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October 8th is...

National DEPRESSION SCREENING Day

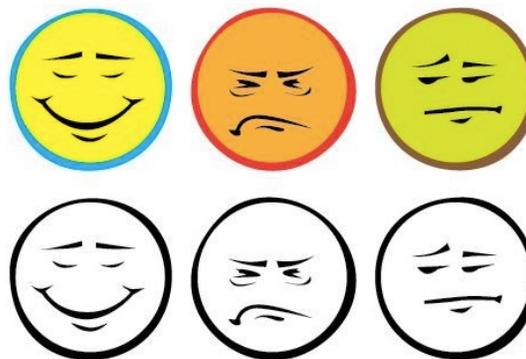
INTRODUCTION

National Depression Screening Day (NDSD) is held every year on Thursday of the first full week of October.¹ This year will mark the 25th annual NDSD.¹ This event provides free, anonymous screenings for depression, and referral to treatment resources if needed. Screenings are conducted online and in person. Hospitals, clinics, colleges, and community groups largely lead the education and screening event. Screenings are

not a diagnosis. The screenings are meant to indicate if depressive symptoms are present and to provide referral for further evaluation if warranted. Screenings are essential in identifying and treating depression in order to prevent progression of the disease to possible suicide.²

The role of community and clinical pharmacists in depression is expanding, to encompass not only medication counseling, but also to provide information about depression, screen patients at risk, refer for treatment, support adherence, and monitor for efficacy.^{3,4}

The term depression is used in psychiatry to define a medical condition with distinctive biological and pharmacologic implications. The physical and/or social dysfunctions for people with depression are enormous health concerns believed to outweigh other chronic medical



conditions such as hypertension, diabetes, and arthritis. Depression is a common, potentially debilitating mental illness often diagnosed as Major Depressive Disorder (MDD).⁶ Annual incidence is approximately 10% in adults.⁵ The estimated cost of depression in the United States in 2000 was about \$83.1 billion annually with the majority of cost being lost productivity and work absenteeism.¹

Occurrence is higher in females than males and more common in lower socioeconomic classes. The onset of MDD is usually in the mid to late 20s, but the first episode may present at any age. Children are 2.7 times more likely to have depression if one parent has MDD.⁵ MDD may also be triggered by stressful or traumatic events including verbal or physical abuse, low self-esteem, death of a loved one, job loss, and the ending of a serious relationship. Medications can induce depression, examples include: topiramate, clonidine, oral contraceptives, and corticosteroids.⁴ A recent study also suggests that acetaminophen possibly blunts happiness in addition to blunting pain.⁷

CLINICAL PRESENTATION⁶

People with MDD may present with depressed mood most of the day, diminished interest or pleasure in most activities, weight loss or gain, insomnia or hypersomnia, fatigue, or suicidal ideation. The clinician must consider the symptoms and their duration along with the patient's level of social, occupational, or other areas of functioning. In addition to mood symptoms, cognitive problems are also associated with depression. Cognitive dysfunction includes inattention, forgetfulness, procrastination, indecisiveness, and slowed movement.⁸ Patients with MDD may also have disorders in information processing such as jumping to conclusions, labeling, blaming, overgeneralizing, and "all or none" thinking.⁸



1. National Depression Screening Day [Internet]. Boston: Screening for Mental Health, Inc; c2015. [cited 2015 Sept 25]; [about 14 screens]. Available from: <https://mentalhealthscreening.org/programs/ndsds>
2. National Depression Screening Day [Internet]. Alexandria, VA: Mental Health America; c2015. [cited 2015 Sept 25]; [about 3 screens]. Available from <http://www.mentalhealthamerica.net/conditions/national-depression-screening-day>
3. Millonig MK. White paper on expanding the role of the community pharmacist in managing depression. Washington DC: APhA Foundation [Internet]. 15 Sept 2008. [cited 27 Sept 2015]. Available from <http://www.aphafoundation.org/project-impact-depression>
4. Funk KA, Hudson S, Tingen J. Use of clinical pharmacists to perform depression screening. *Qual Prim Care.* 2015;22(5):249-50.
5. Finley PR, Lee KC. Mood Disorders I: Major Depressive Disorders. In: Koda-Kimble MA, Young LY, Alldredge BL, Corelli RL, Guglielmo BJ, Kradjan WA, Williams BR, editors. *Applied Therapeutics: The Clinical Use of Drugs.* 10th ed. Philadelphia:Wolters Kluwer Health; c2012. P. 1949-1982.
6. Teter CJ, Kando JC, Wells BG. Major Depressive Disorder. In: DiPiro JT, Talbert RL, Yee GC, Matzke GR, Wells BG, Posey LM, editors. *Pharmacotherapy: A pathophysiologic approach.* 9th ed. New York: McGraw-Hill Medical; c2014. p. 1047-1066.
7. Durso GR, Luttrell A, Way BM. Over-the-Counter Relief From Pains and Pleasures Alike: Acetaminophen Blunts Evaluation Sensitivity to Both Negative and Positive Stimuli. *Psychol Sci.* 2015 Jun;26(6):750-8.
8. Gonda X, Pompili M, Serafini G, Carvalho AF, Rihmer Z, Dome P. The role of cognitive dysfunction in the symptoms and remission from depression. *Ann Gen Psychiatry.* 2015;14:27.

