3	Care Pathway #4	Decision Support
	Exit/No BUP	Hold in ED	Start 4 mg BUP (2x)	Start 8 mg BUP	
Does the patient have Opioid Use Disorder?	NO (<3 DSM criteria)	YES (≥3 DSM criteria)	YES (≥3 DSM criteria)	YES (≥3 DSM criteria)	Diagnose OUD using DSM tool
How severe is patient's withdrawal?	None-to-Mild < 8 DO NOT give if intoxicated	None-to-Mild < 8 DO NOT give if intoxicated	Mild-to-Moderate 8 - 13	Moderate-to-Severe > 13	Assess Withdrawal using COWS tool
Is patient ready for treatment?	NO	YES	YES	YES	Motivate Readiness using interview tool
	Select #1	Select #2	Select #3	Select #4	

Clinicians continue in their current Epic workflow



Launch EMBED by clicking on its tab in the Navigation Bar

The screenshot displays the Epic EMR interface for a patient named Sbotwo Zzzrsh. The navigation bar at the top includes various tabs such as Review, Synopsis, Charts, Problems, Demo, SnapShot, My Note, Ma..., MAR, Results, Graphs, Triage, MDCalc, EMBED, and EMBED V2. A red arrow points from the EMBED tab to a red-bordered callout box on the right containing the text "EMBED". The main content area shows a list of note types: ED Provider Notes, Procedure Notes, Observation Progress Note, Interagency Transfer Note, and ED Triage Notes, each with a "Create Note" button and "See All Notes" / "Refresh" options. The left sidebar contains patient information, including demographics, allergies, and vital signs.

Hyperspace - YNH EMERGENCY ADULT - POC - EDWARD M.

EMBED V2

Buprenorphine Treatment Options

Do you have a waiver to prescribe Buprenorphine? No

Optional Decision Support

Does the patient have Opioid Use Disorder?

No

OU D TOOL

Is patient ready for treatment?

No

INTERVIEW TOOL

How severe is patient's withdrawal?

<8 8-12 >12

COWS TOOL

Care Pathway	Criteria	OU D	Patient Ready	COWS	Action
Care Pathway #1	Does not Meet Criteria	No	No	<8	SELECT #1
Care Pathway #2	Hold in ED	Yes	Yes	<8	SELECT #2
Care Pathway #3	Start 4mg BUP (2x)	Yes	Yes	8-12	SELECT #3
Care Pathway #4	Start 8mg BUP	Yes	Yes	>12	SELECT #4

Hyperspace - YNH EMERGENCY ADULT - POC - EDWARD M.

EMBED V2

Buprenorphine Treatment Options

Do you have a waiver to prescribe Buprenorphine? Yes

Optional Decision Support

Does the patient have Opioid Use Disorder?

No

OU D TOOL

Is patient ready for treatment?

No

INTERVIEW TOOL

How severe is patient's withdrawal?

<8 8-12 >12

COWS TOOL

Care Pathway	Criteria	OU D	Patient Ready	COWS	Action
Care Pathway #1	Does not Meet Criteria	No	No	<8	SELECT #1
Care Pathway #2	BU P Rx for Discharge	Yes	Yes	<8	SELECT #2
Care Pathway #3	Start 4mg BUP (2x)	Yes	Yes	8-12	SELECT #3
Care Pathway #4	Start 8mg BUP	Yes	Yes	>12	SELECT #4

Left Panel (Patient Information):

- SZ**
- R02 / R02A**
- Sbotwo Zzzrsh**
- Female, 28 y.o., 4/9/1993
- MRN: MR3297
- Unit Phone #: 203-688-2222
- Total Time: 49:36
- Code: **Not on file**
- Adv. Care Plan: None
- Coverage: None
- Search: _____
- No assigned Attending
- PCP: None
- COVID-19 Vaccine: Unknown
- Isolation: None
- ALLERGIES**
- Unable to Assess
- LOS: 0 (H+0 E0)
- CHIEF COMPLAINT**
- Chest Injury
- BP: _____ Temp: _____ Pulse: 170 ↑ Resp: _____
- SpO2: _____ Wt: _____
- WT Method, Last BM: None, None
- RESULTS**
- No results
- MED STATUS**
- None
- Has Cosign Orders: None
- NarxScore: None
- Chart Complete: N/A
- Family Text Consent: None

Hyperspace - YNH EMERGENCY ADULT - POC - EDWARD M.

