The Ins and Outs of Organizing and Running a Boot Camp

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Phil LoSavio, MD - Chicago
David Hom, MD - Univ of California at San Diego

Seed Grant from the Society of University Otolaryngologists
Objectives

To discuss the Hurdles in Planning a Boot Camp

To discuss the Triumphs and Challenges in running a Boot Camp

To have audience interaction with their Boot Camp experiences (open forum)
SUO boot camp
UNIVERSITY OF TEXAS MEDICAL BRANCH

Orly Coblens MD, FACS
Residency Program Director

utmb Health
Triumphs and Hurdles in Planning

**Type of Program and Timing**
- Hands on with Skills and Complex Scenarios
- First Boot Camp – November 2021
- Second Boot Camp – June 2022
- Third Boot Camp – May 2023

**Who Participated?**
- PGY 2 residents for the past Boot Camps
- PGY 1 residents for the upcoming Boot Camp
- Faculty – was challenging to get
- Home institution, programs that sent their residents and local private practice attendings with an interest in education
- Provided hotel accommodations on the Island of Galveston
The Finances

Funding Source and Vendor Support

- SUO Grant
- Ambu – provided disposable scopes and screens
- Storz – provided laryngoscopy/bronchoscopy equipment, screens, mannequin heads

What we charged?

- Minimal for the first two years under grant support
  - $25 early/$35 late registration
  - guarantee for attendance
- $200 for the upcoming course

Costs

- Staff support at our Health Education Center
- Breakfast/Lunch/Snacks
- Pig Tracheas and holders
- Poster Boards
- Legos
November 2021

2 Programs: UTMB and UTSA
5 Residents
10 Faculty + 2 Senior Residents
1/2 day

4 Skills Stations
3 Complex Scenarios
June 2021

4 Programs: UTMB, Tulane, UT Houston, Baylor
14 Residents
13 Faculty + 2 Senior Residents
1 Full Day

6 Skills Stations
1 Communication
3 Complex Scenarios
## Sample Schedule

### Faculty Schedule for June 11, 2022

<table>
<thead>
<tr>
<th>Time</th>
<th>Rotation</th>
<th>OR #1</th>
<th>OR #2</th>
<th>ICU #1 Patient Room</th>
<th>ICU #2 Patient Room</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:45am-9:30am</td>
<td>1</td>
<td>Group 1</td>
<td>Group 2</td>
<td>Group 3</td>
<td>Group 4</td>
</tr>
<tr>
<td>9:30am-10:30am</td>
<td>2</td>
<td>Group 2</td>
<td>Group 3</td>
<td>Group 4</td>
<td>Group 1</td>
</tr>
<tr>
<td>10:45am-11:45am</td>
<td>3</td>
<td>Group 3</td>
<td>Group 4</td>
<td>Group 1</td>
<td>Group 2</td>
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<tr>
<td>11:45am-12:30pm</td>
<td>4</td>
<td>Group 4</td>
<td>Group 1</td>
<td>Group 2</td>
<td>Group 3</td>
</tr>
<tr>
<td>12:30pm-1:30pm</td>
<td></td>
<td>Lunch</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1:30pm-2:15pm</td>
<td>5</td>
<td>Group 5</td>
<td>Group 6</td>
<td>Group 3</td>
<td>Group 4</td>
</tr>
<tr>
<td>2:30pm-3:15pm</td>
<td>6</td>
<td>Group 5</td>
<td>Group 6</td>
<td>Group 4</td>
<td>Group 1</td>
</tr>
<tr>
<td>3:30pm-4:15pm</td>
<td>7</td>
<td>Group 5</td>
<td>Group 6</td>
<td>Group 1</td>
<td>Group 2</td>
</tr>
<tr>
<td>3:45pm-4:30pm</td>
<td>8</td>
<td>Group 5</td>
<td>Group 6</td>
<td>Group 1</td>
<td>Group 2</td>
</tr>
<tr>
<td>4:45pm-5:45pm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5:45pm-6:00pm</td>
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<td></td>
</tr>
</tbody>
</table>

