Sexual Desire Disorders
Health & Wellness Committee

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Sexual Desire Disorders

Hypoactive sexual desire disorder (HSDD) and sexual aversion disorder (SAD) affect both men and women. Despite their prevalence, these disorders are often not addressed by healthcare providers or patients due to their private and awkward nature. Using the Sexual Response Cycle as the model of the physiological changes of humans during sexual stimulation and the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSMIV-TR), this article will review the current literature on the two desire disorders, focusing on prevalence, etiology, and treatment. With this knowledge, hopefully, physicians will move beyond their unease with the topic in order to adequately address patients’ sexual problems and to implement appropriate treatment.

Sexuality defined

Sexuality is a complex interplay of multiple facets, including anatomical, physiological, psychological, developmental, cultural, and relational factors. All of these contribute to an individual’s sexuality in varying degrees at any point in time as well as developing and changing throughout the life cycle. Sexuality in adults consists of seven components:

• Gender identity
• Orientation
• Intention
• Desire
• Arousal
• Orgasm
• Emotional satisfaction

Gender identity, orientation, and intention form sexual identity, whereas desire, arousal, and orgasm are components of sexual function. The interplay of the first six components contributes to the emotional satisfaction of the experience. In addition to the multiple factors involved in sexuality, there is the added complexity of the corresponding sexuality of the partner. The expression of a person’s sexuality is intimately related to his or her partner’s sexuality.

Sexual response cycle

The sexual response cycle consists of four phases: desire, arousal, orgasm, and resolution. Phase 1 of the sexual response cycle, desire, consists of three components: sexual drive, sexual motivation, and sexual wish. These reflect the biological, psychological, and social aspects of desire, respectively. Sexual drive is produced through psychoneuroendocrine mechanisms. The limbic system and the preoptic area of the anterior-medial hypothalamus are believed to play a role in sexual drive. Drive is also highly influenced by hormones, medications (e.g., decreased by antihypertensive drugs, increased by dopaminergic compounds to treat Parkinson’s disease), and legal and illegal substances (e.g., alcohol, cocaine).
Phase 2, arousal, is brought on by psychological and/or physiological stimulation. Multiple physiologic changes occur in men and women that prepare them for orgasm, mainly perpetuated by vasocongestion. In men, increased blood flow causes erection, penile color changes, and testicular elevation. Vasocongestion in women leads to vaginal lubrication, clitoral tumescence, and labial color changes. In general, heart rate, blood pressure, and respiratory rate as well as myotonia of many muscle groups increase during this phase.\(^5\)

Phase 3, orgasm, has continued elevation of respiratory rate, heart rate, and blood pressure and the voluntary and involuntary contraction of many muscle groups. In men, ejaculation is perpetuated by the contraction of the urethra, vas, seminal vesicles, and prostate. In women, the uterus and lower third of the vagina contract involuntarily.

The duration of the final phase, resolution, is highly dependent on whether orgasm was achieved. If orgasm is not achieved, irritability and discomfort can result, potentially lasting for several hours. If orgasm is achieved, resolution may last 10 to 15 minutes with a sense of calm and relaxation. Respiratory rate, heart rate, and blood pressure return to baseline and vasocongestion diminishes. Women can have multiple successive orgasms secondary to a lack of a refractory period.\(^1\) The vast majority of men have a refractory period following orgasm in which subsequent orgasm is not possible.\(^8\)

**Criteria**

As previously stated, there are two sexual desire disorders. HSDD in the DSM-IV-TR\(^2\) is defined as “persistently or recurrently deficient (or absent) sexual fantasies and desire for sexual activity. The judgment of deficiency or absence is made by the clinician, taking into account factors that affect sexual functioning, such as age and the context of the person’s life.” SAD is defined as “persistent or recurrent extreme aversion to, and avoidance of, all (or almost all) genital sexual contact with a sexual partner.” The DSM-IV-TR lists six subtypes: lifelong, acquired, generalized, situational, due to psychological factors, and due to combined factors.\(^2\) In order for a patient to be diagnosed with a sexual dysfunction disorder, a psychophysiologic problem must exist, the problem must cause marked distress or interpersonal difficulty, and the problem cannot be better accounted for by another Axis I diagnoses. Also, two sexual disorders must be ruled out before one can diagnosis HSDD or SAD. These are substance-induced sexual dysfunction and a sexual disorder due to general medical condition.

