

iVoiceTherapy  
Traumatic Lesions

10.2.14

12:00-13:00 PST

# Meet the instructors

Liza Blumenfeld



Erin Walsh

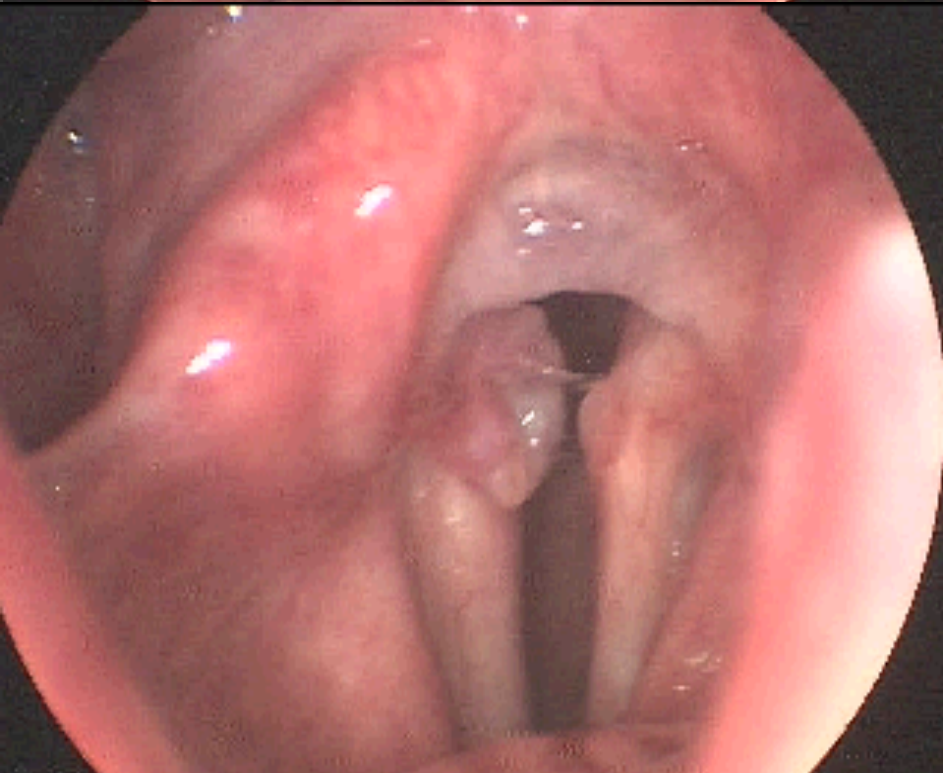
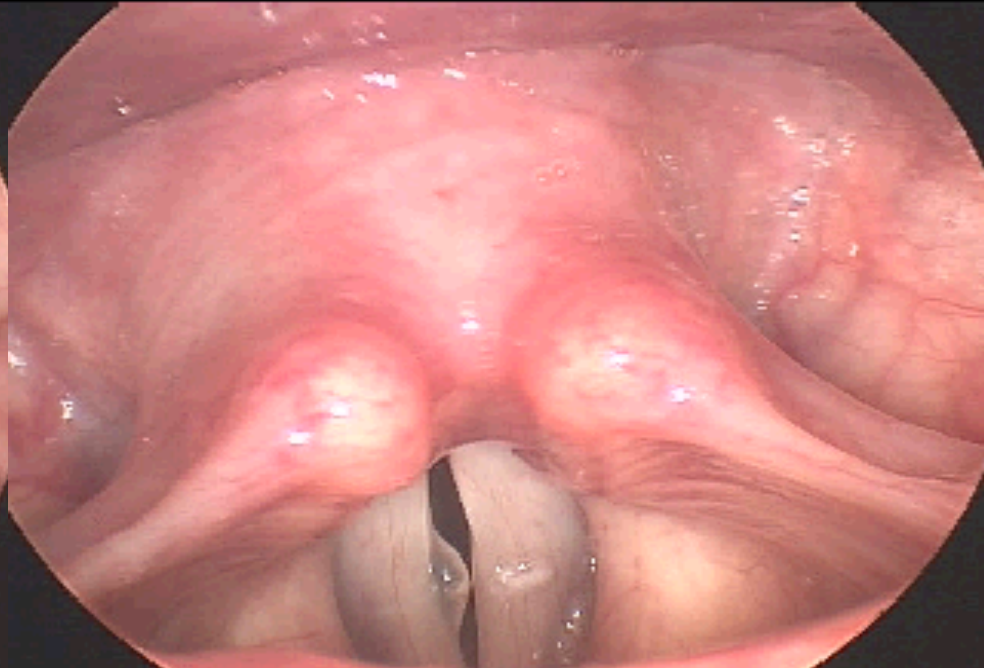
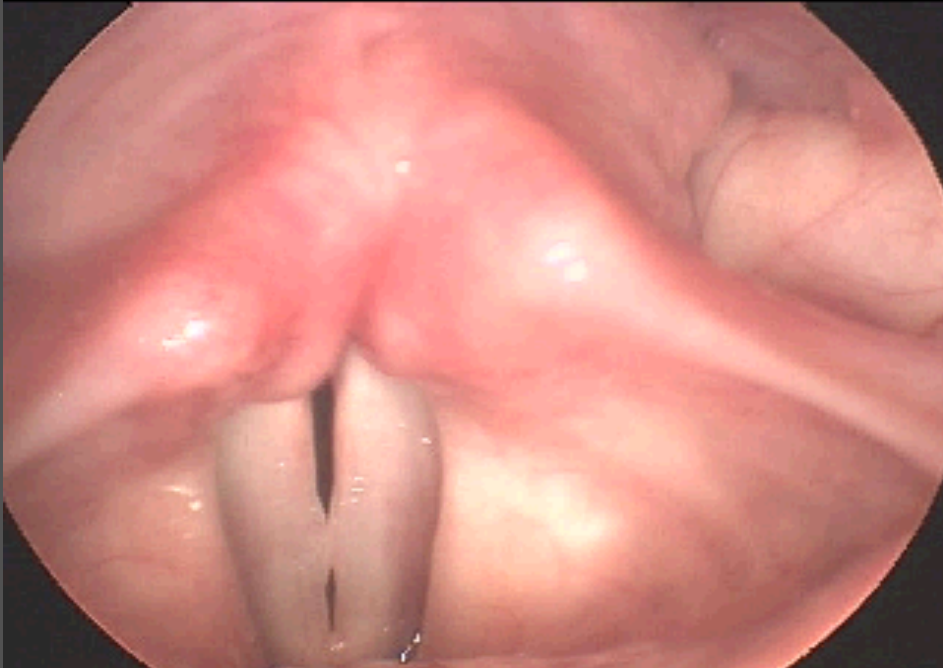


# Goals of Session

1. Identify 4 types of traumatic lesions
2. Review key strategies to employ during diagnostic evaluation and treatment planning
3. Describe clinical benefits of incorporating **iVoiceTherapy** as an adjunct to traditional voice therapy regimen
4. Provide opportunity for questions/discussion

# Traumatic Lesions

- Nodules
- Polyp(s)
- Cyst(s)
- Granuloma(s)



# Vocal Fold Layers

- The true vocal folds have an epithelial lining that is composed of respiratory epithelium (pseudostratified squamous) on the superior and inferior aspects of the fold and nonkeratinizing squamous epithelium on the medial contact surface.
- Below the epithelial layer lies the lamina propria. These subepithelial tissues are composed of 3 layers largely comprised of elastin and collagen fibers.
- Deep to the lamina propria is the thyroarytenoid aka vocalis muscle.

