Major Depressive Disorder Algorithms

Algorithm for the Treatment of Major Depressive Disorder

**Stage 0**
Patient Assessment & Discussion of Treatment Options → Discuss EBPT as option 1

**Stage 1**
SSRIs, BUP SR/XL, MRT, SNRIs → 
- Nonresponse
- Partial Response → Continuation'

**Stage 1A**
Augment with one of the following: SSRI, SNRI, BUP, MRT, BUS or T3, Choosing a different MOA than the Stage 1 drug.

**Stage 2**
Alternate AD monotherapy from different class from above → 
- Nonresponse
- Partial Response → Continuation'

**Stage 2A**
Augment with one of the following: SSRI, SNRI, BUP, MRT, BUS or T3, Choosing a different MOA than the Stage 2 drug.

**Stage 3**
SSRI / SNRI + BUP, SSRI / SNRI + MRT, SSRI + TCA, TCA's + Li, MAOI's → 
- Nonresponse
- Partial Response → Continuation'

**Stage 3A**
Augment with LTG, BUP², MRT³, D₂ agonist → Continuation'

**Stage 4**
If combo AD at Stage 3, use TCA + Li or MAOI, if TCA or MAOI at Stage 3, use combo AD, SSRI/SNRI + OLZ or RSP, SSRI + LTG, or ECT → 
- Nonresponse or Partial Response → Continuation'
Stage 5

ECT or VNS

Response

Continuation

Stage 6

Nonresponse or Partial Response

Triple AD Rx

Response

Continuation

Stage 7

Alternate 2 or 3 drug combo not used previously

Consider ECT or VNS if not used.

Nonresponse or Partial Response

Response

Continuation

Stage 8

Alternate 2 or 3 drug combo not used previously

Nonresponse or Partial Response

Response

Continuation

Go to Maintenance phase when indicated

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1 EBPT = Evidence based psychotherapy. EBPT is an option before starting pharmacotherapy or in combination with pharmacotherapy at any stage in the algorithm.

2 TCAs ± Li or MAOIs should be considered over combination tx, unless tolerability, prior response, or patient preference otherwise.

3 Use MRT as an augmenting agent if a SSRI/SNRI + BUP is used in stage 3; use BUP as an augmenting agent if a SSRI/SNRI + MRT is used in stage 3.

4 If VNS chosen, it augments pharmacotherapy.

5 Use agents with different MOA; use agents with response in the past (even minimal); choose among SSRIs, SNRIs, BUP, MRT, TCAs, MAOIs, AAPs, LTG, Li.

6 Use agents with a different MOA; use agents with response in the past. If not previously used, consider ECT or VNS here.

7 Continuation phase treatment should include treatment 6-9 months after remission of symptoms with antidepressant(s) that achieved symptom remission.

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**Abbreviations**

AD=antidepressant
AAP=atypical antipsychotic
BUP SR/XL = bupropion SR/XL
BUS=bupirone
EBPT=evidence based psychotherapy
ECT = electroconvulsive therapy

Li = lithium
LTG = lamotrigine
MAOI= monoamine oxidase inhibitor
MOA= mechanism of action
MRT=mirtazapine
OLZ= olanzapine
RIS= risperidone

SNRI= serotonin-norepinephrine reuptake inhibitor
SSRI= selective serotonin reuptake inhibitor
T3= liothyronine
TCA= tricyclic antidepressant
Major Depressive Disorder Algorithms

Algorithm for the Treatment of Major Depressive Disorder with Psychotic Features

**Stage 1**

SSRI/SNRI + AAP\(^1\), or ECT

- Response
- Partial Response
- Nonresponse or Intolerance

**Stage 2**

Efficacy Failure: TCA/SNRI + AAP/Typical\(^2\), or ECT\(^3\)

Side Effect Failure: Different AAP or SSRI/SNRI

- Partial Response
- Nonresponse or Partial Response

**Stage 3**

ECT

- Response
- Nonresponse or Partial Response

**Stage 4**

TCA + PER or AAP

- Partial Response
- Nonresponse or Partial Response

**Stage 5**

TCA + (SSRI or MRT) + AP

- Response
- Nonresponse or Partial Response

**Stage 6**

If psychosis persists, replace AP with Clozapine

- Response

**Continuation\(^4\)**

1 Level A Data currently exists for only olanzapine + fluoxetine (OFC) combination.

2 If an atypical agent proved to lack efficacy in Stage 1, clinicians may choose to use a typical agent in Stage 2

3 If a patient suffers from continuing/worsening psychosis or suicidality for ≥ 2 weeks, the ALGO strongly suggests ECT.

4 Continuation phase treatment should include treatment for 4 months on antipsychotic and lifetime treatment on antidepressant.
Clinical Management

- At baseline and throughout treatment, the patient should be evaluated for possible psychosocial interventions, including evidence-based psychotherapy.

- Appropriate use of these treatment algorithms requires that the clinician has made a thorough evaluation and an accurate diagnosis. If a patient completes trials of two stages of the algorithm without observable positive outcomes, the patient should be re-evaluated for accuracy of diagnosis and the occurrence of co-occurring general medical and mental disorders, including substance abuse.

- If co-occurring substance abuse is present, concomitant treatment of both the depression and the substance abuse disorder must be implemented in order to obtain positive patient outcomes.

- The TMAP panel strongly recommends the use of measurement-based care for the treatment of MDD. Measurement of symptom severity (e.g., the Quick Inventory of Depressive Symptoms), side effects, and global functioning should be completed at each visit so that treatment decisions are guided by objective data.

- The ultimate goals of treatment for depression are to achieve remission, return to optimal levels of psychosocial functioning, and to prevent relapse and recurrence of depression.

- Adequate documentation should be completed for each algorithm stage and decision point. If algorithm stages are skipped or if treatment diverges from the algorithm guidelines, the rationale should be adequately documented.

- The frequency of clinic visits should be adequate to implement treatment tactics including monitoring for symptom changes and adverse effects, adjusting doses as necessary to achieve an optimum therapeutic trial, and changing regimens when suboptimal clinical response is observed after regimen optimization.

- All patients with major depressive disorder without psychotic features who achieve symptom remission should continue treatment at the same doses for at least 6 to 9 months. After recovery, maintenance phase therapy should be considered, as appropriate based on risk for recurrence of depression.

- When a choice exists between brand, generic, or different formulations (e.g., slow release) of a recommended medication, always initiate treatment with the form that is likely to be best tolerated by the patient, which will lead to enhanced adherence with treatment. Careful attention should be given to adequate dose and duration of treatment for each chosen regimen.

- If medication acquisition cost is a consideration in medication selection, these decisions should be addressed within a specific treatment stage. If all other things are equal (i.e., efficacy, safety, tolerability), then a less expensive medication regimen within a specific algorithm stage may be considered.
At-a-Glance
Major Depressive Disorder Medication Algorithms

Visit Frequency: The TMAP panel recommends visits at week 2, 4, 6, 9, and 12 when entering the treatment algorithm for MDD. Patients who present with suicidal ideation and/or severe functional impairment may require more frequent visits, either in office or via telephone contact.

