Parotid Neoplasms & Surgical Controversies

Colin Huntley, MD

Thank You

Joe Curry, MD
David Cognetti, MD
Ryan Heffelfinger, MD
Halfway through the lecture, Andy's mead explodes.
Agenda

- Anatomy
- Epidemiology
- Pathology
- Treatment Controversies
- Current Research
Anatomy

- Largest Salivary Gland
- 80% is superficial lobe
- Encased in Superficial Layer Deep Cervical Fascia
Anatomy

- Secretory Function

[Diagram of anatomy with labeled parts: Acinus, Intercalated duct, Striated duct, Excretory duct, Myoepithelial cell, Collecting ducts, Secretory cells, Mouth]
Anatomy

- Secretory Function
Anatomy

- Facial Nerve
Pathology

- Risk Factors
  - Radiation exposure
  - Genetic predisposition
  - Tobacco use
    - Warthin’s tumor
  - Microorganism
    - EBV linked to lymphoepithelial carcinoma
Pathology

- Histogenesis
  - Multicellular Theory
  - Bicellular Reserve Cell Theory
Epidemiology

Table 87-1  -- Distribution of 2807 Salivary Neoplasms

<table>
<thead>
<tr>
<th>Histology</th>
<th>Number of Patients</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pleomorphic adenoma</td>
<td>1274</td>
<td>45.4</td>
</tr>
<tr>
<td>Warthin's tumor</td>
<td>183</td>
<td>6.5</td>
</tr>
<tr>
<td>Benign cyst</td>
<td>29</td>
<td>1</td>
</tr>
<tr>
<td>Lymphoepithelial lesion</td>
<td>17</td>
<td>0.6</td>
</tr>
<tr>
<td>Oncocytoma</td>
<td>20</td>
<td>0.7</td>
</tr>
<tr>
<td>Monomorphic adenoma</td>
<td>6</td>
<td>0.2</td>
</tr>
<tr>
<td>Mucoepidermoid carcinoma</td>
<td>439</td>
<td>15.7</td>
</tr>
<tr>
<td>Adenoid cystic carcinoma</td>
<td>281</td>
<td>10</td>
</tr>
<tr>
<td>Adenocarcinoma</td>
<td>225</td>
<td>8</td>
</tr>
<tr>
<td>Malignant mixed tumor</td>
<td>161</td>
<td>5.7</td>
</tr>
<tr>
<td>Acinic cell carcinoma</td>
<td>84</td>
<td>3</td>
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</table>
Pathology

Benign Neoplasms
Pleomorphic Adenoma

- Most common salivary gland neoplasm
  - 65-75% of all benign tumors of major salivary glands
- Painless Slow Growing Mass
- 90% Superficial to CN VII in parotid
- Presents in 3-6\textsuperscript{th} decade
- F:M = 3:1
Pathology

- Pleomorphic Adenoma
  - Histology
Pathology

- Warthin’s Tumor
  - Second most common
    - 6-12% of parotid neoplasms
  - M>F
  - 5-7\textsuperscript{th} decades
  - 10% Bilateral
  - Painless Slow Growing Mass
- Etiology
  - Smoking
  - Radiation
Pathology

- Warthin’s Tumor
  - Histology

![Histology Image]
Pathology

- Oncocytoma
  - 1% of salivary neoplasms
  - Most commonly arises in Parotid
  - M=F
  - 6th decade
  - Enlarging painless mass
Pathology

- Oncocytoma
  - Histology
Pathology

- Basal Cell Adenoma
  - Variant of monomorphic adenoma
  - Mobile, Asymptomatic Mass
  - 2% of all Salivary Gland Tumors
  - 70% Occur in Parotid
  - M:F = 1:1
  - 4-9\textsuperscript{th} Decade
Pathology

- Basal Cell Adenoma
- Histology
“Mr. Osborne, may I be excused? My brain is full.”
Pathology

Malignant Neoplasms
Pathology

- Mucoepidermoid Carcinoma
  - Most common malignant salivary gland neoplasm
  - 10-15% of all salivary gland neoplasms
  - 45% of all malignant parotid tumors
  - F>M
  - 3-7th decade
Pathology