**Prevalence**

The prevalence of desire disorders is often underappreciated. The National Health and Social Life Survey found that 32 percent of women and 15 percent of men lacked sexual interest for several months within the last year. The study population was noninstitutionalized US English speaking men and women between the ages of 18 and 59 years.\(^8\) There are no large study prevalence figures on SAD, but it is thought to be a rare disorder. Both HSDD and SAD have a higher female to male prevalence ratio, although this discrepancy is greater in SAD. The desire disorders can be considered on a continuum of severity with HSDD being the less severe of the two disorders.\(^1\)
Etiology

The proposed etiology of HSDD influences how it is subtyped (i.e., generalized or situational, lifelong or acquired). For example, lifelong HSDD can be due to sexual identity issues (gender identity, orientation, or paraphilia) or stagnation in sexual growth (overly conservative background, developmental abnormalities, or abuse). Conversely, difficulty in a new sexual relationship may lead to an acquired or situational subtype of HSDD. Although it is theoretically possible to have no etiology, all appropriate avenues should be explored, including whether the patient was truthful in responses to questions regarding sexuality and if the patient is consciously aware that he or she has a sexual disorder.1,2

Diagnosis and treatment of desire disorders is often difficult due to confounding factors, such as high rates of comorbid disorders and combined subtype sexual disorders involving medical and substance-induced contributors.3 For example, in a patient being treated for recurrent major depressive disorder and obstructive sleep apnea (OSA), it would be difficult to separate out whether the cause of his or her decreased sexual desire was due to the depressive episode, antidepressant treatment, OSA,4 multiple potential interpersonal problems, or a combination of factors.

Even with a detailed and accurate longitudinal history, honing in on the main factor can be difficult. Decreased sexual desire has been seen in multiple psychiatric disorders. For example, individuals with schizophrenia and major depression experienced decreased sexual desire. Before treatment commences for HSDD and SAD, a thorough work-up must be done to first rule out a general medical condition or a substance that caused decreased desire or aversion. This would include a thorough physical exam and laboratory work-up. An important physiological maker for which to test is a thyroid profile, which would be abnormal in hypothyroidism and could cause decreased sexual desire.5 Also, low testosterone has been shown affect to desire. Normal physiological testosterone concentrations range from 3 to 12ng/mL. The apparent critical level for sexual function in males is 3ng/mL.6

A variety of medical conditions can also decrease sexual desire (e.g., diabetes mellitus, hypothyroidism, Addison’s disease, Cushing’s disease, temporal lobe lesions, menopause,7 coronary artery disease, heart failure, renal failure, stroke, and HIV). Also, as we naturally age, desire can lessen.8 Many psychiatric medications can lead to decreased desire for sex including multiple classes of antidepressants (selective serotonin reuptake inhibitors, norepinephrine serotonin reuptake inhibitors, tricyclic antidepressants, monoamine oxidase inhibitors, and antipsychotics.9

Two important biological mediators of sexual desire are dopamine and prolactin. Dopamine acting through the mesolimbic dopaminergic reward pathway is hypothesized to increase desire, whereas prolactin is thought to decrease libido, although the mechanisms are poorly understood. Dopamine directly inhibits prolactin release from the pituitary gland. Medications that increase prolactin release or inhibit dopamine release can decrease sexual desire along with other sexual side effects.10
If a patient has no history of sexual desire problems and has started a new sexual relationship, other possibilities for low sexual desire must be excluded. It is possible that neither individual has a desire disorder but rather there is a marked difference between each individual’s level of desire, creating a discrepancy. Separate interviews with each partner are important to obtain a more accurate picture of the relationship.13