Assessment Frequency: At each visit a physician assessment of core symptom severity, overall functional impairment, and side effect severity should be conducted. In addition, a symptom-based rating scale (such as the QIDS-SR₁₆ or QIDS-C₁₆) should be administered.

Criteria for Medication Change: Medication changes are made after evaluation of tolerability, efficacy across multiple symptom domains, and safety. Clinicians should consult the Tactics and Critical Decision Points for the Treatment of Major Depressive Disorder after review of symptom patterns and severity on the QIDS₁₆, as well as any medication side effects and tolerability. The goals of treatment are full symptomatic remission, return of psychosocial functioning, and prevention of relapses and recurrences. Any symptoms, even those in the mild to moderate range, warrant consideration of tactics that may further optimize response. Response criteria using the QIDS₁₆ is as follows:

- Nonresponse: (QIDS₁₆ ≥ 9)
- Partial response: (QIDS₁₆ = 6-8)
- Full response/remission: (QIDS₁₆ ≤ 5)

Medication Switching: When switching between antidepressant medications, it is generally recommended to use a cross-tapering strategy.

Medication Doses: Appropriate dosage ranges for medications used in the algorithms are included in Appendix C. Doses outside of these accepted ranges should have a chart note indicating “change from algorithm recommended” and documentation of rationale for change. Doses above the usual therapeutic range should be time limited (e.g., 4-6 weeks), and response to this dose evaluated using the brief clinical rating scales. If improvement has not occurred with the higher than usual dosage in this time frame, then treatment should be changed to the next treatment stage.

Documentation: Uniform documentation is an important component of the algorithm program. Clinical rating scale information, response to treatment, prescribed medications, and the rationale for changing medications should be clearly documented on the Clinical Report Form.
3. Do participants differ in their acceptance of different treatment strategies or options at subsequent treatment steps?
4. What are the remission and response rates and times to remission and response for subsequent treatment steps?
5. How does cognitive therapy compare with medication treatments at the second treatment step?
6. What participant characteristics are associated with the need for a greater number of treatment steps?
7. What are relapse rates in those who respond or remit after one to four treatment steps?
8. What characteristics distinguish participants who leave treatment prematurely?
9. What characteristics distinguish participants treated in primary versus psychiatric care?

**STAR*D Study Overview**

STAR*D was designed to determine which treatments are most effective following nonremission or intolerance to an initial SSRI or to any of a series of subsequent randomized treatments. Over a 37-month period, STAR*D enrolled 4041 outpatients aged 18 to 75 years with nonpsychotic MDD at 41 clinical sites across the United States (18 primary and 23 psychiatric care settings). The study enrolled only treatment-seeking patients (as opposed to symptomatic volunteers) with a clinical diagnosis of nonpsychotic MDD confirmed with a DSM-IV checklist and a score greater than or equal to 14 on the 17-item Hamilton Rating Scale of Depression (HRSD$_{17}$) [22]. To maximize generalizability of results, the study included patients with most concurrent psychiatric and general medical conditions, including those with active substance abuse or suicidality, as long as outpatient care was appropriate.

Figure 1 depicts the treatment options at each of the four steps in the series of trials. All participants began with citalopram treatment (Level 1). Those intolerant to or not remitting with citalopram could enter Level 2, which included switching to bupropion-sustained release (SR), cognitive therapy, sertraline, or venlafaxine-extended release (XR), or augmentation of citalopram with bupropion-SR, buspirone, or cognitive therapy. Those without adequate benefit from medication-only treatments in Level 2 could proceed to Level 3. For those with inadequate benefit from cognitive therapy as a switch or augmentation in Level 2, the next step (Level 2A) was a switch to a second medication (bupropion-SR or venlafaxine-XR) to ensure that all Level 3 enrollees had received and not obtained adequate benefit from at least two prior medication trials. Level 3 included switches to mirtazapine or nortriptyline and augmentation of the Level 2 or 2A medication with thyroid hormone (T$_3$) or lithium. Level 4 treatments were a switch to tranylcypromine or to venlafaxine-XR plus mirtazapine.

An innovative study design feature—an equipoise stratified randomized design [23]—permitted participants, as in clinical practice, to accept or decline switch or augment treatment strategies as long as sufficient options for
STAR*D algorithm: Treatment levels

**Level 1**

Citalopram (Celexa)

**Level 2**

Patients could choose one of the following:

**SWITCH**

- (stop citalopram, be randomized to receive one of the following)
- Bupropion sustained-release (Wellbutrin SR)
- Venlafaxine extended-release (Effexor XR)
- Sertaline (Zoloft)
- Cognitive therapy*

**AUGMENT**

- (keep citalopram, be randomized to also receive one of the following)
- Bupropion sustained-release
- Buspirone (BuSpar)
- Cognitive therapy*

**Level 2a**

**SWITCH**

(only for those receiving cognitive therapy in level 2)

- (stop cognitive therapy, be randomized to receive one of the following)
- Bupropion sustained-release or
- Venlafaxine extended-release

**Level 3**

Patients could choose one of the following:

**SWITCH**

- (stop current therapy, be randomized to receive one of the following)
- Mirtazapine (Remeron)
- Nortriptyline (Pamelor)

**AUGMENT**

- (keep current therapy, be randomized to also receive one of the following)
- Lithium
- T3 thyroid hormone (Cytomel)

**Level 4**

**SWITCH**

- (stop current therapy, be randomized to receive one of the following)
- Tranylcypromine (Parnate)
- Mirtazapine plus venlafaxine extended-release

*Patients could refuse cognitive therapy as a randomization option. All treatments were unblinded. Patients advanced to successively higher treatment levels if they failed to achieve remission with their current regimen.

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FIGURE 1

Provided flexible treatment recommendations to ensure that the dosage and duration of antidepressant drug treatment were adequate.25

The severity of depression was assessed by the clinician-rated, 16-item Quick Inventory of Depressive Symptomatology (QIDS-C16). The QIDS-SR16 (the self-report version) can substitute for the QIDS-C16 to make this approach more feasible. Both tools are available at www.ids-qids.org.

This approach was easily worked into busy primary care and specialty care office workflows (clinician physicians, most with limited research experience, provided the treatment), and could be translated into primary care practice in the community as well.

**Four-step protocol**

The protocol had four treatment levels, each lasting up to 14 weeks (FIGURE 1). All patients started at level 1; if they had not entered remission by 14 weeks, they moved up to the next level; if they had achieved remission, they stayed at the same level and were followed for up to 1 year.

