Welcome! Follow along!
“I’m so glad you’re here:”

Harm reduction wound care for xylazine and injection related wounds in low-barrier and street-based settings

AMERSA Workshop Session
November 3, 2023
Presenters

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Follow along!

[QR Code]
Funding and Disclosures

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Workshop Outline

**Intro:** Brief introduction to xylazine and current U.S. epidemiology

**Part 1:** Review assessment & treatment strategies for xylazine-associated wounds

**Part 2:** Identify barriers & solutions to continuity of care for wounds

**Part 3:** Discuss important features of low-barrier, harm reduction wound care
Intro to Xylazine
What is Xylazine?

- Alpha-2 adrenergic agonist
- Animal sedative
- Human trials halted due to bradycardia, hypotension, sedation
- Distinct wound/soft tissue injury from chronic exposure
- Scheduled at state-level, *not* by DEA
Where is Xylazine?

Early 2000s, Puerto Rico
- 40% of collected syringes
- Diverted from rural areas

2020, Philadelphia
- Oversedation & distinct wounds reported by people who use drugs
- Medical examiner testing in overdose cases
- City commences testing of illicit supply
- >90% illicit fentanyl containing xylazine
- Ratio highly variable

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Increasing presence of xylazine in heroin and/or fentanyl deaths, Philadelphia, Pennsylvania, 2010–2019

Jewell Johnson, Lia Pizzicato, Caroline Johnson, Kendra Viner

<table>
<thead>
<tr>
<th>“Dope” samples containing Xylazine, Philly</th>
<th></th>
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<tbody>
<tr>
<td>2021 Q1</td>
<td>100%</td>
</tr>
<tr>
<td>2021 Q2</td>
<td>95%</td>
</tr>
<tr>
<td>2021 Q3</td>
<td>89%</td>
</tr>
<tr>
<td>2021 Q4</td>
<td>94%</td>
</tr>
<tr>
<td>2022 Q1</td>
<td>97%</td>
</tr>
<tr>
<td>2022 Q2</td>
<td>98%</td>
</tr>
<tr>
<td>2022 Q3</td>
<td>91%</td>
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</tbody>
</table>


npsdiscovery.org/category/drug-checking/
Wound Typology

Necrotic vs infectious in nature

● Unlike traditional injection-related wounds are infectious – cellulitis, abscess
● Xylazine wounds start with soft tissue necrosis
● Progress to full-thickness ulcerations, may reach deeper structures (bone, tendon)

● =PAIN

May develop AT or AWAY FROM sites of injection

1. **AT (photos)**: Start as purple irregularly shaped blisters
   ○ Develop adherent eschar
   ○ Expansion of necrosis & ulceration

2. **AWAY FROM**: Coin-size ulcerations, friable “cap” of devitalized tissue

May develop in the setting other modes of drug consumption (e.g. smoking, snorting)
Wound Assessment & Treatment
**DIME: Keys to Healing**

**D: Debridement**  |  Remove necrotic tissue

**I: Infection**  |  Assess for & treat

**M: Moisture**  |  Balanced moisture

**E: Edges**  |  Protect intact peri-wound tissue
Non-viable or necrotic tissue is bad
Prevents epithelialization, revascularization
Increases bioburden, risk of superimposed infection
  - **Eschar**: Hard, dark, adherent
  - **Slough**: Softer, yellow, adherent or mucinous

Get rid of it! Help “reset” natural healing

1. **Autolytic**: Topicals to encourages body’s natural capacity
   - *Medical grade honey, Hydrogel, PHMB*
2. **Enzymatic**: Collagenase topical, dissolves necrotic tissue
   - *Santyl*
3. **Surgical/Sharps**: Physical removal
   - Secondary care setting (hospital, wound clinic)

Photo credit: Vazeille et al. Cureus, 2020 12(6)
**DIME | Infection**

**Classic signs**
- Periwound erythema, swelling, increased pain
- Malodorous, purulent drainage

**Biofilm “Gloss”**
- Colonization of pathogenic or non-pathogenic bacteria; reproduce & disperse
- Pro-inflammatory state inhibits healing

**MRSA + Strep A**
- ~24% cases of infective endocarditis linked to IDU
- Implications for topical & systemic abx choice

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Photo credit: Coloplast
Jackson et al. MMWR Weekly. 2018 67(22)
Spectrum of Injection-related Infections

Bacterial entry

Necrotizing fasciitis

Atypical Complex Wounds associated with “xylazine”

