<table>
<thead>
<tr>
<th>Title of Presentation:</th>
<th>Consciousness Monitoring in Cardiac Anesthesia</th>
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<tbody>
<tr>
<td>Speaker:</td>
<td>Michael Avidan</td>
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<tr>
<td>Affiliation:</td>
<td>Washington University School of Medicine</td>
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</tbody>
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**Learning Objectives:** (minimum of 2):

- Explain the neurobiology associated with EEG changes that occur with anesthesia.
- Describe the EEG waveform features associated with appropriate depth of anesthesia with propofol and with volatile anesthetics.
- Determine whether an EEG waveform suggests insufficient anesthetic depth, appropriate anesthetic depth or excessive anesthetic depth.

**Background:**

Neuromuscular function monitors and EEG-based monitors are the (only) non-invasive monitors for which there is evidence for improved outcomes.

**Major Teaching Points (minimum of 3):**

- Electroencephalography: graphic representation of the difference in voltage between two different cerebral locations plotted over time.
- EEG: good temporal resolution, poor spatial resolution
- The EEG complex waveform can be “broken down” into component sine waves through Fourier transformation.
- Different anesthetic depths (with propofol and volatile agents) are associated with different EEG wave patterns, which can be readily discerned.
- A processed EEG index number can be concordant or discordant with the information conveyed by the EEG waveform.
- Titration of Anesthesia Using EEG is conceptually possible.

**Potential Clinical Implications:**

- Using the EEG during general anesthesia might be helpful in preventing intraoperative awareness.
- Using the EEG during general anesthesia might be helpful in preventing unnecessarily excessive anesthetic administration.
- The spectrogram might provide a useful visual summary of some key EEG features for clinicians.

**Future Areas of Research (suggest at least 2):**

- Can EEG guidance of anesthesia prevent postoperative delirium?
- Can EEG guidance of anesthesia improve other postoperative outcomes?
Key References / Further Reading (no more than 10 – please see sample document for proper examples):


Please return completed outline to lakehurst@intertaskconferences.com no later than Monday, June 15