Erectile Dysfunction

A GP summary guide for assessment and management

Erectile dysfunction (ED) is a **consistent** or **recurrent** inability to **attain** and/or **maintain** a penile erection sufficient for sexual intercourse[1]. ED is a common, treatable condition that can impact strongly on the well-being of men and their partners.

Assessment[1,2]

History taking	Medical	Lifestyle factors (incl. smoking, alcohol/drug use, exercise, sleep pattern), BMI, chronic medical illness (incl. hypertension, diabetes mellitus, renal or hepatic dysfunction, atherosclerosis, neurological disorder), medications, pelvic/perineal/penile trauma, surgery or radiotherapy.
	Sexual	ED onset, duration and progression, spontaneous early morning and self-stimulatory erections, altered sexual desire, ejaculation, orgasm, genital pain, partner's sexual function and reaction to ED, satisfaction with sex life.
	Psychosocial	Depression, anxiety, stress, relationship difficulties, altered self-esteem or coping skills, history of sexual abuse, history of somatisation or hypochondriasis.
Examination	Genito-urinary	Penile, testicular and rectal examinations, including checks for abnormal testes size, fibrosis in penis shaft and retractable foreskin.
	Cardiovascular	Blood pressure, heart rate.
Investigations	Recommended	Diabetes mellitus: fasting glucose or glycosylated haemoglobin (H_BA1C). Hyperlipidemia: lipid profile. Hypogonadism: testosterone assay if history or examination suggests hypogonadism.
	Optional	Psychological or psychiatric assessment; serum prolactin, LH; thyroid simulating hormone (TSH); full blood examination (FBE) if not available during last 6 months; Urinalysis.

SAMPLE QUESTIONS[1, 2, 3]

Broaching the topic

"Many men (of your age/with your condition) experience sexual difficulties. If you have any difficulties, I am happy to discuss them."

Sexual history

- Are you sexually active at the moment?
- Do you enjoy a satisfactory sex life?
- How often would you say you have sex?
- Do you feel like sex less often than before?
- Have you had erection difficulties for long?
- Have you had these difficulties before?
- How often do you ejaculate? Do you have any difficulties?
- How are your erections when you wake early in the morning?
- What has been your partner's reaction?
- Would it help for me to talk with him/her?
- Is there anything you would like to ask me?

Psychosocial assessment

- How have you been? Has anything been bothering you lately?
- How is your relationship with your partner? Family/friends?
- Are you experiencing any stress because of work or money?
- Are there any other difficulties that you have experienced that you think may be contributing to your sexual problems?
- Do you experience depression, anxiety or other mood problems?
- Have you seen a psychiatrist or psychologist in recent years? Could you give me details?

Patient expectations & objectives

- Have you tried any treatments before?
- What led you to seek treatment now?
- What would you like to see happen?
- Does your partner know you are seeking treatment? What does he/she think?

HISTORY TAKING[2,3]

Identifying the problem: Ask the patient to describe the problem, and ask additional questions as necessary to exclude other problems such as premature ejaculation

Determining the cause: Are there predominantly psychogenic, organic or combined origins?

Suggest psychogenic cause:	Suggest organic cause:
• Sudden onset • Intermittent symptoms • Early collapse of erection • Good quality spontaneous, self-stimulated or waking erections • Decreased libido • Premature ejaculation or inability to ejaculate • Major life events • Psychological problems • Organic risks absent/variable • Younger age bracket	• Gradual onset (except trauma/surgery) • Consistent or progressive • Lack of tumescence • Normal ejaculation and libido (excl. hypogonadal men) • Risk factor in medical history (partic. cardiovascular, endocrine, neurological) • Operations, radiotherapy or trauma to pelvis or scrotum • Current medication associated with ED • Smoking, high alcohol consumption, illicit drug use • Older age bracket

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Management

Process of ED treatment[1,3,4,5,6]

