

Understanding Low Libido in Women



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Hormone Solutions

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What is Low Libido?

Libido is the sex drive. It is the necessary forerunner of sexual fantasy, arousal and sexual enjoyment.

Low libido is a serious condition because it can diminish psychological health and well-being, and impacts on personal relationships. Low libido can be extremely well managed with appropriate treatment. Often women are too shy or feel uncomfortable discussing issues relating to sexual function, including low libido, and they may experience unfulfilling sexual and personal relationships as a result.



How is Libido Classified?

Every woman can experience short-term, intermittent disinterest in sex due to fatigue, acute illness, or stress. True low libido is a persistent, enduring disorder causing personal distress. There are four distinct medical classifications of female sexual dysfunction that result in low libido:

Hypoactive Sexual Desire Disorder (HSDD) - The woman lacks sexual fantasies, has little or no sexual thoughts or inclination towards sexual activity of any kind or she is unreceptive to sexual activity.

Typical comments by women with HSDD describing the way they feel include:

‘I have no sexual desire’

‘I’ve lost my desire and I’m sorry for my partner’

‘I do not care about sex anymore, I have no interest in it at all, but my husband insists that I should see a doctor’

‘I’d prefer to sleep or read a book, but I do it anyway’

Sexual Arousal Disorder (SAD) — The woman is unable to attain sufficient sexual excitement. Typical comments by women with arousal disorder describing the way they feel include:

‘I do not feel mentally excited’

‘I have vaginal dryness’

‘It takes ages to get wet/lubricated’

Orgasmic Disorder — The woman cannot attain an orgasm (climax) or it is delayed. Typical comments by women with orgasmic disorder describing the way they feel include:

‘I’ve never had an orgasm’

‘Orgasm is now difficult to reach, it’s brief, not like it used to be despite foreplay and excitement’

‘I cannot have an orgasm any more’

Sexual Pain Disorder – The woman experiences pain when engaging in sexual activity. The most common form of sexual pain is dyspareunia caused by lack of vaginal lubrication. Another form of sexual pain is **vaginismus** where the muscles in the outer third of the woman’s vagina spasm involuntarily and may close the vagina, making vaginal penetration impossible or very difficult.

Typical comments by women with sexual pain describing the way they feel include:

‘We rarely have sex now because I feel pain and my husband doesn’t want to hurt me’

‘I cannot have sex any more because it hurts’

‘Since I lost my periods, having sex has become more and more difficult. I have pain and sometimes cystitis afterwards. I want to regain a normal sex life’

Why Does Low Libido Develop?

Low libido may be present at puberty due to a genetic disorder, or it may first develop in the years post-menopause. It may slowly develop over time due to a chronic disease, or it may suddenly appear after a sexual trauma. Low libido may be generalized (with every partner and in every situation), or situational (affected by personal or partner related issues). It may be a lifelong disorder or have developed after months or years of satisfying sexual encounters. A woman’s libido is variable from situation to situation. However, an enduring low libido may be due to an underlying condition.



The following medical conditions are known to cause low libido:

- Adrenal gland disease (Cushing syndrome)
- AIDS cachexia
- Anemia
- Autoimmune diseases, especially lupus and scleroderma
- Birth defect (e.g. chromosomal abnormality)
- Brain tumor causing hyperprolactinemia
- Brain, spinal cord or nerve damage
- Breast cancer
- Cirrhosis of the liver
- Chronic pain
- Depression
- Diabetes
- Drug abuse
- Dyspareunia (pain during intercourse)
- Early menopause
- Excess sex hormone-binding globulin (SHBG), which does not allow existing testosterone to work on tissues
- Fatigue
- Fibrosis (scar tissue)
- Genetic disorder
- Hardening of the arteries (atherosclerosis)
- Heart disease
- Hypopituitarism
- Kidney failure
- Lack of accurate sexual training
- Multiple sclerosis

- Oophorectomy (removal of the ovaries)
- Pelvic injury
- Pelvic surgery
- Testosterone deficiency due to a hysterectomy
- Thyroid gland disease
- Tuberculosis
- Vaginismus and other pelvic floor problems
- Vulvar nerve problem
- Vulvodynia (burning and stinging in the outer female genitals, but no disease can be identified through testing)
- Workplace or environmental exposure to estrogens causing estrogen dominance (e.g. a pharmaceutical or plastics manufacturing plant, or a farm)

The prescription drugs most likely to cause loss of sexual desire are:

- Amphetamines (stimulants)
- Antidepressants (all types)
- Anabolic steroids for body-building
- Anticholinergics to treat Parkinson's disease
- Antihistamines for nasal congestion
- Antihypertensives for high blood pressure
- Antipsychotics for schizophrenia, paranoia, and bipolar disorder
- Anti-ulcer drugs, especially histamine H₂-receptor blockers and promotility agents
- Appetite suppressants
- Benzodiazepines for relaxation
- Beta blockers to control congestive heart failure
- Chemotherapy drugs to control breast cancer
- Colchicine for gout

- Cyclosporin and azathioprine, immunosuppressives to prevent organ rejection in transplant recipients
- Danazol and GnRH agonists for menstrual problems
- Fluoxetine, an antidepressant
- Hormone replacement therapy HRT (especially oral dose forms, tablets, and pills)
- Indomethacin for arthritis
- Ketoconazole for fungal infections
- Lithium for bipolar disorder
- Monoamine oxidase inhibitors (MAOI) for depression
- Morphine for pain
- Methyldopa for high blood pressure
- Narcotics for sleep
- Birth control pills
- Paroxetine, an antidepressant
- Phenytoin, an antiseizure medication for epilepsy
- Prednisone, prednisolone and cortisone to prevent inflammation
- Sertraline, an antidepressant
- Selective serotonin reuptake inhibitors (SSRI) for depression
- Trazadone, an antidepressant
- Tricyclic antidepressants (amitriptyline, desipramine, imipramine, nortriptyline, and protriptyline)

The above list is only partial. Over 200 prescription medications are known to cause the side effect of low libido.