- Mucoepidermoid Carcinoma
- Histology
Pathology

- Adenoid Cystic Carcinoma
  - 10-12% of malignant salivary gland neoplasm
  - 5% of parotid gland neoplasms
  - M=F
  - 6th decade
  - Slow-growing mass
  - Pain, Facial paresis/paralysis
Pathology

- Adenoid Cystic Carcinoma
  - Histology
Acinic Cell Carcinoma
- 5-11% of all malignant salivary gland neoplasms
- >80% of cases arise in parotid
- F>M
- 3-6\textsuperscript{th} decade
- Solitary, slow growing, mobile mass
Pathology

- Acinic Cell Carcinoma
  - Histology
Surgical Treatments
Surgical Treatments

- Parotidectomy
  - Superficial/Lateral
  - Total
- Limited Parotidectomy
  - Enucleation
  - Extracapsular Dissection
  - Partial Superficial Parotidectomy
- Approaches
  - Rhytidectomy
  - Blair
- Reconstruction
Parotidectomy

- Gold Standard
- Superficial/Lateral
  - Lesions of Superficial lobe
- Total
  - Lesions of Deep Lobe
Parotidectomy

• Complications
  • Facial Nerve Injury
    • Temporary: 5-25% (Superficial Parotidectomy), 20-50% (Total)
    • Permanent: 5-8% (Superficial Parotidectomy), 5-10% (Total)
  • Hematoma/Seroma
    • 3-7% cases
  • Sialocele
    • 5-10%
  • Salivary Fistula
    • 5%
  • Frey Syndrome
Limited Parotid Resection

- Enucleation
  - Opening capsule and removing tumor within
- Extracapsular dissection
  - Meticulous dissection outside tumor capsule
  - 1-2mm cuff of loose areolar tissue around mass
- Partial Superficial Parotidectomy
  - Dissection of main trunk of VII and Branch adjacent to mass
  - 1-2cm cuff of normal tissue around mass
Enucleation

- Tumor capsule opened
- Tumor removed from capsule
- Performed in US prior to 1950’s
- High Recurrence Rate
  - 20-45%
Enucleation

<table>
<thead>
<tr>
<th>No. recurrences</th>
<th>No. patients</th>
<th>Total no. recurrences</th>
<th>Per cent of recurrences</th>
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</thead>
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<tr>
<td>1</td>
<td>21</td>
<td>21</td>
<td>53.9</td>
</tr>
<tr>
<td>2</td>
<td>9</td>
<td>18</td>
<td>23.1</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>12</td>
<td>10.2</td>
</tr>
<tr>
<td>4</td>
<td>3</td>
<td>12</td>
<td>7.7</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>10</td>
<td>5.1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>39</strong></td>
<td><strong>73</strong></td>
<td></td>
</tr>
</tbody>
</table>
Extracapsular Dissection

- Tumor removal w meticulous dissection
- Minute cuff of surrounding tissue
- No Exposure of CN VII
Outcome, general, and symptom-specific quality of life after various types of parotid resection.


