2013 Patient Care Evaluation Study
Nutritional Management of Head & Neck Cancer Patients

Introduction:
The Oakwood Center for Cancer Care offers a free, high-quality nutrition program, on-site, three days per week. These services are provided by a registered dietitian (RD) with board certification in oncology nutrition (CSO).

The American College of Surgeons, Commission on Cancer (ACoS) requires that cancer patients are offered nutrition services on-site or by referral. Medicare does not cover the expense of nutrition services for oncology patients. A patient may have to travel and pay out-of pocket for these services elsewhere.

The program at the Oakwood Center for Cancer Care is unique because we offer:
1. Free Oncology Nutrition Services
2. Available on-site
3. Rendered by a specialist in oncology nutrition

Purpose:
To evaluate the nutritional management of head and neck cancer (H&N) patients on radiation treatment. This study will provide a baseline to measure and improve the quality of oncology nutrition services.

Background:
Preventing and treating weight loss in head and neck cancer patients is an area of great interest. However, a golden standard for the nutritional management of these patients is still not available. The literature offers no clear consensus. Some authors recommend elective PEG to all patients before treatment. However, the potential benefit from a wait-and-see approach is also supported by the findings of complications and prolonged dysphagia in patients with a PEG.

References to establish benchmarks of quality care:
2. More than 10% Weight Loss in Head and Neck Cancer Patients During Radiotherapy Is Independently Associated with Deterioration in Quality of Life. Nutrition and Cancer, 65 (1)76-83
4. Academy of Nutrition and Dietetics, Evidence Analysis Library, Oncology Evidence-Based Nutrition Practice Guideline

Involuntary weight loss of 5% body weight in 30 days is significant, but not unexpected or unavoidable in some H&N cancer patients. Since most H&N patients are prescribed radiation treatments exceeding 30 days, minimal weight loss was defined as less than or equal to 1% body weight per week. NCCN suggests close monitoring of nutritional status in H&N patients with significant weight loss at >10% body weight.

In 2011, we had 66 H&N cancers diagnosed at Oakwood. A retrospective chart review was completed on a random selection of 38 cases. Of these 38 cases, 25 cases met criteria for analysis and 13 were removed due to exclusion criteria.
Exclusion criteria:
No radiation treatment at OHMC- 11 patients
Living in a Skilled Nursing Facility- 2 patients
{Nutrition evaluation, plan of care and meals are provided by the SNF; data is not a reflection of our nutrition program}

Analyzed weight loss {in pounds and as a percentage of body weight} from the start of radiation until finished. The minimum comparison was 4 weeks. The maximum was 9 weeks. The mean was 6-7 weeks. 15 out of 25 patients had a weight history period of 6-7 weeks for evaluation.

Results:

- 76% (19 of 25) patients minimized weight loss to an average of <= 1% body weight/wk on treatment. 13 were on RT alone and 6 were on concurrent chemo/xrt
- 24% (6 of 25) patients exceeded 1% loss of body weight/week. 1 RT alone. 5 on concurrent chemo/xrt. 3 were on tube feeding and 3 declined to use alternative nutrition, i.e., tube feeding

<table>
<thead>
<tr>
<th>2011 H&amp;N Data</th>
<th>Occurrences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients</td>
<td>25</td>
</tr>
<tr>
<td>RT only</td>
<td>14</td>
</tr>
<tr>
<td>Chemo/XRT</td>
<td>11</td>
</tr>
<tr>
<td>No wt loss</td>
<td>2</td>
</tr>
<tr>
<td>0.1% - 3.0% Loss</td>
<td>6</td>
</tr>
<tr>
<td>3.1% - 5.0% Loss</td>
<td>6</td>
</tr>
<tr>
<td>5.1% - 7.0% Loss</td>
<td>7</td>
</tr>
<tr>
<td>7.1% -10% Loss</td>
<td>1</td>
</tr>
<tr>
<td>&gt;10% Wt Loss</td>
<td>3</td>
</tr>
<tr>
<td>Hospitalized</td>
<td>6</td>
</tr>
<tr>
<td>Treatment Break</td>
<td>5</td>
</tr>
<tr>
<td>PEG/TF</td>
<td>7</td>
</tr>
<tr>
<td>Declined TF</td>
<td>6</td>
</tr>
</tbody>
</table>
• 48%- Alternative nutrition not recommended
• 28%- On tube feeding
• 24%- Tube feeding was suggested, but the patient declined

• 3 patients had >10% weight loss
  2/3 were on concurrent chemo/radiation treatment
  2/3 declined alternative nutrition support. One patient had a tube feeding before treatment was initiated.

Confounding variables include:

• Financial difficulties
• Compliance with nutrition recommendations
• PEG tube malfunctioning or PEG site infection
• Severe stomatitis, low blood counts, odynophagia
• Significant toxicity related to concurrent treatment
• Diagnosis of protein-calorie malnutrition prior to treatment
• Co-morbidities including alcoholism and possible cognitive impairment
• Health insurance company refused to provide tube feeding formula- not a covered benefit

Summary and Conclusions:
1. Oakwood offers a unique program that exceeds current nutrition practice guidelines for oncology patients.
2. Patients on concurrent chemo/radiation treatments for head & neck cancers are at greater risk for significant weight loss.
3. Close monitoring of the nutritional status in H&N patients may result in improved outcomes including reduced weight loss, fewer treatment breaks and decreased hospitalizations.