(Stemple, Glaze, & Klaben, 2000)

# Normal Larynx/Vocal folds

- Cords are able to fully adduct and abduct
- White in color
- Free edges are smooth from back to front



# Vocal fold Nodules

- Benign lesions that lie along the medial surface of the vocal cords. Largely induced through persistent phonotrauma
- Nodules are always bilateral and localized at the interface between anterior third and posterior two-thirds of vocal cords
- Nodules are commonly found in children and adults who have pattern of high quantity and intensity voice use



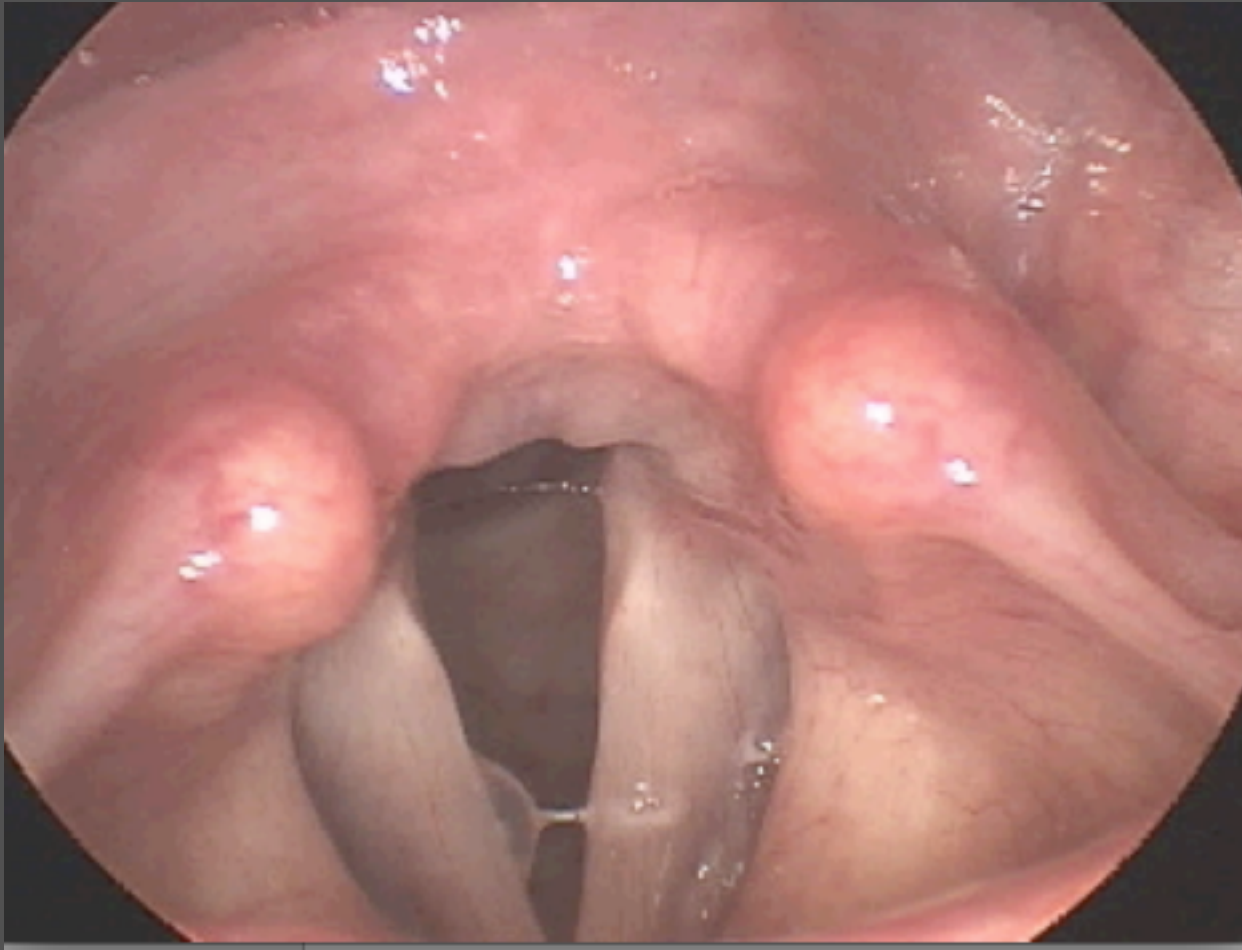
# Nodules



# Vocal Fold Polyps

- Polyps typically lie along the medial edge of the vocal cord mucosa, however, they less frequently may be found along inferior or superior border
- Polyps have varying appearances and presentations. They may be hemorrhagic, gelatinous or hyalinized
- They may be pedunculated or sessile and hyper vs. hypo mobile, causing varying level of disturbance in glottal closure pattern
- They may result from persistent phonotrauma or single episode resulting in hemorrhage

# Polyp



# Vocal Fold Cyst

- Vocal fold cysts differ from other lesions as they can lie deep within the lamina propria
- These dense lesions significantly disrupt integrity of the mucosal wave as well as interrupt glottal closure
- Cysts may be glandular or epithelial



# Granuloma

- Granulomas are typically localized at the vocal processes at the posterior portion of larynx
- Granulomas tend to be associated with intubation injury as well as chronic reflux.
- Patient often report having pronounced pain especially with talking



# Goals of Voice Therapy Regimen

- Basics: Vocal hygiene
- Mechanics: Guide healthier styles of speaking and singing
- Peri-operative: Develop plans to calm inflammation pre-operatively. Create fluid post-operative plan for optimal outcome with integrated graded voice use each week.
- Compliance: Using skills from session at home.

# Surgery or Therapy?

- Depends on patient goals. Depends on surgeon.
- NODULES: Are they *really* nodules?
- POLYPS: Conservation over long periods of time may afford resolution or satisfactory voice clarity.
- CYSTS: Unlikely to resolve without surgery; however, may help your patient develop functional voice without removal.
- GRANULOMA: Reflux, PND management. Speaking style. Trials of total voice rest.

# Programming iVoiceTherapy

- What are their goals?
- What do you want to teach them?
- When is it feasible for them to do the exercises?
- What is the expected timeline you feel is adequate to expect results?
- How often do you plan to see them in person for therapy?



