How to Report Conditioning Regimens
Wed. Feb. 26, 2014
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Disclosures

I have no relevant financial conflicts of interest to disclose.
Objectives

Participants will be able to:

1) Report the total prescribed cumulative dose of each drug used in the preparative regimen in mg/m2, mg/kg or target AUC on the Pre-TED form (F2400)

2) Report the total cumulative dose of each drug the patient received during the preparative regimen on the Baseline form (F2000)
Objectives (continued)

3) Correctly report a change in the preparative regimen after the Pre-TED (F2400) has been submitted.

4) Classify preparative regimens as myeloablative (MA) or non-myeloablative (NMA) based on CIBMTR Operational guidelines.
Revised Form 2400
Preparative Regimen Section

Added Total Body Irradiation questions:

162. Total prescribed dose: (dose per fraction x total number of fractions) __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ ____
Patient Scenario #1

Jon Doe is a 25 yo male with a h/o Ph+ ALL in 2\textsuperscript{nd} CR.

He’s scheduled for a matched sibling HCT with a preparative regimen of total body irradiation (TBI) and cyclophosphamide (Cy).
The written orders include:

- TBI 200 cGy BID x 3 days (Day -6 thru Day -4) with a 400 cGy boost to the testicles prior to the start of TBI
- Cyclophosphamide 60 mg/kg IV x 2 days (Day -3 & Day -2)
- Allogeneic HCT on Day 0
Total Body Irradiation Dose
Form 2400

What is the total prescribed TBI dose that should be reported on F2400 Q162?

A. 200 cGy
B. 400 cGy
C. 1200 cGy
D. 1600 cGy
Cyclophosphamide (Cy) Dose Form 2400

What is the total prescribed Cy dose that should be reported on form F2400 Q223?

A) 60 mg/kg
B) 120 mg/kg
C) 60 mg/m²
D) 120 mg/m²
Radiation Reporting

The questions are the same on the Pre-TED (F2400) & the Baseline (F2000)

81. Total dose: \( \text{dose per fraction} \times \text{total number of fractions} \) ___ ___ ___
   
   [选择框] Gy
   [选择框] cGy

82. Date started: ___ ___ ___ ___ — ___ ___ — ___ ___
   YYYY MM DD

83. Was the radiation fractionated?
   [选择框] Yes – Go to question 84
   [选择框] No – Go to question 87

84. Dose per fraction: ___ ___ ___
   
   [选择框] Gy
   [选择框] cGy
Question 81- Total TBI dose

A. 200 cGy
B. 400 cGy
C. 1200 cGy
D. 1600 cGy
Form 2000

Question 84- Dose per Fraction

A. 200 cGy
B. 400 cGy
C. unknown
Form 2000

Question 85- Number of Days

A) 3 days
B) 4 days
C) 5 days
Q86- Total Number of Fractions

A) 3 fractions
B) 6 fractions
C) 8 fractions
Form 2000

Take Note….  
The answer reported in Q81 (total dose) should equal the answer reported in Q84 (dose per fraction) multiplied by the answer reported in Q86 (total number of fractions).

200 cGy (dose per fraction) X 6 (total number of fractions) = 1200 cGy (total TBI dose)
Reporting Additional Radiation to Other Sites on Form 2000

TBI 200 cGy BID x 3 days (Day -6 thru Day -4) with a **400 cGy boost to the testicles** prior to the start of TBI

- Specify radiation field as ‘gonadal’ (yes to Q91) and report 400 cGy in Q92
Reporting Cy Dose Used for Prep Form 2000

159. Cyclophosphamide (Cytoxan)

☐ Yes – Go to question 160

☐ No – Go to question 162

160. Total dose: ___ ___ ___ ___ ___ mg

161. Date started: ___ ___ ___ ___ — ___ ___ — ___ ___

YYYY  MM  DD
Report the total cumulative dose of Cy

The total Cy dose the patient received would be found in the center’s chemotherapy administration records.

Report the total cumulative dose of Cy given based on those records
How is the Cy dose calculated anyway?

Form 2000

Need patient’s weight-
actual body weight (ABW) or dosing body weight (DBW) would be used to calculate the
dose of Cy depending on the center’s
transplant guidelines.

Patient’s Weight:
ABW = 250 lbs. (or 113.6 kg)
DBW = 190 lbs. (or 86.4 kg)
Calculation of Dosing Body Weight (DBW)

DBW = IBW + 0.4(ABW-IBW)
DBW = 150 lbs + 0.4(250-150)
DBW = 150 lbs + 40 lbs
DBW = 190 lbs (or 86.4 kg)

IBW = Ideal Body Weight
DBW vs. ABW

What would be the total Cy dose given if it was based on dosing body weight (DBW)?
Cy = 10368 mg

What would be the total Cy dose given if it was based on actual body weight (ABW)?
Cy = 13636 mg (>3200 mg more)
Chemotherapy Reporting

On Form 2400, remember the following tips-

1) report the total **prescribed** cumulative dose of chemotherapy (i.e., total dose means the cumulative amount over the number of days)

2) report the correct units (mg/kg vs. mg/m²)
A 65 yo female with IgG kappa myeloma is being admitted for an autologous HCT. The written chemotherapy orders state Melphalan 70 mg/m$^2$ IV daily x 2 days.

