

Bacillus Calmette-Guérin (BCG) (OncoTICE®)

Preparation of a Full Dose of OncoTICE® and Dividing a Full Dose Into Three Equal Doses Using the ChemoLock™ Closed System Drug Transfer Device

Table of Contents

<i>Preparation of a Full Dose (50 mg / 1 Vial) of Bacillus Calmette-Guérin (BCG) (OncoTICE®) Using a MEDXL BCG Medication Administration Kit and ChemoLock™</i>	1
<i>Preparation of a Full Dose (50 mg / 1 vial) of Bacillus Calmette-Guérin (BCG) (OncoTICE®) Using ChemoLock™</i>	3
<i>Dividing a Full Dose (50 mg) of Reconstituted Bacillus Calmette-Guérin (BCG) (OncoTICE®) into Three Equal (1/3) Doses Using ChemoLock™</i>	5
<i>Dilution of 1/3 Doses (16.7 mg) of Bacillus Calmette-Guérin (BCG) (OncoTICE®) with Normal Saline 0.9% Using ChemoLock™</i>	6
<i>Administration of 16.7 mg (1/3 Dose) of Bacillus Calmette-Guérin (BCG) (OncoTICE®) Using a MEDXL BCG Medication Administration Kit and ChemoLock™</i>	7
<i>Administration of 16.7 mg (1/3 Dose) of Bacillus Calmette-Guérin (BCG) (OncoTICE®) Using a ChemoLock™ BCG Kit</i>	8
<i>Appendix 1: Supplies & Devices</i>	9
<i>References</i>	10

The typical dose used for intravesical instillation is dictated by brand (*refer to protocol by which patient is being treated*):

OncoTICE® (Tice strain) 1 vial = 50 mg = 1 to 8 x 10⁸ CFU;

- **full dose = 50 mg (1 x 50 mg vial)**

The instructions described in these checklists are by no means intended to be regarded as the only acceptable method of preparing or dividing a dose of OncoTICE®.

Preparation of a Full Dose (50 mg / 1 Vial) of Bacillus Calmette-Guérin (BCG) (OncoTICE®) Using a MEDXL BCG Medication Administration Kit and ChemoLock™



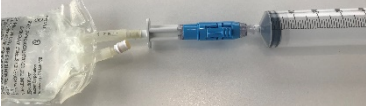
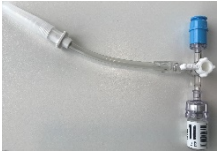
Note:

- As long as the syringe and OncoTICE® vial are NOT disconnected from the MEDXL BCG Medication Administration Kit, it is not necessary to use a Closed System Drug Transfer Device to reconstitute one vial of OncoTICE® and dilute in 45 mL of normal saline [refer to **Preparation of a Full Dose (50 mg / 1 Vial) of Bacillus Calmette-Guérin (BCG) (OncoTICE®) Using a MEDXL BCG Medication Administration Kit** in the **Bacillus Calmette-Guérin (BCG) (OncoTICE®) Preparation Instructions during BCG Shortage NOT using a Closed System Drug Transfer Device**]
- If dividing the full dose of OncoTICE® into three equal (1/3) doses, then use of a Closed System Drug Transfer Device is recommended

Supplies:

- ✓ 1 x OncoTICE® 50 mg vial
- ✓ 1 x Intravenous (IV) solution bag of preservative-free normal saline (NS) 0.9%
- ✓ 1 x 50 mL BD syringe
 - Note that a 60 mL syringe may be used in place of the 50 mL BD syringe; the total volume in the syringe after dilution of the drug remains at 45 mL
- ✓ 1 x MEDXL BCG Medication Administration Kit (BCG Kit)
- ✓ 1 x ChemoLock™ Bag Spike (CL-10)
- ✓ 1 x ChemoLock™ Spinning Injector (CL-2000S)
- ✓ 1 x ChemoLock™ Port (CL-2100)

Note:

- ✗ do **NOT** remove any ChemoLock™ device from any supply used during reconstitution of BCG as this will open the system, increasing the chance of exposure to BCG
1. insert a ChemoLock™ Bag Spike firmly into the administration port of the intravenous solution bag of NS (up to the shoulder of the ChemoLock™ Bag Spike)

 2. luer the ChemoLock™ Injector onto a 50 mL (BD) syringe (rotate the Injector onto the syringe tip until an audible click is heard and it spins freely)

 3. attach the ChemoLock™ Injector / syringe assembly to the ChemoLock™ Bag Spike in the NS bag by pushing the two pieces straight together until an audible click is heard

 4. withdraw 45 mL of NS into the syringe; remove air from the syringe while the ChemoLock™ Injector/syringe is still attached to the ChemoLock™ Bag Spike
 5. disconnect the ChemoLock™ Injector from the ChemoLock™ Bag Spike by squeezing the release clips on the ChemoLock™ Injector (the ChemoLock™ Injector will automatically disconnect; do NOT pull apart when releasing)
 6. attach a ChemoLock™ Port to the luer lock end of the BCG Kit; align the 'OFF' arrow with the catheter tip

 7. attach the OncoTICE® vial to the other end of the BCG Kit
 8. attach the ChemoLock™ Injector on the NS syringe to the ChemoLock™ Port on the BCG Kit by pushing the two pieces together until an audible click is heard

9. with the vial in an upright position, withdraw approximately 1 mL of air from the vial into the syringe and allow approximately 1 mL of NS to flow back into the vial as pressure in the vial equalizes
10. allow the OncoTICE® suspension to stand for a few minutes, then gently swirl to suspend
11. withdraw the OncoTICE® suspension into the syringe; repeat step 9 as necessary until all drug from the vial has been withdrawn into the syringe
12. align the “OFF” arrow with the syringe until ready to administer to the patient
13. do not detach the ChemoLock™ Port or the vial from the BCG Kit; do not remove the syringe from the BCG kit if administering the total dose to the patient
14. when dividing the dose of OncoTICE®, remove the ChemoLock™ Injector/syringe attachment from the ChemoLock™ Port on the BCG Kit by squeezing the release clips on the ChemoLock™ Injector (the ChemoLock™ Injector will automatically disconnect; do NOT pull apart when releasing)
15. the OncoTICE®-filled syringe MUST be labelled with the **beyond use (expiry) date and time**; the prepared dose **MUST** be administered to the patient before the beyond use date and time have passed
16. the contents of the syringe MUST be immediately divided into patient-specific doses if applicable (see **Dividing a Full Dose (50 mg) of Reconstituted Bacillus Calmette-Guérin (BCG) (OncoTICE®) into Three Equal (1/3) Doses Using ChemoLock™**) and administered to patients already in the facility ready for their treatment. Leftover BCG must **NOT** be saved for future patients
17. dispose of all supplies used to reconstitute BCG as biohazardous waste according to site-specific policies and procedures



Note:

- **BCG must be administered within 2 hours of the start of reconstituting the drug in the vial^{1,2}**

➤ **USE ASEPTIC TECHNIQUE THROUGHOUT**

Preparation of a Full Dose (50 mg / 1 vial) of Bacillus Calmette-Guérin (BCG) (OncoTICE®) Using ChemoLock™



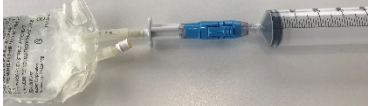

Note:

- As long as the syringe and OncoTICE® vial are NOT disconnected from the MEDXL BCG Medication Administration Kit, it is not necessary to use a Closed System Drug Transfer Device to reconstitute one vial of OncoTICE® and dilute in 45 mL of normal saline [refer to **Preparation of a Full Dose (50 mg / 1 Vial) of Bacillus Calmette-Guérin (BCG) (OncoTICE®) Using a MEDXL BCG Medication Administration Kit** in the **Bacillus Calmette-Guérin (BCG) (OncoTICE®) Preparation Instructions during BCG Shortage NOT using a Closed System Drug Transfer Device**]
- If dividing the full dose of OncoTICE® into three equal (1/3) doses, then use of a Closed System Drug Transfer Device is recommended