# Case #1

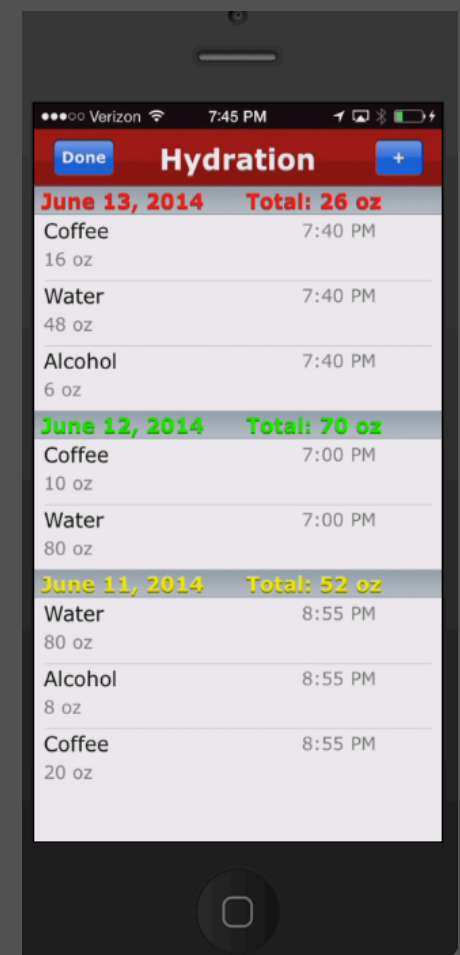
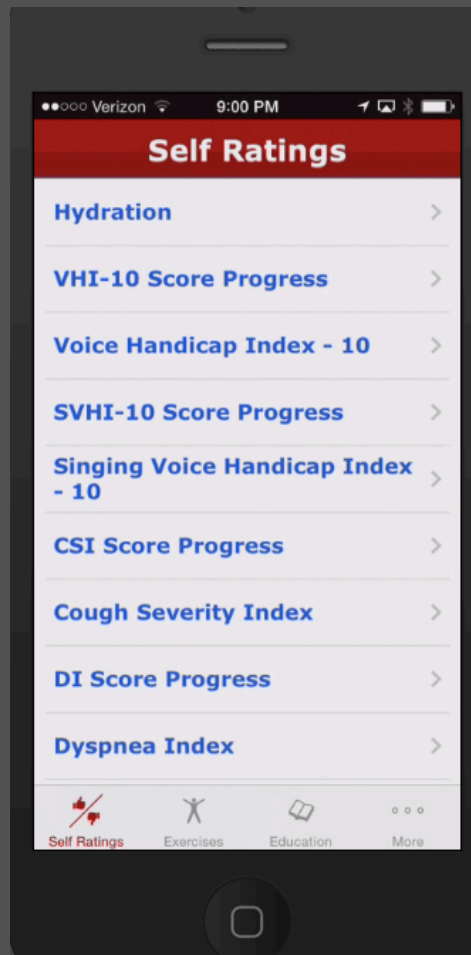
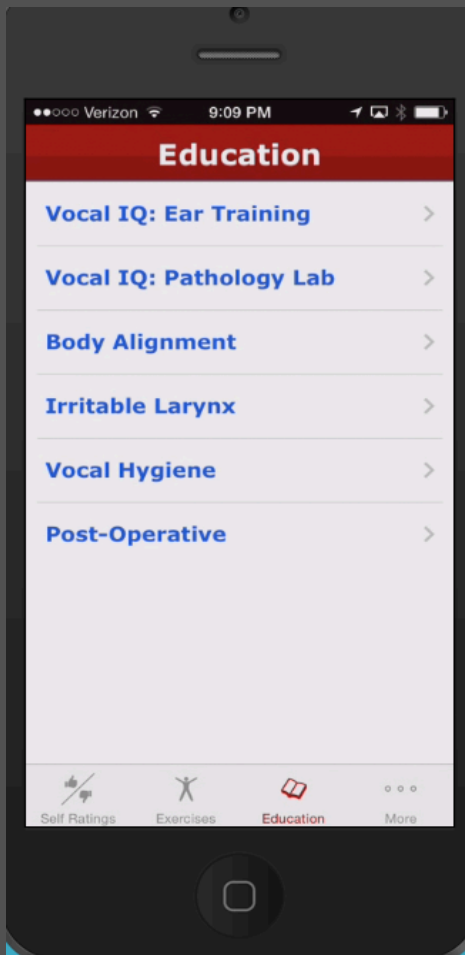
- 21 year-old senior finance major
- Coxswain, avocational choir/glee singer
- Noisy bars/clubs, frequent singing
- Hoarseness in childhood, although it did not restrict her. Now significant and causing total voice loss, social isolation and singing inability.
- Strobe – broad based bilateral thickening, marked hypervascularity and poor vibratory wave propagation.

# Strobe



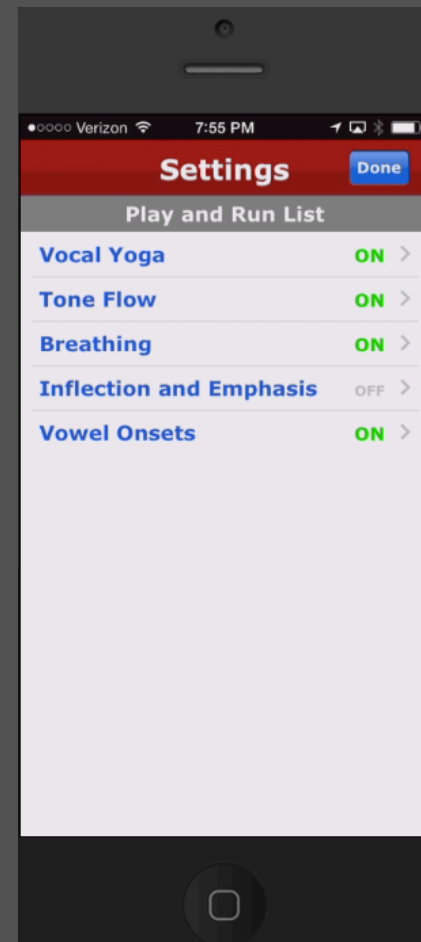
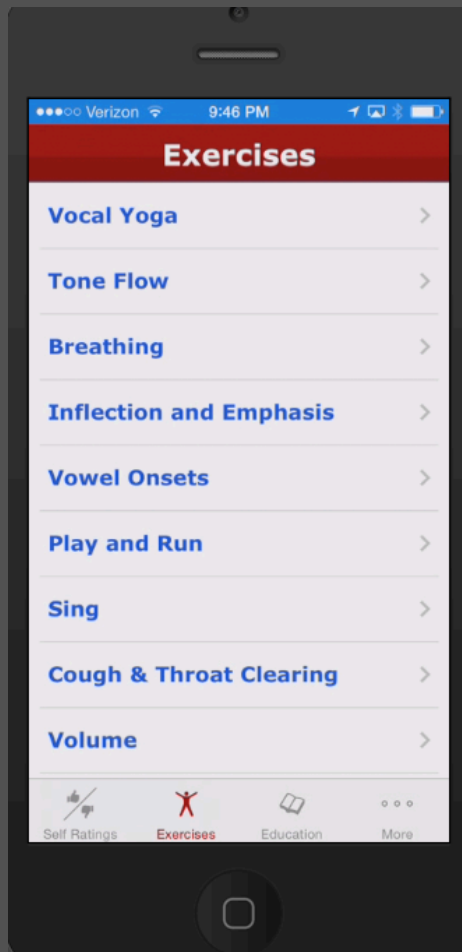
# iVoiceTherapy Programming