DIAGNOSIS

Diagnostic and Statistical Manual of Mental Disorders (DSM-V) criteria for MDD ^{1,5}	
A	Five or (more) of the following symptoms have been present during the same 2-week period and represent a change from previous functioning; at least one on the symptoms is either (1) depressed mood or (2) loss of interest or pleasure <ol style="list-style-type: none"> 1. Depressed mood most of the day nearly every day 2. Markedly diminished interest or pleasure in all, or almost all, activities most of the day nearly every day 3. Significant weight loss when not dieting or weight gain, (a change of more than 5% of body weight in a month) or decrease or increase in appetite nearly every day 4. Insomnia or hypersomnia nearly every day 5. Psychomotor agitation or retardation nearly every day (observable by others, not merely subjective feelings of restlessness or being slowed down) 6. Fatigue or loss of energy nearly every day 7. Feelings of worthlessness or excessive or inappropriate guilt nearly every day 8. Diminished ability to think or concentrate, or indecisiveness, nearly every day 9. Recurrent thoughts of death (not just fear of dying), recurrent suicidal ideation without a specific plan, or a suicide attempt or a specific plan for committing suicide
B	The symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.
C	The symptoms are not due to the direct physiologic effects of a substance (a drug abuse, a medication) or a general medical condition (hypothyroidism).

DSM-5 criteria for MDD diagnosis are the same as DSM-IV criteria⁴ with one difference. In DSM-5, symptoms accounted for by bereavement after the loss of a loved one is no longer an exclusion to MDD diagnosis. DSM-5 does not include bereavement because it suggests that grief protects one from MDD.⁵ Critics of DSM-5 criteria argue the change may lead to over diagnosis and over treatment, increase potential for the pharmaceutical industry to market a treatment for this population, and lead to a loss of the traditional methods of grieving.⁶

- Other tools used to diagnose and assess depression:
 - Hamilton Rating Scale for Depression (HAM-D)
 - Beck Depression Inventory scale (BDI)
 - Patient Health Questionnaire (PHQ/PHQ-9)
 - Clinical Global Impression Scale severity (CGI-S)
 - Mental Status Exam (MSE)

There are opponents of the above tools for assessing MDD. Most measure depression severity based on the number of reported symptoms. It is possible this may blur insight into specific symptoms that may need to be addressed and/or treated. In addition, the assessment methods may cause crucial information to be lost in regard to research with antidepressant.⁷

NON-PHARMACOLOGIC THERAPY^{1,8}

Psychotherapy	Electroconvulsive therapy (ECT)*	Repetitive trans-cranial magnetic stimulation (rTMS)	Vagus Nerve Stimulation (VNS)
<ul style="list-style-type: none"> • 1st line therapy for mild to moderate depression • Not recommended for severe or psychotic MDD 	<ul style="list-style-type: none"> • Treat MDD when a rapid response is needed and other therapies are ineffective 	<ul style="list-style-type: none"> • Used to treat MDD and does not require anesthesia 	<ul style="list-style-type: none"> • Approved for treatment resistant depression for adults in 2005⁸

*Notes on ECT:

- Conducted with anesthesia/muscle relaxant
 - Electrodes placed precisely on the head
 - An electric current passes through the brain causing a seizure that generally lasts 1 minute
 - Performed 3x a week until depression lifts (usually 6-12 treatments)
1. Teter CJ, Kando JC, Well BG. Major depressive disorder. In: DiPiro JT, Talbert RL, Yee GC, Matzke GR, Wells BG, Posey LM, editors. Pharmacotherapy: A physiological approach. 9th edition. New York: McGraw Hill Medical; c. 2014. Chapter 51.
 2. Alan J. Gelenberg, M.D., Chair, Marlene P. Freeman, M.D., John C. Markowitz, M.D., Jerrold F. Rosenbaum, M.D., Michael E. Thase, M.D., Madhukar H. Trivedi, M.D., Richard S. Van Rhoads, M.D., Consultant American Psychiatric Association (APA). Practice guideline for the treatment of patients with major depressive disorder. 3rd edition. Arlington (VA): American Psychiatric Association (APA); c2010 [cited 2015 Sept 21]. Available from: <http://www.guideline.gov/content.aspx?id=24158>
 3. Suehs B, Argo AR, Bendele SD, Crismon ML, Trivedi MH, Kurian B. Texas Medication Algorithm Project Procedural Manual MDD Algorithms. Texas Algorithm Project.c2008 updated 2010 Texas State Health Services. [2015 Sept 21]. Available form: http://www.ipshhealthnet.org/sites/default/files/tmap_depression_2010.pdf
 4. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders, 4th edition: DSM-4. Arlington, VA: American Psychiatric Publishing, Inc. c2000.
 5. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders, 5th edition: DSM-5. Arlington, VA: American Psychiatric Publishing, Inc. c2013. Available from: <http://dsm.psychiatryonline.org/doi/book/10.1176/appi.books.9780890425596>
 6. Bandini J. The Medicalization of Bereavement: (Ab)normal Grief in the DSM-5. Death Stud. 2015;39(6):347
 7. Fried EI, Nesse RM. Depression sum-scores don't add up: why analyzing specific depression symptoms is essential. BMC Med. 2015;13:72.
 8. Maalouf FT, Atwi M, Brent DA. Treatment-resistant depression in adolescents: review and updates on clinical management. Depress Anxiety. 2011;28(11):946-54.

PHARMACOLOGIC THERAPY

Most individuals with depression go untreated or undertreated.¹ In a large US study, only 21% of the sample with an MDD diagnosis received at least one of form of guideline recommended therapy in the past year.¹ The goal of treatment is to reduce symptoms and help the patient return to the level before onset of illness.²



- 3 phases of treatment:²
 - 1. Acute phase – lasts 6 to 12 weeks. Goal is to reach absence of symptoms.
 - 2. Continuation phase – lasts 4 to 9 months AFTER remission is achieved. The goal of this phase is to reduce residual symptoms and prevent relapse.
 - 3. Maintenance phase – at least 12 to 36 months. Goal is to prevent a separate episode of depression.

Treatment duration depends on risk of recurrence and is very patient specific. Lifelong therapy is recommended in those at greatest risk for recurrence.²

Antidepressants ²⁻⁶			
Medication Class	Medications	Brand Name	Important ADRs and other points
Selective Serotonin Reuptake Inhibitors (SSRIs)	Citalopram Escitalopram Fluoxetine Fluvoxamine Paroxetine Sertraline	Celexa [®] Lexapro [®] Prozac [®] Luvox [®] Paxil [®] Zoloft [®]	<ul style="list-style-type: none"> • Weight gain • Sexual side effects • GI bleeding • Bruxism (teeth grinding) • Osteopenia

Serotonin-Norepinephrine Reuptake Inhibitors (SNRIs)	Desvenlafaxine Duloxetine Levomilnacipran Milnacipran Venlafaxine	Pristiq® Cymbalta® Fetzima® Savella® Effexor®	<ul style="list-style-type: none"> Mild BP elevations Sexual dysfunction May cause wakefulness
Tricyclic and tetracyclic antidepressants	Amitriptyline Amoxapine Desipramine Doxepin Imipramine Maprotiline Nortriptyline Protriptyline Trimipramine	Elavil® Asendin® Norpramin® Sinequan® Tofranil® Ludiomil® Pamelor® Vivactil® Surmontil®	<ul style="list-style-type: none"> On Beer's list for anticholinergic effects (constipation, urinary hesitancy, dry mouth, visual changes) Weight gain Lower seizure threshold Sedation Sexual dysfunction
Norepinephrine and Dopamine Reuptake Inhibitors	Bupropion	Wellbutrin®	<ul style="list-style-type: none"> No sexual dysfunction May cause wakefulness + indication: smoking cessation Modest weight loss Lower seizure threshold
Norepinephrine-serotonin modulator	Mirtazapine	Remeron®	<ul style="list-style-type: none"> May increase blood cholesterol Sedation Weight gain
Serotonin modulators	Nefazodone Trazodone Vilazodone	Serzone® Desyreli®/Oleptro® Viibryd®	<ul style="list-style-type: none"> Sedation (most with trazodone) Hepatotoxicity with nefazodone
Other serotonin modulator	Vortioxetine	Brintellix®	<ul style="list-style-type: none"> Sexual dysfunction Nausea
Atypical antipsychotics (with indications for depression or bipolar depression)	Aripiprazole Brexipiprazole Lurasidone Olanzapine Quetiapine	Abilify® Rexulti® Latuda® Zyprexa® Seroquel®	<ul style="list-style-type: none"> Weight gain Sedation Orthostatic hypotension
Monoamine Oxidase Inhibitors (MAOIs)	Isocarboxazid Phenelzine Selegiline Tranlcypromine	Marplan® Nardil® Emsam® Parnate®	<ul style="list-style-type: none"> Dietary and medication restrictions (may cause hypertensive crisis) Postural hypotension, weight gain, sexual dysfunction Severe serotonin syndrome Generally last line therapy
Other	Lithium	Lithobid®	<ul style="list-style-type: none"> Weight gain, sedation Leukocytosis Dermatologic effects Muscle weakness, hand tremor Polydipsia and polyuria Nephrogenic diabetes insipidus Hypothyroidism Bradycardia or AV block Lithium toxicity – GI symptoms, incoordination, cognition issues

