

## Technical note

# New approach to the treatment of persistent lagophthalmos

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Inability to close the eyelid completely (lagophthalmos) is a devastating complication of facial nerve palsy. Excessive evaporation of the tear film secondary to corneal exposure will result in corneal abrasion, ulceration, and severe distress to the affected patient.<sup>1</sup> Various weights for upper eyelid loading have been used effectively in the treatment of paralytic lagophthalmos. Rigid gold, platinum implants, and platinum-iridium alloy chains are the currently available implant material for lid loading.<sup>2</sup> To the best of our knowledge, there are no long-term studies to indicate the superiority of one over the others, but gold is the most commonly used material. Complications such as migration and extrusion are uncommon but alternative treatments are limited.

We describe a successful technique that uses a silicone implant to create a pseudo-pocket that to our knowledge has not been reported previously.

A 58-year-old woman was referred with a paralytic lagophthalmos that had developed after a fracture of the skull base. There had been at least four attempts to place various weight implants in the left upper eyelid before referral to our unit, and we subsequently inserted a gold one. Unfortunately, none of these attempts was successful, including ours so we removed it. Such extrusions usually occur within two to four weeks postoperatively.

We used a two-stage procedure to develop a pseudocapsule to support the weight of the gold and prevent it from extrusion. The silicone prosthesis (liquid silicone elastomer (NuSil™, MED-4880 NuSil Technology LLC) was fabricated using the



Fig. 1. Silicone prosthesis made with similar dimensions to the gold weight.

“lost-wax” technique to mirror the dimensions of a standard gold weight (Fig. 1). In the first stage, we inserted a custom-made silicone prosthesis into the upper eyelid, which we then removed six months later in theatre. The firm capsule was dissected carefully, and a gold weight fitted. Follow up lasted 12 months with no signs of complications.

A double capsule is an established sequelae that is associated with breast-textured silicone prostheses,<sup>3</sup> and although the aetiology is not clear, it might be of mechanical origin. We used the same concept to minimise the risk of extrusion of the gold weight, because gold implants are the method of choice in our unit. Creating a double-layered capsule to hold the weight is an effective alternative in maximising the success of upper lid loading in paralytic lagophthalmos.

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**Ethics statement/confirmation of patient's permission**

Not required.

**Conflict of interest**

We have no conflicts of interest.

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