

Men 1. What men (and their partners) should know

- High blood pressure is a major risk factor for CVD (**BHF (online). Cardiovascular disease. Available at: <https://www.bhf.org.uk/heart-health/conditions/cardiovascular-disease> (Accessed February 2016).**)
- Around two-thirds of men with high blood pressure also have some form of ED. (**Kloner R. Erectile dysfunction and hypertension. Int J Impot Res 2007;19(3):296-302.**)
- ED can be an early warning sign of future heart problems, appearing some 3-5 years before a heart complaint (**Jackson G. Erectile dysfunction and cardiovascular disease. Arab J Urol 2013;11:212-216. Hodges LD, Kirby M, Solanki J, O'Donnell J, Brodie DA. The temporal relationship between erectile dysfunction and cardiovascular disease. Int J Clin Pract 2007;61:2019-25. Inman BA, Sauver JL, Jacobson DJ, McGree ME, Nehra A, Lieber MM, et al. A population-based, longitudinal study of erectile dysfunction and future coronary artery disease. Mayo Clin Proc 2009;84:108-13. Ponholzer A, Temml C, Obermayr R, Wehrberger C, Madersbacher S. Is erectile dysfunction an indicator for increased risk of coronary heart disease and stroke? Eur Urol 2005;48: 512-8.**)
- Lifestyle changes can help improve ED and general health. These include
 - Stopping smoking
 - Taking regular physical activity
 - Losing weight if you are overweight
 - Eating a healthy Mediterranean-style diet (including large amounts of plant foods, moderate amounts of fish and wine, and small amounts of animal products and sweets)(**Nehra A, Jackson G, Miner M, Billups KL, Burnett AL, Buvat J et al. The Princeton III Consensus Recommendations for the Management of Erectile Dysfunction and Cardiovascular Disease. Mayo Clin Proc 2012;87(8):766-78. Willett WC et al. Mediterranean diet pyramid: a cultural model for healthy eating. Am J Clin Nutr 1995;61(6):1402-6S.**)
- Government guidelines recommend that men and women do not regularly drink more than 14 units of alcohol per week (**Department of Health. Open consultation. Health risks from alcohol. New guidelines. 08 January 2016. Available at: <https://www.gov.uk/government/consultations/health-risks-from-alcohol-new-guidelines> (Accessed January 2016).**)
- It is helpful if men with ED are assessed with their partners. This way, the partner can be involved in any treatment decisions, and if they have any sexual problems themselves, these can also be identified and addressed (**Dean J; Rubio-Aurioles E, McCabe M, et al. Integrating Partners into Erectile Dysfunction Treatment: Improving the Sexual Experience for the Couple. Int J Clin Pract. 2008;62(1):127-133.**)

Men 2. Sex and aging - Men's issues

- A global study showed that sexual desire and sexual activity are common in middle-aged and elderly people of both sexes and these continue into old age. Over 80% of men and 65% of women aged 40-80 years had had intercourse in the last year. However, sexual problems were common in both sexes (**Nicolosi A, Laumann EO, Glasser DB, Sexual behavior and sexual dysfunctions after age 40: the global study of sexual attitudes and behaviors. Urology. 2004 Nov;64(5):991-7.**) and few people sought help for these. (**Moreira ED Jr, Brock G, Glasser DB. Int J Clin Pract. Help-seeking behaviour for sexual problems: the global study of sexual attitudes and behaviors. Int J Clin Pract 2005 Jan;59(1):6-16.**)
- Half of men between the ages of 40 and 70 years will experience this to some degree. (**NHS choices (online). Erectile dysfunction (impotence). 23/09/14. Available at: <http://www.nhs.uk/CONDITIONS/ERECTILE-DYSFUNCTION/Pages/Introduction.aspx> (Accessed January 2016.)**)

Men 3. Erectile dysfunction and the heart

- up to two-thirds of men with coronary artery disease (CAD) also have ED. (**Montorsi F, Briganti A, Salonia A et al. Erectile dysfunction prevalence, time of onset and association with risk factors in 300 consecutive patients with acute chest pain and angiographically documented coronary artery disease Eur Urol 2003;44:360-4; discussion 364-365.**)
- A man with ED and no heart complaint may develop a heart complaint within 3-5 years of his ED starting. (**Jackson G. Erectile dysfunction and cardiovascular disease. Arab J Urol 2013;11:212-216. Hodges LD, Kirby M, Solanki J, O'Donnell J, Brodie DA. The temporal relationship between erectile dysfunction and cardiovascular disease. Int J Clin Pract 2007;61:2019-25. Inman BA, Sauver JL, Jacobson DJ, McGree ME, Nehra A, Lieber MM, et al. A population-based, longitudinal study of erectile dysfunction and future coronary artery disease. Mayo Clin Proc 2009;84:108-13. Ponholzer A, Temml C, Obermayr R, Wehrberger C, Madersbacher S. Is erectile dysfunction an indicator for increased risk of coronary heart disease and stroke? Eur Urol 2005;48: 512-8,**)

Men 4. Injection, urethral and topical treatments for erectile dysfunction

- Alprostadil injections work in more than 80% of men who do not respond to tablets. (**NHS choices (online) Erectile dysfunction (impotence) - treatment. Available at: <http://www.nhs.uk/conditions/Erectile-dysfunction/pages/treatment.aspx> (Accessed February 2016)**)

- (up to a maximum of 3 times per week and not more than once daily). (**UCB Pharma Ltd. Viridal SPC. February 2015. Available at:** <https://www.medicines.org.uk/emc/medicine/6895> (Accessed February 2016). **Pfizer Ltd. Caverject SPC. 08/13. Available at:** <https://www.medicines.org.uk/emc/medicine/27306> (Accessed February 2016).
- An erection usually follows within 20 minutes of the injection. (www.caverject.com)
- Men are advised to use a condom when using Viridal® if their partner is, may be, or could become pregnant. You should not use alprostadil injections if you have Peyronie's disease (see our factsheet '[Peyronie's disease](#)'), or if you have sickle cell anaemia, leukaemia, or multiple myeloma, as these may cause a prolonged erection. (**UCB Pharma Ltd. Viridal SPC. February 2015. Available at:** <https://www.medicines.org.uk/emc/medicine/6895> (Accessed February 2016) **UCB Pharma Ltd. Viridal PIL. Available at:** <https://www.medicines.org.uk/emc/PIL.18022.latest.pdf> (Accessed February 2015) **Pfizer Ltd. Caverject SPC. 08/13. Available at:** <https://www.medicines.org.uk/emc/medicine/27306> (Accessed February 2016).)
- Invicorp is another type of injection therapy used to treat ED. It contains two active ingredients (aviptadil and phentolamine mesilate); one increases blood flow to the penis to help get an erection while the other traps the increased amount of blood in the penis to keep the erection. Invicorp may work well for men who have found little success with other ED treatments and some may find it less painful to use than alprostadil injections. (**Dinsmore WW, Wyllie MG. Vasoactive intestinal polypeptide/phentolamine for intracavernosal injection in erectile dysfunction. BJU Int. 2008;102(8):933-7. Shah PJ, Dinsmore W, Oakes RA, et al. Injection therapy for the treatment of erectile dysfunction: a comparison between alprostadil and a combination of vasoactive intestinal polypeptide and phentolamine mesilate. Curr Med Res Opin. 2007 Oct;23(10):2577-83. IWA Consulting ApS. Invicorp SPC. 21/04/15. Available at:** <http://www.mhra.gov.uk/home/groups/spcpil/documents/spcpil/con1437715220891.pdf> (Accessed February 2015).)
- When MUSE® works, it takes between 5-10 minutes for an erection to occur and it should last for between 30-60 minutes. It can be used twice a day but not more than 7 times a week. (**Meda Pharmaceuticals Ltd. MUSE SPC. 11 Dec 2013. Available at:** <https://www.medicines.org.uk/emc/medicine/22220> (Accessed February 2016).)
- MUSE® works in up to two-thirds of men (**NHS choices (online) Erectile dysfunction (impotence) - treatment. Available at:** <http://www.nhs.uk/conditions/Erectile-dysfunction/pages/treatment.aspx> (Accessed February 2016)
- If she is, or may be, pregnant, you should use a condom. Rarely, your erection may last too long (See section below 'What if my erection lasts too long') You should not use MUSE® if you have Peyronie's disease (see our factsheet '[Peyronie's disease](#)'), or if you

have sickle cell anaemia, leukaemia, or multiple myeloma, as these may cause a prolonged erection. (**Meda Pharmaceuticals Ltd. MUSE SPC. 11 Dec 2013. Available at: <https://www.medicines.org.uk/emc/medicine/22220> (Accessed February 2016).**) **Meda Pharmaceuticals Ltd. MUSE PIL. Available at: <https://www.medicines.org.uk/emc/PIL.12123.latest.pdf> (Accessed February 2016)**

- Alprostadil is also available as a cream called Vitaros®. This is applied to the opening (meatus) of the penis and the surrounding skin with a special applicator. It should be used 5 to 30 minutes before intercourse and improvements in erection should last between 1 and 2 hours. It should be used no more than 2-3 times per week and only once a day. Rarely your erection may last too long (see the section below 'What if my erection lasts too long?'). Other possible side effects include rash and discomfort. Occasionally your partner may have some internal itching or burning. If they are pregnant, breastfeeding or of childbearing age, it is advised that you use a condom. You should not use Vitaros® if you have Peyronie's disease (see our factsheet '[Peyronie's disease](#)'), or if you have sickle cell anaemia, leukaemia, or multiple myeloma, as these may cause a prolonged erection. (**Takeda UK Ltd. Vitaros 3mg/g cream summary of Product Characteristics. 26/09/14. Available at: <https://www.medicines.org.uk/emc/medicine/28866> (Accessed January 2016)**) **Takeda UK Lt. Vitaros PIL. Available at: <https://www.medicines.org.uk/emc/PIL.28938.latest.pdf> (Accessed February 2016).**)

Men 5. Oral treatment for erectile dysfunction

- The drugs work by relaxing the blood vessels in the penis, allowing blood to flow into it, causing an erection. They also make other blood vessels in the body dilate so you may get facial flushing or a headache
- You may also get a stuffy nose or indigestion, which usually goes with regular use or if the dose is reduced. Visual disturbances may be more likely with Viagra®. Muscle pain and back ache are more common with Cialis®. Back ache may also be more likely with Spedra®.
- These drugs are available in a variety of dose strengths. Many doctors start treatment with a dose in the middle range, which can be reduced or increased as required. It usually takes around 30 - 60 minutes for the drugs to work

Pfizer Limited. Viagra Summary of Product Characteristics. 10/2015. Available at: <https://www.medicines.org.uk/emc/medicine/1474> (Accessed January 2016.)

Eli Lilly and company Limited. Cialis Summary of Product Characteristics. 01/01/16. available at: <https://www.medicines.org.uk/emc/medicine/11363> (Accessed January 2016)

Bayer PLC. Levitra Summary of Product Characteristics. 12/2015. Available at: <https://www.medicines.org.uk/emc/medicine/11775> (Accessed January 2016)

MENARINI INTERNATIONAL OPERATIONS LUXEMBOURG S.A. Spedra Summary of Product Characteristics. 18/09/15. available at: <https://www.medicines.org.uk/emc/medicine/28729> (Accessed January 2016)

- After taking Viagra[®], Levitra[®] or Spedra[®], they may continue to have an effect for up to 8-10 hours (**Pfizer Limited. Viagra Summary of Product Characteristics. 10/2015. Available at: <https://www.medicines.org.uk/emc/medicine/1474> (Accessed January 2016.) (NHS choices (online) Erectile dysfunction (impotence) - treatment. Available at: <http://www.nhs.uk/conditions/Erectile-dysfunction/pages/treatment.aspx> (Accessed February 2016)**)
- Cialis[®] can have an effect up to 36 hours (**Eli Lilly and company Limited. Cialis Summary of Product Characteristics. 01/01/16. available at: <https://www.medicines.org.uk/emc/medicine/11363> (Accessed January 2016))**)

When should you avoid it?

- If you are taking a medicine containing nitrates, because this combination can cause the blood pressure to drop too low
- If you are taking a different PDE5i, as this combination is not recommended
- If you are a woman, as PDE5i have not been widely tested in women
- If you have disease of the heart or blood vessels (cardiovascular disease (CVD)), you should check with your doctor when you get your first prescription that a PDE5i is safe for you to use.

Pfizer Limited. Viagra Summary of Product Characteristics. 10/2015. Available at: <https://www.medicines.org.uk/emc/medicine/1474> (Accessed January 2016.)