Guidelines^{1,3,4}

There are several guidelines on MDD. There are differences among them, but broadly they are similar.¹ All recommend an antidepressant trial and/or psychotherapy. With treatment failure or non-response, all recommend augmentation, switching, combination therapy, or psychotherapy. In most guidelines, lithium, atypical antipsychotics, and certain antidepressants are recommended for augmentation.¹ The American Psychiatric Association's guidelines for treating major depressive disorder state choosing a medication for depression depends on patient preference, past response to medication, adverse effects, and co-morbid conditions. An SSRI, SNRI, mirtazapine or bupropion are usually most suitable for patients.^{3,4}



1. Patkar AA, Pae CU. Atypical antipsychotic augmentation strategies in the context of guideline-based care for the treatment of major depressive disorder. *CNS Drugs*. 2013;27 Suppl 1:S29-37.
2. Teter CJ, Kando JC, Wells BG. Major Depressive Disorder. In: DiPiro JT, Talbert RL, Yee GC, Matzke GR, Wells BG, Posey LM, editors. *Pharmacotherapy: a pathophysiologic approach*. 9th ed. New York: McGraw-Hill Education; 2014. Chapter 51.
3. Gelenberg AJ, Freeman MP, Markowitz JC, Rosenbaum JF, Thase ME, Trivedi MH, Van Rhoads RS. Practice guideline for the treatment of patients with major depressive disorder. 3rd ed. Arlington (VA): American Psychiatric Association (APA); 2010 Nov. Available from: <http://psychiatryonline.org/guidelines>
4. Gelenberg AJ, Freeman MP, Markowitz JC, Rosenbaum JF, Thase ME, Trivedi MH, Van Rhoads RS. *Treating Major Depressive Disorder: A Quick Reference Guide*. 3rd ed. Arlington (VA): American Psychiatric Association (APA); 2010 Nov. Available from: <http://psychiatryonline.org/guidelines>
5. Lithium, Aripiprazole, Brexpiprazole, Lurasidone, Olanzapine, Quetiapine, Vortioxetine. In: *Drug Facts and Comparisons (Facts and Comparisons eAnswers) [AUHSOP Intranet]*. St. Louis: Wolters Kluwer Health/Facts and Comparisons [updated 2015, cited 2015 Sept 21]. [about 100 p.]. Available from <http://online.factsandcomparisons.com/index.aspx>?
6. Lithium, Aripiprazole, Brexpiprazole, Lurasidone, Olanzapine, Quetiapine, Vortioxetine. In: *Lexi-Comp Online [AUHSOP Intranet]*. Hudson, OH: Wolters Kluwer Health/Lexi-Comp, Inc. [updated 2015, cited 2015 Sept 21]. [about 100 p.]. Available from <http://online.lexi.com/crsql/servlet/crlonline>

WAYS TO GET HELP

- Anonymous online screening: <http://helpyourselfhelpothers.org>
- AU student counseling services: 334-844-5123 or <http://www.auburn.edu/scs/counseling-individual.html>
- Visit the AU Zen Den: <http://www.auburn.edu/scs/zen-den.html>
- Mental Health America: <http://www.nmha.org>
- National Institute of Mental Health: <http://www.nimh.nih.gov/health/find-help/index.shtml>
- International Foundation for Research and Education on Depression: <http://www.ifred.org>



The last "dose" ...

**"It is not easy to find happiness in ourselves,
and it is not possible to find it elsewhere."**

-Agnes Repplier [American essayist, 1855-1950]



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