Important to remember that HSDD in men is often misdiagnosed as erectile dysfunction because of the common misconception that all men desire sex. This myth has caused men to not seek treatment and has also led to misdiagnosis by health professionals. This may partly explain the failure rate of adequately treating erectile dysfunction. As part of an initial history and physical examination, a sexual history is necessary because most patients will not divulge any sexual problems unless explicitly asked. There are tests that deal entirely with sexual desire (Sexual Desire Inventory) and others have subscales for sexual desire (International Index of Erectile Function).14

Treatment

Psychotherapy

Although there are many proposed treatments for desire disorders, there are virtually no controlled studies evaluating them.20 Psychotherapy is a common treatment for desire disorders. From a psychodynamic perspective, sexual dysfunction is caused by unresolved unconscious conflicts of early development. Treatment focuses on bringing awareness to these unresolved conflicts and how they impact the patient’s life. While improvement may occur, the sexual dysfunction often becomes autonomous and persists, requiring additional techniques to be employed.

An approach that has shown some success in the treatment of desire disorders as well as other sexual dysfunctions, pioneered by Masters and Johnson, is dual sex therapy.5 In this therapy, the couple along with one male and one female therapist (gay and lesbian couples may opt for same-sex therapists) meet together. The relationship is treated as a whole, with sexual dysfunction being one aspect of the relationship. Another important underlying premise of this form of therapy is that only one partner in the relationship is suffering from sexual dysfunction and absence of other major psychopathology. The aim is to reestablish open communication in the relationship. Homework assignments are given to the couple, the results of which are discussed at the following session. The couple is not allowed to engage in any sexual behavior together other than what is assigned by the therapists. Assignments start with foreplay, which encourages the couple to pay closer attention to the entire process of the sexual response cycle as well as the emotions involved and not solely on achieving orgasm. Eventually the couple progresses to intercourse with encouragement to try various positions without completing the act.1

Cognitive behavioral therapy has been shown to be efficacious in the treatment of anxiety, depression, and other psychiatric disorders. Its core premise is that activating events lead to negative automatic thoughts. These negative thoughts in turn result in disturbed negative feelings and dysfunctional behaviors. The goal is to reframe these irrational beliefs through structured sessions.21 CBT has been also used to treat sexual desire
disorders by focusing on dysfunctional thoughts, unrealistic expectations, partner behavior that decreases desire in intercourse, and insufficient physical stimulation. These sessions often include both partners.\textsuperscript{20} Specific exercises may be used. For example, men with sexual desire disorder or male erectile disorder may be instructed to masturbate to address performance anxiety related to achieving a full erection and ejaculation.

Finally, analytically oriented sex therapy combines sex therapy with psychodynamic and psychoanalytic therapy and has shown good results.\textsuperscript{1} Specifically, for desire disorders due to developmental and identity issues, long-term psychodynamic psychotherapy could be helpful.\textsuperscript{2} In general, lifelong and generalized desire disorders are more difficult to treat.\textsuperscript{13}

SAD is often progressive and rarely reverses spontaneously. It is also treatment-resistant.\textsuperscript{2} Poor prognostic indicators are global, lifelong, comorbid depression, or associated with anorgasmia.\textsuperscript{24} Despite difficulty in treatment, behavioral therapy has been shown to be effective for managing SAD.\textsuperscript{25,26}

**Pharmacotherapy**

Multiple hormones have been studied for treatment of sexual desire disorders. For example, androgen replacement has been studied as a possible treatment for HSDD. “In patients with induced or spontaneous hypogonadism, either pathological withdrawal and re-introduction or exogenous androgens affects the frequency of sexual fantasies, arousal, desire, spontaneous erections during sleep and in the morning, ejaculation, sexual activities with and without a partner, and orgasms through coitus and masturbation.”\textsuperscript{14}

Unfortunately, the evidence for the efficacy of testosterone in eugonadal men is conflicting. Some studies show no benefit,\textsuperscript{27} whereas others show some benefit. For example, a study by O’Carroll and Bancroft showed that testosterone injections did have efficacy for sexual interest, but unfortunately this did not translate into an improvement in their sexual relationships.\textsuperscript{34} One theory for the lack of efficacy in eugonadal men is that it is more difficult to manipulate endogenous androgen levels with administration of exogenous androgens due to efficient homeostatic hormone mechanisms.\textsuperscript{14}

