About erectile dysfunction

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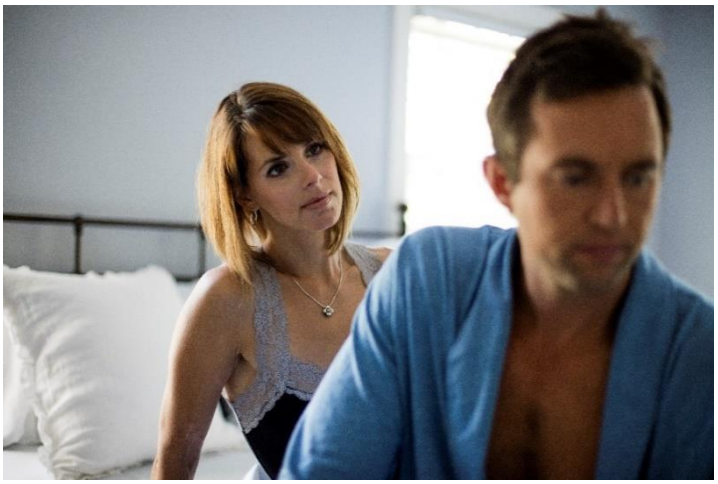
- Erectile dysfunction (ED) is defined as the persistent inability to achieve or maintain a penile erection sufficient for satisfactory sexual performance.[1, 2]
- It is one of the most common urologic problems in men worldwide,[3] mainly afflicting those aged 40+ years.[4]
- ED affects more than 50 per cent of men aged over 45 years of age.[5] The risk of developing ED from the age of 45 and onward increases by 11 per cent each year for Australian men.[6]
- Yet despite its commonality, ED is often neglected.[7]
- ED features as an important health issue in The Australian Government's National Men's Health Strategy 2020-2030 for men.[8]
- Commonly referred to as the 'couples disease', ED impacts both the man and his partner.[9]
- In fact, ED is a shared sexual disorder for both the men with ED and their sexual partners, although this is not well understood by affected couples.[10]
- Partners of those living with ED experience lower sexual satisfaction in correlation with their partner's degree of ED.[11]
- There is often an underlying medical condition that causes ED.[12, 13]
- Recognition of the early signs and symptoms of ED is crucial and may indicate the presence of other underlying medical conditions. Symptoms of ED can often present as the first sign of cardiovascular disease (a group of heart and blood vessel disorders), diabetes, high blood pressure or high cholesterol.[12, 13]



Prevalence of ED in Australia

- An estimated one in five men over the age of 40 living in Australia experience erectile dysfunction.[14]
- Although ED increases with age, younger men also report experiencing the disease (11 per cent aged 18-24 years).[8]
- The risk of developing ED is age-related, with approximately 20 per cent of men aged 45-55 years,[8] 26 per cent of men aged 50-59 years, and 40 per cent of men aged 60-69 years, living with ED.[15]

- In an Australian study of 101,674 men, 39 per cent had no ED, 25 per cent had mild ED, 19 per cent had moderate ED and 17 per cent had complete ED. Almost all men aged 75 or older reported having moderate or severe ED.[6]Those in this age bracket who engaged in more physical activity reported a lower incidence of ED within this age group.[6]
- Globally, estimates suggest 322 million men will be affected by ED worldwide by 2025 – an increase from 152 million men in 1995.[11]
- Given Australia's aging population, the prevalence of ED will increase as men live longer,[16] with the proportion of men aged 65 and older forecast to reach 21 per cent by 2050.[16]

Causes & risk factors

- ED occurs when blood flow to the penis is limited, or the nerves, smooth muscles and tissues are damaged.[5, 17] ED can be caused by any disease process that affects the penile arteries, nerves, hormone levels, smooth muscle tissue and lining.[4]
- Eighty per cent of ED cases occur due to the problems of the blood vessels that bring blood to and from the penis. The vessels may be blocked, narrowed or may be due to other causes.[18]
- The development of ED is linked to ageing. Over time, a man's likelihood of developing ED increases.
- Stress is also considered to be a risk factor for ED.[8]
- Overall, the risk of developing moderate to complete ED is higher among Australian men from low socio-economic backgrounds, who have a high body mass index, are sedentary, smoke and/or are living with a disease such as diabetes, heart disease and depression/anxiety, compared with men free from these risk factors.[6]
- ED can be caused by physical or psychological factors, or a combination of both.[17] However, there is often no single cause.[1, 7]
- Common causes of ED include:[1, 9]
    - Cardiovascular disease
    - Diabetes
    - Medicines e.g. blood pressure medication/ antidepressants
    - Surgery (e.g. prostate, bladder, colon, rectal)
    - Trauma/injuries to the brain/nerves/spinal cord and endocrine system
    - Prostate cancer treatment
    - Lifestyle choices (smoking, excessive alcohol, obesity, lack of exercise)
    - Hormone problems.

