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ICV Surgery

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Works for me

This protocol is published without a DOI.

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PROTOCOL CITATION

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Molly Brennan

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ICV Surgery Procedure

- 1 Ears in ear bar (do NOT loosen the left bar)
- 2 Shave head
- 3 Put head up at 5 for ICV ONLY
- 4 Clean head with alcohol/iodine/alcohol
- 5 Incision down the middle of the head, between the eyes

- 6 Clip the 4 sides of the skin
- 7 Scrape off everything from the skull. Want it to not bleed. Can use the stone for the blood spots
- 8 Screw drivers: use #1 first to make 4 holes, one in each quadrant. Want to make the hole all the way through (will hear a pop). Then use #2 in each of the holes to ensure the holes are good
- 9 Screws: use the rounded ones, not the one with the sharper sides. Put one screw into each hole made. Want the screws to have a little bit of space so the cement can go under (not completely against the skull).
- 10 Put the arm on to the stereotax
- 11 Put the cannula into the arm, longer part of the metal pointing down.
- 12 Find the middle of Bregma (the line right in the middle of the skull). If bregma is not straight, estimate the middle.
- 13 Calculations: look at the dials on the side. AP is the one running perpendicular to the rat (pointing away from you), LAT is the one you have to stand to see, attached to the one going up/down. ALSO mark the point of DV (the depth) of where the cannula just touches the skull.
- 14 Adjust the AP and LAT to get to the ventricle. AP is -0.6, LAT is +/-2. Want to do half rats +, the other half - so have equal amount of rats. Make a little mark at that adjustment
- 15 Move the arm, then drill a hole at the marked spot, just enough to go through the skull.
- 16 Poke a hole into the drilled hole so that the dura is broken.
- 17 Take DV and subtract 3.2. This is the depth you should adjust the cannula to.
- 18 Make sure there is no blood on the skull! Use q-tips to cleanup blood
First glue: Japanese glue. One scoop of powder, 4 drips of orange bottle, one drop of sealant (syringe). This is the ratio you need to use, but might need to make some more (double up on everything!). Mix it and put it around the cannula and 4 screws.
Can put locktight between first and second glue make sure there is no blood on the skull! Use q-tips to clear

- 19 Second glue: sun shine. Put the paste around the entire skull, making sure to cover the cannula and the 4 screws. Press down to make sure it is on the skull.
Use the UV light to go over the sun shine. Go over all parts of it! Should be rock hard at the end.
- 20 Now you can lift the arm off. Unscrew a little, put your spatula in the middle to open some more, then lift the arm.
- 21 Flatten the skull back to 0
- 22 Glue: cement. Like catheters, want to start with a thinner layer and make it thicker as you add more. Make sure not to put cement inside the cannula!! Want a good amount of cement.
- 23 Take off the clips from the skin
- 24 Put on dummy cannula and metal cap.
- 25 Put vetbond around the skin so it attaches to the skull
- 26 Post-op injections:
Cefazolin - IM, point body weight
Flunixin - SC, point body weight