Introduction and Purpose

- Retinoblastoma affects children whose care depends on Examination Under Anesthesia (EUA) in order to fully evaluate the retina and treat multifocal tumors.
- Vulnerable patient population includes newborns.
- Disruptions within the operating room (OR) extend time under anaesthetic.
- Disruptions may be caused by:
  - technological malfunction
  - miscommunication
  - procedural errors
- To optimize retinoblastoma care, SickKids has created 27 different Standard Operating Procedures (SOP).

Methods

- We evaluated the EUA SOP before, after, and at 2-year follow-up audit.
- Two observers measured adherence to key steps within the EUA SOP using the checklist.
- EUA duration and disruptions were measured before and after SOP implementation (2019).
- EUA SOP was revised May 2021 with input from surgeons, fellows, and nurses on relevancy and efficiency of each step.
- An audit was conducted from June to July 2021 of 20 EUA procedures measuring adherence to checklist.
- e-Learning modules were updated to promote importance of SOP to new personnel.
- The EUA checklist was updated:
  - Out of date steps were removed
  - New protocols considering COVID-19 were added

Results

- The EUA checklist was updated:
  - Out of date steps were removed
  - New protocols considering COVID-19 were added

Conclusions

- Optimized efficiency and reduced disruptions
- A process to regularly update the SOP will ensure their functionality and benefit
- A place to record disruptions within the EUA checklist will allow for:
  - accurate analysis of delays
  - reflection to prevent recurrence
- eLearn will help staff follow SOP

Table 1 Adherence to Major EUA Steps following SOP Implementation

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Review eCC® database before EUA</td>
<td>5/17</td>
<td>16/22</td>
<td>*0.007</td>
<td>20/20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Review RetCam images before EUA</td>
<td>14/18</td>
<td>22/22</td>
<td>*0.02</td>
<td>20/20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 min notice of EUA completion to anesthesia</td>
<td>3/21</td>
<td>19/23</td>
<td>*0.0001</td>
<td>20/20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Update eCC®</td>
<td>17/22</td>
<td>23/23</td>
<td>*0.015</td>
<td>20/20</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2 Rate of Operating Room Disruptions following SOP Implementation

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>14/22</td>
<td>7/23</td>
<td></td>
<td>*0.026</td>
<td>1/20</td>
<td></td>
<td></td>
<td>**0.032</td>
</tr>
<tr>
<td>Equipment</td>
<td>8/22</td>
<td>4/23</td>
<td></td>
<td></td>
<td>0/20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Miscommunication</td>
<td>6/22</td>
<td>4/23</td>
<td></td>
<td></td>
<td>1/20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Procedural</td>
<td>0/22</td>
<td>0/23</td>
<td></td>
<td></td>
<td>0/20</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*significant p-value comparing adherence to EUA checklist variables pre- and post-SOP implementation in 2019

**significant p-value comparing number of disruptions pre- and post-SOP implementation in 2019 to 2021
• 1Department of Ophthalmology and Vision Sciences, The Hospital for Sick Children, Toronto, Canada, 2Temerty Faculty of Medicine, Toronto, Canada