Anxiety is a common presenting problem in general practice. Although it is less common in people aged 65 years or older than in younger age groups, it can be disabling for this older group, in whom it tends to present with somatic complaints and worry rather than as autonomic anxiety. Although anxiety developed as an evolutionary response to danger, excessive anxiety that causes functional impairment or significant distress is not a part of normal ageing.

GPs have a vital role in the recognition and treatment of anxiety in this age group, in particular to prevent psychological and physical sequelae.

Epidemiology
Clinically significant anxiety symptoms are present in 15 to 52% of older people, occurring most often in those who have chronic illness or disability.1 Despite this high prevalence of anxiety symptoms, not all of these people meet criteria for an anxiety disorder. The prevalence of anxiety disorders in older people ranges from 1.2% to 15% in the community, and up to 28% in clinical settings.1,2 The diagnosis of anxiety disorder in older people poses several challenges, including:

- the experience and expression of anxiety being different (a tendency to less autonomic and more somatic symptoms) in older people than in younger people
- the association with multiple physical illnesses, the symptoms of which may be similar to those of anxiety disorders
- difficulties distinguishing between adaptive and
pathological anxiety in the context of psychosocial stressors specific to older age (e.g. retirement, illness and disability, bereavement)
- stigma of mental illness
- cognitive impairment affecting the ability to identify and recall symptoms

Therefore in older persons presenting with anxiety symptoms, it is important to take a careful history to screen for the presence of an undiagnosed anxiety disorder from earlier in life, especially before the onset of physical illness. In older people with a primary anxiety disorder, the majority had

<table>
<thead>
<tr>
<th>Disorder</th>
<th>Definition</th>
<th>Features in older people</th>
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| Specific phobia                             | Fear about certain situations or objects that is totally out of proportion to the real threat posed by the situation or object. This leads the person to avoid the situation or object itself or things that remind them of it | • Prevalence 3 to 10%<sup>2</sup>  
• Most cases have onset early in life  
• Late-onset cases associated with health-related issues e.g. fear of falling  
• Tends to cause less social impairment                                                                                                               |
| Generalised anxiety disorder                | Persistent, excessive worrying about day-to-day issues or about the future to the extent it is causing functional impairment or distress                                                                 | • Prevalence 1 to 7%<sup>2</sup>  
• Early onset and chronic course  
• Prevalence decreases with age, although subsyndromal disorder is common in older people<sup>2,3</sup>  
• Higher percentage of health anxiety                                                                                                                    |
| Social phobia                               | Extreme and persistent fear of negative judgement by others in social situations or environments. The person engages in behaviours to avoid social interactions                                               | • Prevalence 0.5 to 2%<sup>2</sup>  
• Late onset uncommon  
• Lower prevalence may reflect reduced social network in older people, or improvement of shyness with age due to enforced exposure at work etc |
| Post-traumatic stress disorder (PTSD)       | A syndrome that develops in people who have experienced a traumatic event that threatened their life or safety. Symptoms include hyperarousal (e.g. insomnia, easily startled), depression, avoidance of triggers that could remind them of the event, emotional numbing and re-experiencing the event | • Prevalence 0.4 to 1%, although subsyndromal PTSD is more common in older adults<sup>2,4</sup>  
• Can be chronic  
• Re-experiencing symptoms tends to decline with age  
• Groups in the older population who have suffered traumas include Holocaust survivors and war veterans  
• Can be exacerbated from a trauma that occurred earlier in life                                                                                     |
| Panic attacks                                | Sudden onset of fear associated with sympathetic physiological reactions such as hyperventilation, sweating, tremors, palpitations, chest pain, dizziness, hot or cold flushes. Panic disorder develops when attacks become recurrent and the person becomes fearful about attacks occurring without warning | • Prevalence 0.1 to 1%<sup>2</sup>  
• Panic disorder relatively rare  
• Less physiological response with panic, hence severity and distress from symptoms tends to decrease in older age                                                                                     |
| Obsessive compulsive disorder (OCD)         | Obsessions are recurrent, intrusive and distressing thoughts, images or impulses that occur despite attempts to resist. Compulsions are behaviours or mental acts aimed at alleviating anxiety associated with the obsession. Obsessions and compulsions can relate to concerns about contamination, counting, checking, or sexual or moral issues | • Prevalence 0.1 to 0.8%<sup>2</sup>  
• Onset age >55 years very rare  
• Patients with dementia may display behaviours mimicking OCD  
• The severity of hoarding compulsions may increase with age and be increased in those with a history of personality vulnerability or substance use disorders<sup>2,5</sup> |

