

# Depression

## What is depression?

Depression refers to both negative affect (low mood) and/or absence of positive affect (loss of interest and pleasure in most activities) and is usually accompanied by a variety of emotional, cognitive, physical and behavioural symptoms.

It is the most common psychiatric disorder and carries a high burden in terms of treatment costs, effect on families and carers and loss of workplace productivity. The World Health Organization (WHO) currently ranks depression as the leading cause of disability globally.<sup>[1]</sup> It may become a chronic disorder with ongoing disability, particularly if inadequately treated. More than 80% of patients with depression are managed and treated in primary care, with those seen in secondary care being skewed towards much more severe disease.<sup>[2]</sup>

## Classification of depression<sup>[3]</sup>

In the International Classification of Diseases, 11th Revision (ICD-11), depression is defined as the presence of depressed mood or diminished interest in activities occurring most of the day, nearly every day, for at least two weeks, accompanied by other symptoms such as:<sup>[4]</sup>

- Reduced ability to concentrate and sustain attention, or marked indecisiveness.
- Beliefs of low self-worth or excessive or inappropriate guilt.
- Hopelessness about the future.
- Recurrent thoughts of death or suicidal ideation or evidence of attempted suicide.
- Significantly disrupted sleep or excessive sleep.

- Significant changes in appetite or weight.
- Psychomotor agitation or retardation.
- Reduced energy or fatigue.

In the Diagnostic and Statistical Manual of Mental Disorders, 5th Revision (DSM-5), depression is defined as the presence of five or more symptoms from a list of eight symptoms, during the same two-week period and where at least one of the symptoms is depressed mood or loss of interest or pleasure. The eight symptoms are:

- Depressed mood most of the day, nearly every day.
- Markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day.
- Significant weight loss when not dieting, or weight gain, or decrease or increase in appetite nearly every day.
- A slowing down of thought and a reduction of physical movement (observable by others, not merely subjective feelings of restlessness or being slowed down).
- Fatigue or loss of energy nearly every day.
- Feelings of worthlessness or excessive or inappropriate guilt nearly every day.
- Diminished ability to think or concentrate, or indecisiveness, nearly every day.
- Recurrent thoughts of death, recurrent suicidal ideation without a specific plan, or a suicide attempt or a specific plan for committing suicide.

Traditionally, depression severity has been grouped under four categories:

- **Subthreshold depressive symptoms** - <5 symptoms.
- **Mild depression** - few, if any, symptoms in excess of the 5 required to make the diagnosis, with symptoms resulting only in minor functional impairment.
- **Moderate depression** - symptoms or functional impairment are between 'mild' and 'severe'.

- **Severe depression** - most symptoms present, and the symptoms markedly interfere with normal function. It can occur with or without psychotic symptoms.

However, in its clinical guideline for depression, the National Institute for Health and Care Excellence (NICE) differentiates episodes of depression as less severe or more severe depression.

- Less severe depression includes subthreshold and mild depression.
- More severe depression includes moderate and severe depression.

### **Chronic depressive symptoms**

People with chronic depressive symptoms include those who continually meet criteria for the diagnosis of a major depressive episode for at least two years, or who have persistent subthreshold symptoms for at least two years, or who have persistent low mood with or without concurrent episodes of major depression for at least two years. People with depressive symptoms may also have a number of social and personal difficulties that contribute to the maintenance of their chronic depressive symptoms.

## **How common is depression? (Epidemiology)** <sup>[5]</sup>

- The prevalence of depression is estimated to be 4.5% in the UK.
- Prevalence varies with age and sex, peaking in older adults (7.5% in females and 5.5% among males aged 55–74 years).
- Depressive disorders are among the leading causes of disability. In people aged 18–44 years, depression is the leading cause of disability and premature death.
- The total number of people living with depression increased by 18.4% between 2005 and 2015.
- Chronic physical illness increases the risk of depression. NICE issued specific guidance regarding depression in adults with a chronic physical health problem. <sup>[6]</sup>

### **Risk factors**

- Chronic comorbidities (such as diabetes mellitus, chronic obstructive pulmonary disease, cardiovascular disease and especially people with chronic pain syndromes).

