

**Important Information regarding total dead volume.**

**Background**

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Primetech recently found that a small number of users are including the total catheter length (135mm) of iPRECIO® pump with an additional catheter. This would mean that there is significant length of tubing implanted in-vivo and with a very high dead volume. In these cases, it was found that:-

- If the total dead volume is 59.650 (ul) or less, the pump flushes the dead volume correctly and starts drug administration as programmed.
- However, if the total dead volume exceeds 59.650 (ul), the pump over flushes and it will not start the drug administration cycle.

Primetech recommends that catheters should be cut to length to minimize a large amount of coiled tubing within the animal. Generally, more complications occur when too much tubing is used. Sufficient catheter should consider the growth of the animal and normal behaviour/movement.

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**<Total Dead Volume> in Recovery Mode must not exceed 59.650µl. If exceeded, <Start of Drug Administration> Program will not start and flushing programming will not work correctly (it will over flush). If further information required, please contact Primetech Corp or your local distributor.**

- See iPRECIO User Manual page 33, Post Recovery Mode (RCV Setup)
  - Dead Volume Setup (in yellow field)
- Total Dead Volume of 59.650ul allows a total catheter length of 200 mm (ID = 0.55mm).
- Therefore user may add another 60 mm (ID = 0.55mm) of catheter to make a total length of 200mm (140mm + 60mm)

In the figure below, Total Dead Volume = 59.650 $\mu$ l and this consists of:-

1. 140mm (ID = 0.55mm) iPRECIO® pump catheter
2. Fundamental Dead Volume of 10.820 ul
3. Actual Dead Volume of additional catheter of 15.586 ul (65.6mm ID = 0.55mm)

The screenshot shows a software window titled "Post Recovery Mode" with a close button (X) in the top right corner. The window is divided into several sections:

- Animal ID:** 1
- Start of Administration (yy/mm/dd hh:mm):** 14/06/18 11:46
- Dead Volume Setup (Yellow background):**
  - Remain Tube Length: 140.0(mm)
  - Fundamental Dead Volume: 10.820(ul)
  - Choose reference value [ Dead Volume ]:
    - Measurement value
    - Calculated value
  - Input the Catheter Size to use:
    - Inside Diameter: 0.0(mm)
    - Length: 0.0(mm)
  - Actual Dead Volume of additional catheter: 15.586(ul)
  - Total Dead Volume: 59.650(ul)** (highlighted with a black box)
  - Flushing rate of Dead Volume: 30.0(ul/hr)
- RCV Setup (Green background):**
  - RCV Start (yy/mm/dd hh:mm): 14/06/15 11:46
  - RCV Duration: 2(days) 21:29
  - RCV Flow Rate: 3.0(ul/hr)
  - Refill Date / Time (if necessary):
  - Scheduled Exchange Date / Time: 14/06/18 09:15 (to) 14/06/18 09:45
- Buttons: "Next >>" and "Cancel"

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