Medication Cancellation 9 - My Incomplete Charts

In Basket ED Track Board ED Manager ED Map ED Chart My Dashboards ED Clinical Resources SlicerDicer Library Services My Reports User SmartSets Tools SmartWeb Print Log Out

Zzzrsh, Shotwo POC EDWARD M. ASAP

Review ... Synopsis Cha... Problems Demo... Snapshot My ... Ma... MAR Results Graphs Triage MDCalc EMBED EMBED V2

EMBED V2

R02 / R02A

Sbotwo Zzzrsh
 Female, 28 y.o., 4/9/1993
 MRN: MR3297
 Unit Phone #: 203-688-2222
 Total Time: 49:36
 Code: **Not on file**
 Adv. Care Plan: None
 Coverage: None

Search

No assigned Attending
 PCP: None
 COVID-19 Vaccine: Unknown
 Isolation: None

ALLERGIES
Unable to Assess

LOS: 0 (H+0 E0)

CHIEF COMPLAINT
 Chest Injury

BP Temp Pulse Resp
 170 >1 day

SpO2 Wt

Wt Method, Last BMI: None
 None

RESULTS
 No results

MED STATUS
 None

Has Cosign Orders: None
 NarxScore: None
 Chart Complete: N/A
 Family Text Consent: None

Buprenorphine Treatment Options

Do you have a waiver to prescribe Buprenorphine? Yes

Optional Decision Support

Does the patient have Opioid Use Disorder?
 No

Is patient ready for treatment?
 No

How severe is patient's withdrawal?

OU D TOOL

INTERVIEW TOOL

COWS TOOL

Evaluation of Opioid Use Disorder based on DSM 5 OUD Evaluation Score: **0**

For each item, select the appropriate description of the patient's signs of symptoms (points per symptom).

- Have you found that when you started using opioids you ended up taking more than you intended to?
- Have you wanted to stop or cut down on using opioids?
- Have you spent a lot of time getting or using opioids?
- Have you had a strong desire or urge to use opioids?
- Have you missed work or school or often arrived late because you were intoxicated, high, or recovering from the night before?
- Has use of opioids caused problems with other people such as with family members, friends, or people at work?
- Have you had to give up or spend less time working, enjoying hobbies, or being with others because of your drug use?
- Have you ever gotten high before doing something that requires coordination or concentration like driving, boating, climbing a ladder, or operating heavy machinery?
- Have you continued to use even though you knew that opioids caused your problems like making you depressed, anxious, agitated or irritable?
- Have you found you needed to use much more opioids to get the same effect that you did when you first started taking it?
- When you reduced or stopped using opioids, did you have withdrawal symptoms or felt sick when you cut down or stopped using? (aches, shaking, fever, weakness, diarrhea, nausea, sweating, heart pounding, difficulty sleeping or feel agitated, anxious, irritable or depressed)?

Hyperspace - YNH EMERGENCY ADULT - POC - EDWARD M.

Medication Cancellation | 1 | My Incomplete Charts | 9 |

In Basket | ED Track Board | ED Manager | ED Map | ED Chart | My Dashboards | ED Clinical Resources | SlicerDicer | Library Services | My Reports | User SmartSets | Tools | SmartWeb | Print | Log Out

Zzzrsh, Sbotwo

POC EDWARD M. ASAP

Review ... Synopsis Cha... Problems Demo... Snapshot My ... Ma... MAR Results Graphs Triage MDCalc EMBED EMBED V2

EMBED V2

R02 / R02A

Sbotwo Zzzrsh
 Female, 28 y.o., 4/9/1993
 MRN: MR3297
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 Total Time: 49:36
 Code: **Not on file**
 Adv. Care Plan: None
 Coverage: None

Search

No assigned Attending
 PCP: None
 COVID-19 Vaccine: Unknown
 Isolation: None

ALLERGIES
Unable to Assess

LOS: 0 (H+0 E0)

CHIEF COMPLAINT
 Chest Injury

BP Temp Pulse Resp
 170 >1 day

SpO2 Wt

Wt Method, Last BMI: None
 None

RESULTS
 No results

MED STATUS
 None

Has Cosign Orders: None
 NarxScore: None
 Chart Complete: N/A
 Family Text Consent: None

Buprenorphine Treatment Options

Do you have a waiver to prescribe Buprenorphine? Yes

Optional Decision Support

Does the patient have Opioid Use Disorder?
 Yes

Is patient ready for treatment?
 No

How severe is patient's withdrawal?
 <8 8-12 >12

OUO TOOL

INTERVIEW TOOL

COWS TOOL

Evaluation of Opioid Use Disorder based on DSM 5 OUD Evaluation Score: **4**

For each item, select the appropriate description of the patient's signs or symptoms (points per symptom).

- Have you found that when you started using opioids you ended up taking more than you intended to?
- Have you wanted to stop or cut down on using opioids?
- Have you spent a lot of time getting or using opioids?
- Have you had a strong desire or urge to use opioids?
- Have you missed work or school or often arrived late because you were intoxicated, high, or recovering from the night before?
- Has use of opioids caused problems with other people such as with family members, friends, or people at work?
- Have you had to give up or spend less time working, enjoying hobbies, or being with others because of your drug use?
- Have you ever gotten high before doing something that requires coordination or concentration like driving, boating, climbing a ladder, or operating heavy machinery?
- Have you continued to use even though you knew that opioids caused your problems like making you depressed, anxious, agitated or irritable?
- Have you found you needed to use much more opioids to get the same effect that you did when you first started taking it?
- When you reduced or stopped using opioids, did you have withdrawal symptoms or felt sick when you cut down or stopped using? (aches, shaking, fever, weakness, diarrhea, nausea, sweating, heart pounding, difficulty sleeping or feel agitated, anxious, irritable or depressed)?

