

Sectioning otoliths

Your otolith needs to be sectioned so that you have a thin slice through the centre of the otolith including all rings and the nucleus to achieve this follow the steps below.

1st Step

- Heat a slide
- Once hot place a generous amount of crystal bond (CB) on the edge of the slide



2nd Step

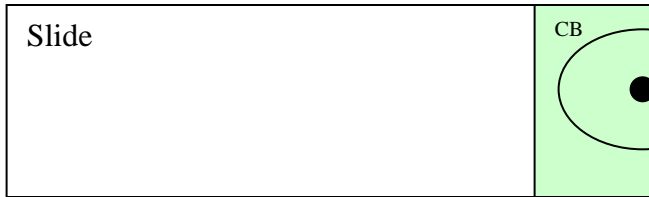
- Next place your otolith within the crystal bond and move it to the edge of the slide
- You will need to do this under the microscope – while the crystal bond remains hot.
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You are aiming to position the otolith on the edge of the slide so that the nucleus sits just this side of the edge (on larger otoliths you can position the nucleus half on and half off the slide but this is not recommended for small daily ring otoliths).



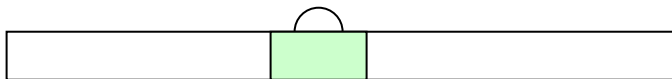
3rd Step

- Dip the slide into water this will help to seal the crystal bond and secure your otolith (never start grinding if the crystal bond is still soft)
- Check that the otolith is in the correct position (microscope)
- Then using a very fine grain wet and dry sand paper gently grind off the end of the otolith that is over the edge of the slide. **Use plenty of water**
- Using a very fine polishing paper gently polish the surface (approx 20 times)



4th Step

- Place the slide on the heater
- Place another slide on the heater with crystal bond in the centre
- Gently remove your otolith from the edge of the first slide and place it ground side down into the crystal bond on the 2nd slide.
- Position the otolith so that the ground surface is flat. You may need to check this under the microscope. Make sure there are **no bubbles** as this will distort your readings



5th Step

- Once in position - gently start to grind down the edge of the otolith you are aiming for a thin section which includes all rings and the nucleus.
- **Keep checking** your progress under the microscope – it is better to have a thicker otolith with all the rings than to grind too much and lose information.
- You should **stop** once you can see clearly through the otolith and start with a very fine grain lapping film – remember to use lots of water.
- The lapping film will help to remove any scratches from the surface of your otolith.

This is what you want to end up with

