COVID-19 has immensely affected the training of ophthalmology residents; wet-lab training thus becomes of utmost importance. A simple cost-effective model for cataract surgery training of residents becomes the need of the hour. Hence, we aim to describe a new ‘Do It Yourself’ model with easily available material for beginners.

**Key words:** Phaco-emulsification, wet-lab, resident training

Surgical training is of utmost importance during training of budding ophthalmologists during the residency.\[^1\]\ Ripal's surgeries are often procedures with a steep learning curve; therefore, skills need to be transferred from experienced surgeon to trainee residents in a safe manner.\[^2\] However, with the rampant Coronavirus disease (COVID-19) pandemic in action, the routine surgical procedures have come to a standstill, and more importantly, resident practical training has been severely compromised.\[^3\] Hence, to circumvent these limitations, herein, we describe a simple and cost-effective ‘Do It Yourself’ (DIY) model for basic teachings in phacoemulsification.

**Technique**

The simple DIY model comprises a small rubber ball, on which a crater is created with the help of a sharp-edged blade. The depth of crater in the periphery is 3 mm and at the centre 5 mm, with diameter of crater being 9 mm. The nucleus is made with the help of cornflour (Weikfield Foods, India), one standard teaspoon with water in equal amounts, and 1 mL of feviglue (Pidilite, India). To harden the nucleus, one can use double amounts of cornflour. The mixture is heated for 2 min, which results in a dough-like consistency from which model lens nucleus is made. The lens is then placed on the crater created, and above it, an artificial cornea is placed. Such corneas can be obtained from already used, discarded single-use wax eyes. The artificial cornea is fixed to the rubber ball with the help of Fevikwik (Pidilite, India) and a watertight chamber with adequate depth is created [Fig. 1a-c]. The model is then mounted on the mannequin head and phacoemulsification steps like sculpting, chopping and foldable intraocular lens insertion can be practised [Fig. 1d and Video 1]. Once the surgery has been performed, the cornea can again be separated from rubber ball and another artificial ‘lens’ can be again placed in crater and repeat cycles of surgical practices can be performed.

The lens is made so as to resemble the human lens, with a less convex anterior surface and a more convex posterior surface to fit in the crater created, with an adequate distance being left between the cornea and lens. The model was used for initial phacoemulsification training by five residents. The residents were given a questionnaire at the end of practice session.

All five residents found the session to be useful, in helping them to gain confidence in performing the sculpting and chopping. Two of the five residents found the model to have tissue handling experience similar to human tissue.

**Discussion**

Wet-lab training is of immense value to boost the confidence of the young trainee residents.\[^4\] A large number of training

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models for resident training have been described, but most of them are not feasible and are not cost-effective. Animal eyes are an inexpensive training model for cataract surgery. The common problems encountered during goat’s eye cataract surgery training include the soft nucleus, pre-existing posterior capsule rupture and subluxation of lens caused during the animal eye enucleation. As a result of this, it becomes difficult to train the residents in various steps of phacoemulsification. Various artificial eyes like phaco-I (Madhu instruments) and Kitaro eye sets are available, but these options are for single use only and not cost-effective. The Kitaro eye set cost around. Our model can be used multiple times and the cost of its preparation is as low as Rs. 30. The limitation of our model is that capsulorrhexis cannot be practised upon, but it helps to gain the hand–foot–eye and sound coordination for residents who want to master phacoemulsification.

Conclusion
Thus, to conclude the “Do it yourself” model is a simple and cost effective option for the basic phaco-emulsification training of the residents.

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Conflicts of interest
There are no conflicts of interest.

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