- Basics



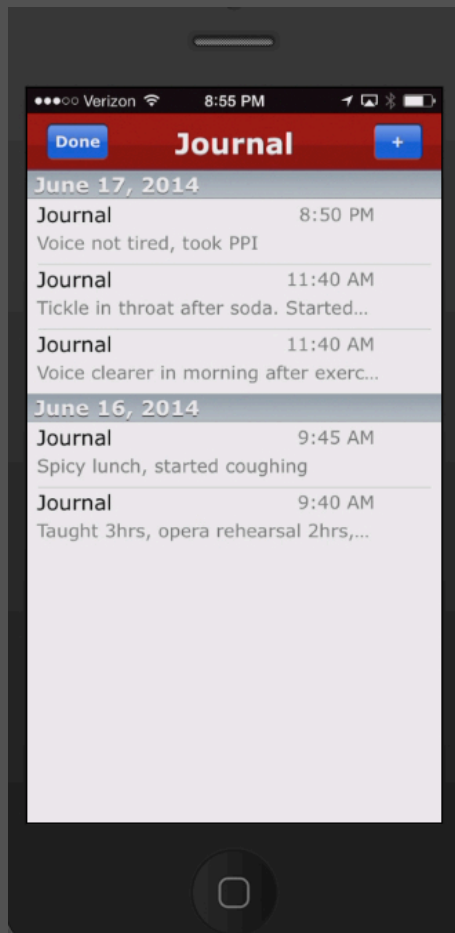
# iVoiceTherapy Programming

- Flexibility

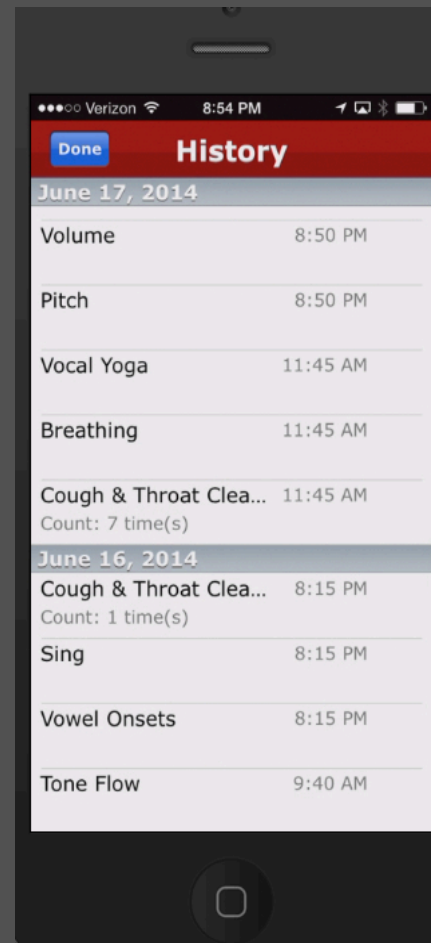


# iVoiceTherapy Programming

- Awareness



- Compliance



# Outcome

- Returned 2 weeks after evaluation: “My voice is so much better.”
- Marked increase of awareness and she feels this is the primary reason she is better.
- Strobe – largely unchanged. Some improvement in vibratory wave.
- 2 sessions in person therapy for training to speak and singing with optimal technique
- Maintenance program on **iVoiceTherapy**

## Case #2

- 68 year-old male, singer/songwriter
- Sent by ENT for voice evaluation and HD strob
- No prior voice problems in 35 year performing career
- Suddenly voice decline 4mo ago, not explained by obvious event
- Strobe – detected right sided cyst
- Scheduled for surgery and post-op voice therapy

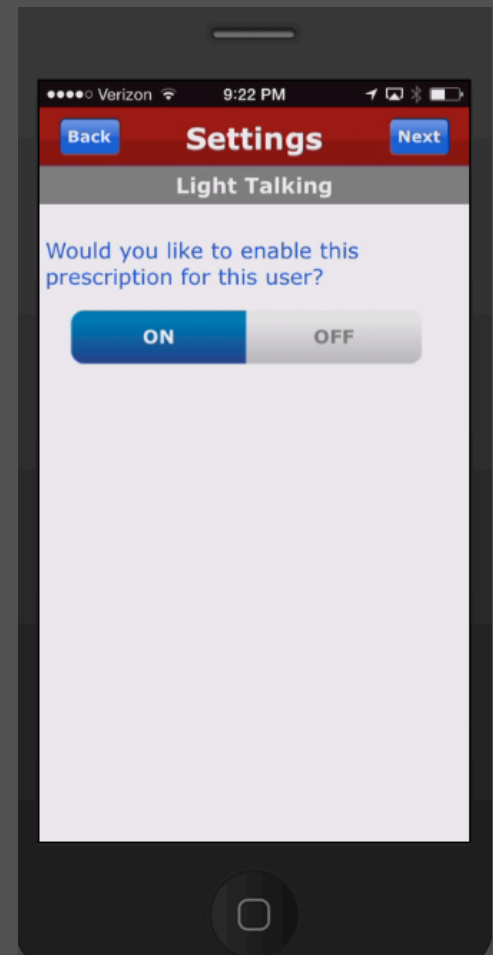
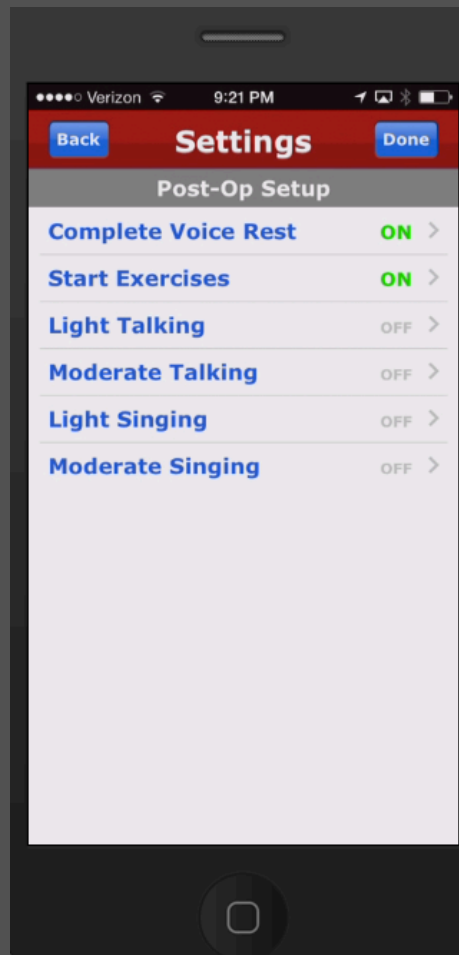
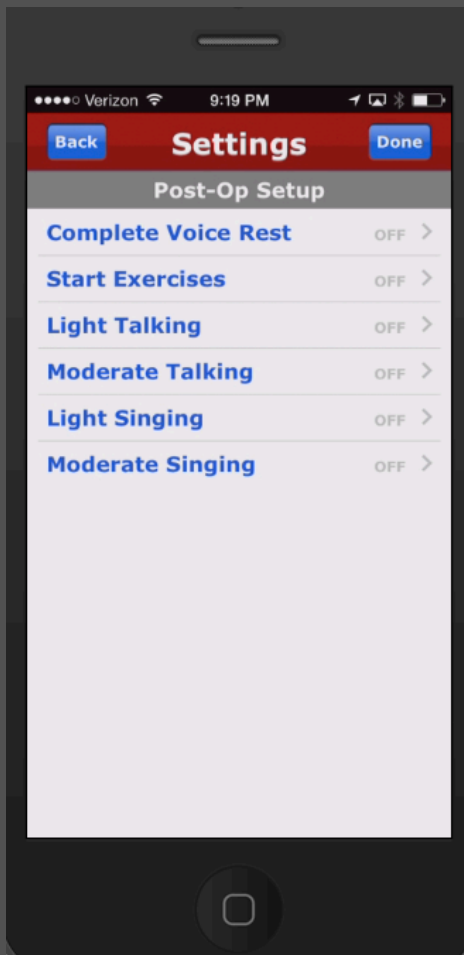
# Strobe