- Other mental health problems, such as schizophrenia or dementia.
- Medicines (for example, corticosteroids).
- Female gender. However men have a higher risk of suicide.
- Older age.
- Recent childbirth.
- Psychosocial issues such as divorce, unemployment, poverty, homelessness.
- Personal history of depression.
- Family history of depressive illness.
- Adverse childhood experiences (for example, poor parent-child relationship, physical or sexual abuse).
- Personality factors.
- A past head injury, including hypopituitarism following trauma.

There is an increased incidence of depression during pregnancy and in the postnatal period – see the separate [Depression in Pregnancy](#) and [Postnatal Depression](#) articles.

Risk factors for depression in children and adolescents include family discord, bullying, physical, sexual or emotional abuse, comorbid disorders including drug and alcohol use, a history of parental depression, ethnic and cultural factors, homelessness, refugee status and living in institutional settings.<sup>[7]</sup>

## **Depression symptoms**<sup>[3]</sup>

### **Screening**<sup>[3]</sup>

### **Screening**<sup>[3]</sup>

This is covered by a separate article on recognition of depression: [Screening for Depression in Primary Care](#).<sup>[3]</sup>

Depression is common but is often undetected by the medical profession. However, a diagnosis of depression in primary care has a sensitivity of about 50% and specificity of 81%, with the risk of misidentification outweighing the risk of missed cases.<sup>[8]</sup> [3] In other words, GPs may be good at ruling out those without depression but may need to consider more cautiously cases where depression might be present.

Somatisation is the most important cause of missed diagnosis. Many depressed patients present with somatic symptoms, and most of those where the diagnosis is missed, making it critical always to consider emotional health in a differential. Many patients seen have a pre-existing physical illness which can also divert attention away from their mental state. In the elderly, depression can present as pseudodementia, with abnormalities of memory and behaviour that are typical of true dementia.

The NICE guidelines encourage a case-finding approach and recommend:

- Be alert to possible depression (particularly in people with a past history of depression or a chronic physical health problem with associated functional impairment) and consider asking people who may have depression:
  - During the last month, have they often been bothered by feeling down, depressed or hopeless?
  - During the last month, have they often been bothered by having little interest or pleasure in doing things? See also the NICE guideline on depression in adults with a chronic physical health problem.
- If a person answers 'yes' to either of the depression identification questions but the practitioner is not competent to perform a mental health assessment, refer the person to an appropriate professional who can. If this professional is not the person's GP, inform the person's GP about the referral.
- If a person answers 'yes' to either of the depression identification questions (see recommendation 1.2.1) and the practitioner is competent to perform a mental health assessment, review the person's mental state and associated functional, interpersonal and social difficulties.

- Consider using a validated measure (for example, for symptoms, functions and/or disability) when assessing a person with suspected depression to inform and evaluate treatment.

## **Assessment**<sup>[3]</sup> <sup>[5]</sup>

An individual considered likely to have depression should be fully assessed, including:

- Full history and examination, including mental state examination, enquiring directly about suicidal ideas, delusions and hallucinations. Consider organic causes of depression such as hypothyroidism or drug side-effect. Establish the duration of the episode.
- Review of related functional, interpersonal and social difficulties. Involve family members or carers, with the patient's consent, to obtain third-party history if appropriate. Note whether there is evidence of self-neglect, psychosis or severe agitation. Consider cultural factors.
- Past psychiatric history, including previous episodes of depression or mood elevation, response to previous treatment and comorbid mental health conditions.
- Patient safety and risk to others – suicidal intent should be assessed regularly. Directly ask about suicidal thoughts. Identify risk factors for suicide, which are discussed in the separate [Suicide Risk Assessment and Threats of Suicide](#) article.

Self-report symptom scales are widely used and include:

- The [Patient Health Questionnaire \(PHQ-9\)](#).
- The Hospital Anxiety and Depression (HAD) Scale.<sup>[9]</sup> (This is not available digitally, and must be purchased in paper format.)
- [Beck's Depression Inventory II](#) (the adapted version must be purchased, although older versions are available online).