Who Develops Low Libido?

- Studies show 33 - 43% of all women between the ages of 18 and 59 report some degree of sexual dysfunction
- 21% of these women name low libido as their number one problem
- 25% of women who have had a hysterectomy and did not have previous sexual problems develop low libido after surgery
- Women who undergo oophorectomy (removal of ovaries) experience an immediate 50% reduction in blood testosterone levels which usually results in a decline in desire and libido
- 18% of women report lack of arousal
- 24% of women are unable to achieve an orgasm (sexual climax)
- 14% of women experience pain during sex
- 1% of women have vaginismus

Testosterone is the hormone responsible for libido (sexual desire) in both men and women. A woman in her 40s will have half the testosterone levels in her blood than when she was in her 20s. Women tend to be more sexually motivated, more easily aroused, have higher libidos and are more sexually active in their 20s than in the following decades. In the case of men, testosterone levels generally decline from about age 45 to 50 onwards. There is usually also an associated decline in male libido, sexual activity and performance.

When Should I Be Concerned?

Low libido is only assessed in women 18 years of age and older. If you are a minor, do not be concerned about your lack of desire because your hormones have not yet settled into their mature pattern. If you have a genetic disorder that contributes to lifelong low libido, such as Turner syndrome, talk to your doctor about starting hormone therapy before you turn 15.

Sexual desire is a very personal, individualized feeling that changes with the situation. If your lack of sexual desire does not bother you personally, but does disturb your partner, then it is not a basis for a diagnosis requiring treatment. However, you both may benefit from counseling.

Low libido must extend over at least four weeks to be considered a persistent problem. Low libido can be expected as a transitory effect of late pregnancy, childbirth, sleep deprivation, workplace stress or systemic illness. Do not be concerned about your libido until these life events have concluded at least one month.

There is no right or wrong number of sexual events per week, month or year. There are multiple events and circumstances that contribute to the sexual motivation of women. Sexual inactivity or lack of desire to engage in sexual thoughts, fantasy or activity should only be addressed if it causes distress to the woman. If you are genuinely interested in sex every two weeks or so, then your doctor will probably not treat you for low libido. Women who have sex very infrequently (e.g. twice a year), provided they are compatible with their partners and not distressed by the long intervals between copulations, generally need no interventional treatment.

Only 50% of women can reach orgasm through penetrative sexual intercourse alone, so this does not count as low libido. Most women can reach orgasm through direct stimulation of the clitoris. Try changing your technique before being investigated for low libido.

What are the Signs and Symptoms of Low Libido?

A woman with low libido does not experience sexual excitement often. Her ability to find pleasure in sex is limited. Erotic pictures, language or touch are not stimulating to her. She may masturbate infrequently in preference to intercourse, or not masturbate at all. She may engage in sex only to please her partner, not for her own enjoyment. She may be unable to achieve an orgasm (anorgasmia). Hence, she avoids sexual contact with others.

Vaginal lubrication is a good indicator of sexual arousal in women. Studies show lubrication problems occur in 18% of women in their 30s, 21% of women in their 40s, and 27% of women in their 50s. Fifty percent of women report problems with lubrication during half of their sexual encounters.

What is Normal Sexual Activity?

Sexual activity varies according to the individual and the culture, but in Australia in 2003:

- 8.1% of women (10.4% of men) claim to have sex four times weekly or more
- 29.1% of women (26.5% of men) claim to have sex two or three times weekly
- 25.7% of women (26.7% of men) claim to have sex once per week
- 30.4% of women (33.4% of men) claim to have sex less than once per month or not at all.

Studies in the UK show the length of a sexual relationship governs the frequency of intercourse. Half of all couples bonded together less than three years claim to have sex three times per week or more. Only one-quarter of all couples bonded together four years or more have sex three times per week or more.

It is common not to have sex one month before and one month after childbirth. Do not be concerned about this normal period of low libido and abstinence.

Testosterone and Women

Most women recognize testosterone is a male hormone that helps produce sperm and is responsible for the male secondary sex characteristics, such as large muscles, deep voices, and beards.

However, women also need testosterone as a precursor hormone to help make estrogen in their ovaries. Testosterone is the principal hormone governing female sexuality including desire, arousal, fantasy, frequency, pleasure and orgasm. In addition, testosterone is important to the functioning of the brain, the heart, blood vessels, oil (sebaceous) glands in the skin and is involved in fat distribution. Testosterone has a positive effect on metabolism (energy), mood and stimulating memory. It also aids in producing a general feeling of well-being.

The ovaries make 10 to 20 times less testosterone than men's testes. Women's adrenal glands also produce moderate amounts of testosterone, but they are unable to make up for ovarian failure.



Factors that may lower testosterone levels include:

- Acute critical illness, burns, major trauma or surgery
- Drug use (e.g. opiates, glucocorticoids, anabolic steroids, some anticonvulsants)
- Chronic disease and its treatment
- Alcohol abuse
- Smoking
- Aging

Most of the above cause an increase in sex hormone - binding globulin (SHBG). SHBG is a transporter protein found in the blood. SHBG acts as a carrier to move hormones around the body. Up to 99% of testosterone produced is bound to SHBG. Once bound to SHBG, the testosterone is inactive. Testosterone to which SHBG does not attach is the biologically available testosterone that is free to act on cells throughout the body - free testosterone.