BACK

Hyperspace - YNH EMERGENCY ADULT - POC - EDWARD M.

Medication Cancellation | 9 - My Incomplete Charts

In Basket | ED Track Board | ED Manager | ED Map | ED Chart | My Dashboards | ED Clinical Resources | SlicerDicer | Library Services | My Reports | User SmartSets | Tools | SmartWeb | Print | Log Out

Zzzrsh, Sbotwo

POC EDWARD M. ASAP

Review ... Synopsis Cha... Problems Demo... SnapShot My ... Ma... MAR Results Graphs Triage MDCalc EMBED EMBED V2

EMBED V2

R02 / R02A

Sbotwo Zzzrsh
 Female, 28 y.o., 4/9/1993
 MRN: MR3297
 Unit Phone #: 203-688-2222
 Total Time: 49:37
 Code: **Not on file**
 Adv. Care Plan: None
 Coverage: None

Search

No assigned Attending
 PCP: None
 COVID-19 Vaccine: Unknown
 Isolation: None

ALLERGIES
Unable to Assess

LOS: 0 (H+0 E0)

CHIEF COMPLAINT
 Chest Injury

BP Temp Pulse Resp
 170 >1 day

SpO2 Wt

Wt Method, Last BM: None
 None

RESULTS
 No results

MED STATUS
 None

Has Cosign Orders: None
 NarxScore: None
 Chart Complete: N/A
 Family Text Consent: None

Buprenorphine Treatment Options

Do you have a waiver to prescribe Buprenorphine? Yes

Optional Decision Support

Does the patient have Opioid Use Disorder?
 Yes
 No

OUO TOOL

Is patient ready for treatment?
 Yes
 No

INTERVIEW TOOL

How severe is patient's withdrawal?
 <8
 8-12
 >12

COWS TOOL

Brief Motivation Interview

Readiness Score: **1**

Use the following techniques to motivate the patient to accept treatment. Treatment should be offered regardless of the patient's current readiness to accept it.

Step 1: Readiness Assessment

Ask the patient to answer the following to determine their readiness to begin treatment with buprenorphine.

On a scale of 1 to 10, with **being not ready at all** and **10 being totally ready**, how ready do you feel about starting treatment with buprenorphine today?

1

Step 2: Help Motivate

Ask questions that reflect on the patient's previous answers, use reflective listening to help frame your questions and reiterate motivating factors to help encourage starting treatment.

Questions If 1 is Selected

Questions If 2-10 is Selected

Step 3: Encourage Patient

Allow the patient to explain their answers. Ask question that reflect on the previous answers, and use reflective listening to reiterate motivating topics or factors to help encourage starting treatment.

BACK

Hyperspace - YNH EMERGENCY ADULT - POC - EDWARD M.

Medication Cancellation | 9 - My Incomplete Charts | 9 -

In Basket | ED Track Board | ED Manager | ED Map | ED Chart | My Dashboards | ED Clinical Resources | SlicerDicer | Library Services | My Reports | User SmartSets | Tools | SmartWeb | Print | Log Out

Zzzrsh, Sbotwo

POC EDWARD M. ASAP

Review ... Synopsis Cha... Problems Demo... Snapshot My ... Ma... MAR Results Graphs Triage MDCalc EMBED EMBED V2

EMBED V2

R02 / R02A

Sbotwo Zzzrsh
 Female, 28 y.o., 4/9/1993
 MRN: MR3297
 Unit Phone #: 203-688-2222
 Total Time: 49:37
 Code: **Not on file**
 Adv. Care Plan: None
 Coverage: None

Search

No assigned Attending
 PCP: None
 COVID-19 Vaccine: Unknown
 Isolation: None

ALLERGIES
Unable to Assess

LOS: 0 (H+0 E0)

CHIEF COMPLAINT
 Chest Injury

BP Temp Pulse Resp
 170 >1 day

SpO2 Wt

Wt Method, Last BM: None
 None

RESULTS
 No results

MED STATUS
 None

Has Cosign Orders: None
 NarxScore: None
 Chart Complete: N/A
 Family Text Consent: None

Buprenorphine Treatment Options

Do you have a waiver to prescribe Buprenorphine? Yes

Optional Decision Support

Does the patient have Opioid Use Disorder?
 Yes
OOD TOOL

Is patient ready for treatment?
 Yes
INTERVIEW TOOL

How severe is patient's withdrawal?
 <8 8-12 >12
COWS TOOL

Brief Motivation Interview **Readiness Score: 4**

Use the following techniques to motivate the patient to accept treatment. Treatment should be offered regardless of the patient's current readiness to accept it.

