A modified technique for strabismus surgery in the presence of a scleral buckle

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Background
Surgical correction of strabismus due to scleral buckles can be challenging and removal of the buckle element carries the risk of retinal redetachment. We describe the outcomes of the surgical technique that allows for scleral reattachment of the rectus muscles, using adjustable sutures, while preserving the exoplant.

Methods
A retrospective review of all patients treated by the technique described here was performed. Outcome measures included postoperative alignment and associated complications. Success was defined as orthotropia within 10 prism diopters. Follow up was 4 months to 4 years.

Methods: Surgical Technique
After careful dissection and lysis of scar tissue the muscle was secured and detached from the globe. Care was taken to minimize the amount of capsular dissection in order to prevent extrusion of the buckle. Procedures performed included: recession, resection, plication on adjustable or semi adjustable sutures, myectomy and tenotomy. Sutures were passed between the exoplant and the globe and placed on partial thickness sclera. Post operative adjustments were made in the recovery room.

Results

<table>
<thead>
<tr>
<th>Mean Deviation</th>
<th>Horizontal (PD)</th>
<th>Vertical (PD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preop</td>
<td>26.7</td>
<td>13.2</td>
</tr>
<tr>
<td>Postop</td>
<td>6</td>
<td>1.3</td>
</tr>
</tbody>
</table>

- Success was achieved in 8 of 9 patients, 5 of which achieved orthotropia
- 8 of 9 patients had adjustable sutures
- 2 required a second operation
- Zero patients had redetachment

Conclusions
Strabismus surgery, including adjustable sutures, can be performed without affecting the integrity of the scleral exoplant in patients with previous retinal detachment surgery.