For the initial assessment, NICE recommends:

- Conduct a comprehensive assessment that does not rely simply on a symptom count when assessing a person who may have depression, but also takes into account severity of symptoms, previous history, duration and course of illness. Also, take into account both the degree of functional impairment and/or disability associated with the possible depression and the length of the episode.
- Discuss with the person how the factors below may have affected the development, course and severity of their depression in addition to assessing symptoms and associated functional impairment:
  - Any history of depression and co-existing mental health or physical disorders.
  - Any history of mood elevation (to determine if the depression may be part of bipolar disorder); see the NICE guideline on bipolar disorder.
  - Any past experience of, and response to, previous treatments.
  - Personal strengths and resources, including supportive relationships.
  - Difficulties with previous and current interpersonal relationships.
  - Current lifestyle (for example, diet, physical activity, sleep).
  - Any recent or past experience of stressful or traumatic life events, such as redundancy, divorce, bereavement, trauma (also see the NICE guideline on post-traumatic stress disorder).
  - Living conditions, drug (prescribed or illicit) and alcohol use, debt, employment situation, loneliness and social isolation.

Depression should be assessed as mild, moderate or severe, depending on the extent and impact of symptoms and level of functional impairment and/or disability (see Classification section above) and this will determine what level of treatment to initiate. The NICE depression guideline defines new episodes of depression as less severe or more severe depression.

- Less severe depression encompasses subthreshold and mild depression. A score of 16 is used, with scores less than 16 on the [PHQ-9 scale](#) is defined as less severe depression.

- More severe depression encompasses moderate and severe depression. A score of 16 or more on the PHQ-9 scale is defined as more severe depression.

## Differential diagnosis<sup>[5]</sup>

- [Bipolar disorder](#).
- [Schizophrenia](#) (depression may co-exist).
- [Dementia](#) may occasionally present as depression and vice versa.
- [Seasonal affective disorder](#).
- Bereavement: depressive symptoms begin within 2-3 weeks of a death (uncomplicated bereavement and major depression share many symptoms but active suicidal thoughts, psychotic symptoms and profound guilt are rare with uncomplicated bereavement).
- Organic cause - eg, [hypothyroidism](#).
- Drug adverse effects are an uncommon cause of depression. Medications that may cause depressed mood include:
  - Centrally acting antihypertensives (eg, methyldopa).
  - Lipid-soluble beta-blockers (eg, propranolol).
  - Benzodiazepines or other central nervous system depressants.
  - Progesterone contraceptives, especially medroxyprogesterone injection.

## Associated diseases

- Dysthymia (recently classified by DSM-5 as a subtype of persistent depressive disorder) is a chronic depressive state of more than two years in duration, which does not meet full criteria for major depression and is not the consequence of a partially resolved major depression. People with dysthymia are likely to experience episodes of major depression. Dysthymia increases with age.
- Eating disorders: [anorexia nervosa](#) and [bulimia nervosa](#).
- [Substance misuse](#) is frequently associated with depression.



- Other psychiatric conditions may co-exist with depression (eg, [generalised anxiety disorder](#), [panic disorder](#), [obsessive-compulsive disorder](#), [personality disorders](#)).
- Some medical conditions have known associations with depression:
  - [Parkinson's disease](#).
  - Chronic diseases such as diabetes and [cardiac disease](#).
  - [Cerebrovascular disease](#).
  - Endocrine disorders such as [hyperthyroidism](#), [Cushing's syndrome](#), [Addison's disease](#) and [hyperparathyroidism](#).
  - Cancer, especially [pancreatic](#).
  - Autoimmune conditions.

## Investigations<sup>[5]</sup>

Investigations are used to exclude organic causes for depression; they are not mandatory and should be used according to clinical judgement.

- Blood tests may include blood glucose, U&Es, LFTs, TFTs, calcium levels, FBC and inflammatory markers.
- Other tests may, when relevant, include magnesium levels, HIV or syphilis serology, or drug screening.
- Imaging (MRI or CT brain scanning) may be indicated where presentation or examination is atypical or where there are features suspicious of an intracranial lesion (eg, unexplained headache or personality change). Seek specialist advice.

## Depression treatment and management

See also the separate articles on [Selective Serotonin Reuptake Inhibitors](#), [Cognitive and Behavioural Therapies](#), [Counselling in Primary Care](#), and [Suicide Risk Assessment and Threats of Suicide](#).