**Extracapsular Dissection**

<table>
<thead>
<tr>
<th>Incomplete transient facial palsy</th>
<th>Incomplete permanent facial palsy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enucleation 0/28</td>
<td>Enucleation 0/28</td>
</tr>
<tr>
<td>Extracapsular dissection 0/20</td>
<td>Extracapsular dissection 0/20</td>
</tr>
<tr>
<td>Partial lateral parotidectomy 7/95</td>
<td>Partial lateral parotidectomy 1/95</td>
</tr>
<tr>
<td>Superficial parotidectomy 9/52</td>
<td>Superficial parotidectomy 6/52</td>
</tr>
<tr>
<td>Extended superficial parotidectomy 1/1</td>
<td>Extended superficial parotidectomy 0/1</td>
</tr>
<tr>
<td>Near total parotidectomy 0/1</td>
<td>Near total parotidectomy 0/1</td>
</tr>
<tr>
<td>Total parotidectomy 0/1</td>
<td>Total parotidectomy 0/1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Complete transient facial palsy</th>
<th>Frey’s syndrome</th>
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</thead>
<tbody>
<tr>
<td>Enucleation 0/28</td>
<td>Enucleation 0/28</td>
</tr>
<tr>
<td>Extracapsular dissection 0/20</td>
<td>Extracapsular dissection 1/20</td>
</tr>
<tr>
<td>Partial lateral parotidectomy 2/95</td>
<td>Partial lateral parotidectomy 10/95</td>
</tr>
<tr>
<td>Superficial parotidectomy 4/52</td>
<td>Superficial parotidectomy 19/52</td>
</tr>
<tr>
<td>Extended superficial parotidectomy 0/1</td>
<td>Extended superficial parotidectomy 1/1</td>
</tr>
<tr>
<td>Near total parotidectomy 0/1</td>
<td>Near total parotidectomy 1/1</td>
</tr>
<tr>
<td>Total parotidectomy 0/1</td>
<td>Total parotidectomy 0/1</td>
</tr>
</tbody>
</table>
Pleomorphic adenoma: extracapsular dissection versus partial superficial parotidectomy with facial nerve dissection
Witt RL, Rejto L

<table>
<thead>
<tr>
<th></th>
<th>ECD</th>
<th>PSP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recurrence</td>
<td>36/1183 (3.0%)</td>
<td>1/340 (0.3%)</td>
</tr>
<tr>
<td>Transient paresis</td>
<td>112/1036 (11.8%)</td>
<td>142/793 (17.9%)</td>
</tr>
<tr>
<td>Permanent paresis</td>
<td>22/1202 (1.8%)</td>
<td>2/924 (0.2%)</td>
</tr>
</tbody>
</table>
Extracapsular Dissection

Figure 3  A dense fibrous capsule (C) surrounds a parenchyma-rich tumor (T). An aggregate of packed lymphoid cells (asterisk) is associated with the capsule. Such aggregates are not uncommon in PA.

Figure 4  A nonencapsulated, stroma-rich tumor (T) extends to the adjacent parotid acini (A).

Figure 5  A tumor of an equal parenchymal:stromal ratio (T) penetrates the thick capsule (C). Penetration is in the form of a spur-like projection (arrowhead). The linear segment corresponds to the thickness of the capsule. Compare with Figure 2.
Reconstruction
Rhytidectomy Incision
## Rhytidectomy Incision

### Table 1: Comparison of the patient and tumor profiles and surgical outcomes between the modified Blair incision (BI) and modified facelift incision (FLI)

<table>
<thead>
<tr>
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<th>BI (n = 162)</th>
<th>FLI (n = 182)</th>
<th>p Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age (years)</td>
<td>45.82 ± 14.88</td>
<td>44.12 ± 16.76</td>
<td>0.320</td>
</tr>
<tr>
<td>Gender (men:women)</td>
<td>90:72</td>
<td>51:131</td>
<td></td>
</tr>
<tr>
<td>Name of operation</td>
<td></td>
<td></td>
<td>0.518</td>
</tr>
<tr>
<td>Superficial parotidectomy</td>
<td>124</td>
<td>148</td>
<td></td>
</tr>
<tr>
<td>Subtotal parotidectomy</td>
<td>30</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td>Enucleation</td>
<td>8</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Tumor location</td>
<td>156</td>
<td>178</td>
<td>0.104</td>
</tr>
<tr>
<td>Superficial lobe</td>
<td>124</td>
<td>143</td>
<td></td>
</tr>
<tr>
<td>Anterior</td>
<td>26</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>Superior</td>
<td>15</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>Middle</td>
<td>36</td>
<td>46</td>
<td></td>
</tr>
<tr>
<td>Inferior</td>
<td>47</td>
<td>48</td>
<td></td>
</tr>
<tr>
<td>Deep lobe</td>
<td>32</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>Mean tumor size (mm)</td>
<td>26.49 ± 11.94</td>
<td>23.76 ± 9.98</td>
<td>0.024</td>
</tr>
<tr>
<td>Superficial lobe tumor</td>
<td>24.22</td>
<td>22.51 ± 9.86</td>
<td>0.171</td>
</tr>
<tr>
<td>Deep lobe tumor</td>
<td>35.96 ± 13.45</td>
<td>29.41 ± 8.75</td>
<td>0.025</td>
</tr>
<tr>
<td>Local complication</td>
<td>25</td>
<td>24</td>
<td>0.643</td>
</tr>
<tr>
<td>Facial nerve palsy</td>
<td>24</td>
<td>20</td>
<td>0.530</td>
</tr>
<tr>
<td>Frey syndrome</td>
<td>57</td>
<td>41</td>
<td>0.001</td>
</tr>
<tr>
<td>Total drainage amount (ml)</td>
<td>84.10 ± 46.21</td>
<td>90.53 ± 47.43</td>
<td>0.205</td>
</tr>
<tr>
<td>Duration of drainage (days)</td>
<td>3.62 ± 1.52</td>
<td>3.62 ± 1.36</td>
<td>0.999</td>
</tr>
<tr>
<td>Scar satisfaction score (0–10)</td>
<td>6.89 ± 2.08</td>
<td>8.50 ± 1.79</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Deep hollow satisfaction score (0–10)</td>
<td>7.74 ± 1.84</td>
<td>8.34 ± 1.68</td>
<td>0.005</td>
</tr>
</tbody>
</table>