<sup>2</sup> Medicine Today 2016, Volume 17, Number 12  
<sup>3</sup> Downloaded for personal use only. No other uses permitted without permission. © Medicine Today 2016.
onset in adolescence or early adulthood, when the trajectory may be chronic or fluctuating in severity. Late-onset anxiety symptoms are more likely to be associated with physical illness, depressive disorder or an emerging cognitive disorder. The features of primary anxiety disorders in older people are listed in the Table.2-5

There are numerous risk factors for developing an anxiety disorder in older people, as listed in Box 1. These risk factors are similar to those for developing a depressive disorder.

**Clinical presentation of anxiety in older people**

Although there is some similarity in the presentations of anxiety in older and younger people, there are several age-specific anxiety syndromes in older people, due to differences in their developmental stage and physical health.

Older adults report experiencing less intense negative emotional states compared with their younger counterparts. Laboratory and behavioural studies have found older people also have a less intense physiological response to strong emotional states.5,7 Although an older person may not experience as strong an autonomic response as a younger person, they tend to attribute autonomic symptoms of anxiety, such as abdominal discomfort, palpitations and tremor, to physical causes. The types of concerns older people report are related to stressors, in particular loss (of identity with retirement and of independence) but also illness and disability, fears of being a burden on others, impending mortality and reduced economic resources.

Common age-specific presentations of anxiety include those listed below.

- **Health anxiety.** People with health anxiety worry persistently that physical symptoms are indicative of a serious illness, despite reassurance from medical professionals. Repeated investigations and specialist referrals can reinforce anxiety and the behaviour of seeking repeated investigations to relieve distress may become maladaptive. It is important to note that health anxiety is more common in a person with a chronic illness or a past serious illness, suggesting that older people are actually more prone to this condition (see Case study 1 in Box 2).

- **Fear of falling.** Community studies have found the fear of falling is common, even among older people who have not fallen (33 to 46% prevalence).8 In the elderly who did not initially have a fear of falling but who then experienced a fall, 45% go on to develop a fear of falling, and in about 60% this is persistent.9 Fear of falling leads to an increase in the risk of falls from maladaptive changes in gait, reduction and avoidance of physical and social activity, social isolation, depression and poor quality of life (see Case study 2 in Box 2).

- **House boundedness.** Older people may develop a fear of being in situations outside of the home environment and develop behaviours to avoid these situations or reduce their distress, such as not leaving home without a family member. In contrast to agoraphobia in young people, which tends to follow panic attacks, late-onset agoraphobia usually develops in response to disability, physical illness or a traumatic event such as a fall.

**Complications of anxiety**

The experience of anxiety in earlier life, especially generalised anxiety disorder, is a risk factor for subsequent depressive disorder. Anxiety in older adults, particularly those with chronic illness, is associated with other negative prognostic factors, including increased mortality, increased disability and reduced physical activity.10 These people experience a decreased quality of life and poorer self-perception of health.10

The presence of anxiety in older people also increases the economic burden on the health system, with higher cost of care and greater rates of service use.11

**Conditions associated with anxiety**

Diagnosing the underlying cause of anxiety symptoms in older people can be difficult because physical conditions may mimic symptoms of anxiety and many of the differential diagnoses for anxiety may also be present as comorbid conditions. Differential diagnoses include side effects of medications commonly used in older people (including nonprescribed use), medical comorbidities, drug and alcohol use, psychiatric disorders and cognitive disorders (Box 3).

It is imperative to treat the underlying condition as well as the comorbid condition to optimise treatment response in both conditions.

