

TREATING DEPRESSION

Treatment

The treatment of depression varies broadly and is different for each individual. Various types and combinations of treatments may have to be tried, but without hope in a complete solution to the problem. There are two primary modes of treatment, typically used in conjunction: medication and psychotherapy. A third treatment, electroconvulsive therapy (ECT), may be used when chemical treatment fails.

Alternative treatments used for depression include exercise and the use of vitamins, herbs, or other nutritional supplements.

The effectiveness of treatment often depends on factors such as the amount of optimism and hope the sufferer is able to maintain, the control s/he has over stressors, the severity of symptoms, the amount of time the sufferer has been depressed, the results of previous treatments, and the degree of support of family, friends, and significant others.



Although treatment is generally effective, in some cases the condition does not respond. Treatment-resistant depression warrants a full assessment, which may lead to the addition of psychotherapy, higher medication dosages, changes of medication or combination therapy, a trial

of ECT/electroshock, or even a change in the diagnosis, with subsequent treatment changes. Although this process helps many, some people's symptoms continue unabated.

In emergencies, psychiatric hospitalization is used simply to keep suicidal people safe until they cease to be dangers to themselves. Another treatment program is partial hospitalization, in which the patient sleeps at home but spends the day, either five or seven days a week, in a psychiatric hospital setting in intense treatment. This treatment usually involves group therapy, individual therapy, psychopharmacology, and academics (in child and adolescent programs).

Medication

Medication that relieves the symptoms of depression has been available for several decades. These drugs are listed in order of historical development. Typical first-line therapy for depression is the use of a selective serotonin reuptake inhibitor, such as citalopram (Celexa), fluoxetine (Prozac), paroxetine (Paxil), and sertraline (Zoloft). Under some circumstances, medication and psychotherapy may be more effective than either treatment separately.

Monoamine oxidase inhibitors (MAOIs) such as Nardil may be used if other antidepressant medications are ineffective. Because there are potentially fatal interactions between this class of medication and certain foods and drugs, they are rarely prescribed anymore. MAOI's are used to block the enzyme monoamine oxidase which breaks down neurotransmitters such as serotonin and norepinephrine (noradrenaline). MAOI's are as effective as tricyclics, if not slightly more effective. A new MAOI has recently been introduced. Moclobemide (Manerix), known as a reversible inhibitor of monoamine oxidase A (RIMA), follows a very specific chemical pathway and does not require a special diet.

Tricyclic antidepressants are the oldest and include such medications as amitriptyline and desipramine. Tricyclics block the reuptake of certain neurotransmitters such as norepinephrine (noradrenaline) and serotonin. They are used less commonly now because of their side effects, which include increased heart rate, drowsiness, dry mouth, constipation, urinary retention, blurred vision, dizziness, confusion, and sexual dysfunction. Most importantly, they have a high potential to be lethal in moderate overdose. However, tricyclic antidepressants are still used because of their high potency, especially in severe cases of clinical depression.

Selective serotonin reuptake inhibitors (SSRIs) are a family of antidepressant considered to be the current standard of drug treatment. It is thought that one cause of depression is an inadequate amount of serotonin, a chemical used in the brain to transmit signals between neurons. SSRIs are said to work by preventing the reabsorption of serotonin by the nerve cell, thus maintaining the levels the brain needs to function effectively, although two researchers recently demonstrated that this is a marketing technique rather than a scientific portrayal of how the drugs actually work. Recent research indicates that these drugs may interact with transcription factors known as "clock genes", which may be important for the addictive properties of drugs of abuse and possibly in obesity.

This family of drugs includes fluoxetine (Prozac), paroxetine (Paxil), escitalopram



(Lexapro), citalopram (Celexa), and sertraline (Zoloft). These antidepressants typically have fewer adverse side effects than the tricyclics or the MAOIs, although such effects as drowsiness,

dry mouth, nervousness, anxiety, insomnia, decreased appetite, and decreased ability to function sexually may occur. Some side effects may decrease as a person adjusts to the drug, but other side effects may be persistent.

Norepinephrine (noradrenaline) reuptake inhibitors (NRIs) such as reboxetine (Edronax) act via norepinephrine (also known as *noradrenaline*). NRIs are thought to have a positive effect on concentration and motivation in particular.

Norepinephrine-dopamine reuptake inhibitors such as bupropion (Wellbutrin, Zyban) inhibit the neuronal reuptake of dopamine and norepinephrine (noradrenaline).

Serotonin-norepinephrine reuptake inhibitors (SNRIs) such as venlafaxine (Effexor) and duloxetine (Cymbalta) are a newer form of antidepressant that works on both noradrenaline and serotonin. They typically have similar side effects to the SSRIs, although there may be a withdrawal syndrome on discontinuation that may necessitate dosage tapering.

Noradrenergic and specific serotonergic antidepressants (NASSAs) form a newer class of antidepressants which purportedly work to increase norepinephrine (noradrenaline) and serotonin neurotransmission by blocking presynaptic alpha-2 adrenergic receptors while at the same time minimizing serotonin related side-effects by blocking certain serotonin receptors. The only example of this class in clinical use is mirtazapine (Avanza, Zispin, Remeron).