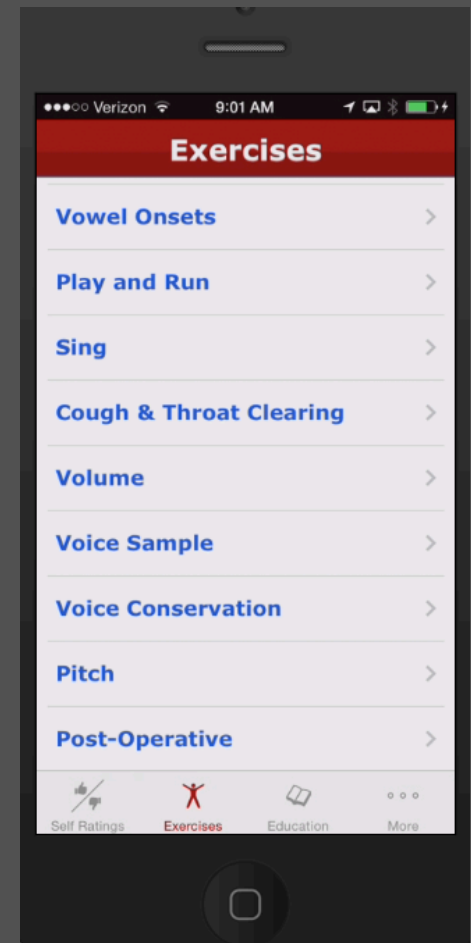
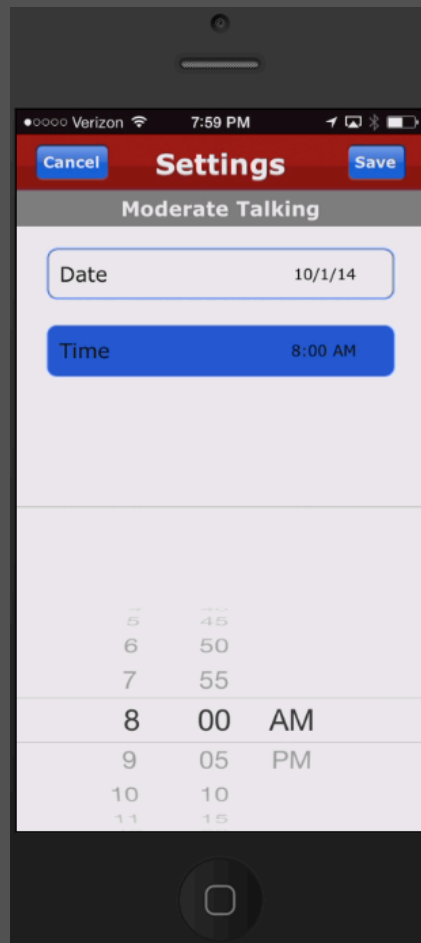
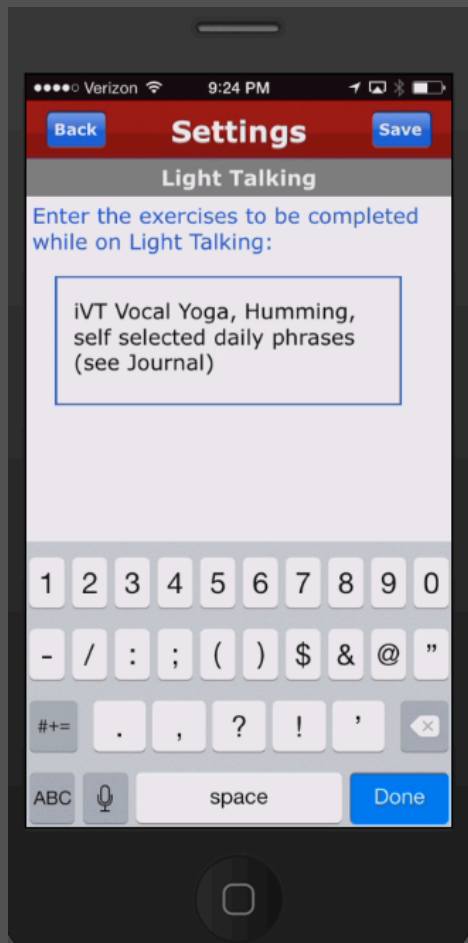
# iVoiceTherapy Programming

- Post-Op



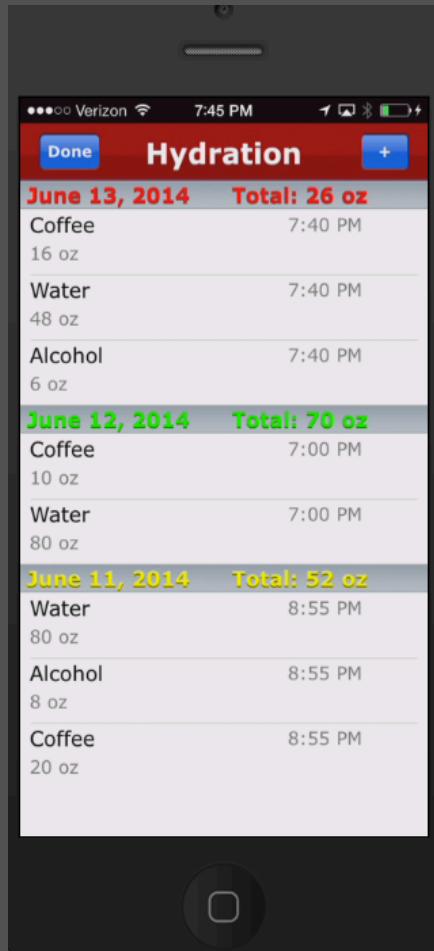
# iVoiceTherapy Programming

- Post-Op



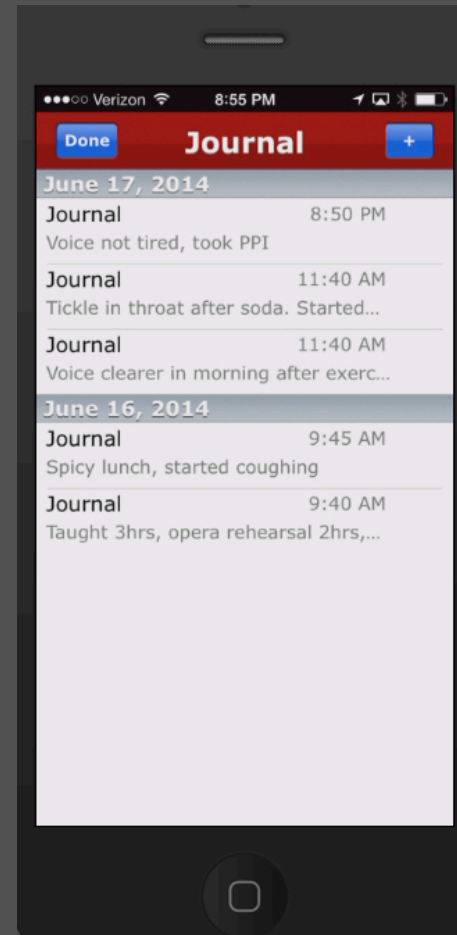
# iVoiceTherapy Programming

- Hygiene



Hydration	
<b>June 13, 2014 Total: 26 oz</b>	
Coffee	7:40 PM
16 oz	
Water	7:40 PM
48 oz	
Alcohol	7:40 PM
6 oz	
<b>June 12, 2014 Total: 70 oz</b>	
Coffee	7:00 PM
10 oz	
Water	7:00 PM
80 oz	
<b>June 11, 2014 Total: 52 oz</b>	
Water	8:55 PM
80 oz	
Alcohol	8:55 PM
8 oz	
Coffee	8:55 PM
20 oz	