**Causes and comorbidities of anxiety in older people**

*Psychiatric comorbidity*

Community studies suggest that 13 to 30% of older adults who meet criteria for an anxiety disorder also meet criteria for a depressive disorder.12 Conversely, 25 to 50% of older adults with depression had a comorbid anxiety disorder.12 Comorbid...
### 2. CASE STUDIES

#### Case study 1. Health anxiety
Mrs KB, 75 years old, presents to her GP with a four-year history of increasing anxiety about medically unexplained abdominal discomfort. She has had numerous investigations and seen several specialists because she was concerned she had an undiagnosed cancer, her brother having died soon after being diagnosed with pancreatic cancer 25 years ago. Mrs KB’s worries have worsened in the past six months to the extent that she has lost her appetite, stopped driving and no longer leaves the house unless accompanied by her husband or another family member. Her preoccupation with her health has led to difficulties falling asleep and she wakes up several times in the night with dry mouth, dyspnoea and anxiety that she is about to die.

Mrs KB’s medical history includes ischaemic heart disease, hypertension, hyperlipidaemia, type 2 diabetes, obesity and transient ischaemic attacks (for which she underwent a carotid endarterectomy four years ago). Her medications include perindopril, atorvastatin, glipizide, clopidogrel and temazepam. Although she describes herself as a lifelong worrier, she has never been diagnosed with, or treated for, a psychiatric disorder. She does not drink caffeine or alcohol, and quit smoking 20 years ago.

**Assessment and management**
Extensive assessment finds Mrs KB has developed mild cognitive impairment in the context of small vessel cerebrovascular disease, as well as obstructive sleep apnoea. Additionally, she has been taking four to six temazepam tablets each night for several months to help with sleep, and ran out of tablets three days earlier.

Mrs KB and her family are educated about health anxiety and how this can be exacerbated in the context of cognitive impairment, sleep apnoea and benzodiazepine use and withdrawal. A 16-week course of modified cognitive behavioural therapy and use of a continuous positive airway pressure mask leads to a reduction of her panic symptoms and anxiety. Regular GP reviews result in her feeling more reassured that she has not developed cancer. As Mrs KB has difficulties recalling all her medications, a pill box is introduced to aid with adherence and assist temazepam weaning over the next six months.

#### Case study 2. Fear of falling
Mrs ST is a 82-year-old widow who is having home visits from her GP to check on a shoulder injury. She has not left her house in three weeks after falling on the bus and severely bruising her right shoulder. Her neighbour has been preparing her food because she stopped going out to shop.

Mrs ST was previously a fiercely independent woman who managed her home duties, shopping and finances without problems. She stopped driving 10 years ago after a minor accident. Apart from being treated for hypertension and cataracts, she has no other medical history. Her regular medications are candesartan and paracetamol; she has ceased the oxycodone prescribed by the emergency department after her recent injury as it made her drowsy and unsteady. She does not use tobacco, alcohol or illicit drugs.

**Assessment and management**
Apart from looking anxious and thinner than usual, Mrs ST is relatively kempt. Her physical examination is unremarkable and she has full range of movement in her right arm, although she is hesitant in using it. It is noticed that she holds onto furniture and walls as she walks around her uncharacteristically untidy house. Her Mini-Mental State Examination score (28/30) is normal and unchanged from last year. She refuses to leave the house as she feels she is too weak and not fully recovered from her fall. Blood tests show no significant abnormalities.

Mrs ST reluctantly agrees to community services providing meals and helping with household chores, which she has avoided due to her fear of falling. Attendance at a physiotherapist is arranged to help strengthen her muscles so that she feels more steady with walking. An occupational therapist assessment is also arranged. She refuses to see a psychologist as she ‘is not crazy’. After two weeks of physiotherapy sessions three times a week and home safety modifications, she has enough confidence to perform more domestic duties and to walk to her mailbox.

Depression and anxiety is associated with greater duration of illness than is either illness alone, greater severity of symptoms, increased suicidal ideation and longer time to respond to antidepressants. Personality traits such as neuroticism and personality disorders are associated with anxiety disorders in late life.

**Drug and alcohol use**
The effects of substance use and withdrawal must be considered in an older person with anxiety symptoms. Substances such as cannabis need to be considered, given that baby boomers are now in the demographic of older people.

Alcohol use disorders are particularly associated with anxiety disorders, with 35% of older adults with social phobia also meeting criteria for alcohol abuse or dependence.

