



## Improving Aesthetics in Enucleation Patients with 7th Nerve Palsy and Eyelid Immobility: A Technical Approach

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### Abstract

This case study represents an approach to help improve aesthetics and confidence of a patient who was diagnosed with lower motor neurone 7<sup>th</sup> nerve palsy resulting in orbicularis oculi paralysis and no eyelids opening or movements (Figure 1).

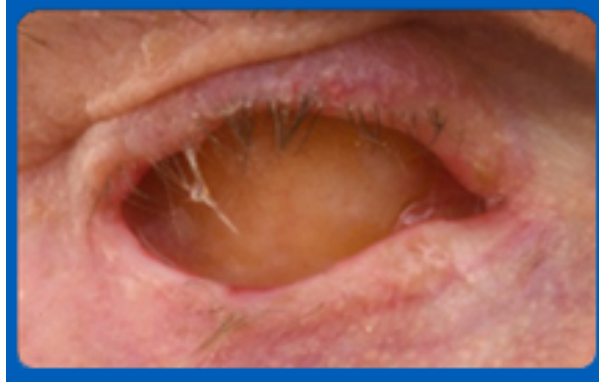


Figure 1: Case presented.

### Clinical Case

A patient was presented with lower motor neurone 7th nerve palsy and right enucleated socket because of herpes simplex keratitis infection on cornea, several surgical attempts were

made to improve aesthetics to the right side of the face and upper eyelid platinum weight insertion to improve closure (Figure 2).

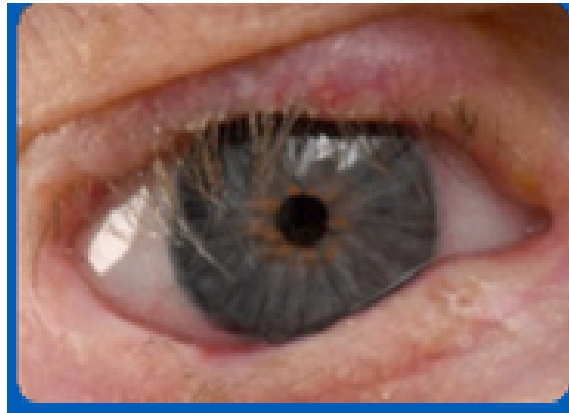


**Figure 2:** Socket.

### Treatment Plan

From an ocular prosthetic point of view - I wanted to put into practice two techniques of fabricating an artificial eye that I could use to improve aesthetics and compare the results, the first artificial eye (Figure 3) would be made the traditional

monopoly syrup with dry pigment and the second would be fabricated by adjusting the iris disk and using skin colour paint in the inferior aspect of the eye to help reduce the amount of white sclera (scleral show) that is visible (Figure 4). The artificial eye was made in a similar way to Pine KR, et al. [1].



**Figure 3:** Artificial eye 1.



**Figure 4:** Artificial eye 2.

### Method Technical Approach

Artificial eye 1 was fabricated using dry pigments mixed with monopoly syrup, and in a heat cured acrylic material (Figure 5). Artificial eye 2 was fabricated using dry pigments using

heat cured acrylic material and dry pigments mixed with monopoly syrup, but also included skin colour dry pigment paint on the inferior edge of the prosthetic eye and a reduced iris disc in the inferior region (Figure 6).



**Figure 5:** Artificial eye 2.



**Figure 6:** Artificial eye 2.

The aim of this case study was to see whether or not I could improve aesthetics by reducing the visible white sclera (scleral show) of the artificial eye. I did this by mixing dry pigment paint together to match the skin colour; I also removed the inferior part of the iris disc to give the illusion

that it was sitting under the eyelid, I blended the iris edge into the skin colour tone to give the illusion that the lower eyelid was higher than it was. In theory this would reduce the amount of white sclera seen, limit the amount of sclera defect visible and lessen the prominence of artificial eye (Figure 7).



**Figure 7:** Artificial eye 1&2 side by side.

## Result

As you can see by the photos some minor aesthetic improvements were achieved, to achieve this I had to be very precise when painting the artificial skin colour and cutting the iris disc. The patient was very pleased with the result and

preferred the second artificial eye to the first. The patient felt that the eye was less noticeable because of the artificial skin colour painted directly onto the sclera. The patient left with both eyes (Figure 8 and 9). I could have also used this technique alongside oil paints [2].



**Figure 8:** Artificial eye 1.



**Figure 9:** Artificial eye 2.

## References

1. Pine KR, Sloan BH, Jacobs RJ (2015) Making and fitting prosthetic eyes. *Clinical Ocular Prosthetics*, pp: 65-78.
2. Chaudhary R, Kumar D, Khattak A, Yadav RK, Gopi A, et al. (2019) Ocular Prosthesis with an Art: A Case Report. *International Journal of Experimental Dental Science* 8(1): 26-31.