The ovaries and adrenal glands produce testosterone. Women who have their ovaries removed (as part of a total abdominal hysterectomy with bilateral salpingo-oophorectomy or TAHBSO) immediately lose 50% of their testosterone production capacity. Oophorectomized women become testosterone deficient when their adrenal glands cannot compensate for the loss of the ovaries. Women who have their adrenal glands removed (adrenalectomy to control cancer) lose up to 50% of their testosterone. Women who sustain damage to the pituitary gland in the brain lose all of their testosterone production capacity, because the pituitary stimulates both the ovaries and adrenals. Low testosterone levels are also associated with both Parkinson's and Alzheimer's disease.

Most gynecologists prescribe estrogen after a complete hysterectomy (TAHBSO), but often fail to prescribe testosterone replacement. Hence, the hysterectomized woman may develop profound fatigue and lose her libido. Adding testosterone to the estrogen will maintain her libido, increase concentration and prevent her osteoporosis.

In women, testosterone levels are at their highest around the age of 20 years. Levels steadily fall with age. At the age of 40 years women's serum testosterone levels are approximately half what they were at age 20. This level continues to fall with age. In a peri-menopausal woman low sexual desire, unexplained fatigue and lack of energy are commonly due to low testosterone.

Women can be prescribed reduced-dose testosterone to treat poor libido. This is a common "off-label" practice among doctors in the USA and worldwide, where no testosterone product is government approved for use by women. The situation in Australia is distinctly different.

Using Testosterone in Women – Options?

Pharmaceutical-grade testosterone products have been available for use in men for the past 60 years. These products come in many dose forms including injections, patches, pellets, gels and creams. They are specifically designed for use in men and the amounts of testosterone they provide are generally too high for use in women.

Worldwide, there is only one pharmaceutical-grade testosterone product specifically designed for use in women - AndroFeme® testosterone cream (Lawley Pharmaceuticals, Australia). Clinically trialled and available since 1999, it provides an effective and reliable mode for the safe administration of testosterone to women with low libido. Other delivery methods such as lotions, gels, sprays, troches and capsules made by compounding pharmacies have not been clinically tested, manufactured to approved standards or proved to be as effective as testosterone cream for the management of low libido.



The AndroFeme® testosterone cream has virtually replaced other forms of testosterone previously used.

Older forms of testosterone: Some obstetricians and gynecologists (O&G's) will try patients on monthly testosterone injections to see how they respond. Women who use testosterone injections for an extended time (> 6 months) may develop acne, balding, male pattern hair growth on the face, chest, and limbs (hirsutism), and voice deepening. This is because the testosterone blood concentration is usually too high. Additional side effects can include headache, nausea, fluid retention, mood swings and anxiety.

Some compounding pharmacies make testosterone gels, creams, lotions, sprays, implants and troches. However, these products are highly variable in their quality, have not been tested for efficacy or accuracy of dosing and have not been subject to the rigorous checks and balances of government regulators.



Seeking Medical Assistance

Only 20% of women with sexual dysfunction actually seek medical advice for a cure. Help is available and you should not be embarrassed to ask for assistance. If you are not comfortable discussing your sexual issues with your local family doctor, consult a physician skilled in the area of sexual health. Skilled health professionals in this area include women's health specialists, medical obstetricians and gynecologists, sex therapists, reproductive endocrinologists and specialist nurse practitioners. Often, allied health professionals such as relationship counselors, physiotherapists, massage therapists and pharmacists can be part of a sexual health team.

It is very important for your doctor to be skilled in discussing, understanding and managing problems associated with sexual matters. In terms of obtaining your sexual history, it is vital the practitioner knows his or her limits. If the doctor has little or no training in sexual counseling, a referral to a trained sex counselor or sexual health doctor is recommended.

A doctor should:

- not be judgemental due to his or her own sexual prejudices or "hang-ups"
- ensure the patient understands the issue of doctor-patient confidentiality
- be sensitive and optimistic when dealing with relationship issues
- encourage consultation with partner present
- allow extended time for consultations
- understand problems may not be revealed without specific inquiry
- understand sensitive and embarrassing issues may not be readily volunteered

The following is an overview of what will most likely happen if you approach a skilled doctor for assistance with your low libido.

Female Sexual Function Questionnaire

Firstly, your health professional must determine if your libido is actually abnormally low, or if your lack of interest in sex is merely a discrepancy with your partner's rhythm. A common tool used to assess sexual function in women is the Female Sexual Function Index (FSFI), created in 2000 by Dr. Raymond Rosen and his colleagues at the Robert Wood Johnson Medical School. The FSFI consists of 19 multiple-choice questions.

The FSFI asks about sexual feelings and responses during the past four weeks. The FSFI defines sex as caressing, fantasy, foreplay, masturbation and vaginal intercourse. The questionnaire covers six domains: desire, arousal, lubrication, orgasm, satisfaction and pain. The doctor scores each of your responses on a scale of 0 to 5. The minimum score is 2 and the maximum score is 36. Your doctor may use a different questionnaire, but you may find it helpful to complete the FSFI and bring it to your appointment as a guideline for your discussion.