Eli Lilly and company Limited. Cialis Summary of Product Characteristics. 01/01/16. available at: <https://www.medicines.org.uk/emc/medicine/11363> (Accessed January 2016)

Bayer PLC. Levitra Summary of Product Characteristics. 12/2015. Available at: <https://www.medicines.org.uk/emc/medicine/11775> (Accessed January 2016)

MENARINI INTERNATIONAL OPERATIONS LUXEMBOURG S.A. Spedra Summary of Product Characteristics. 18/09/15. available at:

<https://www.medicines.org.uk/emc/medicine/28729> (Accessed January 2016)

- As a rough guide, if you do not have any symptoms (e.g. chest pain, irregular heartbeat, dizziness or excessive breathlessness), while walking 1 mile on the flat in 20 minutes, or when briskly climbing 2 flights of stairs in 10 seconds, it is likely to be safe for you to enjoy normal sexual activity (**Nehra A et al. The Princeton III Consensus Recommendations for the Management of Erectile Dysfunction and Cardiovascular Disease. Mayo Clin Proc 2012;87(8):766-778. Levine GN et al. AHA Scientific statement. Sexual activity and cardiovascular disease. Circulation 2012;125:1-15.**)
- Heart problems and stroke have been reported with this type of medication, but it is not clear if they occurred as a result of the patient already having risk factors for them, the drug itself, the sexual activity, or a combination of these or other factors. (**Cialis Summary of Product Characteristics. 01/01/16. available at: <https://www.medicines.org.uk/emc/medicine/11363> (Accessed February 2016).**)
- At the moment, sildenafil (the generic version of the branded Viagra[®]) can be prescribed on the NHS to anyone with ED as long as it is safe to do so. Other PDE5i can

only be prescribed on the NHS if you have certain medical conditions (including diabetes, multiple sclerosis, Parkinson's disease, prostate cancer, spina bifida, polio and certain genetic conditions such as Huntington's disease). PDE5i may also be prescribed on the NHS if you are receiving or have received certain treatments (including pelvic or prostate surgery, dialysis for kidney failure and kidney transplant) or are suffering severe distress as a result of your ED. If you are not entitled to these treatments on the NHS, you should be able to pay for them privately. Ask your doctor or pharmacist for more information.

(NHS Choices. Erectile dysfunction, treatment. Available at:

<http://www.nhs.uk/Conditions/Erectile-dysfunction/Pages/Treatment.aspx> (Accessed February 2016).)

Men 6. ejaculation problems

- Premature ejaculation (PE) is when a man ejaculates or 'comes' sooner than he or his partner wishes on all or nearly all occasions. It usually happens before, or within about one minute of, vaginal penetration. But just thinking about something sexually stimulating can trigger ejaculation and sometimes it happens before any direct stimulation of the penis occurs. The important thing to remember is that if ejaculation occurs sooner than the man and/or his partner wishes and this is causing distress, bother, frustration and/or the avoidance of sexual intimacy, then it can be considered 'premature'. **(Serefoglu EC, et al. An evidence-based unified definition of lifelong and acquired premature ejaculation: report of the second International Society for Sexual Medicine Ad Hoc Committee for the Definition of Premature Ejaculation. J Sex Med 2014 11(6): p. 1423-41.)**
- Estimates of how many men are affected by PE vary widely, ranging from just 5% of the population up to 31%. **(European Association of Urology. Guidelines on male sexual dysfunction. 2015. Available at: <http://uroweb.org/guideline/male-sexual-dysfunction/> (Accessed January 2016))**
- Research has shown that an anesthetic spray applied to the penis 5 minutes before intercourse helped men with lifelong PE last 6 times longer, with few side effects. It increased the time of intercourse from 0.6 minutes to 3.8 minutes, while the placebo treatment (that contained no active ingredient) only increased the time from 0.6 minutes to 1.1 minute. **(Dinsmore WW, Wyllie MG. PSD502 improves ejaculatory latency, control and sexual satisfaction when applied topically 5 min before intercourse in men with premature ejaculation: results of a phase III, multicentre, double-blind, placebo-controlled study. BJU Int 2009;103(7):940-9).**
- Some antidepressants are known to slow down ejaculation, but most of these are not approved for the treatment of PE in the UK. However, if your doctor thinks it may help your PE, he/she may prescribe one of these drugs, usually a selective serotonin-reuptake inhibitor (SSRI) or clomipramine. **(European Association of Urology. Guidelines on male sexual dysfunction. 2015. Available at: <http://uroweb.org/guideline/male-sexual-dysfunction/> (Accessed January 2016))**

- Dapoxetine (Priligy®) is the first drug treatment for PE to be licensed for use in the UK. It is a type of SSRI, but because it works much faster than those described above, it can be taken 'on demand' around 1 to 3 hours before sexual activity. It has been shown to significantly lengthen the time of intercourse.
- Dapoxetine is not generally recommended in men who are taking phosphodiesterase (pronounced phos- pho- di- es- ter- ase) inhibitors (PDE5i) such as Viagra®, because this combination may cause the blood pressure to drop.
- It should not be combined with recreational drugs or alcohol. In trials, very common side effects included dizziness, headache and nausea and common side effects included anxiety, insomnia, strange dreams, tremor, blurred vision, tinnitus, erectile dysfunction and reduced libido.

(NICE advice (ESMN40). Premature ejaculation: Dapoxetine. May 2014. Available at: <https://www.nice.org.uk/advice/esnm40/chapter/key-points-from-the-evidence> (Accessed January 2016)) NHS Choices (online) Ejaculation problems -Treatment. Available at: <http://www.nhs.uk/Conditions/Ejaculation-problems/Pages/Treatment.aspx> (Accessed January 2016) A. Menarini Farmaceutica Internazionale SRL. Dapoxetine SPC. 17 December 2013. Available at: <https://www.medicines.org.uk/emc/medicine/28284> (Accessed February 2016)

- These may be physical (in the body), psychological (in the mind) or a mixture of both. Physical causes include severe diabetes, drug therapy and neurological problems, such as those caused by spinal cord injury, pelvic surgery, multiple sclerosis or alcoholism. **(European Society for Sexual Medicine. The EFS and ESSM Syllabus of Clinical Sexology (2013). Medix Publishers, Amsterdam).**
- At the moment, there are no drug treatments approved for DE. **(European Society for Sexual Medicine. The EFS and ESSM Syllabus of Clinical Sexology (2013). Medix Publishers, Amsterdam).**

Men 7. Erectile dysfunction when with a partner

- Erectile dysfunction (ED), when you are unable to get or keep an erection suitable for sexual intercourse or another chosen sexual activity **(Lue T et al. Summary of the recommendations on sexual dysfunctions in men. Journal of Sexual Medicine 2004;1(1):6-23)**, is a common problem for many men. **(NHS choices (online). Erectile dysfunction (impotence). 23/09/14. Available at: <http://www.nhs.uk/CONDITIONS/ERECTILE-DYSFUNCTION/Pages/Introduction.aspx> (Accessed January 2016.)**
- It may be due to physical causes (in the body), psychological causes (in the mind) or a mixture of both **(European Society for Sexual Medicine. The EFS and ESSM Syllabus of Clinical Sexology (2013). Medix Publishers, Amsterdam).**

- All types of ED, including those that only happen with a partner, may be due to physical causes (in the body). In particular, ED can be an early sign of heart disease or be associated with diabetes (**European Society for Sexual Medicine. The EFS and ESSM Syllabus of Clinical Sexology (2013). Medix Publishers, Amsterdam).**

Men 8. Sexual problems in gay men

- You should not take a PDE5i if you are taking a medicine that contains nitrates, because this combination can cause the blood pressure to drop too low (**Pfizer Limited. Viagra Summary of Product Characteristics. 10/2015. Available at: <https://www.medicines.org.uk/emc/medicine/1474> (Accessed January 2016.)Eli Lilly and company Limited. Cialis Summary of Product Characteristics. 01/01/16. Available at: <https://www.medicines.org.uk/emc/medicine/11363> (Accessed January 2016) Bayer PLC. Levitra Summary of Product Characteristics. 12/2015. Available at: <https://www.medicines.org.uk/emc/medicine/11775> (Accessed January 2016) MENARINI INTERNATIONAL OPERATIONS LUXEMBOURG S.A. Spedra Summary of Product Characteristics. 18/09/15. available at: <https://www.medicines.org.uk/emc/medicine/28729> (Accessed January 2016).)**
- Invicorp is another type of injection therapy used to treat ED. It contains two active ingredients (aviptadil and phentolamine mesilate); one increases blood flow to the penis to help get an erection while the other traps the increased amount of blood in the penis to keep the erection. Invicorp may work well for men who have found little success with other ED treatments and some may find it less painful to use than alprostadil injections. (**Dinsmore WW, Wyllie MG. Vasoactive intestinal polypeptide/phentolamine for intracavernosal injection in erectile dysfunction. BJU Int. 2008;102(8):933-7. Shah PJ, Dinsmore W, Oakes RA, et al. Injection therapy for the treatment of erectile dysfunction: a comparison between alprostadil and a combination of vasoactive intestinal polypeptide and phentolamine mesilate. Curr Med Res Opin. 2007 Oct;23(10):2577-83. IWA Consulting ApS. Invicorp SPC. 21/04/15. Available at: <http://www.mhra.gov.uk/home/groups/spcpil/documents/spcpil/con1437715220891.pdf> (Accessed February 2015).)**
- Because 'poppers' may be used in a confined environment (such as a sauna) by someone other than the PDE5i user, the effect of the chemical spreading through the environment could potentially affect the PDE5i user. (**Parnham MJ, Bruinvab J (editors). Milestones in drug therapy. Sildenafil. (2004) Page 146. U Duzendorfer. Germany).**
- There are increasing concerns about the link between 'club drug' use and high-risk sexual behaviours in a small number of gay men. This includes 'chemsex'. (**Novel Psychoactive Treatment UK Network. Guidance on the clinical management of acute and chronic harms of club drugs and novel psychoactive substances. 2015 Available at: <http://neptune-clinical-guidance.co.uk/wp-content/uploads/2015/03/NEPTUNE-Guidance-March-2015.pdf> (Accessed February 2016).)**

- In the UK, the term 'chemsex' is used to describe consensual sex while under the influence of psychoactive drugs, mostly among gay men. This mainly involves the use of mephedrone, gamma-hydroxybutyric acid (GHB), gamma-butyrolactone (GBL) and crystal methamphetamine (crystal meth). These drugs may be used alone or in combination to fuel sex sessions lasting several hours or days with multiple partners. **(McCall H et al. What is chemsex and why does it matter? BMJ 2015;351:h5790. Bourne A et al. Illicit drug use in sexual settings ('chemsex') and HIV/STI transmission risk behaviour among gay men in south London: findings from a qualitative study. Sex Transm Infect 2015;91(8):564-8. Bourne A et al. "Chemsex" and harm reduction need among gay men in south London. Int J Drug Policy 2015;26(12):117-6)**
- There are serious health implications with this type of behaviour. You may become physically or psychologically dependent on the drugs. You may require treatment for mental health effects and/or drug treatment to support detoxification. You may take an overdose by mistake. Different drugs may interact with each other or with alcohol. Not sleeping or eating for days may harm your general health and wellbeing. Injecting drugs increases the risk of contracting HIV and hepatitis C, and unprotected sex (particularly with different partners) increases your risk of these and other sexually transmitted infections (STIs). **(Novel Psychoactive Treatment UK Network. Guidance on the clinical management of acute and chronic harms of club drugs and novel psychoactive substances. 2015 Available at: <http://neptune-clinical-guidance.co.uk/wp-content/uploads/2015/03/NEPTUNE-Guidance-March-2015.pdf> (Accessed February 2016). McCall H et al. What is chemsex and why does it matter? BMJ 2015;351:h5790). Kirby T, Thornber-Dunwell M. High-risk drug practices tighten grip on London gay scene. Lancet 2013;381:101-2).**
- Gay men who are worried about their mental or physical health following 'chemsex' may delay or avoid accessing professional support due to fears of being judged or the person they see having a lack of knowledge about this practice. **(Bourne A et al. "Chemsex" and harm reduction need among gay men in south London. Int J Drug Policy 2015;26(12):117-6.)**

Men 9. Erectile dysfunction

- Erectile dysfunction (ED) is when you are unable to get or keep an erection suitable for sexual intercourse or another chosen sexual activity. **(Lue T et al. Summary of the recommendations on sexual dysfunctions in men. Journal of Sexual Medicine 2004;1(1):6-23.)**
- It is very common; half of men between the ages of 40 and 70 years will have it to some degree. **(NHS choices (online). Erectile dysfunction (impotence). 23/09/14. Available at: <http://www.nhs.uk/CONDITIONS/ERECTILE-DYSFUNCTION/Pages/Introduction.aspx> (Accessed January 2016).)**
- This means ED can be an early warning sign of future heart problems, appearing some 3-5 years before a heart complaint. **(Jackson G. Erectile dysfunction and cardiovascular disease. Arab J Urol 2013;11:212-216. Hodges LD, Kirby M, Solanki J,**

O'Donnell J, Brodie DA. The temporal relationship between erectile dysfunction and cardiovascular disease. *Int J Clin Pract* 2007;61:2019–25. Inman BA, Sauver JL, Jacobson DJ, McGree ME, Nehra A, Lieber MM, et al. A population-based, longitudinal study of erectile dysfunction and future coronary artery disease. *Mayo Clin Proc* 2009;84:108–13. Ponholzer A, Temml C, Obermayr R, Wehrberger C, Madersbacher S. Is erectile dysfunction an indicator for increased risk of coronary heart disease and stroke? *Eur Urol* 2005;48: 512–8).