Cellulitis

Abscess

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# Antibiotic Treatment Consideration

<table>
<thead>
<tr>
<th>Signs and Symptoms</th>
<th>Non-purulent</th>
<th>Purulent</th>
<th>Necrotizing Fasciitis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mild</td>
<td>Cephalexin 500mg q6h <strong>OR</strong> Cefadroxil 500mg q12 Bactrim 2DS BID (beta-lactam allergy)</td>
<td>Doxycycline 100mg BID <strong>OR</strong> Bactrim 2DS BID</td>
<td>Inpatient Surgical Eval <strong>AND</strong> IV ANTIBIOTICS!</td>
</tr>
</tbody>
</table>

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Moisture Balance

- Add to dry wounds (e.g. hydrogel)
- Absorb from wet wounds (e.g. alginate dressings absorb 15-20x their weight)

Edges & Environment

- Protect the peri-wound tissue
  - Petroleum-based ointment (e.g. A&D), barrier cream
  - Discuss injection site alternatives
  - Review safer infection practices
  - Address picking - less is best, hand sani or gloves

- Protective dressing, especially if rough sleeping
Basic Dressing Change

1. Prep materials
   *Minimize wound exposure time*

2. Remove old
   *Patient can do this!*

3. Cleanse
   *Spot test new products*

4. Topicals & Ointments
   *Wound & edges*

5. Primary dressing
   *Non-stick*

6. Secondary dressing
   *Absorbent*

7. Securement

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3 | Cleansers

**Potable Water**
Bottled or tap

**Normal Saline**
Well-tolerated
“Bullets” for take-home kits

**Mild soap**

**Vashe**
Hypochlorous acid: Weak acid, strong antimicrobial
Supports debridement

**Di-Dak-Sol 0.125%**
Diluted Dakins/hypochlorite solution
Non-cytotoxic, broad-spectrum antimicrobial
CAUTION: Much stronger formulations also exist!

NO alcohol or peroxide!!
4 | Ointments & Topicals

A+D $
Protective barrier
Apply to & around wound
Petrolatum & lanolin

Zinc-based $
Anti-inflammatory
Apply to & around wound
Thicker than A&D

Antibiotic $-$$
Reduce bioburden
OTC Bacitracin
RX Mupirocin
Be judicious!

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4 | Ointments & Topicals

**Autolytic Debridement**

- **Medihoney**
  - Medical grade
  - Anti-inflammatory
  - Prevents bacteria growth
  - **Consider**: Hot weather & insects
- **Hydrogel**
  - Add moisture

**Enzymatic Debridement**

- **PHMB**
  - Non-cytotoxic
  - Base determines debridement (gel >> petroleum)
  - Broad-spectrum antimicrobial

- **Silver Products**
  - Non-cytotoxic in short/med term
  - Gel base better for debridement
  - Broad-spectrum antimicrobial

- **Collagenase (Santyl)**
  - Will not penetrate thick eschar (1st soften with autolytic agent)
  - Do not mix with silver products

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**NON-antimicrobial**

- **Strong antimicrobial**

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**5|Primary**
Non-stick is key
Closest to wound
Oil-Emulsion: Wet wound
Petroleum-based: Dry wounds

**6|Secondary**
Absorptive
If saturated, can change while leaving Primary dressing intact
Non-adherent pads, ABD pads, Woven gauze, Roll gauze

**7|Secure**
Consider environment
When will the next dressing change be?
Coban, ACE bandage, Tubigrip
Socks, shoes, gloves!
Breakout:

Applying DIME

Each person has a different supply at their seat.

Work with your group and leader to apply the DIME method to the photo of the wound provided.

Feel free to practice on a groupmate.
Continuity of Care
Need for Higher Level of Care

When does a xylazine-associated wound require treatment escalation?

- Signs of systemic infection: Fever, nausea, confusion that *not* explained by withdrawal/intoxication
- Local infection in high-risk area: Hand, joint, groin, neck
- Local infection *not* improving with oral antibiotics
- Large area of non-viable tissue requiring evaluation for surgical debridement
- Exposure of deeper structures: Bone, tendon, muscle
- Loss of function: Weakness, decreased sensation

May be a series of conversations!