FEMALE SEXUAL FUNCTION INDEX (FSFI)



Female Sexual
Function
Self-Assessment

Here are the questions of the FSFI:

1. Over the past 4 weeks, how **often** did you feel sexual desire or interest?
 - Almost always or always
 - Most times (more than half the time)
 - Sometimes (about half the time)
 - A few times (less than half the time)
 - Almost never or never
2. Over the past 4 weeks, how would you rate your **level** (degree) of sexual desire i.e. interest?
 - Very high
 - High
 - Moderate
 - Low
 - Very low or none at all
3. Over the past 4 weeks, how **often** did you feel sexually aroused ("turned on") during sexual activity i.e. intercourse to end?
 - No sexual activity
 - Almost always or always
 - Most times (more than half the time)
 - Sometimes (about half the time)
 - A few times (less than half the time)
 - Almost never or never
4. Over the past 4 weeks, how would you rate your **level** of sexual arousal ("turned on") during sexual activity or intercourse?
 - No sexual activity
 - Very high
 - High
 - Moderate
 - Low
 - Very low or none at all

5. Over the past 4 weeks, how **confident** were you about becoming sexually aroused ("turned on") during sexual activity or intercourse?
- No sexual activity
 - Very high confidence
 - High confidence
 - Moderate confidence
 - Low confidence
 - Very low or no confidence
6. Over the past 4 weeks, how **often** have you been satisfied with your arousal (excitement) during sexual activity or intercourse?
- No sexual activity
 - Almost always or always
 - Most times (more than half the time)
 - Sometimes (about half the time)
 - A few times (less than half the time)
 - Almost never or never
7. Over the past 4 weeks, how **often** did you become lubricated ("wet") during sexual activity or intercourse?
- No sexual activity
 - Almost always or always
 - Most times (more than half the time)
 - Sometimes (about half the time)
 - A few times (less than half the time)
 - Almost never or never
8. Over the past 4 weeks, how **difficult** was it to become lubricated ("wet") during sexual activity or intercourse?
- No sexual activity
 - Extremely difficult or impossible
 - Very difficult
 - Difficult
 - Slightly difficult
 - Not difficult

9. Over the past 4 weeks, how often did you **maintain** your lubrication (“wetness”) until completion of sexual activity or intercourse?
- No sexual activity
 - Almost always or always
 - Most times (more than half the time)
 - Sometimes (about half the time)
 - A few times (less than half the time)
 - Almost never or never
10. Over the past 4 weeks, how **difficult** was it to maintain your lubrication (“wetness”) until completion of sexual activity or intercourse?
- No sexual activity
 - Extremely difficult or impossible
 - Very difficult
 - Difficult
 - Slightly difficult
 - Not difficult
11. Over the past 4 weeks, when you had sexual stimulation or intercourse, how **often** did you reach orgasm (climax)?
- No sexual activity
 - Almost always or always
 - Most times (more than half the time)
 - Sometimes (about half the time)
 - A few times (less than half the time)
 - Almost never or never
12. Over the past 4 weeks, when you had sexual stimulation or intercourse, how **difficult** was it for you to reach orgasm (climax)?
- No sexual activity
 - Extremely difficult or impossible
 - Very difficult
 - Difficult
 - Slightly difficult
 - Not difficult

13. Over the past 4 weeks, how **satisfied** were you with your ability to reach orgasm (climax) during sexual activity or intercourse?
- No sexual activity
 - Very satisfied
 - Moderately satisfied
 - About equally satisfied and dissatisfied
 - Moderately dissatisfied
 - Very dissatisfied
14. Over the past 4 weeks, how **satisfied** have you been with the amount of emotional closeness during sexual activity between you and your partner?
- No sexual activity
 - Very satisfied
 - Moderately satisfied
 - About equally satisfied and dissatisfied
 - Moderately dissatisfied
 - Very dissatisfied
15. Over the past 4 weeks, how **satisfied** have you been with your sexual relationship with your partner?
- Very satisfied
 - Moderately satisfied
 - About equally satisfied and dissatisfied
 - Moderately dissatisfied
 - Very dissatisfied
16. Over the past 4 weeks, how **satisfied** have you been with your overall sexual life?
- Very satisfied
 - Moderately satisfied
 - About equally satisfied and dissatisfied
 - Moderately dissatisfied
 - Very dissatisfied

17. Over the past 4 weeks, how **often** did you experience discomfort or pain during vaginal penetration?

- Did not attempt intercourse
- Almost always or always
- Most times (more than half the time)
- Sometimes (about half the time)
- A few times (less than half the time)
- Almost never or never

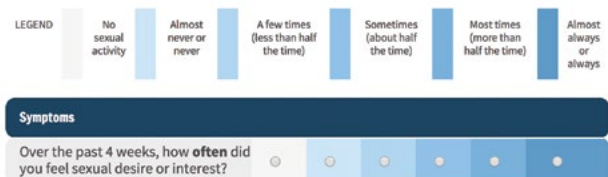
18. Over the past 4 weeks, how **often** did you experience discomfort or pain following vaginal penetration?

- Did not attempt intercourse
- Almost always or always
- Most times (more than half the time)
- Sometimes (about half the time)
- A few times (less than half the time)
- Almost never or never

19. Over the past 4 weeks, how would you rate your **level** (degree) of discomfort or pain during or following vaginal penetration?

- Did not attempt intercourse
- Very High
- High
- Moderate
- Low
- Very low or none at all

The FSFI can be completed online and you can instantly have your calculated score at www.hormonesolutions.com/quiz/fsf



Sexual History

Secondly, your health professional will question you about your current state of health, workplace hazards, living conditions, past surgeries and illnesses, and hereditary diseases in your family. You may be asked if you had a high libido with a different partner. Be prepared to answer these standard questions:

- How old were you at the time of your first kiss and your first intercourse?
- When did you first notice your lack of libido?
- Have you ever had a sexually transmitted infection (STI)?
- Do you have any vaginal or nipple discharge, and if so, what color and consistency?
- Have you gained or lost any hair on your chest, underarms or face?
- Do you also have enlarged breasts?
- Does your breast size vary or remain the same?
- Is there tenderness or pain in your groin, breasts or pelvis?
- Have you ever had your nipples or genitals pierced, and if so, were there complications?
- Do you regularly use prescription or street drugs?
- Do you regularly drink alcohol?
- Do you use herbs or body-building preparations?
- Are you ever able to achieve vaginal lubrication and an orgasm?
- Have you noticed any purple stretch marks on your skin, or facial swelling?
- Have you ever had abnormal vaginal bleeding?
- Have you ever had a urinary tract infection?
- Have you ever had yellow jaundice or hepatitis?

