NeuroNexus

dDrive User Instructions

Updated February 29, 2016

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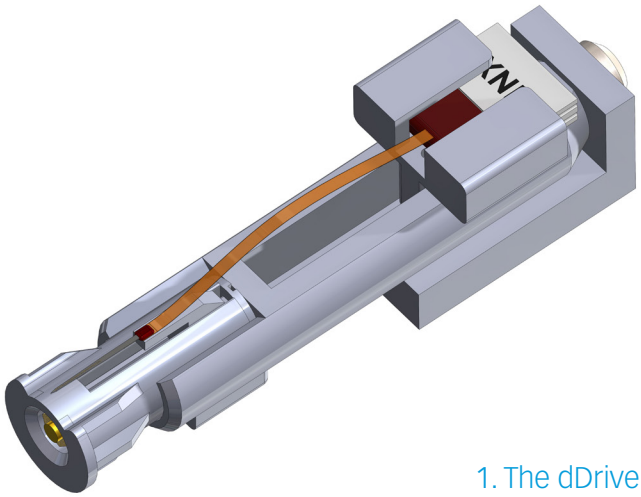
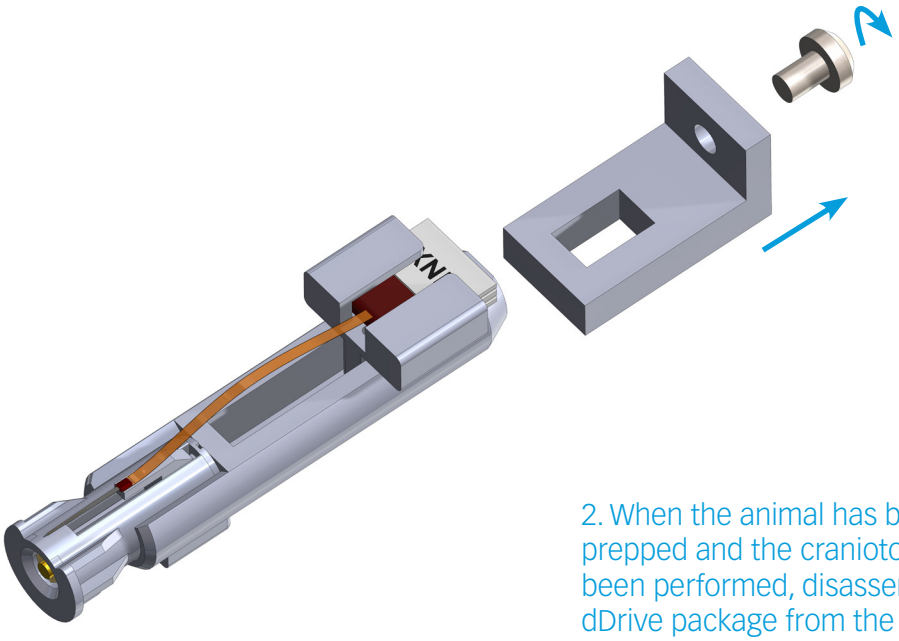


1. The dDrive is packaged conveniently for your surgical prep. We recommend EtO sterilization of the dDrive in its container before use.

2



2. When the animal has been prepped and the craniotomy has been performed, disassemble the dDrive package from the sterile packaging.