A unique feature of the study design was that the patients, in consultation with their physicians, had some choice in the treatments.
# Appendix C: Medication Charts

## Antidepressants, SSRI

<table>
<thead>
<tr>
<th>Drug</th>
<th>Starting Dose</th>
<th>Titration</th>
<th>Initial Target Dose</th>
<th>Maximum Daily Dose</th>
<th>Schedule</th>
<th>Patient Monitoring Parameters</th>
<th>Side Effects</th>
<th>Selected Drug Interactions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citalopram</td>
<td>20 mg/day</td>
<td>10 mg/day every 2</td>
<td>20-40 mg/day</td>
<td>60 mg/day</td>
<td>Once daily</td>
<td></td>
<td>• Agitation</td>
<td>• Clozapine</td>
</tr>
<tr>
<td>Generic available</td>
<td></td>
<td>weeks</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Cyclosporine</td>
<td>• Linezolid</td>
</tr>
<tr>
<td>Celexa®</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• MAOIs</td>
<td>• MAOIs</td>
</tr>
<tr>
<td>Escitalopram</td>
<td>10 mg/day</td>
<td>10 mg/day every 2</td>
<td>10-20 mg/day</td>
<td>20 mg/day</td>
<td>Once daily</td>
<td></td>
<td>• Constipation</td>
<td>• NSAIIDs</td>
</tr>
<tr>
<td>Lexapro®</td>
<td></td>
<td>weeks</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Dizziness</td>
<td>• St. John’s Wort</td>
</tr>
<tr>
<td>Fluoxetine</td>
<td>20 mg/day</td>
<td>10-20 mg/day every 2 weeks</td>
<td>20-40 mg/day</td>
<td>80 mg/day</td>
<td>Once daily</td>
<td></td>
<td>• Dry Mouth</td>
<td>• Sympathomimetics</td>
</tr>
<tr>
<td>Generic available</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Fatigue</td>
<td>• Tramadol</td>
</tr>
<tr>
<td>Prozac®</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Headache</td>
<td>• Triptans</td>
</tr>
</tbody>
</table>

1) Pregnancy test – as clinically indicated
2) Monitor for emergence of suicidal ideation or behavior

• Carbamazepine
• Clozapine
• Cyclosporine
• Hydantoins
• Linezolid
• MAOIs
• NSAIIDs
• St. John’s Wort
• Sympathomimetics
• Thioridazine
• Tramadol
• Triptans
• Tricyclic antidepressants
## Antidepressants, SSRI

<table>
<thead>
<tr>
<th>Drug</th>
<th>Starting Dose</th>
<th>Titration</th>
<th>Initial Target Dose</th>
<th>Maximum Daily Dose</th>
<th>Schedule</th>
<th>Patient Monitoring Parameters</th>
<th>Side Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluvoxamine</td>
<td>50 mg/day</td>
<td>50-100 mg/day every 2 weeks</td>
<td>100-200 mg/day</td>
<td>300 mg/day</td>
<td>1-2 times daily</td>
<td></td>
<td>• Carbamazepine • Clozapine • Cyclosporine • Grapefruit • Hydantoins • Linezolid • MAOICs • Methadone • NSAIDs • Ropivacaine • St. John's Wort • Sympathomimetics • Tacrine • Theophyllines • Thoridazine • Tizanidine • Tramadol • Triptans • Tricyclic antidepressants</td>
</tr>
<tr>
<td>Generic available</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1) Pregnancy test – as clinically indicated</td>
</tr>
<tr>
<td>Luvox®</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2) Monitor for emergence of suicidal ideation or behavior</td>
</tr>
<tr>
<td>Paroxetine</td>
<td>20 mg/day</td>
<td>10-20 mg/day every 2 weeks</td>
<td>20-40 mg/day</td>
<td>50 mg/day</td>
<td>Once daily</td>
<td></td>
<td>• Agitation • Constipation • Diarrhea • Dizziness • Dry Mouth • Fatigue • Headache • Insomnia • Loss of appetite • Nausea • Nervousness • Sexual Dysfunction • Somnolence • Sweating</td>
</tr>
<tr>
<td>Generic available</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Paxil®</td>
<td></td>
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<tr>
<td>Paxil CR®</td>
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</tr>
<tr>
<td>Sertraline</td>
<td>50 mg/day</td>
<td>50-100 mg/day every 2 weeks</td>
<td>50-150 mg/day</td>
<td>200 mg/day</td>
<td>Once daily</td>
<td></td>
<td>• Carbamazepine • Clozapine • Cyclosporine • Grapefruit • Hydantoins • Linezolid • MAOICs • NSAIDs • Phenothiazines • Pimozide • St. John's Wort • Sympathomimetics • Tramadol • Triptans • Tricyclic antidepressants</td>
</tr>
<tr>
<td>Generic available</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zoloft®</td>
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<td></td>
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</tr>
</tbody>
</table>
### Antidepressants, SNRI

<table>
<thead>
<tr>
<th>Drug</th>
<th>Starting Dose</th>
<th>Titration</th>
<th>Target Dose or Range</th>
<th>Maximum Daily Dose</th>
<th>Schedule</th>
<th>Patient Monitoring Parameters</th>
<th>Side Effects</th>
<th>Selected Drug Interactions</th>
</tr>
</thead>
</table>
| Venlafaxine           | 37.5 mg/day   | 37.5 – 75 mg/day | 150 mg/day           | 375 mg/day         | 1-2 times daily | 1) Pregnancy test – as clinically indicated.  
                      | Generic available | every week       |                      |                    | 2) Blood pressure prior to initiating treatment, during dosage titration, and as clinically necessary | Anxiety                          | Linezolid               | St. John’s Wort          | Sympathomimetics        | Tramadol                 | Triptans                |
| Effexor               |               |                 |                      |                    |                | 3) Monitor for emergence of suicidal ideation or behavior                                         |                                    |                         |                          |                          |                          |                        |
| Effexor XR®           | 30-60 mg/day  | 30 mg/day at 1-2 | 60 mg/day            | 60 mg/day          | 1-2 times daily | 1) Pregnancy test – as clinically indicated  
                      | Generic available | weeks             |                      |                    | 2) Blood pressure prior to initiating treatment, during dosage titration, and as clinically indicated | Decreased Appetite                 | Alcohol                 | Linezolid               | MAOIs                   | St. John’s Wort          | Sympathomimetics | Thioridazine | Tramadol | Triptans                |
| Cymbalta®             | 30-60 mg/day  | 30 mg/day at 1-2 | 60 mg/day            | 60 mg/day          | 1-2 times daily | 3) Hepatic function testing – baseline and as clinically indicated  
                      | Generic available | weeks             |                      |                    | 4) Monitor for emergence of suicidal ideation or behavior                                         | Dizziness                         | Linezolid               | MAOIs                   | St. John’s Wort          | Sympathomimetics        | Tramadol                 | Triptans                |