Step 1: Readiness Assessment

Ask the patient to answer the following to determine their readiness to begin treatment with buprenorphine.

On a scale of 1 to 10, with **being not ready at all** and **10 being totally ready**, how ready do you feel about starting treatment with buprenorphine today?

4

Step 2: Help Motivate

Ask questions that reflect on the patient's previous answers, use reflective listening to help frame your questions and reiterate motivating factors to help encourage starting treatment.

Questions If 1 is Selected

Questions If 2-10 is Selected

Step 3: Encourage Patient

Allow the patient to explain their answers. Ask question that reflect on the previous answers, and use reflective listening to reiterate motivating topics or factors to help encourage starting treatment.

BACK

Hyperspace - YNH EMERGENCY ADULT - POC - EDWARD M.

EMBED V2

Buprenorphine Treatment Options

Do you have a waiver to prescribe Buprenorphine? Yes

Optional Decision Support

Does the patient have Opioid Use Disorder?

Yes

OU D TOOL

Is patient ready for treatment?

Yes

INTERVIEW TOOL

How severe is patient's withdrawal?

<8 8-12 >12

COWS TOOL

Brief Motivation Interview Readiness Score: **4**

about starting treatment with buprenorphine today:

4

Step 2: Help Motivate

Ask questions that reflect on the patient's previous answers, use reflective listening to help frame your questions and reiterate motivating factors to help encourage starting treatment.

Questions If 1 is Selected

Questions If 2-10 is Selected

Some questions to consider asking if the patient selected 2-10 on the readiness scale:

- What made you choose that number and not a lower one ?
- What would be good about considering buprenorphine treatment?
- What are the benefits you've heard other talk about?
- What might make you more motivated once you go home (or in a few days from)?
- Have you ever done anything you wish you hadn't while using drugs?
- How important would it be to prevent that from happening again?

Allow the patient to explain their answers. Ask question that reflect on the previous answers, and use reflective listening to reiterate motivating topics or factors to help encourage starting treatment.

BACK

Hyperspace - YNH EMERGENCY ADULT - POC - EDWARD M.

EMBED V2

Buprenorphine Treatment Options

Do you have a waiver to prescribe Buprenorphine? Yes

Optional Decision Support

Does the patient have Opioid Use Disorder?

Yes

Is patient ready for treatment?

Yes

How severe is patient's withdrawal?

<8 8-12 >12

Care Pathway #1
Does not Meet Criteria

OUO: **No**

Patient Ready: **No**

COWS: <8

Care Pathway #2
BUP Rx for Discharge

OUO: **Yes**

Patient Ready: **Yes**

COWS: <8

Care Pathway #3
Start 4mg BUP (2x)

OUO: **Yes**

Patient Ready: **Yes**

COWS: 8-12

Care Pathway #4
Start 8mg BUP

OUO: **Yes**

Patient Ready: **Yes**

COWS: >12

Buttons: OUD TOOL, INTERVIEW TOOL, COWS TOOL, SELECT #1, SELECT #2, SELECT #3, SELECT #4

Left Panel (Patient Info):

R02 / R02A

Sbotwo Zzzrsh
Female, 28 y.o., 4/9/1993
MRN: MR3297
Unit Phone #: 203-688-2222
Total Time: 49:38

Code: **Not on file**

Adv. Care Plan: None
Coverage: None

ALLERGIES
Unable to Assess

LOS: 0 (H+0 E0)

CHIEF COMPLAINT
Chest Injury

BP: 170 / 170 ↑
Temp: >1 day
Pulse: >1 day
Resp: >1 day

SpO2: ___
Wt: ___

WT Method, Last BMI: None, None

RESULTS
No results

MED STATUS
None

Has Cosign Orders: None
NarxScore: None
Chart Complete: N/A
Family Text Consent: None

Hyperspace - YNH EMERGENCY ADULT - POC - EDWARD M.

EMBED V2

Buprenorphine Treatment Options Do you have a waiver to prescribe Buprenorphine? Yes

Optional Decision Support

Does the patient have Opioid Use Disorder? Yes **OU D TOOL**

Is patient ready for treatment? Yes **INTERVIEW TOOL**

How severe is patient's withdrawal? <8 8-12 >12 **COWS TOOL**

Clinical Opiate Withdrawal Scale (COWS) COWS Score: **0**

For each item, select the appropriate description of the patient's signs of symptoms (points per symptom).