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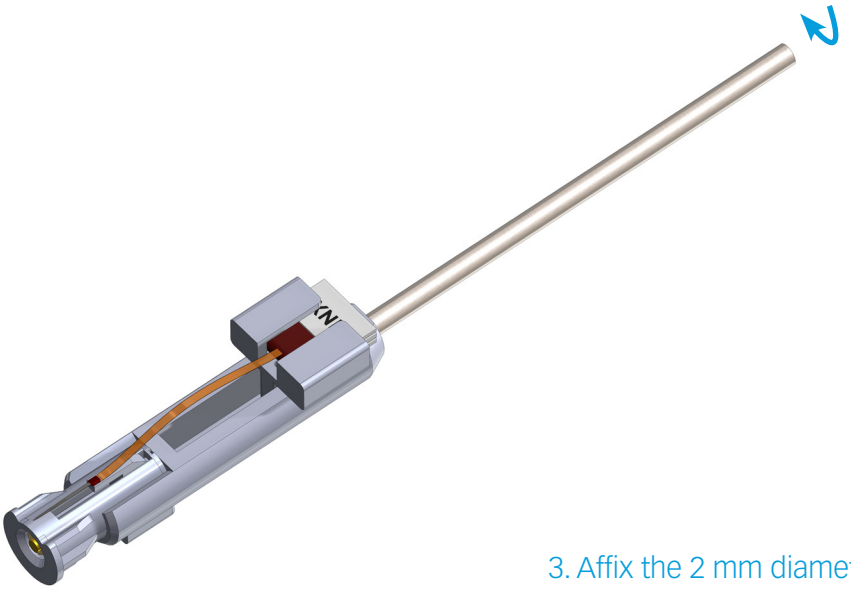
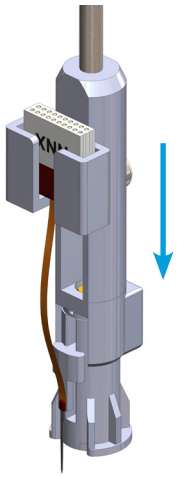
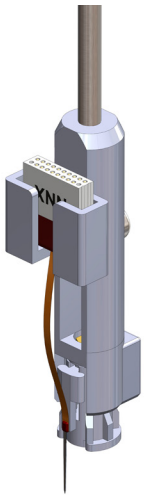


3. Affix the 2 mm diameter rod onto the assembled dDrive unit, then mount the dDrive unit onto a stereotaxic manipulator.

4





4. Position the dDrive at the implant location. Lower until the base of the dDrive is level with the bone surface, and cement the base of the dDrive to the skull. Use the dDrive base anchors to create a stable fixture. Depending on the probe length, intial insertion will be performed (“partial implant”) using the stereotaxic microdrive.

Standard Implant: Probe Length < Drive Range. Drive is used for both initial penetration and adjustment.
Partial Implant: Probe Length > Drive Range. Stereotaxic drive is used for initial penetration and drive used for adjustment.

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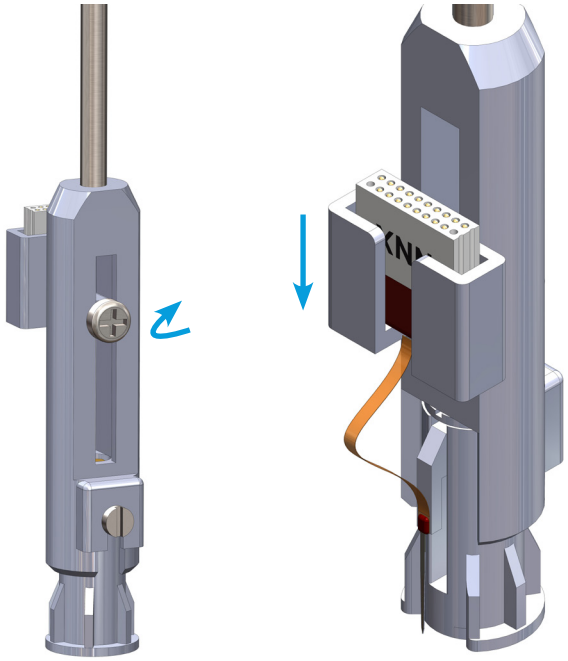
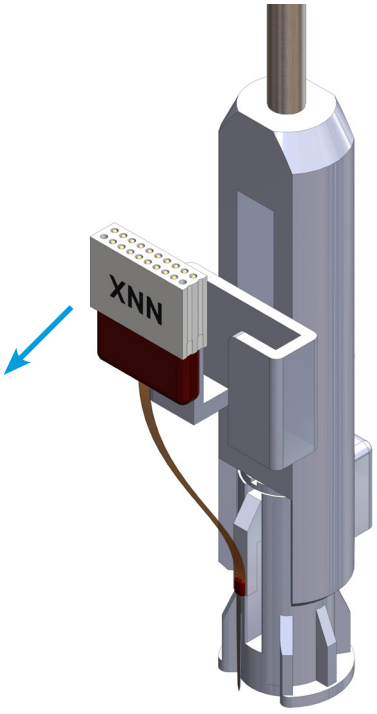


5. Loosen the connector holder and lower the connector, creating slack in the probe's flex cable, as shown.

6



6. Disengage the connector from the drive and place on the skull. Hold the connector with a separate manipulator, leaving slack in the flex cable.

