

## The Size 9 or 9el Dosing Kits Include Everything You Need to Begin Dosing Rodents



Kit includes: (1) Dosing Syringe, (1) Filling Funnel & Stand, (1) tamper, (100) Capsules, and (1) instructional video CD.

- Ideal for materials that are insoluble, form poor suspensions, are affected by excepients or are odorous and distasteful, e.g., sustained release beadlets, paint flakes, chromic oxide marker
- Save time and money by eliminating validation of suspension / solution homogeneity.
- Eliminate excepients absorption affects.
- Use for lower GI delivery in Guinea Pigs

**Fill Materials:**

Dry materials in any form (powder, beadlets, crystals, paint flakes), pastes, and non-aqueous liquids.

**Fill Weight & Accuracy:**

25 mg. per capsule for materials with a density of 1g / ml.

**Dosing Time & Acceptance:**

< 1 min. (30 - 45 minutes for 60 rats).  
> 98% successful dosing after minimal experience (3- 4 placebo doses per rat).

**Disintegration Time:**

Within 10 minutes in rodent stomach.

**Animal Weight:**

Rat: 200 gm + (min. 150 gm).  
Guinea Pig: 300 gm +.

**Lower GI Drug Delivery:**

Suitable for enteric coating and drug delivery in lower GI tract of guinea pigs.

Lock Ring prevents accidental spillage



Description	Size 9	Size 9el
Capacity Capsule Body	0.025 ml	0.08 ml
Maximum External Diameter	2.65 mm	2.65 mm
Maximum Length when Closed	8.6 mm	23.2 mm
Average Weight (Cap & Body)	9 mg	17mg
Colors Available	Clear & Opaque	Clear & Opaque

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Reference: "A Simple Method for Administration of Drugs in Solid Form to Fully Conscious Rats," Lax, E.R., et al, *Laboratory Animals* (1983) 17, 50-54.

# Capsule Dosing the Rat

*Dr. Eric Weyand, Research Scientist  
Maple City Research, Hornell, NY, USA*

Torpac's size 9 empty gelatin capsules provide a convenient method for orally dosing laboratory rats 200 gm+ (150 gm minimum) using a dosing syringe. Dosing with capsules is an excellent alternative when you cannot gavage.

Before beginning your study, to become comfortable dosing capsules with a dosing syringe, practice dosing using a gavage needle. Next, practice using empty capsules in the dosing syringe.

The following instructions include images from the included CD-ROM.



## Dosing Size 9 Capsules



**1.** If you prefer working with a curved dosing syringe, you can bend the shaft in a gentle curve (see the video “Dosing Tips” for a demonstration of how to bend the shaft). In brief, keep the plunger in the shaft and bend along the length of the shaft, not just at one point or you may kink the shaft.

**2.** Insert the filled capsule, body (longer and narrower piece) first, into the opening of the syringe's capsule holding cup. A small portion of the capsule's cap dome will protrude from the cup.

**3.** As shown in the video, restrain the rat by grasping the scruff of the neck with one hand and the rear with the other hand.

## Dosing Size 9 Capsules (continued)



**4.** Wrap the rat's tail around your small finger to secure the lower portion of the rat.



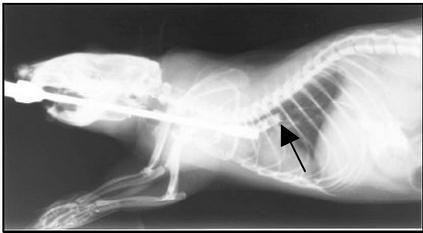
**5.** Place the tip of the dosing syringe in the center of the mouth and follow the roof of the mouth to the opening of the esophagus. Tilt the rat's head back with the shaft of the dosing syringe. This straightens the esophagus and makes insertion of the dosing syringe easier.

*NOTE: Once the dosing syringe has passed the back of the mouth, if you feel any 'ridges' you may have entered the trachea. If this happens, slowly remove the dosing syringe. Do NOT eject the capsule.*



**6.** The dosing syringe will go down the esophagus with gentle pressure. Depending on rat size, most of the dosing syringe's shaft will be inserted to assure correct placement of the capsule at the end of the esophagus.

*NOTE: Do not force the dosing syringe.*



**7.** The radiograph above shows the correct placement of the dosing syringe and ejection of a barium filled capsule into the bottom of the esophagus (the black arrow is pointing to the capsule).