Supplies:

- ✓ 1 x OncoTICE® 50 mg vial
- ✓ 1 x Intravenous (IV) solution bag of preservative-free normal saline (NS) 0.9%
- ✓ 1 x 50 mL BD syringe
 - Note that a 60 mL syringe may be used in place of the 50 mL BD syringe; the total volume in the syringe after dilution of the drug remains at 45 mL
- ✓ 1 x ChemoLock™ Bag Spike (CL-10)
- ✓ 1 x ChemoLock™ Spinning Injector (CL-2000S)
- ✓ 1 x ChemoLock™ Vial Spike (CL-82)

Note:

- ✗ do NOT remove any ChemoLock™ device from any supply used during reconstitution of BCG as this will open the system, increasing the chance of exposure to BCG
1. insert a ChemoLock™ Bag Spike firmly into the administration port of the intravenous solution bag of NS (up to the shoulder of the ChemoLock™ Bag Spike)

 2. luer the ChemoLock™ Injector onto a 50 mL (BD) syringe (rotate the Injector onto the syringe tip until an audible click is heard and it spins freely)

 3. attach the ChemoLock™ Injector / syringe assembly to the ChemoLock™ Bag Spike in the NS bag by pushing the two pieces straight together until an audible click is heard

 4. withdraw 45 mL of NS into the syringe; remove air from the syringe while the ChemoLock™ Injector/syringe is still attached to the ChemoLock™ Bag Spike
 5. disconnect the ChemoLock™ Injector from the ChemoLock™ Bag Spike by squeezing the release clips on the ChemoLock™ Injector (the ChemoLock™ Injector will automatically disconnect; do NOT pull apart when releasing)
 6. attach a ChemoLock™ Vial Spike to the OncoTICE® vial


7. attach the ChemoLock™ Injector / NS-filled syringe assembly to the ChemoLock™ Vial Spike by pushing the two pieces straight together until an audible click is heard
8. with the vial in an upright position, inject approximately 1 mL of NS into the vial
9. allow the OncoTICE® suspension to stand for a few minutes, then gently swirl to suspend
10. withdraw the OncoTICE® suspension into the syringe; repeat step 8 as necessary until all drug from the vial has been withdrawn into the syringe
11. disconnect the ChemoLock™ Injector from the ChemoLock™ Vial Spike by squeezing the release clips on the ChemoLock™ Injector (the ChemoLock™ Injector will automatically disconnect; do NOT pull apart when releasing)
12. the OncoTICE®-filled syringe MUST be labelled with the **beyond use (expiry) date and time**; the prepared dose **MUST** be administered to the patient before the beyond use date and time have passed
13. the contents of the syringe MUST be immediately divided into patient-specific doses if applicable (see **Dividing a Full Dose (50 mg) of Reconstituted Bacillus Calmette-Guérin (BCG) (OncoTICE®) into Three Equal (1/3) Doses Using ChemoLock™**) and administered to patients already in the facility ready for their treatment. Leftover BCG must **NOT** be saved for future patients
14. dispose of all supplies used to reconstitute BCG as biohazardous waste according to site-specific policies and procedures



Note:

- **BCG must be administered within 2 hours of the start of reconstituting the drug in the vial^{1,2}**

➤ **USE ASEPTIC TECHNIQUE THROUGHOUT**

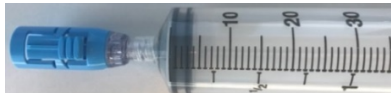
Dividing a Full Dose (50 mg) of Reconstituted Bacillus Calmette-Guérin (BCG) (OncoTICE®) into Three Equal (1/3) Doses Using ChemoLock™

Supplies:

- ✓ 1 x 50 mL BD syringe containing 45 mL (50 mg) of reconstituted OncoTICE® (prepared following **Preparation of a Full Dose (50 mg / 1 Vial) of Bacillus Calmette-Guérin (BCG) (OncoTICE®) Using a MEDXL BCG Medication Administration Kit and ChemoLock™** OR **Preparation of a Full Dose (50 mg / 1 Vial) of Bacillus Calmette-Guérin (BCG) (OncoTICE®) Using ChemoLock™**)
 - ensure the divided doses will be administered to patients before the beyond use (expiry) date and time recorded on the syringe
- ✓ 2 x 50 mL BD syringes
 - Note that a 60 mL syringe may be used in place of the 50 mL BD syringe; the total volume in the syringe after dilution of the drug remains at 45 mL
- ✓ 2 x ChemoLock™ Spinning Injectors (CL-2000S)
- ✓ 1 x ChemoLock™ Double Port Syringe Transfer Set (CL-33)

Note:

- ✗ do **NOT** remove any ChemoLock™ device from any supply used during division of BCG as this will open the system, increasing the chance of exposure to BCG
1. attach a ChemoLock™ Spinning Injector to both of the empty 50 mL syringes



2. record the same **beyond use (expiry) date and time** that is recorded on the 45 mL syringe of OncoTICE® onto both of the syringes and that the **contents of all three syringes contains 16.7 mg (1/3 dose) of OncoTICE®**; the prepared dose **MUST** be administered to the patient before the beyond use date and time have passed
3. attach the ChemoLock™ Injector on the OncoTICE®-filled syringe to one end of the ChemoLock™ Double Port Transfer Set by pushing the Injector onto the Port until an audible click is heard
4. attach the ChemoLock™ Injector on one of the empty syringes to the other end of the ChemoLock™ Double Port transfer set by pushing the two pieces straight together until an audible click is heard



5. transfer 15 mL (16.7 mg) of OncoTICE® suspension into the empty syringe; remove all air from the syringe while the entire system is still attached
6. disconnect the syringe containing 15 mL (16.7 mg) of OncoTICE® from the ChemoLock™ Double Port Transfer Set by squeezing the release clips on the ChemoLock™ Injector (the ChemoLock™ Injector will automatically disconnect; do NOT pull apart when releasing)
7. repeat steps 4-6 to prepare the next syringe containing 1/3 of the full dose (16.7 mg) of OncoTICE®; the original syringe contains the final 1/3 divided dose of OncoTICE®
8. dispose of all supplies used to divide a full dose of OncoTICE® into three equal doses as biohazardous waste according to site-specific policies and procedures

Note:

- **BCG must be administered within 2 hours of the start of reconstituting the drug in the vial^{1,2}**
- **USE ASEPTIC TECHNIQUE THROUGHOUT**

Dilution of 1/3 Doses (16.7 mg) of Bacillus Calmette-Guérin (BCG) (OncoTICE®) with Normal Saline 0.9% Using ChemoLock™

Supplies:

- ✓ 3 x 50 mL BD syringes containing 1/3 dose (15 mL / 16.7 mg) of reconstituted OncoTICE®
 - Note that a 60 mL syringe may be used in place of the 50 mL BD syringe; the total volume in the syringe after dilution of the drug remains at 45 mL
- ✓ 1 x Intravenous (IV) bag of preservative-free normal saline (NS) 0.9% with a ChemoLock™ Bag Spike inserted into the administration port (can use the same IV bag that was used to reconstitute the OncoTICE®)

Note:

- ✗ do **NOT** remove any ChemoLock™ device from any supply used during dilution of BCG as this will open the system and increase the chance of exposure to BCG
1. attach the Injector on one of the 1/3 dose (15 mL / 16.7 mg) syringes to the ChemoLock™ Bag Spike in the NS bag by pushing the two pieces straight together until an audible click is heard
 2. withdraw NS into the syringe until the total volume in the syringe is 45 mL
 3. carefully remove air only (NOT drug) from the syringe while the ChemoLock™ Injector/syringe is attached to the ChemoLock™ Bag Spike
 4. disconnect the ChemoLock™ Injector from the ChemoLock™ Bag Spike by squeezing the release clips on the ChemoLock™ Injector (the ChemoLock™ Injector will automatically disconnect; do NOT pull apart when releasing)
 5. repeat steps 1-4 until all three syringes contain 1/3 OncoTICE® doses (16.7 mg) diluted to 45 mL with NS
 6. dispose of all supplies used to dilute BCG as biohazardous waste according to site-specific policies and procedures