- Have you been fasting or unable to take regular nourishment until recently?

If you have bronze skin, it may flag your doctor to ask in-depth questions about your liver and kidney function. Dialysis and liver patients often have low libido. Tell your doctor if you are using a self-tanner or tanning bed.

Your doctor may inquire about the detergent and fabric softener you use, and the clothing you wear. If your lack of libido is due to a burning and stinging vulva (vulvodynia), then your condition may be aggravated by bleach, perfumes and dyes. You may be advised to change to a less toxic laundry routine. You may need to air dry your underwear. Vulvodynia is triggered by tightly fitting clothing, bike riding, tampons, yeast infections, medical examinations, and sexual intercourse. However, none of these are the specific cause. Regular use of medicated creams to relieve itching may worsen vulvodynia. Vulvodynia not only prevents intercourse or lessens its pleasure, but it also makes it difficult to drive long distances, perform desk work while seated, exercise or socialize.

Your doctor needs to know if you have had pelvic surgery or genital piercings of any kind. These could have compromised the bloodflow and nerve supply to your reproductive organs, caused a deep-seated infection, or pelvic inflammatory disease (PID).

Your doctor may ask if you book an adequate time and place for sexual intercourse. People who prefer to be spontaneous about sex may seldom have it on a regular basis. Your doctor will ask you questions about your sexual response cycle and if you experience pain during all sexual activity, just with penetration or only during a particular position. They will also ask if you have no or limited sensation.

Physical Examination

Thirdly, your doctor must perform a physical examination, including an internal exam. Depending on the findings of the physical exam, your

doctor may order medical imaging and laboratory tests to rule out diseases that cause low libido.

Starting with your head and working downwards, the doctor looks for clues that could indicate an underlying illness responsible for your low libido. The doctor will check you:

- Eyes for droopy or pale lids, abnormal movements, dryness, and visual loss or disturbance
- Nailbeds for pallor, indicating anemia
- Ears for hearing loss and unusual ear placement
- Reflexes and abnormal movements (synkinesia)
- Hair in your underarms (axilla) and on your genitalia, scored according to Tanner criteria

Your doctor will also perform a pelvic exam to check for cancer, benign tumors, lesions, discharge, and sexually transmitted infections. Your doctor will feel your breasts in a circular motion and look for color changes, nipple discharge and asymmetry. Your doctor will feel (palpate) for a mass in your pelvis to rule out fibroid and cancerous tumors. Your doctor must look at your groin for ambiguous genitals (pseudohermaphroditism) and to rule out pregnancy, which turns the cervix blue. Many nerve conditions are associated with low libido, so your doctor must test your reflexes and muscle strength.

As you recline on the examination couch, your doctor inserts a clean clamp (speculum) to hold your vagina open and shines a bright light on your perineum to see well. If you have not had a Pap smear in the past year, the doctor scrapes your cervix with a wooden popsicle stick, smears the sample on a slide, and sends it to the pathology lab for expert examination.

You may refuse the internal pelvic exam without an anesthetic if you have vaginismus, which is involuntary contractions of the pubococcygeus (PC) muscle surrounding the vagina. It makes the vaginal opening so tight that penetration is either very painful (secondary vaginismus) or impossible (primary vaginismus). Sometimes, vaginismus is caused by

physical damage from a difficult childbirth, a motor vehicle accident, or rape. Vaginismus can also have a psychological cause. If you are afraid of an internal exam, ask for a referral to a gynecologist who is skilled in treating vaginismus. Remind your family doctor to state in the referral letter that you require an anaesthetic before the examination.



Sexual Response Review

Your doctor needs to discuss with you the normal sequence of sexual arousal in women to determine:

- When during sexual activity your problem starts
- How long you have experienced this problem
- Its frequency and persistence

The normal sequence of sexual arousal is:

1. Slight breast enlargement
2. Nipple erection
3. Vaginal lubrication
4. Swelling labia and clitoris

Women with sexual arousal disorder cannot follow this sequence, even when they have sufficient sexual stimulation for a long period and are willing sex partners.

If you have always had sexual arousal disorder, but have some sexual desire, then your problem may be simple naivety about how your genitals function. This can be easily corrected with a couple of hours of training in different techniques to stimulate them. You may be inhibited by your religious background, feel guilty about cultural taboos, or you may have a negative self-image. Talk to an accredited sex therapist.

If sex education does not fix your sexual arousal disorder and it has been present since puberty, then you should be screened for: diabetes, thyroid gland deficiency (hypothyroidism), genetic disorders (e.g. Turner and Kallmann syndromes), and muscular dystrophy. Screening is especially important if you lack sexual desire and your vagina is unable to lubricate. The above conditions cause sex hormone deficiency (hypogonadism), which can be controlled with hormone replacement therapy.

If you once had good sexual function and only recently developed sexual arousal disorder, then you must be screened for: early menopause, hormone deficiency, vaginitis, cystitis (bladder inflammation, usually due to infection), endometriosis, multiple sclerosis, and diabetes.