Androgen supplementation is available in many forms, including oral, sublingual, cream, and dermal patch. Side effects of testosterone supplementation in women include weight gain, clitoral enlargement, facial hair, hypercholesterolemia,\textsuperscript{32} changes in long-term breast cancer risk, and cardiovascular factors.\textsuperscript{16} Side effects in men of androgen supplementation include hypertension and prostatic enlargement.\textsuperscript{1} The benefit of androgen therapy in women is also not clear.\textsuperscript{28} Although studies using supraphysiologic levels of androgens have shown increased sex libido, there is the risk of masculinization from chronic use.\textsuperscript{18} Testosterone therapy has shown to improve sexual function in postmenopausal women in multiple ways, including increased desire, fantasy, sexual acts, orgasm, pleasure, and satisfaction of sexual acts.\textsuperscript{15} Roughly half of all testosterone production in women is from the ovaries. Thus, an oophorectomy can cause a sudden drop of testosterone levels.\textsuperscript{18} Shifren, et al.,\textsuperscript{17} studied 31- to 56-year-old women who had hysterectomies and oophorectomies. They were given 150 or 300μg of testosterone daily for 12 weeks. Both groups, with a dose response relationship, showed increased frequency of sexual activities and pleasurable orgasms. At the 300μg dose, there was even higher scores for
frequency of fantasy, masturbation, and engaging in sexual intercourse at least once a week.\(^{18}\) Feelings of general wellbeing were also increased.\(^{17}\)

Estrogen replacement in postmenopausal women can improve clitoral and vaginal sensitivity, increase libido, and decrease vaginal dryness and pain during intercourse. Estrogen is available in several forms, including oral tablets, dermal patch, vaginal ring, and cream. Testosterone supplementation has demonstrated increased libido, increased vaginal and clitoral sensitivity, increased vaginal lubrication, and heightened sexual arousal.\(^{32}\) Dehydroepiandrosterone-sulfate (DHEA-S), a testosterone precursor, has also been studied for the treatment of sexual desire disorders. Low physiologic levels of DHEA-S have been found in women presenting with HSDD.\(^{30}\) Increased libido was observed in women with adrenal insufficiency who were given DHEA-S.\(^{31}\) Women with breast cancer reported increased libido while receiving tamoxifen, which increases gonadotropin-releasing hormone levels and therefore testosterone concentrations.\(^{3}\)

Some medications can be used to increase desire due to their receptor profiles. For example, amphetamine and methylphenidate can increase sexual desire by increasing dopamine release. Bupropion, a norepinephrine and dopamine reuptake inhibitor, has been shown to increase libido.\(^{19}\) A study by Segraves, et al.,\(^{33}\) showed that bupropion treatment in premenopausal women increased desire, but not to a statistically significant level compared to placebo. But, bupropion SR group did show statistically significant difference in other measures of sexual function: increased pleasure and arousal, and frequency of orgasms. Multiple herbal remedies, such as yohimbine and ginseng root, are purported to increase desire, but this has not been confirmed in studies.\(^{1}\)

**Conclusion**

Sexual desire disorders are under-recognized, under-treated disorders leading to a great deal of morbidity in relationships. A thorough history and physical examination are critical to properly diagnose and determine the causative agent(s). With appropriate treatment, improvement can be made but continued research in sexual dysfunction is critical in the sensitive yet ubiquitous area. By becoming more familiar with prevalence, etiology, and treatment of sexual desire disorders, physicians hopefully will become more comfortable with the topic so that they can adequately address patients’ sexual problems and to implement appropriate treatment.

**Sources:**
Nu Mu Lambda...
Adhesions, General and After Surgery

An adhesion is a band of scar tissue that binds 2 parts of your tissue that are not normally joined together. Adhesions may appear as thin sheets of tissue similar to plastic wrap or as thick fibrous bands.

