“Wide-Awake” Foot and Ankle Surgery: A Retrospective Analysis

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NO CONFLICT TO DISCLOSE

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My disclosure is in the Final AOFAS Mobile App.

I have no potential conflicts with this presentation.
The “Wide-Awake” Approach

The “wide-awake” approach to orthopaedic foot and ankle surgery:
• Adapted from wide-awake hand surgery.1-3
• Patient anesthesia achieved with a surgeon-administered local anesthetic.
• Epinephrine provides vasoconstriction and hemostasis at the operative site.
• No tourniquet. No sedation. No regional or general anesthesia.
• The patient is fully conscious during the operation.
## Local Anesthetic Mixture

<table>
<thead>
<tr>
<th>Procedure Type</th>
<th>Sample Case</th>
<th>Saline Bag Size</th>
<th>Local Anesthesia Dosage</th>
<th>Sodium Bicarb</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Small</strong></td>
<td>Hammer toe correction Hallux valgus procedure First MTP fusion</td>
<td>50cc</td>
<td>Lidocaine 1% + 1:100 000 epi – 10mL Bupivicaine 0.25% (no additive) – 5mL</td>
<td>1.5mL</td>
</tr>
<tr>
<td><strong>Medium</strong></td>
<td>Hoffmann procedure (RA) Talonavicular fusion Midfoot fusion</td>
<td>100cc</td>
<td>Lidocaine 1% + 1:100 000 epi – 15mL Bupivicaine 0.25% (no additive) – 10mL</td>
<td>2.5mL</td>
</tr>
<tr>
<td><strong>Large</strong></td>
<td>Ankle fracture ORIF Bridle procedure</td>
<td>2 x 100cc</td>
<td>Lidocaine 1% + 1:100 000 epi – 30mL Bupivicaine 0.25% (no additive) – 10mL</td>
<td>4mL</td>
</tr>
</tbody>
</table>
Retrospective Patient Survey: Method

Patient pain, anxiety, and satisfaction assessed via mail 2-14 months postop ($M = 193.11$ days, $SD = 100.52$)

90% response rate (27 of 30 patients)

Mean age = 57 years
$SD = 13$, range = 27-77
Procedures performed:

- Forefoot: 63%
- Hindfoot: 18.5%
- Lower leg: 18.5%

* 3 patients receiving hindfoot hardware removal were statistical outliers (data presented in Conclusion).
Retrospective Patient Survey: Results

**Patient Pain (0-10)**

- Preop: 5
- Intraop: 1
- Postop: 6

**Patient Anxiety (0-10)**

- Preop: 3
- Intraop: 2
- Postop: 1

**Statistical Analysis**

\[ F(2, 46) = 30.11, p < .001, \eta_p^2 = .57 \]

\[ F(2, 46) = 6.06, p = .005, \eta_p^2 = .21 \]
Retrospective Patient Survey: Results

Future anesthetic preference?

- Wide-Awake: 87%
- Sedation: 0%
- Asleep: 0%

χ² (1, N = 23) = 12.57, p < .001

Was wide-awake surgery better than expectations?

- Better: 83%
- The Same: 0%
- Worse: 0%

χ² (1, N = 24) = 10.67, p = .001

Would you recommend wide-awake surgery?

- Yes: 88%
- Unsure: 0%
- No: 0%

χ² (1, N = 24) = 13.50, p < .001
Concluding Points

1. Wide-awake patients report little pain and anxiety, and high levels of operative satisfaction. Replicates feedback from wide-awake hand surgery.\textsuperscript{4-6} 
   Cost and safety benefits, and a valuable opportunity to interact with an unsedated patient.

2. Three patients undergoing hindfoot hardware removal were statistical outliers. Reported greater intraoperative anxiety ($M = 5.67$) and pain ($M = 7.33$). Scar tissue from previous trauma and surgery likely prevented diffusion of anesthetic mixture.

3. Epinephrine not recommended in patients with PVD or poorly controlled type 2 diabetes. 
   Avoid epinephrine in these cases and re-dose the local anesthetic to 4.5 mg/kg (2mg/lb). 
   If necessary, phentolamine rescue will reverse the effects of epinephrine vasoconstriction.
ACKNOWLEDGEMENT

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