Doctors and patients can use Decision Aids together to help choose the best course of action to take.

General measures should include:

- Managing comorbidity (particularly alcohol and substance abuse, eating disorders, dementia, psychotic symptoms).
- Managing any safeguarding issues.
- Assessing and mitigating suicide risk.
- Appropriate monitoring/follow-up.
- Advising on sleep hygiene where relevant.

Traditionally, primary care management of depression has been concentrated on the use of antidepressants. There is now evidence supporting the efficacy of non-pharmacological alternatives but these have frequently not been available.<sup>[10]</sup> The Government has targeted additional money in order to develop new local services since 2008, known as 'Improving Access to Psychological Therapies' (IAPT), the impact of which is beginning to take effect.<sup>[11]</sup>

See the separate [Depression in Children and Adolescents](#) article for information on management in the younger age group, and the article [Depression in Pregnancy](#) for this specific situation.

Following is a brief summary of the management currently proposed by NICE guidance:<sup>[3]</sup>

## **Risk assessment and management**

- Always ask people with depression directly about suicidal ideation and intent. If there is a risk of self-harm or suicide:
  - Assess whether the person has adequate social support and is aware of sources of help.
  - Arrange help appropriate to the level of need.
  - Advise the person to seek further help if the situation deteriorates.
  - If a person with depression presents considerable immediate risk to themselves or others, refer them urgently to specialist mental health services.

- If a person with depression is assessed to be at risk of suicide:
  - Do not withhold treatment for depression on the basis of their suicide risk.
  - Take into account toxicity in overdose if an antidepressant is prescribed, or the person is taking other medication, and if necessary limit the amount of medicine available.
  - Consider increasing the level of support provided, such as more frequent in-person, video call or telephone contact.
  - Consider referral to specialist mental health services.

## **Monitoring**

- Review how well the treatment is working with the person between 2 and 4 weeks after starting treatment.
- Monitor and evaluate treatment concordance.
- Monitor for side-effects and harms of treatment.
- Monitor suicidal ideation, particularly in the early weeks of treatment.
- Consider routine outcome monitoring (using appropriate validated sessional outcome measures - eg, PHQ-9) and follow up.
- If applicable, review treatment for people continuing with antidepressant medication to prevent relapse at least every six months. Discuss if they wish to continue or stop antidepressant treatment.
- Review any medical, personal, social or environmental factors that may affect their risk of relapse, and encourage them to access help from other agencies.

## **Referral**

In addition to the urgent referral necessary when an individual is actively suicidal:

- Refer people with more severe depression or chronic depressive symptoms, to specialist mental health services for co-ordinated multidisciplinary care if their depression significantly impairs personal and social functioning and they have not benefited from previous treatments, and either:
  - Have multiple complicating problems - for example, unemployment, poor housing or financial problems; or
  - Have significant co-existing mental and physical health conditions.

## **Choice of treatments**

For all people with depression having treatment:

- Review how well the treatment is working with the person between 2 and 4 weeks after starting treatment.
- Monitor and evaluate treatment concordance.
- Monitor for side-effects and harms of treatment.
- Monitor suicidal ideation, particularly in the early weeks of treatment (see also the recommendations on antidepressant medication for people at risk of suicide and recommendations on risk assessment).
- Consider routine outcome monitoring (using appropriate validated sessional outcome measures - for example, PHQ-9) and follow up.

## **Physical treatments and activities**

- Advise people with winter depression that follows a seasonal pattern and who wish to try light therapy in preference to antidepressant medication or psychological treatment that the evidence for the efficacy of light therapy is uncertain.
- Advise people that doing any form of physical activity on a regular basis (eg, walking, jogging, swimming, dance, gardening) could help enhance sense of well-being. The benefits can be greater if this activity is outdoors.
- Advise people that maintaining a healthy lifestyle (eg, healthy diet, not over-using alcohol, getting enough sleep) may help improve sense of well-being.

## Pharmacological treatments

### Starting antidepressant medication

First review will usually be within two weeks to check their symptoms are improving and for side-effects, or after one week if a new prescription is for a person aged 18–25 years or if there is a particular concern for risk of suicide.