**Medication effects**
The use of medications such as benzodiazepines and codeine to treat patients with anxiety increases the risk of adverse and withdrawal effects that may mimic anxiety (e.g. tremor and insomnia). The pharmacokinetics and pharmacodynamics of medications also need to be considered; for example, short-acting benzodiazepines have quick onset but soon wear off and can cause rebound anxiety.

Medications prescribed to treat patients with anxiety and depressive disorders can exacerbate anxiety symptoms initially or if taken incorrectly; for example, selective serotonin reuptake inhibitors (SSRI) antidepressants taken at night or suddenly ceased can worsen insomnia and agitation.

**Medical comorbidity**
Of people aged over 65 years in Australia 78% have at least one chronic illness, with the risk of multiple physical comorbidities increasing with age. Symptoms of anxiety may be a direct result of the underlying medical condition and/or be elicited due to catastrophic interpretation of bodily sensations, including the...
anxiety symptoms themselves, which contributes to further anxiety.

Anxiety may develop in reaction to loss of independence from disability and drastic change in lifestyle. Studies of clinical populations have found that 36% of cardiac patients over 60 years of age have a concurrent anxiety disorder, 18 to 50% of older patients with chronic obstructive pulmonary disease (COPD) experience significant anxiety, and 40 to 43% of patients with Parkinson’s disease have an anxiety disorder.²

**Dementia**

Although the literature has focused on the association between depression and dementia, there is emerging evidence that anxiety is associated with an increased risk for cognitive impairment and dementia.¹⁶ Anxiety may also be a prodromal presentation of dementia. It is important not to view an older anxious person who is worried about cognitive impairment as just ‘worried well’, and to ensure full investigation of their cognition.

About 5 to 21% of patients with established dementia have an anxiety disorder.² The presence of cognitive impairment in an older person can affect their ability to communicate their distress. The presence of anxiety symptoms at the time of the diagnosis of dementia may be associated with a more rapid decline in cognition.¹⁷

Also in people with moderate to severe dementia, anxiety-like symptoms may present as part of a behavioural syndrome. So-called behavioural and psychological symptoms of dementia (BPSD) are common in these stages of dementia, and may be associated with a variety of environmental, physical and emotional factors. It is beyond the scope of this article to expand on the assessment and management of BPSD; further details are available in the Dementia Collaborative Research Centre’s and NSW Health’s guidelines on BPSD (www.dementiaresearch.org.au/bpsguide.html and www.health.nsw.gov.au/mentalhealth/programs/mh/Pages/assessment-mgmt-people-bpsd.aspx).¹⁸,¹⁹

**Assessment**

As anxiety can be a symptom of many conditions, not just in a primary anxiety disorder, it is important to recognise and treat all potential causes. The presence of a medical condition does not mean that all of the patient’s anxiety symptoms can be attributed to it – an anxiety disorder may still be present, particularly if there is significant functional impairment or distress. A pathway for assessment of anxiety symptoms in older adults is provided in the Flowchart.

**Principles of treatment of anxiety disorders**

There are various barriers to treatment for older adults who have anxiety disorder. In particular, the recognition of an anxiety disorder can be challenging. Diagnosis is followed by the use of effective treatments, with the mainstays being psychosocial (nonpharmacological) and pharmacological treatments. Late-life anxiety may require treatment for a longer time than anxiety in younger adults. Amelioration of anxiety symptoms can provide significant improvement in quality of life.

**Psychosocial treatments**

Education of patients and their families about the presence of an anxiety disorder (including a subsyndromal disorder) is critical as part of overall management of patients. For example, providing education on the change in sleep quality and reduction in duration of sleep associated with normal ageing may be enough to alleviate distress. Providing information

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**3. DIFFERENTIAL DIAGNOSES OF ANXIETY SYMPTOMS IN OLDER PEOPLE, IN ORDER OF LIKELIHOOD**

