Effectiveness of Day Hospital Treatment for Anorexia Nervosa

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Day Hospital Purpose

- To provide intensive treatment to patients who would otherwise require hospitalization
- Severe BN, moderately severe AN
- Should be preceded and followed by other treatment
Suitable Patients

- BMI > 15
- Bingeing or purgeing > 4-5 times weekly
- Medically stable
- No current substance abuse
- Not acutely suicidal
- Able to participate in group treatment
Day Hospital Format

- Capacity for 12 patients in group program
- 5 days weekly, 7-8 hours per day
- 6-8 week stay for normalized eating, up to 20 week stay for weight gain
- Day consists of supervised meals and group therapy
- Emphasis on following meal plan and controlling symptoms 24 hours daily, 7 days per week
Treatment Goals

- Normalized eating
- Symptom control
- Weight gain if BMI <20
- Skill development and exploration of underlying issues
- Initiation of social and vocational rehabilitation
Weight Gain

- Target weight: BMI = 20.0
- Expected gain: 1-2 kg per week
- Extra calories as food supplements
- Minimal activity level expected
- Attention to portion and type of food
Therapeutic Modalities

- Group
- Cognitive Behavioral Therapy
- Motivational Enhancement Therapy
- Interpersonal Therapy
- Expressive Art Therapy
- Family Therapy
- Psychopharmacology
# DAY HOSPITAL SCHEDULE

<table>
<thead>
<tr>
<th>Time</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:00</td>
<td>10:00 a.m.</td>
<td></td>
<td></td>
<td>10:45 a.m.</td>
<td>10:30 a.m.</td>
</tr>
<tr>
<td>10:30</td>
<td><strong>Weekend Summary</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:45</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>Check-in</strong></td>
</tr>
<tr>
<td>11:00</td>
<td>Check-in</td>
<td>11:00 a.m.</td>
<td>Shopping</td>
<td></td>
<td>Nutrition Education</td>
</tr>
<tr>
<td>11:30</td>
<td>Community Meeting</td>
<td>Community Meeting</td>
<td>Community Meeting</td>
<td>Check-in Group or Cooking</td>
<td>Show &amp; Tell Cooking</td>
</tr>
<tr>
<td>11:50</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>11:50 a.m.</td>
</tr>
<tr>
<td>12:00</td>
<td>Lunch/Shopping</td>
<td>Lunch</td>
<td>Lunch</td>
<td></td>
<td>12:15</td>
</tr>
<tr>
<td>12:15</td>
<td>Lunch</td>
<td>Lunch Outing</td>
<td>Lunch</td>
<td>Lunch</td>
<td></td>
</tr>
<tr>
<td>1:00</td>
<td>Walk</td>
<td>Walk</td>
<td>Community Meeting</td>
<td>Community Meeting</td>
<td></td>
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<tr>
<td>1:30</td>
<td>Free Time</td>
<td>Free Time</td>
<td>Week in</td>
<td>Meal Plan Changes</td>
<td>Free Time</td>
</tr>
<tr>
<td>1:45</td>
<td>Education Group</td>
<td>CBT Group</td>
<td>Review</td>
<td>Group Group</td>
<td>Group's Choice</td>
</tr>
<tr>
<td>2:45</td>
<td>Free Time</td>
<td>Snack Outing</td>
<td></td>
<td>Free Time</td>
<td>Free Time</td>
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<tr>
<td>3:00</td>
<td>Snack</td>
<td>Snack</td>
<td>Snack</td>
<td>Snack</td>
<td>Snack</td>
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<tr>
<td>3:30</td>
<td>Expressive Arts Therapy</td>
<td>Relationship Group</td>
<td>Body Image</td>
<td>Menus</td>
<td>Weekend Planning</td>
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<tr>
<td>5:00-6:15</td>
<td>Dinner</td>
<td>Dinner</td>
<td>Dinner</td>
<td>Dinner</td>
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"We're encouraging people to become involved in their own rescue."
### Description of AN Admissions to DHP

(n=445)

<table>
<thead>
<tr>
<th></th>
<th>Range</th>
<th>Mean</th>
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<tbody>
<tr>
<td>Age</td>
<td>17 – 63</td>
<td>26.0</td>
</tr>
<tr>
<td>Duration of Illness (yrs)</td>
<td>&lt;1 – 52</td>
<td>7.5</td>
</tr>
<tr>
<td>BMI</td>
<td>11.5 – 18.5</td>
<td>16.8</td>
</tr>
<tr>
<td>Length of stay (weeks)</td>
<td>&lt;1 - 21</td>
<td>9.1</td>
</tr>
<tr>
<td>Married/relationship</td>
<td>15.5%</td>
<td></td>
</tr>
<tr>
<td>Employed</td>
<td>50.6%</td>
<td></td>
</tr>
<tr>
<td>Previous treatment</td>
<td>72.0%</td>
<td></td>
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<tr>
<td>BP subtype</td>
<td>53.0%</td>
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Early Termination Rate
n=426