The tissue develops when the body's repair mechanisms respond to any tissue disturbance, such as surgery, infection, trauma, or radiation. Although adhesions can occur anywhere, the most common locations are within the stomach, the pelvis, and the heart.

- **Abdominal adhesions**: Abdominal adhesions are a common complication of surgery, occurring in up to 93% of people who undergo abdominal or pelvic surgery. Abdominal adhesions also occur in about 10% of people who have never had surgery.
  - Most adhesions are painless and do not cause complications. However, adhesions cause about 60% of small bowel obstructions in adults and are believed to contribute to the development of chronic pelvic pain.
  - Adhesions typically begin to form within the first few days after surgery, but they may not produce symptoms for months or even years. As scar tissue begins to restrict motion of the small intestines, passing food through the digestive system becomes progressively more difficult. The bowel may become blocked.
  - In extreme cases, adhesions may form fibrous bands around a segment of an intestine. This constricts blood flow and leads to tissue death.

- **Pelvic adhesions**: Pelvic adhesions may involve any organ within the pelvis, such as the uterus, ovaries, fallopian tubes, or bladder, and usually occur after surgery. Pelvic inflammatory disease (PID) results from an infection (usually a sexually transmitted disease) that frequently leads to adhesions within the fallopian tubes. A woman's eggs pass through her fallopian tubes into her uterus for reproduction. Fallopian adhesions can lead to infertility and increased incidence of ectopic pregnancy in which a fetus develops outside the uterus. Endometriosis, a condition in which tissue normally found inside the uterus grows in other parts of the body such as the bowel or fallopian tubes, may also be caused by pelvic adhesions.

- **Heart adhesions**: Scar tissue may form within the membranes that surround the heart (pericardial sac), thus restricting heart function. Infections, such as rheumatic fever, may lead to adhesions forming on heart valves and can lead to decreased heart efficiency.

**Adhesions Causes**

Adhesions develop as the body attempts to repair itself. This normal response can occur after surgery, infection, trauma, or radiation. Repair cells within the body cannot tell the difference between one organ and another. If
an organ undergoes repair and comes into contact with another part of itself, or another organ, scar tissue may form to connect the 2 surfaces.

**Adhesions Symptoms**

Doctors associate signs and symptoms of adhesions with the problems an adhesion causes rather than from an adhesion directly. As a result, people experience many complaints based on where an adhesion forms and what it may disrupt. Typically, adhesions show no symptoms and go undiagnosed.

Most commonly, adhesions cause pain by pulling nerves, either within an organ tied down by an adhesion or within the adhesion itself.

- Adhesions above the liver may cause pain with deep breathing.
- Intestinal adhesions may cause pain due to obstruction during exercise or when stretching.
- Adhesions involving the vagina or uterus may cause pain during intercourse.
- Pericardial adhesions may cause chest pain.
- It is important to note that not all pain is caused by adhesions and not all adhesions cause pain.
- Small bowel obstruction (intestinal blockage) due to adhesions is a surgical emergency. These adhesions may trigger waves of cramplike pain in your stomach. This pain, which can last seconds to minutes, often worsens if you eat food, which increases activity of the intestines.
  - Once the pain starts, you may vomit. This often relieves the pain.
  - Your stomach may become tender and progressively bloated.
  - You may hear high-pitched tinkling bowel sounds over your stomach, accompanied by increased gas and loose stools.
  - Fever is usually minimal.

- Such intestinal blockage can sometimes correct itself. However, you must see your doctor. If the blockage progresses, these conditions may develop:
  - Your bowel stretches further.
  - Pain becomes constant and severe.
  - Bowel sounds disappear.
  - Gas and bowel movements stop.
  - Your belly becomes distended.
  - Fever may increase.
  - Further progression can tear your intestinal wall and contaminate your abdominal cavity with bowel contents.

**When to Seek Medical Care**
See a doctor any time you experience abdominal pain, pelvic pain, or unexplained fever. If you have undergone surgery or have a history of medical illness, discuss any changes in your recovery or condition with your doctor.

Call 911 and go to the nearest emergency department if chest pain occurs.