Rhytidectomy Incision

![Graph showing comparison of immediate postoperative complications between Cervicomastoidfacial and modified facelift incisions.](image1)

**Figure 1** Immediate postoperative complications.

![Graph showing postal questionnaire feedback of persistent and late postoperative complications.](image2)

**Figure 2** Postal questionnaire feedback of persistent and late postoperative complications.

Rhytidectomy Incision
Modified Blair Incision
SMAS Flap
Frey’s Syndrome: A Preventable Phenomenon

Philip C. Bonanno, M.D., and Phillip R. Casson, M.D.

Mt. Kisco and New York, N.Y.

Fig. 1. Origin and neural pathways of the pre- and postganglionic nerves feeding the parotid and facial sweat glands. Synaptic origin of the parasympathetic fibers feeding the parotid lies in the otic ganglion, while that of the sympathetic fibers feeding the sweat glands lies in the superior cervical ganglion. Fibers intended for the parotid feed the sweat glands following parotidectomy causing gustatory sweating (broken line, far right). (Reproduced with permission from Irving Poley and Robin Rankow, Diseases of the Salivary Glands. Philadelphia: Saunders, 1976. P. 281, Fig. 10–33.)
SMAS Flap

Impact of the SMAS on Frey’s Syndrome after Parotid Surgery: A Prospective, Long-Term Study

Table 2. Comparison of the SMAS Flap Group and the No–SMAS Flap Group after a Mean Follow-Up of 23 and 78 Months, Respectively

<table>
<thead>
<tr>
<th></th>
<th>No–SMAS Flap Group after 23 Months of Follow-Up (n = 23) (%)</th>
<th>SMAS Flap Group after 23 Months of Follow-Up (n = 25) (%)</th>
<th>No–SMAS Flap Group after 108 Months of Follow-Up (n = 18) (%)</th>
<th>SMAS Flap Group after 78 Months of Follow-Up (n = 22) (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symptomatic Frey’s syndrome</td>
<td>10/23 (43)</td>
<td>0%</td>
<td>10/18 (56)</td>
<td>9/22 (41)</td>
</tr>
<tr>
<td>Positive minor</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>starch-iodine test</td>
<td>22/23 (96)</td>
<td>19/25 (76)</td>
<td>18/18 (100)</td>
<td>19/22 (86)</td>
</tr>
<tr>
<td>Iodine-positive surface area, cm²</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>18.4</td>
<td>12.5</td>
<td>22.3</td>
<td>21</td>
</tr>
<tr>
<td>Range</td>
<td>1–45</td>
<td>6–29</td>
<td>5–31</td>
<td>4–32</td>
</tr>
</tbody>
</table>

p = 0.003  p = 0.42  p = 0.006
SMAS Flap

Aesthetic Parotid Surgery: Evolution of a Technique

Richard L. Arden, MD, FACS; George S. Miguel, DO

1. Skin, subcutaneous layer
2. Temporoparietal fascia
3. Superficial layer of deep Temporal fascia
4. Fat pad (superficial)
5. Zygomatic arch
6. SMAS
7. Parotid gland defect
8. Parotid gland and parotid fascia

