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NEPHROLOGY PROGRAM
DEPARTMENT POLICIES AND PROCEDURES

Biomed Neph - Section 03 - Water Quality Management - Neph Tech 3-13
Weekly Chemical Disinfection of RO1 and RO2 WHILE UNIT IS OPEN
No.: 01464 (TOH Standardized Policy Number)

ISSUED BY:
Technical Practice Committee

DATE OF APPROVAL:
2015/03

APPROVED BY:
Program Clinical Director & Division Chief

LAST REVIEW/REVISION DATE:
2017/06

CATEGORY:
Water Quality Management

IMPLEMENTATION DATE:
2015/03

POLICY STATEMENT:

- Provide the user with instructions to follow when performing the weekly chemical disinfection procedure for the reverse osmosis unit 1 (RO1) and the reverse osmosis unit 2 (RO2) while the unit is open

DEFINITION(S):

- Refer to the Definitions document in the water treatment room binder

ALERTS:

- Chemical disinfections will be performed using Dialox on Wednesdays unless otherwise specified
- The user shall wear gloves or appropriate PPE equipment when moving the dosing connectors

NOTE: *It is essential to follow the steps in this procedure in the sequence in which they appear*

PROCEDURE:

Section A: Preparing RO#2 for disinfection while in Biosmosis

1. Position RO1 service key S4 to “1” (located inside cabinet)

2. Position RO2 service key S5 to “1” (located inside cabinet)

NOTE: *You can skip steps 3-5 if RO1 is already supplying unit in Manual and RO2 is off*

3. Turn biosmosis key to RO1

4. Turn RO1 key to MAN

NOTE: *RO1 will stop water flow to unit for approximately 5 seconds and then go back into operation*

5. Turn RO2 key to ‘0’

Section B: Initiate chemical disinfection on RO2

6. Close valves on loop connections to RO2 (valves A & B)

7. Disconnect loop connections to RO2

8. Remove bypass shunt from mounting plate and connect to permeate and return of RO2

9. Connect loop connections to mounting plate

10. Enter code “813” on RO2 key pad and press “ENTER” key to confirm

11. Press “DISINF”

12. Press “DISINF” again

13. Open the front door and remove the dosing connector from “OPERATION” by depressing the clips on either side and pulling straight out

14. Move the dosing connector to “DISINFECTION” and push it in

NOTE: *Ensure the connector is fully secured*

15. Ensure there is sufficient Dialox in container (approx. 21/2”)

16. Press “DISINF”

17. Trace a line on the chemical container at the level of the liquid and write the date. This will allow you to visualize how much chemical has been used

18. Close the front door. Disinfection will be complete in 132 minutes

Section C: Complete chemical disinfection on RO2

19. Open the front door of RO**2** and remove the dosing connector from "DISINFECTION" by depressing the clips on either side and pulling straight out

20. Move the dosing connector to "OPERATION" and push it in, you should hear a click

NOTE: *Ensure the connector is fully secured*

21. Confirm that the level of liquid in the container has gone down about 2 inches and close the door

22. Press "START"

NOTE: *you will need to use peroxide strips for the next steps. These are in a green bottle located inside the front panel of the RO. Ensure that the bottle used has a 'date opened' on it and that the date does not exceed three months*

23. After one minute, perform the residual check by putting a peroxide test strip into the RO2 "Funnel to Drain" located on the right of the RO unit. This is to verify that no peroxide is detected. If peroxide is detected, wait 5 minutes and perform the test again

24. Once peroxide test is negative, press "STOP"

25. Verify the cursor is after "dial code", enter code "813" and press the "ENTER" key to confirm

26. Remove bypass shunt from RO and reconnect the loop connectors

27. Open loop valves

Section D: Prepare RO1 for chemical disinfection

28. Position RO2 key to 'MAN'

29. Wait for RO2 to be in 'OPERATION' (approx. 5 minutes)

30. Position Biosmosis key to 'RO2'

31. Position RO1 key to '0'

Section E: Initiate chemical disinfection on <u>RO1</u>

32. Close valves on loop connections to RO1

33. Disconnect loop connections to RO1 (valves A & B)

34. Remove bypass shunt from mounting plate and connect to permeate and return of RO1

35. Connect loop return connection to mounting plate on bottom (Permeate will not reach. It is short enough that it will not touch anything that will contaminate it)

36. Enter code “813” on RO1 key pad and press “ENTER” key to confirm

37. Press “DISINF”

38. Press “DISINF” again

39. Open the front door and remove the dosing connector from “OPERATION” by depressing the clips on either side and pulling straight out

40. Move the dosing connector to “DISINFECTION” and push it in

NOTE: *Ensure the connector is fully secured*

41. Ensure there is sufficient Dialox in container (approx. 4”)

42. Press “DISINF”

43. Trace a line on the chemical container at the level of the liquid and write the date. This will allow you to visualize how much chemical has been used

44. Close the front door. Disinfection will be complete in 132 minutes

Section F: Complete chemical disinfection on RO1

45. Open the front door of RO1 and remove the dosing connector from “DISINFECTION” by depressing the clips on either side and pulling straight out

46. Move the dosing connector to “OPERATION” and push it in, you should hear a click

NOTE: *Ensure the connector is fully secured*

47. Confirm that the level of liquid in the container has gone down about 4 inches and close the door

48. Press “START”

NOTE: *You will need to use peroxide strips for the next steps. These are in a green bottle located inside the front panel of the RO. Ensure that the bottle used has a ‘date opened’ on it and that the date does not exceed three months*

49. After one minute, perform the residual check by putting a peroxide test strip into the RO1 “Funnel to Drain” located on the right of the RO unit. This is to verify that no peroxide is detected. If peroxide is detected, wait 5 minutes and perform the test again

50. Once peroxide test is negative, press “STOP”

51. Verify the cursor is after “dial code”, enter code “813” and press the “ENTER” key to confirm

52. Remove bypass shunt from RO and reconnect the loop connectors

53. Open loop valves

Section G: Put Water system back into normal Biosmosis operation

54. Put RO1 key to ‘MAN’

55. Wait for RO1 to be in ‘OPERATION’ (approx. 5 minutes)

56. Position Biosmosis key to ‘RO1 & RO2’

57. Position RO1 key to ‘Auto’

58. Position RO2 key to ‘Auto’

59. Position RO1 service key S4 to “0” (located inside cabinet)

60. Position RO2 service key S5 to “0” (located inside cabinet)

61. Document the date, time, your initials and the details on the Daily Water Treatment Room Checklist

RELATED POLICIES / LEGISLATION: N/A

REFERENCES:

1. Gambro Osmosis Operator procedures (June 21, 2011)
2. CSA-ISO 13959:15 *Water for haemodilaysis and related therapies*
3. CSA-ISO 26722-16 *Water treatment equipment for haemodialysis applications and related therapies*