Dietary supplements

5-HTP supplements are claimed to provide more raw material to the body's natural serotonin production process. There is a reasonable indication that 5-HTP may not be effective for those

who haven't already responded well to an SSRI because of their similar function: SSRIs allow the brain to use its serotonin more effectively, while 5-HTP induces production of more serotonin.

S-adenosyl methionine (SAM-e) is a derivative of the amino acid methionine that is found throughout the human body, where it acts as a methyl donor and participates in other biochemical reactions. It is available as a prescription antidepressant in Europe and an over-the-counter dietary supplement in the United States. Clinical trials have shown SAM-e to be as effective as standard antidepressant medication, with fewer side effects; however, some studies have reported an increased incidence of mania resulting from SAM-e use compared to other antidepressants. Its mode of action is unknown.

Omega-3 fatty acids (found naturally in oily fish, flax seeds, hemp seeds, walnuts, and canola oil) have also been found to be effective when used as a dietary supplement (although only fish-based omega-3 fatty acids have shown antidepressant efficacy).

Dehydroepiandrosterone (DHEA), available as a supplement in the U.S., has been shown to be effective in small trials.

Chocolate improves mood, probably by raising serotonin. Indeed, chocolate contains serotonin and there are case reports of interactions between chocolate and antidepressant drugs.



Magnesium supplementation has gathered some attention as a possible treatment for depression. Some case reports demonstrate rapid recovery from major depression using magnesium

treatment. The possibility that magnesium deficiency is the cause of most major depression and related mental health problems including IQ loss and addiction is enormously important to public health and is recommended for immediate further study.

St John's Wort [*Hypericum perforatum*]. Traditionally used by 'wise women' and midwives for hundreds of years, to 'chase away the devil' of melancholia and anxiety. It is a mood-enhancing herbal substance which acts like an antidepressant and increases the availability of serotonin, norepinephrine and dopamine at the neuron synapses. Also popular for treating insomnia, mood swings, fatigue, PMS and menopause. Except under medical supervision, St. John's Wort should not be used with SSRIs or MAOIs due to the risk of serotonin syndrome.

Ginkgo Biloba. Effective natural antidepressant said to stabilize cell membranes, inhibiting lipid breakdown and aiding cell use of oxygen and glucose - so subsequently a mental and vascular stimulant that improves neurotransmitter production. Also popular for treating mental concentration (such as for Alzheimer's and stroke patients).

Siberian Ginseng [*Eleutherococcus senticosus*]. Although not a true panax ginseng it is a mood enhancement supplement against stress. Also popular for treating depression, insomnia, moodiness, fatigue, poor memory, lack of focus, mental tension and endurance.

Zinc has had an antidepressant effect in an experiment.

Biotin: a deficiency has caused a severe depression. The patient's symptoms improved after the deficiency was corrected.

Vitamin B-12: Symptoms of a vitamin B-12 deficiency can include depression and other psychiatric disorders.

The amino acids phenylalanine and tyrosine have also a favorable effect on easy forms of depression. They enhance the neurotransmitters dopamine and noradrenalin.

Augmentor Drugs

Some antidepressants have been found to work more effectively in some patients when used in combination with another drug. Such "augmentor" drugs include tryptophan (Tryptan) and buspirone (Buspar).

Tranquillizers and sedatives, typically the benzodiazepines, may be prescribed to ease anxiety and promote sleep. Because of their high potential for fostering dependence, these medications are intended only for short-term or occasional use. Medications often are used not for their primary function but to exploit what are normally side effects. Quetiapine fumarate (Seroquel) is designed primarily to treat schizophrenia and bipolar disorder, but a frequently reported side-effect is somnolence. Therefore, this drug can be used in place of an antianxiety agent such as clonazepam (Klonopin, Rivotril).

Antipsychotics such as risperidone (Risperdal), olanzapine (Zyprexa), and Quetiapine (Seroquel) are prescribed as mood stabilizers and are also effective in treating anxiety. Their use as mood stabilizers is a recent phenomenon and is controversial with some



patients. Antipsychotics (typical or atypical) may also be prescribed in an attempt to augment an antidepressant, to make antidepressant blood concentration higher, or to relieve psychotic or paranoid symptoms often accompanying clinical depression. However, they may have serious side effects, particularly at high dosages, which may include blurred vision, muscle spasms, restlessness, tardive dyskinesia, and weight gain.

Antidepressants by their nature behave similarly to psychostimulants. Antianxiety medications by their nature are depressants. Close medical supervision is critical to proper treatment if a patient presents with both illnesses because the medications tend to work against each other.

Psycho-stimulants are sometimes added to an antidepressant regimen if the patient suffers from anhedonia, hypersomnia and/or excessive eating as well as low motivation. These symptoms which are common in atypical depression can be quickly resolved with the addition of low to moderate dosages of amphetamine or methylphenidate (brand names Adderall and Ritalin, respectively) as these chemicals enhance motivation and social behavior, as well as suppress appetite and sleep. These chemicals are also known to restore sex drive. Extreme caution must be used however with certain populations. Stimulants are known to trigger manic episodes in people suffering from bipolar disorder. They are also easily abused as they are effective substitutes for Methamphetamine when used recreationally. Close supervision of those with substance abuse disorders is urged. Emotionally labile patients should avoid stimulants, as they exacerbate mood shifting.