### Antidepressants, Other

<table>
<thead>
<tr>
<th>Drug</th>
<th>Starting Dose</th>
<th>Titration</th>
<th>Target Dose or Range</th>
<th>Maximum Daily Dose</th>
<th>Schedule</th>
<th>Patient Monitoring Parameters</th>
<th>Side Effects</th>
<th>Selected Drug Interactions</th>
</tr>
</thead>
</table>
| Bupropion             | 150 mg/day    | 150 mg/day at 3-7 | 300 mg/day           | 400 mg/day (SR)    | Twice daily (SR) | 1) Pregnancy test – as clinically indicated  
                      | Generic available | days              |                      | 450 mg/day(XL)   | Once daily (XL) | 2) Monitor for emergence of suicidal ideation or behavior                                         | Constipation                        | Carbamazepine             | Cyclosporine            | Linezolid             | MAOIs                   | Ritonavir               | Tricyclic Antidepressants |
| Wellbutrin SR®        |               |                 |                      |                    |                |                                                                                               |                                    |                         |                          |                          |                          |                         |                        |
| Wellbutrin XL®        |               |                 |                      |                    |                |                                                                                               |                                    |                         |                          |                          |                          |                         |                        |
| Mirtazapine           | 15 mg/day     | 15 mg/day every 1-2 | 15-30 mg/day         | 45 mg/day          | Once daily at bedtime | 1) Pregnancy test – as clinically indicated  
                      | Generic Available | weeks             |                      |                    |                                                                                               |                                      | Constipation             | Dry Mouth              | Increased appetite      | Nausea                  | Sedation               | Weight gain             | Alcohol                 | Linezolid               | MAOIs                   | SSRIs                   | St. John’s Wort          | Tramadol                 | Triptans                |
## Appendix C: Medication Charts

### Antidepressants, MAOI

<table>
<thead>
<tr>
<th>Drug</th>
<th>Starting Dose</th>
<th>Titration</th>
<th>Target Dose or Range</th>
<th>Maximum Daily Dose</th>
<th>Schedule</th>
<th>Patient Monitoring Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenelzine Nardil®</td>
<td>45 mg/day</td>
<td>15 mg/day every 2-3 weeks</td>
<td>45-60 mg/day</td>
<td>90 mg/day</td>
<td>3 times daily</td>
<td>1) Blood chemistries with emphasis on hepatic and renal functions; baseline, yearly and as clinically indicated during prolonged or high dose therapy</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>2) Pregnancy test – as clinically indicated</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>3) Blood pressure at baseline and during dosage adjustments and as clinically indicated.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td>4) Monitor for emergence of suicidal ideation or behavior</td>
</tr>
<tr>
<td>Tranylcypromine</td>
<td>30 mg/day</td>
<td>10 mg/day every 2-3 weeks</td>
<td>20-40 mg/day</td>
<td>60 mg/day</td>
<td>2 - 3 times daily</td>
<td></td>
</tr>
<tr>
<td>Generic Available</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parnate®</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Selegeline EMSAM®</td>
<td>6 mg/day</td>
<td>3 mg/day at intervals no less than every 2 weeks</td>
<td>6 mg/day</td>
<td>12 mg/day</td>
<td>Once daily</td>
<td>1) Pregnancy test – as clinically indicated</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2) Blood pressure at baseline and during dosage adjustments and as clinically indicated.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3) Monitor for emergence of suicidal ideation or behavior</td>
</tr>
</tbody>
</table>

**Side Effects**
- Edema
- Insomnia
- Orthostatic Hypotension
- Sexual Dysfunction
- Weight Gain
- Atomoxetine
- Bupropion
- Carbamazepine
- Dextromethorphan
- Insulins
- Levodopa
- Linezolid
- Meperidine
- SSRIs
- SNRIs
- St. John’s Wort
- Sulfonyureas
- Sympathomimetics
- tramadol
- Triptans
- Tricyclic Antidepressants
- Tyramine Foods

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2 Transdermal Delivery System

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# Appendix C: Medication Charts

## Antidepressants, Tricyclic

<table>
<thead>
<tr>
<th>Drug</th>
<th>Starting Dose</th>
<th>Titration</th>
<th>Target Dose or Range</th>
<th>Maximum Daily Dose</th>
<th>Schedule</th>
<th>Patient Monitoring Parameters</th>
<th>Side Effects</th>
<th>Selected Drug Interactions</th>
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</thead>
<tbody>
<tr>
<td>Amitriptyline Generic available Elavil&lt;sup&gt;®&lt;/sup&gt;</td>
<td>25-75 mg/day</td>
<td>25-50 mg/day every week</td>
<td>150 mg/day</td>
<td>300 mg/day</td>
<td>1-2 times daily</td>
<td>1) EKG – baseline and as clinically indicated &lt;br&gt;2) Pregnancy test – as clinically indicated &lt;br&gt;3) Liver function test – baseline &lt;br&gt;4) Blood levels as clinically indicated.</td>
<td><strong>Amitriptyline + Nortriptyline: 120-250 ng/mL</strong></td>
<td><strong>Carbamazepine</strong> &lt;br&gt;<strong>Clomipramine</strong> &lt;br&gt;<strong>Duloxetine</strong> &lt;br&gt;<strong>Fluoxetine</strong> &lt;br&gt;<strong>Guanethidine</strong> &lt;br&gt;<strong>Linezolid</strong> &lt;br&gt;<strong>MAOIs</strong> &lt;br&gt;<strong>Paroxetine</strong> &lt;br&gt;<strong>Procarbazine</strong> &lt;br&gt;<strong>Quinidine</strong> &lt;br&gt;<strong>Quinolones</strong> &lt;br&gt;<strong>Rifabutin</strong> &lt;br&gt;<strong>Rifampin</strong> &lt;br&gt;<strong>St. John's Wort</strong> &lt;br&gt;<strong>Sympathomimetics</strong> &lt;br&gt;<strong>Valproate</strong> &lt;br&gt;<strong>Ziprasidone</strong></td>
</tr>
<tr>
<td>Desipramine Generic available Norpramin&lt;sup&gt;®&lt;/sup&gt; Pertoframe&lt;sup&gt;®&lt;/sup&gt;</td>
<td>50-75 mg/day</td>
<td>25-50 mg/day every week</td>
<td>150-200 mg/day</td>
<td>300 mg/day</td>
<td>1-4 times daily</td>
<td>1) EKG – baseline and as clinically indicated &lt;br&gt;2) Pregnancy test – as clinically indicated &lt;br&gt;3) Liver function test – baseline &lt;br&gt;4) Blood levels as clinically indicated.</td>
<td><strong>Desipramine: 125-300 ng/mL</strong></td>
<td><strong>Blurred Vision</strong> &lt;br&gt;<strong>Constipation</strong> &lt;br&gt;<strong>Dry Mouth</strong> &lt;br&gt;<strong>Orthostatic Hypotension</strong> &lt;br&gt;<strong>Sedation</strong> &lt;br&gt;<strong>Tachycardia</strong> &lt;br&gt;<strong>Urinary Retention</strong> &lt;br&gt;<strong>Weight gain</strong></td>
</tr>
<tr>
<td>Doxepin Generic available Sinequan&lt;sup&gt;®&lt;/sup&gt;</td>
<td>50-75 mg/day</td>
<td>25-50 mg/day every week</td>
<td>75-150 mg/day</td>
<td>300 mg/day</td>
<td>1-3 times daily</td>
<td>1) EKG – baseline and as clinically indicated &lt;br&gt;2) Pregnancy test – as clinically indicated &lt;br&gt;3) Liver function test – baseline &lt;br&gt;4) Blood levels as clinically indicated.</td>
<td><strong>Doxepin + Nortriptyline: 150-250 ng/mL</strong></td>
<td></td>
</tr>
<tr>
<td>Imipramine Generic available Tofranil&lt;sup&gt;®&lt;/sup&gt; Tofranil-PM&lt;sup&gt;®&lt;/sup&gt;</td>
<td>5-100 mg/day</td>
<td>25-50 mg/day every week</td>
<td>100 mg/day</td>
<td>300 mg/day</td>
<td>1-4 times daily</td>
<td>1) EKG – baseline and as clinically indicated &lt;br&gt;2) Pregnancy test – as clinically indicated &lt;br&gt;3) Liver function test – baseline &lt;br&gt;4) Blood levels as clinically indicated.</td>
<td><strong>Imipramine + Desipramine: 125-250 ng/mL</strong></td>
<td></td>
</tr>
<tr>
<td>Nortriptyline Generic available Pamelor&lt;sup&gt;®&lt;/sup&gt; Aventyl&lt;sup&gt;®&lt;/sup&gt;</td>
<td>25-50 mg/day</td>
<td>25 mg/day every week</td>
<td>75 mg/day</td>
<td>150 mg/day</td>
<td>1-2 times daily</td>
<td>1) EKG – baseline and as clinically indicated &lt;br&gt;2) Pregnancy test – as clinically indicated &lt;br&gt;3) Liver function test – baseline &lt;br&gt;4) Blood levels as clinically indicated.</td>
<td><strong>Nortriptyline: 50-150 ng/mL</strong></td>
<td></td>
</tr>
</tbody>
</table>