Note:

- BCG *must* be administered within 2 hours of the start of reconstituting the drug in the vial^{1,2}
- **USE ASEPTIC TECHNIQUE THROUGHOUT**

Administration of 16.7 mg (1/3 Dose) of Bacillus Calmette-Guérin (BCG) (OncoTICE®) Using a MEDXL BCG Medication Administration Kit and ChemoLock™

Supplies:

- ✓ 3 x 50 mL syringes containing 45 mL of 16.7 mg (1/3 dose) dilute OncoTICE® suspension (labelled with the **beyond use (expiry) date and time and the 16.7 mg dose**) attached to ChemoLock™ Injectors
- ✓ 3 x MEDXL BCG Medication Administration Kits (BCG Kit)
- ✓ 3 x ChemoLock™ Ports (CL-2100)

Note:

- ✗ do **NOT** remove any ChemoLock™ device from any supply used during administration of BCG as this will open the system, increasing the chance of exposure to BCG
1. check to ensure the OncoTICE® suspension has not expired (not past the **beyond use (expiry) date and time** recorded on the syringe); the prepared dose **MUST** be administered to the patient before the beyond use date and time have passed
 2. leftover BCG must **NOT** be saved for a future patient
 3. attach a ChemoLock™ Port to the luer lock end of each of the BCG Kits; align the 'OFF' arrow with the vial adapter end of the BCG Kit
 4. **immediately before** administering the dose to the patient, attach the ChemoLock™ Injector on a syringe containing the dose of OncoTICE® to the ChemoLock™ Port on the BCG Kit by pushing the two pieces straight together until an audible click is heard
 5. administer the OncoTICE® to the patient as per site protocol
 6. dispose of all supplies used to administer BCG as biohazardous waste according to site-specific policies and procedures



Note:

- **BCG must be administered within 2 hours of the start of reconstituting the drug in the vial^{1,2}**
- **USE ASEPTIC TECHNIQUE THROUGHOUT**

Administration of 16.7 mg (1/3 Dose) of Bacillus Calmette-Guérin (BCG) (OncoTICE®) Using a ChemoLock™ BCG Kit

Supplies:

- ✓ 3 x 50 mL syringes containing 45 mL of 16.7 mg (1/3 dose) dilute OncoTICE® suspension (labelled with the **beyond use (expiry) date and time and the 16.7 mg dose**) attached to ChemoLock™ Injectors
- ✓ 3 x ChemoLock™ 7.5" (19 cm) Extension Sets w/ChemoLock™ Port, Clamp, Graduated Adapter (CL-3967) (ChemoLock™ BCG Kit)

Note:

- ✗ do **NOT** remove any ChemoLock™ device from any supply used during administration of BCG as this will open the system, increasing the chance of exposure to BCG
1. check to ensure the OncoTICE® suspension has not expired (not past the **beyond use (expiry) date and time** recorded on the syringe); the prepared dose **MUST** be administered to the patient before the beyond use date and time have passed
 2. leftover BCG must **NOT** be saved for a future patient
 3. Squeeze the clamp on the ChemoLock™ BCG Kit closed
 4. **immediately before** administering the dose to the patient, attach the ChemoLock™ Injector on a syringe containing the dose of OncoTICE® to the ChemoLock™ Port on the ChemoLock™ BCG Kit by pushing the two pieces straight together until an audible click is heard
 5. open the clamp on the ChemoLock™ BCG Kit and administer the OncoTICE® to the patient as per site protocol
 6. dispose of all supplies used to administer BCG as biohazardous waste according to site-specific policies and procedures