Resting Pulse Rate

80 OR BELOW (0) 81 - 100 (1) 101 - 120 (2) > 120 (4)

Restlessness

ABLE TO SIT STILL (0) SOME DIFFICULTY SITTING STILL (1) FREQUENT SHIFTING OF LIMBS

Anxiety or irritability

NONE (0) INCREASING AMOUNTS (1) OBVIOUSLY IRRITABLE/ANXIOUS (2) TOO DIFFICULT

Yawning

NO YAWNING (0) 1 OR 2 TIMES/ASSESSMENT (1) 3 OR 4 TIMES/ASSESSMENT (2) SEVERE

Pupil size

NORMAL (0) POSSIBLY LARGER (1) MODERATELY DILATED (2) ONLY RIM OF IRIS VISIBLE

Runny nose or tearing

NOT PRESENT (0) STUFFNESS/MOIST EYES (1) NOSE RUNNING/TEARING (2) CONSTANT

Tremor

NO TREMOR (0) FELT - NOT OBSERVED (1) SLIGHT TREMOR OBSERVABLE (2) GROSS TREMOR

Sweating

BACK

Hyperspace - YNH EMERGENCY ADULT - POC - EDWARD M.

EMBED V2

Buprenorphine Treatment Options Do you have a waiver to prescribe Buprenorphine? Yes

Optional Decision Support

Does the patient have Opioid Use Disorder?
 Yes OUD TOOL

Is patient ready for treatment?
 Yes INTERVIEW TOOL

How severe is patient's withdrawal?
 <8 8-12 >12 COWS TOOL

Clinical Opiate Withdrawal Scale (COWS) COWS Score: 11

For each item, select the appropriate description of the patient's signs of symptoms (points per symptom).

Resting Pulse Rate
 80 OR BELOW (0) 81 - 100 (1) 101 - 120 (2) > 120 (4)

Restlessness
 ABLE TO SIT STILL (0) SOME DIFFICULTY SITTING STILL (1) FREQUENT SHIFTING OF LIMBS (2)

Anxiety or irritability
 NONE (0) INCREASING AMOUNTS (1) OBVIOUSLY IRRITABLE/ANXIOUS (2) TOO DIFFICULT TO INTERVIEW (3)

Yawning
 NO YAWNING (0) 1 OR 2 TIMES/ASSESSMENT (1) 3 OR 4 TIMES/ASSESSMENT (2) SEVERE YAWNING (3)

Pupil size
 NORMAL (0) POSSIBLY LARGER (1) MODERATELY DILATED (2) ONLY RIM OF IRIS VISIBLE (3)

Runny nose or tearing
 NOT PRESENT (0) STUFFNESS/MOIST EYES (1) NOSE RUNNING/TEARING (2) CONSTANT (3)

Tremor
 NO TREMOR (0) FELT - NOT OBSERVED (1) SLIGHT TREMOR OBSERVABLE (2) GROSS TREMOR (3)

Sweating
 NONE (0) SLIGHT (1) MODERATE (2) SEVERE (3)

BACK

Hyperspace - YNH EMERGENCY ADULT - POC - EDWARD M.

EMBED V2

Buprenorphine Treatment Options

Do you have a waiver to prescribe Buprenorphine? Yes

Optional Decision Support

Does the patient have Opioid Use Disorder? Yes

Is patient ready for treatment? Yes

How severe is patient's withdrawal?

<8 8-12 >12

Care Pathway #1
Does not Meet Criteria

Care Pathway #2
BUP Rx for Discharge

Care Pathway #3
Start 4mg BUP (Zx)

Care Pathway #4
Start 8mg BUP

Question	Care Pathway #1	Care Pathway #2	Care Pathway #3	Care Pathway #4
Does the patient have Opioid Use Disorder?	No	Yes	Yes	Yes
Is patient ready for treatment?	No	Yes	Yes	Yes
How severe is patient's withdrawal?	<8	<8	8-12	>12
Tool	None	None	None	None
Action	SELECT #1	SELECT #2	SELECT #3	SELECT #4

Tools: OUD TOOL, INTERVIEW TOOL, COWS TOOL

Hyperspace - YNH EMERGENCY ADULT - POC - EDWARD M.

EMBED V2

Thank you for using the Buprenorphine (BUP) initiation pathway. The following actions will now be completed:

BACK LAUNCH CARE PATHWAY

Start 4 mg BUP (2x)

Note (use .EMBED SmartPhrase)
 I have used the EMBED Buprenorphine Initiation decision support app to assess this patient for opioid use disorder, opioid withdrawal, and readiness for treatment.

Using this app, I determined that this patient has:

1. moderate OR severe opioid use disorder,
2. a clinical opioid withdrawal scale of 8-13, and
3. has expressed readiness to begin treatment with buprenorphine.

The patient will receive:

1. buprenorphine 4 mg in the ED today, be observed for 45-60 minutes, and given another 4 mg dose if they have no side effects,
2. prescriptions for buprenorphine 16 mg sublingual daily for 5 days and a prescription for naloxone nasal spray,
3. referral to treatment, and
4. education on opioid use disorder and naloxone use.