**Wrap up - Learners**

**Debrief - Faculty Only**

**Plan to debrief in the adjacent room**

### Sample Stations

<table>
<thead>
<tr>
<th>Time</th>
<th>Station Description</th>
<th>OR #1</th>
<th>OR #2</th>
<th>ICU Room #1</th>
<th>ICU Room #2</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM</td>
<td>Dislodged Trach **</td>
<td>3 Faculty</td>
<td>3 Faculty</td>
<td>Neck Hematoma **</td>
<td>2 Faculty</td>
</tr>
<tr>
<td>PM</td>
<td>Angioedema **</td>
<td>3 Faculty</td>
<td>3 Faculty</td>
<td>Communication Skills/Laceration</td>
<td>3 Faculty</td>
</tr>
<tr>
<td></td>
<td>Cricothyrotomy/Tracheostomy</td>
<td></td>
<td>Cricothyrotomy/Tracheostomy</td>
<td>Communication Skills/Laceration</td>
<td>3 Faculty</td>
</tr>
</tbody>
</table>

**Note:**
- AM: Morning
- PM: Afternoon

**Sample Stations**
FeedBack Survey responses

From the Faculty

• Had a desire to participate in more simulation exercises in the future
• Faculty wished they had this as a resident
• Ability to give direct and immediate feedback
• Working with colleagues from different institutions
• Enjoyed being able to be the difficult family member

From the Learners

• Complex scenarios were the highlight
  • Immediate feedback
  • Wished they could repeat the scenarios again to learn more
  • The debrief/discussion was key
• Enjoyed learning from a variety of faculty
• Diverse learning/practicing opportunities
• Liked interacting with residents from other programs
• Did this course change how you think about/prepare for ORL emergencies? – 100% said YES
Implementation of a Regional ENT Simulation Bootcamp

Project Leaders - Phillip LoSavio MD, Inna Husain MD, Jacob Friedman MD

Project Site - Rush University Medical Center

Regional Medical Center Faculty Collaborators:
Tatiana Dixon, MD
Anatoli Karas, MD
Whitney Liddy, MD
Monica Patadia, MD
Christopher Roxbury, MD
Stephanie Shintani-Smith, MD
Audie Swiess, MD
Ta her Valika, MD
Introduction

In 2019, the SUO allocated $5000 for completion of a regional ENT bootcamp experience. Due to in-person COVID restrictions, implementation delayed until August of 2021.

Goal: Provide all early-level ENT trainees opportunity to reliably develop skills necessary for safe patient care.
Collaborators
Rush University Simulation Center

Course Directors
Phillip LoSavio, MD
Inna Husain, MD

Attending instructors
Loyola
  Monica Patadia, MD
Lurie Children's
  Taher Valika, MD
Northshore University Healthsystem
  Audie Swiess, MD
Northwestern
  Whitney Liddy, MD
  Stephanie Shintani-Smith, MD
Rush University Medical Center
  Anatoli Karas, MD
University of Chicago
  Christopher Roxbury, MD
University of Illinois - Chicago
  Tatiana Dixon, MD
Study Design

With support from the SUO’s grant and in cooperation with the Chicago Oto Education Consortium of the CL&O we designed simulation-based training in management of 5 ENT emergencies.

10-minute didactic followed by hands-on, guided use of task trainers.

- Auricular hematoma
- Cricothyrotomy
- Lateral canthotomy
- Peritonsillar abscess
- Epistaxis

Primary outcomes:

1. **Confidence in technical ability to perform emergency ENT procedures.**
2. **Emotional preparedness to respond to ENT emergencies.**
Assessment Instrument

Anonymous Google Forms survey administered before, immediately after, and 6 months after.

- **Unique identifier for longitudinal followup**
- **Level of training (MS4, PGY1, PGY2)**
- **Likert-scale response for emotional preparedness and technical confidence**
Results

32 learners participated in the Boot Camp.