- If you have been suffering from ED for more than a few weeks, it is wise to see your doctor, because it may be a warning sign of other health problems. **(NHS choices (online). Erectile dysfunction (impotence). 23/09/14. Available at: <http://www.nhs.uk/CONDITIONS/ERECTILE-DYSFUNCTION/Pages/Introduction.aspx> (Accessed January 2016.))**
- Men whose ED is due to physical causes often experience a gradual onset of erectile problems, which usually occur with all sexual activities. Physical causes of ED include:
 - Vasculogenic conditions (which affect the blood flow to the penis) - including disease of the heart or blood vessels (cardiovascular disease (CVD), high blood pressure, high cholesterol and diabetes
 - Neurogenic conditions (which affect the nervous system) - including multiple sclerosis, Parkinson's disease, stroke, diabetes, spinal injury or disorder
 - Hormonal conditions (which affect the hormones) - including an overactive thyroid gland, an underactive thyroid gland, hypogonadism (low testosterone level), Cushing's syndrome (high cortisol level), a head or brain injury recently or in the past, subarachnoid haemorrhage or radiation to the head (may cause hormonal changes, particularly a low testosterone)
 - Anatomical conditions (which affect the structure of the penis) - including Peyronie's disease
 - Surgery and radiation therapy for bladder, prostate or rectal cancer
 - Injury to the penis
 - Side effect of prescribed drugs
 - Excessive alcohol consumption
 - Recreational drugs

(NHS choices (online). Erectile dysfunction (impotence). 23/09/14. Available at: <http://www.nhs.uk/Conditions/Erectile-dysfunction/Pages/Causes.aspx> (Accessed January 2016.) (European Society for Sexual Medicine. The EFS and ESSM Syllabus of Clinical Sexology (2013). Medix Publishers, Amsterdam).

- ED is also more likely to occur in people who smoke, are overweight and/or are not active enough.
- If you have ED and cycle for more than three hours a week, your doctor may recommend you try a period without cycling to see if this helps improve things. It is important to make sure you are sitting in the correct position with a properly fitted and comfortable seat.

(NHS choices (online). Erectile dysfunction (impotence). 23/09/14. Available at: <http://www.nhs.uk/Conditions/Erectile-dysfunction/Pages/Causes.aspx> (Accessed January 2016.)

- The current guidance on the use of testosterone replacement therapy in men recommends that when they first see a doctor (GP or specialist) for ED and/or reduced libido (sex drive), they should have their testosterone measured in the morning on at least two occasions **(British Society for Sexual Medicine. Guidelines on the management of sexual problems in men: the role of androgens. 2010. Available at: <http://www.bssm.org.uk/> (Accessed January 2016))**
- Invicorp is another type of injection therapy used to treat ED. It contains two active ingredients (aviptadil and phentolamine mesilate); one increases blood flow to the penis to help you get an erection while the other helps trap the blood there to keep the erection. Invicorp may work well for men who have found little success with other ED treatments and some may find it less painful to use than alprostadil injections. **(Dinsmore WW, Wyllie MG. Vasoactive intestinal polypeptide/phentolamine for intracavernosal injection in erectile dysfunction. BJU Int. 2008;102(8):933-7. Shah PJ, Dinsmore W, Oakes RA, et al. Injection therapy for the treatment of erectile dysfunction: a comparison between alprostadil and a combination of vasoactive intestinal polypeptide and phentolamine mesilate. Curr Med Res Opin. 2007 Oct;23(10):2577-83.)**
- Research has suggested that a small number of men with ED may benefit from exercises to strengthen the pelvic floor muscles. These lie underneath the bladder and back passage, and at the base of the penis. If your doctor thinks this approach may benefit you, they will refer you to a physiotherapist. **(NHS choices (online). Erectile dysfunction (impotence). 23/09/14. Available at: <http://www.nhs.uk/Conditions/Erectile-dysfunction/Pages/Treatment.aspx> (Accessed January 2016.)**

Men 11. Testosterone

- This factsheet was based on:
Kirby M. Low testosterone and the metabolic syndrome: a high risk combination. Trends in Urology & Mens Health. Sept/Oct 2015.
- Men are more likely to develop hypogonadism as they get older. **(Wu FCW, Tajar A, Beynon JM, Pye SR, Silman AJ, Finn JD et al. Identification of late-onset hypogonadism in middle aged and elderly men. N Engl J Med 2010;363:123-35)**
- In the UK, it is thought to affect over 8% of men aged 50-79 years. **(British Society for Sexual Medicine. (Guidelines on the management of sexual problems in men: the role of androgens. 2010. Available at: <http://www.bssm.org.uk/> (Accessed January 2016).**

- Low testosterone levels increase a man's risk of developing disease of the blood vessels and heart and increase his risk of death. **(Laughlin GA, Barrett-Connor E, Bergstrom J. Low serum testosterone and mortality in older men. J Clin Endocrinol Metab 2008;93(1):68-75).**
- Testosterone production is controlled by both the brain and the testes. **Dandona P, Rosenberg MT. A practical guide to male hypogonadism in the primary care setting. Int J Clin Pract 2010;64(6):682-696**
- In younger men, testosterone deficiency usually results from a problem in one of these areas. From the age of about 30 years, testosterone levels start to drop naturally. However, the production of testosterone doesn't usually stop altogether some men have higher levels than others as they age. **(Shores MM, Matsumoto AM, Sloan KL, Kivlahan DR. Low serum testosterone and mortality in male veterans. Arch Intern Med 2006;166:1660-5. Feldman HA, Longcope C, Derby CA, Johannes CB, Araujo AB, Coviello AD et al. Age Trends in the Level of Serum Testosterone and Other Hormones in Middle-Aged Men: Longitudinal Results from the Massachusetts Male Aging Study. J Clin Endocrinol Metab 2002;87(2):589-98. In: Shores MM, Matsumoto AM, Sloan KL, Kivlahan DR. Low serum testosterone and mortality in male veterans. Arch Intern Med 2006;166:1660-5).**
- Older men are increased risk of developing hypogonadism if they are obese or have the metabolic syndrome, diabetes, chronic obstructive pulmonary disease (COPD), inflammatory arthritis or kidney disease. It is also more likely to occur if they have had androgen deprivation therapy for prostate cancer, taken opiate drugs for a long time, have prostate disease or drink too much alcohol. **(British Society for Sexual Medicine. Guidelines on the management of sexual problems in men: the role of androgens. 2010. Available at: <http://www.bssm.org.uk/> (Accessed January 2016))**
- Common symptoms of hypogonadism include erectile dysfunction (ED), low libido (sex drive), loss of night time erections, and depression. Some men may notice they are losing muscle mass, becoming weaker and/or getting fatter. Other symptoms include hair loss from the face, armpit or pubic region, difficulty sleeping and hot flushes. **(Laughlin GA, Barrett-Connor E, Bergstrom J. Low serum testosterone and mortality in older men. J Clin Endocrinol Metab 2008;93(1):68-75. British Society for Sexual Medicine. Guidelines on the management of sexual problems in men: the role of androgens. 2010. Available at: <http://www.bssm.org.uk/> (Accessed January 2016). Grober ED. Testosterone deficiency and replacement: Myths and realities. CUAJ 2014;8(7-8 Suppl 5):S145-7.)**
- The lower your testosterone levels, the more likely you are to get symptoms. **(Wu FCW, Tajar A, Beynon JM, Pye SR, Silman AJ, Finn JD et al. Identification of late-onset hypogonadism in middle aged and elderly men. N Engl J Med 2010;363:123-35.**
- To diagnose hypogonadism that requires treatment, your doctor will consider your symptoms AND your testosterone levels. To measure your testosterone level you will need a blood test which is done in the morning and usually repeated on another day. **(British Society for Sexual Medicine. Guidelines on the management of sexual problems**

in men: the role of androgens. 2010. Available at: <http://www.bssm.org.uk/> (Accessed January 2016).)

- Hypogonadism may not be diagnosed if men ignore their symptoms or put them down to other causes such as aging. **(American Association of Clinical Endocrinologists. *Medical guidelines for clinical practice for the evaluation and treatment of hypogonadism in adult male patients – 2002 update. Endocr Pract 2002; 8: 440–56*).**
- TRT can provide a variety of benefits in men with hypogonadism. These include improvements in CVD, mood, libido and sexual function, as well a reduction in body fat and an increase in muscle mass. Such benefits are also likely to improve quality of life. **(Bassil N, Alkaade S, Morely JE. *The benefits and risks of testosterone replacement therapy: a review. Ther Clin Risk Man 2009;5:427-448*).**
- If you have sexual dysfunction or 'impotence' TRT may have the added bonus of improving the effects of drugs like Viagra®. This may be particularly important in men who have type 2 diabetes, as many of them do not get good results with these drugs.
- TRT may not be suitable for you if you have prostate cancer.
- Once a man starts TRT he should see his doctor for regular check ups to make sure it is working well and not causing any problems.

(British Society for Sexual Medicine. *Guidelines on the management of sexual problems in men: the role of androgens. 2010. Available at: <http://www.bssm.org.uk/> (Accessed January 2016).*)

Women 4. Pain during sex

- Pain felt during or after sex is known as dyspareunia (pronounced dys- par- eu- nia). **(Patient (online). *Dyspareunia (pain having sex)*. Available at: <http://patient.info/health/dyspareunia-pain-having-sex> (Accessed March 2016).**)
- Dyspareunia is one of the most common gynaecological complaints, **(Steege JF et al. *Evaluation and treatment of dyspareunia. Obstet Gynecol 2009;113:1124-36.*)**
- estimated to affect between 8-22% of women **(Latthe P et al. *WHO systematic review of prevalence of chronic pelvic pain: a neglected reproductive health morbidity. BMC Public Health 2006;6:177-83 in: Steege JF et al. Evaluation and treatment of dyspareunia. Obstet Gynecol 2009;113:1124-36*)**
- It may also be one of the most difficult gynaecological problems to assess and treat successfully. **(Steege JF et al. *Evaluation and treatment of dyspareunia. Obstet Gynecol 2009;113:1124-36.*)**

- Dyspareunia may have been present from the time a woman first started having sex or it may have developed later in life. **(BMJ Best Practice. Assessment of dyspareunia. July 2015. Available at: <http://bestpractice.bmj.com/best-practice/mybp/monograph-pdf/661.pdf> (Accessed February 2016))**
- Superficial dyspareunia may be due to:
 - Skin conditions (e.g. eczema, allergy to the latex, plastic or spermicide in condoms, allergy to semen, Lichen sclerosus, Lichen planus)
 - Infectious conditions (e.g. frequent thrush, sexually transmitted infections, urinary tract infection)
 - Lack of lubrication (causes include a lack of sexual arousal, hormone problems (e.g. in the menopause or thyroid problems), some prescription medications (e.g. oral contraceptives, antidepressants, some medicines for treating high blood pressure) and radiotherapy to the pelvis)
 - Vulvodynia (long-term burning or itching pain without obvious medical cause that affects the entrance to the vagina or a larger area of the external genitals or 'vulva')
 - Interstitial cystitis (inflammation of the bladder which may cause pain in the pelvis)
 - Structural problems causing obstruction (e.g. injury from episiotomy, trauma from giving birth or female circumcision, an abnormal hymen, cyst or abscess in the vulva)
 - Muscular problems (e.g. vaginismus - a severe tightening of the vaginal muscles during penetration) see our factsheet '[Vaginismus](#)'
- Deep dyspareunia may be due to:
 - Infectious/inflammatory conditions (e.g. pelvic inflammatory disease, endometriosis, inflammation of the cervix, blockage of the fallopian tubes)
 - Structural problems (e.g. uterine fibroids)
 - Muscular problems (e.g. spasm of the pelvic floor muscles)
 - Irritable bowel syndrome
 - Lack of lubrication

(BMJ Best Practice. Assessment of dyspareunia. July 2015. Available at: <http://bestpractice.bmj.com/best-practice/mybp/monograph-pdf/661.pdf> (Accessed February 2016))
European Society for Sexual Medicine. The EFS and ESSM Syllabus of Clinical Sexology (2013). Medix Publishers, Amsterdam).

- Regardless of the cause, if sex is painful, it is likely to cause you emotional as well as physical distress. And psychological issues, such as anxiety, relationship problems and a history of sexual abuse/violence may contribute to, or even be responsible for, the symptoms of dyspareunia. **(Steege JF et al. Evaluation and treatment of dyspareunia. Obstet Gynecol 2009;113:1124-36. Meana M et al. Affect and marital adjustment in women's ratings of dyspareunic pain. Can J Psychiatry 1998;43:38-5. In: Steege JF et al. Evaluation and treatment of dyspareunia. Obstet Gynecol 2009;113:1124-36. Meana M et al. Biopsychosocial profile of women with dyspareunia. Obstet Gynecol 1997;90:583-9. In: Steege JF et al. Evaluation and treatment of dyspareunia. Obstet Gynecol 2009;113:1124-36.)**

- Your doctor is likely to ask you about your pain, your lifestyle and any other medical and/or psychological issues. They will almost certainly need to examine you, to see you have any obvious physical cause/s for the pain. This is likely to involve examination of your external genitals (known as the vulva), **(European Society for Sexual Medicine. The EFS and ESSM Syllabus of Clinical Sexology (2013). Medix Publishers, Amsterdam.**
- which includes the opening of the vagina, the fleshy lips surrounding this and the clitoris. **(NHS Choices. Sexual arousal in women. Available at: <http://www.nhs.uk/Livewell/Goodsex/Pages/Sexualarousalinwomen.aspx> (Accessed March 2016)).**
- They may apply pressure to certain areas to see where you feel the pain. You may also need an internal examination of the inside of your vagina.
- Your doctor may want to do a 'swab' or urine test to check for infection.
- They may also want do blood tests to check your hormones/general health.

(European Society for Sexual Medicine. The EFS and ESSM Syllabus of Clinical Sexology (2013). Medix Publishers, Amsterdam.

