Project Title: Steroid Tapering for Patients with Spinal Cord Compression or Symptomatic Brain Metastases

Presenter: David Asher

Institution: Jackson Memorial Hospital

Date: June 29, 2018
Jackson Memorial Hospital

- Non-profit, tertiary care hospital
- Primary provider for poor and near-poor population of Miami-Dade County
- ~1400 inpatient beds
- Teaching hospital for University of Miami Miller School of Medicine
# Team Members

<table>
<thead>
<tr>
<th>Team Members</th>
<th>Position</th>
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<tbody>
<tr>
<td>Janet Diaz-Pujala, RN</td>
<td>Nurse (Radiation Oncology)</td>
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<tr>
<td>Ana Abad, RN</td>
<td>Nurse (Radiation Oncology)</td>
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<tr>
<td>Sarah Francis, PharmD, BCOP</td>
<td>Pharmacist (Inpatient Oncology)</td>
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<tr>
<td>Angela Richardson, MD, PhD</td>
<td>Resident (Neurosurgery)</td>
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<tr>
<td>Glen Manzano, MD</td>
<td>Attending (Neurosurgery)</td>
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<tr>
<td>Stuart Samuels, MD, PhD</td>
<td>Attending (Radiation Oncology)</td>
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<tr>
<td>Benjamin Farnia, MD</td>
<td>Resident (Radiation Oncology)</td>
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<tr>
<td>Stephen Ramey, MD</td>
<td>Resident (Radiation Oncology)</td>
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<td><strong>Team Sponsor</strong></td>
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<td>Raphael Yechieli, MD</td>
<td>Director (Radiation Oncology)</td>
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<td><strong>Team Leader</strong></td>
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<tr>
<td>David Asher, MD</td>
<td>Resident (Radiation Oncology)</td>
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<tr>
<td><strong>ASCO QI Coach</strong></td>
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<tr>
<td>Duncan Phillips, MBA</td>
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</table>
Between Nov-17 and Feb-18 76% of patients with spinal cord compression or symptomatic brain metastases did not receive appropriate tapering of steroids following completion of radiation treatment. This leads to unnecessary side effects from continued steroid use, ultimately leading to an inefficient use of resources, including time and money.
To reduce the percentage of patients with spinal cord compression or symptomatic brain metastases who receive radiation treatment and do not receive a steroid taper schedule prior to completion of radiation treatment by **30% by June 2018**
Measures

Measure: Outcome

Population: Patients with cord compression or symptomatic brain metastases who receive radiation therapy

Calculation methodology:

Numerator: # of patients who do not receive adequate tapering instructions in discharge instructions or documented in on-treatment visit

Denominator: # of patients with cord compression or symptomatic brain metastases who receive radiation therapy

Data source: Chart Review

Data collection frequency: Monthly

Data quality (any limitations): Charting may not reflect clinical reality. Discharge instructions, although written, may not reflect patient understanding/compliance.
Baseline Data

Percentage of Patients Who Do Not Receive Steroid Taper Instructions

- Nov-17: 0 not tapered, Total # = 2
- Dec-17: 3 not tapered, Total # = 4
- Jan-18: 7 not tapered, Total # = 7
- Feb-18: 3 not tapered, Total # = 4

76% not tapered

ASCO Quality Training Program
Diagnostic Data

Patients who have Steroids Tapered (Nov 17 - Mar 18)

- Adequate Steroid Taper (n=4)
- No Steroid Taper (n=14)

Percent pts

- Same MD
- On Treatment visit
- Clinical Improvement

n = 18
Insufficient checks to assure on-treatment visit is scheduled

Patient not seen by initial consulting rad onc

Policy/Management

Limited time during consults and on treatment visits
Transitions in care between consulting MD and MD seeing in clinic

Method/Procedures

Lack of checks and balances within EMR
Communication only through EMR

Discharge instructions written by primary team
Patient not discharged by RN/Team that knows them

Difficult to use computer in clinic room to check Rx
Lack of pharmacy oversight and or support