Medical conditions linked with ED

Cardiovascular disease

- ED is sometimes a precursor for cardiovascular disease. This is due to the hardening of the arteries caused by plaque build-up – atherosclerosis – that limits blood flow to various parts of the body. The arteries supplying blood to the penis are much smaller than those supplying blood to the heart. Consequently, cardiovascular disease may first present as difficulty achieving an erection.[19]
- In fact, ED may be an early indication of damage to cell linings, and a predictor or precursor of other forms of heart disease.[18]
- Studies reveal cardiovascular disease is commonly diagnosed within five years of development of ED, reinforcing the importance of a man discussing sexual function with a health care professional.[4, 20, 21]

Diabetes

- Diabetes damages the blood vessels and nerves that supply the penis with blood to form an erection. The constant change in blood sugar levels can also cause nerve damage, which can lead to a loss of sensation in the feet and hands, and can affect sexual performance.[19]
- Men living with diabetes have a greater risk of developing ED. More than 50 per cent will develop ED within a decade of developing diabetes.[12]

Prostate cancer

- ED is known as a potential complication of prostate cancer treatment.[22] It may affect the nerves that control erections, potentially taking up to two years or longer to regain sexual function.[23]
- The most obvious determinant of post-operative erectile function is what erectile function was like prior to the operation. Post-operative erectile dysfunction is compounded in some patients by pre-existing risk factors including older age, cardiovascular disease, diabetes, cigarette smoking, physical inactivity and certain medication.[22]
- Penile rehabilitation following prostate surgery may help the nerves responsible for erections to recover after surgery. Should rehabilitation prove unsuccessful, varying treatment options are available.[23]
- With the advent of nerve-sparing procedures, some men may regain their pre-existing erectile function up to a year or longer following prostate cancer treatment. Importantly, the journey is different for every man, and some may fail to recover their ability to have a natural erection.[22]

Others

- A study published of over 250,000 men found that around 40 per cent living with ED had hypertension, and 42 per cent had hyperlipoidemia (an abnormally high level of lipids in the blood).[4, 24]
- Obesity has also been found to be associated with a 50 per cent increase in ED, compared with men of normal weight.[4]
- Following any form of pelvic surgery, ED is not uncommon. The nerves that control an erection lie very close to the prostate and may be injured by being cut or separated from the prostate during surgery. This may cause temporary or permanent difficulty with achieving an erection, although sexual desire is not usually affected.[22]

Impact on quality of life

- ED has detrimental social and psychological effects on the quality of life of affected individuals and their sexual partners.[10]
- ED affects the man living with the condition, and their partner [25] and can cause relationship difficulties[3] due to reduced relationship satisfaction[25] from poor self-esteem and limited intimacy.[19]
- Physical symptoms of ED are often associated with depression, a loss of self-confidence, loss of intimacy in a relationship and reduced quality of life.[15]
- Several worldwide studies have demonstrated men living with ED have a poorer quality of life than men free from ED, regardless of their age.[25]
- ED is also associated with anxiety, anger, frustration and guilt.[25]

Diagnosis & management

- ED is often underdiagnosed and, consequently, under-treated.[26]
- A personal history and physical examination set the groundwork for the management and diagnosis of ED.
- Screening tests may help to identify underlying conditions, such as diabetes, cardiovascular disease or other conditions affecting the nerves and blood flow to the penis.[4, 19]
- Perceptions and attitudes towards ED and its treatment are partly influenced by cultural and psychosocial factors.[27]

- Many men do not discuss ED for various reasons, including embarrassment, cultural barriers or taboos, scepticism of treatment success and a reluctance to raise the topic with a doctor.[7]
- Concerningly, sexual function is rarely discussed between a doctor and patient, with research suggesting this is due to patient embarrassment with initiating a sexual health conversation with a doctor. Men do, however, wish to be asked about their sexual function and to be granted an opportunity to discuss their concerns with their doctor.[20]
- Furthermore, men may choose not to seek treatment for their ED because they do not consider it a bona fide health problem that requires treatment, but rather, mistakenly deem it a normal part of ageing.[27]

- About 3 in 10 men with ED seek medical attention and contact their health practitioner.[16, 27]
- Lifestyle modifications, such as increased physical activity, weight loss, improved diet, smoking cessation and improved management of other underlying medical conditions have been shown to help prevent ED.[4, 28]
- Sexual partners of men living with ED can play an important role in its management and improvement in quality of sex life. They should therefore be involved in the assessment, diagnosis, education, counselling and choice of treatment.[10]
- Lack of active involvement of the partner in medical treatment may contribute to a low rate of recovery and unsatisfactory rehabilitation from ED.[10]

Treatment of ED

- The most common barriers to the treatment of ED include treatment ineffectiveness, side effects, the quality of a man's intimate relationships and the cost of treatment.[14]
- Evidence does, however, suggest that with the availability of new, effective treatments for ED, those affected are more likely to seek help.[29]
- Importantly, ED is treatable, and men living with ED should seek the advice of a health care professional.[4]
- Successful treatment of ED has been shown to improve quality of life.[30]
- Factors that may influence treatment success include partner involvement, appropriate treatment selection for the individual and ongoing patient support and education.[15]
- The most effective approach for ED treatment is best determined by the individual patient (and his partner), within the context of the patient's history, values and treatment goal.[29]
- There are both short-term and long-term solutions that can effectively treat ED.[22]
- Both non-surgical and surgical ED options are available.[22]
- Should lifestyle modifications prove unsuccessful or inappropriate, the following non-surgical treatment options can be explored:
    - Oral medicine[14]
    - Counselling and education[14]
    - Vacuum devices and rings[14]
    - Penile injections[15]
    - Hormonal therapies[15] and
    - Combination therapies – a use of multiple treatments.[15]
- Additionally, a doctor may recommend surgical options such as a penile implant/prostheses as treatment option for men living with ED.[23]
- Penile implants have been used for more than 40 years in men living with ED and are a long-term option.[23]
- There are two types of penile prosthesis implants – inflatable and non-inflatable. Implanted into the penis, they offer concealed support for an erection.[31, 32]
- Penile implants are effective and reliable. They have helped more than 500,000 men return to an active and satisfying sex life.[31]
- Studies have found inflatable penile prosthesis is generally well-tolerated, with an overall patient satisfaction rate of 75–98% and a partner satisfaction rate of 85.4%.[33]

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