If you recently had a mastectomy (breast removal), or hysterectomy (uterus removal), then your body image may have changed. You may need group therapy or psychotherapy to regain self-acceptance or help you deal with trauma if you had a cancer scare. If your ovaries were also removed (oophorectomy), then you will need hormone replacement therapy (HRT) to prevent your vagina from thinning and drying out.

Did you recently begin taking prescription medication, street drugs, or traditional herbs? Your doctor may consult a pharmacist to find out if any of these are lowering your libido. Some known culprits that cause sexual arousal disorder are: birth control pills, antidepressants,

antihypertensives (to control high blood pressure), and sedatives. The solution may simply be changing your birth control method or switching to another prescription. Also, some over-the-counter herbal medicines for “women’s problems” can depress your libido (e.g. Chasteberry). Consult your doctor about discontinuing these.

If you have sexual arousal disorder because of nerve or blood vessel damage in your groin, then you can increase feeling with alprostadil, a drug invented to treat male impotence.

One in ten women never have an orgasm (sexual climax), which is known as anorgasmia. Your doctor may review your sexual technique to find out if you realize half of all women cannot attain orgasm through vaginal penetration alone, and require direct stimulation of the clitoris. The frustration resulting from anorgasmia can cause low libido.

Orgasmic disorder is persistent, frequent absence of sexual climax, or one that is greatly delayed, even if the woman has intense, prolonged sexual stimulation. Orgasmic disorder may be present at puberty, or may develop later in life as the result of a disease such as diabetic neuropathy. It should not be confused with occasional inability to reach orgasm due to tiredness, acute physical illness, or stress. Known causes of orgasmic disorder include depression and taking SSRI antidepressants to alleviate it, such as fluoxetine. Orgasmic disorder is only a problem if lack of orgasm distresses you.

If you seek treatment for orgasmic disorder, encourage your regular sex partner to participate. Your therapist will ask if you have been able to achieve orgasm with another partner. If so, it may be your current partner does not provide you with sufficient foreplay, or is a premature ejaculator, or you both were not taught how genitals operate. Once a woman has been taught to achieve orgasm, she does not lose that ability unless there is pelvic damage, post traumatic stress disorder, psychiatric disease like depression, or conflict in her relationship. You may also have feelings of guilt, religious or cultural taboos regarding pleasure, or a fear of losing control in front of another person.

If you avoid sex because it causes your vulva to burn unbearably, then your doctor will suggest lifestyle changes to minimize your vulvodynia episodes. You must: avoid tampons, modify the clothes you wear and how you wash them, watch what you eat and drink, stop swimming in chlorinated pools for exercise, and change when and where you have sex.

Dyspareunia is pelvic pain during or after intercourse. Both men and women can have dyspareunia. It can have an acute physical cause, such as an ulcerated vagina or severe yeast infection (candidiasis), or a psychological cause such as past rape or sexual trauma.

If you have dyspareunia after a hysterectomy, ask for an ultrasound to look for a remnant of an ovary left behind by the surgeon. The remnant can develop painful cysts.

Dyspareunia often results from chronic diseases that cause pelvic pain, such as interstitial cystitis; endometriosis; varicose veins in the pelvis, also called pelvic congestion syndrome; fibroid tumors; inflammatory bowel disease; pelvic inflammatory disease (PID); long-standing sexually transmitted infection; and muscle spasms that tense the pelvic floor.

Switching Birth Control Method

Your doctor will likely review your birth control method, to ensure fear of pregnancy is not lowering your libido. If you take birth control pills, your doctor may suggest switching brands or using a barrier method. Prolonged use of oral birth control pills can suppress a normal libido over time. If you use spermicides or contraceptive foam, cream, or gel, then your doctor will likely switch you to oral birth control pills or an intrauterine device (IUD). Spermicides and birth control pills containing nonoxynol-9 (N-9) strip the lining of the vagina and rectum and can make an already tense sexual experience even more trying. If you do not want children and find birth control pills irritating, broach the subject of sterilization with your doctor.



If you have vulvodynia, changing birth control methods may help. The spermicide, latex condom, or douche you are currently using may be irritating and swelling your vagina in an allergic reaction, causing muscle spasms. If your vagina sustained damage in childbirth, a motor vehicle accident, or rape, then a gynecologist may be able to repair it surgically.

Diagnosics

Your doctor requires help from the laboratory and medical imaging to confirm the findings of the physical exam. A diagnosis is when your doctor names your disease. Preliminary diagnostic tests help your doctor to narrow down the diagnosis, but confirmatory tests are usually required. For example, if your hormone blood tests suggest Turner syndrome, then your doctor swabs the inside of your cheeks (buccal smear) to confirm it.

Sexually active females give a urine sample or a β hCG blood test as a routine precaution to ensure they are not pregnant before beginning hormone therapy. This is a standard precaution because of irregular periods.

A routine urine drug test is required as a standard legal precaution before treatment.

You probably will be sent to the diagnostic imaging department for chest and skull x-rays, a mammogram, and an ultrasound of your ovaries. Your doctor must rule out residual testicles in your abdomen, even though you outwardly appear female. You may be asked to get a CT, MRI or PET scan, or a biopsy.