**Exams and Tests**

Doctors typically diagnose adhesions during a surgical procedure such as laparoscopy (putting a camera through a small hole into the stomach to visualize the organs). If they find adhesions, doctors usually can release them during the same surgery.

Studies such as blood tests, x-rays, and CT scans may be useful to determine the extent of an adhesion-related problem. However, a diagnosis of adhesions usually is made only during surgery. A physician, for example, can diagnose small bowel obstruction but cannot determine if adhesions are the cause without surgery.

**Adhesions Treatment - Self-Care at Home**

Adhesions must be diagnosed and treated by a physician.

**Medical Treatment**

Treatment varies depending on the location, extent of adhesion formation, and problems the adhesion is causing. Adhesions frequently improve without surgery. Therefore, unless a surgical emergency becomes evident, a doctor may treat symptoms rather than perform surgery.

**Surgery**

Two common surgical techniques used to treat abdominal adhesions are laparoscopy and laparotomy.

- With laparoscopy, a doctor places a camera into your body through a small hole in the skin to confirm that adhesions exist. The adhesions then are cut and released (adhesiolysis).
- In laparotomy, a doctor makes a larger incision to directly see adhesions and treat them. The technique varies depending on specific circumstances.

**Next Steps - Follow-up**

If you have undergone surgery or have a history of medical illness, always discuss changes in your recovery or condition with your doctor.

**Prevention**
Steps are taken during surgery to try and minimize the formation of adhesions. Some of these may include: shortening surgical time, keeping the tissues moist, gentle handling of any tissues or organs, and using starch – free and latex-free gloves. Several surgical products have also been developed to try to help prevent adhesions from forming during surgery. Film-like sheets are sometimes used between organs or body surfaces after large, open surgical procedures.

Sources: webmd.com (2018); medincenet.com (2018)
Achalasia

Achalasia is a rare disorder that makes it difficult for food and liquid to pass into your stomach. Achalasia occurs when nerves in the tube connecting your mouth and stomach (esophagus) become damaged. As a result, the esophagus loses the ability to squeeze food down, and the muscular valve between the esophagus and stomach (lower esophageal sphincter) doesn't fully relax — making it difficult for food to pass into your stomach.

There’s no cure for achalasia. But symptoms can usually be managed with minimally invasive therapy or surgery.

Diagnosis

Achalasia can be overlooked or misdiagnosed because it has symptoms similar to other digestive disorders. To test for achalasia, your doctor is likely to recommend:

- **Esophageal manometry.** This test measures the rhythmic muscle contractions in your esophagus when you swallow, the coordination and force exerted by the esophagus muscles, and how well your lower esophageal sphincter relaxes or opens during a swallow.

- **X-rays of your upper digestive system.** X-rays are taken after you drink a chalky liquid that coats and fills the inside lining of your digestive tract. The coating allows your doctor to see a silhouette of your esophagus, stomach and upper intestine. You may also be asked to swallow a barium pill that can help to show a blockage of the esophagus.

- **Upper endoscopy.** Your doctor inserts a thin, flexible tube equipped with a light and camera (endoscope) down your throat, to examine the inside of your esophagus and stomach. Endoscopy can be used to define a partial blockage of the esophagus if your symptoms or results of a barium study indicate that possibility. Endoscopy can also be used to collect a sample of tissue (biopsy) to be tested for complications of reflux such as Barrett’s esophagus.

Treatment

Achalasia treatment focuses on relaxing or forcing open the lower esophageal sphincter so that food and liquid can move more easily through your digestive tract.

Specific treatment depends on your age and the severity of the condition.

Nonsurgical treatment
Esophageal Achalasia
Nonsurgical options include:

- **Pneumatic dilation.** A balloon is inserted into the esophageal sphincter and inflated to enlarge the opening. This outpatient procedure may need to be repeated if the esophageal sphincter doesn't stay open. Nearly one-third of people treated with balloon dilation need repeat treatment within six years.

