Guidance for the use of outpatient parenteral antimicrobial therapy (OPAT) in combination with medication-assisted therapy (MAT) in people who inject opiates

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Background: Injection drug use (IDU) is a risk factor for severe infections including bacteremia and infective endocarditis. Patients who develop these infections are treated with intravenous antibiotics in the hospital and continued on IV antibiotics via OPAT using a peripherally inserted central venous catheter (PICC) after discharge. People who inject drugs (PWID) have traditionally been excluded from this model of treatment out of concern that they might use a PICC to inject drugs, precipitating venous thrombosis, catheter-associated bloodstream infection, infective endocarditis, or other catheter complications. Unfortunately, alternative treatment strategies (e.g. continued inpatient IV therapy, or discharge with oral antibiotics) are limited by patient non-adherence, particularly when the underlying substance use disorder is not addressed.

Recent data have challenged the notion that PWID cannot be treated with OPAT. A recent literature review by Suzuki et al found that PWID completed OPAT in 72-100% of cases and that rates of treatment failure, readmission, and mortality comparable to non-PWID [1]. Eaton et al validated a risk assessment tool for failure of OPAT in people who inject opiates in clinical practice [2]. Fanucchi et al have pioneered a new model of integrated care of opiate use disorder and injection-related infections with medication-assisted therapy (MAT) and OPAT and have shown that this approach achieves infection cure and drug use outcomes similar to or better than usual care while achieving a >3 week mean reduction in length of stay [3-4]. Multiple centers across areas of the US where opioid use disorder is endemic are adopting this new model of treatment.

The workflow below describes how the OPAT, Addiction Psychiatry, and primary inpatient medical teams at UNMC will collaborate to identify and treat PWID with opiate use disorder who have severe infections who would benefit from integrated OPAT-MAT care.

References:

1. Suzuki J, Johnson J, Montgomery M, Hayden M, Price C. Outpatient Parenteral Antimicrobial Therapy Among People Who Inject Drugs: A Review of the Literature. Open Forum Infect Dis. 2018;5(9):ofy194.
2. Eaton EF, Mathews RE, Lane PS, et al. A 9-Point Risk Assessment for Patients Who Inject Drugs and Require Intravenous Antibiotics: Focusing Inpatient Resources on Patients at Greatest Risk of Ongoing Drug Use. Clin Infect Dis. 2019;68(6):1041-1043.
3. Fanucchi LC, Walsh SL, Thornton AC, Lofwall MR. Integrated outpatient treatment of opioid use disorder and injection-related infections: A description of a new care model. Prev Med. 2019;:105760.
4. Fanucchi LC, Walsh SL, Thornton AC, Nuzzo PA, Lofwall MR. Outpatient Parenteral Antimicrobial Therapy Plus Buprenorphine for Opioid Use Disorder and Severe Injection-Related Infections. Clin Infect Dis. 2019

Start: A hospitalized patient with opiate use disorder and an infection potentially requiring home IV antibiotics is identified by the Infectious Diseases, Addiction Psychiatry, or primary teams

Contact OPAT team (or ID if consulted)
OPAT or ID team to assess:

Q1: IDU notwithstanding, would OPAT be the treatment of choice for the patient's infection?

- Endovascular infection (e.g.; bacteremia, septic thrombophlebitis, endocarditis)
- Bone & joint infection
- Infection due to resistant pathogens (e.g. FQ-resistant *P. aeruginosa*) with a planned course of therapy ≥2 weeks

NO

OPAT is not appropriate at this time. Consider alternative approaches to therapy, including:

- Discharge with long-acting depot antimicrobials (e.g. oritavancin, dalbavancin) and outpatient f/u with Addiction Psychiatry and ID
- Discharge with oral antimicrobials and outpatient f/u with Addiction Psychiatry and ID
- Continued admission and IV therapy, with Addiction Psychiatry consultation

Note: clinicians should offer patients with serious infections who choose to leave the hospital against medical advice the best available oral antimicrobial therapy, even if IV therapy would otherwise be the standard of care (i.e.; do not withhold treatment from patients leaving AMA)

YES Consult Addiction Psychiatry
Addiction Psychiatry team to assess:

YES

Q2: Is the patient at elevated risk for OPAT treatment failure?

- Active IDU, not willing to enroll in or not a candidate for medication-assisted treatment (MAT) for opiate use disorder
- Current nonadherence to other aspects of medical & psychiatric care
- Unstable home environment
- Poorly controlled psychiatric disease (other than opiate use disorder)

OR two or more of the following:

- Polysubstance use
- History of drug overdose
- History of multiple relapses
- History of nonadherence to other aspects of medical & psychiatric care

NO

The patient can be treated with combination OPAT-MAT:

- Addiction Psychiatry to start MAT prior to discharge, schedule followup in clinic within 1-2 weeks of discharge
- ID to schedule followup in clinic within 2 weeks of discharge (Dr. Cortes-Penfield to see, OK to overbook; notify RN Ross to schedule)
- OPAT ID to follow weekly labs
- If the patient is nonadherent to MAT or OPAT, the OPAT ID team will contact the primary treating ID MD and patient, reassess the treatment plan, and discontinue OPAT if it no longer the optimal treatment approach

ID = Infectious Diseases

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