Tablet based interactive distraction for anxiolysis during parental separation and induction of anesthesia

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Background

- Parental separation and induction of anesthesia are major sources for anxiety and stress in pediatric patients.
- This stress can cause behavioral changes that even parallel post-traumatic stress disorder (PTSD).
- Techniques for alleviating such anxiety include sedating medications, parental presence during induction, and a variety of distraction techniques including video games (VG).
- Previous studies have demonstrated video games as effective as midazolam for anxiolysis.
- VGs provide powerful distraction tool as interactive nature consumes attention.
- Tablet computing offers unique advantages over other VG systems including:
  - Storage for hundreds of developmentally appropriate low cost games on one device that can be easily changed.
  - Source for other distraction media (eBooks, videos).
  - Intuitive gesture based interface.
  - Age appropriateness and utility down to age 1 (younger than non-tablet based VGs can accomplish).

Methods

- Eligible subjects: Age 1-11 years; ASA 1-2; developmental or psychiatric diagnoses
- Participants randomized to receive tablet based interactive distraction (TBID) vs. oral
- Results to date will be presented at conference
- Goal for 102 subjects enrolled in 3 age cohorts

Results

- Data collection began 2/9/2013
- Results to date will be presented at conference
- Goal for 102 subjects enrolled in 3 age cohorts

Discussion

- TBID is effective as a sole or as an adjunct option for perioperative anxiolysis
- Current research investigating use of TBID vs. pharmacologic anxiolysis in key metrics such as anxiety scores, time to discharge, emergence delirium, post-operative behavior dysfunction, and others.
- Device acquisition cost higher than other options but greater flexibility

Game Selection Examples

<table>
<thead>
<tr>
<th>Game</th>
<th>Age range (years)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pocket Pond</td>
<td>1-3</td>
<td>Splashing water and fishes in realistic Koi pond. Great for infants and toddlers.</td>
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<tr>
<td>Talking Tom</td>
<td>1-6</td>
<td>Kitty cat repeats back what you say and does interactive tricks</td>
</tr>
<tr>
<td>Fruit Ninja</td>
<td>1-11</td>
<td>Finger slice and dice flying fruit. Very addictive and fun for toddlers to teenagers</td>
</tr>
<tr>
<td>Angry Birds</td>
<td>4-11</td>
<td>Slingshot birds to knock down pigs and their fortresses</td>
</tr>
<tr>
<td>Bad Piggies</td>
<td>4-11</td>
<td>Strategic pig cart building and racing</td>
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<tr>
<td>Cut the Rope</td>
<td>4-11</td>
<td>Puzzles to drop candy pieces into waiting frogs mouth</td>
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<tr>
<td>Racing Penguin</td>
<td>4-11</td>
<td>Race penguin up and down snow slopes against time clock</td>
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<tr>
<td>Temple Run</td>
<td>4-11</td>
<td>Fast paced temple racing adventure; dodging adversaries</td>
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<tr>
<td>Lego games</td>
<td>4-11</td>
<td>Virtual Lego building and interactive games</td>
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<tr>
<td>I Hear Ewe</td>
<td>1-3</td>
<td>Tiles of animals and objects and their respective sounds (planes, trains etc) in different languages. E.g. “This is the sound a duck makes”</td>
</tr>
<tr>
<td>Color Studio HD</td>
<td>1-11</td>
<td>Virtual drawing studio</td>
</tr>
</tbody>
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References