Orders (The following orders will be placed now for your signature)

- Buprenorphine-naloxone SL film 4 mg
- Administer 4 mg now. Observe patient for 45-60 minutes. If no adverse events, administer second dose

Prescriptions (The following prescriptions will be placed now for your signature)

- Naloxone Nasal Spray 4 mg
- Buprenorphine-naloxone SL film 16 mg x 5 days

AVS/Discharge Instructions

- Opioid Use Disorder
- Naloxone (nasal spray)
- Buprenorphine buccal film

Referral to treatment

- A referral for an addiction specialist appointment will be offered when you exit this window.

Left Sidebar:

SZ

R02 / R02A

Sbotwo Zzzrsh
 Female, 28 y.o., 4/9/1993
 MRN: MR3297
 Unit Phone #: 203-688-2222
 Total Time: 0:49:40

Code: **Not on file**
 Adv. Care Plan: None
 Coverage: None

Search

No assigned Attending
 PCP: None
 COVID-19 Vaccine: Unknown
 Isolation: None

ALLERGIES
 Unable to Assess

LOS: 0 (H:0 E:0)

CHIEF COMPLAINT
 Chest Injury

BP	Temp	Pulse	Resp
		170	

SpO2: >1 day

Wt Method, Last BMI: None, None

RESULTS
 No results

MED STATUS
 None

Has Osgin Orders: None
 NarxScore: None
 Chart Complete: N/A
 Family Text Consent: None

Hyperspace - YNH EMERGENCY ADULT - POC - EDWARD M.

EMBED V2

Thank you for using the Buprenorphine (BUP) initiation pathway. The following actions will now be completed:

BACK LAUNCH

Queued Actions (7)

Place New Orders

- buprenorphine-naloxone (SUBOXONE) sublingual film 2 mg- 0.5mg
- Observe patient for 60 minutes post-dose
- Complete Clinical Opioid Withdrawal Scale (COWS) assessment
- nalOXONE (NARCAN) 4 mg/actuation NASAL spray
- BUPRENORPHINE 8 MG - NALOXONE 2 MG FILM (SUBOXONE)
- Ambulatory referral to Addiction Psychiatry-SCRC Adult Primary Care
- Ambulatory referral to Addiction Recovery- ARC

Accept

Start 4 mg BUP (2x)

Note (use .EMBED SmartPhrase)
I have used the EMBED Buprenorphine Initiation decision support app to assess this patient for opioid use disorder, opioid withdrawal, and readiness for treatment.

Using this app, I determined that this patient has:

- moderate OR severe opioid use disorder,
- a clinical opioid withdrawal scale of 8-13, and
- has expressed readiness to begin treatment with buprenorphine.

The patient will receive:

- buprenorphine 4 mg in the ED today, be observed for 45-60 minutes, and given another 4 mg dose if they have no side effects,
- prescriptions for buprenorphine 16 mg sublingual daily for 5 days and a prescription for naloxone nasal spray,
- referral to treatment, and
- education on opioid use disorder and naloxone use.

Orders (The following orders will be placed now for your signature)

- Buprenorphine-naloxone SL film 4 mg
- Administer 4 mg now. Observe patient for 45-60 minutes. If no adverse events, administer second dose

Prescriptions (The following prescriptions will be placed now for your signature)

- Naloxone Nasal Spray 4 mg
- Buprenorphine-naloxone SL film 16 mg x 5 days

AVS/Discharge Instructions

- Opioid Use Disorder
- Naloxone (nasal spray)
- Buprenorphine buccal film

Referral to treatment

- A referral for an addiction specialist appointment will be offered when you exit this window.

Left Sidebar:

SZ

R02 / R02A

Sbotwo Zzzrsh
Female, 28 y.o., 4/9/1993
MRN: MR3297
Unit Phone #: 203-688-2222
Total Time: 0:49:40

Code: Not on file
Adv. Care Plan: None
Coverage: None

Search

No assigned Attending
PCP: None
COVID-19 Vaccine: Unknown
Isolation: None

ALLERGIES
Unable to Assess

LOS: 0 (H:0 E:0)

CHIEF COMPLAINT
Chest Injury

BP Temp Pulse Resp
170 1
>1 day

SpO2 Wt

Wt Method, Last BMI: None, None

RESULTS
No results

MED STATUS
None

Has Osgin Orders: None
NarxScore: None
Chart Complete: N/A
Family Text Consent: None

Hyperspace - YNH EMERGENCY ADULT - POC - EDWARD M.

Medication Cancellation | 1 Medication Cancellation | 9: My Incomplete Charts | 9 | Log Out

SZ | Zzzrsh, Sbotwo

My Note

5 patients have a similar name to this patient.