1st LINE ED still present ↓	Alter Modifiable Risk Factors and Causes • Lifestyle changes: Smoking cessation; reduced alcohol, fat and cholesterol intake; increased exercise; weight loss; stress reduction; illicit drug cessation; compliance with diabetes and cardiovascular medications. • Modify medication regime: Change any current medications linked to ED (e.g., antidepressants, anti-hypertensives) when the clinical situation permits and good alternatives are available. • Hormone replacement: Appropriate in cases of tested/diagnosed deficiency (e.g., androgen deficiency, hypogonadism), and where cause is established. Can increase a low libido, but may not improve ED. • Psychosocial: Address issues incl. relationship difficulties, anxiety, or changes in lifestyle or stress. • Sexual misinformation: Discuss areas of limited patient awareness/knowledge (e.g., importance of sufficient arousal and lubrication) and realistic expectations, such as normal age-related changes.
2nd LINE ED still present ↓	Oral Agents – PDE5 inhibitors Cialis (Tadalafil): 10 and 20mg doses; recommended starting dose 20mg. Levitra (Vardenafil): 5, 10 and 20mg doses; recommended starting dose 10mg. Viagra (Sildenafil): 25, 50 and 100mg doses; recommended starting dose 50mg. • Adapt dose as necessary, according to the response and side effects. • Treatment is not considered a failure until full dose is trialed, and after 7-8 times. • Ensure patient knows that sexual stimulation is required to enable the drug to work. • Common side effects: headaches, flushing, dyspepsia and nasal congestion. • Contraindicated in patients who take long-acting nitrates or short-acting, nitrate-containing medications. • Exercise caution when considering PDE5 inhibitors for patients with: active coronary ischaemia; congestive health failure and borderline low blood pressure; borderline low cardiac volume status; a complicated multi-drug anti-hypertensive program; and drug therapy that can prolong the half-life of PDE5 inhibitors. Counseling and education • Offer brief counseling and education in-practice to address psychological issues linked with ED, such as relationship difficulties, sexual performance concerns, anxiety and depression. • Concurrent patient or couple counseling with a trained psychologist or therapist can be beneficial, to address more complex issues, and/or to provide support during other treatment trials.
3rd LINE ED still present ↓	Local Therapies - consider referral or specialist training Intracavernous vasoactive drug injection: Caverject (Alprostadil) 10 and 20mg • Commonly used in isolation, or combined with other vasoactive drugs (bimix/trimix) to increase efficacy or reduce side effects. • Commence with minimum effective dose and titrate upwards. • Initial trial dose should be administered under supervision of an experienced GP or specialist. • Erection appears after 5-15min and lasts according to dose injected. • Recommended maximum usage is 3 times a week, with at least 24hrs between uses. • Patient comfort and education are essential. • Contraindicated in men with history of hypersensitivity to drug or risk of priapism. • Inform patient of side effects (priapism, pain and fibrosis) and a plan for urgent treatment if necessary. Vacuum constriction devices: • Considered for men who are not interested in, or have contraindications for pharmacologic therapies. • Typically suitable for patients in long-term relationships. • Adverse effects include penile pain, numbness and delayed ejaculation.
4th LINE	Surgical Treatments - refer to specialist • Penile prosthesis: A highly successful option for patients who prefer a permanent solution or have not had success with pharmacologic therapy. Surgery is irreversible and eliminates the normal function of the corpus cavernosa. Cost may be a limiting factor for some patients. Procedure has some risk of infection and mechanical failure. • Vascular surgery: Microvascular arterial bypass and venous ligation surgery may achieve the goal of increasing arterial inflow and decrease venous outflow. Indications for surgery are limited and require comprehensive specialist evaluation.

Patient follow-up is essential to ensure the best patient outcomes. Important aspects include:

- Outcomes of treatment, incl. any adverse effects
- Assessment of overall physical and mental health
- Patient and partner satisfaction
- Partner’s sexual function (e.g., libido, vaginal dryness)

Management *(cont'd)*

Key pharmacokinetic characteristics of PDE-5 inhibitors used for treatment of ED[7]

Parameter	Cialis (Tadalafil)	Levitra (Vardenafil)	Viagra (Sildenafil)
Oral dose (mg)	20	20	100
Median time to peak concentration (min)	120	40-60	60
Half-life (hours)	17.5	4-5	3-4
Food interaction	None	Minimal with low-fat foods; delay in time to peak concentration with high-fat food	Yes with high-fat foods; possible with low-fat foods
Alcohol interaction	None	None	None

Decision making[1,3]

- **Inform** patient and partner of available and acceptable treatment options, including benefits, risks and costs;
- **Involve** patient and partner actively in treatment decision making;
- **Identify** and incorporate any key issues that may influence patients' treatment selection, including: efficacy and safety of the treatment; patients' cultural, religious and economic background; the mechanism of action (peripheral vs. central, inducer vs. enhancer); ease of administration; cost; invasiveness; and reversibility. Some patients may prefer 'watchful waiting' or further consideration prior to treatment selection.

