What I Need to Know About Surgery and Anesthesia

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The First Successful Anesthesia

And the Lord God caused a deep sleep to Fall upon Adam, and he slept; and he took one of his ribs, and closed up the flesh instead thereof.

Genesis, 2, (21)
And the Lord God caused a deep sleep to fall upon Adam, and he slept; and he took one of his ribs, and closed up the flesh instead thereof; 

*Genesis, 2, (21)*
The First Public Display of *Anesthesia* October 16, 1846

William Thomas Morton

Massachusetts General Hospital in Boston
Objectives

- What I need to know about Anesthesia (FOP Patient)
- How to prepare for surgery and anesthesia (Physician)
- What the anesthesiologist should know about FOP (The Anesthesiologist)
What I Need To Know About Anesthesia and Surgery

- Types of anesthesia
  - Nerve blocks
  - Regional anesthesia
  - General anesthesia
Local Anesthesia and FOP

- Injections are not recommended for FOP patients
Regional Anesthesia and FOP

- Injections are not recommended for FOP patients
General Anesthesia

A reversible state of unconsciousness, produced by anesthetic agents, with Absence of pain sensation over the entire body.
General Anesthesia and FOP

- Safe
- Good track record
- Excellent for in-patient and ambulatory patients
The Challenge

• There is a need to safely secure the breathing

• Need to insert a breathing tube to the wind pipe
  • Even if can open the mouth
  • Especially challenging – if the mouth is shut close

Need an Expert Anesthesiologist
“The Anesthesiologist will see you at the day of the surgery…”

- A 39 years old patient is scheduled for surgery tomorrow, what kind of a gas will she need for anesthesia? She is in the hospital treated with IV antibiotics for “bronchitis”

- I am having a colonoscopy tomorrow. The gastroenterologist assured me that the anesthesiologist will see me tomorrow.

Not a good advise !!!
What the Anesthesiologists Should Know About Me?
What the Anesthesiologists Should Know About Me?

For Every Patient

• Your age, weight, height
What the Anesthesiologists Should Know About Me?

For Every Patient

• Allergies
• All your medical problems
• Special attention: Asthma, Diabetes, heart or breathing problems
• All your medications (over-the-counter, herbal)
• Previous surgeries
What the Anesthesiologists Should Know About Me?

- Tell the anesthesiologist that - **YOU ARE A PATIENT WITH FOP**!

- He/She needs *MUST* meet with you prior to the day of surgery

- Educate him/her about the FOP
What the Anesthesiologists Should Know About Me?

- You cannot open the mouth
- You need special accommodations for mobilization and positioning
- Your body reacts to needle insertion
- He needs to assemble a team to care for you
### Case Reports Describing Anesthetic Management

<table>
<thead>
<tr>
<th>Article</th>
<th>Age (Y)</th>
<th>Intubation</th>
<th>Discharge</th>
<th>Complications: anesthetic</th>
<th>Surgery</th>
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<tbody>
<tr>
<td>12</td>
<td>12</td>
<td>asleep nasal fiberoptic</td>
<td>2 days</td>
<td>difficult to ventilate</td>
<td>submandibular abscess</td>
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<tr>
<td>13</td>
<td>21</td>
<td>awake fiberoptic nasal</td>
<td>not described</td>
<td>none</td>
<td>D&amp;C</td>
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<tr>
<td>14</td>
<td>18</td>
<td>mask GA</td>
<td>not described</td>
<td>none</td>
<td>eye eviceration</td>
</tr>
<tr>
<td>15</td>
<td>39</td>
<td>awake fiberoptic nasal</td>
<td>several</td>
<td>blood loss</td>
<td>femur &amp; spine fx's</td>
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<tr>
<td>16</td>
<td>14</td>
<td>awake fiberoptic nasal</td>
<td>several</td>
<td>none</td>
<td>division of ossified masseter muscles</td>
</tr>
<tr>
<td>17</td>
<td>37</td>
<td>asleep DL</td>
<td>5 days</td>
<td>none</td>
<td>hysterectomy, BSO</td>
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<tr>
<td>18</td>
<td>32</td>
<td>awake FOI---&gt;blind nasal</td>
<td>several</td>
<td>ETT would not pass during FOI</td>
<td>Ex lap; pelvic mass</td>
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<tr>
<td>19</td>
<td>1.5</td>
<td>sedated nasal FOI</td>
<td>7 days</td>
<td>none</td>
<td>brainstem lesion; Craniotomy</td>
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<td>20</td>
<td>33</td>
<td>U/S guided ankle block</td>
<td>not described</td>
<td>none in 7 days</td>
<td>osteomyelitis 5th digit right foot</td>
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<tr>
<td>21</td>
<td>18</td>
<td>fiberoptic nasal intubarion (awake??)</td>
<td>4 days</td>
<td>none, but OMF literature</td>
<td>dental rehab</td>
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<tr>
<td>22</td>
<td>34</td>
<td>oral intubation (awake??)</td>
<td>2 days</td>
<td>none noted</td>
<td>thoracic laminectomy</td>
</tr>
</tbody>
</table>
Special Patients Deserve a Special Team

FOP Patient

- Anesthesiology
- Oral Maxillofacial Surgery
- Cardiology
- Dentistry
- OB/GYN
- Otolaryngology
- GI
- Urology
- Nursing
- Intensive Care
Keys To Success

- Multidisciplinary effort
- Communication
- Developed unique techniques to manage care of patients who cannot open their mouth
- Plans for failed intubation
How We Prepare for Your Surgery?

- Pre-operative evaluation, focused on airway and pulmonary exam
- Communication
  - Specialists
- Special arrangements
  - Waiting area
  - Operating rooms
  - Recovery area
The Challenge

• Position (Truncal Rigidity)
  • Ankylosis of vertebral column, shoulders and elbows
  • Confined to wheel chair, semi-erect

• Injury Susceptibility
  • Any stimulation will lead to bone formation: IV, DL, nerve block
Permanent heterotopic ossification at the injection site after diphtheria-tetanus-pertussis immunizations in children who have fibrodysplasia ossificans progressiva

Thomas F. Lacheyney, BS, Randolph B. Cohen, MD, David M. Rocke, PhD, Michael A. Zasloff, MD, PhD, and Frederick S. Kaplan, MD

From the Departments of Orthopedic Surgery, Pediatrics, and Genetics, University of Pennsylvania School of Medicine, Philadelphia, and the Graduate School of Management, University of California, Davis.
The Challenge

Respiratory Compromise

Other co-morbidities
Diabetes
Asthma
Congenital heart dis.
# Fasting Before Surgery

## Recommended Dietary Precautions

<table>
<thead>
<tr>
<th>Age</th>
<th>Milk/Solids</th>
<th>Clear</th>
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<tbody>
<tr>
<td>0 - 5 Mon</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>6 - 36 Mon</td>
<td>6</td>
<td>2-3</td>
</tr>
<tr>
<td>&gt; 3 Y</td>
<td>8</td>
<td>2-3</td>
</tr>
</tbody>
</table>
Pre-induction
Aerosolized 4% Lidocaine