Audit of Enhanced Recovery with Integrated Care Assessment in Head and Neck Cancer Surgery

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What is ERICA?

- Minimise stress responses during & after surgery
- Optimise pre-op condition
- Optimise peri-operative care
- Optimise post-op rehabilitation
What led to ERICA?

• Retrospective audit - high incidence of morbidity and mortality led to introduction of ERICA

• Concept of ERICA was gradually introduced with view to improve service provision and patient care

• Prospective audit - to quantify outcomes
Stages of ERICA

Pre-op:

- Rapid pre-assessment with dedicated team trained nurses
- Email surgeon & anaesthetist
- BP / ECG / Cardiac testing/ ECHO / Bloods / HBA1c
- Dental assessment – Restorative Consultant
- Early smoking cessation referral
- GP input re alcohol cessation
- Dementia – early 3 point mini-cog assess & POPS review
- Anxiety and depression scoring & Psych input*
- Early MUST scoring and dietician input
- Pre-load CHO drinks
Stages of ERICA

**Intra-op:**
- Admit on day of surgery
- Reduced tracheostomy
- Simultaneous operating
- Individual fluid monitoring (LIDCO/MASIMO)*
- Temperature control
- Glucose and Lactate
Stages of ERICA

Post-op:
• Operating notes proforma
• Free flap monitoring chart
• Ward progress document
• Daily Consultant review
• Early OT assessment and Discharge plan
• Patient diary
• Discharge pack
# Audit data

<table>
<thead>
<tr>
<th></th>
<th>Pre-ERICA</th>
<th>Post-ERICA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Duration</strong></td>
<td>Oct 2014-15</td>
<td>Mar 2016-17</td>
</tr>
<tr>
<td><strong>No. patients</strong></td>
<td>40</td>
<td>47</td>
</tr>
<tr>
<td><strong>Avg. age</strong></td>
<td>60 - 70 years</td>
<td>70 - 80 years</td>
</tr>
</tbody>
</table>
Site of primary tumour

Pre-ERICA

Post-ERICA

Tongue 47%

Tongue 41%

Mandible 15%

Mandible 17%

Maxilla 10%

Maxilla 6%

Retromolar trigone 7%

Buccal mucosa 3%

Buccal 2%

Floor of mouth 5%

Floor of mouth 9%

Lip 3%

Parotid 5%

Parotid 6%

Neck 3%

Neck 7%

Palate 5%

Palate 6%

Retromolar trigone 2%

Tonsil 2%

Retromolar trigone 4%
Stages of tumour

Pre-ERICA

Post-ERICA

pT1N0 > pT2N1 > pT2N0 > pT4n2B

pT1N0 > pT2N0 > pT4N0 > pT4n2B
## Reconstruction

<table>
<thead>
<tr>
<th></th>
<th>Pre-ERICA</th>
<th>Post-ERICA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Free flaps</td>
<td>27%</td>
<td>6%</td>
</tr>
<tr>
<td>Distant pedicled flaps</td>
<td>6%</td>
<td>13%</td>
</tr>
<tr>
<td>Local pedicled flaps</td>
<td>40%</td>
<td>43%</td>
</tr>
<tr>
<td>Laser/neck dissection alone/others</td>
<td>27%</td>
<td>38%</td>
</tr>
</tbody>
</table>
## Complications

<table>
<thead>
<tr>
<th></th>
<th>Pre-ERICA</th>
<th>Post-ERICA</th>
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</thead>
<tbody>
<tr>
<td>Overall complications</td>
<td>50%</td>
<td>34%</td>
</tr>
<tr>
<td>Medical complications</td>
<td>27%</td>
<td>9%</td>
</tr>
<tr>
<td>Surgical complications</td>
<td>32%</td>
<td>25%</td>
</tr>
</tbody>
</table>
## Surgical complications

<table>
<thead>
<tr>
<th></th>
<th>Pre-ERICA</th>
<th>Post-ERICA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Return to theatre</td>
<td>20%</td>
<td>4%</td>
</tr>
<tr>
<td>Re-anastomosis</td>
<td>5%</td>
<td>0%</td>
</tr>
<tr>
<td>Free flap failure</td>
<td>2 of 11</td>
<td>0 of 3</td>
</tr>
<tr>
<td>Partial flap dehiscence</td>
<td>10%</td>
<td>8%</td>
</tr>
<tr>
<td>Wound infections</td>
<td>7%</td>
<td>2%</td>
</tr>
<tr>
<td>Haematoma</td>
<td>3%</td>
<td>4%</td>
</tr>
<tr>
<td>Oro-cutaneous fistula</td>
<td>0</td>
<td>2%</td>
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</tbody>
</table>
# Morbidity and mortality

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<thead>
<tr>
<th></th>
<th>Pre-ERICA</th>
<th>Post-ERICA</th>
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</thead>
<tbody>
<tr>
<td>Hospital stay</td>
<td>16 days</td>
<td>10 days</td>
</tr>
<tr>
<td>Tumour recurrence (recorded at 3 months post- each audit)</td>
<td>32%</td>
<td>15%</td>
</tr>
<tr>
<td>Mortality (recorded at 3 months post- each audit)</td>
<td>28%</td>
<td>9%</td>
</tr>
<tr>
<td>(23% died from recurrence)</td>
<td></td>
<td>(6% died from recurrence)</td>
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</tbody>
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Conclusion

• Reduction in length of hospital stay by 6 days
• Reduction in return to theatre by 16%
• Reduction in overall complications by 16%
• Reduction in surgical complications by 7%
• Reduction in medical complications 18%
• Reduction in disease recurrence by 17%
• Reduction in mortality by 18%