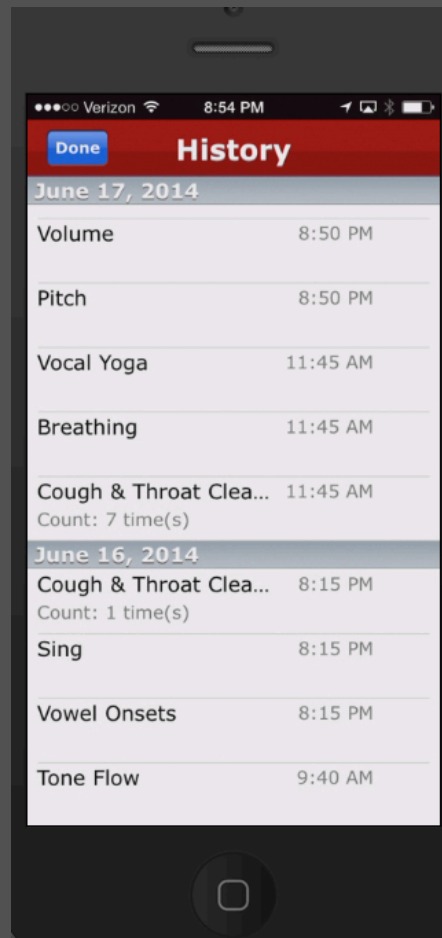
- Journal



Journal	
<b>June 17, 2014</b>	
Journal	8:50 PM
Voice not tired, took PPI	
Journal	11:40 AM
Tickle in throat after soda. Started...	
Journal	11:40 AM
Voice clearer in morning after exerc...	
<b>June 16, 2014</b>	
Journal	9:45 AM
Spicy lunch, started coughing	
Journal	9:40 AM
Taught 3hrs, opera rehearsal 2hrs,...	

# iVoiceTherapy Programming

- Compliance



# Case #2 Outcome

- Resumed singing at 3 weeks
- Ready for performance by 6 weeks

# Case #3

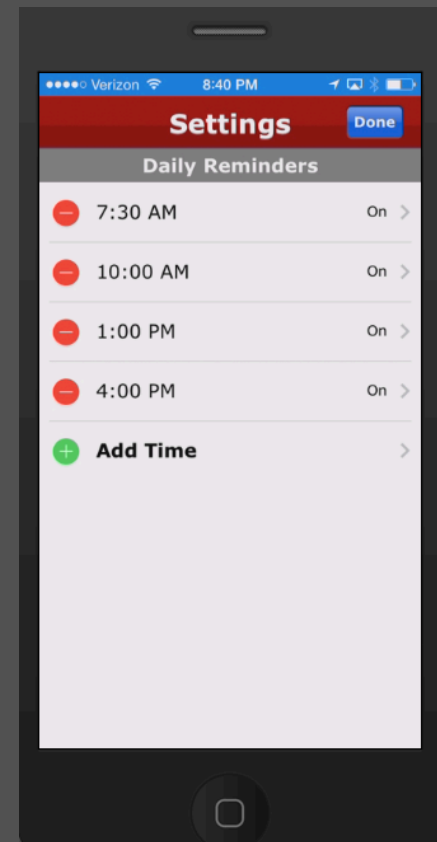
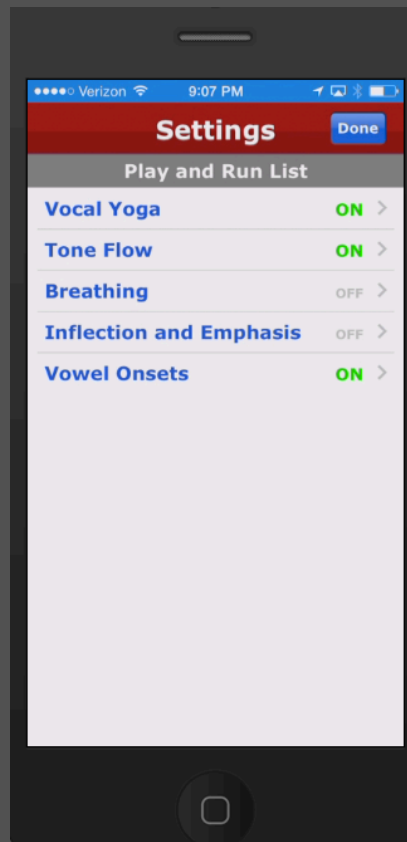
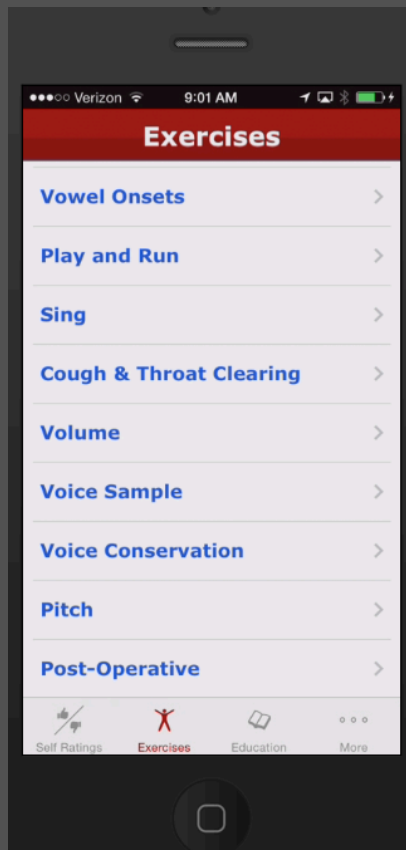
- 24 year old works for a running company
- Travels throughout country, must yell from vehicle at events to encourage runners
- Employer not accommodating
- Plans to only work job for another 9 months. Needs it as a stepping stone to another non-profit position.
- Strobe – polyps.
- Much better with voice therapy flexibility exercises.
- Does not want surgery. Needs exercise maintenance.

