Methadone Survey – Knowledge Domains:

Domain 1 – Pharmacokinetic and pharmacodynamics properties of methadone

Domain 2 – Appropriate/inappropriate candidates for methadone

Domain 3 – Risk stratification with methadone

Domain 4 – Drug interactions with methadone

Domain 5 – Dosing in opioid-naïve patients

Domain 6 – Dosing in opioid-tolerant patients

Domain 7 – Monitoring and education

FIRST THINGS FIRST! In preparation for preparing an online learning activity on methadone dosing and monitoring for prescribers, we would like to conduct this educational needs assessment. Please complete this survey that collects demographic information, and serves as a baseline to assess knowledge, skills and attitudes regarding content that will be covered in the All results from this survey will be reported in aggregate only, and cannot be tracked to any individual participant. If you have any questions about this, please contact Dr. Mary Lynn McPherson at mmcphers@rx.umaryland.edu (or on your email system).

1. What is your discipline?
    a. Physician
    b. Advanced practice nurse
    c. Physician assistant

2. How long have you been licensed?
    a. Less than 3 years
    b. Three to five years
    c. Six to ten years
    d. Eleven to twenty years
    e. More than twenty years

3. How long have you practice in hospice/palliative medicine?
    a. Less than 3 years
    b. Three to five years
    c. Six to ten years

     d. Eleven to twenty years

     e. More than twenty years

4. Are you board-certified in palliative care?
     a. Yes
     b. No

5. Are you certified as a Hospice Medical Director?
     a. Yes
     b. No
     c. NA

6. Which of the following best describes your level of interest in using methadone to treat pain in patients with an advanced illness? (Gen)
     a. Very interested; it should be one of our first-line opioid options
     b. Somewhat interested; may be used second or third line, or in difficult cases
     c. Not at all interested; burdens (risk to patient; dosing and monitoring) exceed benefits of therapy

7. How **accurately** are you able to list, explain, and apply the pharmacokinetic and pharmacodynamic characteristics of methadone? (D1 skills)
     a. Very well
     b. Somewhat
     c. Not at all

8. Which of the following is a true statement regarding the use of methadone? Select all that apply. (D2 knowledge)
     a. **Methadone may be used in patients with a true morphine/phenanthrene allergy**
     b. **Methadone may be used in patients with significant renal impairment**
     c. Methadone should not be started in a patient within a week of death
     d. Methadone does not cause opioid-induced adverse effects as severely as other opioids

9. List three medications known to be strong inhibitors of methadone metabolism. (D4 knowledge)
    a. Open answer

10. How **important** do you believe it is for you to be able to list, explain and apply the pharmacokinetic and pharmacodynamic characteristics of methadone? (D1 attitudes)
    a. Very important
    b. Somewhat important
    c. Not at all important

11. How **skillfully** are you able to recommend a monitoring plan and education for patients starting methadone therapy? (D7 skills)
    a. Very well
    b. Somewhat
    c. Not at all

12. How **accurately** can you identify medications that may cause a clinically significant drug interaction with methadone? (D4 skills)
    a. Very well
    b. Somewhat
    c. Not at all

13. How **important** do you believe it is for you to be able to determine a starting dose of methadone in an opioid-naïve patient? (D5 attitude)
    a. Very important
    b. Somewhat important
    c. Not at all important

14. Which electrolyte abnormalities increase the risk of toxicity from methadone? Select all that apply. (D3 knowledge)
    a. Hyperkalemia
    b. Hypokalemia
    c. Hypermagnesemia
    d. Hypomagnesmia
    e. Hyponatremia

15. How **accurately** are you able to perform risk stratification for starting methadone in a patient with advanced illness? (D3 skills)
    a. Very well
    b. Somewhat
    c. Not at all

16. How **important** do you believe it is for you to be able to identify medications that may cause a clinically significant drug interaction with methadone? (D4 attitude)
    a. Very important
    b. Somewhat important
    c. Not at all important

17. How often and for how long should the health care team assess the patient's response when starting methadone therapy (both therapeutic response and potential toxicity)? (D7 knowledge).
    a. Open response

18. How **important** do you believe it is for you to be able to determine a monitoring plan and education for patients/families/caregivers when introducing methadone? (D7 attitude)
    a. Very important
    b. Somewhat important
    c. Not at all important

19. Which of the following best represents the average terminal elimination half-life of methadone? (D1 knowledge)
    a. 8 hours
    b. 12 hours
    c. 24 hours
    d. 40 hours

20. How **important** do you believe it is for a HPM physician to be able to assess risks to the patient prior to starting methadone?(D3 attitude)
    a. Very important
    b. Somewhat important
    c. Not at all important

21. What monitoring instructions would you give the family caregiver for a patient starting methadone therapy? (D7 knowledge)
    a. Open response