SMAS sutured to parotid fascia

Sternocleidomastoid Muscle Flap
Sterno cleid o mastoid Muscle Flap

Figure 1. Forest plot for all controlled studies (all techniques) reviewing prevention of clinical Frey syndrome. The subheading “Events” refers to the number of individuals with symptoms of Frey syndrome. “Total” refers to the total number of individuals in the designated group. CI indicates confidence interval; ePTFE, expanded polytetrafluoroethylene; M-H, Mantel-Haenszel method of calculation; OR, odds ratio; PGF, parotid gland fascia; SCM, sternocleidomastoid muscle; SMAS, superficial muscular aponeurotic system; TPF, temporoparietal fascial. AlloDerm is manufactured by LifeCell Corp, Woodlands, Texas; Vicryl, by Ethicon Inc, Somerville, New Jersey.
Figure 2. Forest plot for all controlled studies (all techniques) reviewing prevention of positive Minor starch-iodine test results. The subheading “Events” refers to the number of individuals with symptoms of Frey syndrome. “Total” refers to the total number of individuals in the designated group. CI indicates confidence interval; ePTFE, expanded polytetrafluoroethylene; M-H, Mantel-Haenszel method of calculation; OR, odds ratio; SCM, sternocleidomastoid muscle; SMAS, superficial muscular aponeurotic system; TPF, temporoparietal fascial. AlloDerm is manufactured by LifeCell Corp, Woodlands, Texas; Vicryl, by Ethicon Inc, Somerville, New Jersey.
**Sternocleidomastoid Muscle Flap**

**Figure 3.** Forest plot for all controlled studies (all techniques) reviewing prevention of facial asymmetry after parotidectomy. The subheading “Events” refers to the number of individuals with symptoms of Frey syndrome. “Total” refers to the total number of individuals in the designated group. CI indicates confidence interval; M-H, Mantel-Haenszel method of calculation; OR, odds ratio; SCM, sternocleidomastoid muscle; SMAS, superficial musculoaponeurotic system; TPF, temporoparietal fascial.
Fat Graft
Fat Graft

Free Abdominal Fat Transfer for Reconstruction of the Total Parotidectomy Defect

Bryant T. Conger, BS; Christine G. Gourin, MD

TABLE II.
Self-Reported Patient Satisfaction With Postoperative Appearance.

<table>
<thead>
<tr>
<th></th>
<th>Control</th>
<th>Free Abdominal Fat Transfer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vary happy</td>
<td>2 (15%)</td>
<td>9 (100%)</td>
</tr>
<tr>
<td>Somewhat happy</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Neutral</td>
<td>2 (15%)</td>
<td>—</td>
</tr>
<tr>
<td>Somewhat unhappy</td>
<td>5 (39%)</td>
<td>—</td>
</tr>
<tr>
<td>Vary unhappy</td>
<td>4 (31%)</td>
<td>—</td>
</tr>
</tbody>
</table>

Fat Graft

Superficial Musculoaponeurotic System Elevation and Fat Graft Reconstruction After Superficial Parotidectomy

Joseph M. Curry, MD; Kyle W. Fisher, MD; Ryan N. Heffelfinger, MD; Marc R. Rosen, MD; William M. Keane, MD; Edmund A. Pribitkin, MD

TABLE II

<table>
<thead>
<tr>
<th></th>
<th>SMAS n = 16 (%)</th>
<th>Control n = 19 (%)</th>
<th>Fat and SMAS n = 34 (%)</th>
<th>Control n = 38 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facial asymmetry</td>
<td>2 (12)</td>
<td>6 (32)</td>
<td>3 (9)</td>
<td>15 (39)</td>
</tr>
<tr>
<td>Slight</td>
<td>2 (12)</td>
<td>4 (21)</td>
<td>2 (6)</td>
<td>11 (29)</td>
</tr>
<tr>
<td>Moderate</td>
<td>0</td>
<td>1 (5)</td>
<td>1 (3)</td>
<td>4 (11)</td>
</tr>
<tr>
<td>Severe</td>
<td>0</td>
<td>1 (5)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Sought treatment</td>
<td>0</td>
<td>1 (5)</td>
<td>1 (3)</td>
<td>0</td>
</tr>
<tr>
<td>P value ($\chi^2$ test)</td>
<td>.147</td>
<td>.002</td>
<td></td>
<td></td>
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</tbody>
</table>

