



Assistive device to help instil eye drops safely, accurately





Introduction

MSWs, in the course of their work, realized that patients are being warded post-surgery because of their inability to instil eye-drops and they have no caregivers who is able to be there to help throughout the day. As they looked deeper, they realized the problem is much bigger as there are patients who require eye-drops on long-term basis and experienced the same issue. Hence started the long search for a suitable eye drop guide

Difficulties Includes:

Risk of hurting their eyes if placed too near Not knowing how to place the eye drop bottle Unsuccessful instillation if placed too far

Unable to hold the eye drop bottle steadily

Problems / Issues

- Admission to hospitals post-operatively due to inability to instil eye-drops as prescribed and no caregivers available to assist.
- Inaccuracy of instillation which might lead to noncompliance and result in deteriorating eye condition.
- Wastage of eye-drops which result in additional costs on medications as well as longer recovery period.
- Contamination of eye-drops if the tip touches the eye.
- Possibility of accidental injury to the eye.

- Reduce unnecessary inpatient admission to hospitals postoperatively due to inability to instil eye-drops
- Enhance compliance / accuracy in instillation.
- Timely recovery from correct administration of eye drops.
- Prevent contamination of eye-drops.
- Prevent accidental poking of the eye.

Unique Features

Unlike other eye-drop guides that are available in the market which can only fit only a certain bottle size, OptoAid is developed as a Magnetic modular system to not only fit different bottles sizes, it has a Minim holder that can be used for minims.



Process

- The idea was proposed to the Group Allied Health (GAH) during the Singhealth – Ngee Ann Polytechnic project innovation forum. The collaboration started in 2015 involving MSWs, Pharmacists, doctors and staff from Singapore Eye Research Institute.
- The prototype was further developed with a vendor after the collaboration ended, in anticipation for commercialization.
- The prototype was tested by staff and prototype was further enhanced based on the feedback received.
- A set was sent to Low Vision Occupational Therapist in Duke Eye Centre (USA) for professional review on product usability and her feedback was very favourable.
- Vendor also worked with National Health Innovation Centre (NHIC) from Singapore Polytechnic to conduct small scale market research and more than 75% of persons interviewed finds the OptoAid easy to use.

Conclusion

After taking into consideration of the findings of the market research done, OptoAid is now available for sale in some of the hospitals and polyclinics as well as overseas.