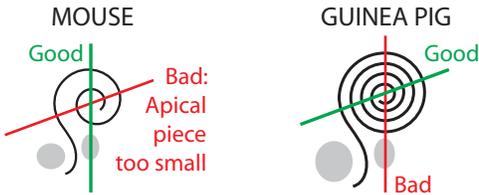


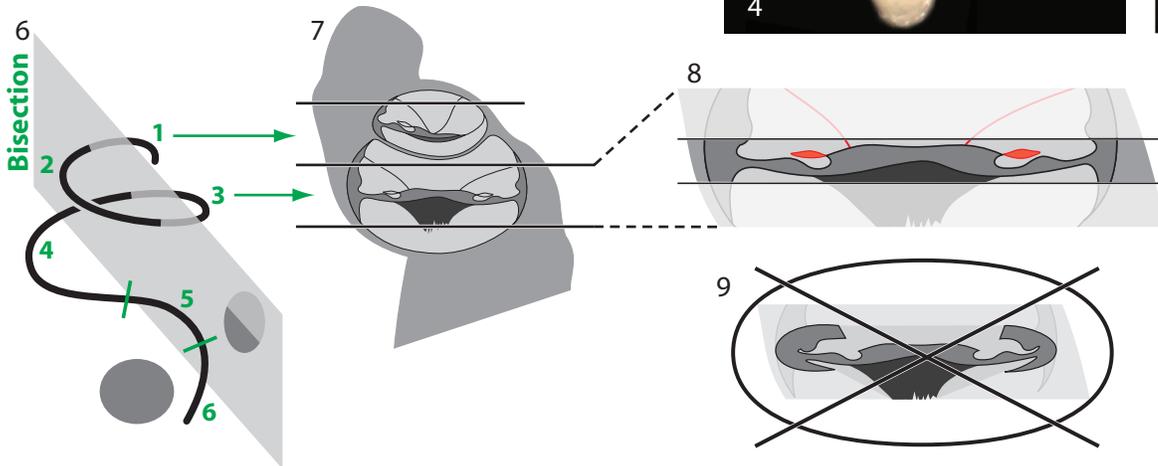
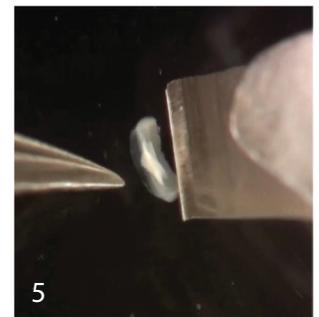
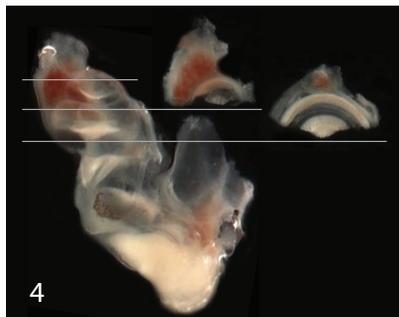
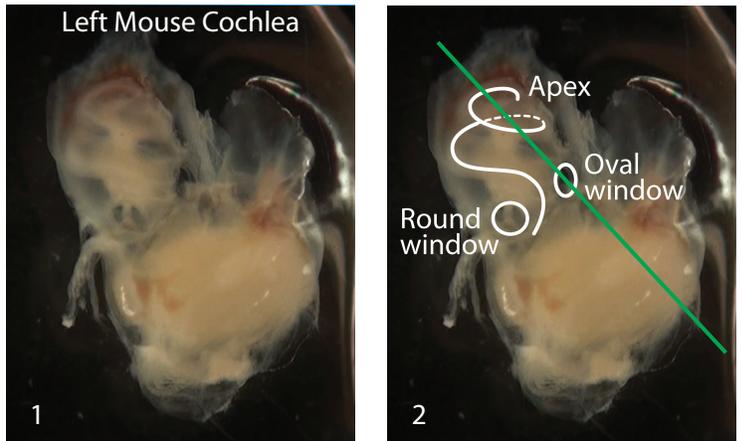
Cochlear Whole Mount Dissection

Set decalcified temporal bone on its medial side (1). Use a double-edged razor blade to bisect cochlea along a mid-modiolar plane. For mouse, placement of cut through oval window is best (2, 6), as it yields a larger apical piece less easily lost during subsequent histology. Optimal rotation of bisection plane varies with species, however, depending on configuration of apical turn.



Easier to see placement of blade if cochlea NOT immersed. After cutting in half (3), do add buffer to dish, and perform rest of dissection with tissue submerged. A dark background better displays the unstained cochlear spiral within the translucent decalcified bone.

Using small spring scissors to cut the half-turns apart (4, 7), the organ of Corti may be collected as a series of arcs, providing a surface view of its entire length (11). The turns may or may not be connected at the modiulus, depending on exact placement of bisection. You will need to cut the basal half-turn and hook into shorter lengths in order for them to lie flat on a microscope slide, as schematized by the numbered segments below (6). Make an identifying note or sketch of each piece as you progress so that you can put the pieces in the correct order on the slide.



Trim the spiral ligament and modiolar nerve stump above and below the basilar membrane (5,8), using pieces of breakable blades in holder as mini-scalpels (5). This allows the piece to lie flat and prevents the spiral ligament from folding over and obscuring the organ of Corti (9). Be sure to pull off the tectorial membrane and Reissner's membrane (10). Detach and trim only one piece at a time, so that they don't get lost.