- If you are allergic to something that touches your skin, you may get localised symptoms (e.g. redness, swelling, pain and itching) in the affected area/s. But some people have more serious reactions that affect their whole body (they may develop hives, swelling, difficulty breathing and anaphylaxis, which can be life threatening). **(ISSM (online) What is sperm allergy? Available at: <http://www.issm.info/education-for-all/sexual-health-ga/what-is-sperm-allergy> (Accessed February 2016)**
- If you have an allergy to, or are irritated by latex, plastic or spermicide, you should be able to get condoms that are less likely to cause an allergic reaction. **(NHS choices. Condoms. Available at: <http://www.nhs.uk/conditions/contraception-guide/pages/male-condoms.aspx> (Accessed February 2016)**
- If you are allergic to latex or spermicide, you will not be able to use a contraceptive diaphragm, as these are made of latex and should be used with a spermicide. **(NHS Choices. Contraceptive diaphragm. Available at: <http://www.nhs.uk/Conditions/contraception-guide/Pages/contraceptive-diaphragm.aspx> (Accessed February 2016)**
- If you have an allergy to semen, you should not get any symptoms when you use a condom. **(ISSM (online) What is sperm allergy? Available at: <http://www.issm.info/education-for-all/sexual-health-ga/what-is-sperm-allergy> (Accessed February 2016)**
- If you have eczema as a result of allergy or irritation (contact dermatitis), you and your doctor will need to identify what may be causing the problem and remove it. Treatment usually involves topical steroid creams/ointments. Ice packs (e.g. frozen peas) applied for a short time and antihistamines can be used to relieve the itching.

- Skin conditions like Lichen sclerosus and Lichen planus may be treated with topical steroid creams/ointments. If the problem is internal, you may need steroid suppositories (inserted into the vagina). Oral treatment (tablets) may be required if the other treatments don't work. These products should be prescribed by a doctor.

(European Society for Sexual Medicine. The EFS and ESSM Syllabus of Clinical Sexology (2013). Medix Publishers, Amsterdam)

- Thrush may be passed on through sexual contact or it may develop for other reasons (e.g. during pregnancy, from wearing tight clothing, from taking antibiotics, using products that cause irritation to the vagina). Symptoms can include itching, soreness and redness around the vagina, vulva or back passage, an unusual white discharge (may look like cottage cheese) and pain when passing water or having sex. **(FPA (online) Thrush and Bacterial vaginosis. Available at: <http://www.fpa.org.uk/sexually-transmitted-infections-stis-help/thrush-and-bacterial-vaginosis> (Accessed February 2016))**
- The symptoms of a sexually transmitted infection (STI) vary depending on which type it is, but they may include a fever or flu-like symptoms, unusual vaginal discharge, genital itching, burning, pain or discomfort, lower abdominal (pelvic) pain, swollen lymph glands, pain when passing water, pain and/or bleeding during or after sex, and bleeding between periods. **(FPA (online). Sexually transmitted infections. Available at: <http://www.fpa.org.uk/help-and-advice/sexually-transmitted-infections-stis-help> (Accessed February 2016)).**
- Pelvic inflammatory disease (PID) is a general term for infection of the upper genital tract, which includes the uterus/womb, fallopian tubes and ovaries. The infection (often chlamydia) is usually transmitted during sex. If it is not treated early, PID may damage the fallopian tubes, which increases the risk of ectopic pregnancy and infertility. **NICE clinical Knowledge summaries. Pelvic Inflammatory disease (PID). April 2015. Available at: <http://cks.nice.org.uk/pelvic-inflammatory-disease#!topicsummary> (Accessed March 2016). NHS choices. Pelvic inflammatory disease (PID). Available at: <http://www.nhs.uk/Conditions/Pelvic-inflammatory-disease/Pages/Introduction.aspx> (Accessed March 2016)**
- A urinary tract infection (UTI), also known as 'cystitis', may cause pain in the bladder area, pain when passing water, a need to pass water often, urine that is dark in colour or strong smelling and a fever (38°C or more). Your doctor can test your urine to see if you have an infection. If a UTI is mild, it may clear up within a few days without the need for antibiotics. If it is severe and/or doesn't clear up quickly, it should be treated with antibiotics. **(British Association of Urological Surgeons (online). Patient information. Urinary tract infection (adult.) Available at: http://www.baus.org.uk/patients/conditions/14/urinary_infection_adult (Accessed February 2016)**
- If you suffer from frequent UTIs, you may be able to reduce these by:
 - Drinking cranberry juice or taking cranberry tablets
 - Drinking plenty of bland fluids (3-4 pints of water, milk or weak tea) to help flush germs out of the bladder and urinary tract

- Keeping yourself very clean 'down below' by using a separate flannel to wash yourself night and morning
- Using plain water only for washing
- Always wiping from 'front to back' after opening your bowels
- Avoiding bubble baths, talcum powder, vaginal deodorants & feminine wipes
- Avoiding having a bath every day (this is not necessary and may, in fact, be harmful). A shallow bath is better than a deep one and a shower is better still
- Passing water immediately after sexual intercourse

British Association of Urological Surgeons (online). Self help information for recurrent cystitis in women. Available at: <http://www.baus.org.uk/userfiles/pages/files/Patients/Leaflets/Cystitis14.pdf> (Accessed February 2016)

- If dyspareunia is caused by a lack of sexual arousal (not feeling 'wet' enough), increasing the amount of foreplay and delaying penetration until you are very 'turned on' may help increase vaginal lubrication and reduce pain on insertion. **(Patient (online). Dyspareunia. Available at: <http://patient.info/doctor/dyspareunia> (Accessed February 2016))**
- Vaginal dryness is common during and after the menopause due to reduced levels of the hormone oestrogen. Oestrogen deficiency can be treated with hormone replacement therapy **(Edwards D et al. Treating vulvovaginal atrophy/genitourinary syndrome of menopause: how important is vaginal lubricant and moisturizer composition? Climacteric 2016;19(2):151-61.)**
- Thyroid problems resulting in high or low levels of the hormone thyroxine have also been associated with lubrication problems. **(European Society for Sexual Medicine. The EFS and ESSM Syllabus of Clinical Sexology (2013). Medix Publishers, Amsterdam)**
- Some prescription medications may reduce lubrication. Examples include oral contraceptives, antidepressants and some medicines for treating high blood pressure. **(BMJ Best Practice. Assessment of dyspareunia. July 2015. Available at: <http://bestpractice.bmj.com/best-practice/mybp/monograph-pdf/661.pdf> (Accessed February 2016))**
- A lack of lubrication may also be associated with psychological issues, such as relationship worries, depression, anxiety and low self-esteem. **(European Society for Sexual Medicine. The EFS and ESSM Syllabus of Clinical Sexology (2013). Medix Publishers, Amsterdam) Merck Manuals (online) Consumer version. Sexual arousal disorders. Available at: <http://www.msdmanuals.com/en-gb/home/women's-health-issues/sexual-dysfunction-in-women/sexual-arousal-disorders> (Accessed March 2016).)**
- If this is the case, you may benefit from a type of psychological or 'talking' therapy **(European Society for Sexual Medicine. The EFS and ESSM Syllabus of Clinical Sexology (2013). Medix Publishers, Amsterdam. NHS choices. Counselling – other psychological therapies. Available at: <http://www.nhs.uk/conditions/counselling/pages/talking-therapies.aspx> (Accessed March 2016))**

- There are two types of vulvodynia. Unprovoked vulvodynia is where the pain occurs spontaneously (i.e. is not caused by pressure or local contact) and this can affect any part of the vulva. Provoked vulvodynia (also known as vestibulodynia) commonly occurs around the entrance to the vagina (vestibule), where the pain is caused by sexual or non-sexual touch (by sexual intercourse, inserting tampons, tight clothing, cycling etc). Urinary tract or bowel problems, such as interstitial cystitis or irritable bowel syndrome are often associated with provoked vulvodynia. **(Pelvic Pain Support network (online). Vulval pain. Available <http://www.pelvicpain.org.uk/index.php?page=vulval-pain> at: (Accessed: February 2016) NHS choices. Vulvodynia (persistent pain of the vulva.) Available at: <http://www.nhs.uk/conditions/vulvodynia/Pages/Introduction.aspx> (Accessed March 2016)**
- Medical treatments include topical preparations which are applied to the affected area (e.g. steroids, lidocaine or oestrogen), injectable medications (e.g. lidocaine) and oral medications that are taken by mouth (e.g. some types of anticonvulsant and antidepressant). Pelvic floor physiotherapy or sex therapy may also help. Surgery may be required as a last resort. **(European Society for Sexual Medicine. The EFS and ESSM Syllabus of Clinical Sexology (2013). Medix Publishers, Amsterdam)**
- Making small changes in your life may reduce the likelihood of vulvodynia. These include:
 - Minimising pressure/friction on the vulva (e.g. sitting, cycling, horse riding)
 - Washing the vulva no more than once per day using mild soaps
 - Avoiding scented products
 - Avoiding shaving around the vulva
 - Using 100% cotton underwear
 - Using gentle washing powders/liquids
 - Avoiding wearing clothes that are too tight
 - Avoiding chlorinated pools/hot tubs (alternatively, applying petroleum jelly to the vulva before using these may provide protection from chlorine)
 - Removing wet swimming costumes and exercise clothes quickly
 - Try to find a sexual position that is comfortable (you may be better off on top)
 - Trying a water based lubricant
 - Experimenting with different sexual positions/speeds
 - Passing water straight after intercourse
 - Trying an oral medication (tablet) for treating thrush rather than a cream/pessary**(European Society for Sexual Medicine. The EFS and ESSM Syllabus of Clinical Sexology (2013). Medix Publishers, Amsterdam. NHS choices. Vulvodynia (persistent pain of the vulva.) Available at: <http://www.nhs.uk/conditions/vulvodynia/Pages/Introduction.aspx> (Accessed March 2016).)**
- Also known as 'painful bladder syndrome', symptoms include a sudden, strong need to pass water, needing to pass water more often (night and day) and intense pain in the pelvis or abdomen. Interstitial cystitis is not caused by infection and can be difficult to treat.
- Lifestyle changes are usually tried first. These include:

- Reducing stress
 - Avoiding certain foods/drinks
 - Stopping smoking
 - Limiting fluid intake
 - Making regular trips to the toilet
- If lifestyle changes don't solve the problem, medication may be required. Some people require physiotherapy, psychological/talking therapy, surgery and other procedures.

(NHS choices. Interstitial cystitis. Available at: <http://www.nhs.uk/Conditions/interstitial-cystitis/Pages/Introduction.aspx> (Accessed February 2016)

- Endometriosis is where cells like those lining the uterus grow elsewhere in the body. These cells behave in the same way as those in the uterus and follow the menstrual cycle, so each month they build up, break down, then bleed. However, while the blood of a period can leave the uterus through the vagina, it can't leave from anywhere else. This is a long-term, debilitating condition which causes painful and/or heavy periods. It may also lead to tiredness, depression, sexual problems and infertility. It affects women and girls of childbearing age. **(Endometriosis UK (online) Understanding endometriosis. Available at: <https://www.endometriosis-uk.org/understanding-endometriosis> (Accessed February 2016)**
- If your doctor thinks you may have endometriosis, he will refer you to a gynaecologist for further tests. The results of these tests will determine if you need medical or surgical treatment. Medical treatment primarily involves pain relief and/or hormonal treatment. **(NICE Clinical Knowledge Summaries (online). Endometriosis. Management. May 2014. Available at: <http://cks.nice.org.uk/endometriosis#!scenario> (Accessed February 2016)**
- Also known as 'cervicitis', this may be caused by sensitivities, allergies or infection (often transmitted during sex). Cervicitis may not cause any symptoms, but if it is not diagnosed and treated, it can lead to other problems such as PID. The most common symptoms include vaginal discharge and bleeding after sex or between periods. Infections are usually treated with antibiotics. **(MSD Manual (online). Professional version. Cervicitis. Available at: [https://www.msmanuals.com/en-gb/professional/gynecology-and-obstetrics/vaginitis,-cervicitis,-and-pelvic-inflammatory-disease--\(pid\)/cervicitis](https://www.msmanuals.com/en-gb/professional/gynecology-and-obstetrics/vaginitis,-cervicitis,-and-pelvic-inflammatory-disease--(pid)/cervicitis) (Accessed February 2016). BMJ Best Practice (online). Cervicitis. April 2015. Available at: <http://us.bestpractice.bmj.com/best-practice/monograph/662.html> (Accessed March 2016).**
- The fallopian tubes link the ovaries to the uterus. If they are blocked an egg may not be able to pass through and fertility will be affected. Blockages may be caused by pelvic infections (which may be transmitted during sex), surgery to the pelvis or abdomen, and ectopic pregnancy. Surgery may be required to treat this. **(MSD Manual (online). Professional version. Tubal dysfunction and pelvic lesions. Available at: <http://www.msmanuals.com/en-gb/professional/gynecology-and-obstetrics/infertility/tubal-dysfunction-and-pelvic-lesions> (Accessed February 2016)**

- Irritable bowel syndrome (IBS) is the name for a variety of unexplained symptoms relating to disturbance in the bowel. Symptoms may include abdominal pain and spasms (often relived by going to the toilet), sharp pain in the back passage, diarrhoea or constipation, swelling of the abdomen, rumbling noises and wind. **(The IBS network (online). Available at: <http://www.theibsnetwork.org/what-is-ibs/> (Accessed February 2016))**
- Treatment may involve lifestyle changes (e.g. IBS-friendly diet, more exercise and stress reduction), medications (e.g. antimotility agents to stop diarrhoea, laxatives to prevent constipation and antispasmodics or low dose antidepressants to stop the cramps/pain) and/or psychological therapy **(NHS Choices (online). Irritable bowel syndrome (IBS) - treatment. Available at: <http://www.nhs.uk/Conditions/Irritable-bowel-syndrome/Pages/Treatment.aspx> (Accessed February 2016))**
- If your doctor thinks physiotherapy may help you, they can refer you for this on the NHS. Alternatively, you may be able to self-refer and arrange to see an NHS physiotherapist without going through your doctor (depending on area), or you can pay to see a physiotherapist privately (check that they have experience of treating your problem, are fully qualified, and are registered with both a recognised professional body, such as the [Chartered Society of Physiotherapy \(CSP\)](#), and the [Health and Care Professions Council \(HCPC\)](#). **(NHS Choices. Physiotherapy - Accessing physiotherapy. Available at: <http://www.nhs.uk/Conditions/Physiotherapy/Pages/Accessing-physiotherapy.aspx> (Accessed February 2016))**