Note:

- **BCG must be administered within 2 hours of the start of reconstituting the drug in the vial^{1,2}**
- **USE ASEPTIC TECHNIQUE THROUGHOUT**

Appendix 1: Supplies & Devices

ICU Medical's ChemoLock™

For more information on ICU Medical's ChemoLock™ supplies visit: <http://www.icumed.com/products/oncology/hazardous-drug-closed-systems-and-cstds/chemolock.aspx>

ChemoLock™ Spinning Injector (CL-2000S)



The ChemoLock™ Injector ensures a **closed drug transfer**. The Injector is attached to a standard luer lock syringe. The Injector is available in a spinning and non-spinning design. The spinning design prevents accidental disconnection of the Injector during hazardous drug preparation and administration. The priming volume of the ChemoLock™ Injector is 0.34 mL. The ChemoLock™ Injector has been tested to and is approved for up to 10 activations.

ChemoLock™ Bag Spike (CL-10)



The ChemoLock™ Bag Spike is inserted into the administration port of an infusion solution bag. It has a built-in ChemoLock™ Port to facilitate a **leak-proof connection** for transfer of solution into and out of an infusion solution bag. The priming volume of the ChemoLock™ Bag Spike is 0.43 mL. The Port on the ChemoLock™ Bag Spike has been tested to and is approved for up to 10 activations.

ChemoLock™ Port (CL-2100)



The ChemoLock™ Port attaches to the same luer locking device that syringes luer lock onto, providing a **leak-proof connection** for safe drug transfer via injection or infusion. The priming volume of the ChemoLock™ Port is 0.1 mL. The Port has been tested to and is approved for up to 10 activations.

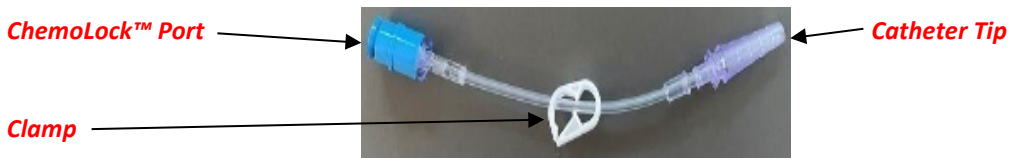
ChemoLock™ Double Port Syringe Transfer Set (CL-33)



The ChemoLock™ Double Port Syringe Transfer Set facilitates a safe and efficient transfer of solution from one syringe to another. The Ports on the ChemoLock™ Double Port Syringe Transfer Set have been tested and are approved for up to 10 activations.

ChemoLock™ 7.5" (19 cm) Extension Set w/ChemoLock™ Port, Clamp, Graduated Adapter (CL-3967) (ChemoLock™ BCG Kit)

The ChemoLock™ Extension Set w/ChemoLock™ Port, Clamp, Graduated Adapter may be used for bladder instillation of Bacillus Calmette-Guérin (BCG). The priming volume of the ChemoLock™ Extension Set is 1.5 mL. The Port on the ChemoLock™ Extension Set has been tested and is approved for up to 10 activations.



Non- ChemoLock™

Bacillus Calmette-Guérin (BCG) (OncoTICE®)- 1 to 8×10^8 CFU (= 50 mg/vial) (FULL dose)

MEDXL Medication Administration Kit (used to facilitate reconstitution and withdrawal of BCG)



Intravenous Solution Bag of Preservative-free Normal Saline 0.9%

50 mL BD Syringes (Note that 60 mL syringes may be used in place of the 50 mL BD syringes; the total volume in the syringe(s) after dilution of the drug remains at 45 mL)

References

1. Merck Canada Inc. OncoTICE® product monograph. Kirkland, Quebec; 29 April 2019
2. The United States Pharmacopeial Convention, Inc. General Chapter 797: Pharmaceutical compounding - sterile preparations Draft. USP 27-NF 22. Rockville, Maryland: The United States Pharmacopeial Convention, Inc.; 2019