The usual preliminary blood tests for low libido include:

PROFILE	TEST	NORMAL ADULT NON-PREGNANT FEMALE VALUE
Thyroid	T3	110 to 230 ng/dL
	T4	5 to 10 µg/dL
	TSH	1 to 4 µU/mL
Liver	AST	5 to 40 IU/L
	ALT	5 to 35 IU/L
	ALP	30 to 85 IU/mL
	Bilirubin	0.1 to 1.0 mg/dL
	Cholesterol	150 to 250 mg/dL
Kidney	Creatinine	0.7 to 1.5 mg/dL
	BUN	7 to 20 mg/dL
Adrenals	Cortisol	2 to 28 µg/dL depending on time of day
	ACTH	15 to 100 pg/mL
Hormones	GH	0 to 8 ng/mL
	FSH	3 to 20 mIU/mL
	LH	<7 mIU/mL
	HCG	Negative unless pregnant
	Progesterone	< 2 ng/mL before ovulation > 5 ng/mL after ovulation
	Estradiol	Varies from 25 pg/mL (150 pmol/L) on Day 3 to 200 pg/mL (1200 pmol/L) around ovulation
	Prolactin	< 24 ng/mL

Hormones	Testosterone	28 to 80 ng/dL 1.0 – 2.8 nmol/L
	Free Testosterone	1.3 – 6.8 pg/mL 4.5 – 23.6 pmol/L
	SHBG	18 to 114 nmol/L
	FAI	2 – 6
Anemia	Red Blood Cells	4.2 to 5.4 million/mm ³
	White Blood Cells	5,000 to 10,000/mm ³
	Hemoglobin	12 to 16 g/dl
	Hematocrit	37% to 47%
	Platelets	150,000 to 400,000 mm ³
	MCV	80 to 95 μ m ³
	MCH	27 to 31 pg
	MCHC	32% to 36%
	Retics	0.5% to 2% of total RBC
	Serum Iron	60 to 190 μ g/dl
Iron Studies	Ferritin	12 to 300 mg/L or 56 ng/ml
	TIBC	250 to 420 μ g/dl

These are guidelines only. Children and men have different normal values. Your laboratory adjusts its normal values for the local population it serves. It may use different units of measure.

- Your doctor will suspect a genetic disorder if you have: little interest in sex, minimal breast growth, very small sex organs, male pattern hair growth, below average IQ, ambiguous sexual organs, never started menstruating or started menstruating and stopped abruptly.
- If you are a hemodialysis patient, your low libido is part of end-stage renal disease (ESRD), which can only be cured by a kidney transplant. Your doctor will investigate you for kidney failure if you have: low libido, history of urinary tract infections, bronzed skin, high blood pressure, nausea and vomiting, alternating diarrhoea and constipation, ammonia breath, scanty urine, tiredness, mental fog, muscle cramps, skin that bleeds or bruises easily, no pain sensation in your toes and fingers, and a light salting (uremic frost) on your skin.
- Your doctor will suspect Cushing syndrome, a disorder of the adrenal glands, or cirrhosis of the liver if you have: low libido, weight gain around the torso only and body hair loss. Cirrhosis usually causes additional symptoms, such as: jaundice, severe pain in your upper right abdomen, spider veins, reddened palms, foul breath, swollen liver and abdomen (ascites), swollen limbs (edema), fever, muscle wasting, psychological changes, and slow clotting.
- Your doctor will suspect a problem with the thyroid gland in your neck if it is swollen and you have: low libido, bulging eyes, unexplained weight loss, increased hunger, diarrhoea, tremors, nervousness, irritability, racing heartbeat (tachycardia), and/or heavy sweating.
- If you are an AIDS patient or had another wasting illness (cachexia) where you were malnourished and are now eating solids again, you may develop temporary low libido that will resolve spontaneously as your body regains its vigor.

Psychological Assessment

If your desire is truly low but your blood and urine results indicate you do not have an underlying disease, then your doctor must consider psychological causes, such as sexual arousal disorder, sexual aversion disorder, orgasmic disorder, and hypoactive sexual desire disorder. The underlying cause of a psychological disorder that results in sexual problems may be:

- Abuse
- Anger
- Body image
- Boredom
- Conflict with the sex partner
- Family of origin issues
- Fear of pregnancy, sexually transmitted infections, or interruption
- Grief
- Guilt
- Inability to communicate sexual preferences to the sex partner
- Lack of sex education
- Religious issues
- Resentment
- Revulsion at the partner's sexual peccadillo
- Sexual preference (heterosexual or homosexual)
- Stress and tension
- Sublimation (training to suppress sexual feelings)
- Trauma (rape, sexual exploitation, or ridicule)
- Worry about sexual performance, discovery, or lack of time

Your family doctor may be comfortable offering you psychosexual counseling, or may refer you to a licensed sex therapist, psychologist or psychiatrist.

Using AndroFeme® Testosterone Cream in Women

For decades testosterone has successfully been used to address low libido in women.

Dozens of medical studies has shown that testosterone works.



The booklet *The Safe and Effective Use of Testosterone in Women* explains in greater detail how testosterone is safely used in women. This free booklet can be downloaded from www.hormonesolutions.com/testosterone-women



The recommended starting dose of ANDROFEME® 1% testosterone cream for women is 0.5mL (5mg testosterone) applied once daily to the outer thigh and lower torso.

It is important that after three weeks use blood testosterone levels are monitored (and if necessary adjusted) to maintain levels within the normal physiological range for women.

Full prescribing details can be found at www.hormonesolutions.com

Specialist Referral Options

Depending on the initial laboratory findings, your doctor may need to refer you to an endocrinologist (hormone specialist), genetic counselor, gynecologist (female reproductive organ specialist), nephrologist (kidney specialist), psychiatrist (mental disease specialist), neurologist (nerve specialist), venereologist (specialist in sexually transmitted infections), hepatologist (liver specialist), or licensed sex therapist.