- **Botox (botulinum toxin type A).** This muscle relaxant can be injected directly into the esophageal sphincter with an endoscope. The injections may need to be repeated, and repeat injections may make it more difficult to perform surgery later if needed. Botox is generally recommended only for people who aren't good candidates for pneumatic dilation or surgery due to age or overall health.

- **Medication.** Your doctor might suggest muscle relaxants such as nitroglycerin (Nitrostat) or nifedipine (Procardia) before eating. These medications have limited treatment effect and severe side effects. Medications are generally considered only if you're not a candidate for pneumatic dilation or surgery, and Botox hasn't helped.

**Surgery**

Surgery may be recommended for younger people because nonsurgical treatment tends to be less effective in this group. Surgical options include:

- **Heller myotomy.** The surgeon cuts the muscle at the lower end of the esophageal sphincter to allow food to pass more easily into the stomach. The procedure can be done noninvasively (laparoscopic Heller myotomy). People who have a Heller myotomy may later develop gastroesophageal reflux disease (GERD).

- **Fundoplication.** The surgeon wraps the top of your stomach around the lower esophageal sphincter, to tighten the muscle and prevent acid reflux. Fundoplication might be performed at the same time as Heller myotomy, to avoid future problems with acid reflux. Fundoplication is usually done with a minimally invasive (laparoscopic) procedure.

- **Peroral endoscopic myotomy (POEM).** The surgeon uses an endoscope inserted through your mouth and down your throat to create an incision in the inside lining of your esophagus. Then, as in a Heller myotomy, the surgeon cuts the muscle at the lower end of the esophageal sphincter. POEM doesn't include an anti-reflux procedure.

Sources: mayoclinic.org (2018)
Electrical Stimulation

So, your Physician has ordered physical therapy for your injury, and the Physical Therapist is recommending electrical stimulation. What is electrical stimulation, or e-stim, and how is it used in physical therapy?

Electrical stimulation is a type of physical therapy modality used to accomplish various tasks in physical therapy. If you have an injury or illness that causes pain or limited functional mobility, your PT may use electrical stimulation, or E-stim, as one part of your rehabilitation program.

Your physical therapist will use different types of electrical stimulation to accomplish different tasks. These may include:

- **TENS**: Transcutaneous electrical neuromuscular stimulation (TENS) is a physical therapy modality used to manage acute and chronic pain in physical therapy. Your PT will use TENS to decrease your pain by applying electrodes to your body over painful areas. The intensity of the electricity will be adjusted to block the pain signals traveling from your body to your brain.

- **Interferential Current**: Interferential current (IFC) is often used by physical therapists to decrease pain, decrease muscular spasm, or improve localized blood flow to various muscles or tissues. It is often used to decrease low back pain and muscular spasm. Interferential current typically uses 4 electrodes in a crisscross pattern. This causes the currents running between the electrodes to “interfere” with one another, and allows your PT to use a higher intensity current while still maintaining maximum comfort for you.

- **High voltage galvanic current (HVGC)**: High voltage galvanic stimulation uses high voltage and low-frequency electricity to penetrate deep into tissues. It is used to relieve pain, improve blood flow, relieve muscle spasm, and improve joint mobility.

- **Iontophoresis**: Iontophoresis is a type of electrical stimulation that is used to help administer medication to you in physical therapy. The electrical current pushes various medication in through your skin and into your body. Your PT will likely use medicine to decrease inflammation or muscle spasm, or iontophoresis drugs can be used to break up calcium deposits that may occur in conditions like shoulder calcific tendonitis. Different medicines are used to accomplish different goals using iontophoresis.

- **Neuromuscular electrical stimulation (NMES)**: NMES uses an electrical current to cause a single muscle or a group of muscles to contract. By placing electrodes on the skin in various locations the physical therapist can recruit the appropriate muscle fibers. Contracting the muscle via electrical stimulation helps improve the way your affected muscle contracts. The physical therapist can change the current setting to allow for a forceful or gentle muscle contraction. Along with increasing muscle function, the contraction of the muscle also promotes blood flow to the area that assists in healing. NMES can also be used to help decrease muscular spasm by artificially tiring your muscle in spasm, allowing it to relax.
**Russian stimulation:** Russian stimulation is a form of electrical stimulation that can accomplish a similar task as NMES: to improve the way your muscles contract. Russian stim simply uses a different waveform that may be a little more comfortable for you to tolerate.

