Eye Dissection

Posted by Anonymous on Wed, 2016-08-03 14:01

Eye Dissection: In the SOP for eye dissections I noticed that scalpels are included in your equipment list. Could you please rethink this as an option.

The previous Head of department here banned scalpels for eye dissection as a WHS issue. Unless specifically requested by teacher, we only issue scissors, probe and forceps. I have asked this question of other laboratory personnel from a variety of schools and so far all have responded saying they do NOT use scalpels for eye dissectins.It IS hard to cut through the hard exterior, but scissors do manage it in a safer manner. We also only issue scalpels for ANY dissection if a teacher specifically requests them.

When students use scalpels to cut into the eyeball, they can 'stab' into it and then the contents of the eye are squirted out. We have had occasions where the contents have sprayed onto students chest area. If it sprayed onto their faces, then the contents could enter their nose, mouth and up under safety glasses and into their eyes.

The outer layer of the eye is tough to cut and it is very easy for a scalpel to slide off the slippery tissue and cut into a hand - the students own hand or the students assisting. Many students hold the eye ball in their hands while cutting, which makes them very vulnerable to a stab/cut injury from the scalpel. This practice of holding the eye in their hand is something we inform students to NOT do, but there are always one or two who think it is easy to do so.

If required I have prepared the eyes ahead of time by using a scalpel and making a slit into the eye so that students can then use the scissors to cut around it.

Voting:

No votes yet

Laboratory Technicians:
Laboratory Technicians

Showing 1-1 of 1 Responses

Eye Dissection

Submitted by sat on 15 August 2016

In Brief

School science dissections can be educationally sound and highly motivating activities when done with respect and safely organised. Appropriate Standard Operating Procedures and safety guidelines must be in place and observed at all times. A site specific risk assessment should be carried out prior to the dissection and the use of scalpels or scissors be based upon the results of this assessment. Consideration should be given to the experience of the teacher, technician and age and ability of students involved.

We can fully appreciate your safety concerns regarding the use of scalpels for eye dissections. However similar hazards are also encountered when using scissors. Scissors should have pointy ends to enable a clean entry point to be made. The scissors could slip just as easily as a scalpel and stab or cut the user.

It is important that the eyeball should never be held in the hand to dissect. The cornea and the sclera of the eyeball are tough and extra care is required when trying to cut into them. There is the chance of the vitreous and aqueous humour squirting out when using either scissors or scalpels. Therefore aprons, safety glasses or goggles should always be worn in case there is a sudden spurt of this fluid when an eyeball is being opened up. The teacher and/or laboratory technician could use a scalpel to make the initial slit in the eyes for students, who are then able to continue the dissection using scissors, which then removes the need for the students to handle scalpels.

In response to your feedback we have updated the information for the SOP. Click on this link to access the updated SOP: Performing an eye dissection

Additional information:

Safe use of dissection instruments

Before a dissection it is recommended the teacher or laboratory technician trial the dissecting instruments (scalpels, scissors and pointed forceps) to establish that they are sufficiently sharp enough.

It is very important that the teacher clearly demonstrates to students the correct dissection procedure and how to use dissection instruments safely:

- The dissection should take place on a surface that will absorb any impact with the

dissection instruments such as a wooden dissection board, foam or wax tray

- Hold the instruments so that any sharp points or exposed sharp edges point down into the dissection board or tray. If there is any slippage when using the instrument, the point/exposed edge will be absorbed by the board/foam or wax tray.
- To reduce the possibility of stab wounds or cuts from slippage always point sharp pointed instruments or edges away from yourself
- Scalpels should be provided in and returned to a lined container, blade end down.
- All dissecting equipment (scalpels, scissors, forceps, probes and dissecting needles) should always be counted out and in.

Student safety rules for dissection:

- Properly mount dissection material or specimen onto the dissecting board or tray.
- The specimen should never be held in the hand to dissect.
- Handle scalpels with extreme care and always cut away from your body and away from others.
- Scalpels must always remain on the top of the laboratory benches and are not to be removed from the bench area i.e. no walking around with them.

The following links provide additional general information for dissections:

‘Dissection safety tips’, Flinn Scientific website.
http://www.flinnsci.com/media/396301/dissectionsafety.pdf (2010)

‘Dissection Safety Policy and Procedures’ Flinn Scientific website.
http://www.flinnsci.com/media/948812/sf10490.pdf (2013)

Roy, K. 2007. ‘Dissection: Don’t Cut Out Safety’, NSTA website,
https://www.nsta.org/publications/news/story.aspx?id=53340

References

CLEAPSS. 2014. *G268 Dissection: a guide to safe practice*. Uxbridge UK.

‘Dissection safety tips’, Flinn Scientific website.
http://www.flinnsci.com/media/396301/dissectionsafety.pdf

(2010)

‘Dissection Safety Policy and Procedures’ Flinn Scientific website, https://www.flinnsci.com/globalassets/flinn-scientific/all-free-pdfs/dc1...(Updated December, 2016)