- The height of the patient is 159 cm
- Actual body weight (ABW) = 72 kg
- Dosing body weight (DBW) = 59 kg
- BSA = 1.6 m$^2$
What is the total prescribed cumulative Melphalan dose to report on Form 2400 Q252 for the preparative regimen?

A) 70 mg/kg  
B) 70 mg/m²  
C) 140 mg/kg  
D) 140 mg/m²
Chemotherapy Reporting Form 2000

- The actual Melphalan dose the patient received would be found in the chemotherapy administration records.
- Form 2000 – The dose would have been calculated using the patient’s BSA.
70 mg/m² x 1.6 m² = 112 mg daily

Daily dose x BSA

What is the total dose given?

112 mg x 2 days = 224 mg

Total Melphalan dose given
What is the total Melphalan dose actually given that would be reported on Form 2000 Q192?

A) 70 mg  
B) 112 mg  
C) 140 mg  
D) 224 mg
Patient Scenario #3

Jane’s prep regimen consists of:
- Busulfan 130 mg/m² daily x 4 doses
- Fludarabine 40 mg/m² daily x 4 doses

Height = 62 inches
ABW = 65 Kg
DBW = 54 Kg
BSA = 1.53
Chemotherapy Reporting
Form 2400

- The total prescribed dose to report on F2400 for Busulfan should be 520 mg/m² & for Fludarabine 160 mg/m²

- However, this is what was reported for Jane........
Chemotherapy Reporting

- On **F2400**, the following was reported:
  - Bu 130 mg/m2
  - Flu 40 mg/m2

- On **F2000**, the following was reported:
  - Bu 800 mg
  - Flu 240 mg
Chemotherapy Reporting

If Bu 130 mg/m² was the total prescribed dose, then the total dose reported on Form 2000 for Bu should have been **200 mg** instead of 800 mg based on the patient’s BSA.
Pre-TED dose reporting affects Baseline reporting

If the correct total prescribed Bu dose of 520 mg/m2 had been reported on the Pre-TED, then 800 mg reported on the Baseline form is correct.
Determining Chemotherapy Dose

How is the Busulfan dose calculated?
130 mg/m2 x 4 doses = 520 mg/m2
520 mg/m2 x 1.53 m2 = 796 mg
(or 800 mg)

How is the Fludarabine dose calculated?
40 mg/m2 x 4 doses = 160 mg/m2
160 mg/m2 x 1.53 m2 = 245 mg
(or 240 mg)
Examples of Discrepancies
Pre-TED vs. Baseline Form

<table>
<thead>
<tr>
<th>Pre-TED (F2400)</th>
<th>Baseline (F2000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bu + Flu</td>
<td>ATG + Bu + Flu</td>
</tr>
<tr>
<td>Bu + Flu</td>
<td>Mel + Flu</td>
</tr>
<tr>
<td>Bu + Flu</td>
<td>Bu + Cy + Flu</td>
</tr>
<tr>
<td>Cy + TBI</td>
<td>Cy + Flu + TBI</td>
</tr>
<tr>
<td>Cy + ARA-C + TBI</td>
<td>Cy + VP16 + TBI</td>
</tr>
<tr>
<td>BCNU + Cy + VP16</td>
<td>Cy + VP16</td>
</tr>
</tbody>
</table>
Reporting a Change in Prep Regimen on Pre-TED (Form 2400)

If there has been a change to the preparative regimen **after** Form 2400 has been submitted, a correction must be completed in FormsNet3 to reflect the updated prep regimen.
Myeloablative (MA) Regimens:

1) TBI >500 cGy (single) or >800 cGy (fractionated)

2) Cyclophosphamide (Cy) + TBI (TBI >500 cGy (single) or TBI >800 cGy fractionated)

3) Cy + VP16 + TBI (TBI >500 cGy (single) or TBI >800 cGy fractionated)
MA Regimens (continued)

4) Busulfan (Bu) >7.2 mg/kg IV (or >9.0 mg/kg po)

5) Bu >300 mg/m2 IV (or 375 mg/m2 po)

6) Bu >7.2 mg/kg IV (or >9.0 mg/kg po) + Cy

7) Bu >7.2 mg/kg IV (or >9.0 mg/kg po) + Melphalan >150 mg/m2
MA Regimens (continued)

8) Melphalan > 150 mg/m2
9) Thiotepa > 10 mg/kg
10) Treosulfan > 30,000 mg/m2 (or > 30 g/m2)
Reduced Intensity Conditioning & Non-myeloablative Regimens

1) TBI ≤500 cGy (single) or TBI ≤800 cGy (fractionated)
2) ATG + Cy
3) BEAM
4) Bu ≤7.2 mg/kg IV or ≤9.0 mg/kg po
5) Bu ≤300 mg/m2 IV or ≤375 mg/m2 po
6) Melphalan ≤150 mg/m2
RIC/NMA Regimens (continued)

7) Fludarabine + ARA-C
8) Fludarabine + Cy
9) Fludarabine + TBI (TBI ≤500 cGy (single) or TBI ≤800 cGy (fractionated)
10) Thiotepa ≤10 mg/kg
11) Treosulfan ≤30,000 mg/m2 (or ≤30 g/m2)
12) VP16 + Cy
Questions