Keep in mind that many forms of electrical stimulation are a passive treatment; you are doing nothing while receiving the stimulation. Some forms of e-stim, like NMES and Russian stim, require that you are active while the E-stim is in use.

**Risks of Using Electrical Stimulation**

If your PT wants to use electrical stimulation during your rehab treatments, he or she should explain to you the various benefits and risks associated with the treatment. Risks to using e-stim include:

- Muscle tearing
- Skin irritation
- Tissue burns

Your PT can ensure that the electrical stimulation is used properly to minimize the risks associated with e-stim use. Understanding these risks can help you decide if you want to include it in your rehab.

**Contraindications to E-stim Use**

There are some conditions where you should never use electrical stimulation. These contraindications to e-stim use should be heeded by your physical therapist. Contraindications to electrical stimulation include:

- Altered tissue sensation
- Impaired mental status
- Presence of an implanted electrical device (The e-stim could interfere with pacemakers or implanted pain stimulators.)
- Over malignant tissue
- Over wounds that are overly moist
- Near the eyes, carotid sinus, anterior neck, or over reproductive organs

Your physical therapist should have identified these contraindications during your initial evaluation, but it is important to remind him of any condition that you may have that may have a negative interaction with e-stim. If you have pain or limited mobility, check in with your physical therapist and see if using electrical stimulation is the right treatment for you and your specific condition.

If you have a condition that results in pain or limited functional mobility, you should check in with your doctor and see your physical therapist. He or she may use e-stim to help augment your rehab program. If so, knowing what electrical stim is and how it is used can help you fully understand your entire rehab program.

**Sources:** [www.bostonsportsmed](http://www.bostonsportsmed), [www.motionforward/pt.com](http://www.motionforward/pt.com), [www.verywellhealth.com](http://www.verywellhealth.com)
Why Haven’t You Gotten Your Physical?

A Personal Testimony

After trying to schedule an appointment for a physical three times over the course of a couple months to no avail, I kind of gave up. I believed I was healthy anyway, so no biggie. Even though I have this knot, a growth on my arm that I call “the cyst,” none of my own research has proven it to be serious.

Well, after pulling my groin on June 6th, just ‘06 days after my 38th birthday, I decided to try again. I finally booked my first physical in God only knows how many years. And like I thought, I am healthy, for the most part. I have nothing that requires medication or even a follow up visit... except this knot, this growth, “the cyst.”

My new primary care physician, Zachary P. Cohen M.D., of DeKalb Medical Physicians Group, was awesome. We bonded during my visit and I left with not only a calm in knowing I have a Doctor again, but a referral to get this knot, this growth checked out by a specialist, a Dermatologist.

In the two weeks leading up to the dermatology appointment, I realized why I had not been to the doctor’s office in a while - I didn’t want any bad news. I didn’t want anyone telling me that I wasn’t as healthy as I convinced myself. I was essentially afraid of finding out what it is.

But now, the time to “face the music” was here. It was time to grow up and find out what I had been running from all this time. When the Physician’s Assistant walked in and examined the growth, he told me what it is - lipoma. Lipomas are abnormal growths of fatty tissue and usually benign, which he believes mine to be. Thank God!!

They do not need to be removed, if not painful, but I want this sucker gone. So, on September 11th at 9am, that’s what I’ll be doing, getting the growth that’s been scaring me for years removed. Why?! Well, I’m glad you asked. Because I don’t want this reminder of fear attached to me any longer. I’d rather replace it with a scar to remind me that “I am the Master of my fate. I am the Captain of my soul.”

But my questions to you - Why haven’t you gotten your physical? Where is your testimony?

The most important thing to remember when going to the pool or beach is to simply, have fun! Enjoy the rest of the summer & don’t forget your sunblock!!

Fraternally,

Bro. Darius R. Branch
NML Assoc. Editor to The Sphinx