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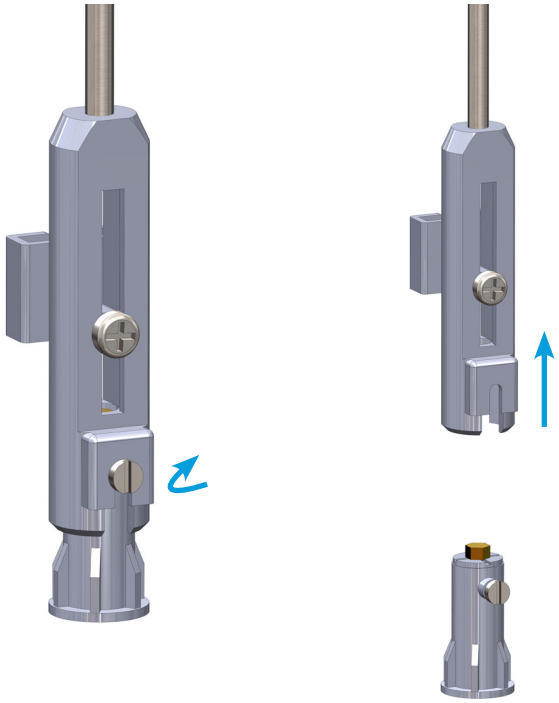

7. Loosen the dDrive securing screw and pull the insertion component away from the cemented drive.

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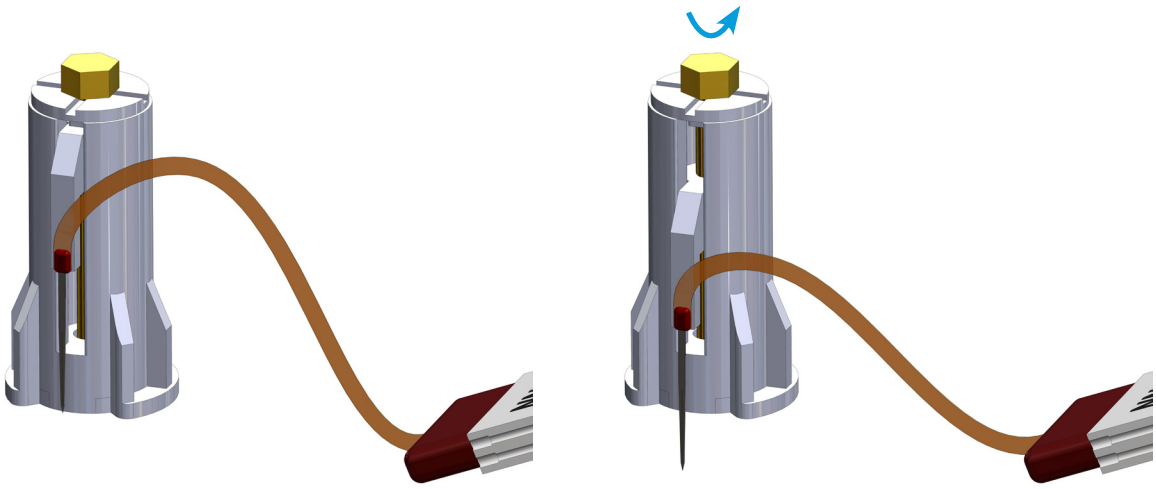

8. Using the dDrive screwdriver, drive the remaining electrode into tissue. Turn the screw head counter-clockwise for downward motion. Keep track of the number of rotations of the screw head. Seal craniotomy with sterile Vaseline or appropriate material.