Lithium remains the standard treatment for bipolar disorder and is often used in conjunction with other medications, depending on whether mania or depression is being treated. Lithium's potential side effects include thirst, tremors, light-headedness, and nausea or diarrhea. Some of

the anticonvulsants, such as carbamazepine (Tegretol), sodium valproate (Epilim), and lamotrigine (Lamictal), are also used as mood stabilizers, particularly in bipolar disorder.

Psychotherapy

In psychotherapy, or *counseling*, one receives assistance in understanding and resolving habits or problems that may be contributing to or the cause of the depression. This may be done individually or with a group and is conducted by mental health professionals such as psychiatrists, psychologists, clinical social workers, or psychiatric nurses.

Effective psychotherapy may result in different habitual thinking and action which leads to a lower relapse rate than antidepressant drugs alone. Medication, however, may yield quicker results and be strongly indicated in a crisis. Medication and psychotherapy are generally complementary, and both may be used at the same time.

It is important to ask about potential therapists' training and approach; a very close bond often forms between practitioner and client, and it is important that the client feel understood by the clinician. Moreover, some approaches have been convincingly demonstrated to be much more effective in treating depression.

Counselors can help a person make changes in thinking patterns, deal with relationship problems, detect and deal with relapses, and understand the factors that contribute to depression.



There are many counseling approaches, but all are aimed at improving one's personal and interpersonal functioning. Cognitive behaviour therapy has been demonstrated in carefully controlled studies to be among the foremost of the recent wave of methods which achieve more rapid and lasting results than traditional "talk therapy" analysis. *Cognitive therapy*, often combined with behavioral therapy, focuses on how people think about themselves and their relationships. It helps depressed people learn to replace negative depressive thoughts with realistic ones, as well as develop more effective coping behaviors and skills. Therapy can be used to help a person develop or improve *interpersonal skills* in order to allow him or her to communicate more effectively and reduce stress. Interpersonal psychotherapy focuses on the social and interpersonal triggers that cause their depression. *Narrative therapy* gives attention to each person's "dominant story" by means of therapeutic conversations, which also may involve exploring unhelpful ideas and how they came to prominence. Possible social and cultural influences may be explored if the client deems it helpful. *Behavioral therapy* is based on the assumption that behaviors are learned. This type of therapy attempts to teach people more healthful types of behaviors. *Supportive therapy* encourages people to discuss their problems and provides them with emotional support. The focus is on sharing information, ideas, and strategies for coping with daily life. *Family therapy* helps people live together more harmoniously and undo patterns of destructive behavior.

Transcranial Magnetic Stimulation

Repetitive transcranial magnetic stimulation (rTMS) is under study as a possible treatment for depression. Initially designed as a tool for physiological studies of the brain, this technique shows promise as a means of alleviating depression. In this therapy, a powerful magnetic field is

used to stimulate the left prefrontal cortex, an area of the brain that typically shows abnormal activity in depressed people.

Recent work in Poland suggested that weak, variable magnetic fields may offer relief from depression in those who have not responded to medication. However, some of the existing work has been questioned, with claims that the effect is not as significant once environmental conditions are controlled for.

Electroconvulsive Therapy

Electroconvulsive therapy (ECT), also known as *electroshock* or *electroshock treatment*, uses short bursts of a controlled current of electricity (typically fixed at 0.9 ampere) into the brain to induce a brief, artificial seizure while the patient is under general anesthesia.

ECT has acquired a fearsome reputation, in part from its use as a tool of repression in the former USSR and its barbaric fictional depiction in films such as *One Flew Over the Cuckoo's Nest* and *Requiem for a Dream*, but remains a common treatment where other means of treatment have failed or where the use of drugs is unacceptable (e.g. in the case of pregnant patients). Also, in contrast to direct electroshock of years ago, most countries now allow ECT to be administered only under



anaesthesia. In a typical regimen of treatment, a patient receives three treatments per week over three or four weeks. Repeat sessions may be needed. Short-term memory loss, disorientation, and

headache are very common side effects. In some cases, permanent memory loss has occurred, but detailed neuropsychological testing in clinical studies has not been able to prove permanent effects on memory. ECT offers the benefit of a very fast response; however, this response has been shown not to last unless maintenance electroshock or maintenance medication is used. Whereas antidepressants usually take around a month to take effect, the results of ECT have been shown to be much faster. For this reason, it is the treatment of choice in emergencies (e.g., in catatonic depression in which the patient has ceased oral intake of fluid or nutrients).

There remains much controversy over electroshock. Advocacy groups and scientific critics, such as Dr Peter Breggin, call for restrictions on its use or complete abolishment. Like all forms of psychiatric treatment, electroshock can be given without a patient's consent, but this is subject to legal conditions dependent on the jurisdiction. In Oregon patient consent is necessary by statute. Treatment with ECT has been used as a threat by psychiatric ward staffers against unruly patients.