Stayed ≤ 4 weeks 18.3%
<table>
<thead>
<tr>
<th></th>
<th>Minimum Dose (n=348)</th>
<th>Early Termination (n=78)</th>
<th>p&lt;</th>
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<tbody>
<tr>
<td>Age</td>
<td>25.7 (7.4)</td>
<td>27.0 (8.3)</td>
<td>ns</td>
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<tr>
<td>Duration of Illness</td>
<td>7.4 (7.5)</td>
<td>8.5 (9.3)</td>
<td>ns</td>
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<tr>
<td>BMI</td>
<td>16.9 (1.2)</td>
<td>16.6 (1.4)</td>
<td>.04</td>
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<tr>
<td>BDI</td>
<td>28.7 (12.0)</td>
<td>33.7 (13.1)</td>
<td>.006</td>
</tr>
<tr>
<td>Rosenberg SE</td>
<td>21.3 (5.8)</td>
<td>18.9 (5.8)</td>
<td>.007</td>
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<tr>
<td>% Live Alone</td>
<td>78%</td>
<td>73%</td>
<td>ns</td>
</tr>
<tr>
<td>% BP Subtype</td>
<td>53%</td>
<td>57%</td>
<td>ns</td>
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</table>
Who Leaves Early

Early termination **not** predicted by

- Caloric Restriction

- **Eating Disorder Examination**
  - Exercise
  - Importance of weight/shape
  - Fear of weight gain
  - Feelings of fatness

- **Eating Disorder Inventory**
- Body Image Avoidance
- Body Checking
Immediate response to treatment for AN patients who stay more than 4 weeks
Changes Over Treatment - BMI

(n=329)

pre: 16.9

post: 19.4

p < .0001
Changes Over Treatment
Binge & Vomit Episodes

- Binges: n=162, p<.0001
  - Pre-treatment: 45.4
  - Post-treatment: 5.8

- Vomits: n=183, p<.0001
  - Pre-treatment: 67.1
  - Post-treatment: 7.1
Changes Over Treatment
Depression and Self-Esteem

<table>
<thead>
<tr>
<th></th>
<th>Pre</th>
<th>Post</th>
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<tbody>
<tr>
<td>BDI</td>
<td>n=225</td>
<td>p&lt;.0001</td>
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<td>28.7</td>
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</table>

<table>
<thead>
<tr>
<th></th>
<th>Pre</th>
<th>Post</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rosenberg SE</td>
<td>n=220</td>
<td>p&lt;.0001</td>
</tr>
<tr>
<td>19.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23.8</td>
<td></td>
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</table>
Eating Disorder Inventory Changes Over Treatment

PRE
POST

AN Patients
Normal Controls

Drive for Thinness
Bulimia
Body Dissatisfaction
Ineffectiveness
Perfectionism
Interpersonal Distrust
Interceptive Awareness
Maturity Fears

Subscale Scores

0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30

ns
Response to Treatment
ANR – Weight
(n=156)

- 24% Poor
- 24% Good
- 52% Weight Restored
Response to Treatment AN-BP
(n=162)

- 20% Poor
- 53% Wt Restored
- 27% Good

- 20% Poor
- 38% Abstinent
- 43% Subthreshold
### Two Dimensional Outcome for AN-BP Post DH (n=162)

#### Weight Outcome

<table>
<thead>
<tr>
<th>Binge Vomit Outcome</th>
<th>Weight Restored (53%)</th>
<th>Good</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abstinent 38%</td>
<td>24%</td>
<td>8%</td>
<td>6%</td>
</tr>
<tr>
<td>Subthreshold</td>
<td>19%</td>
<td>15%</td>
<td>9%</td>
</tr>
<tr>
<td>Threshold</td>
<td>11%</td>
<td>4%</td>
<td>5%</td>
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</tbody>
</table>
Post-treatment Outcome for AN

🌟 50% are weight restored regardless of subtype

 Erot 24% of AN-BP are weight restored and abstinent from BP

🌟 ED thoughts, depression, self-esteem are improved

But still problematic
Predictors of Response To DH for AN

<table>
<thead>
<tr>
<th></th>
<th>Best (n=47)</th>
<th>Moderate (n=32)</th>
<th>Poor (n=20)</th>
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<tbody>
<tr>
<td>BP Subtype</td>
<td>33%</td>
<td>65%</td>
<td>60%</td>
</tr>
<tr>
<td>p</td>
<td>.0001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Admission BMI</td>
<td>17.1</td>
<td>17.4</td>
<td>16.5</td>
</tr>
<tr>
<td>p</td>
<td>.009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wt – First 4 weeks</td>
<td>2.1</td>
<td>1.9</td>
<td>0.8</td>
</tr>
<tr>
<td>p</td>
<td>.001</td>
<td></td>
<td></td>
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</tbody>
</table>