<p>| | | | | |</p>
<table>
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<th></th>
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<tbody>
<tr>
<td>Surgery-survey interval (mo)</td>
<td>8, 45</td>
<td>25, 47, 59, 15</td>
<td>10, 45</td>
<td>78, 56, 17, 57, 45, 50, 80, 11, 23, 20</td>
</tr>
<tr>
<td>Slight</td>
<td>8</td>
<td>25</td>
<td>10</td>
<td>78</td>
</tr>
<tr>
<td>Moderate</td>
<td>n/a</td>
<td>56</td>
<td>30</td>
<td>47</td>
</tr>
<tr>
<td>Severe</td>
<td>n/a</td>
<td>22</td>
<td>n/a</td>
<td>72</td>
</tr>
<tr>
<td>Frey’s syndrome</td>
<td>1 (6)</td>
<td>3 (16)</td>
<td>2 (6)</td>
<td>8 (22)</td>
</tr>
<tr>
<td>Slight</td>
<td>0</td>
<td>2 (11)</td>
<td>2 (6)</td>
<td>3 (8)</td>
</tr>
<tr>
<td>Moderate</td>
<td>1 (6)</td>
<td>0</td>
<td>0</td>
<td>2 (5)</td>
</tr>
<tr>
<td>Severe</td>
<td>0</td>
<td>1 (5)</td>
<td>0</td>
<td>3 (8)</td>
</tr>
<tr>
<td>P value ($\chi^2$ test)</td>
<td>.382</td>
<td>.04</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Superficial musculoaponeurotic system elevation and fat graft reconstruction after superficial parotidectomy.

Joseph M. Curry, MD; Kyle W. Fisher, MD; Ryan N. Heffelfinger, MD; Marc R. Rosen, MD; William M. Keane, MD; Edmund A. Pribitkin, MD

**Fat Graft**

<table>
<thead>
<tr>
<th>Table II: Survey Results.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SMAS</strong> n=16 (%)</td>
</tr>
<tr>
<td>Facial asymmetry</td>
</tr>
<tr>
<td>Slight</td>
</tr>
<tr>
<td>Moderate</td>
</tr>
<tr>
<td>Severe</td>
</tr>
<tr>
<td>Sought treatment</td>
</tr>
<tr>
<td><em>P</em> value ($\chi^2$ test)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Surgery-survey interval (mo)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slight</td>
</tr>
<tr>
<td>Moderate</td>
</tr>
<tr>
<td>Severe</td>
</tr>
<tr>
<td>Frey’s syndrome</td>
</tr>
<tr>
<td>Slight</td>
</tr>
<tr>
<td>Moderate</td>
</tr>
<tr>
<td>Severe</td>
</tr>
<tr>
<td><em>P</em> value ($\chi^2$ test)</td>
</tr>
</tbody>
</table>
Dermal Fat Graft
Dermal Fat Graft
SMAS/Fat
Complications
Complications
Current Research

- Revisiting our Parotid Series
- 2006-present
- 361 patients
  - Modified Blair & Facelift
  - No Recon, SMAS, Fat, SCM
  - WLE and Free Flap
Current Research

- Retrospective Chart Review
  - Demographic information
  - Surgical Data
  - Pathologic Data
  - Postop outcomes
- Phone Survey
  - Symptoms of Frey’s Syndrome
  - FACE-Q Questionnaire
Current Research

- Evaluate incidence of Frey’s Syndrome
- Evaluation overall outcome
- Collaborative Research
FACE-Q

- Patient Related Outcomes Scale
- Validated/Reliable Questionnaire

Like most veterinary students, Doreen breezes through chapter 9.
Sources

Sources