Most cases of erectile dysfunction are caused and/or maintained by a combination of organic and psychogenic causes. Treatment decisions should be guided by causal indicators:

Predominantly psychogenic	Mixed (most common)	Predominantly organic
Emphasis on counseling and education. May be managed primarily in-practice, or via referral to a psychologist/psychiatrist as appropriate. Explore use of oral medication with patient, as a means of increasing patient confidence in the early phase of treatment.	Address any modifiable causes. Trial medication in conjunction with in-practice counseling support and patient education. Discuss options for further counseling/ psychological support with patient.	Medication, with in-practice support and education. Work towards modifying any changeable causes or risk factors. In cases of complex conditions, refer on to specialist.

Indications for specialist referral[5,3]

- Level of GP training and experience
- Patient request
- Pelvic or perineal trauma
- Relationship problems
- Complicated endocrinopathy
- Anatomic penile deformities (Peyronie's disease, hypospadius, chordee, trauma, phimosis, short or buried penis)
- Treatment failure
- Primary ED (poorly sustained erections, lifelong)
- Psychiatric or psychological disorder
- Complex vascular problems
- Complex neurologic problems

Further information on ED assessment and management

The Management of Erectile Dysfunction: An Update. American Urological Association, 2005. www.auanet.org/guidelines/edmgmt.cfm

Guidelines on Erectile Dysfunction. European Association of Urology, 2004. www.uroweb.nl/files/uploaded_files/guidelines/22891_Erectile_Dysfunction.pdf

Medical Guidelines for Clinical Practice for the Evaluation and Treatment of Male Sexual Dysfunction: A Couple's Problem, 2003. American Assoc. of Clinical Endocrinologists. www.guideline.gov/summary/summary.aspx?doc_id=3725

Arduca P. Erectile dysfunction: a guide to diagnosis and management. AFP 2003; 32(6):414-420.

Levine SB. Erectile dysfunction: why drug therapy isn't always enough. Cleveland Clinical Journal of Medicine 2003; 70(3):241-246. www.ccjm.org/pdffiles/Levine303.pdf

Guideline for the Investigation and Management of Erectile Dysfunction. Alberta Medical Association, 2005 Update. www.topalbertadoctors.org/guidelines/fulltext/erectile_dysfunction.pdf

UK Management Guidelines for Erectile Dysfunction. Council of the British Association of Urological Surgeons & Assoc for Genito-Urinary Medicine, 1999. www.gfmer.ch/Guidelines/Sexual_dysfunction/Sexual_dysfunction_mt.htm

Rosen RC, Riley A, Wagner G, Osterloh IA, Kirkpartick J, Mishra A. The international index of erectile function (IIEF): a multidimensional scale for assessment of erectile dysfunction. Urology 1997; 49(6):822830. *IIEF-5 (brief version)* al. available online: www.jr2.ox.ac.uk/bandolier/band90/b90-6.html

Other GP resources and professional networks

Andrology Australia
Website: www.andrologyaustralia.org
Telephone: 1300 303 878 (cost of a local call)

Impotence Australia
Website: www.impotenceaustralia.com.au
National free call: 1800 800 614

GPs4Men – Australian GPs Network for Men's Health
www.racgp.org.au/afp/downloads/pdf/january2005/20050208malcher.pdf
Contact: Greg Malcher at g.malcher@bddgp.org.au

Patient information and support

Andrology Australia
Website: www.andrologyaustralia.org
Telephone: 1300 303 878 (cost of a local call)

Impotence Australia
Website: www.impotenceaustralia.com.au
National free call: 1800 800 614

www.theweekend.com.au
Information about ED for men and their partner

Connect ED
Website: www.connect-ed.net/
National free call: 1800 00 7510

Relationships Australia
Website: www.relationships.com.au
National free call: 1300 364 277

About this summary guide

Erectile Dysfunction Working Group

This summary guide was developed in 2005 by the Department of General Practice, School of Primary Health Care, Monash University, in consultation with a national working group on erectile dysfunction.

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3. Hatzichristou D, et al. Clinical evaluation and management strategy for sexual dysfunction in men and women. Journal of Sexual Medicine 2004; 1(1):49-57.
4. Guideline for the Investigation and Management of Erectile Dysfunction. Alberta Medical Association, 2005 Update.
5. The Management of Erectile Dysfunction: An Update. American Urological Association, 2005.
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7. Fazio L, Brock G. Erectile dysfunction: management update. CMAJ 2004; 170(9):1429-1437.

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This summary guide is offered to GPs in association with the ED clinical audit and education project. This project is being coordinated by the Department of General Practice, Monash University. The Department of General Practice acknowledges Eli Lilly Australia Pty Ltd for its financial support and Andrology Australia (The Australian Centre for Excellence in Male Reproductive Health), supported by the Federal Department of Health and Ageing, for its commitment towards this project.

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