**8.** Now eject the capsule by pushing the dosing syringe's plunger and slowly remove the dosing syringe from the rat's esophagus and mouth. To ensure that the capsule goes into the stomach, close the rat's mouth and stroke the neck gently to facilitate swallowing. Once in the stomach, the capsule will dissolve within approximately 10 minutes.



**9.** Tip: After dosing the capsule, some researchers dose the rat with a few ml of saline solution or water as they feel this may further facilitate movement of the capsule into the stomach.

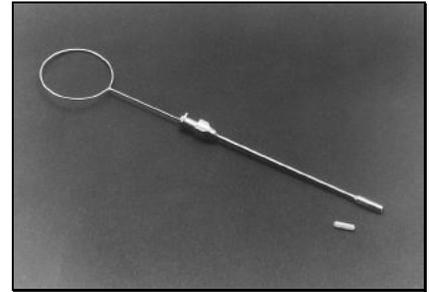
# Capsule Dosing the Guinea Pig

Kathleen Rider, LATG, Veterinary Technology Program  
City University of New York, LaGuardia Community College

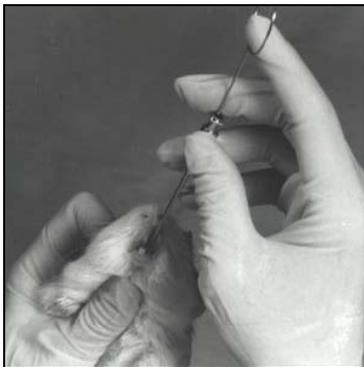
Torpac's size 9 empty gelatin capsules provide an easy method of orally dosing guinea pigs 300 gm+ using a dosing syringe. Dosing with capsules is an excellent alternative when you cannot gavage.

## Tips on Dosing Capsules with Dosing Syringe

- Before beginning your study, to become comfortable dosing capsules with a dosing syringe, practice dosing using a gavage needle. Next, practice using empty capsules in the dosing syringe.
- If you prefer working with a curved dosing syringe, you can bend the shaft in a gentle curve. In brief, keep the plunger in the shaft and gently bend along the length of the shaft, not just at one point or you may kink the shaft.



**1.** Insert the filled and locked capsule, body (longer and narrower piece) first, into the opening of the syringe's capsule holding cup. A small portion of the capsule's cap dome will protrude from the cup.



**2.** Restrain the guinea pig by grasping the scruff of the neck. Place the tip of the syringe in the center of the mouth and follow the ridges on the roof of the mouth. Tip the guinea pig's head back with the shaft of the dosing syringe. Position the dosing syringe at the entry to the esophagus.

*The guinea pig does not need to swallow the tip of the syringe.*



**3.** The radiograph shows correct placement of the dosing syringe and a barium filled capsule at the opening of the esophagus (arrow is pointing to the capsule). Now eject the capsule by pushing the dosing syringe plunger.



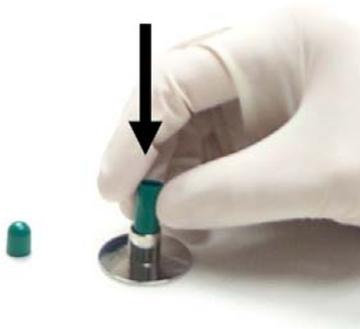
**4.** After ejection of the capsule, slowly remove the syringe from the guinea pig's mouth. Close the guinea pig's mouth and stroke the neck gently to facilitate swallowing. The capsule will dissolve within 10 minutes in the stomach.

*TIP: After dosing the capsule, some researchers dose the guinea pig with a few ml of saline solution or water as they feel this may further facilitate movement of the capsule into the stomach.*

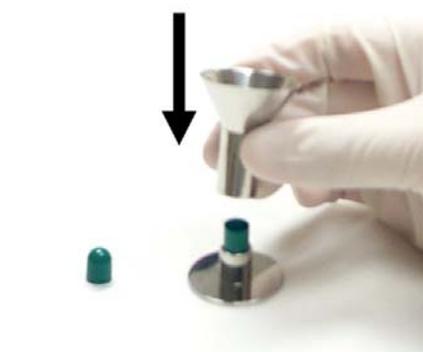
# Filling Capsules with a Filling Funnel

## The Quickest and Easiest Capsule Filling Method for Small Studies

- Ideal for small studies requiring few capsules to be filled.
- Stainless Steel construction maintains high GMP and easy cleanup.
- Fast & Accurate way to fill capsules.
- Lightweight for use on analytical balances
- Available in Sizes 000-5, 00el, 0el, 9, 9el, and 12/13.



