

ENGLISH



Dogs



Cats



Exotic Pets

1 Prepare the injection of bleomycin (2 steps)

a) Dilute the required units per vial to obtain the right concentration (see below)

Vial type	Units per vial	Diluted with	Volume of Bleo obtained	Concentration obtained
	30 units per vial = 30.000 IU per vial	10 ml of Sodium Chloride For Injection (0,9%)	10 ml	3000 IU/ml

OR

Vial type	Units per vial	Diluted with	Volume of Bleo obtained	Concentration obtained
	15 units per vial = 15.000 IU per vial	5 ml of Sodium Chloride For Injection (0,9%)	5 ml	3000 IU/ml

b) Calculate the volume of bleomycin (0.5 mg/kg bw) to be injected (see below)

Animal weight (kg)	1,0	1,5	2,0	2,5	3,0	3,5	4,0	4,5	5,0	5,5	6,0	6,5	
Volume of bleomycin (ml)	0,50	0,65	0,80	0,90	1,05	1,15	1,25	1,35	1,45	1,55	1,65	1,75	
Animal weight (kg)	7,0	7,5	8,0	8,5	9,0	9,5	10	11	12	13	14	15	
Volume of bleomycin (ml)	1,85	1,90	2	2,10	2,15	2,25	2,30	2,45	2,60	2,75	2,90	3,05	
Animal weight (kg)	16	17	18	19	20	21	22	23	24	25	26	27	
Volume of bleomycin (ml)	3,15	3,30	3,45	3,55	3,70	3,80	3,95	4,05	4,15	4,25	4,40	4,50	
Animal weight (kg)	28	29	30	31	32	33	34	35	36	37	38	39	40
Volume of bleomycin (ml)	4,60	4,70	4,85	4,95	5,05	5,15	5,25	5,35	5,45	5,55	5,65	5,75	5,85

Volume of Bleomycine to inject depending on the animal weight

2 Prepare the electroporator **ELECTROvet Z**

A. Connect the electrode



B. Connect the foot-switch



C. Connect the electrical plug



D. Switch **ON** the machine



3 Prepare yourself for use of **cytotoxic products**

A. **Remove any** jewellery, watches, etc.

B. **Wash hands** thoroughly

C. Put on a **mask**, pair of **goggles, cap** and one or two pairs of **gloves**

4 Prepare **syringes and needles**

A. The use of a "**Luer Lock**" type syringe is **strongly recommended**

B. The use of a **gauge 22** or **23** needle is recommended

C. Fill the syringes with **bleomycin** according to volume estimated in **#1**

5 Prepare **the animal**

A. The animal will undergo a **general anaesthesia**

B. Perform a **surgical scrub** of the tumor and the **area around it**

6 Inject bleomycin **intravenously**

Take your time to inject; not less than 2 minutes are necessary to inject the whole volume (*to prevent pulmonary fibrosis*)

7 Wait between **6 and 8 minutes**

(*to allow diffusion of bleomycin*)

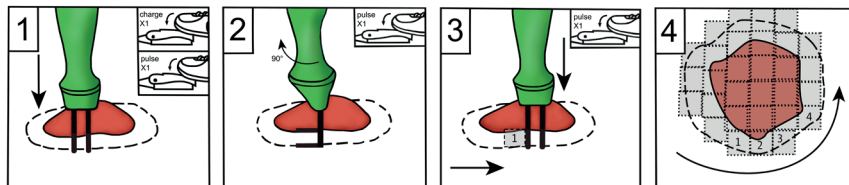
8 Apply sterile ultrasound gel over **the entire surface of the tumor** +1 cm for the margins

Checklist to prepare an electrochemotherapy session

9 Apply the **pulsed electrical field**

Using "L-Shaped" (contact) electrodes

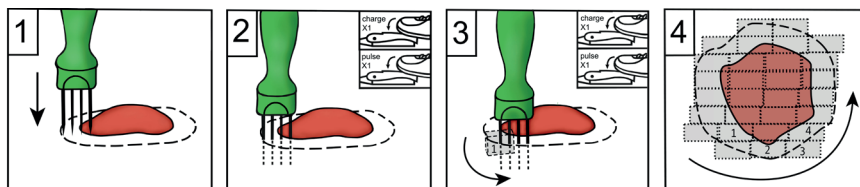
1. Apply the electrodes to the tumor
Press on the foot-switch **once**, to **charge the device** ; wait between 2 to 6 seconds to see the message "CHARGED" on the screen.
Press on the foot-switch **a second time**, to **deliver pulses**.
2. Rotate 90° and re-apply electrode to the same area
Press on the foot-switch **a third time**, to **deliver pulses**.
3. Shift the electrodes 1 cm and repeat the process.
4. Repeat the process until the whole area is treated



Using needle electrodes

1. Insert the electrodes into the tumor
2. Press on the foot-switch **once**, to **charge the device** ; wait between 2 to 6 seconds to see the message "CHARGED" on the screen.
Press on the foot-switch **a second time**, to **deliver pulses**.
3. Shift the electrodes 0,5 cm
Press again on the foot-switch, to **charge the device**, and once again to **deliver pulses**.
4. Repeat the process until the whole area is treated

Do not rotate and do not re-apply pulses to the same area.



If the pulses are not delivered properly
(long "bip") :

- a) **Dry the bleeding wound with a compress** and **cauterize** the blood vessels with an **electrical scalpel**
- b) Press the electrodes more gently

Remember to **always treat the margins**
around the tumor.

The more the needles are inserted, the greater
the volume treated.

Only one application per volume
for **needle electrodes**.

New feature

Press the "Alt Settings" button to activate the second protocol set for the connected electrode. When the button is activated, a light circle lights up on the button.
To deactivate this second protocol and use the default protocol, press the button a second time. When the button is deactivated, the light circle turns off.



Update procedure

Your ELECTROvet EZ might need to be updated so that your new nasal electrode is recognized. Please follow the instructions below to update your ELECTROvet EZ.

- 1** Disconnect the USB stick in place.



- 2** Connect the USB stick delivered with the electrode.



- 3** Turn on the machine.



- 4** This message is displayed. Turn off the machine.



- 5** Swap the two USB sticks.



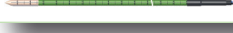
- 6** Turn on the machine. **Update completed.**



Table of electrical protocols



Following the update applied with the attached USB stick, the electrical protocols associated with each electrode will be as follows:

Picture	Description	Voltage	Duration	Frequency	Period	Repetitions
	10mm L shape	1 300 V	100 µs	5 000 Hz	0,2 ms	2 pulses
	15 & 25mm needle	500 V	100 µs	5 000 Hz	0,2 ms	8 pulses
	8mm plate	1 040 V	100 µs	5 000 Hz	0,2 ms	8 pulses
	Electrode for cavities	400 V	100 µs	5 000 Hz	0,2 ms	8 pulses
	Nasal Electrode	500 V	100 µs	5 000 Hz	0,2 ms	8 pulses

You can always change the settings of your **ELECTROvet EZ** using the web page <http://ez-settings.leroybiotech.fr>



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www.leroybiotech.com



electrovet.shop



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