Women X. Problems with orgasm

- An orgasm (also called 'coming' or 'climaxing') has been described as an intense and pleasurable release of sexual tension that had built up in the earlier stages of sexual activity. **(NHS choices. What is an orgasm? Available at: <http://www.nhs.uk/chq/Pages/1689.aspx?CategoryID=118> (Accessed March 2016). NHS choices. Sexual arousal in women. Available at: <http://www.nhs.uk/Livewell/Goodsex/Pages/Sexualarousalinwomen.aspx> (Accessed March 2016).)**
- When a woman has an orgasm, her heart rate, breathing and blood pressure increase. The muscles in the feet may spasm, the genital/pelvic muscles may contract and a rash/flush may appear on the body. **(Masters W, Johnson V. Human sexual response. Boston MA: Little, Brown and Company 1966. In: European Society for Sexual Medicine. The EFS and ESSM Syllabus of Clinical Sexology (2013). Medix Publishers, Amsterdam. SOGC (online) Female orgasms: Myths and facts. Available at: <http://sogc.org/publications/female-orgasms-myths-and-facts/> (Accessed March 2016))**
- A small number of women ejaculate when they orgasm, where a clear fluid spurts from the glands close to the urethra (tube through which you pass water). **(NHS choices. What is an orgasm? Available at: <http://www.nhs.uk/chq/Pages/1689.aspx?CategoryID=118> (Accessed March 2016).)**

- Orgasms are often followed by a feeling of relaxation. **(SOGC (online) Female orgasms: Myths and facts. Available at: <http://sogc.org/publications/female-orgasms-myths-and-facts/> (Accessed March 2016)).**
- However, it is important to remember that orgasms are very personal things, how they feel and how they happen varies greatly between women. They may not be an earth-moving experience for everyone and they may not happen every time a woman has sex. **(SOGC (online) Female orgasms: Myths and facts. Available at: <http://sogc.org/publications/female-orgasms-myths-and-facts/> (Accessed March 2016) NHS choices. Sexual arousal in women. Available at: <http://www.nhs.uk/Livewell/Goodsex/Pages/Sexualarousalinwomen.aspx> (Accessed March 2016).)**
- In women, orgasms may be achieved by various sensory mechanisms, but the two most important are stimulation of the external genitals or 'vulva' (particularly the clitoris) and stimulation of the internal pelvic area and vaginal walls. **(Fugl-Meyer KS et al. An orgasm, sexual techniques, and erotic perceptions in 18- to 74-year- old Swedish women. J Sex Med 2006;3:56-68 In: de Lucena BB et al Personal factors that contribute to or impair women's ability to achieve orgasm. Int J Impot Res 2014;36(5):177-81).**
- So foreplay has an important role **(NHS choices. Sexual arousal in women. Available at: <http://www.nhs.uk/Livewell/Goodsex/Pages/Sexualarousalinwomen.aspx> (Accessed March 2016).)**
- Problems with orgasm include never having an orgasm, infrequent orgasms, delayed orgasms and a reduction in the strength of orgasmic sensations. **(American Psychiatric Association. Diagnostic and statistical Manual of Mental Disorders. 5th ed. Arlington, VA: American Psychiatric Publishing; 2014: p.5-25. In: European Society for Sexual Medicine. The EFS and ESSM Syllabus of Clinical Sexology (2013). Medix Publishers, Amsterdam).**
- Orgasms may also be painful. **(European Society of Sexual Medicine. The ESSM Manual of Sexual Medicine. 2nd updated edition 2015. Medix publishers, Amsterdam).**
- While some women don't need to have an orgasm to enjoy sex, this may be a real issue for others and their partners. **(NHS Choices. What can cause orgasm problems in women? Available at: <http://www.nhs.uk/chq/Pages/causes-of-orgasm-problems-in-women.aspx> (Accessed March 2016))**
- Women who feel very aroused but do not orgasm may feel 'nervous' or edgy' or experience an aching or discomfort in their pelvis. **(SOGC (online) Female orgasms: Myths and facts. Available at: <http://sogc.org/publications/female-orgasms-myths-and-facts/> (Accessed March 2016)).**
- A problem with orgasm may have always been there or it may have developed later in life **(European Society for Sexual Medicine. The EFS and ESSM Syllabus of Clinical Sexology (2013). Medix Publishers, Amsterdam).**

- Problems with orgasm are very common and may affect more than 20% of women. **(Laumann EO et al. *Dysfunction in the United States: Prevalence and predictors*. JAMA 1999;281:537-44. In: European Society for Sexual Medicine. *The EFS and ESSM Syllabus of Clinical Sexology* (2013). Medix Publishers, Amsterdam. Shifren JL et al. *Sexual problems and distress in United States women: prevalence and correlates*. *Obstetrics and Gynaecology* 2008;112(5):970-8. In European Society for Sexual Medicine. *The EFS and ESSM Syllabus of Clinical Sexology* (2013). Medix Publishers, Amsterdam).**
- Orgasm problems have been associated with a number of physical and psychological factors. **(European Society for Sexual Medicine. *The EFS and ESSM Syllabus of Clinical Sexology* (2013). Medix Publishers, Amsterdam).**
- Women who could orgasm in the past but now cannot may have a medical and/or psychological problem. While those who have never had an orgasm may have a medical and/or psychological problem, or they may simply have never learnt what type and duration of stimulation they need to achieve one. **(SOGC (online) *Female orgasms: Myths and facts*. Available at: <http://sogc.org/publications/female-orgasms-myths-and-facts/> (Accessed March 2016)).**
- Physical factors include:
 - Diseases of the heart or blood vessels (cardiovascular disease (CVD))
 - Nerve problems (e.g. multiple sclerosis, Parkinson's disease, spinal cord injury, those caused by diabetes)
 - Problems in the pelvis (e.g. fibroids, pelvic inflammatory disease, weak pelvic floor muscles)
 - Problems affecting the external genitals or 'vulva' (e.g. provoked vulvodynia) **(Pelvic Pain Support network (online). *Vulval pain*. Available <http://www.pelvicpain.org.uk/index.php?page=vulval-pain> at: (Accessed: February 2016)**
 - Hormonal problems (e.g. low oestrogen, testosterone or thyroxine)
 - Side effect of prescription or recreational drugs (e.g. some types of antidepressant, antipsychotics, anticonvulsants, beta-blockers, cocaine, marijuana, amphetamines and heroin)
 - Drug or alcohol abuse
- Psychological factors include:
 - Age
 - Education
 - Cultural background or religion
 - Negative attitude towards sex
 - Sexual abuse/violence
 - Fear of pain during sexual intercourse
 - Relationship problems
 - Depression
 - Low self esteem
 - Negative body image
 - Poor communication

(European Society for Sexual Medicine. The EFS and ESSM Syllabus of Clinical Sexology (2013). Medix Publishers, Amsterdam. European Society of Sexual Medicine. The ESSM Manual of Sexual Medicine. 2nd updated edition 2015. Medix publishers, Amsterdam).

- Physical causes are more likely if an orgasm problem develops suddenly while psychological causes are more common in long-term or life-long orgasm problems. **(European Society of Sexual Medicine. The ESSM Manual of Sexual Medicine. 2nd updated edition 2015. Medix publishers, Amsterdam).**
- Painful orgasms may be caused by certain medical conditions or changes in body structure or function. These include painful uterine contractions occurring in the last 6 weeks of pregnancy or as a result of an ill-fitting intrauterine device (IUD), and increased tone of the pelvic floor muscles (seen in some conditions which affect the nerves e.g. stroke, spinal cord injury or multiple sclerosis.) **(European Society for Sexual Medicine. The EFS and ESSM Syllabus of Clinical Sexology (2013). Medix Publishers, Amsterdam. European Society of Sexual Medicine. The ESSM Manual of Sexual Medicine. 2nd updated edition 2015. Medix publishers, Amsterdam).**
- Orgasm problems can affect women of any age. Older and younger women may have different advantages when it comes to achieving orgasm - while older women may have more sexual experience and knowledge about their own body, younger woman have more sexual desire ('sex drive'). **(de Lucena BB et al Personal factors that contribute to or impair women's ability to achieve orgasm. Int J Impot Res 2014;36(5):177-81).**
- Some studies suggest that women with a higher level of education are more likely to have orgasms. This may be because they are more knowledgeable about their bodies and how they work, and have greater access to information about sex and general health. **(de Lucena BB et al Personal factors that contribute to or impair women's ability to achieve orgasm. Int J Impot Res 2014;36(5):177-81. Ojomu F et al. Sexual problem among married Nigerian women. Int J Impot Res 2007;19:310-316.)**
- Depression may affect sexual desire and arousal (feeling 'turned on'), which may in turn affect orgasm (see our factsheet '[Lack of sexual desire/arousal](#)'). Anxiety may create a vicious circle where a woman does not focus on the act of sex because she's distracted by concerns about reaching orgasm, which in turn makes her less likely to orgasm, and results in her becoming even more anxious and even less likely to orgasm. **(de Lucena BB et al Personal factors that contribute to or impair women's ability to achieve orgasm. Int J Impot Res 2014;36(5):177-81).**
- Your doctor is likely to ask you for more details about your orgasm problem, about your lifestyle and any other medical and/or psychological issues. They will almost certainly need to examine you, to see you have any obvious physical cause/s for the problem. This is likely to include examination of your external genitals or 'vulva', **(European Society for Sexual Medicine. The EFS and ESSM Syllabus of Clinical Sexology (2013). Medix Publishers, Amsterdam.)**

- which includes the opening of the vagina, the fleshy lips surrounding this and the clitoris. **(NHS Choices. Sexual arousal in women. Available at: <http://www.nhs.uk/Livewell/Goodsex/Pages/Sexualarousalinwomen.aspx> (Accessed March 2016)).**
- They may also examine the inside of your vagina
- Blood tests may be required to check for hormone or other problems

(European Society for Sexual Medicine. The EFS and ESSM Syllabus of Clinical Sexology (2013). Medix Publishers, Amsterdam.

- If you have weak pelvic floor muscles, increasing their strength may improve your ability to orgasm **(European Society for Sexual Medicine. The EFS and ESSM Syllabus of Clinical Sexology (2013). Medix Publishers, Amsterdam. Graber B et al. Female orgasm: role of pubococcygeus muscle. J Clin Psychiatry 1979;40:348-51.)**
- If your doctor thinks physiotherapy may help you, they can refer you for this on the NHS. Alternatively, you may be able to self-refer and arrange to see an NHS physiotherapist without going through your doctor (depending on area).You can also pay to see a physiotherapist privately (check that they have experience of treating your problem, they are fully qualified, and they are registered with both a recognised professional body, such as the [Chartered Society of Physiotherapy \(CSP\)](#), and the [Health and Care Professions Council \(HCPC\)](#). **(NHS Choices. Physiotherapy - Accessing physiotherapy. Available at: <http://www.nhs.uk/Conditions/Physiotherapy/Pages/Accessing-physiotherapy.aspx> (Accessed February 2016)**
- Women who find it difficult to orgasm may have no interest in masturbation (pleasuring themselves.) However, masturbation may help them become more knowledgeable about their bodies, learning where and how they like to be touched. **(de Lucena BB et al Personal factors that contribute to or impair women's ability to achieve orgasm. Int J Impot Res 2014;36(5):177-81).**
- Training on masturbation has been shown to help orgasm problems, particularly in women who have had them a long time. But if you are able to achieve orgasm on your own but not with a partner, measures to improve communication, increase trust and reduce anxiety may be more useful **(Meston CM et al. Women's orgasm. In: Lue TF et al, editors. Sexual Medicine: Sexual Dysfunction in men and women. Paris: Health Publications; 2004. p.783-850. In: European Society for Sexual Medicine. The EFS and ESSM Syllabus of Clinical Sexology (2013). Medix Publishers, Amsterdam Meston CM et al. Problems with arousal and orgasm, in women: Epidemiology and risk factors. In: Rowland DL et al, editors. Handbook of Sexual and Gender Identity Disorders. New Jersey: John Wiley and Sons, Inc; 2008. p. 188-219. In: European Society for Sexual Medicine. The EFS and ESSM Syllabus of Clinical Sexology (2013). Medix Publishers, Amsterdam Masters W et al. Human Sexual Inadequacy. Boston, Mass: Little, Brown and Company; 1970. In: European Society for Sexual Medicine. The EFS and ESSM Syllabus of Clinical Sexology (2013). Medix Publishers, Amsterdam)**

- For some couples, sexual activity ends once the man has ejaculated (or 'come'). If you haven't had an orgasm and still feel very aroused after your partner has come, you could ask them to continue to stimulate you with their hand or mouth. They will probably enjoy being able to please you. **(SOGC (online) Female orgasms: Myths and facts. Available at: <http://sogc.org/publications/female-orgasms-myths-and-facts/> (Accessed March 2016)).**
- Some women find it difficult to concentrate during sex. If this applies to you, fantasizing about something sexual may excite you and reduce any negative feelings. If you are close to orgasm, alternately tightening and relaxing your pelvic floor muscles may help you get there. **(SOGC (online) Female orgasms: Myths and facts. Available at: <http://sogc.org/publications/female-orgasms-myths-and-facts/> (Accessed March 2016)).**