All learners completed the immediate pre- and post-boot camp survey.

- 10/10 emotional and technical domains assessed demonstrated significant improvement by paired t-test ($p<.01$).
Worry and Readiness

<table>
<thead>
<tr>
<th>Measure</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Readiness to Respond Pre</td>
<td>p=0.0001</td>
</tr>
<tr>
<td>Readiness to Respond Post</td>
<td></td>
</tr>
<tr>
<td>Worried about Responding</td>
<td>p=0.0001</td>
</tr>
</tbody>
</table>

Bar charts showing readiness to respond and degree of worry pre and post for different groups (PGY-2, PGY-1, MS4).
Technical - Auricular Hematoma

Performing incision of auricular hematoma \( p=0.0001 \)
Performing cricothyrotomy p=0.0001
Technical - Epistaxis

Using nasal tampon: p=0.0001
Performing lateral canthotomy p=0.0001

Technical - PTA

Performing Incision and Drainage of PTA Pre

Performing Incision and Drainage of PTA Post

Incision technique $p=0.0001$
Results – 6 Month Followup.

14 learners - 5 MS4, 6 PGY1, 3 PGY2 - completed the 6-month follow-up survey.

- Preserved improvement in emotional domain.
- Preserved technical confidence for cricothyrotomy, drainage of peritonsillar abscess, control of epistaxis.
- Significant loss of confidence for lateral canthotomy and auricular hematoma; however, both of these remained improved above baseline.
Results – Worthwhile/Fun

- Worthwhile:
  - 91.2% not important or worthwhile
  - 8.8% moderately important or worthwhile
  - 13.3% very important or worthwhile

- Fun:
  - 85.3% not fun
  - 14.7% moderately fun
  - 26.7% very fun
Results - Recommended

Would you recommend ENT Bootcamp to future residents?
34 responses

100% Yes
0% No
32 learners taught on budget of $5000.
Approximately $150 per learner cost including
1. All supplies
2. 2 simulation techs for 4 hours
3. Modeling prep in advance with simulation center
4. Breakfast and lunch food costs
5. No vendor sponsorship support
Conclusion

Limitations

• No objective assessment
• Long-term improvement may be a function of experience rather than our intervention.
• We did not ask, but should have asked: “should this bootcamp be mandatory?”

Takeaway

1. Simulation Boot Camp was a successful measure to further the SUO’s goal of developing consistent and safe baseline skills for early-level ENT trainees.
2. Our assessment instrument elucidated trainees’ emotional need and benefit from this or similar programs.
3. The preserved long-term benefits of this curriculum were confirmed at 6-month followup.
4. The regional boot camp also enhanced inter-institutional collaboration among educators at 7 different institutions.
SUO Boot Camp
Effective Responses to Emergencies in Otolaryngology
For Southwest United States Residency Programs

University of California at San Diego
David B. Hom, MD
Jeff Harris, MD
Ryan Orosco, MD
Charles Coffey, MD
Deborah Watson MD

Seed Grant from the Society of University Otolaryngologists
Participating Institutions in Southwest Boot Camp in 2022

- UCLA
- USC
- Cedars Sinai
- Loma Linda
- UC Irvine
- MAYO Arizona
- Univ of Nevada Las Vegas
- US Naval Medical Center
- Univ of Arizona
- UC San Diego
# Hands-on Exercises 1 full day