No clear standard for proper tapering

Patient not tapered of steroids appropriately

Patient

Lack of symptomatic improvement
Prescription not filled
Does not understand instructions

Practitioner

Believe it's someone else's responsibility
Concerns about tapering too quickly
Taper felt not to be important

Forget to document tapering discussion
No experience or knowledge in tapering

Does not include tapering instruction in the D/C Instructions
### Prioritized List of Changes

<table>
<thead>
<tr>
<th>Impact</th>
<th>Ease of Implementation</th>
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<tbody>
<tr>
<td>High</td>
<td></td>
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<tr>
<td></td>
<td>Grand Rounds</td>
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<tr>
<td></td>
<td></td>
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<tr>
<td>Low</td>
<td></td>
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<tr>
<td></td>
<td>Develop Steroid Tapering Template</td>
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</table>

#### High Impact

- Add Tapering to MD Orderset
- Require MD to ‘follow’ patient
- Hire ARNP/PA-C

#### Low Impact

- Didactic series to non-Rad Onc MD’s

#### Ease of Implementation

- Easy
- Difficult
# PDSA Plan (Test of Change)

<table>
<thead>
<tr>
<th>Date of PDSA Cycle</th>
<th>Description of Intervention</th>
<th>Results</th>
<th>Action Steps</th>
</tr>
</thead>
<tbody>
<tr>
<td>4/13/18</td>
<td>Grand Rounds</td>
<td>16 MD attended, Nurse Manager, Lead RT Therapist, Training Material developed</td>
<td>Follow up with individual residents</td>
</tr>
<tr>
<td>4/13/18</td>
<td>Developed Tapering Template</td>
<td>Dist. to all Rad Oncs</td>
<td>Edited the Tapering Template</td>
</tr>
<tr>
<td>5/18/18</td>
<td>1:1 discussion with residents</td>
<td>Increased Awareness</td>
<td>Add the Tapering Template to the EMR</td>
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</table>
### Steroid Tapering Schedule

**Dexamethasone 2 mg tablets**

<table>
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<tr>
<th>Week</th>
<th>AM Breakfast, # of tablets</th>
<th>PM Dinner, # of tablets</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4 tab (8 mg)</td>
<td>4 tab (8 mg)</td>
</tr>
<tr>
<td>2</td>
<td>2 tab (4 mg)</td>
<td>2 tab (4 mg)</td>
</tr>
<tr>
<td>3</td>
<td>2 tab (4 mg)</td>
<td>----</td>
</tr>
<tr>
<td>4</td>
<td>1 tab (2 mg)</td>
<td>----</td>
</tr>
<tr>
<td>5</td>
<td>0.5 tab (1 mg)</td>
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### Steroid Tapering Schedule

**Dexamethasone __ mg tablets**

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Change Data

% of Pt who DID NOT have their steroids tapered
(p Chart - 3 StDev)

Grand Rounds
Conclusions

The percentage of patients with spinal cord compression or symptomatic brain metastases who did not receive appropriate steroid tapering decreased by 38.5%.

- 76% between Nov-17 and Feb-18 to 37.5% in April-18 and May-18
- This exceeded our goal of a 30% reduction by June-18.
Next Steps/Plan for Sustainability

- Continue monthly chart review.
- Add steroid tapering template into EMR.
- Incorporate steroid education into resident lecture series.
Steroid Tapering for Patients with Spinal Cord Compression or Symptomatic Brain Metastases

AIM: To reduce the percentage patients with spinal cord compression or symptomatic brain metastases who receive radiation treatment and do not receive a steroid taper schedule prior to completion of radiation treatment by 30% by June 2018.

INTERVENTION: A didactic grand rounds was created incorporating reviewing our data, potential causes, proper sign-out technique, and introduction of the steroid template.

RESULTS: The percentage of patients who did not receive steroid tapering decreased by 38.5%.
- 76% between Nov-17 and Feb-18 to 37.5% in April-18 and May-18
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CONCLUSIONS: The percentage of patients with spinal cord compression or symptomatic brain metastases who did not receive appropriate steroid tapering decreased by 38.5%.
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NEXT STEPS:
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