** Therapeutic drug monitoring of tricyclic antidepressants can be performed after 5-7 days of consistent dosing. Dose adjustments made to achieve 12-hour blood levels within a therapeutic range.**
## Appendix C: Medication Charts

### Augmentation Agents

<table>
<thead>
<tr>
<th>Drug</th>
<th>Starting Dose</th>
<th>Titration</th>
<th>Target Dose or Range</th>
<th>Maximum Daily Dose</th>
<th>Schedule</th>
<th>Patient Monitoring Parameters</th>
<th>Side Effects</th>
<th>Selected Drug Interactions</th>
</tr>
</thead>
</table>
| **Buspirone**  
Generic available BuSpar® | 15 mg/day | 15 mg/day every week | 20-60 mg/day | 60 mg/day | 2-3 times daily | 1) Pregnancy test – as clinically indicated | • Dizziness  
• Drowsiness  
• Headache  
• Nausea | • Alcohol  
• Furazolidone  
• Procarbazine  
• MAOIs  
• SNRIs  
• SSRIs  
• Grapefruit juice |
| **Lamotrigine**  
Lamictal® | 25 mg/day* | 25 mg/day for 2 weeks, then increase to 50 mg/day for 2 weeks, then 100 mg/day for 1 week* | 50-100 mg/day* | 200 mg/day | 1-2 times daily | 1) Renal function test – baseline and as clinically indicated  
2) Hepatic function test – baseline, yearly and as clinically indicated  
3) Pregnancy Test – as clinically indicated | • Ataxia  
• Dizziness  
• Headache  
• Nausea  
• Rash  
• Somnolence  
• Stevens Johnson Syndrome | • Carbamazepine†  
• Divalproex‡ |
| **Lithium**  
Generic available Eskalith®  
EskalithCR® | 300 mg/day | 150mg/day every 1-2 weeks | Based on the medication serum level in the individual patient in the context of clinical response and tolerability | 600-900 mg/day | 1-2 times daily | 1) EKG – baseline, yearly and as clinically indicated  
2) CBC – baseline, yearly and as clinically indicated  
3) Thyroid studies – baseline; then TSH every 6 months and as clinically indicated  
4) BUN, creatinine, glucose and electrolytes; baseline and as clinically indicated  
5) UA – baseline and as clinically indicated  
6) Pregnancy test – as clinically indicated  
7) Lithium Levels – one week after initiation or dosage change and as clinically indicated  
Target serum concentration: 0.4-0.6mEq/L | • Acne  
• Acute renal dysfunction  
• Cognition  
• Diarrhea  
• Dizziness  
• ECG changes  
• GI upset  
• Hypothyroidism  
• Nausea  
• Polyuria  
• Sedation  
• Thirst  
• Tremor  
• Weight gain | • ACE-Inhibitors  
• Caffeine  
• NSAIDs  
• Osmotic diuretics  
• Theophylline  
• Thiazide diuretics |

*Recommended dosing in absence of enzyme inhibiting or inducing agents.
## Appendix C: Medication Charts

<table>
<thead>
<tr>
<th>Liothyronine (T3) Cytomel®</th>
<th>25 mcg/day</th>
<th>None</th>
<th>25-50 mcg/day</th>
<th>50 mcg/day</th>
<th>Once daily</th>
<th>1) Thyroid function test – baseline and as clinically indicated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pramipexole Mirapex®</td>
<td>0.375 mg/day every week</td>
<td>0.375 mg/day</td>
<td>.375-1 mg/day</td>
<td>1.5 mg/day</td>
<td>Three times daily</td>
<td>1) Hepatic function test – baseline, yearly and as clinically indicated 2) Pregnancy Test – as clinically indicated</td>
</tr>
<tr>
<td>Ropinirole Requip®</td>
<td>0.25 mg/day every week</td>
<td>0.25 mg/day</td>
<td>0.25-1.5 mg/day</td>
<td>2 mg/day</td>
<td>Once daily at bedtime</td>
<td>1) Hepatic function test – baseline, yearly and as clinically indicated 2) Pregnancy Test – as clinically indicated</td>
</tr>
</tbody>
</table>

† Recommended dose titration of lamotrigine for patients taking carbamazepine (or other enzyme-inducing drugs) and not taking valproate:
- 50mg daily for weeks 1 & 2;
- 100 mg daily (in divided doses) for weeks 3 & 4;
- 200 mg daily (in divided doses) for week 5;
- 300 mg daily (in divided doses) for week 6;
- up to 400 mg daily (in divided doses) for week 7 and thereafter.