22. Which of the following is one of the mechanisms of action of methadone? Select all that apply. (D1 knowledge)
    a. **Mu receptor agonist**
    b. Kappa receptor anatagonist
    c. N-methyl-D-aspartate receptor agonist
    d. **N-methyl-D-asparate receptor antagonist**
    e. **Inhibits reuptake of serotonin in CNS**
    f. Inhibits reuptake of norepinephrine in CNS

23. List three medications known to be strong inducers of methadone metabolism. (D4 knowledge)
    a. Open answer

24. VB is an 84 year old woman with end-stage dementia. She has multiple co-morbid conditions including diabetes, dyslipidemia, seasonal allergies, hypertension, severe osteoarthritis in both hips and GERD. She has been exhibiting combative behavior that seems consistent with physical discomfort based on nonverbal cues. This behavior has not resolved with acetaminophen, and she is not a candidate for a NSAID, and other co-analgesics do not seem reasonable. She is not taking any medications known to interact with methadone, and she is opioid-naïve. What dose of methadone would you recommend starting for VB? (D5 knowledge)
    a. Open response

25. How **accurately** are you able to recommend doses to safely and accurately increase an opioid dose based on a patient's response to therapy? (D7 attitude)
    a. Not at all
    b. Slightly
    c. Somewhat
    d. Moderately
    e. Very well

26. KR is a 64 year old woman admitted to hospice with stage 4 esophageal cancer. Her pain is visceral in nature, and acetaminophen has not controlled her pain. She is not a candidate for a nonsteroidal anti-inflammatory agent? She is not taking any medications known to interact with methadone, and she is opioid-naïve. What dose of methadone would you recommend starting for KR? (D5 knowledge)
    a. Open response

27. How **skillfully** are you able to identify appropriate and inappropriate patients for methadone therapy (as an analgesic)? (D2 skills)
    a. Very well
    b. Somewhat
    c. Not at all

28. WB is 48 year old man admitted to hospice with end-stage AIDS. He is receiving transdermal fentanyl 50 mcg/h and oral morphine 20 mg every 2 hours as needed for pain (taking 1-2 doses per day). The only other medication he is taking is Kaletra and he refuses to discontinue therapy. He has a normal body habitus. You have decided to switch to methadone hoping to get an enhanced effect in treating his neuropathic pain. What methadone dose would you recommend to replace the transdermal fentanyl patch, and how would you time this transition (e.g., when do you remove transdermal fentanyl patch relative to starting methadone therapy)? (D6 knowledge)
    a. Open response

29. How **skillfully** are you able to determine a starting dose of methadone in an opioid-tolerant patient (e.g., perform a conversion calculation to methadone)? (D6 skill)
    a. Very well
    b. Somewhat
    c. Not at all

30. How **important** do you believe it is for you to be able to identify appropriate and inappropriate patients for methadone therapy (as an analgesic)? (D2 attitude)
    a. Very important
    b. Somewhat important
    c. Not at all important

31. How **skillfully** are you able to determine a starting dose of methadone in an opioid-naïve patient? (D5 skill)
    a. Very well
    b. Somewhat
    c. Not at all

32. Which of the following scenarios is an example of an INAPPROPRIATE candidate for conversion to methadone therapy? (D2 knowledge)
    a. Patient lives alone but is mentally competent
    b. Patient is cognitively impaired but has a competent caregiver
    c. **Patient is within days of death**
    d. Patient expresses concern that methadone is for "druggies"

33. PR is a 62 year old man with end-stage lung cancer. He is admitted to hospice on OxyContin 40 mg po q12h, and OxyIR 15 mg po q2h (takes about 3 doses per day). His pain control is fairly good but could be a bit better. He is receiving all appropriate co-analgesics, and he is not taking any medications that would interact with methadone. What regimen would you recommend if converting to methadone instead of OxyContin, and using morphine instead of oxycodone for breakthrough pain? (D6 knowledge)
    a. Open response

34. Aside from the usual opioid-induced adverse effects, risk factors for what potential adverse effect should be assessed prior to starting methadone therapy? (D3 knowledge)
    a. Open response (cardiovascular – QTc prolongation)

35. How **important** do you believe it is for you to be able to determine a starting dose of methadone in an opioid-tolerant patient (e.g., perform a conversion calculation to methadone? (D6 attitude)
    a. Very important
    b. Somewhat important
    c. Not at all important

36. What barriers, if any, exist to you prescribing and monitoring methadone therapy with greatest ease and competence? (e.g., lack of physical resources, lack of structure/process, information or knowledge deficit, no interest, no perceived value, etc.). (Gen)
    a. Open response

37. How would you prefer to receive instruction and training in methadone prescribing and monitoring?
    a. Scheduled live lecture (e.g., one hour lecture, practice problems) to be conducted at an appointed time
    b. Asynchronous online learning (e.g., one hour pre-recorded lecture, practice problems) to be completed as your schedule allows
    c. Assigned reading and practice problems