<table>
<thead>
<tr>
<th>Basic Airway Management</th>
<th>General Oto/ Peds</th>
<th>Facial Plastics</th>
<th>Head &amp; Neck</th>
<th>Otology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bag mask</td>
<td>Foreign Body Retrieval in Airway</td>
<td>Septal Hematoma/ Septal Abscess</td>
<td>Thyroid/Neck Hematoma</td>
<td>Myringotomy</td>
</tr>
<tr>
<td>Laryngeal mask</td>
<td>Airway Fires</td>
<td>Lateral Canthotomy</td>
<td>Post Trach Bleed</td>
<td>PE tube placement</td>
</tr>
<tr>
<td>Oral intubation</td>
<td>Malignant Hyperthermia</td>
<td>Auricular Hematoma</td>
<td>Trach Innominate Fistula</td>
<td></td>
</tr>
<tr>
<td>Flexible Laryngoscopy</td>
<td>Epistaxis Control</td>
<td>TMJ Dislocation</td>
<td>Carotid Blowout</td>
<td></td>
</tr>
<tr>
<td>Flexible Nasotracheal intubation</td>
<td>Facial Fracture repair</td>
<td>Ultrasound and FNA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bougie airway tube exchange</td>
<td></td>
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<tr>
<td>Cricothyroidotomy</td>
<td></td>
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<tr>
<td>Tracheostomy</td>
<td></td>
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<td></td>
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<tr>
<td>Trach Change</td>
<td></td>
<td></td>
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</tbody>
</table>
Boot Camp Volunteer Faculty

UCSD    UCLA    Cedars-Sinai    MAYO-AZ    UNLV Univ AZ    UNLV
Jeff Harris    Michael Holliday    Dennis Tang    Michael Hinni    Sheethal Bearelly    Jo Bigcas
Charley Coffey    Ryan Orosco    Matthew Lee    Mike Marino    O Okuyemi
Deborah Watson    Phil Weissbrod    Gene Liu    William Karle
Andrew Vahabzadeh    Kevin Brummund    Anca Barbu
Phil Schlach    Frank Rimell
Sapedeh Gilani    Daniel Hammer
Peter Dixon    P Jiramongkolchai
Alex Claussen    David Hom
Aug 2020 1st

5 SW Programs

24 Residents.

11 Faculty
Aug 2021 2nd

9 SW Programs

33 Residents.

15 Faculty
Aug 2022  3rd

All Ten Southwest Programs

40 Residents  19 Faculty

M E D I C A L  E D U C A T I O N
Questions Regarding Planning a Boot Camp

What Type of Program to do?
All hands-on or a hybrid with lectures.
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All hands-on or a hybrid with lectures.

Who to Invite - just junior residents?
Questions Regarding Planning a Boot Camp

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Length of Boot Camp?
Questions Regarding Planning a Boot Camp

What Type of Program to do?  
All hands-on or a hybrid with lectures.

Who to Invite - just junior residents?

Length of Boot Camp?

Funding?
Questions Regarding Planning a Boot Camp

What Type of Program to do?  
All hands-on or a hybrid with lectures.

Who to Invite - just junior residents?

Length of Boot Camp?

Funding?

How to find Sponsors?
Questions - Planning

Obtaining Faculty Involvement
Questions - Planning

Obtaining Faculty Involvement

How to get faculty buy in to participate?
Questions - Planning

Obtaining Faculty Involvement

How to get faculty buy in to participate?

When is the best time in the year?
Questions - Planning

Obtaining Faculty Involvement

How to get faculty buy in to participate?

When is the best time in the year?

Program Coordinator Involvement?
Questions - Planning

Obtaining Faculty Involvement

How to get faculty buy in to participate?

When is the best time in the year?

Program Coordinator Involvement?

Should one charge a fee to ensure attendance after RSVP
Triumphs and Hurdles in Execution

Did most attendees and faculty show up?
Triumphs and Hurdles in Execution

Did most attendees and faculty show up?

Special Supplies needs
Triumphs and Hurdles in Execution

Did most attendees and faculty show up?

Special Supplies needs

Exercises that were done
Triumphs and Hurdles in Execution

Did most attendees and faculty show up?

Special Supplies needs

Exercises that were done

Any Surprises?
Triumphs and Hurdles in Execution

Did most attendees and faculty show up?

Special Supplies needs

Exercises that were done

Any Surprises?

What worked and what didn’t?
Triumphs and Hurdles in Execution

Did most attendees and faculty show up?

Special Supplies that were needs

Exercises that were done

Any Surprises?

What worked and what didn’t?

Feedback from Attendess?