<table>
<thead>
<tr>
<th>Side effects of medications commonly used in older people, including nonprescribed use</th>
<th>Medical comorbidities</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Antidepressants, e.g. SSRIs, SNRIs</td>
<td>• Sleep disorder, e.g. obstructive sleep apnoea, restless leg syndrome</td>
</tr>
<tr>
<td>• Benzodiazepines – withdrawal or paradoxical reaction</td>
<td>• Chronic obstructive pulmonary disease</td>
</tr>
<tr>
<td>• Antipsychotics – akathisia may present as anxiety and restlessness</td>
<td>• Diabetes mellitus – hypoglycaemia</td>
</tr>
<tr>
<td>• Antiemetics, e.g. metoclopramide, prochlorperazine – akathisia</td>
<td>• Heart failure, arrhythmia</td>
</tr>
<tr>
<td>• L-dopa – anxiety when effects wear off</td>
<td>• Hypothyroidism or hyperthyroidism</td>
</tr>
<tr>
<td>• Corticosteroids, e.g. prednisone, dexamethasone</td>
<td>• Parkinson’s disease – anxiety may precede motor symptoms</td>
</tr>
<tr>
<td>• Opioids (including over-the-counter codeine) – withdrawal</td>
<td>• Multiple sclerosis</td>
</tr>
<tr>
<td>• Salbutamol</td>
<td>• Vestibular disorder</td>
</tr>
<tr>
<td>• Medications containing stimulants, e.g. decongestants</td>
<td>• Tumour and paraneoplastic syndromes</td>
</tr>
<tr>
<td>• Thyroxine</td>
<td></td>
</tr>
<tr>
<td>• Anti hypertensives such as methyldopa; uncommon or rare side effect in other classes of anti hypertensives</td>
<td></td>
</tr>
</tbody>
</table>
AN APPROACH TO MANAGING ANXIETY SYMPTOMS IN OLDER ADULTS

Patient aged over 65 years presents with anxiety

**Clarify diagnosis**

**History:**
- History of anxiety symptoms, including accurate date of onset and course in relation to other aspects of history
- Sleep history
- Medical history
- Medications – dosing and compliance
- Psychiatric history – previous treatments, screening for personality traits
- Drug and alcohol history (current and past)
- Family history
- Psychosocial stressors
- Functional ability/activities of daily living including complex tasks such as driving
- Collaborative history from family or carer

**Examination:**
- Physical examination
- Mental state examination
- Cognitive screening with standardised instruments, e.g. Montreal Cognitive Assessment (MoCA); Mini Mental State Examination (MMSE); Rowland Universal Dementia Assessment Scale (RUDAS) if of a culturally and linguistically diverse background

**Investigations:**
- Laboratory investigations, i.e. FBC, UEC, LFT, CMP, TFT, vitamin B12, folate, BSL, MSU
- Imaging, as indicated
- Specialist referral as indicated, e.g. sleep studies, cognitive disorders clinic

**Treat potential causes of anxiety**
- Treat medical conditions and substance use disorders
- Treat mental illnesses, e.g. depression, bipolar disorder, psychosis
- Rationalise medications, including weaning of contributory drugs, as polypharmacy increases the risk of adverse effects

**Consider psychosocial (nonpharmacological) treatments for anxiety disorders**
- Provide education on anxiety to patient and family to discourage avoidant behaviours
- Lifestyle modifications, e.g. decrease caffeine and alcohol, sleep hygiene, regular social activities
- Psychological treatments, e.g. CBT
- Multidisciplinary interventions, e.g. physiotherapy to improve physical conditioning, occupational therapist assessment to implement safety measures in and outside the home, social worker assistance with accommodation and financial difficulties, correction of visual and hearing impairments

**If lack of response to psychosocial treatment**
- Evaluate adherence to nonpharmacological treatment
- Rescreen for comorbid disorders and implement treatment
- Consider adding SSRI; avoid benzodiazepines

**Consider pharmacological treatments for anxiety disorders**
- First line: SSRI antidepressants, e.g. citalopram, sertraline*
- Second line: SNRI antidepressants, e.g. duloxetine, venlafaxine*
- Combine with education to enhance treatment adherence
- Commence on lower doses and slowly titrate to reduce initial adverse effects

**If lack of response to SSRI**
- Ensure adequate adherence and adequate dose and duration of SSRI
- Consider change to SNRI
- Refer to psychiatrist

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* SNRIs and SSRIs not TGA indicated for all anxiety disorders; off-label use may be appropriate.
on the principles of managing anxiety – i.e. reduction of behaviours that reinforce anxious cognitions (such as by avoidance), gradual exposure and mastery of fear-provoking triggers – will lead to extinguishment of the fear and can help with adherence to treatment.