*Person may initially decline – but continue to discuss*

- Explain rationale, concerns
- Get to know their fears & barriers
- Explore solutions

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Warm Hand-off

**Partnership** between community-based & higher level of care

**Protocolize** a referral system
- Who’s involved, responsibilities, expectations
- Creates accountability

**Bi-directional!** Don’t miss hand-off back to community
- Secure chat groups
- Patient registry
- Shared repository of resources

**Make a Plan**

*Talk through EACH step*
- Secure belongings
- “Get well” before leaving
- Transportation
- Which hospital?
- Best time of day/night?
- “Buddy system” or escort
- **Goals:** Interested in MOUD?
Community Team

**In-referral**
- **Initiate Referral**
  - Treatment course
  - Current use
  - Patient concerns
- Patient travel logistics

**Out-referral**
- **Support Continuity**
  - “Landing” place for patient
  - Gaps can inform capacity-building

**Hospital Team**

**Designated Point of Contact**
- “Champion”
- Department/service

**“Red Carpet”**
- Pre-arrival note
- Treatment recommendations

**Share Resources**
- Direct communication
- **Be Creative!**

**Discharge Summary**
- Culture results
- Antibiotic recs
- Wound care recs
- Specialty follow-up (e.g. surgery)
Inpatient Addiction Care

Delivers evidence-based SUD care during hospitalization

Guides withdrawal management, initiation of medications to stabilize SUD

MANY potential benefits!
- Improve quality of care experienced by people who use drugs (PWUD)
- Decreasing self-directed discharges and utilization costs
- Culture change to reduce stigma towards people with SUD in health institutions by improving staff education/sensitivity

Benefits of Inpatient Addiction Care

Opioid Withdrawal & Pain Management
- Illicit fentanyl = HIGH opioid tolerance, hyperalgesia
- Novel Approach: Short + Long-acting full-agonists
  - Scheduled, not PRN
  - Cross-taper with MOUD
  - Maintain tolerance/reduce overdose risk if no MOUD

Polysubstance use
- Common & can be complicated! Xylazine, cocaine, benzodiazepines, alcohol, methamphetamine, etc.

Wrap-around Services
- Peer Recovery Specialists: Peer support, engagement
- Social Workers: Placement, social determinants
## What Makes Inpatient Addiction Care Work?

### Essential Program Elements

<table>
<thead>
<tr>
<th><strong>Clinical Champions</strong></th>
<th>Enthusiastic, “early adopters” who serve as local resources</th>
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<tbody>
<tr>
<td><strong>Education &amp; Culture</strong></td>
<td>Leverage education, communication, &amp; events to promote a visible commitment to high-quality addiction care</td>
</tr>
<tr>
<td><strong>Policies</strong></td>
<td>Build interprofessional support for harm reduction-oriented policies (e.g. response to in-hospital illicit substance use)</td>
</tr>
<tr>
<td><strong>Incentives &amp; Metrics</strong></td>
<td>Align metrics &amp; financial incentives with SUD best practices to sustain high quality care</td>
</tr>
</tbody>
</table>
What Makes Inpatient Addiction Care Work?

**Essential Patient Care Elements**

<table>
<thead>
<tr>
<th>Reachability</th>
<th>Centralized contact method for teams to seek support</th>
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<tr>
<td>Contingency Plans</td>
<td>Acknowledge the reality of care plan changes, and develop harm reduction-oriented responses</td>
</tr>
<tr>
<td>Social Supports System</td>
<td>Engage family, friends, community case/social workers as much as possible, with consent</td>
</tr>
<tr>
<td>Community Resources</td>
<td>Coordinated, timely referrals to relevant community programs</td>
</tr>
</tbody>
</table>

*Effective addiction care can be delivered via many models*

*Be creative with the resources & champions you have in place!*

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Breakout:

Put it all together with your group.

Discuss what care and supplies you would provide, barriers to care, person-centered needs, etc.

Write down 2-3 stand out pearls or challenges to share with the entire group.
Sam

Photos used with patients’ written consent.
Lee

Photos used with patients' written consent.
Low-to-No Barrier Care Provision
Harm Reduction in Clinical Care

Related frameworks:

- Trauma-informed
- Person-centered
- Informed consent
- Strengths-based

- Relationships > Results
- Mutual respect
- Nonjudgmental curiosity
- “In your corner”

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Reduce Barriers, Reduce Harm: Street Medicine

- Street Medicine Movement to bring health care to the unhoused, since the 1990s
  - Programs expanding nationally and globally, responding to need
  - Upstream care—reach people before they show up in the ED
- Continue trajectory of increasing community- and home-based services
  - Increased focus on patient factors and impact of environment
  - Less is within clinician (and sometimes also patient) control
- High co-occurrence of substance use disorder and housing instability

