My message to future ophthalmology teaching fellows: Organising an effective ophthalmology placement

BY MOKHALAD AL-DUHAIMI

Globally, teaching ophthalmology during the undergraduate period presents challenges. The time allocated for it is minimal with substandard exposure [1,2]. Additionally, the number of universities mandating formal ophthalmology education has significantly declined [3].

Research supports the observation that doctors in training often have inadequate ophthalmic knowledge, primarily due to limited exposure [4,5]. Moreover, they may believe they will rarely need to manage ophthalmology patients and feel there will always be an ophthalmologist to take over. This perception, combined with the fact that ophthalmology knowledge is often unfamiliar and separate from other medical specialties, makes it more challenging for students to digest.

I have been a teaching fellow at Swansea Bay University Health Board for 15 months. As such, I oversee the clinical placements of third-year medical students. For ophthalmology, Swansea Medical School students currently have a one-week clinical placement in their third year and a one-week lecture series in their first year.

The consistently positive feedback on the well-organised nature of the placement has encouraged me to share my experience in this role and my thoughts about how the placement should be designed.

The trigger

My weakness in ophthalmology upon graduating from medical school prompted me to design this clinical placement carefully. Reflecting on this dip in my knowledge, compared to my knowledge in other medical specialties along with my observations of foundation doctors while working in A&E, deepened my awareness of the deficiency in ophthalmology teaching.

Core problems

- Students don't understand ophthalmology; they don't know the pathophysiology of the diseases.
- Poor clinical exposure.
- Subsequently, students shy away from ophthalmology.

These are the key challenges that I targeted when designing the placement. I aimed to improve medical students' perceptions of and engagement with this complex and fascinating specialty!

Before they begin the block (a five-week programme covering six clinical specialties, with each cohort consisting of three to four students), each specialty conducts a brief introductory session to familiarise them with the placement structure. I guide them through the entire framework and encourage them to prepare in advance by reading specific books and websites to enhance their knowledge. I also direct them to the best clinics where they can have their competencies signed off.

The placement design

Enhancing students' understanding of ophthalmology

I set a 3.5-hour induction session at the start of the placement, with a goal of helping students understand the basic ophthalmology. I divide it into:

- Basic sciences teaching
- Slit lamp teaching
- Break
- Clinical ophthalmology teaching.

I begin by assessing the students' knowledge with a simple question: "How many layers does the eye consist of?" Using an eye model along with the help of Google images, I teach them the anatomical layers, including: the sclera, cornea (and its layers), uveal tract (they name it choroid), and retina (the fundal and OCT views), then the angle, lens, and vitreous body.

While going through all the structures, I talk about their clinical significance, common clinical findings that can be seen if a particular structure is affected, and the pathological nature behind them, but in a very simple way. For example:

- The role of the iris in pathophysiology of acute glaucoma.
- Why scleritis can cause pain on eye movement.
- Why patients with glaucoma or cataracts can experience halos or glares.
- Retina development from the forebrain and its relevance to retinal detachment (I don't go further into embryology).

Linking basic sciences to clinical practice ensures a deeper and more meaningful understanding of ophthalmology.

Many signs studied by medical students can be observed through the slit lamp. Most of the students I have encountered believe they are unlikely to use a slit lamp, resulting in a lack of interest. This attitude is understandable within the framework of adult learning theory (humanism) proposed by Malcolm Knowles: adult learners require intrinsic motivation to engage in the learning process, which is inherently goal-oriented. Once I explain to them that they may need to use the slit lamp if they are allocated to A&E, their expressions change to show increased attentiveness! I use a case involving a foreign body as an example to illustrate how to operate the slit lamp. Then I ask them to take a break (at this moment, we're both exhausted).

After the break, the clinical talk begins. I go over the history-taking, focusing on aspects more related to the eyes, such as asking about contact lens use, past ophthalmic history, and driving. In this session, we cover nearly all ophthalmic symptoms, discussing the underlying pathophysiology and potential differentials diagnoses. For example:

- For photophobia, we explore why it occurs, the differential diagnoses, and how we treat it.
- For diplopia, we differentiate between monocular and binocular diplopia and discuss possible neurological correlations.
- I like to divide vision loss into sudden, acute / subacute and chronic categories.
- Other symptoms: discharge, tearing, redness, pain, halos, floaters and flashes of light, etc.

As we go through the differential diagnoses, I also highlight the common signs associated with each condition (I teach them the slit lamp before talking about the ophthalmic signs). I always ask, "Why do you think the sign is like that?" This encourages and motivates them to ask such questions throughout the session. This is how a doctor should be built!

The negative feedback we frequently receive about the induction session is that it is heavily loaded with information. We continue this practice due to the limited time allocated for the placement. Interestingly, according to cognitive load theory, increasing intrinsic load can enhance the germane load, helping students differentiate between relevant and irrelevant information and aiding in schema construction [6,7]. This aligns with what I have observed in students' thinking behaviour after the session. Even when comments mention the session's intensity, they often acknowledge how it contributed to a deeper understanding of the topics.

To give them good clinical exposure

More time means more exposure. Unfortunately, this aspect is beyond our control. When we create the placement timetable, we strive to ensure they are exposed to the conditions of both the anterior and posterior segments, distributing them across clinics with this objective in mind. The Emergency Eye Clinic is one of the clinics we make certain they attend. Using teaching tubes in the clinics enhances the interaction and engagement of students with clinicians, and facilitating access to these tools is the responsibility of the teaching fellow. They also have a theatre session where they can observe cataract surgery. We do not expose them to other surgeries because doing so would compromise the time spent in clinics, which is more critical for them as future foundation doctors.

All the students have an ophthalmoscope teaching session done by one of our specialist doctors, and the session is divided into morning theory session (07:30–09:00) and afternoon practical session (13:30–17:00). They also have a 30-minute orthoptic session, and we are introducing a refraction session which mostly will be run by an optician. These sessions are squeezed between the morning and afternoon clinics.

Despite these efforts, they may need further exposure, particularly for certain common cases. Consequently, I chose to organise a one-hour presentation on clinical cases at the end of their placement (10–13 real cases that I encountered in the clinics). This presentation also functions as a tool for consolidation by promoting retrieval practice. It's also an opportunity to gather student feedback about the placement and look for suggestions. We provide them with a feedback form, using a QR code for easy access so they can scan it and fill it out (sending them a feedback link didn't show a good response). The presentation received excellent feedback.

Conclusion

Ophthalmology is often underrepresented during the undergraduate years. Recognising this gap and understanding students' perceptions of this specialty will aid in designing effective teaching strategies and maybe encourage students to consider Ophthalmology as a career option in the future

> "The slit lamp is for ophthalmologists! And the direct ophthalmoscope is for neurologists! Therefore, in an ophthalmology placement, we should also teach them how to use the slit lamp"

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