In many patients with anxiety, pharmacotherapy is relatively contraindicated. Antidepressants increase the risk of falls, so the fear of falling, for example, is best managed using a physical rehabilitation model. Referral to a physiotherapist for muscle strengthening and improvement of gait will increase confidence in patients who have become deconditioned after illness or a fall.

In patients with health anxiety, GPs have a role in avoiding overinvestigation, which only increases the patient’s anxiety. Instead, investigations should be sought only when there are new symptoms or changes in chronic symptoms. Regular appointments with one GP not only avoids excessive investigations – as the clinician is familiar with the subtleties of the symptoms and deems when it is appropriate to investigate – but reduces the seeking of multiple medical opinions.

Psychological therapies like cognitive behavioural therapy (CBT) and relaxation therapy are effective in older people with anxiety problems, although the therapy may need to be adjusted for cognitive or sensory impairments. For example, an individual with memory problems who is unable to remember skills taught in sessions may need handouts and repetition or slower progression of material and hence a longer course of CBT. A patient with hearing difficulties may require visual aids.

**Pharmacological treatments**

The use of pharmacotherapy needs to take into account the benefits and risks to the individual patient, and that evidence for anxiety disorders in the older population is limited by small study cohorts, few randomised trials and methodological issues. One-quarter of older persons with anxiety are prescribed benzodiazepines chronically, often without a trial of nonpharmacological treatments or antidepressants. Benzodiazepines may reduce symptoms of anxiety in the short term, but should be avoided because tolerance, with resultant need for increasing doses, is likely, and there is the risk of adverse effects such as impaired cognition and falls.

SSRI antidepressants are the first-line pharmacotherapy, given evidence of efficacy in anxiety in the elderly and as they are relatively well-tolerated. The authors recommend either sertraline 25 to 50 mg daily or citalopram 10 to 20 mg daily in this age group. There is also some evidence for the use of serotonin and noradrenaline reuptake inhibitor (SNRI) antidepressants, specifically duloxetine 30 to 60 mg daily and venlafaxine 75 to 150 mg daily, for anxiety in the elderly. The rule of thumb with respect to dosing psychotropic drugs in older people is to start low, titrate slowly and aim for a final dose that may be only half the standard adult dose.

It should be noted that there are specific TGA indications regarding anxiety for the four agents mentioned, so off-label use may be necessary. More specifically, sertraline is approved for OCD, panic disorder and social anxiety; duloxetine for generalised anxiety; venlafaxine for generalised anxiety, social anxiety and panic disorder. Citalopram is only indicated for major depressive disorder.

Medication commencement should be combined with psychological engagement, especially education, to enhance adherence with treatment. For example, dosing should be in the morning due to the stimulating effects of these drugs, they should be taken with food to minimise gastrointestinal side effects, benefits may take six weeks to become apparent, regular dosing is required and abrupt cessation can lead to a discontinuation syndrome that mimics anxiety.

Antipsychotics, antihistamines, hypnotics and tricyclic antidepressants have a high adverse effect profile in the elderly and limited evidence in the treatment of anxiety in this age group, so should be avoided. Apart from the use of clomipramine, a highly serotonergic tricyclic antidepressant, in patients with OCD, there is no evidence for the use of tricyclic antidepressants in anxiety disorders. Therefore, patients who appear to be treatment-resistant in adequate trials of nonpharmacological treatment and an SSRI or SNRI should be referred for specialist opinion.

**Conclusions**

Anxiety in older persons causes significant distress and morbidity. Symptoms of anxiety are treatable but require the GP and specialist to carefully elucidate all potential causative factors. Medical practitioners need to conduct a risk/benefit analysis of the short- and long-term effects of treatments for the individual patient, and monitor treatment closely.

**References**

A list of references is included in the website version of this article (www.medicinetoday.com.au).

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Presentations of anxiety in older people

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References