# Strobe



# iVoiceTherapy Programming

- Exercises

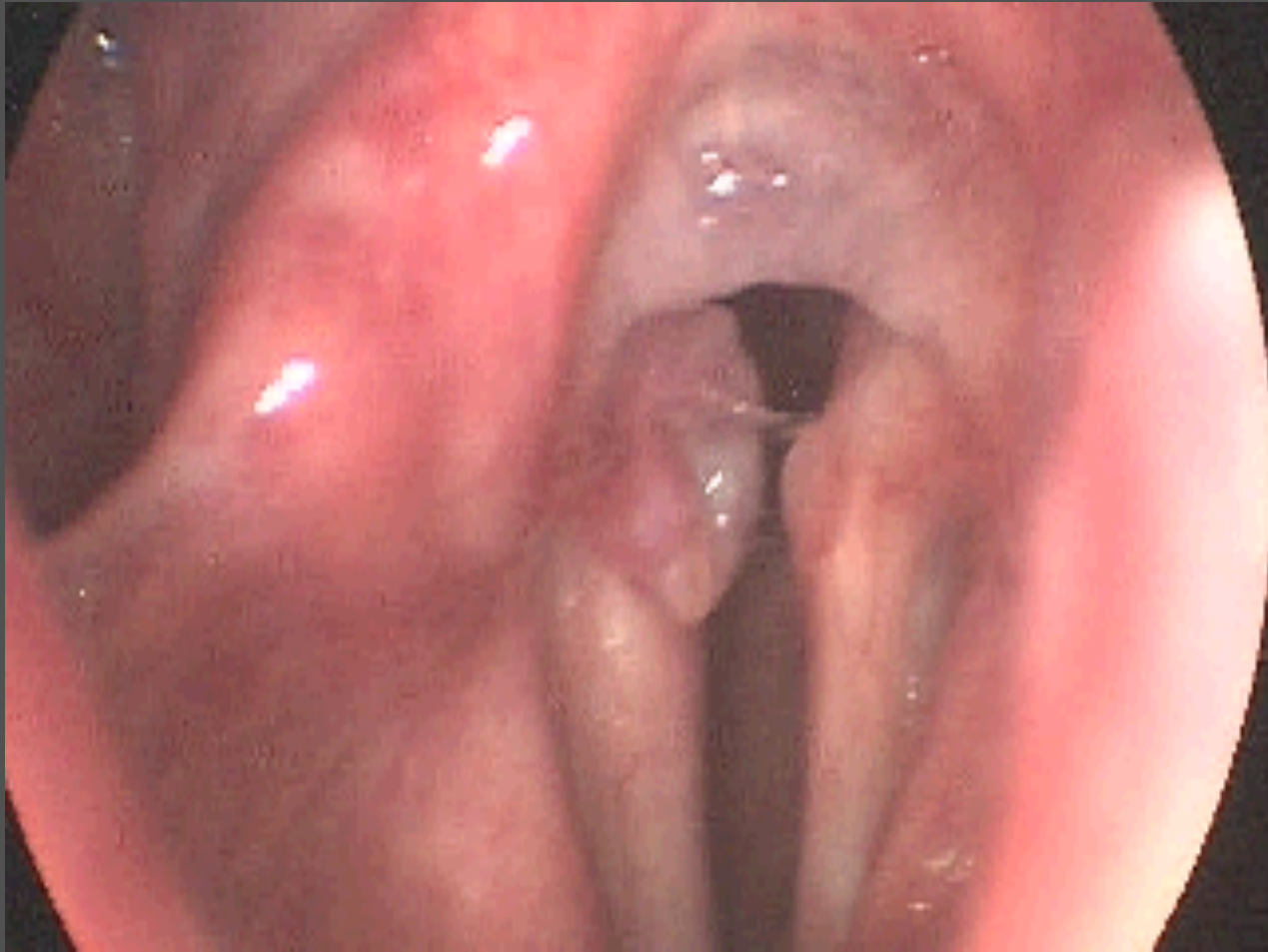




# Case #4

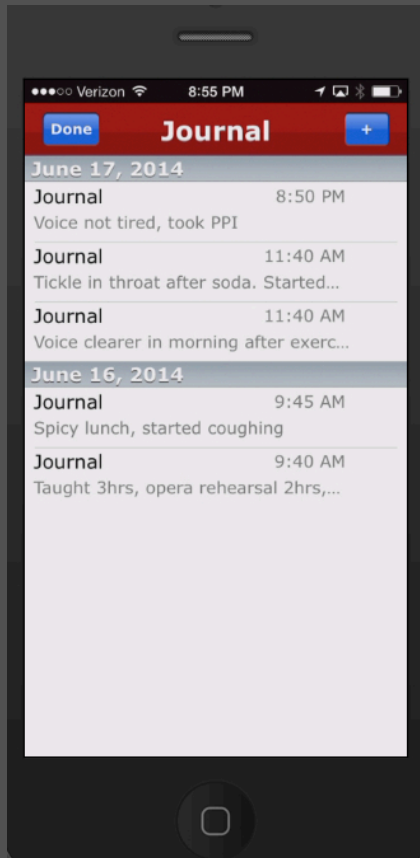
- 38 year old post-left thyroidecomy
- Developed right sided granuloma
- Left vocal fold paresis
- Software engineer – frequent presentations
- Complains of odynophonia, poor projection, vocal fatigue
- History of reflux. Also experiencing occasional laryngospasms.