ED NOTE | Provider Notes | Procedure Notes | OBSERVATION NOTES | Observation Progress Note | W10 Note | ED Triage Notes

buprenorphine-naloxone (SUBOXONE) 2-0.5 mg per film 2 Film

Order Inst: Each 2mg of buprenorphine contains 0.5mg of naloxone

Dose: 2 Film 1 Film

Administer Dose: 2 Film
Administer Amount: 2 Film

Route: Sublingual Sublingual Buccal

Frequency: EVERY 1 HOUR PRN Daily BID

PRN reasons: pain other

PRN comment: withdrawal, COWS >8

For: 2 Doses Hours Days

Starting: 7/14/2021 Today Tomorrow At: 1222 Show Additional Options

Starting: Today 1222 Until Discontinued Number of doses: 2

Scheduled Times

Admin. Inst: Insert SmartText

Sublingual Administration: Place one film under the tongue, close to the base on the left or right side, and allow to completely dissolve.
Buccal Administration: Place one film on the inside of the left or right cheek and allow to completely dissolve. Advise patients not to eat or drink anything until the film is completely dissolved.

Prod. Admin. Inst.: Do not cut, chew, or swallow; each 2mg of buprenorphine contains 0.5mg of naloxone

Reference Links:
1. Patient Medication Guide 2. Appropriate Use Checklist

Note to Pharmacy: + Add Note to Pharmacy (F6)

Priority:

Phase of Care:

I have completed the appropriate use checklist (required for initiation).
 Yes No Comments

Show Additional Order Details

Next Required Link Order

Accept Cancel

Manage Orders | Order Sets

Place new orders... + New + Next

New Orders

buprenorphine-naloxone (SUBOXONE) 2-0.5 mg per film 2 Film

2 Film, Sublingual, EVERY 1 HOUR PRN, other, withdrawal, COWS >8, Starting today at 1222, For 2 doses
Sublingual Administration: Place one film under the tongue, close to the base on the left or right side, and allow to completely dissolve. Advise patients not to eat or drink anything until the film is completely dissolved. Do not cut, chew, or swallow; each 2mg of buprenorphine contains 0.5mg of naloxone

Observe patient for 60 minutes post-dose
Routine. UNTIL DISCONTINUED, starting today at 1223, Until Specified

Complete Clinical Opitid Withdrawal Scale (COWS) assessment
Routine. UNTIL DISCONTINUED, starting today at 1223, Until Specified

New Discharge Orders

naloxone (NARCAN) 4 mg/actuation nasal spray
Use 1 spray in 1 nostril for suspected opioid overdose. May repeat in 2 minutes in other nostril with new device if minimal or no response. Normal. Disp-2 each, R-0

This medication will not be e-prescribed. Invalid items: Patient

buprenorphine 8 mg - naloxone 2 mg film (SUBOXONE)

buprenorphine 8 mg / naloxone 2 mg film (TAKE HOME MEDICATION)

Obtain label from printer located in ED A North and attach to medication vended from Psys.

Attach medication guide documents to the after visit summary (AVS) through the Disposition activity >> click Discharge Inst >> Go to References/Attachments >>

Rx Select a pharmacy

Remove All

Save Work Sign & Hold

Sign

ED NOTE | My Note | COVID-19 E | Procedure Notes | Observation Progress | Interagency Transfer | ED Triage Notes

Sbotwo Zzzrsh
Female, 28 y.o., 4/9/1993
MRN: MR3297
Unit Phone #: 203-688-2222
Total Time: 0:49:41
Code: Not on file
Adv. Care Plan: None
Coverage: None

ALLERGIES
Unable to Assess
LOS: 0 (H:0 E:0)

CHIEF COMPLAINT
Chest Injury

BP Temp Pulse Resp
170 1 >1 day

SPO2 Wt

Wt Method, Last BMI: None, None

RESULTS
No results

MED STATUS
None

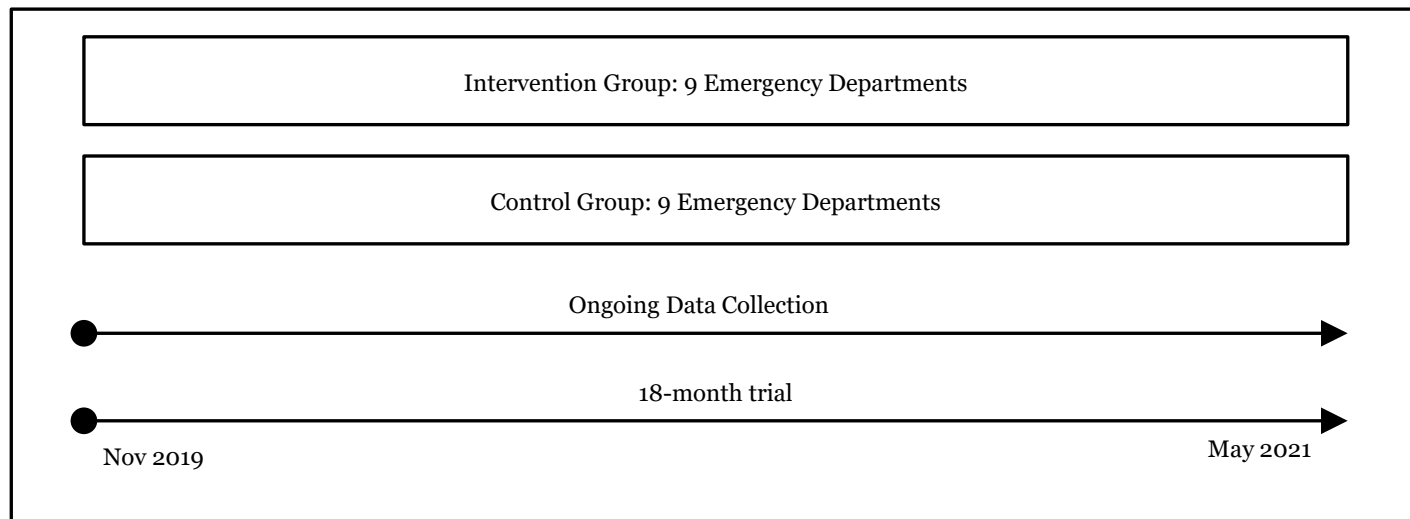
Has Osgin Orders: None
NarxScore: None
Chart Complete: N/A
Family Text Consent: None