Most medical insurance plans do not provide reimbursement for sex therapy. It costs up to \$300 per session, so ensure your sex therapist has proper credentials:

- In the U.S.A. and Canada, sex therapists are certified by either the American Association of Sex Educators, Counselors and Therapists <http://www.aasect.org/> or the American Board of Sexology <http://americanboardofsexology.com/certif.html>
- In Australia, sex therapists are certified by the the Society of Australian Sexologists Ltd <http://assertnational.org.au/>
- In the U.K., sex therapists are accredited by the British Association for Sexual and Relationship Therapy (BASRT) <http://www.basrt.org.uk/>

Verify with the appropriate governing body that your sex therapist is a member in good standing before your treatment begins.

Additional Treatment Options

Your doctor must treat the underlying reason for your lack of desire. It must be tailored to your specific case. There is no 'one size fits all' cure for low libido.

For example:

- Testosterone for low libido due to menopause and hysterectomy and testosterone deficiency
- Progesterone, estrogen and testosterone for Turner syndrome, a genetic disorder
- Surgical repair of a damaged vagina with vaginismus
- Insulin for diabetes
- Radioactive iodine for goiter
- Kidney transplant for kidney failure
- Psychiatric care for post traumatic stress disorder resulting from rape
- Alprostadil for blood vessel problems in the groin
- Psychotherapy for poor body image

- Group counseling for low self-esteem

Physiotherapy for vaginismus is muscle retraining with Kegel exercises, sensate focus, and a series of lubricated, plastic vaginal dilators of gradually increasing widths. It usually takes three months for the PC muscles to benefit from exercises. Psychotherapy with a properly qualified counselor can help if the cause of vaginismus is past sexual trauma. You may fear pregnancy, or control by your sex partner, or losing control during orgasm.

A significant proportion of women who complain of low libido have underlying low testosterone levels. Determining if testosterone levels are low is a very important first step in addressing low libido in all women.

What About Homeopathic and Herbal Treatments?

Homeopathy is a complementary therapy. Homeopaths claim that like cures like. Essentially, homeopaths believe if a substance causes a disease, then you can cure it by taking a very minute, diluted amount of the same substance.

Homeopathic treatments contain NO testosterone, nor have they been demonstrated to cause any change in testosterone hormone levels. Be very careful when ordering products online that claim to contain testosterone, because usually they contain homeopathic forms of testosterone which are ineffective.

Additionally, the herbs tribulus, horny goat weed, tongkat ali extract (*Eurycoma longifolia*) and mucuna pruriens extract have not been shown in scientific testing to increase blood testosterone levels despite extravagant marketing claims.

About Lawley Pharmaceuticals

Lawley Pharmaceuticals is a privately owned pharmaceutical company which focuses on the transdermal administration of the

naturally occurring hormones progesterone, testosterone and oestradiol. Founded in 1995 by pharmacist Michael Buckley, Lawley Pharmaceuticals has grown to become a world leader in research and development of transdermal hormone preparations.

The Lawley Pharmaceuticals Portfolio of Products Includes

AndroFeme® 1% testosterone cream for women



AndroForte® 2% and 5% testosterone creams for men



ProFeme® 3.2% and 10% progesterone creams for women



Our Mission Statement

Lawley Pharmaceuticals (www.hormonesolutions.com) strives to provide the optimal delivery systems for the administration of the naturally occurring human hormones (testosterone, progesterone, estradiol and estriol) to counter endocrine deficiency states.

Our philosophy is to use a natural hormone in preference to a synthetic hormone, when it is a viable clinical option. We aim to advance clinical research of natural hormones.

Our goal is to establish, through evidence-based medical research, naturally occurring hormones as cornerstone treatments for diseases such as breast cancer, infertility, first-term miscarriage, male hypogonadism, post-partum depression and endometriosis.

Lawley Pharmaceuticals has established strong links with centers of research excellence around the world and continues to push the boundaries of medical research.

Completed Clinical Studies

1. Effect of sequential transdermal progesterone cream on endometrium, bleeding pattern, and plasma progesterone and salivary progesterone levels in postmenopausal women. Wren BG et al. *Climacteric* 2000 3:155–160.
2. Distribution and metabolism of topically applied progesterone in a rat model. Waddell B and O’Leary PJ. *J Ster Biochem & Mol Biol.* 80 (2002) 449–455.
3. Plasma and saliva concentrations of progesterone in pre- and postmenopausal women after topical application of progesterone cream. O’Leary PJ et al. Presented at the Annual Congress of the Australian Menopause Society held in Perth, Australia in October 1997.
4. Long-term pharmacokinetics and clinical efficacy of ANDROMEN® FORTE 5% cream for androgen replacement in hypogonadal men. Handelsman DJ et al. ANZAC Research Institute, Department of Andrology, Concord Hospital, Sydney, 2004.
5. Transdermal testosterone therapy improves well-being, mood, and sexual function in premenopausal women. Goldstat R et al. *Menopause* 2003; 10 (5): 390–398.
6. The pharmacokinetics pilot study of ANDROFEME® 1% testosterone cream following two-week, once-daily application in testosterone-deficient women. Eden JA et al. Presented at the 4th Annual Congress of the Australasian Menopause Society held in Adelaide 5-7th November 2000.
7. A double-blind, randomized, placebo-controlled trial of the effect of testosterone cream on the sexual motivation of menopausal hysterectomized women with hypoactive sexual desire disorder. El-Hage et al *Climacteric* 2007; 10: 335–343.
8. Pharmacokinetics of ANDROMEN® FORTE 5% Cream: A Dose Finding Study. Kelleher S et al. ANZAC Research Institute, Department of Andrology, Concord Hospital, Sydney, 2002.
9. The Pharmacokinetics of AndroForte® Compared With AndroGel® (Testogel®) in Androgen Deficient Men. Wittert G et al. Adelaide Awaiting publication.

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