# Strobe

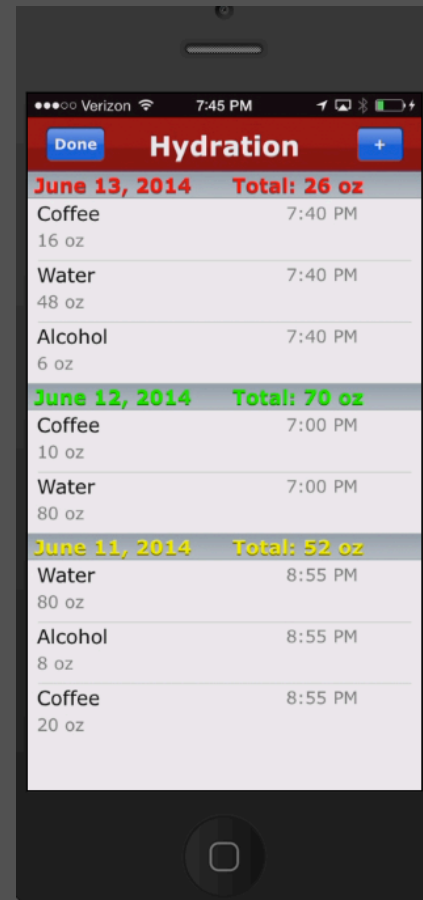


# iVoiceTherapy Programming

- Journal

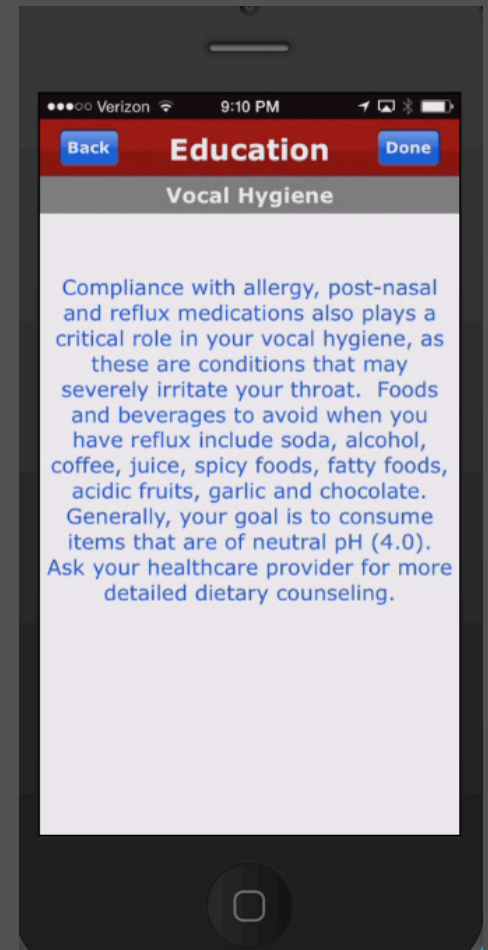
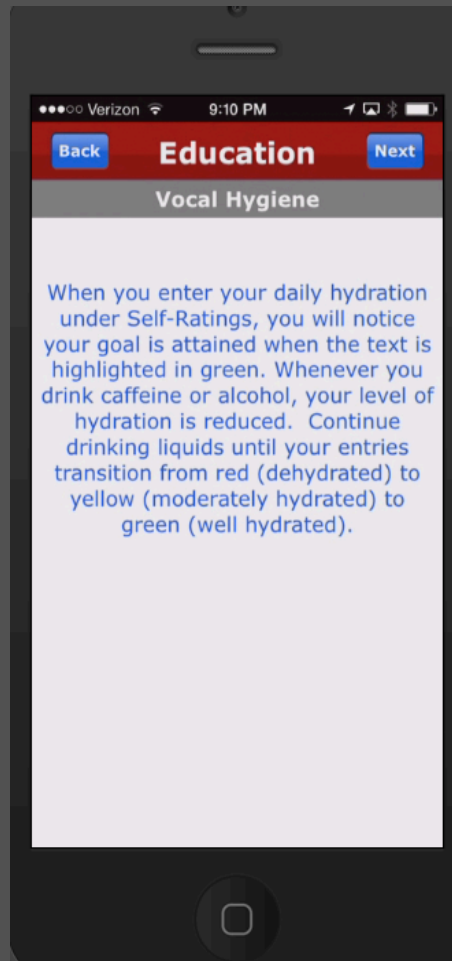
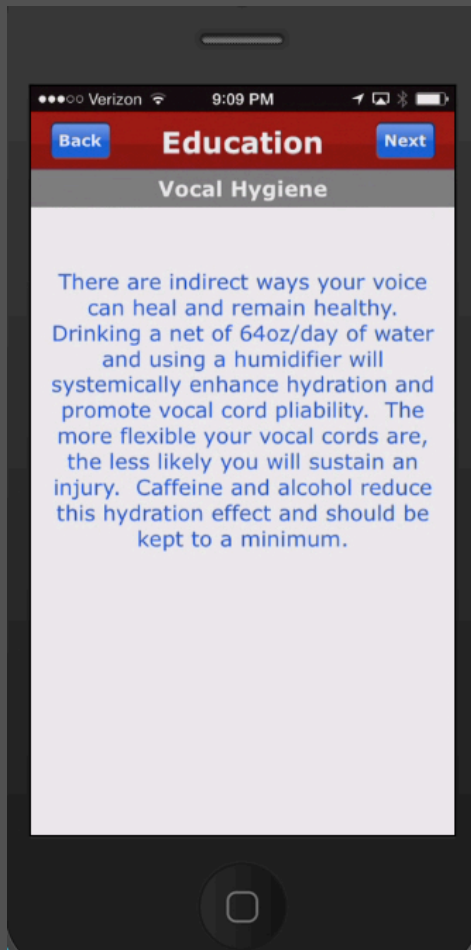


- Hygiene



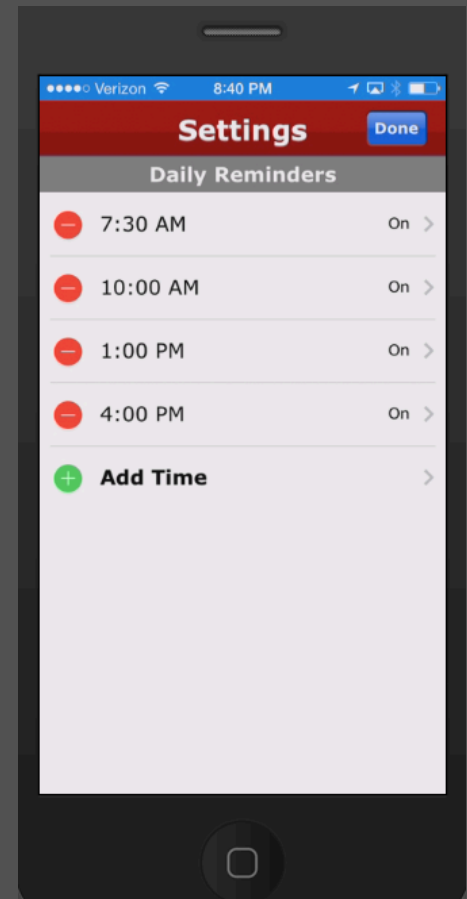
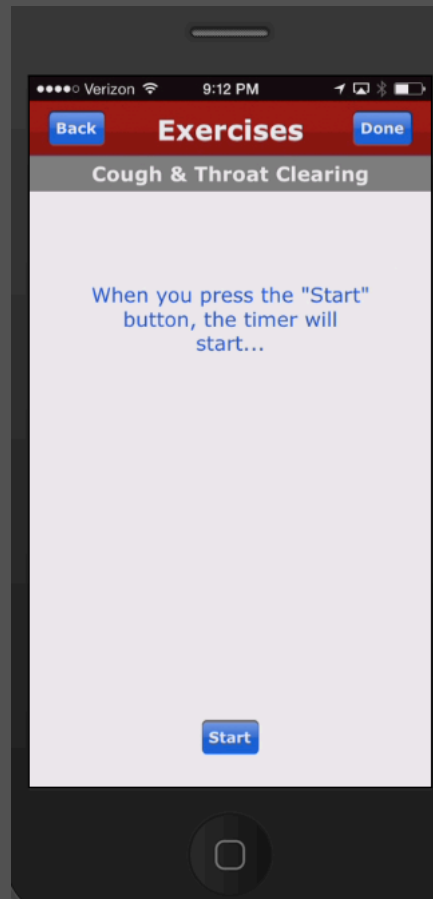
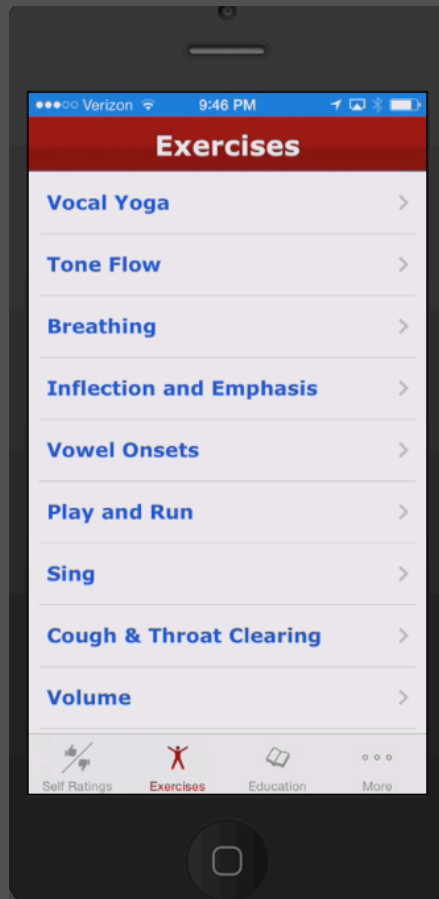
# iVoiceTherapy Programming

- Education about vocal hygiene



# iVoiceTherapy Programming

- Exercises



# Outcome

- Oodynophonia resolved quickly by alleviating muscle tension while talking
- ENT requesting monthly return for HD strobe to check status of lesion.
- Granuloma resolved 8 weeks.
- Glottal closure remained impaired due to left sided weakness. Vocal cord augmentation considered.

Questions?