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Spectrum of Low Barrier Community Services

- **Traditional clinic**: FQHC w/ appt times
- **Walk-in clinic**: FQHC without appt times
- **Mobile unit**: Bus, RV, Van with inside space
- **Street-side stationary**: Tent, table
- **Street-based mobile**: Car, walking

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**Hospital-associated**
- Community satellite with financial support, access to full clinical staff, resources, acute care and other referrals

**Community clinic**
- Nurse-led care with telehealth support, need to financially supplement nonbillable services

**Harm reduction community organization**
- Non-clinicians and/or people with lived experience providing care with grant/donation support

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Example

- Mother of Mercy 9:30am-11:30am @ 720 E Allegheny
- Courage Medicine Mobile 10am-1pm @ 3025 Kensington
- Savage Sisters Storefront 11am-3pm
- Prevention Point Wound Care Clinic 11am-3pm
- Kensington Hospital Wound Care van 8am-4pm
- Catholic Workers Clinic 4:30-6:30pm
- Men's Night at Prevention Point 5pm-8pm • All genders welcome
- OPIMBY @ Ruth and Somerset 6-8pm

**THURSDAY**

- Prevention Point Wound Care Clinic 11am-3pm
- Catholic Workers Clinic 11:30am-1:30pm • All genders welcome
- Kensington Hospital Wound Care van 8am-4pm

**FRIDAY**

- The Everywhere Project Outreach 1pm-4pm @ 1901 E Clearfield
- Savage Sisters every 3rd Sat @ McPherson Square

**SATURDAY**

- CARP (supplies only) 1pm-3pm @ Kensington & Lehigh 1801 Lehigh

For more info:
https://www.substanceusephilly.com/
Treating People on Their Own Terms

- Care without an exam room: evolving comfort zones
  - Minimize assumptions—maximize individualized care
    - Privacy vs. accessibility with open-air care
- Ask preferences
- Accommodate, when possible
- Informed consents, apologies, and alternatives if possible
- Consideration of both patient and provider: finding overlap of safety

Photo credit: Galen Pugh
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High Level View

- Partnerships
  - Cultural humility and competency
  - Rapport/relationship, trust/buy-in, safety and longevity

- Same space, different perceived needs
  - Concerns from all neighbors

- Passers-by
  - Positives and negatives
  - Flexibility and responsiveness

Street Level View

- Someone is significantly intoxicated
  - Does it impact informed consent?
  - Pain management in the field

- Overdose response
  - Appropriate response per level of training
  - Impact of xylazine: sometimes sedation > hypoxia

- Someone needs a higher level of care
  - Safety planning, informed consent, menu of options

https://www.health.com/fitness/best-pulse-oximeter
https://www.sun-team.org
Who Can Do This Work?

- Less harm reduction-oriented
  - Traditional Wound Care Clinic Teams
  - Tourist groups
  - Faith-based groups

- Licensed
  - Physicians
  - Nurses
  - APPs
  - Wound care nurses for PWUD

- More harm reduction-oriented
  - Medical or Nursing Students
  - People with Lived Experience
  - Non-clinician Harm reductionist
  - Faith-based groups

- Unlicensed
  - Tourist groups
  - Faith-based groups

Neuschatz, Hosey, AMERSA, 2023
Thank you.

We express our deep gratitude to the people we see in clinic, on the street, vans, cars, and by phone.

To our colleagues, lead nurses Kristi Petrillo-Straub, Sara Wallace-Keeshen, Keara McNulty, and fellow street nurse Stephanie Klipp; physicians Dr. Eyiah-Mensah, Dr. Healy, Dr. Romeo, Dr. Kaigh, Dr. Hart, Dr., Moore, and lead navigators, Rachel Winter, Neha Shetty, and the rest of the Wound Care Clinic team.
References


Harm Reduction Applied: Maximizing Self Management

**Establish Rapport**
- Many people have been treated disrespectfully by others in health care
- Authenticity—as a person and provider—builds trust

**Strengths Focused**
- Reflect what’s positive about wound progression or self care, if at all possible
- Acknowledge small steps, including presenting for wound care

**Bodily Autonomy**
- Explain before doing, ask before touching
- Be responsive in words and action to reports of pain, etc.

**Offer Tools for Desired Outcome**
- Explain clinical assessment and decision making
- Offer rationales so substitutes can be more effective
- Provide supplies for dressing changes prior to next visit