### Stopping antidepressant medication

If a person taking antidepressant medication stops taking it abruptly, misses doses or does not take a full dose, they may have withdrawal symptoms, such as unsteadiness, vertigo or dizziness, altered sensations, altered feelings, restlessness or agitation, problems sleeping, sweating, abdominal symptoms, palpitations, tiredness, headaches, and aches in joints and muscles.

**Withdrawal symptoms** can be mild, may appear within a few days of reducing or stopping antidepressant medication, and usually go away within 1–2 weeks. However withdrawal can be more difficult, with symptoms lasting longer (in some cases several weeks, and occasionally several months). Withdrawal symptoms can sometimes be severe, particularly if the antidepressant medication is stopped suddenly. Some commonly used antidepressants such as paroxetine and venlafaxine, are more likely to be associated with withdrawal symptoms, so particular care is needed with them.

### Other pharmacological treatments

[Lithium](#) or oral antipsychotics can be used as augmentation.

Although there is evidence that [St John's wort](#) may be of benefit in less severe depression, healthcare professionals should not prescribe or advise its use by people with depression because of uncertainty about appropriate doses, persistence of effect, variation in the nature of preparations and potential serious interactions with other drugs (including hormonal contraceptives, anticoagulants and anticonvulsants).

### Treatment options for less severe depression

For people with less severe depression who do not want treatment, or people who feel that their depressive symptoms are improving, arrange a further assessment, normally within 2 to 4 weeks.

- **Guided self-help:** printed or digital materials that follow the principles of guided self-help including structured cognitive behavioural therapy (CBT), structured behavioural activation (BA), problem-solving or psychoeducation materials.
- **Group cognitive behavioural therapy (CBT):** usually consists of eight regular sessions, with eight participants in the group. Focuses on how thoughts, beliefs, attitudes, feelings and behaviour interact, and teaches coping skills to deal with things in life differently.
- **Group behavioural activation (BA):** usually consists of eight regular sessions, with eight participants in the group. Focuses on identifying the link between an individual's activities and their mood. Helps the person to recognise patterns and plan practical changes that reduce avoidance and focus on behaviours that are linked to improved mood.
- **Individual CBT or individual BA:** usually consists of eight regular sessions, although additional sessions may be needed for people with comorbid mental or physical health problems or complex social needs, or to address residual symptoms.
- **Group exercise:** uses a physical activity programme specifically designed for people with depression. Usually consists of more than one session per week for 10 weeks. Usually eight participants in the group and includes moderate-intensity aerobic exercise.
- **Group mindfulness and meditation:** uses a programme such as mindfulness-based cognitive therapy specifically designed for people with depression. Usually consists of eight regular sessions, with 8-15 participants in the group. Focus is on concentrating on the present, observing and sitting with thoughts and feelings and bodily sensations, and breathing exercises.
- **Interpersonal psychotherapy (IPT):** usually consists of 8-16 regular sessions, although additional sessions may be needed for people with comorbid mental or physical health problems or complex social needs, or to address residual symptoms. Focus is on identifying how interpersonal relationships or circumstances are related to feelings of depression, exploring emotions and changing interpersonal responses.

- **Selective serotonin reuptake inhibitors (SSRIs):** usually taken for at least six months (including after symptoms remit).
- **Counselling:** usually consists of eight regular sessions, although additional sessions may be needed for people with comorbid mental or physical health problems or complex social needs, or to address residual symptoms. Focus is on emotional processing and finding emotional meaning, to help people find their own solutions and develop coping mechanisms.
- **Short-term psychodynamic psychotherapy (STPP):** usually consists of 8–16 regular sessions, although additional sessions may be needed for people with comorbid mental or physical health problems or complex social needs, or to address residual symptoms. Focus is on recognising difficult feelings in significant relationships and stressful situations, and identifying how patterns can be repeated.