‡ Recommended dose titration of lamotrigine for patients taking valproate or other forms of valproic acid:
- 25 mg every other day for weeks 1 & 2;
- 25 mg daily for weeks 3 & 4;
- 50 mg daily for week 5;
- 100mg daily for week 6 and thereafter.

- Diarrhea
- Headache
- Irritability
- Nervousness
- Sweating
- Tachycardia
- Anticoagulants
- Hypoglycemics
- Oral Contraceptives
- Tricyclic Antidepressants
- Constipation
- Hypotension
- Insomnia
- Impulse control
- Nausea
- Psychosis
- Psychomotor agitation
- Somnolence
- Alcohol
- Cimetidine
- Diltiazem
- Dopamine antagonists
- Ranitidine
- Triamterene
- Verapamil
- Dopamine antagonists
- Cimetidine
- Metoclopramide
## Appendix C: Medication Charts

### Atypical Antipsychotics

<table>
<thead>
<tr>
<th>Drug</th>
<th>Starting Dose</th>
<th>Titration</th>
<th>Target Dose or Range</th>
<th>Maximum Daily Dose</th>
<th>Schedule</th>
<th>Patient Monitoring Parameters</th>
<th>Side Effects</th>
<th>Selected Drug Interactions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aripiprazole</td>
<td>Aug: 10 mg/day</td>
<td>5-15 mg/day</td>
<td>Aug: 10-15mg/day</td>
<td>Aug: 15mg/day</td>
<td>Once daily</td>
<td>1) Pregnancy test – as clinically indicated&lt;br&gt;2) BMI measurement – when a new antipsychotic is initiated, at every visit (monthly for inpatients) for 6 months after the new antipsychotic is initiated and quarterly when the antipsychotic dose is stable.&lt;br&gt;3) Fasting plasma glucose level or hemoglobin A1c – before initiating a new antipsychotic, then yearly.</td>
<td>• Agitation&lt;br&gt;• Constipation&lt;br&gt;• EPS&lt;br&gt;• Insomnia&lt;br&gt;• Nausea&lt;br&gt;• Somnolence</td>
<td>• Carbamazepine&lt;br&gt;• Fluoxetine&lt;br&gt;• Ketoconazole&lt;br&gt;• Paroxetine&lt;br&gt;• Quinidine&lt;br&gt;• St. John’s Wort</td>
</tr>
<tr>
<td>Ability®</td>
<td>Psychosis: 15 mg/day</td>
<td></td>
<td>Psychosis: 15-30 mg/day</td>
<td></td>
<td></td>
<td>If a patient has significant risk factors for diabetes and for those that are gaining weight – before initiating a new antipsychotic, 4 months after starting an antipsychotic, and then yearly.</td>
<td>• Constipation&lt;br&gt;• Dry Mouth&lt;br&gt;• Glucose Dysregulation&lt;br&gt;• Hypertension&lt;br&gt;• Increased Appetite&lt;br&gt;• Sedation&lt;br&gt;• Weight Gain</td>
<td>• Carbamazepine&lt;br&gt;• Fluvoxamine&lt;br&gt;• Rifampin&lt;br&gt;• Smoking&lt;br&gt;• St. John’s Wort</td>
</tr>
<tr>
<td>Olanzapine</td>
<td>Aug: 5-10 mg/day</td>
<td>5 mg/day</td>
<td>Aug: 10-20 mg/day</td>
<td>Aug: 20 mg/day</td>
<td>Once daily</td>
<td>4) Lipid screening (total cholesterol, low-and high-density lipoprotein (LDL and HDL) cholesterol, and triglycerides) – Every 2 years or more often if lipid levels are in the normal range, every 6 months if the LDL level is &gt; 130 mg/dl&lt;br&gt;5) EKG – before initiating treatment with ziprasidone (Geodon®) and subsequently if the patient demonstrates symptoms (e.g., syncope) associated with QT interval prolongation.</td>
<td>• Cataract Formation&lt;br&gt;• Dry Mouth&lt;br&gt;• Glucose Dysregulation&lt;br&gt;• Headache&lt;br&gt;• Hyperlipidemia&lt;br&gt;• Increased Appetite&lt;br&gt;• Orthostatic Hypotension&lt;br&gt;• Sedation&lt;br&gt;• Weight Gain</td>
<td>• Erythromycin&lt;br&gt;• Fluconazole&lt;br&gt;• Ketoconazole&lt;br&gt;• Phenytoin&lt;br&gt;• St. John’s Wort&lt;br&gt;• Thiabendazole&lt;br&gt;• Valproate</td>
</tr>
<tr>
<td>Zyprax®</td>
<td>Psychosis: 5-10 mg/day</td>
<td>200 mg/day</td>
<td>Psychosis: 10-20 mg/day</td>
<td>200 mg/day</td>
<td>1 times daily</td>
<td>6) Sexual function inquiry – inquire yearly for evidence of galactorrhea/gynecomastia, menstrual disturbance, libido disturbance or erectile/ejaculatory disturbances in males.</td>
<td>• EPS&lt;br&gt;• Glucose Dysregulation&lt;br&gt;• Galactorrhea&lt;br&gt;• Hyperlipidemia&lt;br&gt;• Menstrual irregularity&lt;br&gt;• Orthostatic Hypotension&lt;br&gt;• Prolactin Elevation&lt;br&gt;• Sedation&lt;br&gt;• Sexual dysfunction&lt;br&gt;• Tardive Dyskinesia&lt;br&gt;• Weight Gain</td>
<td>• Carbamazepine&lt;br&gt;• Cimetidine&lt;br&gt;• Fluoxetine&lt;br&gt;• Paroxetine&lt;br&gt;• Phenytoin&lt;br&gt;• Rifampin&lt;br&gt;• Tricyclic Antidepressants</td>
</tr>
</tbody>
</table>
## Appendix C: Medication Charts

### Atypical Antipsychotics

<table>
<thead>
<tr>
<th>Drug</th>
<th>Starting Dose</th>
<th>Titration</th>
<th>Target Dose or Range</th>
<th>Maximum Daily Dose</th>
<th>Schedule</th>
<th>Patient Monitoring Parameters</th>
<th>Side Effects</th>
<th>Selected Drug Interactions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ziprasidone</td>
<td>Aug: 20mg/day</td>
<td>20-40 mg/day</td>
<td>Aug: 20-160 mg/day</td>
<td>Aug: 160mg/day</td>
<td>Twice daily</td>
<td>See previous page</td>
<td>Dizziness</td>
<td>Carbamazepine</td>
</tr>
<tr>
<td>Geodon®</td>
<td>Psychosis: 40 mg/day</td>
<td></td>
<td>Psychosis: 80-160 mg/day</td>
<td></td>
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<td></td>
<td>ECG Changes</td>
<td>Diuretics</td>
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<tr>
<td></td>
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<td></td>
<td></td>
<td>EPS</td>
<td>Moxifloxacin</td>
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<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>Rash</td>
<td>Quinidine</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Sedation</td>
<td>Sotalol</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Vomiting</td>
<td>Thioridazine</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Tricyclic Antidepressants</td>
</tr>
<tr>
<td>Clozapine</td>
<td>Aug: Not suggested</td>
<td>25 mg/day</td>
<td>Aug: Not suggested</td>
<td>Aug: Not suggested</td>
<td>1 - 3 times daily</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Generic available</td>
<td>Psychosis: 12.5-25</td>
<td>every 2-3 days</td>
<td>Psychosis: 100-400 mg/day</td>
<td>Psychosis: 900 mg/day</td>
<td></td>
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<tr>
<td>Clozaril®</td>
<td>mg/day</td>
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<tr>
<td>Fazaclo®</td>
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</tr>
</tbody>
</table>

