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# Proposed Campus Intellectual Product for Business Development Program "An Artifical Eye Consultation and Service Center"

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**Abstract** **Original Research Article**

In relation with the efforts to develop a knowledge-based economy culture, the University of Sumatera Utara needs access in realizing knowledge and technopark that utilize the knowledge, education and research results of lecturers. By organizing the Campus Intellectual Product Business Development Program, the University of Sumatera Utara has the opportunity to earn income and helps create new entrepreneurs. As one of the study programs at the University of Sumatera Utara, Prosthodontics Study Program also wants to participate in efforts to develop a knowledge-based economic culture to create new entrepreneurs in accordance with the vision and mission of the Prosthodontics Study Program. In this program, the proposing team wants to establish a business unit for the Consultation Center and Artificial Eye Services which includes a Consultancy Center, an artificial eye service (Production Center), and an artificial eye making training (Training Center). The problem faced is that patients after eye surgery have not found a single service place that was able to facilitate the synchronization between ophthalmologists and prosthodontists, so that if the patient received advice from an ophthalmologist at an eye hospital or eye clinic about postoperative care with making an artificial eye, and the patient had to go to find a prosthodontist specialist again, it was less efficient in terms of time and cost, because these patients did not only come from the city of Medan, but also from the surrounding area. If there is already one place that directly serves from consultation to artificial eye making, it will definitely make it easier for patients to improve their quality of life. With the aforementioned problems, an idea emerged from the team that proposed the program to create a consulting center and artificial eye services, which so far did not exist in Indonesia.

**Keywords**: Campus intellectual product, artifical eye consultation, artifical eye service center.



## INTRODUCTION

In this program, the proposing team wants to create a business unit for Consultation Center and Artificial Eye Services. The manufacture of artificial eyes is one of the competencies of prosthodontists. Prosthodontists do not only deals with denture problems but also involves maxillofacial rehabilitation, such as artificial eyes, artificial ears, artificial noses, feeding plates and obturators. In principle, the procedure for making artificial eyes is similar to making prosthesis. The initial procedure begins with impression of the eye sockets using low viscosities impression material and a special tray, followed by a wax pattern trial, a secondary impression, a sclera trial, determination of the iris and pupil, and coloring of the iris that is adjusted to the patient's original eye color so that the artificial eye is similar to the patient's original eye socket and eye conditions [1, 2].

The etiology of eye loss can be congenital, traumatic and pathological. Treatments that can be done for eye surgery include evisceration and enucleation [3]. Evisceration is a surgical procedure that removes the contents of the eyeball, but leaves the sclera and the binding tissue in the orbital cavity. The appropriate treatment for evisceration is the installation of a stock eye, and in certain conditions a custom eye can be installed with some modifications. Enucleation is a surgical procedure that involves removing the entire eyeball by removing and cutting the tissue that binds it in the orbital cavity [4, 5]. A suitable treatment for enucleation is a custom eye placement [5]. Based on data obtained from partners in the community service program for artificial eye services at the Sumatra Eye

Center in 2019, there were 78 patients (data for 2017-2019) who had not been paired with artificial eyes after the surgical procedure.

The problem that they were facing was that after the surgery patients had not found a single service place that was able to facilitate the synchronization between ophthalmologists and prosthodontists, so that if the patient receives advice from an ophthalmologist at an eye hospital or eye clinic about postoperative care with making an artificial eye, and the patient had to go to find a prosthodontist specialist again, it was less efficient in terms of time and cost, because these patients did not only come from the city of Medan, but also from the surrounding areas. If there has already one place that directly serves from consultation to making artificial eyes, this will definitely make it easier for patients. With the aforementioned problems, an idea emerged from the team that proposed the Campus Intellectual Product Business Development Program (PPUPIK) to create a consulting center and artificial eye service, which so far did not exist in Indonesia.

## METHOD

Method for an artificial eye consultation and service center could be divided into 3 parts such as: 1. Artificial Eye Consultation Center (Concultancy Center)

Patients who came to the consultation center and artificial eye services, on the first visit would meet with an ophthalmologist. The ophthalmologist would provide an explanation of the artificial eye treatment according to the condition of the patient's eye socket, whether the patient still needed additional care before the artificial eye was made, or the patient can only receive stock eye, or the patient could proceed to fabrication of custom ocular prosthesis (Figure 1).

**Fig-1: Consultation room**

**Artificial Eye Service Center (Production Center)**

Patients who have gone through the screening process from an ophthalmologist, and have been declared to be able to continue with the artificial eye service procedure, would be transferred to a prosthodontists or dentists who specialized in prosthodontics which would perform custom eye fabrication. The fabrication started from anatomical impression, wax pattern trial, physiological impression, sclera wax pattern trial, fabricating sclera, creating iris button, coating the sclera with clear resin acrylic, ocular prosthesis insertion and periodic control (Figure 2).

**Fig-2: Fabrication room**

**Training Center for Making Artificial Eyes (Training Center)**

Training on making artificial eyes was provided by a team from the Prosthodontics Specialist Study Program. The training participants, for example, are dentists who are currently participating in the prosthodontics specialist program (Figure 3).

**Fig-3: Training room**

## DISCUSSION

Proposed campus intellectual product for business development program "An Artificial Eyes Consultation and Service Center" would give benefit such as:

- Foster and develop entrepreneurship in prosthodontic study program and university, so that it could form a new entrepreneurs in the university area
- Increase interdisciplinary mutualism between prosthodontists and opthalmologists, so that post surgery patients who was contraindicated for stock eye could immediately be treated

with stock eyes that was fabricated by prosthodontists.

- Prosthodontic resident could take part in artificial eyes (custom eye fabrication) training, so as to increase their creativity for the development of an entrepreneurial spirit.
- Post eye surgery patient could find information and treatment that was indicated for them easier, and also obtained treatment in accordance with their needs.

## CONCLUSION

Proposed campus intellectual product for business development program "An Artificial Eyes Consultation and Service Center" can provide new entrepreneurship in university area, increasing dentist's or prosthodontist's skill in giving the artificial eyes treatment for post eye surgery patient. Patient can also obtain information about artificial eyes easier and get the best treatment in here because it is a single service place that is able to facilitate the synchronization between ophthalmologists and prosthodontists.

## REFERENCES

1. Abas SK, Fatihallah AA, Ali MMM. Matching the iris color of ocular prosthesis using an eye contact lens: new technique. Iraqi Dental Journal. 2017; 39(1): 23-5.
2. Buzayan MM, Ariffin YT, Yunus N, Mahmood WAAB. Ocular defect rehabilitation using photography and digital imaging: a clinical report. J Prosthodont. 2015; 24: 506-10.
3. Honavar SG, Kumar R. An eye for an eye. Oman Journal of Opthalmology. 2014; 7(3): 109-11.
4. Parekh AA, Bhalerao S. Rehabilitation of ocular defects: custom made and modified stock eye prostheses. SRM J Res Dent Sci. 2016; 7: 41-4.
5. Maskey B, Mathema SRB, Shrestha K, Bhochhibhoya A. A simplified approach to fabricate a hollow ocular prosthesis. J Prosthodont. 2019; 28(7): 849-52.