### Treatment for a new episode of more severe depression

- **Combination of individual cognitive behavioural therapy (CBT) and a course of antidepressant medication.**
- **Individual CBT:** usually consists of 16 regular sessions, although additional sessions may be needed for people with comorbid mental or physical health problems or complex social needs, or to address residual symptoms.
- **Individual behavioural activation (BA):** usually consists of 12–16 regular sessions, although additional sessions may be needed for people with comorbid mental or physical health problems or complex social needs, or to address residual symptoms.
- **Antidepressant medication:** usually taken for at least six months (and for some time after symptoms remit). Can be a selective serotonin reuptake inhibitor (SSRI), serotonin–norepinephrine reuptake inhibitor (SNRI), or other antidepressant. Choice of treatment will depend on preference for specific medication effects such as sedation, concomitant illnesses or medications, suicide risk and previous history of response to antidepressant medicines. However SSRIs are generally well tolerated, have a good safety profile and should be considered as the first choice for most people.
- **Individual problem-solving:** usually consists of 6–12 regular sessions.

- **Counselling:** usually consists of 12–16 regular sessions, although additional sessions may be needed for people with comorbid mental or physical health problems or complex social needs, or to address residual symptoms.
- **Short-term psychodynamic psychotherapy (STPP):** usually consists of 16 regular sessions, although additional sessions may be needed for people with comorbid mental or physical health problems or complex social needs, or to address residual symptoms.
- **Interpersonal psychotherapy (IPT):** usually consists of 16 regular sessions, although additional sessions may be needed for people with comorbid mental or physical health problems or complex social needs, or to address residual symptoms.
- **Guided self-help:** with support from a trained practitioner who facilitates the self-help intervention, encourages completion and reviews progress and outcome. In more severe depression, the potential advantages of providing other treatment choices with more therapist contact should be carefully considered first.
- **Group exercise:** in more severe depression, the potential advantages of providing other treatment choices with more therapist contact should be carefully considered first.

Behavioural couples therapy for depression may be considered for people with either less severe or more severe depression who have problems in the relationship with their partner if the relationship problem(s) could be contributing to their depression, or Involving their partner may help in the treatment of their depression.

## **Chronic depressive symptoms**



- For people who present with chronic depressive symptoms that significantly impair personal and social functioning and who have not received previous treatment for depression, treatment options include:
  - CBT.
  - SSRIs.
  - SNRIs.
  - Tricyclic antidepressants (TCAs); dangerous in overdose, although lofepramine has the best safety profile.
  - Combination therapy with CBT and either an SSRI or a TCA.
- If a person with chronic depressive symptoms that significantly impair personal and social functioning cannot tolerate a particular SSRI, consider treatment with an alternative SSRI.
- For people with chronic depressive symptoms that significantly impair personal and social functioning, who have not responded to SSRIs or SNRIs, consider alternative medication in specialist settings, or after consulting a specialist. Alternatives include TCAs, moclobemide, irreversible MAOIs such as phenelzine, or low-dose amisulpride.
- For people with chronic depressive symptoms that significantly impair personal and social functioning, who have been assessed as likely to benefit from extra social or vocational support, consider:
  - Befriending by trained volunteers in combination with existing antidepressant medication or psychological therapy.
  - Rehabilitation programme, if depression has led to loss of work or their withdrawing from social activities over the longer term.

For people with no or limited response to treatment for chronic depressive symptoms that significantly impair personal and social functioning who have not responded to treatments recommended referral to specialist mental health services for advice and further treatment.

### **Crisis care, home treatment and inpatient care**

Crisis resolution and home treatment (CRHT) teams usually include a psychiatrist, mental health nurses, social workers and support workers and are available 24 hours a day, 7 days a week.

The CRHT team assesses the person's needs, manages the risks of being at home, assists with self-help strategies, visits frequently, offers psychological and practical help, and administers medication.

Consider CRHT for people with more severe depression who are at significant risk of:

- Suicide, in particular for those who live alone.
- Self-harm.
- Harm to others.
- Self-neglect.
- Complications in response to their treatment, for example older people with medical comorbidities.

Consider inpatient treatment for people with more severe depression who cannot be adequately supported by a CRHT team.

### **Other treatment options**

**Electroconvulsive therapy (ECT):** consider ECT for the treatment of severe depression if a rapid response is needed (eg depression is life-threatening) or other treatments have been unsuccessful.