1. CBC as indicated by guidelines approved by the FDA in the product labeling.
2. Pregnancy test – as clinically indicated
3. BMI measurement – when a new antipsychotic is initiated, at every visit (monthly for inpatients) for 6 months after the new antipsychotic is initiated, and quarterly when the antipsychotic dose is stable.
4. Fasting plasma glucose level or hemoglobin A1c – before initiating a new antipsychotic, then yearly.
5. If a patient has significant risk factors for diabetes and for those that are gaining weight – before initiating a new antipsychotic, 4 months after starting an antipsychotic, and then yearly.

- Lipid screening (total cholesterol, low- and high-density lipoprotein [LDL and HDL] cholesterol, and triglycerides) – Every 2 years or more often if lipid levels are in the normal range, every 6 months if the LDL level is > 130 mg/dl
6. Sexual function: inquire yearly for evidence of galactorrhoea/gynaecomastia, menstrual disturbance, libido disturbance or erectile dysfunction in males.
7. If a patient is receiving an antipsychotic known to be associated with Prolactin elevation, then at each visit (quarterly for inpatients) for the first 12 months after starting an antipsychotic or until the medication dose is stable and then yearly.
8. EPS Evaluation (examination for rigidity, tremor, akathisia) – before initiation of any antipsychotic medication, then weekly for the first 2 weeks after initiating treatment with a new antipsychotic or until the dose has been stabilized and weekly for 2 weeks after a dose increase.
9. Tardive Dyskinesia evaluation – every 12 months.
10. For high risk patients (including the elderly), every 6 months.
11. Vision questionnaire – ask whether the patient has experienced a change in vision and should specifically ask about distance vision and blurry vision – yearly.
12. Ocular evaluations – yearly for patients older than age 40 years; every 2 years for younger patients.
### Adjunctive Treatments, Insomnia

<table>
<thead>
<tr>
<th>Drug</th>
<th>Starting Dose</th>
<th>Titration</th>
<th>Target Dose or Range</th>
<th>Maximum Daily Dose</th>
<th>Schedule</th>
<th>Patient Monitoring Parameters</th>
<th>Side Effects</th>
<th>Selected Drug Interactions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zolpidem</td>
<td>5-10 mg/day</td>
<td>N/A</td>
<td>5-10 mg/day</td>
<td>10 mg/day</td>
<td>Once daily at bedtime</td>
<td>1) Pregnancy test – as clinically indicated</td>
<td>• Confusion</td>
<td>• Alcohol</td>
</tr>
<tr>
<td>Generic Available</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Dizziness</td>
<td>• Protease Inhibitors</td>
</tr>
<tr>
<td>Ambien®</td>
<td>CR: 5.25-12.5</td>
<td></td>
<td>CR: 6.25-12.5 mg/day</td>
<td></td>
<td></td>
<td></td>
<td>• Drowsiness</td>
<td>• St. John’s Wort</td>
</tr>
<tr>
<td>Ambien CR®</td>
<td>mg/day</td>
<td></td>
<td>CR: 12.5 mg/day</td>
<td></td>
<td></td>
<td></td>
<td>• Hallucinations</td>
<td>• Pramipexole</td>
</tr>
<tr>
<td>Zaleplon</td>
<td>5-10 mg/day</td>
<td>N/A</td>
<td>5-10 mg/day</td>
<td>20 mg/day</td>
<td>Once daily at bedtime</td>
<td>1) Pregnancy test – as clinically indicated</td>
<td>• Confusion</td>
<td>• Alcohol</td>
</tr>
<tr>
<td>Sonata®</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Dizziness</td>
<td>• Benzodiazepine</td>
</tr>
<tr>
<td>Eszopiclone</td>
<td>2 mg/day</td>
<td>N/A</td>
<td>2 mg/day</td>
<td>3 mg/day</td>
<td>Once daily at bedtime</td>
<td>1) Pregnancy test – as clinically indicated</td>
<td>• Dizziness</td>
<td>• Barbituates</td>
</tr>
<tr>
<td>Lunesta®</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Drowsiness</td>
<td>• Cimetidine</td>
</tr>
<tr>
<td>Trazodone</td>
<td>50-100 mg/day</td>
<td>N/A</td>
<td>50-200 mg/day</td>
<td>200 mg/day</td>
<td>Once daily at bedtime</td>
<td>1) ECG: baseline and as clinically indicated</td>
<td>• Confusion</td>
<td>• Alcohol</td>
</tr>
<tr>
<td>Generic Available</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2) LFTs: baseline and as clinically indicated</td>
<td>• Dizziness</td>
<td>• Benzodiazepine</td>
</tr>
<tr>
<td>Deseryl®</td>
<td>CR: 50-100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3) serum creatinine/BUN: baseline and as clinically indicated</td>
<td>• Blurred vision</td>
<td>• Barbituates</td>
</tr>
<tr>
<td>mg/day</td>
<td></td>
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<td>4) thyroid function tests (TFTs): baseline and as clinically indicated</td>
<td>• Constipation</td>
<td>• Cimetidine</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td>• GI upset</td>
<td>• St. John’s Wort</td>
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<td></td>
<td></td>
<td></td>
<td>• Headache</td>
<td>• TCAs</td>
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<td></td>
<td></td>
<td></td>
<td>• Hypotension</td>
<td></td>
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<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>• Nausea</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Priapism</td>
<td></td>
</tr>
</tbody>
</table>

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### Appendix C: Medication Charts

#### Adjunctive Treatment, Fatigue or Excessive Somnolence

<table>
<thead>
<tr>
<th>Drug</th>
<th>Starting Dose</th>
<th>Titration</th>
<th>Target Dose or Range</th>
<th>Maximum Daily Dose</th>
<th>Schedule</th>
<th>Patient Monitoring Parameters</th>
<th>Side Effects</th>
<th>Selected Drug Interactions</th>
</tr>
</thead>
</table>
| Modafanil Provigil® | 200mg/day     | N/A       | 200 mg/day           | 400 mg/day         | Once daily in the morning | 1) CBC with differential: baseline and as clinically indicated  
2) Hepatic function tests: baseline and as clinically indicated | • Anorexia  
• Anxiety  
• Headache  
• Insomnia  
• Irritability  
• Nausea  
• Nervousness  
• Tachycardia | • Aripiprazole  
• Cimetidine  
• Clozapine  
• Grapefruit juice  
• MAOIs  
• Stimulants  
• Oral contraceptives |