Women X. Lack of sexual desire/arousal

- Sexual arousal (being 'turned on') involves a number of changes in the body. These include increased blood flow to the vagina, increased vaginal lubrication, swelling of the external genitals or 'vulva' (which includes the opening of the vagina, the fleshy lips surrounding this and the clitoris) and expanding of the top of the vagina inside the body. The heart rate, breathing and blood pressure also increase. **(NHS Choices. Sexual arousal in women. Available at: <http://www.nhs.uk/Livewell/Goodsex/Pages/Sexualarousalinwomen.aspx> (Accessed March 2016)).**
- The sexual response cycle has been described as a 3-stage process in men and women: desire, arousal and orgasm. **(Kaplan HS. Disorders of Sexual Desire and Other New Concepts and Techniques in Sex Therapy. New York, NY: Brunner/Hazel Publications; 1979. In: Association of Reproductive Health Professionals (online). Female Sexual Response. March 2008. Available at: <http://www.arhp.org/publications-and-resources/clinical-fact-sheets/female-sexual-response> (Accessed March 2016.) Berman JR, Bassuk J. Physiology and pathophysiology of female sexual function and dysfunction. World J Urol 2002;20:111-118. In: Association of Reproductive Health Professionals (online). Female Sexual Response. March 2008. Available at: <http://www.arhp.org/publications-and-resources/clinical-fact-sheets/female-sexual-response> (Accessed March 2016).)**
- However, this may not be so straightforward in women for a number of reasons. Many women do not move through these stages in a step-wise manner (for example, some women may become sexually aroused and achieve orgasm as a result of a partner's sexual interest, but did not feel sexual desire beforehand). **(Basson R. Female sexual response: the role of drugs in the management of sexual dysfunction. Obstet Gynecol 2001;98:350-353. In: Association of Reproductive Health Professionals (online). Female Sexual Response. March 2008. Available at: <http://www.arhp.org/publications-and-resources/clinical-fact-sheets/female-sexual-response> (Accessed March 2016)).**

- And some women may not experience all the stages (for example, they may experience desire and arousal but not orgasm.) (**Whipple B. Women's sexual pleasure and satisfaction. A new view of female sexual function. The Female Patient 2002;27:39-44. In: Association of Reproductive Health Professionals (online). Female Sexual Response. March 2008. Available at: <http://www.arhp.org/publications-and-resources/clinical-fact-sheets/female-sexual-response> (Accessed March 2016).**)
- While many women feel desire when starting new sexual relationship or after a long separation from a partner, those in long-term relationships may not think about sex very often or feel spontaneous desire for sexual activity. (**Basson R. Female sexual response: the role of drugs in the management of sexual dysfunction. Obstet Gynecol 2001;98:350-353. In: Association of Reproductive Health Professionals (online). Female Sexual Response. March 2008. Available at: <http://www.arhp.org/publications-and-resources/clinical-fact-sheets/female-sexual-response> (Accessed March 2016).**)
- Furthermore, the goal of sexual activity in women may not necessarily be physical satisfaction (orgasm), but rather emotional satisfaction (a feeling of intimacy and connection with a partner). (**Basson R. Female sexual response: the role of drugs in the management of sexual dysfunction. Obstet Gynecol 2001;98:350-353. In: Association of Reproductive Health Professionals (online). Female Sexual Response. March 2008. Available at: <http://www.arhp.org/publications-and-resources/clinical-fact-sheets/female-sexual-response> (Accessed March 2016).** Walton B, Thorton T. Female sexual dysfunction. *Curr Wom Health Rep* 2003;3:319-326. In: Association of Reproductive Health Professionals (online). Female Sexual Response. March 2008. Available at: <http://www.arhp.org/publications-and-resources/clinical-fact-sheets/female-sexual-response> (Accessed March 2016)).
- Having sex to maintain a relationship, to prevent the partner from being unfaithful, may be another motivation. (**Meston C et al. Why humans have sex. Arch Sex Behav 2007;36:477-507. In: European Society for Sexual Medicine. The EFS and ESSM Syllabus of Clinical Sexology (2013). Medix Publishers, Amsterdam.**)
- Psychological factors (in the mind) may play a major part in female sexual functioning. Examples include relationship issues, self-image, and previous negative sexual experiences. (**Basson R. Female sexual response: the role of drugs in the management of sexual dysfunction. Obstet Gynecol 2001;98:350-353. In: Association of Reproductive Health Professionals (online). Female Sexual Response. March 2008. Available at: <http://www.arhp.org/publications-and-resources/clinical-fact-sheets/female-sexual-response> (Accessed March 2016).**)
- A lack of sexual desire ('sex drive'), also known as a lack of libido, is a lack of interest in sexual thoughts and sexual activity. (**Merck Manuals (online) Consumer version. Low Sexual Desire disorder. Available at: <https://www.merckmanuals.com/home/women's-health-issues/sexual-dysfunction-in-women/low-sexual-desire-disorder> (Accessed March 2016).**)
- A lack of sexual arousal (not feeling 'turned on') is a lack of response to sexual stimulation, which is felt in the mind and/or the body. In the body this may include a lack of vaginal wetness and/or a lack of swelling, tingling or throbbing in the genital

area (**Merck Manuals (online) Consumer version. Sexual arousal disorders. Available at: <http://www.msdmanuals.com/en-gb/home/women's-health-issues/sexual-dysfunction-in-women/sexual-arousal-disorders> (Accessed March 2016)**)

- A lack of sexual desire and a lack of sexual arousal often occur together, and treatment of one often improves the other. For this reason, these conditions are now usually considered together. (**European Society for Sexual Medicine. The EFS and ESSM Syllabus of Clinical Sexology (2013). Medix Publishers, Amsterdam. BMJ Best Practice. Sexual dysfunction in women (2015). Available at: <http://bestpractice.bmj.com/best-practice/monograph/352.html> (Accessed January 2016).**)
- Symptoms of a lack of sexual desire and/or arousal may include:
 - Reduced or no interest in sexual activity
 - Reduced or no sexual or erotic thoughts or fantasies
 - Not wanting to start sexual activity or respond to a partner's attempts to start it
 - No triggering of sexual desire with sexual or erotic stimulus (read, heard or seen)
 - Reduced or no feelings of sexual excitement or pleasure during sexual activity
 - Reduced or no feeling in the genitals or other areas during sexual activity (**APA Diagnostic and statistical Manual of Mental disorders. 5th ed. Arlington, VA: American Psychiatric Publishing; 2013. In: BMJ Best Practice. Sexual dysfunction in women (2015). Available at: <http://bestpractice.bmj.com/best-practice/monograph/352.html> (Accessed January 2016).**)
- However, if these symptoms continue long-term, are present all or almost all of the time, and/or cause you distress, then you should see your doctor for advice. (**European Society for Sexual Medicine. The EFS and ESSM Syllabus of Clinical Sexology (2013). Medix Publishers, Amsterdam. BMJ Best Practice. Sexual dysfunction in women (2015). Available at: <http://bestpractice.bmj.com/best-practice/monograph/352.html> (Accessed January 2016).**)
- A lack of sexual desire and/or a lack of sexual arousal may be caused by physical problems (in the body), psychological problems (in the mind) or a mixture of both.
- A lack of sexual desire and a lack of sexual arousal may be associated with a number of physical problems. These include diabetes, hormone deficiencies (low oestrogen or testosterone), urinary incontinence, arthritis, nerve problems (e.g. spinal cord injury, multiple sclerosis) and the effects of some prescription medicines (including some that affect mood and behavior (e.g. antidepressants), some used to treat conditions of the heart or blood vessels (e.g. antihypertensives), and some that affect the hormones (e.g. Tamoxifen and combined oral contraceptives)).

(European Society for Sexual Medicine. The EFS and ESSM Syllabus of Clinical Sexology (2013). Medix Publishers, Amsterdam. BMJ Best Practice. Sexual dysfunction in women (2015). Available at: <http://bestpractice.bmj.com/best-practice/monograph/352.html> (Accessed January 2016).)

- A lack of sexual desire may also be associated with high blood pressure, Parkinson's disease, dementia and schizophrenia. While a lack of sexual arousal may also be

associated with disease of the arteries (atherosclerosis), thyroid problems, surgical procedures and radiotherapy to the genital area, pelvis or lower abdomen (tummy), as well as frequent urinary tract or vaginal infections and vaginal skin conditions.

- Psychological issues that may cause or contribute to a lack of sexual desire and/or a lack of sexual arousal include depression, anxiety, relationship problems, sexual dysfunction in the partner, unrewarding sexual experiences, low self-esteem, negative body image and a history of sexual abuse, violence or humiliation.

(European Society for Sexual Medicine. The EFS and ESSM Syllabus of Clinical Sexology (2013). Medix Publishers, Amsterdam. BMJ Best Practice. Sexual dysfunction in women (2015). Available at: <http://bestpractice.bmj.com/best-practice/monograph/352.html> (Accessed January 2016). (Merck Manuals (online) Consumer version. Low Sexual Desire disorder. Available at: <https://www.merckmanuals.com/home/women's-health-issues/sexual-dysfunction-in-women/low-sexual-desire-disorder> (Accessed March 2016). (Merck Manuals (online) Consumer version. Sexual arousal disorders. Available at: <http://www.msdmanuals.com/en-gb/home/women's-health-issues/sexual-dysfunction-in-women/sexual-arousal-disorders> (Accessed March 2016)

- Your doctor will probably ask you about your desire/arousal problem, your lifestyle and any other medical and/or psychological issues. They might need to examine you to see you have any obvious physical problems. This may involve examination of your external genitals (known as the vulva), **(European Society for Sexual Medicine. The EFS and ESSM Syllabus of Clinical Sexology (2013). Medix Publishers, Amsterdam.)**
- which includes the opening of the vagina, the fleshy lips surrounding this and the clitoris. **(NHS Choices. Sexual arousal in women. Available at: <http://www.nhs.uk/Livewell/Goodsex/Pages/Sexualarousalinwomen.aspx> (Accessed March 2016)).**
- They may also examine the inside of your vagina
- Your doctor may want to do a 'swab' or urine test to check for infection.
- They may also want do blood tests to check your hormones/general health.

(European Society for Sexual Medicine. The EFS and ESSM Syllabus of Clinical Sexology (2013). Medix Publishers, Amsterdam.)

- Flibanserin (addyi™) is a new drug for treating low sexual desire. It has to be taken every day and should not be combined with alcohol. It was approved for use in the United States in 2015. **(FDA News release. FDA approves first treatment for sexual desire disorder (online). August 18, 2015. Available at: <http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm458734.htm> (Accessed January 2015)**
- If you are willing to engage in sexual activity, this may allow you to become aroused, which in turn may make you feel desire. You are more likely to want to be sexually

active again if your last experience was positive, physically and/or emotionally. **(European Society for Sexual Medicine. The EFS and ESSM Syllabus of Clinical Sexology (2013). Medix Publishers, Amsterdam.)**

- If you find sex unrewarding, this may be because you and/or your partner lacks skill or because your partner doesn't know what you like. One of the best things you can do is tell your partner what you 'turns you on', and where and how you like to be touched.
- **(Merck Manuals (online) Consumer version. Low Sexual Desire disorder. Available at: <https://www.merckmanuals.com/home/women's-health-issues/sexual-dysfunction-in-women/low-sexual-desire-disorder> (Accessed March 2016).**
- (self-masturbation) may help you become more knowledgeable about your body, learning where and how you like to be touched. **(de Lucena BB et al Personal factors that contribute to or impair women's ability to achieve orgasm. Int J Impot Res 2014;36(5):177-81).**
- If your partner often ejaculates or 'comes' before you do, and sex usually stops at this point, you could ask them to continue to stimulate you with their hand or mouth. They will probably enjoy being able to please you. **(SOGC (online) Female orgasms: Myths and facts. Available at: <http://sogc.org/publications/female-orgasms-myths-and-facts/> (Accessed March 2016).**
- Some women find it difficult to concentrate during sex. If this applies to you, fantasizing about something sexual may excite you and reduce any negative feelings. If you are close to orgasm, alternately tightening and relaxing your pelvic floor muscles may help you get there. **(SOGC (online) Female orgasms: Myths and facts. Available at: <http://sogc.org/publications/female-orgasms-myths-and-facts/> (Accessed March 2016).**

Women 6. Vaginal dryness and the menopause

- The menopause is when a woman's periods stop permanently because the ovaries no longer produce oestrogen or release eggs. **(NICE guideline NG23. Menopause: Diagnosis and Management. Information for the public. Available at: <https://www.nice.org.uk/guidance/ng23/ifp/chapter/About-this-information> (Accessed March 2016).)**
- This may occur naturally or as a result of the ovaries being removed or damaged by chemotherapy or radiation. **(Nelson HD et al. Management of menopause-related symptoms. Evidence report/technology assessment no. 120. Rockville, MD: Agency for Healthcare Research and quality, March 2005. (AHRQ publication no, 05E016-2). Available at: <http://archive.ahrq.gov/downloads/pub/evidence/pdf/menopause/menopaus.pdf> (Accessed March 2016).)**
- A natural menopause is usually confirmed by a year of no periods. **(NICE Clinical Knowledge Summaries. The menopause. October 2015. Available at: <http://cks.nice.org.uk/menopause#!topicsummary> (Accessed March 2016).)**