### **Transcranial magnetic stimulation**<sup>[12]</sup>

- Repetitive transcranial magnetic stimulation does not need anaesthesia and can be done on an outpatient basis. A purpose-made electromagnetic coil is held against the scalp with the intention of inducing electric currents in the cerebral cortex. Imaging may be used to help target specific areas of the brain.
- Treatment is usually considered for patients with depression that has not responded to antidepressant medication or patients for whom antidepressants are not suitable

- The evidence on repetitive transcranial magnetic stimulation for depression shows no major safety concerns. The evidence on its efficacy in the short term is adequate, although the clinical response is variable.

### **Implanted vagus nerve stimulation for treatment-resistant depression** <sup>[13]</sup>

- The aim of implanted vagus nerve stimulation for treatment-resistant depression is to reduce symptoms and improve mood by periodic stimulation of the vagus nerve.
- The procedure is done using general or local anaesthesia. An incision is made on the left side of the neck and a stimulator electrode is put around the left vagus nerve. The leads of the electrode are guided under the skin to the left chest wall. They are attached to a pulse generator unit, which is implanted into a subcutaneous pocket.
- The stimulator settings can be adjusted or turned off using an external (wireless) programming device.
- Evidence on the safety of implanted vagus nerve stimulation for treatment-resistant depression raises no major safety concerns, but there are frequent side effects. Evidence on its efficacy is limited in quality. Therefore, this procedure should only be used with special arrangements for clinical governance, consent, and audit or research.

**Collaborative care:** consider collaborative care for people with depression, particularly older people, those with significant physical health problems or social isolation, or those with more chronic depression not responding to usual specialist care. Collaborative care should include active care planning and follow up by a designated case manager, integrated care of both physical health and mental health, and supervision of practitioners by an experienced mental health professional.

### **Complications** <sup>[5]</sup>

- Exacerbation of pain, disability, and distress.
- Reduced quality of life for the person and their families.

- Increased morbidity and mortality in a range of comorbid conditions including coronary heart disease and diabetes mellitus. Depression in people with diabetes is associated with a higher risk of significant complications, such as amputation, blindness and dementia.
- Suicide is the main cause of the increased mortality of depression. It is most common in those with comorbid physical and mental illness.
- Impaired ability to function normally, which may result in limited ability to carry out activities of daily life, employment problems, neglect of dependants, family problems and relationship break-ups.
- Increased risk of substance abuse.
- Complications associated with the use of antidepressants include adverse effects of medicines, and risk of self injury (children, adolescents, and young adults may experience a transient increase in risk for self-injury, which is most severe with rapid escalation in dosing).
- Problems associated with stopping antidepressant medicines, including antidepressant discontinuation syndrome, and mania.

## Prognosis<sup>[5]</sup>

- Persistent subthreshold depressive symptoms progress to the full criteria for depression in about 70% of people.
- With treatment, episodes of depression last about 3–6 months. More than 50% of people experiencing a major depressive episode recover within six months, and nearly 75% within a year.
- The proportion of people who recover drops to approximately 60% at two years, 40% at four years, and 30% at six years.
- Up to 27% of people do not recover and go on to develop a chronic depressive illness. The outcome is less favourable with older age of onset, psychotic features, prominent anxiety, personality disorders, and severe symptoms.
- Persistent depression develops in at least 10% of people with depression.

- The risk recurrence is high and increases with every episode. Approximately 80% of people who receive psychiatric care for an episode of major depression have at least one more episode and a median of four episodes in a lifetime.

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## Further reading

- [Repetitive transcranial magnetic stimulation for depression](#); NICE Interventional Procedure Guidance, December 2015
- [Sinclair L, Leach R](#); Exploring thoughts of suicide. *BMJ*. 2017 Mar 30;356:j1128. doi: 10.1136/bmj.j1128.
- [Kaser M, Deakin JB, Michael A, et al](#); Modafinil Improves Episodic Memory and Working Memory Cognition in Patients With Remitted Depression: A Double-Blind, Randomized, Placebo-Controlled Study. *Biol Psychiatry Cogn Neurosci Neuroimaging*. 2017 Mar;2(2):115-122. doi: 10.1016/j.bpsc.2016.11.009.

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Originally Published: 20/11/2023	Next review date: 27/07/2022	Document ID: doc_2037

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