TABLE 2. Oximetry Readings (SpO₂) With and Without Glove in Patients with Decreased Arterial Oxygen Tension

<table>
<thead>
<tr>
<th>Patient</th>
<th>Pao2 (mmHg)</th>
<th>SpO₂ (%) Without Glove</th>
<th>SpO₂ (%) With Glove</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neonate</td>
<td>64.1</td>
<td>93</td>
<td>94</td>
</tr>
<tr>
<td>Neonate</td>
<td>58.2</td>
<td>93</td>
<td>93</td>
</tr>
<tr>
<td>Neonate</td>
<td>87.3</td>
<td>94</td>
<td>95</td>
</tr>
<tr>
<td>Adult (trauma)</td>
<td>51.6</td>
<td>79</td>
<td>80</td>
</tr>
<tr>
<td>Adult (trauma)</td>
<td>60.3</td>
<td>90</td>
<td>90</td>
</tr>
<tr>
<td>Mean</td>
<td>64.3</td>
<td>89.8</td>
<td>90.4</td>
</tr>
</tbody>
</table>

There were no significant differences between the SpO₂ groups.

gloved or ungloved index finger (table 1). Using a similar protocol, we further measured arterial blood gases and SpO₂ in three neonates and two adults with decreased Pao₂ to determine if there was any interference by a vinyl glove in patients who have altered oxygenation (table 2). Again, the right index finger was used. A pediatric pulse oximeter probe was used on the neonates. We concluded that a vinyl glove does not interfere with SpO₂ readings. We routinely use the vinyl glove intraoperatively as we feel it lessens the chance of injury as reported by Sloan.

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EKG Artifacts during Intraoperative Evoked Potential Monitoring

To the Editor—During intraoperative monitoring of somatosensory evoked potentials (SEP's), the EKG signal displayed on the screen of the Datascope 2000™ monitor (Datapath Corporation, Paramus, NJ) was often obscured by large stimulus artifacts. The same artifacts appeared on "delayed" hardcopy output produced by the Datascope (fig. 1A), but not on "diagnostic" hardcopy output (fig. 1B). SEPs were recorded by a Nicolet Pathfinder I™ signal averager (Nicolet Instruments, Madison, WI) using constant-current stimulators and stimulus isolation units. The square pulse electrical stimuli were 200 μsec in duration and delivered at a rate of 6.1 per second to paired stimulating electrodes over the median or posterior tibial nerves; stimulus intensities ranged from 15 to 30 mA.

Rigorous testing of the Pathfinder failed to demonstrate any malfunction. Other evoked potential averagers (e.g., Lifescan™, Diatek, San Diego, CA) produced similar artifacts. We then discovered that the large artifacts were produced by a "pacer enhancement circuit" in the Datascope 2000™, which modifies data sent to the screen display and "delayed" hardcopy but not to the "diagnostic" hardcopy. This circuit increases the visibility of small pacemaker spikes by incorporating a high-amplitude square pulse in the EKG data when a pacemaker spike is detected. While the electrical artifacts from the somatosensory stimuli were not large enough to obscure the EKG by themselves, their steep slopes led to their identification as pacemaker spikes.

The "pacer enhancement circuit" of the Datascope 2000™ can be disabled, eliminating this problem. Other EKG monitors designed for intraoperative use may also incorporate such circuitry. Thus, we are reporting our findings for others who may have encountered similar difficulties.

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FIG. 1. "Delayed" (A) and "diagnostic" (B) hardcopy EKG tracings produced by a Datascope 2000™ monitor during one operation. Identical somatosensory stimuli were being administered during both.