After signing the orders, the clinician continues to use Epic



Methods

- 18-month pragmatic, parallel, group randomized trial
- 18 EDs in 5 healthcare systems randomly allocated in 1:1 ratio to intervention versus usual care arm
- Intervention: CDS to support diagnosis & withdrawal assessment & automate orders, notes, Rx, AVS, referral
- Primary outcome: initiation of BUP in ED at patient level



Protocol.
BMJ Open, 2019



Dissemination activities

- Conferences: ACEP Plenary for trial results, subgroup analysis to SAEM, booths in Exhibit Hall
- IT all available at embed.ynhh.org
 - 3rd party apps available now: MDCalc (app & Epic integration), iPhone, Android
 - v2.0 web application to interested Epic clients now
 - Being built in native Epic Foundation System for 2022 go live
 - Ongoing discussions for Cerner native build
- Tracking use nationally with OptumLabs Data Warehouse
- Qualitative analysis of barriers to widespread adoption of EMBED tools



Leveraging existing infrastructure for clinical data collection/population health

Trends in ED visits, hospital admissions, and non-fatal opioid overdoses in the first months of the *COVID-19 pandemic* across 5 health systems in 5 states

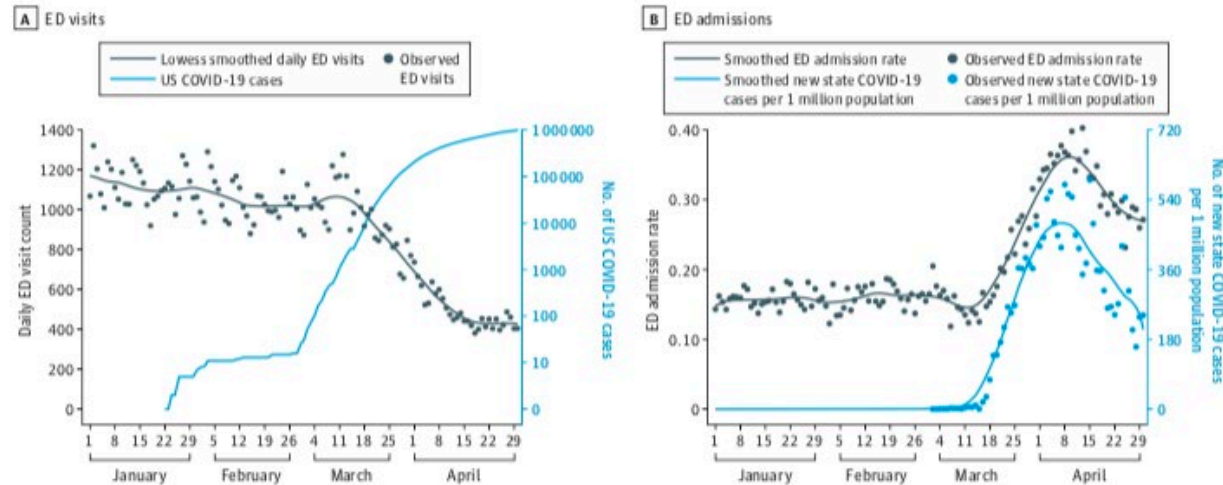
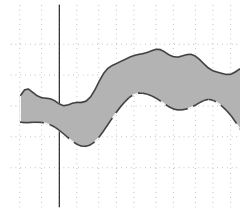
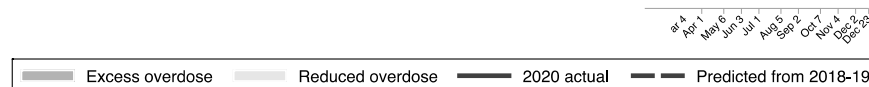


Figure:

Jeffery et al. JAMA Intern Med 2020;180(10): 1328-33.
Soares et al. Ann Emerg Med 2021 Mar 19; online ahead of print.



Lifespan Health



Thank you.

Questions?

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