

## Ocular Pathology – Optimising your results

- When enucleating the globe, ensure that you **retain an adequate length of optic nerve** attached to the globe – ideally > 5mm. Trimming the nerve too closely to the globe at surgery frequently results in rupture of the globe.
- **Remove all the adnexal tissues from around the globe** (except the nerve stump) to allow optimal penetration of fixative and to prevent muscle contraction from distorting the globe. If you suspect pathology in the extraocular tissues, submit these in a separate container for examination (N.B. Remember to state clearly on the form with each sample that there are 2 pots for this case so that you will only be charged once).
- If enucleation is the result of a suspected intraocular tumour, it is helpful to **mark the outside of the globe** corresponding to the affected area with a small tag of suture material. This will allow us to orientate the globe in the best plane at trimming (masses may be difficult to see in the fixed globe). The submission of diagrams of the localisation of lesions in the cornea, lens and retina can also be helpful.
- **DO NOT incise the globe!** Incision of the unfixed tissue causes collapse with alterations to the architecture and artefactual damage.
- **Fix the globe in 10% formalin** (as we routinely supply in our sample pots) **as soon as possible** after removal – preferably within 5 minutes. Globes require fixation for at least 48 hours prior to trimming so it is useful to **note the date of removal** on the history form. The tissue should ideally be fixed in 10 – 20 times its own volume of fixative; this may be best achieved by fixing the tissue in a large container in the practice for 3 days prior to submission in a standard sized container or even wrapped in formalin soaked cotton wool.
- If both eyes are submitted, please submit each in a separate, clearly identified, pot (See note 2 above).

- To optimise the preservation of retinal morphology, some ophthalmologists like to inject the globe with formalin. This procedure should be done with care as it can induce artefacts. DO NOT withdraw any vitreal fluid prior to injection. Use a 25 or 27 gauge needle to slowly inject 0.1 – 0.3ml of the same 10% formalin solution into the vitreous, ensuring that the needle penetrates the globe sufficiently to avoid injecting subretinally. Stop injecting when the globe feels slightly turgid.
- Eyes are trimmed by Julia Baker or another pathologist and are subjected to a special processing cycle. This takes longer than our standard process. As a result, reports are likely to be delayed by a day or two (plus necessary fixation time). We hope you will appreciate that this delay is unavoidable if you are to receive the best interpretation possible of your sample.
- Small corneal and conjunctival biopsies should be placed on DRY filter paper in a normal position prior to immediate fixation to help avoid curling.