

Male sexual dysfunction: Management of erectile dysfunction (ED)

Following the patent expiry of sildenafil (Viagra®) there has been a significant decrease in the cost of generic sildenafil.^{1,2} NHS criteria for the provision of ED treatments changed as of 1st August 2014, allowing **generic sildenafil** to be provided on the NHS for **any** patient with ED where this is clinically appropriate.³ Vacuum pump devices and alprostadil are alternative treatments to PDE5 inhibitors.^{4,5}

Key recommendations

- Review new patients presenting with ED to identify causative factors that may lead to resolution of their ED.
- Ensure a cardiac risk assessment is performed in all patients presenting with ED.
- Offer generic sildenafil first line to patients presenting with ED suitable for pharmacotherapy. Generic sildenafil can be prescribed on the NHS for any patient with ED, regardless of cause. The NHS criteria for alternative PDE5 inhibitor treatment options for ED, including branded sildenafil remain unchanged.³
- If clinically appropriate, switch patients on an alternative PDE5 inhibitor (including branded sildenafil) for ED to generic sildenafil taking account of individual patient circumstances. Note, patients not previously entitled to NHS prescriptions may now receive treatment with generic sildenafil on the NHS.
- If undertaking a switch programme, ensure that switching methodology has been agreed locally by GPs, consultants, urology nurses, and other relevant healthcare professionals.

Clinical effectiveness

PDE5 inhibitors - A meta-analysis estimated the likely improvements of ED measured by the International Index of Erectile Function (IIEF) at the highest fixed dosages of sildenafil, tadalafil and vardenafil and concluded that all PDE5 inhibitors are highly effective in the treatment of ED.⁶ For the newest PDE5 inhibitor, avanafil, there are no active comparator studies. In comparator placebo controlled trials, patients treated with avanafil (across all doses), showed statistically significantly improvement in various outcome measures including IIEF scores, compared with placebo.⁷⁻¹⁰

Vacuum devices - Efficacy, in terms of producing erection satisfactory for intercourse, is reported to be up to 90% with vacuum devices, regardless of the cause of ED although satisfaction rates vary considerably.^{4,5} The long term use of the devices decreases to 50-64% after 2 years and most men who discontinue use do so after 3 months, leading to potential waste. They are most efficacious if the patient have a positive attitude to the use of the device, have been counselled appropriately and had sufficient demonstration of their use.

Alprostadil - Alprostadil preparations are considered a second-line treatment and may be suitable for patients who do not respond to oral PDE5 inhibitors.⁴

Cost comparisons

Table 1: PDE5 inhibitor costs per month based on 4 doses per month or once daily for tadalafil daily regimen^{1,2}

PDE5 inhibitor	Price per month
Sildenafil 25mg, 50mg or 100mg generic tablets	£1.09 to £1.22
Viagra® (Sildenafil) 25mg, 50mg or 100mg tablets	£16.59 to £23.50
Levitra® (Vardenafil) 5mg, 10mg or 20mg tablets and 10mg orodispersible tablets	£7.56 to £23.48
Spedra® (Avanafil) 50mg, 100mg or 200mg tablets	£10.94 to £21.90
Cialis (Tadalafil) 10mg or 20mg (weekly dose) tablets	£26.99
Cialis® (Tadalafil) 2.5mg/5mg (once daily dose) tablets	£54.99

Table 2: Costs of alprostadil preparations^{1,2}

Product	Average price per dose (across all strengths)
Vitaros® cream	£10.00
MUSE® urethral application	£11.39
Caverject® powder and solvent for solution for injection vials	£14.25
Caverject® Dual Chamber cartridges for injection	£16.85
Viridal® Duo continuation pack cartridges for injection	£21.72

Costs of vacuum devices range between £89 to £179. National annual spend on PDE5 inhibitors is £38.7 million (October 2014). **Switching to generic sildenafil could release over £36.9 million per year which equates to £65,142 per 100,000 patients annually.**

There may be an increased cost to prescribing as the prescribing restrictions on generic sildenafil have been lifted, however this will be minimal and offset by longer term savings on related health conditions.

References

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Bulletin



Data pack



Patient letters, audits

<http://www.prescqipp.info/resources/viewcategory/314-male-sexual-dysfunction>