

# Fitting for a Migrated Guyton Implant

**ABSTRACT:** *The late nineteen forties and early fifties were exciting years in the field of ophthalmic prosthetics. Plastic prosthetic eyes were evolving and at the same time a variety of motility implants were being developed. Two years after Cutler reported on the use of a direct integrated implant, an article in the Pennsylvania Medical Journal (August, 1949) stated that, "Enucleation should no longer be considered a minor, routine operation, and enucleation with spherical implantation should not be regarded as our best effort; if thought is given to these newer procedures. Unfortunately, this optimism was premature, as direct integrated implants proved to be troublesome in the long run. For this article, the authors share a case report regarding a (troublesome) migrated Guyton ocular implant.*

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## INTRODUCTION

Various direct integrated implants were developed by such men as Cutler, Hughes, Rolf, Iliff, House, Stone, Johnson, and Dr. Jack S. Guyton. Certainly, their intention was noble; to improve the welfare of the anophthalmic patient by providing better movement to the artificial eye. These implants featured an exposed face with a female receptacle which was designed to accept a male peg attached to the back of an artificial eye. Because they were "semi-buried" they were more prone to chronic infection as well as migration problems. To their credit, they pointed the way to the more successful buried integrated implants such as the Allen and Iowa implants. They also challenged ophthalmologists to improve the technique used for sphere implants.

This may not be a typical case presented here, nevertheless, there are a few interesting things one may learn from it. Improvisation to one's fitting technique must be considered and this method may be used in other unusual cases. Secondly, the psychological aspect was a compelling factor.

## PROBLEM SOCKET

A 67 year old caucasian male came to the office wearing the same prosthesis he had been fit with in 1950 following orbital reconstruction with implantation of a Guyton implant. (Figure 1) True to their design, the implant and prosthesis moved extremely well. However, over the years a number of problems had developed; the

## KEY WORDS:

Motility implant, Migration,  
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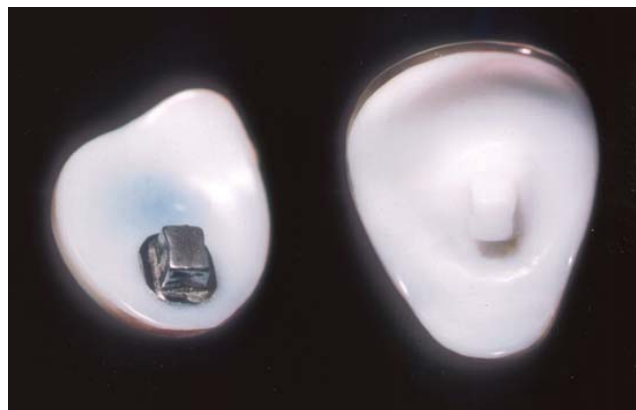
**FIGURE 1:** Patient shown with ill-fitting prosthesis, which is turned nasally.



**FIGURE 3:** Lateral movements show “gaping” which causes irritation, “clicking” and increases mucus drainage.



**FIGURE 2:** Removal of prosthesis shows migrated implant and anterior shaft of the Guyton implant, inflamed socket.



**FIGURE 4:** Comparison of original prosthesis with titanium motility peg imbedded into the posterior of the prosthesis (left) and the new, larger, all acrylic prosthesis (right).

implants had migrated forward and tilted nasally and the inferior fornix was very shallow, meaning the prosthesis was retained in the socket by the peg. (Figure 2) Another problem was the appearance of a gap in the lateral canthal area. (Figure 3) Along with all these problems, the patient had frequent infections (and chronic mucus drainage) of the eye socket.

The initial treatment reaction was to strongly urge the patient to look into surgery to have the implant removed and to reconstruct the socket. The patient was aware of

this option and in fact had recently talked to two different surgeons. However, he stated that he was extremely reluctant, in fact, frightened, of any surgery due to a bad experience he had years ago. It became apparent that if he did not fit a new prosthesis he would wear the old one indefinitely. After thoroughly discussing the potential problems, a new, replacement prosthesis was started.

The first fitting attempt was to empirically design a wax model for the new eye, but this was not retained to the eye socket. As an alternative, a duplicate of the old prosthesis (Figure 4, left) was made and then modified. To duplicate the shape, a stone casting was made and a white



**FIGURE 5:** While ptosis is still present, the new prosthesis shows significant improvement in the patients appearance over the old prosthesis, and eliminates 'gaping'. The new prosthesis also provides reasonable movement, and circumvents surgery.

plastic shape was fabricated. Much of the anterior of this shape was removed to permit attaching an aluminum iris button (for the iris positioning) with wax. The periphery of the new shape was extended with wax, especially in the nasal and temporal areas. From this fitting shape the new prosthesis was fabricated. (Figure 4, right) The final result was an improvement, and for now at least, the patient circumvented further surgery. (Figure 5)

## CONCLUSION

As ocularists, we often face less than ideal fitting situations. Sometimes the best course to take is referral for oculoplastic surgery. However, if this does not prove viable we should be ready to try a creative approach to achieve the best results possible.

## REFERENCES

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