- The time before your last period, when your hormone levels are falling, is known as the 'perimenopause'. **(NICE guideline NG23. Menopause: Diagnosis and Management. Information for the public. Available at: <https://www.nice.org.uk/guidance/ng23/ifp/chapter/About-this-information> (Accessed March 2016).)**
- This usually starts in the mid to late 40's and lasts about 4 years. **(Grady D. Management of menopausal symptoms. New Engl J Med 2006;355:2338-47.)**
- In the UK, the average age at which the menopause occurs naturally is 51, **(NICE Clinical Knowledge Summaries. The menopause. October 2015. Available at: <http://cks.nice.org.uk/menopause#!topicsummary> (Accessed March 2016).)**
- and it happens about 2 years earlier in smokers. **(Grady D. Management of menopausal symptoms. New Engl J Med 2006;355:2338-47.)**
- If it happens before the age of 40, it is considered to be premature. **(NICE guideline NG23. Menopause: Diagnosis and Management. Information for the public. Available at: <https://www.nice.org.uk/guidance/ng23/ifp/chapter/About-this-information> (Accessed March 2016).)**
- The start of the perimenopause is marked by changes in the menstrual cycle. These include changes the amount of time between bleeds (which may shorten or lengthen) and changes in the amount and duration of bleeding. **(NICE Clinical Knowledge Summaries. The menopause. October 2015. Available at: <http://cks.nice.org.uk/menopause#!topicsummary> (Accessed March 2016).) Soules MR. Development of a staging system for the menopause transition: a work in progress. Menopause 2005;12:117-20. In: Grady D. Management of menopausal symptoms. New Engl J Med 2006;355:2338-47.)**
- Then periods start to be missed altogether. **(Grady D. Management of menopausal symptoms. New Engl J Med 2006;355:2338-47.)**
- Women in the perimenopause report a variety of different symptoms. These include hot flushes, night sweats, difficulty sleeping, tiredness, mood changes, memory loss, joint and muscle pain, urinary incontinence, vaginal dryness, a lack of interest in sex, headache and weight gain. **(NICE guideline NG23. Menopause: Diagnosis and Management. Information for the public. Available at: <https://www.nice.org.uk/guidance/ng23/ifp/chapter/About-this-information> (Accessed March 2016.) Grady D. Management of menopausal symptoms. New Engl J Med 2006;355:2338-47. Dennerstein L et al. A prospective population-based study of menopausal symptoms. Obstet Gynecol 2000;96:351-8.)**
- However, not all of these symptoms appear to be specifically related to the hormonal changes that occur during the perimenopause. For example, trouble sleeping may be due to bothersome hot flushes and night sweats, **(Dennerstein L et al. A prospective population-based study of menopausal symptoms. Obstet Gynecol 2000;96:351-8.)**

- memory loss and tiredness may be due to trouble sleeping or frequent hot flashes. (**Grady D. Management of menopausal symptoms. New Engl J Med 2006;355:2338-47.**)
- and a lack of interest in sex may be due vaginal dryness causing pain during sex (**NICE Clinical Knowledge Summaries. The menopause. October 2015. Available at: <http://cks.nice.org.uk/menopause#!topicsummary> (Accessed March 2016).**)
- Menopause symptoms usually continue for around 4 years after the last menstrual period, but about 10% of women, they may last up to 12 years. (**NICE. News and Features (online). Women with symptoms of menopause should not suffer in silence. November 2015. Available at: <https://www.nice.org.uk/news/article/women-with-symptoms-of-menopause-should-not-suffer-in-silence> (Accessed March 2016).**)
- However, every woman experiences the menopause differently. Your symptoms may be severe and distressing, or mild and short-lived, or you may have no symptoms at all. Women who have had a hysterectomy (surgical removal of the womb) can still experience menopause symptoms. (**NICE guideline NG23. Menopause: Diagnosis and Management. Information for the public. Available at: <https://www.nice.org.uk/guidance/ng23/ifp/chapter/About-this-information> (Accessed March 2016).**)
- Reduced oestrogen levels may cause a number of changes in the vagina, including thinning of the walls, reduced elasticity, reduced blood flow and reduced lubrication. Changes in vaginal fluid promote the growth of 'bad bacteria' and increase the risk of both vaginal and urinary tract infections. (**McBride MB et al. Vulvovaginal atrophy. Mayo Clin Proc 2010;85(1):87-94. Grady D. Management of menopausal symptoms. New Engl J Med 2006;355:2338-47.**)
- Vaginal symptoms as a result of these changes include dryness, itching, discomfort and pain during or after sex. (**Grady D. Management of menopausal symptoms. New Engl J Med 2006;355:2338-47.**)
- However, these symptoms may not appear until many years after the last menstrual period. (**NICE Clinical Knowledge Summaries. The menopause. October 2015. Available at: <http://cks.nice.org.uk/menopause#!topicsummary> (Accessed March 2016).**)
- A lack of sexual desire may in turn cause a lack of sexual arousal (not feeling 'turned on'), which may include a lack of vaginal lubrication. (**European Society for Sexual Medicine. The EFS and ESSM Syllabus of Clinical Sexology (2013). Medix Publishers, Amsterdam.**)
- A lack of testosterone may be more noticeable in women who have had their ovaries removed by surgery (**NICE Clinical Knowledge Summaries. The menopause. October 2015. Available at: <http://cks.nice.org.uk/menopause#!topicsummary> (Accessed March 2016).**)
- Of the vaginal symptoms that occur with the menopause, a lack of lubrication during sex is often the first to be noticed. (**McBride MB et al. Vulvovaginal atrophy. Mayo Clin Proc 2010;85(1):87-94.**)

- Vaginal lubrication plays an important role during sex and women are usually expected to produce a certain amount. **(Braustein S et al. Preferences and practices related to vaginal lubrication: implications for microbicide acceptability and clinical testing. J Women's Health 9(Larchmt) 2005;14:424-33 In: Edwards D et al. Treating vulvovaginal atrophy/genitourinary syndrome of menopause: how important is vaginal lubricant and moisturizer composition? Climacteric 2016;19(2):151-61.)**
- Women have reported that they prefer sexual intercourse to feel 'wetter', feel more able to orgasm when sex is wetter, and think that their partner prefers sex that feels more wet than dry. **(Jozkowski KN et al. Women's perceptions about lubricant use and vaginal wetness during sexual activities. J Sex Med 2013;10(2):484-92. (Abstract).)**
- In an American study, vaginal discomfort related to menopausal changes caused 58% of women to avoid sex, with 59% finding sex painful and 64% reporting a loss of libido. Around 30% of women and men in the study said vaginal discomfort was the reason they stopped having sex altogether. **(Simon JA et al. Clarifying Vaginal Atrophy's Impact on Sex and Relationships (CLOSER) survey: emotional and physical impact of vaginal discomfort on North American postmenopausal women and their partners. Menopause 2014;21(2):137-42. (Abstract).)**
- Research conducted in the United States and Europe has shown that moderate to severe vaginal symptoms may reduce a woman's quality of life as much as serious conditions like arthritis, asthma, chronic lung disease and irritable bowel syndrome. **(DiBonaventura M et al. The association between vulvovaginal atrophy symptoms and quality of life among postmenopausal women in the United States and Western Europe. J Women's Health (Larchmt) 2015;24(9):713-22. (Abstract)**
- However, many women don't seek help for these symptoms. **(Edwards D et al. Treating vulvovaginal atrophy/genitourinary syndrome of menopause: how important is vaginal lubricant and moisturizer composition? Climacteric 2016;19(2):151-61.)**
- Unlike the other menopause symptoms, which tend to reduce in the years following the last period, **(NICE. News and Features (online). Women with symptoms of menopause should not suffer in silence. November 2015. Available at: <https://www.nice.org.uk/news/article/women-with-symptoms-of-menopause-should-not-suffer-in-silence> (Accessed March 2016).**
- Vaginal dryness is likely to get worse if it is not treated. **(NHS Choices. Hormone replacement therapy (HRT). Available at: <http://www.nhs.uk/Conditions/Hormone-replacement-therapy/Pages/Introduction.aspx> (Accessed March 2016).**
- Your doctor can probably tell if you are perimenopausal or menopausal depending on your age, menstrual cycle and symptoms. Diagnosis may be more difficult if you are taking hormonal treatments (e.g. to treat heavy periods). **(NICE guideline NG23. Menopause: Diagnosis and Management. Information for the public. Available at: <https://www.nice.org.uk/guidance/ng23/ifp/chapter/About-this-information> (Accessed March 2016.)**

- They might need to examine you to rule out other health problems. This may include examination of your external genitals
- They may also examine the inside of your vagina
- Your doctor may want to do a 'swab' or urine test to check for infection.
- They may also want to do blood tests to check your hormones and/or general health.

(NICE Clinical Knowledge Summaries. The menopause. October 2015. Available at: <http://cks.nice.org.uk/menopause#!topicsummary> (Accessed March 2016).)

- Systemic oestrogen will also help other menopausal symptoms such as hot flushes. If you have a uterus, this should be combined with another hormone called progesterone. If you have had a hysterectomy, you can take systemic oestrogen alone. Systemic HRT can be taken orally as a tablet, inserted under the skin as an implant, or applied topically as a patch or skin gel. **(NHS Choices. Hormone replacement therapy (HRT). Available at: <http://www.nhs.uk/Conditions/Hormone-replacement-therapy/Pages/Introduction.aspx> (Accessed March 2016).)**
- Vaginal oestrogens may be more suitable if vaginal dryness is the main issue for you or if you are unable to take systemic HRT for medical reasons. They can also be used with systemic HRT. **(NICE guideline NG23. Menopause: Diagnosis and Management. Information for the public. Available at: <https://www.nice.org.uk/guidance/ng23/ifp/chapter/About-this-information> (Accessed March 2016).)**
- These are inserted into the vagina and come as a pessary, ring or cream. Vaginal HRT contains low doses of oestrogen and does not need to be combined with progesterone. **(NHS Choices. Hormone replacement therapy (HRT). Available at: <http://www.nhs.uk/Conditions/Hormone-replacement-therapy/Pages/Introduction.aspx> (Accessed March 2016).)**
- Research has shown that in women using vaginal oestrogen therapy to treat vaginal discomfort, 58% found sex less painful, 41% found sex more satisfying and 29% found it improved their sex life. What's more, 57% of men looked forward to having sex because of their partner's vaginal oestrogen therapy. **(Simon JA et al. Clarifying Vaginal Atrophy's Impact on Sex and Relationships (CLOSER) survey: emotional and physical impact of vaginal discomfort on North American postmenopausal women and their partners. Menopause 2014;21(2):137-42. (Abstract).)**
- Tibolone (Livial®) is often classed as a type of systemic HRT. It is a man-made steroid with similar effects to the female hormones oestrogen and progesterone as well as testosterone. It can improve menopausal symptoms and a lack of sexual desire. **(Merck, Sharp & Dohme Limited. Livial 2.5mg Summary of Product Characteristics. March 2009. Available at: <https://www.medicines.org.uk/emc/medicine/8552> (Accessed**

January 2016). Davis SR. *The effects of tibolone on mood and libido. Menopause* 2002;9(3):162-70.)

- Although it offers numerous benefits, HRT is also associated with some risks, mainly when used systemically. **(NICE guideline NG23. Menopause: Diagnosis and management. November 2015. Available at: (Accessed March 2016).**
- There is some evidence that complementary therapies and unregulated preparations may relieve menopause symptoms. Examples include isoflavones, black cohosh and St. John's Wort. However, many different preparations are available, their safety is uncertain, and they may interact with other medicines. **(NICE guideline NG23. Menopause: Diagnosis and management. November 2015. Available at: (Accessed March 2016).**
- (Vaginal lubricants and moisturisers) can be used alone or in addition to vaginal oestrogen. **(NICE guideline NG23. Menopause: Diagnosis and management. November 2015. Available at: (Accessed March 2016).**
- Vaginal moisturisers (e.g. Replens™ MD Longer Lasting Vaginal Moisturiser) help retain moisture in the vagina. These can be applied regularly and at least 2 hours before sex. (www.replens.com)
- If your menopause symptoms are affecting your mood or causing you anxiety, you may benefit from Cognitive Behavioural Therapy (CBT). **(NICE guideline NG23. Menopause: Diagnosis and management. November 2015. Available at: (Accessed March 2016).**
- This is a type of 'talking therapy.' Your doctor may be able to refer you for CBT on the NHS, or you can pay to see a therapist privately - ask your doctor if they can recommend someone locally, otherwise you can find a register of accredited CBT therapists in the UK on the British Association for Behavioural & Cognitive Psychotherapies (BABCP) website www.babcp.com and a directory of chartered psychologists, some of whom specialise in CBT, on The British Psychological Society (BPS) website www.bps.org.uk **(NHS Choices. Cognitive Behavioural Therapy (CBT). Available at: <http://www.nhs.uk/Conditions/Cognitive-behavioural-therapy/Pages/Introduction.aspx> (Accessed March 2016).)**
- You may be able to improve some of your menopause symptoms yourself by eating a healthy, balanced diet, maintaining a healthy weight and exercising regularly **(NHS Choices. Menopause. Available at: <http://www.nhs.uk/conditions/menopause/pages/introduction.aspx> (Accessed March 2016).**
- Having sex has been shown to reduce vaginal changes associated with the menopause and women who have sex report fewer vaginal symptoms than those who do not. **(Leiblum S et al. Vaginal atrophy in the postmenopausal woman. The importance of sexual activity and hormones. JAMA 1983;249(16):2195-8. (Abstract) Bachmann GA et al. Diagnosis and treatment of atrophic vaginitis. Am Fam Phys 2000;61(10):3090-96.)**