- 1turn = 150 µm

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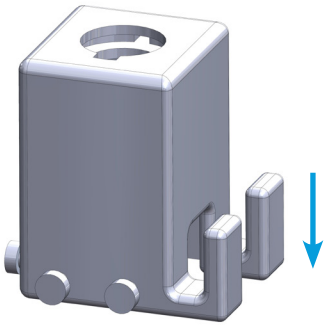

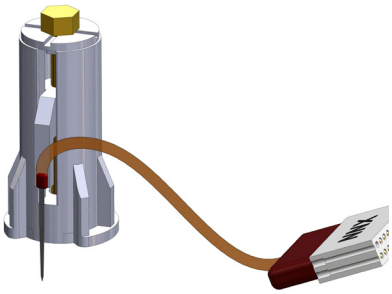

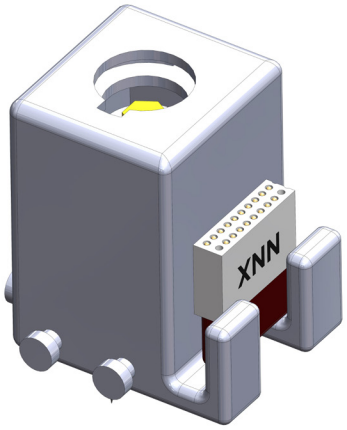

9. Place the cap over the dDrive such that the cap opening is concentric to the dDrive. Cement the cap in place. Position the connector in the connector slot and cement securely to the cap. Do not over-stress the interconnect.

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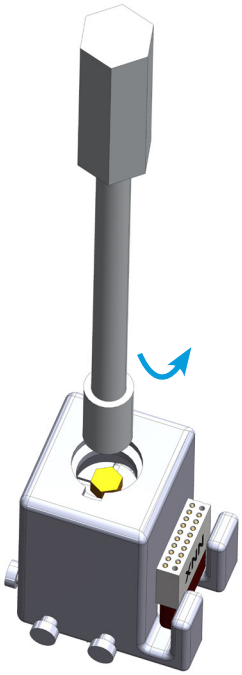

10. Make necessary adjustments to electrode position for obtaining best signal.

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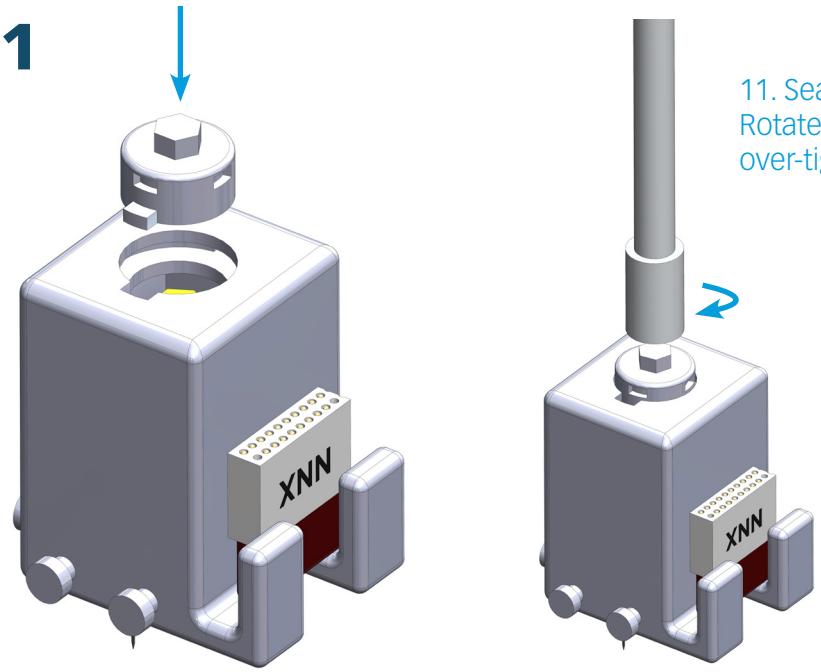

11. Seal the cap with the cap cover. Rotate clockwise to secure. Do not over-tighten.

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