**1.** Separate a single capsule. Place the capsule body in the holder. (Longer, narrower part)



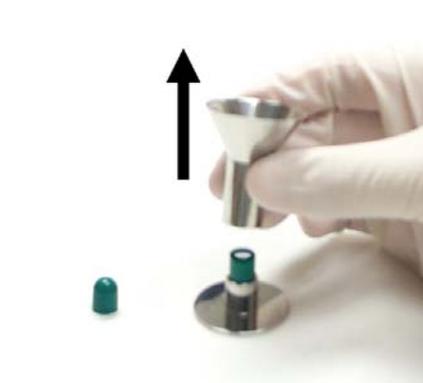
**2.** Place the funnel over the capsule body in the holder.



**3.** Dose a pre-measured amount of powder into the capsule through the funnel, **or** put the assembly on a precision balance, tare it, and dose the powder into the capsule through the funnel.



**4.** When the required quantity of powder has been put into the funnel, use the tamper to compress filling material into capsule body.



**5.** Slowly remove the funnel.



**6.** Place the capsule's cap onto the body of the capsule, pressing firmly to lock. Remove the filled capsule from the base.

*Do you need to fill more than a few capsules?*

## Multi-Fillers Are Available Now!

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**ProFill**  
for human capsules  
(size 000-5)

**#9 Multi Capsule Filler**  
for size 9 mini-capsules

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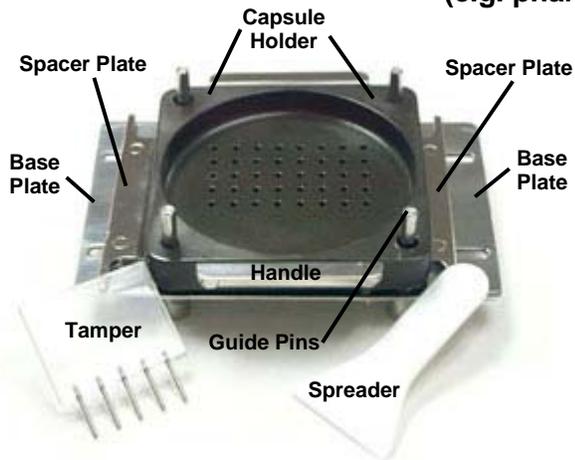
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**CVF**  
for veterinary capsules  
(size Su07-13)

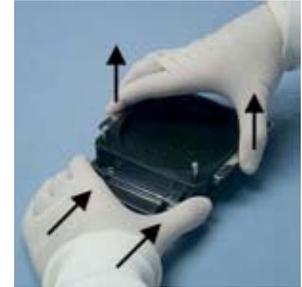
# #9 Multi Capsule Filler

## Operating Instructions

Ideal for filling multiple capsules at one time when fill weights can be within +/- 7 to 10% of average (e.g. pharmacokinetic studies)



1. Pull gloves tight around fingertips for easier capsule handling.



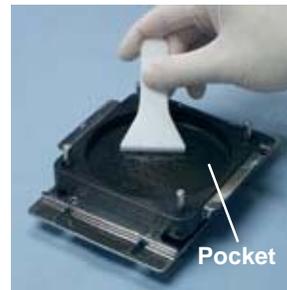
2. Lift the Capsule Holder using the 2 handles and push both Spacer Plates all the way in and under the capsule holder.



3. Separate capsules one at a time and place caps in a shallow container such as a Petri dish.



4. Place the capsule body (longer, bottom half) into the Capsule Holder with the body opening facing up. Do this for all 40 capsules.



5. When all the holes have capsule bodies in them, pour out a pre-measured quantity of powder. Spread the powder with the Spreader. Push the excess powder to the Pocket.



6. Use the Tamper to pack powder into capsules. Spread remaining powder as in step 5 for proper fill weight.



7. Slowly pull out the Spacer Plates one at a time. Hold Capsule Holder with both Handles as you pull out each Spacer Plate and then gently let it down.



8. Now the tops of the filled capsule bodies are exposed.



9. Place the top caps of the capsules back onto the bottoms, pressing to fully lock each capsule.



10. After all capsules are joined; turn the entire filler upside-down to remove all filled capsules.