Injections to Treat Strabismus

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Disclosure: Patents to A. Scott cover manufacture. There is no restriction to medical use.
Injury - PCT - IOL - Buckle x 2 - Strabismus x 2

“Scleral defect 7 x 4 mm with bulging choroid. Muscle not done.”

45° RET
BUP - RLR (90mg)
BOTOX - RMR (6U)

One month after large dose BUP & Botox

RLR Paretic, BUP inflammation  Aligned in 1°  RMR Paretic, Botox
13 months after Injections

“My right eye is centered and tracks very well”
25° XT° & 20° RHOST after multiple glaucoma surgeries
BUP - RMR (63mg) & RSR (50mg)
BOTOX - RLR (3U) & RIR (3U)

4 months after Injections

Orto
You made a white spot in my eye, doctor!

One month after Injections

“You made a white spot in my eye, doctor!”
2 months after Injections and cataract surgery
40° XT
BUP - RMR (60mg)
BOTOX - RLR (5U)

Orto
Stability of Outcome
Bupivacaine and Botox Injections

Primary Position Gaze
Prospective Clinical Series
74 Comitant Horizontal Cases
Follow-ups to 10 Years

Time of measurement after final treatment

0° 0Δ

6mo 1yr 2yrs 3yrs 4yrs 5yrs 6yrs 7yrs 10yrs

N = 68

N = 53

N = 33

N = 25

N = 17

N = 5

N = 13

N = 8

N = 3
Success (% correction) Over Time

R² = 0.0392
# Dosage Recommendations

(Supplied at **3.0%** concentration in 5 mL vials)

<table>
<thead>
<tr>
<th>Deviation</th>
<th>BUP (Dose depends on deviation)</th>
<th>Botox (Dose depends on restriction)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 - 20 Δ</td>
<td>1.0-1.5% 1.5-2 mL 20-30 mg</td>
<td>0–2 U</td>
</tr>
<tr>
<td>20 - 30 Δ</td>
<td>1.5-2.0% 2-3 mL 30-60 mg</td>
<td>2–5 U</td>
</tr>
<tr>
<td>30 Δ +</td>
<td>2-3% 2-3 mL 40-90 mg</td>
<td>3 -10 U</td>
</tr>
</tbody>
</table>
• Battery powered, microprocessor controlled.

• EMG Mode – for conventional EMG-guided injection, with output to an onboard speaker and an external recording device.

• STIM Mode – for stimulation

**Increase & Decrease**

Stimulation Current  
Stimulation Frequency  
Speaker Volume
Stimulation