#### Adjunctive Treatments, Sexual Dysfunction

<table>
<thead>
<tr>
<th>Drug</th>
<th>Starting Dose</th>
<th>Titration</th>
<th>Target Dose or Range</th>
<th>Maximum Daily Dose</th>
<th>Schedule</th>
<th>Patient Monitoring Parameters</th>
<th>Side Effects</th>
<th>Selected Drug Interactions</th>
</tr>
</thead>
</table>
| Bupropion Generic available Wellbutrin SR®  
Wellbutrin XL® | 75-150 mg/day | N/A       | 75-150mg/day         | 400 mg/day (SR)  
450 mg/day(XL)   | Twice daily (SR)  
Once daily (XL) | 1) Pregnancy test – as clinically indicated  
2) Monitor for emergence of suicidal ideation or behavior | • Constipation  
• Dry Mouth  
• Headache  
• Insomnia  
• Nausea  
• Seizures | • Carbamazepine  
• Cyclosporine  
• Linezolid  
• MAOIs  
• Ritonavir  
• Tricyclic Antidepressants |
| Sildenafil Viagra® | 50 mg/day     | N/A       | 25-100mg/day         | 100 mg/day         | 1 hour prior to sexual activity | None | • Dyspepsia  
• Dizziness  
• Headache  
• Flushing  
• Priapism | • Nitrates  
• Cimetidine  
• Clarithromycin  
• Fluoxetine  
• Grapefruit juice  
• Ketoconazole |
| Tadalafil Cialis® | 10 mg/day     | N/A       | 5-20 mg/day          | 20 mg/day          | 1 hour prior to sexual activity | None | • Dyspepsia  
• Dizziness  
• Headache  
• Flushing  
• Priapism | • Nitrates  
• Cimetidine  
• Clarithromycin  
• Fluoxetine  
• Grapefruit juice  
• Ketoconazole |
| Vardenafil Levitra® | 10 mg/day     | N/A       | 5-20 mg/day          | 20 mg/day          | 1 hour prior to sexual activity | None | • Dyspepsia  
• Dizziness  
• Headache  
• Flushing  
• Priapism | • Nitrates  
• Cimetidine  
• Clarithromycin  
• Fluoxetine  
• Grapefruit juice  
• Ketoconazole |
### Adjunctive Treatment, Anxiety

<table>
<thead>
<tr>
<th>Drug</th>
<th>Starting Dose</th>
<th>Titration</th>
<th>Target Dose or Range</th>
<th>Maximum Daily Dose</th>
<th>Schedule</th>
<th>Patient Monitoring Parameters</th>
<th>Side Effects</th>
<th>Selected Drug Interactions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clonazepam</td>
<td>0.25 mg/day</td>
<td>N/A</td>
<td>1-2 mg/day</td>
<td>4 mg/day</td>
<td>1-2 times daily</td>
<td>1) Pregnancy test – as clinically indicated</td>
<td>• Ataxia</td>
<td>• Alcohol</td>
</tr>
<tr>
<td>Generic available</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Barbiturates</td>
<td>• Barbiturates</td>
</tr>
<tr>
<td>Klonopin®</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>• Erythromycin</td>
<td>• Erythromycin</td>
</tr>
<tr>
<td>Lorazepam</td>
<td>2-3 mg/day</td>
<td>N/A</td>
<td>2-3 mg/day</td>
<td>10 mg/day</td>
<td>2-4 times a day or as needed</td>
<td>1) Pregnancy test – as clinically indicated</td>
<td>• Ataxia</td>
<td>• Alcohol</td>
</tr>
<tr>
<td>Generic Available</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Confusion</td>
<td>• Barbiturates</td>
</tr>
<tr>
<td>Ativan®</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Dizziness</td>
<td>• Lorazepam</td>
</tr>
<tr>
<td>Buspirone</td>
<td>15 mg/day</td>
<td>15 mg/day every week</td>
<td>20-60 mg/day</td>
<td>60 mg/day</td>
<td>2-3 times daily</td>
<td>1) Pregnancy test – as clinically indicated</td>
<td>• Dizziness</td>
<td>• Alcohol</td>
</tr>
<tr>
<td>Generic available</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Drowsiness</td>
<td>• Furfazolide</td>
</tr>
<tr>
<td>BuSpar®</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Dependence</td>
<td>• Procarbazine</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>• Drowsiness</td>
<td>• MAOIs</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Headache</td>
<td>• SNRIs</td>
</tr>
<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Nausea</td>
<td>• SSRIs</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Nausea</td>
<td>• Grapefruit juice</td>
</tr>
</tbody>
</table>

### Nutritional Supplements

<table>
<thead>
<tr>
<th>Drug</th>
<th>Starting Dose</th>
<th>Titration</th>
<th>Target Dose or Range</th>
<th>Maximum Daily Dose</th>
<th>Schedule</th>
<th>Patient Monitoring Parameters</th>
<th>Side Effects</th>
<th>Selected Drug Interactions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Omega-3 Fatty Acids</td>
<td>EPA 1 g/day*</td>
<td>N/A</td>
<td>EPA 1-2 g/day*</td>
<td>EPA 4 g/day</td>
<td>1-3 times daily</td>
<td>None</td>
<td>• Nausea</td>
<td>• Anticoagulants</td>
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<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>• GI upset</td>
<td>• Platelet inhibitors</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>• Diarrhea</td>
<td>• antihypertensives</td>
</tr>
<tr>
<td>Folic Acid</td>
<td>500 mcg/day</td>
<td>N/A</td>
<td>500 mcg/day</td>
<td>1 mg/day</td>
<td>Once daily</td>
<td>None</td>
<td>• GI upset</td>
<td>• Cholestyramine</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td>• Colestipol</td>
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<td></td>
<td></td>
<td></td>
<td>• Sulfsalazine</td>
</tr>
<tr>
<td>Methyfolate Deplin®</td>
<td>7.5 mg/day</td>
<td>N/A</td>
<td>7.5 mg/day</td>
<td>7.5 mg/day</td>
<td>Once daily</td>
<td>None</td>
<td>• GI upset</td>
<td>• Cholestyramine</td>
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<td>• Colestipol</td>
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<td></td>
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<td>• Sulfsalazine</td>
</tr>
</tbody>
</table>

*Dosages reported here are based on EPA content. Omega-3 fatty acid supplements may contain primarily EPA, DHA or a combination of EPA and DHA. When a combination product is used, the ratio of EPA:DHA should ideally be >1.