24% of the variance accounted for
Outcome 12 Months After DH Treatment
Weight Over Time for AN R
(n = 34)

Outcome at 12 month follow up

Pre: 17.1
Post: 19.9
12 Months: 19.1
Weight Over Time for AN BP

(n = 20)

Outcome at 12 month follow up
### Outcome for ANR at 12 month Follow Up

(n = 34)

<table>
<thead>
<tr>
<th>12 month follow up</th>
<th>Weight Restored</th>
<th>Good</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight Restored</td>
<td>38%</td>
<td>35%</td>
<td>3%</td>
</tr>
<tr>
<td>Good</td>
<td>18%</td>
<td>12%</td>
<td>3%</td>
</tr>
<tr>
<td>Poor</td>
<td>44%</td>
<td>21%</td>
<td>12%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Post Day Hospital</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight Restored</td>
</tr>
<tr>
<td>Good</td>
</tr>
<tr>
<td>Poor</td>
</tr>
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</table>
## Outcome for AN BP at 12 Month Follow Up

*(n = 20)*

<table>
<thead>
<tr>
<th>Post Day Hospital</th>
<th>Best 10%</th>
<th>Moderate 10%</th>
<th>Poor 80%</th>
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<tbody>
<tr>
<td>12 month follow up</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Best 30%</td>
<td>5%</td>
<td>5%</td>
<td>20%</td>
</tr>
<tr>
<td>Moderate 50%</td>
<td>5%</td>
<td>0</td>
<td>15%</td>
</tr>
<tr>
<td>Poor 20%</td>
<td>0</td>
<td>5%</td>
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</table>
Outcome 12 Months After DH Treatment for Follow Up Sample

- 38% of AN-R are weight restored and additional 15% holding BMI > 18.5

- Only 15% of AN-BP maintaining a good or moderate outcome
Relapse Rates by Diagnosis

% Relapsed

Month After Day Hospital
Extrapolated Outcome at 12 Months for Minimum Dose Sample

- 39% of AN-R who attend DH > 4 weeks no longer meet diagnostic criteria post-treatment and 12 months later

- 16% of AN-BP who attend DH > 4 weeks do not meet criteria for AN or BN post-treatment and 12 months later
Other Potential Benefits of DH Treatment

- Temporary improvement in physical health
- Temporary increase in social contact
- Increased clarity about process of change and obstacles to recovery
- Source of inspiration and motivational enhancement
Encouraging Inspiration and Change in the DH

- Stimulated by research documenting rapid response to treatment
- Development of a model of change that is shared with patients
- Clinical environment designed to encourage immediate change and celebrate successful steps
Rapid Responders to Treatment of Bulimia Nervosa

Olmsted, Kaplan, Rockert & Jacobsen

*International Journal of Eating Disorders, 1996*
Relapse Rates by Response Group

Rapid < Slow, Partial, Other

p < .002
Timing and Prediction of Relapse in a Transdiagnostic Eating Disorder Sample

Mcfarlane, Olmsted, & Trottier

International Journal of Eating Disorders, 2008
Subjects and Definition

◆ Transdiagnostic sample: 18 BN, 16 AN, 24 Eating Disorder Not Otherwise Specified

◆ Rapid Response defined as adherence of 90% or greater to the prescribed meal plan within the first 3 weeks of treatment.
Relapse Rate for Rapid Responders

<table>
<thead>
<tr>
<th></th>
<th>Rapid</th>
<th>Slow</th>
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<tbody>
<tr>
<td>25%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>50%</td>
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</tbody>
</table>
Early Weight gain as a Predictor of Response to Treatment in Anorexia Nervosa

Olmsted

Eating Disorder Research Society Meeting 2005
Weight Gain in First 6 Weeks of DHP Treatment

- Weight restored: 4.5 kg
- Good outcome: 4.2 kg
- Moderate: 3.7 kg
- Poor: 1.7 kg

Poor outcome < other groups, p < .0001
"Look, I can't promise I'll change, but I can promise I'll pretend to change."
Philosophy

- Go for it right now and see what you can do
- Program is a symptom-free zone
- We are friendly and welcoming and will insist that you work hard
- Change is exciting!
Short-term change model

- Intense focus on area of change
- Clear goals
- Time limited effort
- Be open to the magic
- Go for it or decide not now
Enhancement of Motivation

- **Success is motivating**
  - You got yourself here, you made it through your first meal
  - First night without symptoms
  - Had some meals on the weekend
- **Hearing about other’s accomplishments can be inspiring**
  - If she can do that, maybe I can too
Enhancement of Motivation

- View change as an experiment
- Respect patient’s right to decide if she is ready to change
- Insufficient response after 3-4 weeks
  - Identify an obstacle that can be addressed
  - Withdrawal or discharge
- Openness, clarity and time-limited stay for non-responders maintain group focus on change
"I can't right now. My spurs are stuck together."
“Gimme a hand—I’m stuck.”