Women 8. Women's sexual problems

- They are estimated to affect around one-third of young and middle-aged women and about half of older women. (**ISSM (online) How many women have sexual problems. Available at: <http://www.issm.info/education-for-all/sexual-health-qa/how-many-women-have-sexual-problems> (Accessed March 2016)**)
- A lack of sexual desire and a lack of sexual arousal often occur together. And treatment of one often improves the other. (**European Society for Sexual Medicine. The EFS and ESSM Syllabus of Clinical Sexology (2013). Medix Publishers, Amsterdam**).
- These include never having an orgasm, delayed or infrequent orgasms, and a reduction in the strength of orgasmic sensations. While some women don't need to have an orgasm to enjoy sex, this may be a real problem for others and their partners. (**European Society for Sexual Medicine. The EFS and ESSM Syllabus of Clinical Sexology (2013). Medix Publishers, Amsterdam. (BMJ Best Practice. Sexual dysfunction in women (2015). Available at: <http://bestpractice.bmj.com/best-practice/monograph/352.html> (Accessed January 2016) (NHS Choices (online). Female sexual problems. Available at: <http://www.nhs.uk/Livewell/Goodsex/Pages/Femalesexualdysfunction.aspx> (Accessed January 2016)**)
- Vaginal moisturisers (e.g. Replens™ MD Longer Lasting Vaginal Moisturiser) help retain moisture in the vagina. These can be applied regularly and at least 2 hours before sex. (**www.replens.com**)
- Flibanserin (Addyi™) is a new drug for treating low sexual desire. It has to be taken every day and should not be combined with alcohol. It was approved for use in the United States in 2015 but has not been approved for use here yet. (**FDA News release. FDA approves first treatment for sexual desire disorder (online). August 18, 2015. Available at: <http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm458734.htm> (Accessed January 2015)**)
- Treating other conditions such as diabetes or depression may also help improve symptoms of sexual dysfunction. (**NHS Choices (online). Female sexual problems. Available at: <http://www.nhs.uk/Livewell/Goodsex/Pages/Femalesexualdysfunction.aspx> (Accessed January 2016)**)

- Tibolone (Livial®) is often classed as a type of hormone replacement therapy (HRT). It is a man-made steroid with similar effects to the female hormones oestrogen and progesterone as well as testosterone. It can improve menopausal symptoms such as hot flushes (**Merck, Sharp & Dohme Limited. Livial 2.5mg Summary of Product Characteristics. March 2009. Available at: <https://www.medicines.org.uk/emc/medicine/8552> (Accessed January 2016)** and can improve lack of libido (sex drive). (**Davis SR. The effects of tibolone on mood and libido. Menopause 2002;9(3):162-70.**)

Men and Women X. the Mediterranean diet

- A traditional Mediterranean diet includes large amounts of fruit, vegetables, nuts, whole grains, legumes (beans, peas and lentils) and olive oil. It includes moderate amounts of fish and alcohol (wine with meals), and low amounts of dairy products, meat and sweets. (**Willett WC et al. Mediterranean diet pyramid: a cultural model for healthy eating. Am J Clin Nutr 1995;61(6):1402-6S.**)
- Between 1993 and 2013, the number of obese women increased from 16% to 25% and the number of obese men increased from 13% to 24%. In 2012, 19% of men and 26% of women were classed as inactive. And between 2009 and 2012 overall purchases of fruit and vegetables decreased. (**Health & Statistics Information Centre. Statistics on Obesity, Physical Activity and Diet – England, 2014 [NS]. Available at: <http://www.hscic.gov.uk/catalogue/PUB13648/Obes-phys-acti-diet-eng-2014-rep.pdf> (Accessed January 2016)**)
- In 2014, CVD was the second biggest cause of death in the UK, causing 27% of all deaths, a total of around 155,000. These were mainly from heart disease (45%) and stroke (25%). Heart disease remains the biggest single cause of death in the UK. (**British Heart Foundation. CVD statistics 2014. Available at: <https://www.bhf.org.uk/research/heart-statistics> (Accessed January 2016)**)
- Studies have shown that consistently eating a Mediterranean diet can:
 - Reduce the risk of death from CVD, cancer and other causes
 - Reduce the risk of Parkinson's disease and Alzheimer's disease
 - Increase the likelihood of healthy aging

(**Trichopoulos A, Costacou T, Bamia C, Trichopoulos D. Adherence to a Mediterranean diet and survival in a Greek population. N Engl J Med 2003;348:2599-608. Fung TT, Rexrode KM, Mantzoros CS, Manson JE, Willett WC, Hu FB. Mediterranean diet and incidence of and mortality from coronary heart disease and stroke in women. Circulation 2009;119:1093-100. Lopez-Garcia E, Rodriguez-Artalejo F, Li TY, Fung TT, Li S, Willett WC, et al. The Mediterranean-style dietary pattern and mortality among men and women with cardiovascular disease. Am J Clin Nutr 2014;99:172-80. Estruch R, Ros E, Salas-Salvado J, Covas MI, Corella D, Aros F, et al. Primary prevention of cardiovascular disease with a Mediterranean diet. N Engl J Med 2013;368:1279-90. Samieri C, Sun Q, Townsend MK, Chiuve SE, Okereke OI, Willett WC, et al. The association between dietary patterns at**

midlife and health in aging: an observational study. Ann Intern Med 2013;159:584-91
Crous-Bou M , Fung TT, Prescott J et al. Mediterranean diet and telomere length in Nurses' Health study: population based cohort study. BMJ 2014;349:g6674. .Sofi F, Cesari F, Abbate R et al. Adherence to Mediterranean diet and health status: meta-analysis. BMJ 2008;337:a1344.)

- This diet includes foods that contain healthier, unsaturated fats, such as olive oil, nuts and oily fish. These fats can help reduce the risk of CVD by lowering the bad fats (cholesterol and triglycerides) in the body.
- You should eat less saturated fat, because this can increase the risk of CVD. Saturated fats are found mainly in animal products (fatty meats, butter, cream and cheese), biscuits, cakes and pastries, but coconut and palm oils also contain them.
- Other risk factors for CVD include eating too much salt and sugar, being overweight, not taking enough physical activity and smoking.

NHS Choices (online). Live well. Fat: The facts. 30/04/15. Available at:
<http://www.nhs.uk/Livewell/Goodfood/Pages/Fat.aspx> (Accessed January 2016).

- Government guidelines recommend that men and women do not regularly drink more than 14 units of alcohol per week (**Department of Health. Open consultation. Health risks from alcohol. New guidelines. 08 January 2016. Available at:**
<https://www.gov.uk/government/consultations/health-risks-from-alcohol-new-guidelines> (Accessed January 2016))

Men and women X. Body Mass Index (BMI)

- The number of people who are overweight or obese is increasing rapidly in many parts of the world. (**WHO. Global database on Body Mass Index (online). 28/01/16. Available at:** <http://apps.who.int/bmi/index.jsp> (Accessed January 2016).)
- In the UK in 2012, 42% of men and 32% of women were overweight and 24% of men and 25% of women were obese. (**Health & Statistics Information Centre. Statistics on Obesity, Physical Activity and Diet – England, 2014 [NS]. Available at:**
<http://www.hscic.gov.uk/catalogue/PUB13648/Obes-phys-acti-diet-eng-2014-rep.pdf> (Accessed January 2016).)
- Body Mass Index (BMI) uses your weight and height to determine if you are within the healthy weight range, underweight, overweight or obese.
- The standard BMI ranges for weight categories in adults are:

BMI	Weight category
Below 18.5	Underweight
18.5-24.9	Normal weight

25.0-29.9	Overweight
30.0 and above	Obese

(Department of Health and Human Services Centers For Disease Control and Prevention. Body Mass Index: Considerations for Practitioners (online). Available at: <http://www.cdc.gov/obesity/downloads/bmiforpractitioners.pdf> (Accessed January 2016).)

- Having a low BMI and being underweight may be a sign that you are not eating enough or you have an underlying illness **(NHS choices (online) What's your BMI. 30/12/15. Available at: <http://www.nhs.uk/Livewell/loseweight/Pages/BodyMassIndex.aspx> (Accessed January 2016).)**
- People with a BMI above the normal (healthy) range are more likely to suffer obesity-related health problems such as diseases of the heart and blood vessels (cardiovascular disease (CVD)), type 2 diabetes and certain cancers. And CVD, type 2 diabetes, and certain types of cancer and their treatment, can all increase your risk of sexual problems.

(Department of Health and Human Services Centres For Disease Control and Prevention. Body Mass Index: Considerations for Practitioners (online). Available at: <http://www.cdc.gov/obesity/downloads/bmiforpractitioners.pdf> (Accessed January 2016). NHS choices (online) What's your BMI. 30/12/15. Available at: <http://www.nhs.uk/Livewell/loseweight/Pages/BodyMassIndex.aspx> (Accessed January 2016) (WHO. Global database on Body Mass Index (online). 28/01/16. Available at: <http://apps.who.int/bmi/index.jsp> (Accessed January 2016).)

- BMI can tell you if you weigh too much weight, but it cannot tell you if this is due to too much fat. It does not distinguish between excess fat, muscle or bone mass, and it cannot provide information on how fat is distributed within the body. It also does not account for other factors such as age, sex, ethnicity and muscle mass. **(Department of Health and Human Services Centers for Disease Control and Prevention. Body Mass Index: Considerations for Practitioners (online). Available at: <http://www.cdc.gov/obesity/downloads/bmiforpractitioners.pdf> (Accessed January 2016).) NHS choices (online) What's your BMI. 30/12/15. Available at: <http://www.nhs.uk/Livewell/loseweight/Pages/BodyMassIndex.aspx> (Accessed January 2016).)**

For this reason it may be less reliable in certain groups of people, such as:

- Older people who lose muscle with aging - they may fall in the normal (healthy) weight range even though they are carrying too much fat
- Muscular people or highly trained athletes who have increased muscle mass - they may be classed as overweight or obese even though they have little body fat **(NHS choices (online) What's your BMI. 30/12/15. Available at: <http://www.nhs.uk/Livewell/loseweight/Pages/BodyMassIndex.aspx> (Accessed January 2016).)**

- So, BMI is best used as a 'screening tool' to identify people who are overweight or obese. Other factors such as how much fat they have, how this is distributed within the body, their genetics and fitness will all provide more information on their risk of disease. **(Department of Health and Human Services Centers for Disease Control and Prevention. Body Mass Index: Considerations for Practitioners (online). Available at: <http://www.cdc.gov/obesity/downloads/bmiforpractitioners.pdf> (Accessed January 2016).)**
- Having too much of it puts you at increased risk of CVD, type 2 diabetes and cancer. **(NHS choices (online) What's your BMI. 30/12/15. Available at: <http://www.nhs.uk/Livewell/loseweight/Pages/BodyMassIndex.aspx> (Accessed January 2016) World Cancer Research Fund/American Institute for Cancer Research. Food, nutrition, physical activity and the prevention of cancer: a global perspective. Washington DC: AICR, 2007. Available at: <http://wcrf.org/int/research-we-fund/continuous-update-project-cup/second-expert-report> (Accessed January 2016).)**
- Even if your BMI is in the healthy (normal) range, you can still have excess tummy fat that increases your risk of these diseases. **(NHS choices (online) What's your BMI. 30/12/15. Available at: <http://www.nhs.uk/Livewell/loseweight/Pages/BodyMassIndex.aspx> (Accessed January 2016).)**

How do you do it?

- Feel for the top of your hips and for the bottom of your ribs
 - Wrap a tape measure around your waist, in the middle of these two points
 - Breathe out naturally, then take the measurement
- (NHS choices (online) What's your BMI. 30/12/15. Available at: <http://www.nhs.uk/Livewell/loseweight/Pages/BodyMassIndex.aspx> (Accessed January 2016).)**

Country or ethnic group	Waist circumference	What it means	What you should do
Europid (Caucasian/white skin), Eastern Mediterranean, Middle-East (Arab), Sub-Saharan	<ul style="list-style-type: none"> • 94cm or more and you are a man or • 80cm or more and you are a woman 	You have abdominal obesity	Try to lose weight
South Asian, Chinese, Japanese, Ethnic South and Central American	<ul style="list-style-type: none"> • 90cm or more and you are a man or • 80cm or more and you are a woman 	You have abdominal obesity	Try to lose weight
Any	<ul style="list-style-type: none"> • 102cm or more and you are a man 	You have	See your GP

	or <ul style="list-style-type: none"> • 88cm or more and you are a woman 	significant abdominal obesity and are at very high risk	
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(The International Diabetes Federation. The IDF consensus worldwide definition of the metabolic syndrome. Available at:

http://www.idf.org/webdata/docs/MetSyndrome_FINAL.pdf (Accessed January 2016)

NHS choices (online) What's your BMI. 30/12/15. Available at:

<http://www.nhs.uk/Livewell/loseweight/Pages/BodyMassIndex.aspx> (Accessed January 2016).

- Losing weight will reduce your risk of obesity-related diseases. The best way to lose weight is through diet and exercise. Medication may be required in some cases. **(NHS choices (online) What's your BMI. 30/12/15. Available at: <http://www.nhs.uk/Livewell/loseweight/Pages/BodyMassIndex.aspx> (Accessed January 2016)**